University of Minnesota

Water Resources Center

MINNEgram

WRC survey finds homeowners aware of stormwater damage

A survey team under the direction of Karlyn Eckman, (Senior Fellow WRS) and Rachel Walker, coordinator (WRC), polled Duluth's Lakeside neighborhood residents within a three-block area to gauge local awareness of the effects of stormwater flow on nearby waterways and property.

The NRRI and Minnesota Sea Grant at the University of Minnesota-Duluth and the city of Duluth, received funding from the MPCA to study stormwater retention efforts near the Lester River/ Amity Creek system. Project partners included South Saint Louis Soil and Water Conservation District, the Minnesota Conservation Corps, and the Minnesota Lake Superior Coastal Program. The Lester River/Amity Creek system was chosen as a demonstration project because it was designated as "impaired" with excessive turbidity from sediment. The study compares a neighborhood retro-fitted with rain barrels and rain gardens to another neighborhood left "as is."

Respondents to the survey, called KAP for "knowledge, attitudes, and practices," seemed to be aware of links between rain events, impaired water quality, and property damage. Residents also understood that stormwater eventually reaches Lake Superior, and appeared willing to participate in the Lakeside Stormwater Reduction Project.

Eighty-four percent of respondents in the control block, which is farthest down the hill, said that their property and properties nearby were affected by stormwater runoff. Fifty-two percent of residents farthest up the hill in the treatment block reported their properties to be affected by

Survey report continued on page 4

Co-Director returns to WRC

Deb Swackhamer

Professor Deborah Swackhamer returned to her position as co-director of the Water Resources Center on August 25, 2008, after serving 23 months as the Interim Director of the University of Minnesota's Institute on the Environment (IonE). During this time, she named 15 Founding Fellows from across the University, implemented several internal grants programs, established administrative structure and procedures, obtained the Institute's first extramural grant, created a robust communications team, and accepted a $2.5 millon bequeathment on behalf of the Institute.

Provost E. Thomas Sullivan expressed gratitude for Dr. Swackhamer's leadership in creating the initial structure of the IonE.

Ambitious statewide conservation and preservation plan released

by Les Everett, WRC

For the first time, Minnesota has a comprehensive fifty-year plan for conserving and preserving its natural resources. The Statewide Conservation and Preservation Plan, prepared for the Legislative-Citizen Commission on Minnesota Resources (LCCMR) by the University of Minnesota, Bonestroo, and CR Planning, presents a strategic framework for protecting multiple natural resources, the economy, and public health in an integrated fashion, and takes into account demographics and climate change. It is the most ambitious planning document of its kind, requiring the efforts of 125 scientists, natural resource planners and professionals from the University and public and private organizations over a period of 18 months, led by Water Resources Center (WRC) co-director Deborah Swackhamer.

The first phase of the two-phase study identifies trends in natural resource conditions and the underlying drivers of change. The second phase focuses on four key issues: land and water habitat conservation, land-use practices, transportation, and energy production and use. Within each issue area, a team of experts prepared investment and public policy recommendations addressing integrated planning, critical land protection,

Plan, continued on page 5

In this Issue

Around the State

Don't forget to vote: Clean Water, Land and Legacy Amendment

This year the legislature voted to place the Clean Water Land and Legacy Amendment on the November election ballot. Here are some of the facts about the amendment.

The language as it will appear on the ballot:

"Shall the Minnesota Constitution be amended to dedicate funding to protect our drinking water sources; to protect, enhance, and restore our wetlands, prairies, forests, and fish, game, and wildlife habitat; to preserve our arts and cultural heritage; to support our parks and trails; and to protect, enhance, and restore our lakes, rivers, streams, and groundwater by increasing the sales and use tax rate beginning July 1, 2009, by three-eighths of one percent on taxable sales until the year 2034?"

This investment is a temporary dedication lasting twenty-five years. The language passed by the legislature specifically allocates funding among four purposes as follows: 33% for water quality, 33% for wildlife habitat, 19.75% for arts and cultural resources, and 14.25% for parks and trails. If passed, this change will generate approximately $300 million per year in 2008 dollars. The cost — three-eighths of one percent on taxable sales — is three and a half cents on a ten dollar purchase. This does not include items that are excluded from sales tax such as clothing and food.

In Minnesota, amending the constitution is the only mechanism for creating a truly dedicated funding source. Minnesota's constitution has been amended 119 times, usually for limited-term funding reasons similar to this proposal.

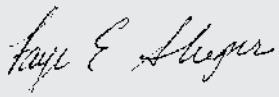
All voters have the opportunity to vote on the amendment. If you skip the amendment question, the state counts this as a vote in the "no" column.

From the Director's Desk

Faye Sleeper

The turn of the calendar to September always marks a time of newness, as most of us in Minnesota are programmed from youth that it is time to stop "playing" and get back to the business at hand. This is underscored here on the St. Paul campus with the end of the state fair and the beginning of classes, whenstudents return full of hope and energy. This year at the Water Resources Center we are energized by having one of our largest groups of incoming Water Resource Science students. They are pursuing degrees so that they will be ready to engage on water issues in Minnesota and elsewhere as researchers, faculty, scientists and policy makers. This is especially important as we look forward to addressing our impaired waters, ground water sustainability and protection of our precious waters. With approximately 40% of Minnesota's (and the nation's) assessed waters classified as impaired, there will be plenty of opportunities for these and future students. We are gratified that many of you continue to provide opportunities for students during their time here at the University and after they leave.

We are thrilled to welcome Deborah Swackhamer back from her leave of absence and into the role of Co-Director of the Water Resources Center. As Deb returns, we look forward to new possibilities in areas of education, research and outreach. Another change that we highlighted in June is the opportunity to "go paperless" with this newsletter. Once again, we provide the link for you to sign up for this option. We thank those who have signed up and note that this will begin with the December 2008 newsletter, as we were delayed a bit in this effort. For those in the Onsite Sewage Treatment business, we begin another season of professional workshops. Onsite Sewage professionals will see changes that reflect new state law and regulations, as well as other improvements. I hope that, like we at the Water Resources Center, you are able to enter the fall with renewed energy to tackle your challenges and opportunities.



Faye E. Sleeper, WRC Co-Director

New rule: must test potable wells for arsenic

As of August 4, 2008, anyone in the State of Minnesota constructing a potable well must test the water for arsenic. Revisions to Minnesota Rules Chapter 4725 (Minnesota Well Code) also specify that water analysis results be given to the Minnesota Department of Health (MDH) and the well owner within 30 days. Current data estimates indicate that about half the wells in Minnesota contain detectable levels of naturally-occurring arsenic, with 15 percent of all wells at levels of at least 10 micrograms per liter, which is the maximum MDH-recommended limit for private well water.

If arsenic levels exceed 10 micrograms per liter, MDH staff will send the well owner an arsenic brochure, a contact list, a letter offering technical assistance to minimize arsenic exposure, and information on effective water treatment technologies.

Studies have linked prolonged exposure to arsenic to a number of health problems, including high blood pressure, diabetes, circulatory diseases and some cancers.

Recently updated information on arsenic in well water is available at the MHD Web page: http://www.health.state.mn.us/divs/eh/wells/waterquality/arsenic.html

Water conference to be held on the Mississippi

Increased attendance prompts move to Saint Paul RiverCentre

The Third Annual "Minnesota Water Resources Conference," sponsored by the Water Resources Center and the College of Continuing Education, will be held October 27–28, 2008, at the Saint Paul RiverCentre. The conference has been moved to RiverCentre to accommodate increased attendance and interest in water resources issues.

Topics that will be highlighted include:

- Best practices in the design and application of water resource management techniques
- Implications of water policy decisions
- Research in current and emerging issues
- Fresh water sustainability
- Agricultural drainage impacts

The conference provides a forum for discussion and discovery between water resources professionals, including resource managers; researchers; local, state and federal agency staff; practicing engineers; and students in the field.

Six ninety-minute concurrent sessions with four hour break-out topics will be offered during the two-day conference. There will be a poster session and reception at the end of the first day, and posters will be available for viewing throughout both days.

Post-conference workshops will be held on October 29. Workshop topics are: Using the P8 Urban Catchment Model (UCM) for Water Quality Improvement, and Surface Water Monitoring Projects. Space is limited and the deadline for early registration is October 13. See the WRC website for complete details: http://wrc.umn.edu/waterconf/.

Highlighted Speakers

Janet L. Attarian

Janet L. Attarian, ***Green Infrastructure for Great Cities.*** Ms. Attarian serves as Project Director, Streetscape and Sustainable Design Program, and Sustainability Coordinator for the Chicago Department of Transportation. Ms. Attarian is a nationally recognized leader in sustainable infrastructure who works to turn Chicago's streetscapes, riverwalks, and pocket parks into great urban places. She is the winner of the 2007 Chicago Innovation Award and the 2007 Illinois APA Gold Award. Her work has been featured in **Public Works Magazine**, **Plenty Magazine**, and **Roads and Bridges Magazine**.

Jack Bacon

Jack Bacon, ***Killer Aps for the Green Global Village.*** Dr. Bacon is an internationally-known distinguished lecturer (emeritus) of the American Institute of Aeronautics and Astronautics (AIAA). A noted futurist and techological historian, his extensive career includes development of cutting edge technologies including controlled thermonuclear fusion, the development of the electronic office and the globalization of business. He is the author of **My Grandfather's Clock**.

Mark Seeley

Mark Seeley, ***The SE Minnesota Floods of August 2007: In Historical and Future Context.*** University of Minnesota Professor Seeley works on the utilization of meteorological and climatological data for agricultural production systems and management of natural resources. He also works with energy providers and uses weather forecasts to anticipate price volatility for winter heating costs. He authored a 200-year history of Minnesota weather titled **Minnesota Weather Almanac**. He has been awarded the Mn/DOT Research Partnership Award for his work in deployment of living snow fences, and the Extension Director's Award for Distinguished Faculty.

Edward Thomas

Edward Thomas, ***Total Water Resources Management: Bringing Together Wetland, Storm Water, Floodplain, and Water Quality Management.*** Mr. Thomas is an attorney at the engineering corporation, Michael Baker Jr, Inc. Mr. Thomas retired from the Department of Homeland Security-Federal Emergency Management Agency after 35 years of public service. He is active in developing national disaster and floodplain management policies, and in 2006 received the Goddard-White Award from the Association of State Floodplain Managers.

WRC co-director to chair EPA Science Advisory Board

Administrator Stephen L. Johnson of the Environmental Protection Agency (EPA) announced the appointment of Deborah Swackhamer to chair the EPA Science Advisory Board (SAB) beginning October 1, 2008.

Deb Swackhamer has served on the SAB for four years, chairing subcommittes that conducted reviews of the EPA's Report on the Environment, the Metals Risk Assessment Framework, and helping guide contamination assessment during the EPA's reponse to hurricanes Katrina and Rita.

Both as Professor of Environmental Health Sciences and as Co-Director of the Water Resources Center, Swackhamer has extensive experience applying science to environmental protection. Her research interests focus on chemical and biological processes affecting the behavior and fate of toxic organic contaminants such as PCBs, dioxins, and pesticides in the aquatic environment, particularly bioaccumulation of persistent compounds in fish in the Great Lakes. She has gained international recognition as an expert on toxics in freshwater lakes and rivers.

"I look forward to the opportunity to help advise the Agency on science and technology, especially as a new administration is getting underway, " said Swackhamer.

Swackhamer replaces M. Granger Morgan, Lord Chair Professor in Engineering at Carnegie Mellon University in Pittsburgh, who has served as chair of the SAB for the past four years.

The SAB is an independently chartered Federal Advisory Committee composed of external scientists and engineers. The SAB's principal mission includes reviewing the quality and relevance of the scientific and technical information being used or proposed as the basis for EPA regulations. Every year, EPA solicits nominations for members to serve on the SAB. The chair will serve a two-year term.

Excerpted in part from an EPA news release.

Onsite Sewage Treatment Program releases 2008-2009 schedule

The Onsite Sewage Treatment Program has announced its 2008-2009 Workshop Schedule. This is the Onsite Program's 35th year of delivering instruction to septic system professionals involved in the design, installation, inspection and care of septic systems

In addition to delivering 41 courses for septic system professionals this year, OSTP will provide customized continuing education for sponsoring local units of government and private companies, and Department of Commerce certified continuing education for private companies, and Department of Commerce certified continuing education for realtors. OSTP is also finishing its Professional Training Manual revision to coincide with recent rule revisions. It will create a more user-friendly guide to septic system design, installation and care. OSTP anticipates a January 1, 2009 release date of the new manual.

This year OSTP is offering Homeowner Operation and Maintenance Education (HOME). This train-the-trainer course will provide attendees with the resources to provide effective training sessions about the use and care of septic systems. This course is targeted to septic system professional and manufacturers interested in providing education as a part of their business.

OSTP's Small Community Wastewater Education Program is also busy as it provides resources to dozens of communities in Minnesota facing wastewater infrastructure upgrade challenges.

To learn more about The Onsite Sewage Treatment Program, visit **http://septic.umn.edu.**

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stormwater.

The majority of residents in the neighborhood were unaware that the Minnesota Pollution Control Agency has listed Amity Creek as impaired.

Forty-eight percent of residents in the treatment block said that homeowners should bear the responsibility for managing stormwater as compared to 10% on the control block.

A significant majority said they were prepared to learn more about what they could do to reduce stormwater damage, such as installing rain gardens or barrels, and were open to cost-share initiatives to mitigate stormwater flow. Forty-two percent of residents of the control block mentioned cost as a factor in stormwater management.

For more information about stormwater pollution in western Lake Superior watersheds, go to http://www.lakesuperiorstreams.org/stormwater/rspt.html.

Survey team members Tim Beaster and Matt Kearns (Minnesota Conservation Corps) observe stormwater runoff flowing into Amity Creek.

WRS faculty help youth link science and culture

"Watch out! Don't let the osprey get you." "Those big fish come from these tiny eggs?" "They call them SACFRY?!?" Those were among the calls and questions as students at the 2008 White Earth Reservation Academy of Math and Science played "Run for Your Life Cycle" learning about the life stages and journeys of the kind of fish they're likely to see in lakes nearby. In the water resources component of last summer's program, they also followed the path of a single drop of water through the hydrologic cycle, creating bracelets of colored beads with spiritual significance, and recognizing the importance of water in the natural world.

Nine years ago, in an effort to raise the high school graduation rates of Native American youth, University of Minnesota faculty joined the White Earth Indian Reservation to create a summer program curriculum that would weave traditional Ojibwe skills and culture with math and science. Reservation natural resource managers, tribal elders and teachers, as well as UM faculty, worked together to create the White Earth Reservation Science and Math Summer Program. Faculty from the WRS Program and WRC have participated in the program since its beginning.

The four-week course uses the Reservation's natural resources to teach children in grades four through 8 about math and science, connecting those disciplines to Ojibwe traditions. Students work on a shared project throughout the four weeks. In past courses, students have designed an environmental learning center for the Reservation, built a full-sized birch bark canoe, and produced a video documentary about the Reservation. This summer they created vegetable gardens for community elders.

Professor Charles Blinn (Forest Resources) has been part of the program since its planning stages in 1998. While the content of the curriculum varies, he enjoys the constant of seeing the same people from University campuses across Minnesota and the tribal representatives. "Being with these partners is a great opportunity," said Blinn. He is pleased by the high percentage of kids who return each year. This stimulates a welcome challenge to keep making the learning fun and interesting.

Professor Ray Newman describes periphyton and aquatic insects on a rock.

Typically, the instructor meets with a tribal elder to map out the lesson that relates Ojibwe culture to the math or science curriculum and shows students how science and math relate to "traditional ways of knowing." Students also tour the University of Minnesota, Crookston campus, meet campus faculty, and attend classses geared to their grade level. Deb Zak, Northwest District Extension Director, said, "The partnership has given the Reservation teachers and students a unique summer educational opportunity to make learning math and science enjoyable while creating connections to the University so they can encourage their students to consider enrolling at the UM once they graduate from high school."

Plan report continued from page 1

land and water restoration, sustainable practices and economic incentives for sustainability.

Water is one of the signature natural resources of Minnesota, and its protection and restoration is prominent in the recommendations. While each of the four issue teams had a specific focus, many of the recommendations converged across teams, providing multiple natural resource benefits. For example, the recommendation to transition to growing perennial biomass rather than annual row-crops for use in biofuels as soon as the technology allows would improve in-stream and in-field habitat, dampen peak stream flows that cause streambank erosion, improve soil and water quality, and reduce greenhouse gas emissions.

The recommendations are being used to set the research agenda for the LCCMR and to guide budget planning for several agencies. The entire report, including recommendations, is available at http//:www.lccmr.leg.mn.

Water Resources Science faculty David Mulla, Anne Kapuscinski, and WRC agronomist Les Everett played key roles as team co-leads. Other team co-leads included Lance Neckar from the Department of Landscape Architecture, Don Fosnacht, George Host, and Gerald Niemi from NRRI-UMN Duluth, Cynthia Hagley from Minnesota Sea Grant, John Shardlow from Bonestroo, and Jean Coleman from CR Planning. Questions about the plan can be directed to Deb Swackhamer (dswack@umn.edu).

U of M Water Community News

Larry Baker (WRC, WRS) and colleagues from Phoenix (M. McHale, Deb Koerner and N. Grimm) presented a poster "Developing carbon budgets for cities: Phoenix as a case study" at the Ecological Society of America Conference in Milwaukee, WI, August 3–8, 2008.

Ken Brooks (Forest Resources) lectured in a summer school graduate course, "Coping with Climate Change—Integrated Watershed Management," at the Wageningen Graduate Schools in Rolduc-Kerkrade, The Netherlands.

Jonathan Foley (IonE) was named director of the Institute on the Environment effective August 25, 2008. Foley was the founder and director of the Center of Sustainability at the University of Wisconsin where he examined complex global environmental systems and their interactions with human societies.

Efi Foufoula-Georgiou (Civil Engineering, WRS), a McKnight Distinguished Professor, has been appointed director of the National Center of Earth-surface Dynamics (NCED). Foufoula-Georgiou replaces IonE founding fellow Chris Paola, who will remain a professor in geology and geophysics and continue as a researcher at NCED.

Cindy Hagley (Minnesota Sea Grant), **Jesse Schomberg** (Minnesota Sea Grant), and **Sue O'Halloran** (University of Wisconsin-Superior), received a $26,700 grant August 18, 2008 from Minnesota's Lake Superior Coastal Program to fund **View from the Lake**, Expanded Outreach, K-12 curricula, the Web, and Sustainability Programing.

Beth Holbrook (WRS) presented "Feeding Mechanisms of Age-0 Lean Lake Trout (**Salvalinus namaycush**)" at the American Fisheries Society Annual Meeting in Ottawa, Ontario, August 17–21, 2008.

Miki Hondzo, Michael Semmens, (Civil Engineering, WRS) and former student **Jeffrey Weiss** were selected by the American Society of Civil Engineers Environmental Water Resources Institute to receive the 2008 Samuel Arnold Greely Award in recognition of their paper "Storm water detention ponds: Modeling heavy metal removal by plant species and sediments," in the September 2006 Society of Civil Engineers Journal of Environmental Engineering.

Barb Liukkonen (Minnesota Sea Grant, WRC) co-authored a poster with Nate Meyer and Wayne Seidel, "Impact of a Conservation Field Day: Lake County Case Study," for the Association of Natural Resource Extension Professionals National Meeting, Madison, WI, May 20–23, 2008.

Eric Merten (WRS) presented "Forest Harvest Effects on a Northern Minnesota Stream System: A Study Spanning 11 Years," **Bridget Seegers** (WRS) presented "Ecological Stoichiometry: Contrasts Across the Marine and Freshwater Divide," and **Dana Vanderbosch** (WRS) presented "Factors Affecting the Establishment of Scirpus Validus in Urban Lakeshore Restoration," at the Annual Meeting of the Ecological Society of America in Milwaukee, WI, August 3–8, 2008.

Chris Paola (Earth Science, Geology and Geophysics, WRS) has been named Institute of Technology Distinguished Professor. The award honors exceptional faculty for their efforts in and contributions to teaching, scholarly research, and for their commitment to the Institute of Technology.

Matt Simcik (Environmental Health Sciences, WRS) sampled the water, sediment and foodweb of Lake Johanna in Arden Hills this summer to investigate perfluorochemical dynamics in the system. This project is funded by the MPCA through the University's Master Contract for Impaired Waters from the consent decree between 3M and the State of Minnesota.

Peter Steen (WRS) presented "Hydroxylated Polybrominated Diphenyl Ether Photolysis Quantum Yields and Product Identification" at the American Chemical Society National Meeting in Philadelphia, PA, August 17–21, 2008.

Deb Swackhamer (WRC, Environmental Health Sciences, WRS) has been appointed by Governor Tim Pawlenty to the Green Jobs Task Force, created to develop and present a statewide action plan to optimize the growth of the green economy.

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University of Minnesota
Water Resources Science Program
Degree Recipients

Madeline Banschbach received her M.S. in July 2008. Her thesis was entitled: An Evaluation of Soil Properties and Efficiency of an Infiltration Basin. Banschbach was advised by **James Anderson** and **James Perry.**

Filiz Dadaser Celik received her Ph.D. in July 2008. Her dissertation was titled Impact of Large-scale Irrigation on a Closed Basin Wetland: Water Flow Alterations and Participatory Irrigation Management Effect on the Sultan Marshes Ecosystem in Turkey. Celik was advised by **Patrick Brezonik** and **Heinz Stefan**.

John Loomis received his M.S. in May 2008. His thesis was titled: "The Survival and Blood Chemistry Response of Walleye Sander Vitreus to a Simulated Live-Release Fishing Tournament." Loomis was advised by **Bruce Vondracek**.

Seth Moore received his Ph.D. in May 2008. His dissertation was titled "Predicting Coaster Brook Trout Distribution Based on Landscapes, Habitats, Fish Communities and Life History." Moore was advised by **Carl Richards**.

Melissa Wilson received her M.S. in July 2008. Her thesis was titled: Crop Productivity and Nitrate Leaching in Coarse-Textured Soils as Affected by the Use of Polymer Coated Urea and Deep Tillage. Wilson was advised by **John Moncrief** and **Carl Rosen**.

Martijn Woltering received his M.S. in May 2008. His plan B paper was titled: Late Pleistocene Temperature History of Southeast Africa: a TEX86 Temperature Record from Lake Malawi." Woltering was advised by **Josef Werne** and **Thomas Johnson**.

Rachel Walker received her Ph.D. in July 2008. Her dissertation was titled: Wild Rice: The Dynamics of Its Population Cycles and the Debate Over Its Control at the Minnesota Legislature. Walker was advised by **John Pastor**.

Upcoming Events

October 27–28. **The 2008 Minnesota Water Resources Conference. RiverCentre in St. Paul, MN. Post-conference workshops will be offered October 29. Register now at: http://wrc.umn.edu/waterconf/.**

October 21, 2008. The **Twentieth Annual St. Croix River Research Rendezvous** at Marine on St. Croix, MN. This conference serves as a forum for presentation and discussion of scientific research on the watershed of the St. Croix River. For more information, visit: http://www.smm.org/enews/2008/june/researchstation/.

October 26–29, 2008. **27th Annual International Submerged Lands Management Conference** at the Northwestern Michigan College Hagerty Center in Traverse City, MI. The conference will highlight issues surrounding the administration of submerged lands and adjacent uplands. For more information, visit: http://www.submergedlands2008.com.

October 26–29, 2008, Duluth Entertainment Convention Center, Duluth, MN. **Minnesota Invasive Species Conference 2008: Acting Locally to Protect Our Legendary Lands and Waters**. The conference is designed to strengthen awareness of invasive species issues at the local level and to promote local prevention and management. Pre-conference workshops for the general public and professionals will be held Sunday October. 26. Topics include earthworms, gypsy moths and lake vegetation management. For more information and registration, visit: www.minnesotaswcs.org/Invasives.htm.

Fall 2008. **USDA Technical Service Provider Certification Courses**. Certification is offered in Nutrient Management Management Planning, Pest Management Planning, RUSLE2 Introduction and Advanced MN Phosphorus Index, Field Evaluation for Conservation Practices and Invasive Species Management. For dates, locations and registration, visit: http://tsp.umn.edu.

October 9–10, 2008. **The City, the River, the Bridge.** UM Institute for Advanced Study. This symposium provides a sweeping view of the I-35 bridge collapse and its aftermath. Deborah Swackhamer and Pat Nunnally will present environmental and social insights on the effects of the collapse. Experts in education and human development, public engagement and journalism will share their thoughts. UM President Robert Bruininks will provide a capstone comment. For more information visit: http://ias.umn.edu/CityRiverBridge.php.

December 5, 2008. **GIS workshop.** The Minnesota Population Center. The seven-hour course will be a combination of laboratory work and presentations, including database creation, basic GIS concepts, hands-on GIS exercises, and an introduction to spatial analysis. More information: http://uttc.umn.edu/training/courses/description.jsp?secName=GIS101.

October 22, 2008, **National Research Program (NRP) and United States Geological Service(USGS) Lecture Series** presents speaker Dr. Rick Healy (NRP, USGS): "Recharge Processes" at the USGS in Moundsview, MN. For more information contact Jim Stark, stark@usgs.gov.

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Deb Swackhamer chaired the 2008 Gordon Research Conference in Environmental Sciences: Water, held June 22–27 in Holderness, NH. **Kris McNeill** (Chemistry, WRS) will chair the 2010 Conference. **Paige Novak** (Civil Engineering, WRS) was an invited speaker.

Martijn Woltering (WRS) presented two posters at the Gordon Research Conference on Organic Geochemistry in Holderness, NH, August 3–8, 2008.

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Submissions: Minnegram welcomes articles, letters to the editor, news stories, photos, and other materials for publications. Please address correspondance to: Minnegram Editor, Water Resources Center, 173 McNeal Hall, 1985 Buford Ave., St. Paul, MN 55108. E-mail: mng-ed@umn.edu, Web site: http://wrc.umn.edu, phone: 612-624-9282.

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