EPA United States Environmental Protection Agency
Office of Science and Technology (4301)
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Water

NEWSLETTER
WATER QUALITY CRITERIA AND STANDARDS

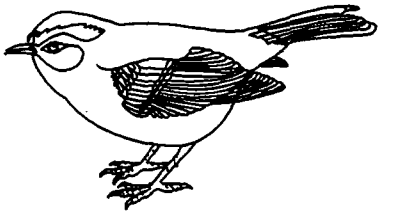
ECOLOGICAL RISK: NEW DIRECTIONS IN THE WATER PROGRAM *The Office of Water is incorporating watershed management into regulatory and non-regulatory programs. To help ensure the success of watershed management, OST initiated an Agency-wide effort in 1993 to develop a scientific process and guidance for conducting watershed level ecological risk assessments.*

National Guidance for Ecological Risk Assessment. *A Technical Panel, jointly sponsored by the Office of Water and Risk Assessment Forum and chaired by Suzanne Marcy from HECD, was established to develop watershed level ecological risk assessment case studies. The Technical Panel includes five workgroups composed of EPA staff from ORD labs, Regions and program offices plus professionals from other federal, state and local organizations. Watersheds selected for development include the Middle Platte River Wetlands, NE (featured below), Big Darby Creek, OH, Clinch River, VA, Snake River, ID and Waquoit Bay Estuary, MA. The watershed ecological risk assessments will both follow, and expand, the principles established in the U.S. EPA Framework for Ecological Risk Assessment. Guidance based on the case studies will support ecological risk assessments on a landscape scale in watersheds of different type and size, and those containing a variety of stressors and ecological resources of concern. The potential benefits and limitations of using ecological risk assessments in OW programs will be illustrated using the case studies.*

All case study workgroups are completing problem formulation in preparation for a scheduled review by the Risk Assessment Forum Ecorisk Oversight Group in April 1994. Problem formulation is the initial phase of the risk assessment where the goals, breadth and focus of the assessment is established. Major factors considered during this process include stakeholder values, ecosystem and stressor characteristics, observed ecological effects, and ecological endpoints of concern. This evaluation results in the development of conceptual models that include

hypotheses about potential risks to ecological resources within the watershed ecosystem. Drafts of the completed case studies are anticipated in autumn 1994 when they will undergo outside peer review through the Risk Assessment Forum. Final publication is planned for December 1995.

Featured Case Study: Middle Platte River Wetlands. *SASD is playing a major role in one of the case studies. The Middle Platte workgroup is being chaired by Annette Huber, from SASD along with Donna Sefton, Region 7 coordinator for the Watershed Protection program. The Middle Platte River was selected as a case study watershed because of its importance to the migratory bird flyway, presence of endangered species, diversity of wetland types, and the influence of human activities on these resources. Samples of endpoints selected for this case study include sandhill cranes, western prairie fringed orchids, and the community integrity of wetland types including wet meadow, aquatic and sandbar. Direct destruction of wetlands, water withdrawal for irrigation and use of pesticides are important stressors. To reduce impacts from these activities a variety of management practices are being implemented. These practices will be reviewed as part of the risk assessment process. The case study was met with enthusiasm by organizations active in Nebraska resource management. The Middle Platte workgroup includes professionals from USGS, USFWS, Nebraska DEQ, NE Game and Parks Commission, NE Natural Resources Commission, Platte River Whooping Crane Habitat Maintenance Trust, local Natural Resource Districts and the University of Nebraska. However, farmers have expressed concern that the case study will result in new regulations to control water use. The workgroup is making special efforts with local groups to communicate that the purpose of the project is to learn how to conduct ecological risk assessments, not regulate at the local level. Two public meetings were held on March 16 and 17, 1994 to discuss local concerns and build the risk management team.*



Outcome. *OW guidance should be available in December 1995. The case studies and guidance documents will be used as the basis for outreach, training modules and videotapes to help local, state and federal risk managers. Watershed management plans based on ecological risk assessments will help risk managers to prioritize risk from multiple stressors and target limited environmental dollars to achieve desired outcomes. Using this approach will support the integration of current command and control regulatory tools with non-traditional approaches (e.g., watershed protection approach, biocriteria, sediment criteria, TMDLs).*

Contacts: *For those interested in participating or receiving additional information on the Technical Panel and case studies, contact Suzanne Marcy at (202) 260-0689. For information or participation on the Middle Platte workgroup contact Annette Huber (202) 260-9843.*

E. Ramona Trovato

E. RAMONA TROVATO
DIRECTOR, STANDARDS
& APPLIED SCIENCE DIVISION

MARGARET J. STASIKOWSKI
DIRECTOR, HEALTH &
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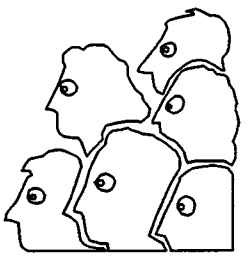
MEETING NOTICE - 4th NATIONAL CONFERENCE ON WATER QUALITY CRITERIA AND STANDARDS

The Environmental Protection Agency (EPA) is sponsoring the 4th National Conference on Water Quality Criteria and Standards for the 21st Century, from Tuesday, September 13 through Thursday, September 15, 1994 at the Doubletree Hotel in Pentagon City, Arlington Virginia.



The purpose of the Conference is to provide a forum to discuss how to strengthen the role of water quality criteria and standards in protecting the nation's human health and aquatic resources. Previous meetings have helped shape national program and budget priorities, exchanged ideas, and increased understanding of the implications of new or emerging science and policy. The range of issues discussed at the Conference will be especially useful to State, Tribal, and Federal regulatory authorities and members of industries, professional and environmental groups, academic researchers, and consultants. There is no registration fee for the Conference. Registration information may be obtained from: Betty Peterson, Science Applications International Corporation (SAIC), 7600-A Leesburg Pike, Falls Church, VA 22043, Phone: (703) 734-3142, FAX: (703) 821-4784.

WATER QUALITY STANDARDS
DAVE SABOCK
(202) 260-1315

WATER QUALITY STANDARDS ACADEMY

Sessions of the "Water Quality Standards Academy" have been scheduled in various locations in FY 94. The "Water Quality Standards Academy" is a basic introductory course designed for those with fewer than six months experience with the water quality standards and criteria programs. Others may also benefit, including veterans of the water quality standards and criteria programs who may want a refresher course.

Locations and dates are as follows:

Kansas City, Missouri	March 28-April 1
Albuqeurque, New Mexico	April 4-April 8
Sacramento, California	May 2-6
Atlanta, Georgia	May 16-20
Washington, D.C.	August 22-26

Contact Michele Vuotto, Dynamac Corporation, for registration information at 301-417-6090.

The Office of Science and Technology (OST) has entered into a cooperative venture with the U. S. Department of Agriculture, Soil Conservation Service. A separate session of the "Water Quality Standards Academy" will be held for employees of the SCS later this year. The contact is Frances Desselle (202) 260-1320.

MULTI-REGIONAL MEETINGS ON WATER QUALITY STANDARDS/CRITERIA AND RELATED PROGRAMS

Planning for the Office of Science and Technology's (OST) three multi-regional meetings on water quality standards/criteria and related programs is underway. The purpose is to provide technical and policy information to States, Indian Tribes, Regional Office personnel, environmental groups, municipalities, industrial groups and others. Meetings will be hosted by Regions 4, 5 and 10 and will be held in the following locations.

Knoxville, Tennessee
August 2 - 5, 1994

Chicago, Illinois
August 8 - 12, 1994 (This meeting will be preceded by a half-day field trip.)

Seattle, Washington
August 29 - September 1, 1994

Details about specific agenda topics, registration and other pertinent information will appear in future issues of this Newsletter. Contact Frances A. Desselle (202-260-1320) for information.

INTERIM WATER-EFFECT RATIO GUIDANCE COMPLETED

On February 22, 1994 we released a document entitled "Interim Guidance on the Determination and Use of Water-effect Ratios for Metals." This guidance fulfills a commitment made by EPA in the National Toxics Rule (57 FR 60848, December 22, 1992) to provide additional guidance on developing site-specific criteria through the use of the indicator species (or water-effect ratio) procedure. Copies of this guidance can be obtained from the following:

> Education Resource Information Center/Clearinghouse for Science, Mathematics and Environmental Education
> 1929 Kenny Road
> Columbus, OH 43210-1080 (Telephone: (614) 292-6717)
> Document No. D769
> Cost: $19.75
>
> National Technical Information Service
> U.S. Department of Commerce
> 5285 Port Royal Road
> Springfield, VA 22161 (Telephone: (800) 553-6847)
> Document No. PB94-140951
> Cost: $27.00 paper; $12.50 microfiche (U.S. domestic and Canada) plus, $3.00 handling charge with pre-payment (American Express, Visa, and Mastercard accepted)

The document can also be downloaded from EPA's Nonpoint Source Electronic Bulletin Board System (in a Wordperfect 5.1 file). To access the Bulletin Board, a personal computer, telecommunications software, a modem (1200, 2400, or 9600 baud), and a phone line that can accommodate modem communications are needed. The phone number for the Bulletin Board is (301) 589-0205; the telecommunication parameters are no parity, 8 bits, and 1 stop-bit (N-8-1). To receive a copy of the guidance on diskette (3.5" or 5.25" floppy for IBM compatible computers), send a formatted diskette to Karen Gourdine, Standards & Applied Science Division (4305), USEPA, 401 M Street, SW, Washington, DC 20460.

WATER QUALITY STANDARDS HANDBOOK

All the copies of the Water Quality Standards Handbook - Second Edition from the first printing have been distributed. It is now available from the following sources:

Education Resource Information Center/Clearinghouse for Science, Mathematics and Environmental Education
1929 Kenny Road
Columbus, OH 43210-1080
Telephone: (614) 292-6717
Document No: D338
Cost: $75.40 (VISA, MasterCard and purchase order numbers from schools and businessess accepted)

U.S. Department of Commerce
National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
Telephone: 1-800-553-6847
Cost: $84.00 paper; $27.00 microfiche (U.S. domestic and Canada) plus, $3.00 handling charge with pre-payment (American Express, VISA and MasterCard accepted).

WATER QUALITY CRITERIA

BOB APRIL
(202) 260-7441

SEDIMENT QUALITY CRITERIA PROGRAM

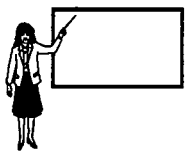
The first five sediment quality criteria (dieldrin, endrin, acenaphthene, fluoranthene, and phenanthrene) were noticed in the Federal Register on January 18, 1994, as available for public comment. The comment period which was scheduled to end on April 18, 1994, is being extended by 30 days to May 18, 1994. Copies of the criteria documents and supporting materials are available from the Office of Water Resource Center (202)260-7786. Leave your name, phone

number, address, and document request on the tape. Documents should be received in approximately one week. Questions other than document requests can be directed to Mary Reiley at 202-260-9456.

EXPOSURE ASSESSMENT BRANCH
RUSS KINERSON
(202) 260-1330

QUAL2E WATER QUALITY MODELING WORKSHOP

The Office of Science and Technology is sponsoring a workshop on QUAL2E to be held at the University of Colorado Engineering Center, in Boulder, Colorado, from May 25 to May 27, 1994. Dr. Steve Chapra will be the course coordinator and principal instructor. He has taught over thirty workshops on water quality modeling and has written four text books on modeling and computer applications in engineering.



The Enhanced Stream Water Quality Model QUAL2E has been widely used for establishing TMDLs and NPDES permit limits. It provides simulation of several water quality constituents in a branching stream system using a finite difference solution. The model includes the major interactions of the nutrient cycles, algal production, benthic carbonaceous oxygen demand, atmospheric reaeration, and their effect on the dissolved oxygen balance. In addition, the computer program includes a heat balance for the computation of temperature and mass balances for conservative minerals, coliform bacteria, and nonconservative constituents such as radioactive substances. Chlorophyll a is modeled as the indicator of planktonic algae biomass. The workshop will be broken into six lectures and hands-on sessions.

Questions concerning the course content should be directed to Dr. Chapra (303) 492-7573. Information on registration, transportation, and lodging can be obtained from Sandi Braithberg (303) 492-3972.

MIXING ZONE MODELING WORKSHOP

The OST is also sponsoring a workshop on the theory and application of mixing zone models, which will be held at the University of Portland Multnomah School of Engineering, in Portland, Oregon, from May 2 to May 4, 1994. Dr. Robert Doneker, Assistant Professor of Civil Engineering, will be the course coordinator and principal instructor. He has actively participated in mixing zone model development.

In order to assess the near-field impacts of toxic and thermal discharges to lakes, rivers and estuaries, the Office of Science & Technology developed a series of mixing zone assessment models. CORMIX and EPA PLUME are two of the most important mixing zone models. The CORMIX model consists of three similar models (CORMIX 1, CORMIX 2, CORMIX 3) for assessing impacts of discharges in shallow waters. CORMIX 1 and CORMIX 2 models are used to assess subsurface single and multi-port discharges, respectively. CORMIX 3 can be used to assess surface discharges. The EPA PLUME model is used to assess impacts in relatively deep waters.

Questions concerning the course content should be directed to Dr. Doneker (503) 283-7316. Information on registration, transportation, and lodging can be obtained form Lorraine Yoder (503) 283-7314.

SWMM Modeling Workshop

The EPA, University of Colorado, and Federal Emergency Management Agency are sponsoring a 5-day workshop on the Storm Water Management Model (SWMM), to be held in the new computer laboratory at the Engineering Center of the University of Colorado in Boulder, from June 27 to July 1, 1994. The first three days will be a SWMM computer workshop, taught by Dr Wayne Huber, from Oregon State University, Dr. James Heaney, at the University of Colorado, and Mike Schmidt, with Camp Dresser McKee. The last

two days will be a conference on the application of SWMM and other storm water quality models. SWMM is a comprehensive model for simulating urban runoff quantity and quality in storm and combined sewer systems. All aspects of the urban hydrologic and quality cycles are simulated, including surface and subsurface runoff, transport through the drainage network, storage and treatment. Questions concerning the course content should be directed to Dr. James Heaney (303) 492-7315. Information on registration, transportation, and lodging can be obtained from - Ms. Debbie Cook at (303) 492-5151. Her address is: University of Colorado, Office of Conference Services, 500 30th Street, Campus Box 454, Boulder, CO 80309-0454.

GREAT LAKES WATER QUALITY INITIATIVE
FRED LEUTNER
(202) 260-152

EPA has received comments from over 5,000 respondents totalling over 23,000 pages on the proposed Water Quality Guidance for the Great Lakes System. EPA staff in Headquarters, Region 5, and other offices are in the process of reviewing and assessing the issues raised in the comments. EPA is under a court order to sign the final rule on or before March 13, 1995.

EPA has scheduled a public meeting on the proposed Water Quality Guidance for the Great Lakes System for April 26, 1994, in Chicago IL. The purpose of the meeting is to provide an opportunity to members of the public to express views on the written comments of other parties submitted during the public comment period. Interested parties who provided comments on the proposal should not, and do not need to, restate their views at the April 26, 1994, meeting. All comments received in the August 1993 public hearing and all written comments received during the public comment periods will be considered by the Agency in the final rulemaking. EPA also invites elected officials and other representatives of State, local, and Tribal governments to attend the meeting. EPA encourages such participation, in accordance with Executive Order 12875, Enhancing the Intergovernmental Partnership, issued October 26, 1993.

MANAGEMENT CHANGES

You will have noticed by now a new name on the cover note for this quarter's Newsletter. On February 22, 1994, we welcomed Ramona Trovato as the new director of the Standards and Applied Science Division. Ramona has extensive management experience in EPA, most recently as director of the Ground Water Protection Division. We look forward to working with her.

Bill Diamond is now applying his leadership skills as the new director of the Drinking Water Standards Division. We wish him well in his new position.

On March 7 another familiar presence in the Office of Water for many years, Martha Prothro, left her position as Deputy Assistant Administrator for Water to serve on the Administrator's staff as Director of the Tribal Operations Team.