

---

*Nonpoint Source*

---

 **EPA** *News-Notes*

---

---

**A Brief Commentary . . .**

---

The reception bestowed upon the first issue of Nonpoint Source *NEWS-NOTES* was indeed gratifying. You've given us success stories to report on (there are a couple in this issue) and chided us for some oversights. In every way the mail we received was very helpful. Keep it coming. Questions, suggestions, corrections, ideas, success stories—we thrive on this sort of stuff, and all readers will benefit from what you send in. Thanks.

The Nonpoint Source Information Exchange, of which this publication is a part, is a service designed to provide useful information where it is needed. If you have a question or a need for NPS information let us know.

We have a new FAX number. You can communicate your questions or success story directly with us. Use the FAX!! Its number is

NPS NEWS-NOTES  
FAX (202) 382-7024

Let us hear from you. Don't forget our address:

Editors, NPS *NEWS-NOTES*  
Nonpoint Source Information Exchange (WH-553)  
Assessment and Watershed Protection Division  
Office of Water  
U.S. Environmental Protection Agency  
401 M Street, S.W.  
Washington, DC 20460

---

**Headquarters Notes**

*Congress Appropriates \$40 Million For Implementation of National NPS Program*

During the second week in November, the President signed EPA's FY 1990 appropriation bill, which included \$40 million for the implementation of Clean Water Act Section 319, the nonpoint source control program. In making the appropriation, Congress recognized that there is no legislative formula for allocating nonpoint source program funds. The Senate-House Conference Report directed that

...these funds be made available to States with approved nonpoint source programs to begin implementation as soon as possible....[T]he conferees direct EPA to develop State-by-State planning targets for 1990 funding based on interim criteria which reflect nonpoint source needs.

Congress also directed that, for the purposes of developing planning targets, State NPS needs were to reflect

...the seriousness of nonpoint source problems, including the 305(b) report, population, cropland acreage, pasture/rangeland/forest acreage, wellhead protection

Congress Appropriates  
\$40 Million  
(Continued)

areas, critical aquatic habitats and other significant water use impacts identified in § 319(a) assessments.

Finally, the Conference Committee noted that these planning targets were not entitlements, but merely targets. The actual granting of awards is to be done on the basis of EPA's NPS guidance according to these specific performance dates:

...EPA should seek State grant applications no later than January 16, 1990. Final nonpoint source grant awards shall be made to States with approved programs no later than March 1, 1990...

"We are gratified by the Congressional appropriation action," indicated Geoff Grubbs, Director of Assessment and Watershed Protection Division which administers EPA's nonpoint source control program. "We are moving fast to meet the requirements established by the Congress. The States have indicated their readiness to do their part. Since grants can only be given to those States with EPA-approved NPS management programs, developing a good solid management program is vitally important for any State which has not yet received approval. We are seeing rapid progress on this front, and hope to see more. This is a good beginning."

### *Status of State NPS Management Programs*

As of November 20, 1989, all 56 eligible States and Territories had filed NPS management programs. Four of the programs were in draft form.

At the same time, all 56 eligible States and Territories had submitted NPS assessment reports. EPA has approved 51 of these submittals, with action pending in five cases.

EPA-approved NPS assessments reports and management programs are required as a pre-condition to federal funding of State management programs under Section 319 of the Clean Water Act, which covers nonpoint source management. State/EPA NPS funding agreements can include only those portions of the management programs that are approved.

EPA has approved 35 of the management programs: 16 in full, 19 in part. Four programs were disapproved—these may be resubmitted. The four programs submitted in draft form may be resubmitted in final form. Action is pending on the remaining submittals.

## **Status of NPS Management Programs**

As of November 20, 1989

### **Approved Programs**

(\* Indicates partial program approval)

Region I:	Connecticut, Maine*, Massachusetts, Rhode Island, Vermont
Region III:	Delaware, Virginia*
Region IV:	Alabama, Florida, Mississippi, North Carolina, South Carolina, Tennessee
Region V:	Illinois*, Michigan*, Minnesota*, Wisconsin*, Ohio*
Region VI:	Louisiana*, New Mexico*, Oklahoma*, Texas*
Region VII:	Missouri*, Nebraska
Region VIII:	Colorado*, Montana*, North Dakota, South Dakota*, Utah*, Wyoming*
Region IX:	California*, Northern Mariana, Guam
Region X:	Oregon*, Washington

Congress Appropriates  
\$40 Million  
(Continued)

### **Disapproved Programs**

(States may resubmit adjusted or amended programs for approval)

New Hampshire, Maryland, West Virginia, District of Columbia

### **Submitted Final Program and Awaiting EPA Action**

Region II:	Puerto Rico
Region III:	Pennsylvania
Region IV:	Georgia, Kentucky
Region V:	Indiana
Region VI:	Arkansas
Region VII:	Iowa, Kansas
Region IX:	Arizona, Hawaii, Nevada, American Samoa
Region X:	Idaho

### **Not Yet Submitted in Final Form**

(Submitted in draft)

New Jersey, New York, Virgin Islands, Alaska

---

## *National Water Quality Assessment Symposium Meets in Fort Collins, Colorado*

EPA's Second Annual National Symposium on Water Quality Assessment, held October 16-19, 1989, attracted some 250 participants to Fort Collins, Colorado, the home of Colorado State University and gateway to the Rocky Mountains.

Symposium session topics focused on new and emerging aspects of EPA's water quality program brought on by advances in the state-of-assessment-art as well as by new requirements of the Water Quality Act of 1987. The sessions included, for example, Inland Wetlands and Riparian Issues, Marine and Estuary Monitoring, Groundwater Discharge to Surface Waters, Nonpoint Management and Antidegradation, Evaluation of BMP Effectiveness, and Assessing Sediment and Tissue Contamination.

Seven workgroups met during the conference to develop program recommendations and to suggest further policy and technical investigations for Assessment and Watershed Protection Division follow-up. The workgroups settled upon such subjects as: Total Maximum Daily Loads/Load Allocations for Nonpoint Sources, Monitoring and Program Design for Nonpoint Source Assessments, Bioaccumulation/Sediment Monitoring and Assessment, Environmental Indicators, and Marine and Estuary Monitoring.

Carol Jolly, Assistant Director for Water and Shorelands of Washington State's Department of Ecology, delivered the conference Keynote Address entitled "Making Monitoring More Effective." She said that "we can never do enough monitoring," and indicated that we must fully understand that more and better data is always being sought by five major groups with environmental and natural resource concerns that are sometimes in conflict, sometimes in harmony, and always in need of coordination:

1. local, State and Federal agencies with administrative responsibilities for environmental protection;
2. policy decision makers in Congress, State and local governments;

3. environmental activists;
4. regulated industries; and
5. citizens who are asked to pay for cleanup programs and prevention.

Jolly noted that these groups often design their own single-purpose studies. Yet coordinated study designs that bring in as many groups as possible make sense in these days of limited resources and increasing demands.

She urged that the need for assessment and the results of monitoring studies must be communicated to all of these groups by those who are doing monitoring, and that such communications must focus on mutual understanding and consensus building.

Ideally, she said, water quality assessments are understood by citizens and provide the basis for their support, and are used by decision makers when they set priorities, allocate funds, and develop pollution controls. Yet in reality, she continued, citizens too often decide whether to support or oppose water quality programs based more on their perceptions rather than on our assessment and evaluation studies, and decisions at all levels of government are too often made with no water quality data, or at best, inadequate data.

Jolly concluded by pointing out that coordination and communication on the part of the assessment and monitoring community are crucial for:

1. obtaining financial support necessary to conduct monitoring;
2. ensuring that assessment results are used by decision makers; and
3. building a citizenry that is well enough informed about water quality that it will support appropriate and needed water quality programs.

Debra Caldon, Nonpoint Source Coordinator for EPA's Region IX in San Francisco, spoke on Nonpoint Source Management Monitoring for Water Quality Results at the opening symposium session. She began by defining the origins of nonpoint source concerns:

Anywhere we disturb the land, cover it with concrete, apply chemicals or deposit waste, is a place where, as a consequence of our activities, the natural hydrologic cycle has been disturbed. Wherever this occurs there is a potential for nonpoint pollutants to enter waters flowing through or underlying the land and to eventually reach lakes and marine waters which become pollutant sinks.

Monitoring is vital to both NPS problem definition and program accomplishment, Caldon suggested, as Senator Dave Durenberger indicated in Senate debate on the Water Quality Act of 1987:

... it is the expectation of Congress that this program [of nonpoint source management] will result in a significant improvement in water quality and nationwide reduction in pollution loadings from nonpoint sources. We will, of course, revisit this question in the next legislative cycle of the Clean Water Act. We will not find this program adequate if real improvement in water quality has not occurred. We are not interested in elements of a State program as we are concerned with meeting the goals and objectives of the Clean Water Act.

Caldon observed that old monitoring practices and techniques which concentrated on the point source management program must now be broadened, and new concerns factored in, to meet the needs of the newer nonpoint management program. She emphasized that "change is the keyword here:"

*National Water Quality  
Assessment  
(Continued)*

The need to combine both the point source and BMP effectiveness approaches becomes paramount in the problem of permitting stormwater discharges. This is a challenge we are soon to face with the impending regulatory program for stormwater. This program will require a permit that will have to combine effluent limitations with BMPs as a means to achieve the limits set.

A full report on the Symposium proceedings is currently being prepared, and is expected to be available within a month.

*[For more information contact: Jim Plafkin, Monitoring Branch, Assessment and Watershed Protection Division (WH-553), U.S. EPA, 401 M Street, S.W., Washington DC 20460. Phone: (202) 382-7005.]*

---

## *National Water Quality Inventory - - 1988 Report to Congress*

Under Section 305(b) of the Clean Water Act, States must submit biennial water quality assessments to EPA summarizing conditions in their rivers, lakes, estuaries, near coastal waters, wetlands, and ground water. EPA analyzes this information and presents it in its National Water Quality Inventory report to Congress.

The National Water Quality Inventory contains summary information—by State, and nationally—on the degree to which waters meet their designated uses and the fishable/swimmable goals of the Clean Water Act; on pollution sources and individual pollutant categories causing use impairment; and on a variety of other statistics such as reported incidences of fishing restrictions and fish kills, and wetland acreage/loss information.

State nonpoint source assessment reports, as required by Section 319 of the Clean Water Act, are based on the States' 305(b) water quality assessments.

EPA's 1988 National Water Quality Inventory report to Congress is currently undergoing its last stage of review by the Office of Management and Budget. It should be released to Congress and the public within a few months. *NEWS-NOTES* will keep you posted on its status.

*[For more information contact: Alice Mayo, Assessment and Watershed Protection (WH-553), U.S. EPA, 401 M St., S.W., Washington DC 20460. Phone: (202) 382-7018.]*

---

## *Clean Lakes Clearinghouse: Open for Business*

The EPA Clean Lakes Program has recently established and made available to the public an information resource on lake restoration, protection and management. The Clean Lakes Clearinghouse provides a computerized bibliographic database to serve as a tool for retrieving citations of technical literature on specific lake topics such as in-lake restoration techniques, watershed management, point/nonpoint sources of pollution and lake water quality assessment. The database contains references and abstracts of journal articles, Clean Lakes project reports, conference proceedings from the North American Lake Management Society, and various government documents pertaining to lake issues.

The Clean Lakes Clearinghouse database is accessible to interested users in three ways. First, the database can be loaded from diskettes to an IBM, or IBM compatible, personal computer. The diskettes, which will be updated quarterly, along with supporting documentation and user support, will be provided by the EPA Clean Lakes Program. Second, the database can also be used on the EPA mainframe by those with mainframe accounts and access. This usually includes EPA and state personnel. Finally, for those not interested or able to use the database at their computer or EPA mainframe terminal, Clearinghouse personnel will perform searches and provide printed bibliographies upon request.

*[For more information contact: Clean Lakes Clearinghouse User Support, Clean Lakes Program (WH-553), U.S. EPA, 401 M Street, S.W., Washington DC 20460. Phone: (202) 382-7111.]*

---

## **Research Activities**

---

### *Wetland Evaluation Techniques Confirmed*

The validity of a joint U.S. Army Corps of Engineers and Environmental Research Laboratory-Corvallis "rapid assessment" approach to landscape evaluation of functions of bottemland hardwood wetlands was recently confirmed. The University of South Carolina independently tested and demonstrated the accuracy of the structure-based bottemland hardwood wetland evaluation technique. South Carolina scientists studied two swamps and compared the results of using the rapid assessment approach with results obtained from intensive sampling and detailed measurement. In general, the results compared favorably. EPA intends to use the method for cost-effective screening of southeastern forested wetlands, in support of permit review obligations under Section 404 of the Clean Water Act.

[For more information contact: Dixon Landers, ERL-Corvallis. Phone: (FTS) 420-4601 or (503) 757-4601.]

---

### *Estuarine Waste Load Allocation*

The Environmental Research Laboratory-Athens is developing guidance for performing waste load allocations in estuaries. In support of Office of Water activities, the work emphasizes the use of simulation models to monitor and evaluate estuarine processes and characteristics that affect important water quality problems. Historical case studies with critical reviews by noted experts will be included.

[For more information contact: Bob Ambrose, ERL-Athens. Phone: (FTS) 250-3130 or (404) 546-3136.]

---

## **Notes from EPA's Regions**

---

### *Regions III, IV, and VI Hold 319 Workshop in Nashville*

Nonpoint Source Program managers from sixteen States and the District of Columbia met for 2 1/2 days in Nashville, Tennessee, on October 29-31, 1989, to exchange experiences, expectations, and details of their NPS Management Programs. Regional Nonpoint Source Coordinators from EPA Regions III (Philadelphia), IV (Atlanta) and VI (Dallas) were also workshop participants. States in attendance included Arkansas, Louisiana, Alabama, Florida, Kentucky, Georgia, Texas, Oklahoma, Mississippi, North Carolina, Tennessee, South Carolina, Pennsylvania, West Virginia, Maryland and the District of Columbia.

Summaries of the proceedings are being prepared. *NEWS-NOTES* will announce their availability when it is completed.

One of the highlights of the meeting was a working lunch on Monday, October 30, in which workshop participants were randomly assigned to eight luncheon discussion groups. Each group was asked to discuss and develop answers to two major questions. The first question was:

*What steps need to be taken or what step-by-step method should be utilized to develop and implement nonpoint source projects? How can this methodology be expanded from the watershed level to the State level?*

Discussions were brisk and productive during and after lunch. Luncheon moderators Doug Fabel of the South Carolina Department of Health and Environmental Control, and Jan Boydston of Louisiana's Department of Environmental Quality, reported these key principles as the consensus arrived at by the groups:

1. Identify and quantify the problem and establish common goals and objectives.
2. Identify key players or agencies participating in the project (Federal, State, local, landowners).
3. Identify sources of funding and other resources (technical, volunteer, education, training and research).
4. Identify public education/participation needs. (need public involvement in problem solving for "their" watershed - a sense of ownership. Includes political support).
5. Develop implementation plan:
  - Systems of BMPs
  - Milestones
  - Commitments from agencies
  - Secure funding
6. Implement plan in the watershed.
7. Establish maintenance program: integrate enforcement or regulatory programs with continuing monitoring and education.

The second question posed to the conferees during their working lunch was:

*What do successful watershed implementation projects have in common?*

Moderators Fabel and Boydstun reported the following consensus from among the group responses:

1. Problem identification is clear, with differentiation between point and nonpoint sources of pollution.
2. BMP system selection is based on problems to be solved.
3. Education leads to public awareness, which leads to public concern.
4. Support is achieved at all levels.
5. Intra-agency and interagency cooperation is maintained.
6. Lead agency has the authority and plays the leadership role needed for implementation.
7. Roles and responsibilities of cooperating agencies are fully spelled out, defined and recognized.
8. Complementary roles and balance between voluntary and regulatory aspects of the program are defined and understood.
9. Adequacy of funding is ensured.
10. Funds are acquired and allocated from varied sources: Federal, State, local, private business sources and individuals.
11. Multijurisdictional problems are overcome.
12. Adequate methods to assess effectiveness of NPS management are in place, such as monitoring against the achievement and/or maintenance of water quality standards.

The group agreed to meet next year and accepted the offer from the State of Texas to host the affair.

---

## *In Region IX, Western States Water Council Hold NPS Technical Issues Workshop*

The Western States Water Council (WSWC) hosted a NPS Technical Issues Workshop in Irvine, California, in late July, 1989.

While each western State may have its own approach to nonpoint source pollution control, technical issues are common in many of the States, the workshop program noted. Specific workshop objectives were to:

1. Identify NPS technical issues related to NPS pollution control and determine their relationship to EPA's Point Source/NPS Programs and the States' water quality issues.
2. Monitor and report on successful western States projects, programs and strategies aimed at mitigating NPS pollution.
3. Develop recommendations to WSWC to be included in future WSWC position papers or policies dealing with nonpoint sources.

The Workshop sessions dealt with all aspects of NPS pollution including: 1) agricultural drainage, 2) agriculture chemicals, 3) grazing/dairies/feedlots, 4) urban runoff, construction, and hydrologic modification, 5) silviculture, and 6) resource extraction and land disposal.

WSWC was organized by the Western Governors' Conference in 1965 to:

...accomplish effective cooperation among western states in matters relating to the planning, conservation, development, management, and protection of their water resources.

The Council has fifteen State members. Hawaii is an associated member. Darlene Ruiz, Vice Chair of the California State Water Resources Control Board and Chair of WSWC's NPS Pollution Control Subcommittee, served as the General Chair of the Technical Issues Workshop. The Workshop had over 150 registrants.

Workshop proceedings, including some 40 technical and policy papers, are available at the post-workshop price of \$45 plus \$4 for postage and handling.

*[To order the proceedings and for more information contact: Western States Water Council, Creekview Plaza, Suite A-201, 942 East 7145 South, Midvale, UT 84047. Phone: (801) 561-5300. FAX: (801) 255-9642.]*

---

## *From Region VI: Pointless Pollution - - A Video Worth Watching*

A 28 minute video, *Pointless Pollution*, presented and narrated by Walter Cronkite, has a vital message about nonpoint sources and the cause of water pollution. By some estimates, NPS pollution contributes as much as 80 percent of the contamination that is found in this nation's water resources.

The video, produced by Wayne Ewing for the Lower Colorado River Authority (LCRA) of Austin, TX, in Region VI, focuses on how NPS pollution has affected the lives of people in major regions of the country. In the Chesapeake Bay, a once thriving oyster industry has all but vanished. In Tennessee, many reservoirs have silted up, rendering hydro generators useless. And in Texas, NPS pollution is threatening the Highland Lakes, as well as Barton Springs, a popular spring-fed pool in Austin.

*Pointless Pollution*  
(Continued)

Walter Cronkite says, "How we live our lives on the land will determine what kind of water we will leave for our children."

Bullfrog Films, Inc., has educational rights for the video. They are distributing it to educational institutions and conservation districts, according to John Abraham, President. See below for details

It is planned that *Pointless Pollution* will be made available to every Public Broadcasting (PBS) affiliate in the U.S. in early 1990, reports Richard Gaylord of LCRA. Interested people are encouraged to check with their local PBS affiliate for scheduled video showings.

[Video available from: Bullfrog Films, Inc., Oley, PA 19547. Phone: 1-(800)-543-3764. Prices: educational institutions—purchase \$250, 3-day rental \$50; conservation districts—purchase \$75, 3-day rental \$35. For more information on the video contact: Pat Hartigan, LCRA, P.O. Box 220, Austin, TX 78767. Phone: 1-(800)-252-3633, ext. 2772.]

---

## **Notes From The States**

### *Tennessee Kicks-off NPS Teacher Training*

Tennessee held its initial teacher training workshop at Henry Horton State Park, reported Tom Weaver, Assistant Director for Nonpoint Source Control Program, State Department of Health and Environment (TDHE).

This first State three-day workshop, held October 22-24, 1989, provided training in NPS pollution control for twelve high school science, agriculture, and social science teachers. The teachers were from designated watersheds in central Tennessee. Weaver says the evaluations received from the first workshop will be used to structure the agenda of future NPS teacher training workshops, proposed for two weeks in duration in 1990 and 1991.

This teacher training workshop was one of the NPS management program implementation activities under the joint funding and management of the State Department of Education and TDHE.

[For more information contact: Tom Weaver, Assistant Director for Nonpoint Source Control Program, State Department of Health and Environment, 150 9th Ave., North Nashville, TN 37219-5404. Phone: (615) 741-7883.]

---

### *In New Jersey, Nonpoint Source Is Kitchen Talk Topic*

Nonpoint source pollution is becoming a New Jersey kitchen conversation topic due to the State's widespread public awareness program. Several channels of communication with the individual citizen are utilized, according to Judy Morgan and Kyra Ahl of the State Division of Water Resources Office of Public Participation in Trenton, New Jersey.

Two public information publications have received wide distribution. The first, a two-sided leaflet entitled "New Jersey Water Watch—What You Can Do About 'Non-Point Source' Pollution," defines NPS pollution, describes the sources of NPS pollution and briefly addresses the actions the individual can take to combat NPS and protect New Jersey's water resources.

The second publication is a six-panel, color folder entitled "Nonpoint Source Pollution—Don't Drain Into Our Resources." Some 80,000 copies have already been distributed. The folder was offered at fairs and other gatherings by State and local health and water agencies and through other channels. Ahl reported a very favorable response from recipients of the folder. New Jersey also has a volunteer citizen water watch program which distributes the publications.

In another public awareness undertaking in the spring of 1989, the Division of Water Resources prepared and supplied elementary school teachers, upon request, with NPS pollution background information, educational materials, and suggested activities. Ahl says the division received several hundred requests for their educational materials and activities suggestions. Most popular was their NPS pollution coloring book.

*[For single copies of the folder, 4-89, at no charge, contact: Judy Morgan, Coordinator, Office of Public Participation, Department of Environmental Protection, Division of Water Resources CN029, 401 E. State St., Trenton, New Jersey 08625-0029. Phone: (609) 984-3730.]*

---

## *Fish Return to Cedar Creek, Missouri*

Acid mine drainage caused 26 known fish kills in the central Missouri Cedar Creek, reports John Ford of the State Department of Natural Resources. Following a 1982-85 reclamation of 70 acres of surface-mined land which was draining into the creek, several species of fish returned to the creek waters, noted Otto Fajen, a biologist with the State Department of Conservation.

Ford said that more than 2000 acres of the Bevier coal seam were strip-mined in eastern Boone and northwestern Callaway counties, Missouri, between 1938 and 1962. Much of the 12 to 55 foot thick overburden contained pyrites. Exposure of the pyritic overburden and the disposal of coal wastes in natural drainage led to chronic problems with acid mine drainage into Cedar Creek, the stream draining this mined area. The known fish kills occurred between 1941 and 1983.

Monthly water quality monitoring of Cedar Creek was recorded at a point about three miles downstream of all the major portions of mined land from 1968 to 1975. This stream data showed that the pH of the creek was greatly influenced by the stream hydrography. Much of the time the portion of the creek just below the mined area was not in conformance with the State's minimum pH standard of 6.5. The lowest observed pH values, 2.8-2.9, occurred at low flow, suggesting that the seepage of acid water to the creek during dry weather was substantial.

The fish kills, however, were not associated with these low flow conditions but with rainfall events. According to Ford it was felt, but not documented, that the first flush of water entering the creek, both acidic soil pore water and the overflow from acid ponds, caused even more acidic conditions than at low flows.

When funds became available to Missouri from the U.S. Department of Interior Office of Surface Mining to reclaim abandoned coal-mined lands, the Cedar Creek area was one of the first projects completed by the Missouri Department of Natural Resources Land Reclamation Program. 70 acres of the mined lands in two locations, including a 24 acre slurry pond, were graded, covered with two feet of non-pyritic material, limed, fertilized and re-vegetated. In addition, a 9 acre acid pond was neutralized. The project cost \$1.15 million.

According to Ford the post-project water quality sampling data indicates that the relationship of pH and stream hydrography in Cedar Creek is unchanged. The continuous pH monitor was able to confirm that the "first flush" phenomenon was occurring and that the lowest post-project pH values in the creek were occurring at the beginning of a storm event. However, the mined land reclamation has greatly reduced the amount of acid discharge into Cedar Creek. For example, prior to reclamation the first flush pH values that caused fish kills were less than 3.0; in 1986-87 the post-reclamation range was 4.6-5.8 pH, or a typical value of 5.4 pH.

*Fish Return to Cedar  
Creek, Missouri  
(Continued)*

In 1987 Fajen identified several species of fish in sections of the stream immediately adjacent to the reclaimed mined lands. These species included largemouth bass, bluegill, green sunfish and several species of minnow. He also observed bluegills nesting. Fajen believes that these recent returns of fish to upper sections of Cedar Creek are strong evidence of what he terms a "tremendous improvement" in the creek due to abandoned mined land reclamation.

*[For more information contact: John Ford, Environmental Specialist, Missouri Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102. Phone: (314) 751-7024.]*

---

## *Delaware Sets Its Implementation Plan Components*

The State of Delaware recently created its NPS Grant Application Package, using funds provided by Section 201(g)(1)(B) for the implementation of certain watershed demonstration projects in its NPS Management Program. In completing the Grant Application, each of Delaware's 3 watersheds specifically had to address the 12 activity components listed below. Other States might want to refer to this checklist as they prepare their Grant Applications.

### *Implementation Plan Components*

- A. Goals and Objectives
- B. Definition for Success
- C. Milestones Defined
- D. Institutional Arrangements
- E. Resource Management Systems
- F. Educational Activities
- G. Technical Assistance
- H. Financial Incentives
- I. Regulatory Programs
- J. Monitoring
- K. Public Participation
- L. Funding Plan

*[For more information contact: Richard Bennett, Nonpoint Source Program Manager, Delaware Department of Natural Resources and Environmental Control, 89 Kings Highway, PO Box 1401, Dover, DE 19903. Phone: (302) 736-5666.]*

---

## **Notes From Agriculture**

### *USDA Water Quality Program Plan*

The U.S. Department of Agriculture recently announced its Water Quality Program Plan to support the President's Water Quality Initiative. The Program Plan states:

USDA's response to the President's Water Quality Initiative brings a new focus and coordinated commitment to the goal of protecting the Nation's waters from contamination by agricultural chemicals and waste products applied on agricultural lands. The management of agricultural chemicals and wastes to meet environmental and public safety objectives is in many ways a new functional activity for USDA, particularly with its emphasis on groundwater.

Eight USDA agencies will be heavily involved in the three-part program, which will focus on: (1) education and technical assistance; (2) research and development; and (3) database development and evaluation. The basic idea is to help farmers keep water clean—while at the same time maintaining farm output, avoiding economic hardship and sustaining an economical and safe food supply.

The Program Plan observes that it "...involves the capabilities and activities of more USDA agencies, working in closer concert with a wider variety of Federal and State agencies than any previously established Departmental function," including related activities of EPA. State Nonpoint Source Program administrators will welcome USDA's Water Quality Initiative as they implement their State NPS Management Programs developed under the requirements of the Clean Water Act.

The principal USDA and cooperating State program agencies are:

- Agriculture Research Service (ARS)
- Agricultural Stabilization and Conservation Service (ASCS)
- Cooperative State Research Service (CSRS) in conjunction with the system of State Agricultural Experiment Stations (SAES)
- Economic Research Service (ERS)
- Federal Extension Service (ES) in conjunction with State and County Cooperative Extension Services (CES)
- Forest Service (FS)
- National Agricultural Statistics Service (NASS)
- Soil Conservation Service (SCS)

NEWS-NOTES will regularly report on USDA agency Water Quality Initiative activities. The Soil Conservation Service (SCS) and its coordination with EPA were covered in the first issue, while some of the water quality related activities of the Forest Service and the Cooperative Extension System (Extension Service) are described in this issue.

---

## *USDA Forest Service Launches State and Private Forestry Water Quality Initiatives*

The Forest Service's Cooperative Forestry will work with State and private forestry programs in the implementation of USDA's water quality initiatives, according to Gordon Stuart, who directs Watershed Programs for the Forest Service in Washington, DC.

Stuart says the Forest Service proposes to improve and strengthen State and private forestry water quality programs through the following actions: increasing technical training; assisting in staffing; developing and encouraging access to information systems; and evaluating best management practice (BMP) effectiveness.

Effective BMPs will be demonstrated by locating areas with desirable, installed BMPs, documenting their effectiveness, and publicizing the results; and also by reporting forestry solutions in forestry, agriculture, and urban NPS problem situations.

The Forest Service's Watershed Programs will work cooperatively with other forestry interests, States and EPA in developing public information on the role of forestry in controlling NPS pollution.

As part of this effort, Watershed Programs has published "Managed Forests and Clean Water (Program Aid No. 1429)." The theme of this information-packed, eight-page, attractive pamphlet is that BMPs applied with care and common sense benefit everyone by protecting water quality and preserving the productive capacity of the land.

The pamphlet states:

American forests and woodlands supply us with wood products and high-quality water. We can continue to enjoy both when landowners or land managers use Best Management Practices to control nonpoint source pollution.

Most BMPs can easily be applied during management activities, the new pamphlet points out, observing that BMPs for forestry have been developed and tested on experimental watershed. The pamphlet covers BMP design, installation, maintenance and modification.

[For copies of "Managed Forests and Clean Water (Program Aid No. 1429)," at no charge, contact: USDA-Forest Service, P.O. Box 96090, Washington, DC 20090-6090. Phone: (703) 235-1289. For more information contact: Gordon Stuart, at the above address and phone number.]

---

## *Extension Service's National Water Quality Initiative*

In 1984, Extension Service-USDA (ES) and the Extension Committee on Organization and Policy (ECOP) appointed a national task force to assess the ground water situation. The task force, chaired by Roy S. Rauschkolb, Director of Arizona Cooperative Service, University of Arizona at Tucson, issued its report in February, 1986. That report has led to a steadily increasing involvement in water quality by the State/Federal Cooperative Extension Service (CES). A major Water Quality Initiative Report was issued in January 1988, followed by a three-day national workshop for Extension Directors and Administrators chaired by ES Administrator Myron D. Johnsrud, which identified water quality as a pre-eminent national initiative for the Cooperative Extension Service.

Since that time, USDA-ES and State CES have been advancing the timing and intensity of water quality programming. Increased "Water Quality" effort has included the signing of a memorandum of understanding between the two USDA agencies, Extension Service and Soil Conservation Service (SCS), and the development of a unique "roles document" which articulates the water quality functions of these two agencies. These have been followed by a series of CES-SCS regional workshops, where active cooperation could be dramatically increased. CES held a national workshop for Extension personnel, which attracted 165 participants from 44 States.

Fred N. Swader, National Program Leader for Water Resources, and Cynthia Garman-Squier, Coordinator for Environmental Management and Agricultural Chemicals, USDA-ES in Washington, DC, report that CES has close ties to the nation's Land Grant Universities. These ties provide organizational structure at the State level and connections to the research capabilities of the universities and of the State Agriculture Experiment Stations. CES, responsive to Federal, State and local concerns and priorities (not necessarily in that order), functions in more than 3,100 counties in the U.S.

CES feels the need for public education programs on:

- the importance of high-quality water to life, well-being, and agricultural production;
- the need to use water resources wisely;
- the impacts of agricultural and other chemicals on water quality; and
- methods of conserving water supplies.

In addition, there is a need to develop appropriate policies to assure adequate supplies of quality water. The CES leadership says they must improve public understanding of water resources, how they are used, why water resources are vulnerable, and how human activities affect water quality. CES has established a goal of developing private and public understanding of the nature of these interactions between human activities and water quality.

Another CES goal is to provide appropriate educational programs for those who use agricultural, industrial, and household chemicals or who develop policies governing their use and disposal.

Examples of successful CES programs range from "Chemigation" to "Water Re-use" to "Manure Management," among others. Chemigation, a word not found in most dictionaries, is one well known to agricultural producers. A combination of the words "chemicals" and "irrigation," it aptly describes the process of applying an agricultural chemical by mixing the chemical with irrigation water.

Although chemigation has been used in Nebraska for approximately 30 years, according to Delynn R. Hay, Extension Specialist, Water Resources and Irrigation, University of Nebraska at Lincoln, widespread adoption of the practice coincided with a major expansion of irrigated agriculture in the mid-1970s. At the height of the irrigation expansion, using primarily center-pivot systems in 1982-83, the corn crop experienced unusually heavy infestations of corn borer. In 1983 alone, producers chemigated more than 200,000 acres with insecticide in efforts to control this costly pest.

Concerns surfaced quickly that insecticide use for chemigation might increase the potential for groundwater contamination. In 1986 the Nebraska legislature passed the Nebraska Chemigation Act. The State environmental agency contracted with Nebraska CES to conduct the training and administer the required certification examination for chemigators. Less than 90 days after the contract was signed, Nebraska Extension specialists, in cooperation with the State Department of Environmental Control (DEC), implemented the chemigator training program, according to Hay and Edward F. Vitztbum, Associate Coordinator, Environmental Programs at the University of Nebraska. One participant in the training described the situation quite succinctly: "They can't afford to contaminate the water. Their kids have to use it, and their kids after them. They have to keep it clean for them."

Florida CES has been involved in the treated wastewater reclamation project near the booming Orlando metropolitan area from its very inception, says Charles T. Woods, Extension Associate Editor, Editorial Department, Institute of Food and Agricultural Science, University of Florida at Gainesville. Officially known as the Water Conserv II/Southwest Orange County Water Reclamation Project, it is one of the largest water reuse projects in the nation, and the first in Florida to irrigate crops (citrus) intended for human consumption. According to John Jackson, multi-county citrus Extension agent based in nearby Lake County, in this project everyone wins—urban areas get rid of treated wastewater, growers get an almost unlimited supply of free water, and the environment is protected.

*Manure Management for Environmental Protection*, a manual published by Pennsylvania Department of Environmental Resources (DER), is helping farmers obtain maximum benefits from manure while minimizing potential water quality problems. The manual is the result of a major revision project headed by Robert Graves, Pennsylvania State University professor of agricultural engineering with Extension responsibilities. This was a cooperative effort of the DER, CES, farm organizations, legislature and SCS. CES produced a brochure to inform farmers and others about the new manual and sent news releases to the farm press. Orientation meetings introduced the manual to regional and county staffs and fostered cooperation among the many agencies that work with farmers in manure management. Pennsylvania farmers, and those who work with them, now have access to a single reference that will help them make better use of a farm resource while protecting water quality.

USDA-ES's Swader reports that every State CES is encouraged to become part of the State's implementation of Section 319 of the Clean Water Act. When asked how State Water Quality managers should make contact with the State CES staff working on water quality, he suggested that a faculty person (Extension Specialist) would usually be the primary contact. The *initial* contact, however, should be to the Director of Extension, unless the appropriate Extension Specialist has already been identified.

*[For more information contact: Fred N. Swader, National Program Leader for Water Resources, USDA-ES, Washington, DC 20250. Phone: (202) 447-5369; or Cynthia Garman-Squier, Coordinator for Environmental Management and Agricultural Chemicals, same address. Phone: (202) 447-5245.]*

---

## **Bibliographic Notes - Stormwater**

---

### *#1 - - Storm and Combined Sewer Control Program: A Compilation of Significant References*

EPA's Risk Reduction Engineering Laboratory, in Edison, New Jersey, has been engaged in a Storm and Combined Sewer Pollution Control Program. As part of this program, the laboratory has produced an extensive chronological bibliography of approximately 320 publications (without abstracts) dealing with research on the subject performed over a twenty year period beginning in the mid-1960s.

*Stormwater (Continued)* This current publication of *Significant References* represents an overview of that larger program, comprising some 41 selected abstracts. As the publication says:

These documents are handy references for the user community faced with the challenges and mandates to combat urban wet-weather-induced water pollution. They cover the gamut of engineering requirements, from pollution problem assessment and associated tools, to management and control planning and design.

A matrix targets the subject matter and concerns of each document in terms of flow/discharge type, pollution problem assessment, user assistance tools, and management/control alternatives.

*[This publication is in the process of being reprinted, and should be available in early 1990. For information concerning its availability contact: Center for Environmental Research Information (CERI), Cincinnati, Ohio. Phone: (513) 569-7562 or (FTS) 684-7562.]*

---

## #2 - - Maryland's Stormwater Management and Sediment Control Programs

Maryland's Department of the Environment, Sediment and Stormwater Administration has published its own bibliography, listing some 22 stormwater management and 6 sediment control publications, which is available to local governments and interested citizens. Subject matter covers financing, sample local ordinances, survey results, the design of retention structures, infiltration practices, and so on. Sediment control law, regulations and practices are also examined.

*[For more information and to obtain a copy of the publications list contact: Maryland Department of the Environment, Sediment and Stormwater Administration, 2500 Broening Highway, Building 30, 1st Floor, Baltimore, MD 21224. Phone: (301) 631-3553.]*

---

## #3 - - Two Additional Stormwater Control Publications

*Design of Urban Runoff Quality Controls*, Larry A. Roesner, B. Urbonas and M. B. Sonnen. American Society of Civil Engineers. 490 Pages.

The contents of this book are the proceedings of an Engineering Foundation Conference held in July, 1988, on current practice in the design of pollution controls for urban runoff. The papers are concerned with the pragmatic, functional design and maintenance of devices that have been demonstrated to work in the field. These proceedings bring together much of the collective knowledge of American and European technology in the subject area.

*[To order, contact: American Society of Civil Engineers, 345 E. 47th St., New York, NY 10017-2398. Attn: Order Fulfillment Dept. Phone: (212) 705-7496. Price \$39.00, including mailing and handling. ASCE members receive 25% discount.]*

*Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs*. T. R. Schueler, Department of Environmental Programs, Metropolitan Washington (DC) Council of Governments. July, 1987. 254 pages.

This book provides a highly detailed guidance for engineers and site-planners on how to plan and design urban BMPs to remove pollutants and protect stream habitat. It offers detailed design guidance on seven major urban BMPs in use in the Washington, DC metropolitan area, and describes technical criteria by which to judge technical standards of proposals for flood control. The book includes good graphics and is written in understandable terms.

*[To order, contact: Metropolitan Washington Council of Governments, 1875 Eye St., N.W., Suite 2000, Washington DC 20006. Phone: (206) 223-6800. Price \$40.00, bulk discount.]*

---

## **Reviews - New and Worth Reading**

---

### *Managing Nonpoint Pollution - An Action Plan Handbook for Puget Sound Watersheds*

**D.G. Gordon, Puget Sound Water Quality Authority, June, 1989. 300 pages.**

The Introduction to this practical, informative, loose-leaf handbook explains its origins:

In 1987 the Puget Sound Water Quality Management Plan established a system for protecting Puget Sound and its resources from the effects of nonpoint source pollution. The plan directed the 12 counties bordering Puget Sound to identify and rank their watersheds in priority order for nonpoint pollution control, and to develop and implement action plans that would protect these watersheds from nonpoint source pollution....

The handbook was developed to help local citizens and public officials to answer questions they had never been asked before, as they put the Puget Sound plan into action on the local level. The handbook discusses its organization and purpose:

....Each section of the Handbook discusses a different facet of nonpoint pollution control—from the general discussion of nonpoint pollution...to more specific information about setting up a monitoring program, selecting best management practices, implementing programs of public involvement and education, and conducting effective evaluations of nonpoint control efforts. Each of the major contributors of nonpoint pollution—stormwater and erosion, on-site sewage disposal systems, agriculture, forest practices, boats and marinas, and other nonpoint sources are discussed. Emphasis is placed on the effects of nonpoint pollution on beneficial uses; existing federal, state, and local controls; and the ingredients of an effective control strategy for each source. An annotated bibliography of reference materials concludes each major section.

The handbook defines a watershed as a “geographic region that drains water (and everything water carries) into a river, river system, or body of water.” What Puget Sound carries is the combined product of all of its contributing watersheds. The observation is made that “nonpoint source pollution will only be controlled through ongoing efforts to change public understanding and behavior.”

Although developed to assist citizens and local governments in Washington, this handbook contains basic information, all in one place, that can be of substantial use to water quality planners, environmental managers, and others involved in NPS control implementation in other States as well. It is also attractively presented.

*[For more information contact: Nancy R. Hansen, Puget Sound Water Quality Authority, 217 Pine St., Suite 1100, Seattle, WA 98101. Phone: (206) 464-7320. The handbook is available without charge.]*

---

### *Financing Water Quality: Nonpoint Source Legislative Options*

**Larry Morandi and Tony Hutchison, State Legislative Report, Vol. 14, No. 12, ISBN-1-55516-253-3, National Conference of State Legislatures (NCSL), Denver, Colorado, September, 1989. 10 Pages.**

This NCSL Legislative Report was prepared for leaders of the nation’s State legislatures in time for their 1990 sessions. It summarizes the nature and magnitude of nonpoint sources of water pollution, calling them “the largest contributors to water pollution today.” It continues by noting that “[u]nlike municipal sewage and industrial discharges, nonpoint sources have been largely unregulated. Their contaminants can be controlled, however, and at costs much less than capital-intensive waste treatment plants.”

*Financing Water Quality:  
Nonpoint Source  
Legislative Options  
(Continued)*

The nonpoint source provisions and requirements of Section 319 of the Water Quality Act of 1987 are summarized, and the responsibilities of the States and the governors enumerated.

The financial context of controlling nonpoint sources is examined, including Federal/State/local participation, with this observation: "As pressure on the use of general fund revenue for other purposes mounts (including the funding of competing environmental programs), States will have to look to alternative funding mechanisms and creative State-local institutional relationships to finance nonpoint source water quality efforts."

The report then examines 1) alternative revenue sources in terms of fees and taxes; 2) management instruments, environmental trusts and revolving funds; and 3) state-local institutional relationships, and the use of special districts or other entities.

An appendix excerpts State nonpoint financing laws now enacted in Colorado, Florida, Iowa and Washington.

The 1990 round of State legislative sessions will not be the first, or the last, to consider the ways and means of financing the State and local costs of cleaning up and controlling nonpoint sources. This NCSL publication will give those concerned—State and local legislators, administrators and citizens alike—a good basic understanding of available fiscal options as the States undertake the implementation of their new NPS Management Programs.

This legislative report was prepared specifically for NCSL's legislative workshop to discuss alternative State funding mechanisms for State nonpoint source water pollution control programs, to be held in Washington, DC, on December 13, 1989. See the *Datebook* section of this NPS NEWS-NOTES for details.

*[For more information, or to obtain copies without charge, contact: National Conference of State Legislatures, 1050 17th Street, Suite 2100, Denver, Colorado 80265. Attn: Book Order Department. Phone: (303) 623-7800.]*

---

## *North Carolina Erosion and Sediment Control Planning and Design Manual*

**A cooperative effort between the North Carolina Sediment Control Commission, North Carolina Department of Natural Resources and Community Development, and the North Carolina Agricultural Extension Service, State of North Carolina, Raleigh, NC 27611, September, 1988.**

The North Carolina Sedimentation Pollution Control Act of 1973 (the Act) created, within the State's Department of Natural Resources and Community Development, a Sediment Control Commission. The Commission was authorized to adopt and enforce rules and regulations to control erosion and the loss of sediment from construction sites, encourage the development of educational activities and local control programs, and establish civil and criminal penalties with injunctive relief for violators of the State program.

The Commission has jurisdiction, to the exclusion of local governments, to adopt rules concerning land disturbing activities that are conducted by State organizations, the U.S. Government, persons having the power of eminent domain, and local governments as well as projects licensed or funded by the State or U.S. Government. Any local government can submit an erosion and sediment control program to the Commission for approval and the authorization to adopt ordinances and the rules and regulations necessary to establish and enforce such a program.

The law governs all land-disturbing activities except agriculture, forestry, and mining (which are regulated by the Mining Act of 1971).

The State's *Planning and Design Manual* represents one effort toward fulfilling the educational requirements of the Sedimentation Pollution Control Act. It is a basic reference intended to

help developers in the preparation of comprehensive erosion and sediment control plans and for the design, construction, and maintenance of individual best management practices (BMPs). Its preparation was funded by civil penalties collected from violators of the Act.

Similar to other States' sediment and erosion control manuals, this one probably is more comprehensive. It is not intended to be prescriptive, as the Act is performance-oriented; designers are encouraged to develop innovative, cost-saving practices to achieve goals of the Act. Provided in a loose-leaf binder, it can be easily updated on a periodic basis. It includes eight chapters, including appendices. Subjects discussed include a short description of what the law basically covers, the principles and processes of erosion and sediment control, vegetative considerations, preparation of site plans, overview of control practices (with plan practice symbols), and a sample of an actual sediment control plan. Appendices are provided which include all of the necessary information needed to complete a plan and to design BMPs, both vegetative and structural, into a practical control system.

The most valuable chapter probably is chapter 6. It includes a detailed description of site preparation and scheduling techniques; surface stabilization, runoff control, and conveyance practices; sediment trap and detention basin design criteria; stream and waterway protection measures; and other useful BMP information. A very important environmental control concept is provided in this chapter by emphasizing that the vegetative and structural measures described for use on developing areas are not intended to stand alone. They are to be employed as a system, sequenced on a site-specific basis into a comprehensive control program during development and later to stabilize the land when the development is completed.

This is an outstanding design manual. *NEWS-NOTES* is interested in obtaining information as to the effectiveness of the implementation of North Carolina's program. Comments, particularly from developers, project or design engineers, local governmental staff, the public, etc., concerning the information provided in the manual and needed changes or improvements would be appreciated. We will pass along the essence of comments received.

—Robert Thronson

[For copies contact: Land Quality Section, North Carolina Department of Environment, Health, and Natural Resources, 512 Salisbury Street, P.O. Box 27687, Raleigh, NC 27611. Phone: (919) 733-4574. Price: \$50.00, including handling and mailing costs. Additional inserts sent to manual holders at no extra charge.]

---

## *Off-Site Assessment - - Proceedings of a National Workshop*

**S.C. McIntyre, J.W. Naney, and J.R. McHenry, et al., EPA Publication 440/5-89-001, August, 1989. 53 pages.**

This publication includes the proceedings and papers delivered at the November 15, 1988, Off-site Assessment National Workshop sponsored by EPA and co-sponsored by the North American Lake Management Society and USDA's Soil Conservation Service. The workshop was held in St. Louis, Missouri.

The papers and their authors are:

"Quantification of Lake Sedimentation Rates Utilizing Radioisotopes Present in the Environment"—S.C. McIntyre, J.W. Naney, and J.R. McHenry.

"Airphoto Inventories for Pinpointing Nonpoint Sources"—Frank R. Perchalski.

"Contaminated Sediment Assessments"—Anthony G. Kizlauskas and Bruce Kitsuse.

"Physical Fish Habitat Components as Measures of Beneficial Uses"—Donald M. Martin.

"EPA Remote Sensing Resource for Lake Management"—Mason J. Hewitt, III, Thomas H. Mace, and Ross S. Lunetta.

Off-Site Assessment  
(Continued)

"Modeling Linked Watershed and Lake Processes for Water Quality Management Decisions"—R.M. Summer, C.V. Alonso, and R.A. Young.

"USDA Water Quality Program"—James Krider and Bruce Kirschner.

"The SCS Water Quality Indicators Guide: Surface Waters—A Tool to Assess Surface Water Quality Problems"—Charles R. Terrell and Patricia Perfetti.

"Water Quality of the Missouri River"—John R. Howland and John C. Ford.

"Closing Remarks"—Douglas A. Ehorn.

[For copies, contact: Nonpoint Source Information Exchange (WH-553), Assessment and Watershed Protection Division, Office of Water, U.S. EPA, 401 M Street, S.W., Washington DC, 20460. No charge.]

---

## A Concluding Thought . . .

### There Are Some Stumbling Blocks

Excerpted from the Closing Remarks of Doug Ehorn at the November 15, 1988, Off-Site Assessment National Workshop, while speaking to the "...need to address the nonpoint source pollution control program in an effective manner."

...our speakers have established that, although there is great progress on a number of fronts, certain stumbling blocks continue to impede progress. Some of those are politics, lack of funding, need for authority to proceed, need for direction, need for consensus, need to eliminate counterproductive laws, and a need for a whole solution. In fact, there was even the allusion to the fact that we cannot make progress because we do not know how to measure the current situation or the progress. All of this may be true! What is important to recognize is what you and I intend to do about some of these things. We have a choice. And if we have a choice, then the real stumbling block may be our own attitudes.

[Douglas A. Ehorn, Deputy Chief, Water Quality Branch, U.S. Environmental Protection Agency, Region V, 230 South Dearborn Street, Chicago, Illinois 60604. Reported in "Off-site Assessment—Proceedings of a National Workshop," EPA Publication 440/5-89-001, August, 1989.]

Here's my name (or a friend's name) for your mailing list to receive NPS NEWS-NOTES whenever it is published:

**Name:** \_\_\_\_\_  
**Organization:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**City/State:** \_\_\_\_\_ **Zip** \_\_\_\_\_  
**Phone:** \_\_\_\_\_

**Send to:** **NPS NEWS-NOTES (WH-553)**, Assessment and Watershed Protection Division  
U.S. EPA, 401 M Street, S.W., Washington D.C. 20460

---

## Datebook

---

This DATEBOOK has been assembled with the cooperation of: *Conservation Impact*, the newsletter of the Conservation Technology Information Center, 1220 Potter Drive, Room 170, West Lafayette, IN 47906-1334; and NWQEP NOTES, the newsletter of the National Water Quality Evaluation Project, North Carolina Agricultural Extension Service, North Carolina State University, 615 Oberlin Rd., Suite 100, Raleigh, NC 27605-1126. Their cooperation is appreciated. If you have a date you want placed in the DATEBOOK contact the editors of NPS NEWS-NOTES.

### Meetings

#### December, 1989

3-8 *2nd Annual National Coastal Programs Conference and 2nd National Citizens' Monitoring Workshop*, Airport Sheraton, New Orleans, Louisiana. For registration information contact: Lore Hantske, Office of Marine and Estuarine Protection, U.S. EPA. Phone: (202) or (FTS) 475-7111.

4-5 *TURNING THE TIDE: Legislative Remedies for Troubled Waters*, Stouffer-Madison Hotel, Seattle, Washington. A national meeting for legislators and others working to protect coastal waters at the State and local levels. For information contact the Conference Coordinator at (206) 464-7320.

11-12 *National Symposium on Non-Point Water Quality Concerns—Legal and Regulatory Aspects*, New Orleans, Louisiana. Topics to be discussed include best management practices, allowable erosion to meet conservation compliance, groundwater protection legislation, nutrient management, rural land management regulations, surface water protection legislation. For information contact: Meeting Coordinator, American Society of Agricultural Engineers Headquarters, 2950 Niles Rd., St. Joseph, MI 49085-9659. Phone: (616) 429-0300.

13 *Financing Water Quality: Nonpoint Source Legislative Options*, Grand Hyatt Hotel, Washington, DC Held immediately preceding the National Conference of State Legislatures' three-day annual State-Federal Assembly. Contact Larry Morandi or Leanne Stelzer, NCSL, 1050 17th Street, Suite 2100, Denver, CO 80265 (303) 623-7800.

#### January, 1990

17-19 *Controlling Sediment from Construction Sites*, A short course for engineers, architects, developers, regulators, and city, county and regional staff involved with erosion control, Madison, Wisconsin. For information contact: Patrick Egan or Cindy Adams, Engineering Registration, The Wisconsin Center, 702 Langdon Street, Madison, WI 53706. Phone: (608) 263-7429 or (800) 362-3020. Course fee: \$400.00. Fee covers notebook, program materials, lunches and certificate.

30-31 *Eleventh Annual 1990 Eastern Iowa Conservation Tillage Show*, Cedar Rapids, IA. Contact: Don Halsch, Marion Field Office, 950 50th Street, Marion, IA 52302. (319) 377-5960 or Kurt Hoeft, Tipton Field Office, 2101 North Avenue, Tipton, IA 52772. (319) 885-6214.

#### February

4-8 *National Association of Conservation Districts 44th Annual Convention*, San Diego, California. For information contact: Robert Baum, NACD Pacific Regional Representative, Suite 207, 831 Lancaster Drive, Salem, OR 97301. Phone: (503) 363-0912.

14-17 *Technology in Transition, the 21st Annual IECA Conference and Exposition*, Omni Shoreham Hotel, Washington, DC. Special sessions include a "Symposium on State departments of transportation erosion and sediment control policies and programs." For information contact: International Erosion Control Association, P.O. Box 4904, 1485 S. Lincoln, Steamboat Springs, CO 80477. Phone: (303) 879-3010.

20-22 *Agricultural Impacts on Ground Water Quality*, Kansas City, MO. Topics include: effects of pesticide application, monitoring, nitrates, pesticide chemistry, practices to minimize agricultural impacts on ground water. For information contact: Conference Coordinator, National Well Water Association, 6375 Riverside Dr., Dublin, OH 43017. Phone: (614) 761-1711. [NOTE: Conference will be held simultaneously under one roof with three other meetings: Ground Water Geochemistry, Groundwater Management and Wellhead Protection, and Environmental Site Assessments Case Studies and Strategies.]

## March

2-3

*Farming for Profit and Stewardship, A Pacific Northwest Symposium on Sustainable Agriculture*, Vancouver, WA. For information contact: Daniel McGrath, OSU Extension, 3180 Center Street NE, Salem, OR 97301. Phone: (503) 588-5301; or Dr. Jack Waud, WSU Extension, 223 East 4th St., Port Angeles, WA 98362. Phone: (206) 452-7831.

12-16

*Minimizing Risk to the Hydrologic Environment*, Las Vegas, Nevada. Topics include hydrogeologic site characterization, modeling of groundwater flow, and wellhead protection. For information contact: American Institute of Hydrology, 3416 University Avenue, SE, Minneapolis, MN 55414. Phone: (612) 379-1030.

## April

26-27

*Stormwater and Water Quality Model Users Group Meeting*, Eatontown, New Jersey. Contact: Vajira Gunawardana, P.E. or Colleen Petty, Conference Coordinators, Najarian & Associates, Inc., One Industrial Way West, Eatontown, NJ 07724. Phone: (201) 389-0220. Registration fee: \$75.00 (\$50 for students).

## May

16-18

*Innovations in River Basin Management* (Canadian Water Resources Association), Penticton, British Columbia. Topics include watershed water quality. For information contact: Robin McNeil, Program Chairman, Ministry of Environment, Water Management Branch, Parliament Buildings, Victoria, B.C., Canada V8V 1X5.

## June

18-21

*U.S./U.S.S.R. Joint Conference on Global Environment Hydrology and Hydrogeology*, Leningrad, U.S.S.R. Invited paper topics include: factors affecting water quality (surface and ground), agricultural contamination, relationship of land use to groundwater quality, urban NPS contamination, and regional strategies to protect ground and surface water. For information contact: American Institute of Hydrology, 3416 University Avenue, SE, Minneapolis, MN 55414. Phone: (612) 379-1030.

24-25

*An Educational Partnership: Industry-University-Society* (1990 International Summer Meeting—Society of Agricultural Engineers), Columbus, Ohio. Sessions on water resource issues include: erosion/conservation, water management, and hydrologic systems and transport processes. For information contact: ASAE, 2950 Niles Road, St. Joseph, MI 49085-9659. Phone: (616) 429-0300.

## July

9-11

*1990 Watershed Symposium*, Durango, Colorado. Topics related to watershed processes, modeling of wind/water erosion, and application of planning and analysis tools in watershed management. For information contact: Robert Riggins, USACERL, PO Box 4005, Champaign, IL 61824.

22-25

*Urban Non-Point Source Pollution and Stormwater Management Symposium*, University of Kentucky, Lexington, KY. Contact: Kentucky Water Resources Institute, 219 Anderson Hall, University of Kentucky, Lexington, KY 40506-0046

29-Aug. 1

*Water Futures*, 45th Annual Meeting of the Soil and Water Conservation Society, Salt Lake City, Utah. For information contact: SWCS, 7515 Northeast Ankeny, IA 50021-9764. Phone: (515) 289-2331.

## August

21-23

*Great Plains Conservation Tillage Symposium*, Bismarck, North Dakota. For information contact: Hunter Follett, Colorado State University, Plant Science Building, C-4, Fort Collins, CO 80526. Phone: (303) 491-6201; or Jim Stiegler, Oklahoma State University, Agronomy Dept., Room 363, N. Ag. Hall, Stillwater, OK 74078. Phone: (405) 744-6421.

November

4-9

*The Science of Water Resources: 1990 and Beyond*, Denver, Colorado. Topics include: hydrologic trends, legal issues, water resources development, and emerging issues (NPS pollution, urban impact on water quality, water resources education, radon, hazardous wastes, biomonitoring). For information contact: Jim Loftus, Colorado State University, Rm. 100, Engineering South, Ft. Collins, CO, 80523. Phone: (303) 491-7923; or Bob Montgomery, Woodward-Clyde Consultants, 4582 Ulster Parkway, Suite 1000, Denver, CO, 80237. Phone: (303) 694-2770.

**Call for Papers**

February

1

*Stormwater and Water Quality Model Users Group Meeting*, April 26-27, 1990, Eatontown, New Jersey. Abstracts of presentations on all aspects of Stormwater and Water Quality Modeling are invited to be submitted to conference coordinator on February 1, 1990. Authors will be notified of acceptance by March 1, 1990. For details see conference schedule in DATEBOOK above.

**Let Us Hear From You**

*(Clip or Photocopy and Mail this Coupon to the Address on Page 1)*

I have a:  question     information request     suggestion     other    (check one)

for the **NPS Information Exchange**

I need some help     I want to help    (check one)

**Use this space to share with us your SUCCESS story!**

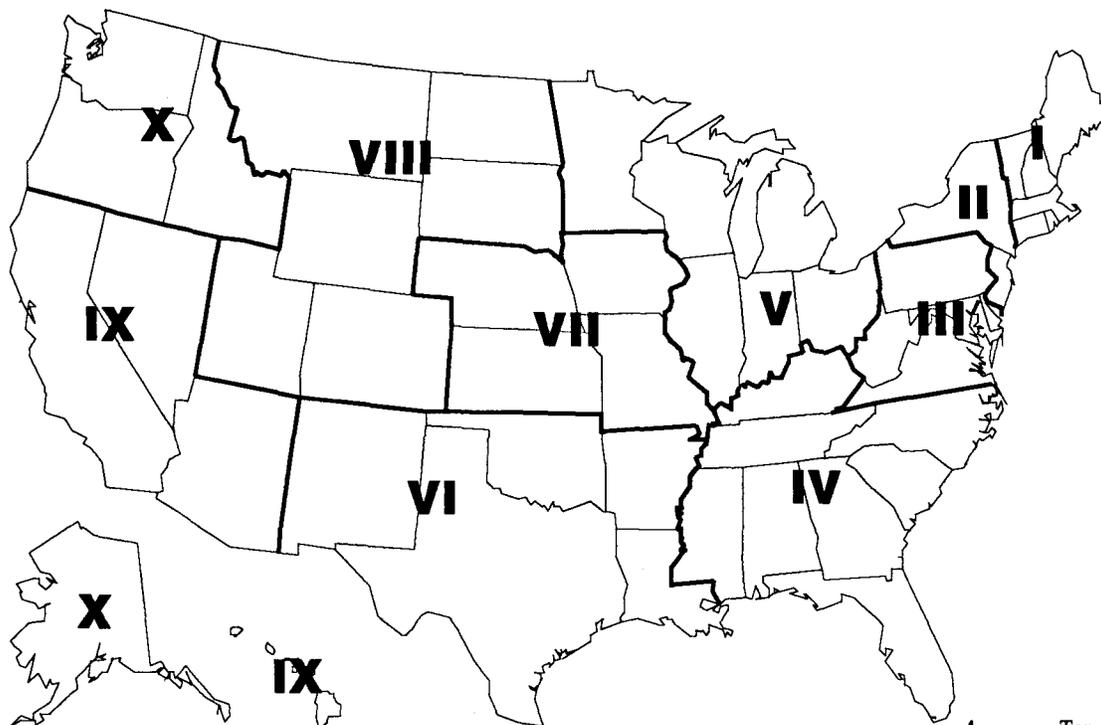
*Other comments and suggestions are welcome.*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Attach Additional Pages If Necessary*

**Name** \_\_\_\_\_  
**Organization** \_\_\_\_\_  
**Address** \_\_\_\_\_  
**City/State/Zip** \_\_\_\_\_  
**Phone** \_\_\_\_\_

# Directory of EPA Regional Offices



4 — Alabama	5 — Indiana	9 — Nevada	4 — Tennessee
10 — Alaska	7 — Iowa	1 — New Hampshire	6 — Texas
9 — Arizona	7 — Kansas	2 — New Jersey	8 — Utah
6 — Arkansas	4 — Kentucky	6 — New Mexico	1 — Vermont
9 — California	6 — Louisiana	2 — New York	3 — Virginia
8 — Colorado	1 — Maine	4 — North Carolina	10 — Washington
1 — Connecticut	3 — Maryland	8 — North Dakota	3 — West Virginia
3 — Delaware	1 — Massachusetts	5 — Ohio	5 — Wisconsin
3 — D.C.	5 — Michigan	6 — Oklahoma	8 — Wyoming
4 — Florida	5 — Minnesota	10 — Oregon	9 — American Samoa
4 — Georgia	4 — Mississippi	3 — Pennsylvania	9 — Guam
9 — Hawaii	7 — Missouri	1 — Rhode Island	9 — Northern Mariana
10 — Idaho	8 — Montana	4 — South Carolina	2 — Puerto Rico
5 — Illinois	7 — Nebraska	8 — South Dakota	2 — Virgin Islands

## Regional Nonpoint Source Coordinators

**Bill Butler**, NPS Coordinator  
Water Management Division  
EPA - Region I, WQB2103  
Room 2203  
John F. Kennedy Federal Building  
Boston, MA 02203  
(617) 565-3536

**Tony Dore**, NPS Coordinator  
Water Management Division  
EPA Region II, 2WMDSP  
Room 813  
26 Federal Plaza  
New York, NY 10278  
(212) 264-5624

**Hank Zygmunt**  
NPS Coordinator  
Water Management Division  
EPA - Region III  
841 Chestnut Street  
Philadelphia, PA 19107  
(212) 597-3429

**Beverly Ethridge**  
NPS Coordinator  
Water Management Division  
EPA - Region IV  
345 Courtland Street, N.E.  
Atlanta, GA 30365  
(404) 347-2126

**Tom Davenport**  
NPS Coordinator  
Water Management Division  
EPA - Region V  
230 South Dearborn Street  
Chicago, IL 60604  
(312) 886-0209

**Susan Alexander**  
NPS Coordinator  
Water Management Division  
(6W-QS)  
EPA Region VI  
1445 Ross Ave., 12th Floor  
Dallas, TX 75202-2733  
(214) 655-7140

**Bob Steiert**, NPS Coordinator  
Water Management Division  
EPA - Region VII  
726 Minnesota Avenue  
Kansas City, KS 66101  
(913) 236-2817

**Roger Dean**, NPS Coordinator  
Water Management Division  
EPA - Region VIII  
One Denver Place, Suite 1300  
999 18th Street  
Denver, CO 80202-2413  
(303) 293-1517

**Debra Caldon**, NPS Coordinator  
Water Management Division  
EPA - Region IX  
215 Fremont Street  
San Francisco, CA 94105  
(415) 974-0894

**Elbert Moore**, NPS Coordinator  
Water Management Division  
EPA - Region X  
1200 Sixth Avenue  
Seattle, WA 98101  
(206) 442-4181

**NPS News-Notes**  
**Nonpoint Source Information Exchange**  
**Assessment and Watershed Division**  
**Office of Water (WH-553)**  
**U.S. Environmental Protection Agency**  
**401 M Street, S.W.**  
**Washington, D.C. 20460**

---

*Official Business*  
*Penalty for Private Use*  
*\$300*

*First Class Mail*  
*Postage and Fees Paid*  
*EPA*  
*Permit No. G-35*