

Minnegram On-line

March 1996

Stay Tuned: Water Resources Research Grants RFP Due Soon

If all goes according to predictions, mechanisms soon will be in place to implement a new regional competitive grant program for the FY 1996 research grant program of the Water Resources Research Institutes. According to congressional budget language, approximately \$805,000 will be available for each of four regions to distribute on a competitive basis within the region. A coordinating institute in each region will issue the Request for Proposals and coordinate proposal evaluation and selection. The USGS will award the grants.

Minnesota is in the Northcentral Region, which includes 13 states from Montana on the west to Missouri on the south and Ohio on the east. The coordinating institute for the region is Nebraska's. Research priorities for this region are most likely to focus on watershed management issues and nonpoint source pollution problems.

According to current guidance, grants may be made for up to three years. The maximum award of federal funds for a grant, regardless of its length, will be \$250,000 and require \$500,000 of matching funds. Details of the process by which proposals will be evaluated and grants awarded will be worked out at a meeting of the National Institutes of Water Resources in early March. It is likely RFPs will be issued immediately following the meeting.

Program funding, however, is still caught in the budget battlefield in Washington. The Department of the Interior is operating under a continuing resolution due to expire March 15. Until the DOI has a FY 1996 appropriation, program funding remains uncertain.

Minnesota Water '96

Conference Program Addresses Changes in Water Management, Assessment, and Education

Fifth in a series of biennial conferences, this year's Minnesota Water will explore the ways that changing power arrangements affect water policy. The current trend toward delegation of responsibility from federal and state governments to state and local institutions is likely to have profound impacts on policies and programs of water management, research, and education. Examination of these impacts provides the focus of this conference.

In plenary session, nationally recognized authorities and representatives of federal and state government will speak on changes at the federal, state, and local levels of government. In breakout sessions, speakers will address the effects of these changes in the areas of water management, monitoring and assessment programs, and education. Other breakout sessions will feature contributed papers on research and case studies in decision tools, river basin management, and wetlands. The two luncheons will be enlivened by talks, one by Rep. Bruce Vento, Minnesota's Congressional Representative from the 4th District.

New Ground Water Remediation Center

The National Environmental Technology Applications Center and the University of Pittsburgh Environmental Engineering Program have been selected by USEPA to operate the Ground-Water Remediation Technology Analysis Center. GWRTAC is a new national center promoting innovative technologies to clean up contaminated ground water. The center will compile, analyze, and disseminate information on new ground-water remediation technologies. In its first year of operation (July 1995 - July 1996) GWRTAC is collecting information about research and demonstration projects on innovative ground-water remediation and plans to establish contacts with individuals and organizations interested in using the services of the new center. A www homepage has been established at <http://www.chmr.com/gwrtac/>.

For more information, contact Jeffrey A. Sacre at GWRTAC, 615 William Pitt Way, Pittsburgh, PA 15238; phone (412) 826-5552.

Forest Water Quality Team Holds Retreat

In the first days of February, six graduate students and one under-graduate took part with their advisor, Forest Resources Professor James A. Perry, and Research Fellow Kerry Holmberg in a three-day team-building retreat at Wilder Forest. The students (Jesse Anderson, Pam Davis, Carie Kowalsky, Eric Macbeth, Terri Shirshac, Shandor Szalay, and Mary Kay Corazella) are part of a 23-member Forest Water Quality Team at the U of Minnesota. The Forest Water Quality Team conducts research and outreach activities in aquatic biology and water resources management. Their efforts are focussed locally on the St. Croix river basin, but also include international work in such places as Eastern Europe and Africa.

The objective for the retreat was to develop a team-based, goal-oriented approach to research and graduate education. Professional facilitators from 3M, the Humphrey Institute, and Wilder Forest led the group through a series of workshops on team building, internal communication, capacity assessment, strategic mapping, and planning for the future. In their spare time, the group developed rapport through introspective talks, nature hikes, and spontaneous fun and games. The group produced a set of long-term goals and established a formal plan to achieve those goals through activities such as skill building, networking, resource pooling, and community building.

The team's goals include influencing decision making in water resources management, fostering an environmental stewardship ethic, and educating the numerous stakeholders involved with regional aquatic resource issues.

The team plans to hold annual retreats in order to assess progress and incorporate new members. Upcoming team initiatives include participation in the JASON project interactive science fair, collaboration with Wilder Forest to develop hands-on aquatic science opportunities for inner city school children, and interagency research projects relating to management of the St. Croix River.

EPA Wetlands Hotline

The U.S. Environmental Protection Agency has a Wetland Information Hotline. The curious can call toll-free to (800) 832-7828, Monday through Friday from 9:00 to 5:30 pm EST, for information on wetlands. Knowledgeable Information Specialists will respond to requests for information about the values and functions of wetland, options for their protection and the protection efforts of EPA and other organizations. They also can direct callers to appropriate agencies or additional sources of information.

The Hotline, which is the point of contact for the Wetlands Division of EPA's Office of Wetlands, Oceans and Watersheds, maintains a list of publications on wetlands and wet-land regulations and can send certain of these to callers upon request

Minnesota Water Community News

HH Humphrey Institute of Public Affairs

Mary Renwick has joined the Institute as a Research Fellow in water resource economics.

Large Lakes Observatory

T.C. Johnson and **Dirk Verschuren** received a two-year NSF grant for \$76,121, for AIDEAL Studies on the Paleolimnology and Paleoclimate of Lake Victoria: Fossil Invertebrate Assemblages as Proxies for Climatic and Anthropogenic Change.

Johnson, Verschuren, and N. Walters, E. Brown, and J. Captain plan to do field work on Lake Victoria and Lake Edward in the period May-June 1996.

Johnson was appointed to the Science Steering Committee, Coastal Ocean Program (CoOP) of the NSF.

A new book, *The Limnology, Climatology and Paleoclimatology of East African Lakes*, **Johnson** and **E.O. Odada**, Eds., (650 pp) will be published in 1996.

Minnesota Extension Service

Ken Olson and **Yvonne Curran**, Sherburne County Extension Office, are contacts for the new \$20,000 MES Creative Program Grant, funding the second year of the Statewide Septic Education Program. This program was implemented to train-the-trainer, educate local decision makers, and adapt educational materials for youth.

Mississippi Corridor Cluster received a \$4000 Directors Grant. **Ken Olson, Jim Salfer, Lee Raeth, Lee Cross**, and **Dan Martens** are conducting an in-depth needs assessment of manure management in the cluster. This assessment involves agencies, farmers, agribusiness, non-farm residents, and the general community.

Nearly 10,000 copies of *Septic System Owners Guide* (described in the Sept 95 *Minnegram*) have been distributed throughout Minnesota and nationally since its release in June of 1995.

Minnesota Geological Survey

Geologic components of county Geologic Atlases (CGAs) have been published recently for Fillmore, Rice, and Stearns Counties, along with Regional Hydro-geologic Assessments for southwestern Minnesota and the southern Red River Valley. These documents provide the geologic framework for on-going hydrogeologic investigations. For information, contact the MGS at (612) 627-2780.

Minnesota Sea Grant

MSE is one of the co-sponsors for the 10th Annual Minnesota Aquaculture Conference and Trade Show, AA De-cade of Learning Through Exchange. The conference annually draws 300-400 attendees. This year's conference, held March 8-9 at the Radisson Arrowwood Resort in Alexandria, MN, features an address by Lt. Gov. Joanne Benson. Conference topics include culturing walleye and yellow perch, fish health, feed selective breeding, indoor culture, permitting, financing, and marketing. **Judy Zomerfelt** (218-726-8106) can provide more information about the conference.

Natural Resources Research Institute

Center for Water and the Environment

Gerald Niemi, Director, received \$382,000 from the Great Lakes Protection Fund for the 2-year project "Forest bird diversity: Indicators of environmental condition and change in the Great Lakes watershed."

Collaborators include **R. Howe** (University of Wisconsin, Green Bay), **D. McKenney** (Canadian Forestry Service), **D. Mladenoff** (University of Wisconsin, Madison), C. Smith (Cornell University), and **D. Welsh** (Canadian Wildlife Service).

Niemi, was invited to serve on a national review panel of

U.S. EPA's ecological risk assessment guidelines for the Eastern Research Group, Inc.

Carol Johnston was appointed to a National Research Council committee on New Perspectives on Watershed Management: Integrating Ecological, Social, and Economic Dimensions.

John Pastor was appointed to the board of editors of *Conservation Ecology*, a new, entirely electronic journal that will appear only on the World Wide Web.

Del Nordman (a graduate student in the Water Resources Science Program, who is advised by Rich Axler and Mike McDonald) was awarded \$500 from the scholarship committee of the Society of Wetland Scientists to assist his thesis work in the area of constructed wetland treatment of wastewater in Northern Minnesota. Of 51 applicants nationally, 12 received support.

PUBLICATIONS:

Richards, C. J. Gunderson, P. Tucker and M. McDonald. 1995. *Crayfish and baitfish culture in wild rice paddies*. Final reports to Minnesota Technology, Inc., and the Agricultural Utilization Research Institute. NRRI

Technical Report NRRI/TR-95/39.

Richards, C., L. Johnson and G. Host. 1995. Using GIS to identify linkages between landscapes and stream ecosystems. National Conference on Environmental Problem Solving with Geographical Information Systems. U.S. Environmental Protection Agency, Office of Research and Development, Washington, D.C. EPA/625/R-95/004.

Richards, C. 1995. Integrated watershed analyses and study design. In E. Herricks (ed.), *Stormwater Runoff and Receiving Systems: Impact Monitoring and Assessment*. Lewis Publishers, Boca Raton, FL. pp. 261-272.

Sersland, C.A., C.A. Johnston and J. Bonde. 1995. Assessing wetland vegetation with GPS-linked color video image mosaics. pp. 53-62 in *Proceedings, 15th Biennial Workshop on Color Photography and Videography in Resource Assessment. American Society for Photogrammetry and Remot Sensing*, Bethesda MD.

Soil, Water, and Climate

J.L. Anderson, J. Moncrief, S. Gupta, and D.Mulla received a \$70,000-grant for continuation of Minnesota River Basin studies from the Minnesota Dept of Agriculture.

A new Soil Science Society of America (SSSA) publication, *Bioremediation Science and Applications* contains a chapter by **R.F. Turco** and **M. Sadowski**, The Microflora of Bioremediation. (SSSA Special Publication 43.)

St. Anthony Falls Hydraulics Laboratory

John Gulliver was elected a Fellow of the American Society of Civil Engineering. He will moderate a session on Water Quality Enhancement Technology at the North American Water and Environment '96 conference in Anaheim, CA. **Gulliver** also will chair a track at HydroVision '96, in Orlando. FL.

Calls for Papers

The IX World Water Congress of the IWRA, A Water Resources Outlook for the 21st Century: Conflicts and Opportunities. September 1-6, 1997. Montreal Convention Centre, Montreal, Quebec, Canada. A triennial event for the exchange of information and to raise awareness of major water issues. Conference theme: Topics include mechanisms for conflict resolution; strategies for sustain-ability of fresh water resources after UNCED; management under scarcity and flood conditions; ecosystems and environmental concerns, raising public awareness of water issues; economic, social, population and gender aspects; and international water frameworks. **Abstracts due May 29, 1996.** Contact: Aly M. Shady, Organizing Committee Chair, Canadian International Development Agency, 200 promenade du Portage, Hull, Quebec, Canada K1A 0G4. Phone (819)994-4098; fax (819) 983-3348; e-mail: aly_shady@ACDI-CIDI.GC.CA.

INTECOL's **5th International Wetlands Conference.** September 22-28, 1996. Perth, Western Australia. A large conference with broad themes: Physical, chemical and biological processes in wetlands; wetland modelling; applied research, technology and management; and policy and planning for wetland management. **Abstracts due March 31, 1996.** Contact: Lloyd Townley, CSIRO Div. of Water Resources, Private Bag, PO Wembley WA 6014, Australia. Phone (+61) 9 387 0329; fax (+61) 9 387 8211; e-mail: lloyd@per.dwr.csiro.au; web <http://www.dwr.csiro.au/>

29th Annual Water Resources Conference sponsored by the Minnesota Section, ASCE and Univ. of Minnesota. November 12, 1996. Univ. of Minnesota St. Paul Campus. Suggested topics include, bioengineering, wetland restoration, creation, and enhancement case studies, hydraulic structures, and safety and liability issues. Abstracts on other water resources-related topics also are welcome. **Abstracts due March 25, 1996.** Contact: Bev Ringsak, Prof. Devel. And Conf. Serv's, 206 Nolte Ctr, Univ. Minnesota, 315 Pillsbury Dr. SE, Minneapolis, MN 55455. Phone (612)625-6689; fax (612)626-1632.

NALMS 16th Annual International Symposium: People, Lakes and Land; Puzzling Relationships. November 13-16, 1996. Radisson South Hotel, Minneapolis. Symposium will address relationships in lake and watershed management including lake-watershed relationships,

regional and national lake and landscape patterns, and relationships among people involved in lake management. Presentations are sought on a wide range of topics examining these relationships and developments in lake and watershed management. **Abstracts due June 1, 1996.** Contact: Steven Heiskary, Water Quality Div, MPCA, Attn: NALMS Conference, 520 Lafayette Rd, St. Paul, MN 55155-4194. Fax: (612)297-8683; e-mail steven.heiskary@pca.state.mn.us.

Publications

Geologic Investigations Applicable to Ground Water Management, Rochester Metropolitan Area, Minnesota. Tony Runkel. Jan 19, 1996. Study results demonstrate that the lower part of the Prairie du Chien-Jordan aquifer, which previously was believed to be relatively homogenous and highly permeable, is actually composed on three distinct hydrostratigraphic components. Two of these have low hydraulic conductivity and characteristics of confining beds rather than aquifers. The third component is quartzose sandstone with a high hydraulic conductivity. The thickness of the quartzose sandstone varies substantially from place to place, which accounts for the great variability in the productivity of wells that draw water from the aquifer. (MGS Open-File Report 96-1) Copies are available from the MN Geological Survey, (612) 627-4780.

The Scientific Basis for Ecosystem Management consensus report of the Ecological Society of America (ESA). Lays out the rationale for managing resources with a long-term vision, less adherence to rigid jurisdictional boundaries, recognition of the importance of biological diversity, and acceptance of change and uncertainty. The report notes that resources must be managed in ways that address the rapidity of change and novel character of human impacts and balances immediate human needs with the capacity of our world to meet those needs in perpetuity. Available from ESA, 2010 Massachusetts Ave, NW, Suite 400, Washington, DC 20036. Phone (202)833-8773; fax (202)833-8775; e-mail: esahq@esa.org. Also accessible at via the WWW at http://www.sdsc.edu/1/SDSC/Re-search/Comp_Bio/ESA/ESA.html

Proceedings of the International Symposium on Assessing and Managing Health Risks from Drinking Water Contamination: Approaches and Applications. Eric G. Reichard and Giovanni A. Zapponi, Eds. International Association of Hydrological Sciences, IAHS Publication No. 233 (Nov 1995), 340 + xii pp. Explores drinking water contamination health risks in developed and developing countries from a multidisciplinary perspective. Includes papers on emerging issues in risk assessment, health effects, exposure assessment, and remediation. Available from IAHS for \$65 (US). (NWRI Briefings)

Meeting Minnesota's Water and Wastewater Needs: A Working Paper . Minnesota Environmental Quality Board, Water Resources Committee, December 1995. Summarizes information about Minnesota's water and wastewater treatment systems. Designed to solicit ideas on meeting needs and preventing future problems. Sections on water supply needs, wastewater treatment needs, financing, and the land use connection. Copies available from MN Planning, 658 Cedar St, St Paul, MN 55155; phone (612) 296-3985.

Three recent publications of the U.S. Geological Survey are available from USGS-WRD, 2280 Woodale Dr, Mounds View, MN 55112. Phone (612)783-3100.

Water Quality along Selected Flow Paths in the Prairie du Chien-Jordan Aquifer, Southeastern Minnesota. U.S. Geol. Surv. Water-Resources Invest. Rpt. 95-4115. Shannon E. Smith and David A. Nemetz. Prepared in cooperation with the Legislative Commission on Minnesota Resources and the MDNR. Report on the results of a study that characterized water-quality differences between the Prairie du Chien and Jordan parts of the aquifer, identified variables associated with the distribution of indicator constituents, and describe the aquifer's susceptibility to contamination. The Jordan part of the aquifer had longer groundwater residence times and a predominance of areas with reducing conditions, and therefore a lower susceptibility to contamination, contrasted with the Prairie du Chien part, with shorter residence time and predominance of areas with oxidizing conditions. The Jordan part had lower concentrations of constituents indicating human-related contaminants in the aquifer. Well grouting, deeper wells, and the presence of overlying Decorah Shale appeared to inhibit contamination

Water-Quality Assessment in Part of the Upper Mississippi River Basin, Minnesota and Wisconsin--Volatile Organic Compounds in Surface and Ground Water, 1978-94. U.S. Geol. Surv. Water-Resources Invest. Rpt. 95-4216. William J. Andrews, James D. Fallon, and Sharon E. Kroening. A retrospective analysis of water-quality data for the Upper Mississippi River Basin study unit of the National Water Quality Assessment Program. Report on the presence and distribution of certain VOCs and trihalomethane compounds in the Upper Mississippi Basin NAWQA study area. VOCs were detected in less than 5% of water samples from rivers, lakes, and wells in the study area, most frequently in trace amounts near detection limits. Samples from wells near identifiable emission sites more frequently contained VOCs. The study concluded that these VOCs have not had a widespread, measurable effect on the quality of surface and ground water in the area. THMs were detected much more frequently in chlorinated ground and surface water samples (40%, 100%) than unchlorinated samples (>5%), indicating that these compounds are not naturally present in surface and ground water in the study area.

Effects of 1992 Farming Systems on Ground-Water Quality at the Management Systems Evaluation Area Near Princeton, Minnesota. U.S. Geol. Surv. Water-Resources Invest. Rpt. 95-4104. G.N. Delin, M.K. Landon, J.A. Lamb, and R.H. Dowdy. Prepared in cooperation with the USDA-ARS, UM-Dept of Soil, Water, and Climate, and the MPCA. Three farming systems were evaluated in the Minnesota MSEA: corn-soybean rotation with ridge tillage, sweet corn-potato rotation, and field corn in consecutive years. Water samples from wells indicate that the 3 farming systems reduced the amounts of potassium-chloride and N fertilizer reaching the water table compared to the previous system. However, greatly reduced recharge rates during the evaluation period also reduced transport to the saturated zone; therefore data analysis of additional years will be needed to evaluate the effects of the farming systems.

Another MSEA-related document, ***The Impacts: Management Systems Evaluation Areas Integrated Research and Education for Clean Water*** was published by Minnesota Extension Service. This 8-page publication provides an overview of the MSEA program and showcases (in bulleted format) the research and educational accomplishments and impacts for each of the five individual projects across the North Central Region.

A Watershed Assessment Primer. December 1994. F.D. Euphrat and B.P. Warkentin, Oregon Water Resources Research Institute, Oregon State Univ. for the U.S. Environmental Protection Agency, Region 10, Seattle, WA. (EPA 910/B-94-005) Reviews the basis for watershed assessment, describes different assessment systems, and summarizes several innovative approaches. Includes brief analyses of underlying concepts and methods, examples of assessment-based watershed management, and references. Copies available from USEPA, Region 10, 1200 Sixth Ave, WD-139, Seattle, WA 98101.

Calendar

Meetings

March 25, 1996. **Environmental Issues '96**. Sheraton Minneapolis Metrodome. Co-sponsored by the MN Office of Environmental Assistance (OEA), MN Assoc. for Environmental Education, and MN Environmental Education Advisory Board. Conference themes are Wetland and ATakings, @ Sustainable Development, and Voyageurs and BWCA. Contact: Tim Stanton, OEA, 520 Lafayette Rd, 2nd Fl, St. Paul, MN 55155-4100. Phone (612)215-0294 or (800)657-3843; fax (612)297-8709; e-mail tstanton@moea.state.mn.us.

March 25-27, 1996. **10th Semi-Annual Technical Conference and Membership Meeting of the Floodplain Management Association (FMA)**. Anaheim, CA. Case studies of multiobjective floodplain management, emphasizing habitat enhancement and environmental mitigation, and sessions on alluvial fans, advanced technologies, GIS, and flood damage mitigation measures. Contact: Jon Walters, Nolte and Assoc, 5469 Kearney Villa Rd, Ste 305, San Diego, CA 92123. Phone (619)278-9392; fax (619)278-4628.

April 3-5, 1996. **4th Annual Meeting of the Midwest Chapter, Society of Environmental Toxicology and Chemistry (SETAC)**. Best Western Edgewater Conference Center, Duluth, MN. Provides a forum for researchers from industry, academia, agencies, consultants, and contractors to share information on regional environmental contamination issues. Platform and poster presentations on the effects of pollutants on wildlife, aquatic life, and humans. Registration (\$60) includes a one-year chapter membership. Contact: Doug Jensen, Minnesota Sea Grant. Phone (218) 726-8712, email: djensen@mes.umn.edu. -or- Pat Kosian, U.S. Environmental Protection Agency- Duluth. Phone (218) 720-5606.

April 9-10, 1996. **Great Lakes Information Network Conference: Mapping a Partnership for the Future**. Lansing Center, Lansing, MI. A collaborative forum on the use of the Internet, with presentations on case studies of innovative uses of the Internet, Internet tools for collaboration, and the future of GLIN. Contact: Carol Ratza, Great Lakes Commission, Argus II Bldg, 400 Fourth St, Ann Arbor, MI 48103-4816. Phone (313)665-9135; fax (313)665-4370; e-mail cratza@glc.org.

April 21-26, 1996. **Hydrology & Hydrogeology of Urban & Urbanizing Areas, AIH 1996 Annual Meeting.** Boston, MA. Contact: J.H. Guswa, GeoTrans, Inc, 6 Lancaster County Rd, Harvard, MA 01451. Phone (508)772-7557; fax (508)772-6183; e-mailL geotrans@world.std.com.

April 22-23. **Great Lakes Agriculture Summit.** Kellogg Center, Michigan State Univ, East Lansing, MI. The Great Lakes Commission hosts a meeting of agriculture and environmental interests focused on economic and environmental implications of farming in the binational Great Lakes Basin. Contact Jim Nicita. Phone (313)665-9135; e-mail jnicita@glc.org.

May 6-8, 1996. **51st Industrial Waste Conference,** Stewart Center, Purdue Univ, West Lafayette, IN. Co-sponsored by School of Civil Engineering and Indiana Pollution Prevention & Safe Materials Inst, Purdue Univ. Sessions include case histories, pollution prevention, legal aspects, new products and processes, site remediation, and wastewater treatment Contact: Dr. Ronald F. Wukasz, Conf. Chair, Industrial Waste Conf, School of Civil Eng, Purdue Univ, 1284 CE Bldg, West Lafayette, IN 47907-1284.

May 12-15, 1996. **Ecological Risk Assessment.** Portland, OR. Contact: Water Environment Foundation, 601 Wythe St, Alexandria, VA 22314-1994. Phone (703)684-2400.

June 8-12, 1996. **Watershed >96: Moving Ahead Together.** Baltimore Convention Center, Baltimore, MD. A national interactive forum on the progress and future of watershed management in the U.S. Contact: Tim Williams, Water Environment Federation. Phone (703)684-2437.

June 10-12, 1997. **International Symposium on Physics, Chemistry, and Ecology of Seasonally Frozen Soils.** Fairbanks, AK. Papers presented relating to the occurrence, measurement, and prediction of physical and biological processes in frozen soils. Contact: Dr. Pieter Groenevelt, Prog. Chair, Dept. of Land Resource Science, Univ. of Guelph, Guelph, Ontario N1G 2W1, Canada.

June 16-19, 1996. **Urban Wet Weather Pollution from the Stream=s Perspective.** Quebec City. Sponsored by the Water Environment Federation. Contact WEF, 601 Wythe St, Alexandria, VA 22314-1994. Phone (703)684-2400 or (800)666-0206.

June 20-24, 1996. **American River Management Society (ARMS) 3rd Biennial Symposium on River Management and Planning: Beyond the Banks.** Columbus, OH. Will explore a holistic approach to ecosystem river basin management. Contact: Caroline Tan, ARMS Program Dir, 316 Daly Ave, Missoula, MT 59801-4338. Phone (406)549-0514; e-mail arms@igc.apc.org.

June 22-28 1996. **North American Water and Environment Congress >96** , American Society of Civil Engineers (ASCE) and International Association of Hydrological Sciences (IAHS). A forum for discussion and exchange on a broad spectrum on topics including water engineering, quality, resources, planning and management. Special emphasis on international issues associated with the North American Free Trade Agreement (NAFTA), Canada, and Mexico. Co-

sponsored with National Water Research Institute. Contact: ASCE Headquarters, Attn: Ms. Andrea Simon, Conf. and Conven. Dept, 345 E. 47th St, New York, NY 10017.

July 7-10, 1996. **51st Annual Conference of the Soil and Water Society, A Rocky Mountain Rendezvous: Renew Yourself in the High Country.** @ Keystone Resort, CO. Conference themes are conservation and ecosystem science, ecological decision-making and management, the spirit of conservation and sustaining ecosystems, and human dimensions. Contact Jim Caplan, Chair, Prog. Com, SWCS, 7515 NE Ankeny Rd, Ankeny, IA 50021-9784. Fax (615)289-1227.

July 14-17, 1996. **AWRA Annual Summer Symposium A Watershed Restoration Management: Physical, Chemical & Biological Considerations.** @ Syracuse, NY. Focused on restoration and maintenance of natural and disturbed hydrologic and/or water resource quality functions of watersheds, streams, and wetlands (not remediation) to meet a regulatory, legal, or aesthetic standard. Contact: Dr. Peter E. Black, General Chairperson, SUNY College of Environmental Science & Forestry, 1 Forestry Dr, Syracuse, NY 13210. Phone (315)470-6671 - or- AWRA, 950 Herndon Pkwy, Ste. 300, Herndon, VA 22070-5528. Phone (703)904-1225; fax (703)904-1228.

July 30-August 2, 1996. **UCOWR -'96: Integrated Management of Surface and Ground Water.** Papers will address legal and institutional impediments to integrated management, incorporating ground-water into watershed management, risk assessment, water marketing, preservation of biological diversity, artificial recharge, water quality impacts, and conflict resolution. Focus the roles of universities and their faculties in these issues. Contact: Lloyd Urban, Tech. Prog. Chair, Water Resources Ctr, Texas Tech Univ, Box 41022, Lubbock TX 79409-1022. Phone (806)742-3597; fax (806)742-3449; e-mail: lurban@coe2.coe.ttu.edu.

August 4-8, 1996. **5th National Volunteer Monitoring Conference.** Madison, WI. A gathering of citizens, government officials, non-profit groups and others involved in volunteer monitoring. Contact: Alice Mayo, US EPA. Phone (202)260-7018. (See related story p. 9)

August 11-13, 1996, **Seventh National Conference on Drinking Water: Balancing Risks and Reason.** Prince Edward Hotel, Charlottetown, Prince Edward Island, Canada. Program topics include agricultural impacts and source protection, innovative treatment for municipal and private water supplies, monitoring and compliance. Contact: T. Duncan Ellison. Phone (613) 241-5692; fax (613)241-5193.

Sept. 8-11. **Dam Safety =96, Association of State Dam Safety Officials 1996 Annual Conference.** Seattle Westin Hotel, Seattle. Focus on dam safety issues including: effects of recent disasters on dam safety, what's new in dam safety programs, and case studies of dam rehabilitation. Contact ASDSO, 450 Old Vine, 2nd Fl, Lexington, KY 40507; phone (606)257-5146.

September 22-27, 1996. **Third USA/CIS Joint Conference on Environmental Hydrology and Hydrogeology.** Tashkent Engineering Institute of Irrigation and Mechanization of Agriculture, Tashkent, Uzbekistan. Discussions of scientific progress on water resource management and technology, protection of water resources in various environmental settings, and evaluation of

environmental impacts of management options. Special emphasis on arid zones. Field trips and cultural programs in Tashkent, Bukhara, and Samarkand. Choice of 3 tours available that include round trip air travel from New York and in-country costs. Contact: American Institute of Hydrology, 2499 Rice St, Ste. 135, St. Paul, MN 55113-3724. Phone (612)484-8169; fax (612)484-8357; e-mail: AIHydro@aol.com.

Minnesota ASCE Accepting Abstracts for Nov '96 Conference

The 29 Annual Water Resources Conference, co-sponsored by the Minnesota Section of the American Society of Civil Engineers and the U of Minnesota, is scheduled for November 12, 1996, on the St. Paul Campus of the U. The conference planning committee is inviting proposals for presentations from all public and private organizations and individuals. Suggest topics include bioengineering, wetland restoration, creation, and enhancement, hydraulic structures and related safety and liability issues, but proposals on other water resources topics are welcome. Presentations on case studies and practical design methods are encouraged, as well as alternative presentation formats, such as problem-solving workshops. The organizers expect an audience of approximately 200 water management professionals. Presentation abstracts are due March 25, 1996.

For information, contact Bev Ringsak, Professional Development and Conference Services, by phone at (612) 625-6689 or fax (612) 626-1632. Mail abstracts to Ms. Ringsak at 206 Nolte Ctr., U of MN, 315 Pillsbury Dr. S.E., Minneapolis, MN 55455.

Volunteers' Conference Promotes Stewardship

The U.S. EPA, Wisconsin Dept. of Natural Resources, and the Univ. of Wisconsin are sponsoring the 5th National Volunteer Monitoring Conference, "Promoting Watershed Stewardship," to be held in Madison, WI, August 3-7, 1996. The conference's goal is to encourage community stewardship of lakes, streams, estuaries and wetlands. Volunteers, program coordinators, teachers, and agency personnel will discuss and learn how to start, develop, maintain, and expand their programs in workshops, lectures, discussion sessions, and field trips.

Proposals for workshops, lectures, poster sessions, and other presentations should be sent in standard abstract form to the Conference Coordinator. Deadline for receipt of completed abstract forms is March 15, 1996. For a copy of the conference brochure or abstract form and presentation guidelines, contact Celeste Moen, Conference Coordinator, at moenc@dnr.state.wi.us.

Plankton Ecology Course Offered

Fall 1996 quarter will be the last chance for students to learn Ecology of the Animal Plankton (EEB 5607) from Prof. Don McNaught. The course will cover population dynamics, sampling, heterogeneity, physiology (grazing, remineralization), ecotoxicology, and behavior (vertical migrations) of the zooplankton. This small laboratory course, emphasizing original laboratory experiments conducted by teams of students, includes lectures augmented by reading from the literature. (5 cr; prereq 5601, Biol 5041 or Biol 5841 or equivalent)

New WWW Pages at U

The Minnesota Extension Service (MES) announces that two new web page are up and running. A web page that offers visitors a summary of water quality programs at the U, the complete text of several MES water quality publications, a listing of water quality extension faculty, and a list of other water quality web sites. Another new page offers highlights of manure education and research programs at the U. This page also points to other manure related web sites.

MERS to Close

In another sign of tight financial conditions for academic research, the U has decided that it will not continue to operate the Monticello Environmental Research Station (MERS) after March 31, when external research funding to operate the site will expire. For the past few years, the College of Natural Resources has operated the field station on property owned by the Northern States Power Corporation. The station, which directs water from the Mississippi River through a system of experimental stream channels, has been used by waterquality scientists and stream ecologists for many years. Formerly operated by the U.S. EPA's environmental research laboratory in Duluth, the facility to study aquatic impacts of various contaminants, the MERS facility was offered to the U, in the early 1990s, to continue such research. (ref. Minnegram March '95). Unfortunately, external funds for such studies have been difficult to obtain. An existing EPA cooperative agreement to study effects of suspended sediments on stream biota is not expected to be renewed because of congressional cuts in EPA's budget.