



Office of Wetlands, Oceans & Watersheds

## QUARTERLY HIGHLIGHTS

Spring 1993

### A Note from Dave Davis

*Just when you thought you were getting the latest buzzwords down ...just when you had reached the point that "watershed", "biodiversity", and "habitat alteration" were starting to roll off your tongue without effort...they drop another big one on you: ECOSYSTEM MANAGEMENT! What in the world is "ecosystem management"? And more importantly, how does it affect your already oversubscribed agenda and your already overcluttered...with buzzwords...mind? Well, there may be some good news here; ecosystem management is such a broad concept that it may help provide an organizing context for a whole variety of other fashionable concepts — or buzzwords, if you prefer.*

*Just what is ecosystem management then? Like most of our other conceptual terms, there is no precise definition, and people use it in many different ways. For our purposes in the OWOW family of programs, a fairly general definition works just fine. Thus, "ecosystem" refers to a natural biogeographic unit like a forest or a grassland together with all of its structural components (biotic: species, populations, communities; and abiotic: soils, water, climate, etc.) and all of the processes that connect the biotic and abiotic components. Such processes include energy flows, chemical cycles, spatial relationships, parasitism and other interdependencies, and many more.*

*In this context, "management" (or "protection") means acting in a manner consistent with the big picture; that is, looking at all of the stressors and influences on the ecosystem, assessing how they all affect all — or at least "key" — struc-*

*Note—Continued on Page 4*

### EPA Returns to 1987 Wetlands Manual and NAS Study Begins

To ensure consistency and predictability in the administration of the Section 404 program, EPA is now using the 1987 *Corps of Engineers Wetlands Delineation Manual* (1987 Manual). On January 4, the Assistant Administrator for Water signed an amendment to the January 19, 1989, Memorandum of Agreement on Section 404 geographic jurisdiction. The amendment provides that on an interim basis the Army Corps of Engineers (Corps) and EPA will follow the 1987 Manual in making wetlands determinations under Section 404.

Several major differences between the 1987 Manual and the 1989 *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (1989 Manual) exist. The 1987 Manual adheres more strictly to the three-parameter approach, requiring separate evidence to meet the hydrology, soils, and vegetation criteria, while the 1989 Manual, under certain assumptions, allowed the satisfaction of more than one criterion with a single piece of evidence. Much of the criticism of the 1989 Manual focused on the potential misuse of such assumptions to overreach in defining the scope of Clean Water Act jurisdiction. For the wetland hydrology criterion, the Corps interprets the 1987 Manual to require ponding, flooding, or saturation to the surface for at least five percent of the growing season. In contrast, the 1989 Manual required ponding or flooding, or a water table within six to eighteen inches of the surface (actual depth depending upon soil type), for one week or more during the growing season. For the wetland (hydrophytic) vegetation criterion, the Corps interprets the 1987 Manual to strictly require that at least half of the dominant plant species are known to occur in wetlands with at least 33 percent frequency. The 1989 Manual includes this same criterion, but considers any plant community to be wetland vegetation if it occurs on an undrained hydric soil. The wetland (hydric) soil criterion is the same in both manuals.

*Wetlands—Continued on Page 3*



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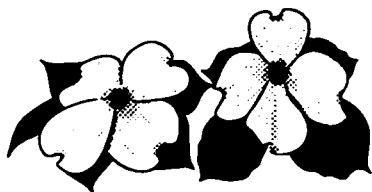
## EPA's Coastal Programs Begin Work with NOAA's National Estuarine Research Reserve System (NERRS)

NERRS has been organized as a system of research reserves and field labs to ensure quality science focused on applied decision-making in coastal areas. Representing several coastal decision-making programs, the Ocean and Coastal Protection Division (OCPD) has begun to work with NOAA to expand the ongoing research, monitoring and assessment necessary for coastal protection.

There are 19 NERRS sites, each with staff and research programs; there are 13 overlaps with National Estuary Programs (NEP) and five with Near Coastal Waters (NCW) projects. NERRS/EPA cooperation is already underway in Waquoit Bay, MA, Hudson River, NY, Weeks Bay, AL, Tijuana River, CA, Elkhorn Slough, CA, South Slough, OR, and Padilla Bay, WA. In addition, EPA's Chesapeake Bay Program is working with two NERRS sites in the Bay, and Region IV is funding the Water Quality Program portion of the Florida Keys Marine Sanctuary Plan. While conducting ongoing monitoring, NERRS sites also focus on themes which are changed about every two years. The current focus is on nonpoint source pollution.

In addition to its long-term monitoring, each year the Chief Scientist of the Sanctuaries and Reserves Division selects an additional 13 (approximate) special projects to be funded in the NERRS sites. Where NERRS and NEP or NCW estuaries are common, the opportunity to maximize the research, monitoring, and action-oriented resources of both programs exists through cooperative site selection and joint projects.

This year OCPD, with additional support from EPA's Office of Policy, Planning and Evaluation, plans to jointly sponsor several projects with NERRS. The projects are being selected with the help of the Regional Near Coastal Waters coordinators. Longer term opportunities will be forthcoming from this ongoing effort and from other cooperative activities such as the NOAA/EPA response to the Coastal Monitoring Act of 1992. Contact Eric Slaughter, 260-1051.



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## "Know Your Watershed" Campaign Launched

In an effort to create a national private/public alliance to promote watershed protection activities by the agricultural community, the National Association of Conservation Districts' (NACD) Conservation Technology Information Center (CTIC) launched the "Know Your Watershed" campaign in March. "We anticipate this initiative will help local agricultural leaders join with rural and urban partners to take the lead in preventing pollution in their watersheds," stated Gerald Digerness, president of NACD. He went on to say that, "Agriculture needs to undertake this initiative to protect water quality, wildlife habitat, and human health — and to make sure that it is done in a way that makes the most sense at the local level."

The "Know Your Watershed" campaign will focus on preventing problems caused by agricultural runoff or nonpoint source pollution. Approximately 65 percent of nonpoint water pollution comes from agriculture. The primary pollutants are sediment, animal waste, and purchased fertilizers and pesticides. This campaign will work to raise the consciousness of the agricultural community about the affect their actions have on water quality and the productivity and health of their watersheds. Further, the campaign will encourage the agricultural community to take voluntary action to reduce or prevent agricultural runoff.

CTIC is not limiting its focus to the agricultural community. CTIC intends to motivate landowners, operators, and residents within a watershed to identify their specific problems and solutions. Commodity groups, farm organizations, farm managers, agricultural retailers, industry, and government are among the groups that CTIC will encourage to join in partnerships to address nonpoint pollution.

Initially CTIC plans to conduct eight focus group meetings throughout the United States. A detailed work plan will be developed for implementation through the year 2000. EPA is one of the initial participants in this campaign. Other participants include Dupont, Monsanto, American Farmland Trust, U.S. Department of Agriculture, Tennessee Valley Authority, and the Agricultural Retailer's Association. Contact Joan Warren, 260-7796.

## OWOW Holds Annual National Meeting

This year's third annual "Pow Wow" followed on the heels of WATERSHED '93 (see article on page 8), and watershed management issues were one of the major focuses of discussion. Several Regional and Headquarters follow-up activities were identified including keeping the dialogue with other federal agencies on watershed protection open, creating Regional steering committees of federal agencies, working with other program offices to encourage them to incorporate watershed protection into their way of doing business, and encouraging states to adopt watershed management.

The President's Infrastructure Bill was another area of discussion. The President designated \$47 million to be distributed by EPA through Section 319 for watershed protection efforts. This money was to be spent on projects that would accomplish lasting environmental improvements and create new jobs. A filibuster in Congress succeeded in keeping the Infrastructure Bill from reaching the Senate floor; and thus the President's stimulus package did not pass.

In addition to the discussions on cross-cutting issues, all three divisions conducted break-out sessions to focus on division-specific topics. Issues discussed included the Oceans and Coastal Protection Strategic Plan (OCPD); Program Diversification/Integration: NEPs, Watersheds, Stormwater, Non-point Source Program (WD); and Status of the CZARA Implementation Strategy (AWPD).

This meeting also marked OWOW's second anniversary as an office. The annual photo of National Meeting attendees was taken to mark the occasion.

"Quarterly Highlights" is prepared by the Office of Wetlands, Oceans and Watersheds (OWOW). Its purpose is to share information with our Headquarters and Regional counterparts on major events that occurred during the past quarter, to provide an update on specific topics, and to advise you of key personnel changes and upcoming activities. Any questions or suggestions concerning "Quarterly Highlights" should be directed to Anne Robertson of OWOW at 202-260-9112.

## Special Events

### WATERSHED '93 an Overwhelming Success

WATERSHED '93, a national conference on watershed management was held March 21-24 in Alexandria, Virginia. The conference brought together more than 1100 people from federal, state, and local agencies and industrial, agricultural, environmental, and recreational communities to share experiences and exchange information on watershed management. For many of the sessions, there was standing room only. The final day of the conference was broadcast by satellite to more than 35 downlink sites around the country. The final session of the conference was opened with an inspiring speech by Administrator Browner and closed with the reading of a letter of support from Vice President Gore. EPA was one of more than 40 sponsors and cooperators involved with the conference. Videotapes of the conference can be purchased from Terrene Institute. For more information, contact Jennifer Paugh (Terrene), 202-833-8317 or Janet Pawlukiewicz (EPA), 260-9194.

#### *Wetlands-Continued from Page 1*

The National Academy of Sciences (NAS) study of wetlands delineation and functional assessment techniques is expected to help address some of the differences between the 1987 and 1989 manuals. Congress called for this study in EPA's FY 1993 appropriations bill, and the study began on March 15. The NAS will form a study committee of national experts from academia, industry, and other sources (excluding federal agencies). The NAS estimates the committee will take 18 months to complete the study. EPA is chairing an interagency advisory group (EPA, Army/COE, DOI, NOAA, USDA, and DOT) to provide technical and logistical support to the NAS study committee. This group will participate in initial NAS committee meetings and coordinate with committee members to respond to requests for technical data and help to coordinate necessary field trips. Contact Mike Fritz, 260-6013.

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## Future Directions for the Clean Lakes Program Being Explored

Since its inception in 1972, the Clean Lakes Program (CLP) has achieved many successes. For example, in Silver Lake, Delaware in-lake restoration activities have been integrated with comprehensive watershed nutrient control approaches. Bear Creek Reservoir in Colorado provides another good example. Here eutrophication and low dissolved oxygen levels are among the problems being addressed. In addition, the Bear Creek Task Force is working to develop solutions to these in-lake and nonpoint source pollution problems within the watershed. The CLP has grown and evolved into an effective "watershed-based" lake restoration and protection program.

For many years the CLP has been dependent on last minute Congressional appropriations. To address funding uncertainties and other strategic program issues, AWPD is currently developing a CLP strategy document to assess options for future directions of the CLP. Future CLP funding, integration of CLP with other programs, and relative emphasis among program components are among the key issues being explored.

In the near future, AWPD will be transmitting to the Regions a copy of a document entitled "A Commitment to Watershed Protection — A Review of the Clean Lakes Program" and information on the Clean Lakes strategy. Meanwhile, lake program managers discussed issues affecting the future directions of the CLP at the May 5-7 Clean Lakes National Program Meeting in Chicago. AWPD will proceed to develop a draft strategy during the summer with a final draft available for review in the fall. Contact Tim Icke, 260-2640.

*Note—Continued from Page 1*

*tural and process components of the system, and formulating actions that address the problems in a comprehensive way. Concerns for biodiversity loss or endangered species, for example, can be much more effectively dealt with in this approach than trying to deal with single species or populations. If the focus is water quality, the watershed forms a convenient, natural landscape unit for taking an ecosystem management approach.*

*Scale is clearly a central issue, and I find that people are frequently frustrated by the absence of a universal set of ecosystems that can be catalogued and worked with as we do with chemicals or particular emission source catego-*

*ries. While there are indeed a number of useful, readily-available systems for classifying ecosystems, one size (or system) does not fit all. To a great degree, we must select the appropriate scale based on the problem(s) we wish to solve. For example, if we are concerned with a limited distribution sedentary population of butterflies, a single "patch" of prairie or forest may be the ecosystem of interest. If we are concerned with the effects of acid deposition and gypsy moth depredation, the whole eastern deciduous forest ecosystem is the appropriate scale. If, by contrast, we are focusing on the conservation of neotropical migratory birds, much of the Western Hemisphere must be considered. Often, instead of problem-driven scale selection, we may select our scale based on the attributes of a particular place of interest in its totality. Thus, we find ourselves now engaged in ecosystem-level conservation work in the Chesapeake Bay, the Everglades, the Great Plains, and the Pacific Northwest old-growth forests.*

*At this point, the cynic may respond that if all of these different approaches are ecosystem management, then it means anything one wants it to and consequently, nothing! While that might appear true on the surface, the underlying distinction is that in the examples cited, the common theme is that we are looking at all (or nearly all) of the pieces and formulating action strategies taking into account the many structural components and ecosystem processes. Contrast this with our traditional single chemical - single source -single receptor paradigm which still dominates much of what we do at EPA.*

*If you have been following recent events, you know that the new management team is attuned to this concept. The President has introduced it in the context of the Pacific Northwest Forest "Summit" and the Administrator has used the term on several occasions, notably in connection with her experiences with the Everglades. Moreover, when questioned, she indicated that a watershed approach is one embodiment of the ecosystem management concept.*

*Moving toward ecosystem management must be an evolutionary, not a revolutionary process. We still have lots to learn in understanding how ecosystems work, how stresses affect them, and how various management strategies will play out. Fortunately, recent conceptual advances in landscape ecology coupled with significant improvements in our tools (remote sensing, geographic information systems) and growing sophistication in our institutional systems are helping us move along this course. Like any change, it won't be easy, quick, or painless, but the rewards will be great, and it may even be fun!*

*"Our greatest challenge in the next century and beyond, will be to learn to live more harmoniously with our fellow creatures and to redefine our place within the complex systems that govern our earthly home." John Williams, Conductor, The Boston Pops Orchestra*

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## News Bits

\* **Regional Watershed Efforts Advanced** - In February, OWOW made approximately \$50,000 available to each Region for Watershed Protection Approach Demonstration Projects. This funding is intended to help the Regions and other stakeholders either test the approach or build the institutional infrastructure needed for watershed protection. Nine out of the 10 Regions submitted their proposals in March and received their funding in April. The project focus ranges from a Regional watershed strategy (Region I) to State watershed strategies (Region VIII) to specific watershed projects (Region VI) to public outreach/communication (Region II). Contact John Pai, 260-8076.

\* **MOU with The Nature Conservancy Signed** - In December, EPA and The Nature Conservancy (TNC) signed a Memorandum of Understanding (MOU) intended to facilitate the sharing of information, expertise, and experience between the Conservancy and EPA's water program. On March 30, a group of about 25 TNC and EPA representatives met to identify a tentative set of joint action items. These items are being fleshed out and incorporated into an action plan to guide cooperative efforts over the first year or two. Contact Dave Davis, 260-7166.

\* **Narragansett CCMP Approved** - On January 15, the Narragansett Bay Comprehensive Conservation and Management Plan (CCMP) was signed. Approval of the CCMP marked the official completion of the CCMP development stage. The Narragansett Bay Estuary Program now moves into the implementation phase. Key actions outlined in the CCMP for implementation include developing guidance for municipal officials on the control of non-point source pollution, environmentally protective land and growth management practices, and stormwater management plans; addressing all wastewater discharges to the bay watershed; and abating discharges from combined sewer overflows. Contact Betsy Tam, 260-6466.

\* **Start-up Grant for Peconic Bay Issued** - The grant for the start-up of the Peconic Bay Estuary Program was approved March 15. A public kick-off event for the Peconic Bay Estuary Program occurred on April 19. Contact Betsy Tam, 260-6466.

\* **Final Wetlands Indian Rule Released** - On February 11, the final Wetland Tribal Regulations were published in the *Federal Register*. These regulations establish the requirements for Indian Tribes to be treated as states for purposes of assumption of the section 404 program. Contact Lori Williams, 260-5084.

\* **Regions Launch Joint NPS Information Projects** - Headquarters and Regional NPS staff have begun work on several projects that will strengthen and bring higher visibility to the national NPS program. The projects include producing an updated catalogue of information and education materials either funded under CWA section 319

grants or of special merit in addressing NPS water quality problems; preparing a comprehensive report on CWA section 319 accomplishments and successes targeted at Congress, state legislators, governors, constituency groups, and the general public; and providing assistance to states in updating their lists of federal assistance applications and development projects which they intend to review under the federal consistency provisions of CWA section 319. All three projects will be completed in FY 1993. Contact Stu Tuller, 260-7112.

\* **WORLD Magazine to Highlight Marine Waters** - The September 1993 issue of *WORLD*, a National Geographic Society (NGS) magazine for children, will focus on the health of our world's marine waters. The issue will contain a 10-page educational insert on ocean and coastal environments which OCPD staff are working, through a cooperative agreement, with NGS staff to develop. The insert will include information and activities to educate children about ocean, coastal and estuarine resources and their value to humans, other animals, and the global environment. Contact Marcy O'Dell, 260-1904.

\* **Waquoit Bay Near Coastal Water Project Developing Tool to Identify Nitrogen Overloading Problems** - For the past three years, EPA, the National Science Foundation, and the National Oceanic and Atmospheric Administration have jointly funded efforts to address nitrogen overloading problems in Waquoit Bay, located on the south shore of Cape Cod. The major goals of this project are to develop a scientifically sound understanding of the sources of nitrogen in the Waquoit Bay watershed so that they can be regulated and to develop simple tools that town planners can use to forecast and correct nitrogen overloading problems in coastal waters. Contact Eric Slaughter, 260-1051.

\* **Taxonomic Data Base Available** - To permit the exchange of biological information, OWOW has had a long-standing alliance with NOAA's National Oceanic Data Center (NODC) which maintains an extensive file of over 220,000 taxa found in marine waters, fresh water, and on land. The file is maintained on the EPA computer at RTP where it is available to supply unique numbers for taxa found in the field studies we increasingly rely on. OWOW and OIRM are working with NODC and USGS as well as the emerging National Biological Survey to incorporate the NODC taxonomy into other government data management systems such as the new STORET, the EMAP data system, and USGS's NWIS II. Making this data more widely available will facilitate comparisons of data from one agency's studies to those of others. Far more extensive use of this taxonomy in the studies EPA fosters and supports can be expected. For access to the taxonomic file, contact Manning.Lee@EPAMAIL.EPA.GOV on Internet or Manning.Lee via Email. Contact Lee Manning, (703) 908-2403.

## Meetings

**Grant Training Workshops** - OWOW in cooperation with the Grants Administration Division (GAD), conducted a basic one-day grant training workshop in seven Regions during the second quarter of FY 1993. The workshops covered the roles and responsibilities of the project officer, grantee, and grants specialist. GAD will use these workshops as a basis for developing a three-day course that they plan to pilot in Regions IV, VI, and IX and Headquarters during the last quarter of FY 1993. OWOW is also participating in this effort. Contact Chris Powers, 260-1770.

**State Wetland Conservation Plan (SWCP) Roundtable, January 25** - Objectives for this roundtable included promoting SWCP as an opportunity for state and local flexibility in developing wetland protection programs; building consensus among active groups in Washington, DC regarding the role of SWCPs in protecting water resources; and encouraging groups to explore means of promoting the SWCP program to their constituencies. Contact Sherri Fields, 260-1932.

**TMDL Coordinators Meeting, January 26-28** - Issues discussed at this meeting included the status of state 303(d) list submissions; national and Regional consistency in 303(d) lists; short-term program objectives; activities for FY 1993; and specific modeling needs. Contact Don Brady, 260-5368.

**STORET Modernization Conference, February 2-4** - The principal mission of this conference was to allow participants the opportunity to examine the computer information architecture that was developed from nationwide Joint Application Design Sessions (JADS) conducted during FY 1992 and to confirm the Entity Relationship Model created from the information gained at the JADS. Issues and ideas generated at the conference will be incorporated into the design of the new STORET system. Contact Bob King, 260-7028.

**Practical Conflict Management: Skills to Resolve Highway/Wetland Issues, February 2-4** - This three-day course addresses practical negotiation and communication techniques applicable to resolving issues that arise during the Section 404 and National Environmental Policy Act review of Federal-aid highway projects. This course has been jointly developed by EPA and the Federal Highway Administration. This presentation of the course served as a pilot. Contact Joseph DaVia, 260-1602.

**Intergovernmental Task Force on Monitoring Water Quality (ITFM), February 9-10** - At this fourth meeting, members reviewed the recommendations made in the

first year report and focussed on each task group's work plan for 1993. A new task group to focus on assessment and reporting was established. Pilot projects for 1993, criteria for selecting additional pilots, and outreach activities for 1993 were also discussed. Contact Mary Belefski, 260-7061.

**Local Government Workshop for Coastal Managers, February 10** - This workshop was the first in a series that are designed to encourage comprehensive planning among local governments to achieve a balance between quality development and resource protection. Contact Marcy O'Dell, 260-1904.

**Future EPA/State Roles: Wetland Conservation Plans, Assumption, and Other Initiatives, February 11-12** - Topics discussed included State Wetland Conservation Plans, wetland water quality standards, 404 assumption, and section 401 certification related to wetlands. Contact Jeanne Melanson, 260-6073.

**Symposium on Ecological Restoration, March 2-4** - Topics addressed at this symposium included the status of restoration science, decision-making and priority setting, use of existing authorities for restoration, development and application of technical tools, and measuring success. Proceedings will be available within the next few months. Contact Amy Sosin, 260-7058.

**Coastal Technical Assistance Workshop, March 18-19** - At this third and final workshop, discussions focused on innovative solutions in the Gulf of Mexico that can be transferred nationwide and on identification of technical areas that are in need of new innovative approaches. Results of the three workshops will help direct staff in technical assistance efforts and be incorporated into Divisional strategic planning. Contact Steve Glomb, 260-6414.

### People

Welcome to Barbara D'Angelo who has joined the Wetlands Division on a four month rotation from Region III.

Ann Beier is currently on a four month rotation to the Chesapeake Bay Program in Annapolis.

Best wishes to Barbara Williams, AWPD Division Secretary, who has retired.

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## Recent Releases

***Ambient Water Quality Monitoring in the United States: First Year Review, Evaluation, and Recommendations*** - This report released by the Intergovernmental Task Force on Monitoring Water Quality (ITFM) proposes actions to improve ambient water quality monitoring in the United States and as a result, to allow better management of water resources. Contact the Monitoring Branch, 260-7046.

***An Approach to Improving Decision Making in Wetlands Restoration and Creation*** - A summary of the approach that EPA's Wetlands Research Program has developed to improve decision making in wetland restoration and creation projects. Contact the Wetlands Hotline (contractor operated), 1-800-832-7828.

***Catalog of State Wetland Protection Development Grants: EPA Fiscal Year 1992*** - A catalog of the projects that have been funded in FY 1992 through EPA's State Wetland Protection Development Grant Program. This catalog is intended to help with information transfer among State agencies. Contact the Wetlands Hotline (contractor operated), 1-800-832-7828.

***Geographic Targeting: Selected State Examples*** - This document is designed to assist government managers and others implement geographic targeting. Various approaches are reviewed, key issues involved in developing a targeting program are explored, and 14 examples from state and local programs are presented. Contact Watershed Branch, 260-7076.

***Management Measures Guidance and Program Implementation Guidance for Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990*** - The *Management Measures Guidance* specifies technology-based management measures to be used by the States in developing Coastal Nonpoint Pollution Control Programs aimed at restoring and protecting coastal waters. The *Implementation Guidance* addresses the processes and criteria that apply to development and approval of State coastal zone nonpoint source programs. Contact Dov Weitman, (202) 260-7088.

***Managing Nonpoint Source Pollution*** - This report focuses on the state of the national effort to control nonpoint source (NPS) pollution as of October 1, 1989. This report contains the findings of the state NPS assessments and discusses the state programs that are addressing the problems identified in the assessments; the related activities of EPA, other federal agencies, and other organizations; and achievements to date on controlling NPS pollution. Contact Ann Beier, (202) 260-7108.

***Natural Wetlands and Urban Stormwater: Potential Impacts and Management*** - Summarizes the literature on some of the potential impacts to wetlands from stormwater runoff and highlights some state management programs. Contact the Wetlands Hotline (contractor operated), 1-800-832-7828.

***A Synoptic Approach to Cumulative Impact Assessment - A Proposed Methodology*** - This report describes the steps of conducting a synoptic assessment and illustrates the use of synoptic information through four case studies. The synoptic approach is designed to assist wetland regulators in assessing the cumulative effect of individual wetland impacts within the landscape and is intended for situations in which time, resources, and information are limited. Contact the Wetlands Hotline (contractor operated), 1-800-832-7828.

***Total Maximum Daily Load (TMDL) Case Studies*** - TMDLs provide for more stringent water quality-based controls when technology-based controls are inadequate to achieve State water quality standards. As of January 1993, seven TMDL case studies have been published. Each case study discusses the problem, TMDL development, pollution control implementation, and follow-up monitoring. Contact EPA's Watershed Management Section, (202) 260-7074.

***The Watershed Protection Approach: Annual Report 1992*** - This report summarizes activities in EPA Headquarters and Regions to adopt and implement watershed management. More than 30 project summaries are included. Contact Anne Robertson, (202) 260-9112.

***Watershed Protection: Catalog of Federal Programs*** - This catalog is a directory of federal programs that contribute to and participate in watershed management. Contact U.S. EPA, Watershed Branch, (202) 260-7074.

***Wetlands Education System*** - A computer-aided instructional program with windows-driven text and illustrations about wetland functions, values, and policy. This program is available on disk, and a VGA card is needed to run it. Contact the Wetlands Hotline (contractor operated), 1-800-832-7828.

***Wetlands Research Plan FY92-96: An Integrated Risk-Based Approach*** - This document presents the research strategy developed by EPA's Wetlands Research Program for FY 1992-96. The purpose of this research is to address the technical needs that have been identified by the EPA programs within the Office of Water and the EPA Regions having legal authority over wetlands. Contact the Wetlands Hotline (contractor operated), 1-800-832-7828.

## Upcoming Events

**Region VII OWOW Program Meeting, Kansas City, KS, June 2-3** - Headquarters staff will be visiting Region VII for a customer-supplier conference. These meetings are conducted in all Regions on a rotating basis and provide Headquarters and Regional staff with an opportunity to share information on programs and identify ways to improve interactions. Contact Geoff Grubbs, 260-7040.

**Ocean Dumping Coordinators Meeting, Portland, OR, June 21-25** - A joint meeting between EPA and the Corps of Engineers focusing on current ocean dumping issues. This meeting will bring staff from Headquarters, Regions/Districts, and labs for both agencies together. Contact Susan Hitch, 260-9178.

**CZARA Training Workshops** - EPA and NOAA will hold a series of regional workshops to assist states in beginning to address the requirements of Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA). Contact Stu Tuller, 260-7112. The schedule for the workshops is the following:

Washington, DC (PA, DE, MD, VA), May 18-20  
Cromwell, CT (ME, NH, MA, RI, CT, NY, NJ), May 24-27  
Chicago, IL (WI, MI, MN, OH, IN), June 2-4  
Seattle, WA (OR, WA, AK), June 22-24  
Atlanta, GA (NC, SC, GA, FL), July 13-15  
New Orleans, LA (AL, MS, LA, PR, VI, TX) August 3-5  
San Francisco, CA (CA) August 17-19  
Pacific Islands Meeting (HI, GU, AS, CNMI) Date TBA

## TQM Corner

**\* OW Conducts Customer Survey** - The Office of Water (OW) recently conducted an internal survey of all OW employees as commissioned by the Board of Directors in 1992. The survey will solicit direct feedback and baseline data on a number of areas in which OW employees are internal customers for products or services. For example, the survey is aimed at specific issues such as communication, job satisfaction and employee development and training needs.

As of April 23, 1993, 66.9 percent of OW's workforce has responded to the survey contractor. The results of the survey will be used to generate a priority list of organizational issues for management action. For more information, contact John Alter, 260-4315.

United States Environmental  
Protection Agency (WH-556F)  
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