



IGA SPRING 2002 NEWSLETTER

Volume 18, Number 1

March 2002

NEWS FROM THE IGA

FROM THE IGA CHAIR, COLIN BOOTH

Hello. I'd like to start by thanking Steve Bennett for serving as Chair last year and Susie Dodd-Casey for serving as Secretary for the past four years - a lot of hard work. I am a Professor in the Department of Geology and Environmental Geosciences at Northern Illinois University. I've been at NIU, and also been a member of the IGA, for 18 years, and have worked quite extensively in groundwater research in Illinois over that time, so I know quite a few of you. We are currently putting together the Spring meeting to be held at the Holmes Student Center here at Northern Illinois University in DeKalb. The Spring 2002 IGA meeting will be on Wednesday, April 24th, and I hope to see as many of you as possible at the meeting.

Our highest priority this year is to build up our membership numbers. In 1985, two years after its formation, the IGA had 230 members from all areas of the groundwater world. Now it has far fewer. It is a perennial problem for associations such as the IGA that, as people retire, move away, or simply change addresses, the mailing list and therefore the membership roster steadily dwindle. It's absolutely vital to continuously add new names and new members - and to do that we need your assistance. You can do a few small things that will make a big difference. Tell us when you change your e-mail or mailing address; encourage your colleagues to join the IGA; and suggest the names of individuals and organizations that we can add to our mailing list so that they learn about the IGA and our meetings. And of course, attend the meetings yourself!

Why belong to the IGA? The IGA Constitution states that our purpose is to "advance the knowledge of groundwater resources in Illinois". I think that all groundwater professionals, whether in government, industry, or academia, share the common goals of protecting and wisely using groundwater, and therefore of increasing our knowledge through research and information exchange. And there are personal reasons as well as "altruistic" ones: the IGA provides a rare forum in which you can meet and interact with other groundwater professionals in the state.

So, we are looking for specific ways in which the IGA can work to fulfill these goals. Our existing program includes the meetings, the student research grant awards, the groundwater science awards, the web page and the newsletter. We are also looking at ways to provide greater opportunities for information exchange and research interaction. What else do you want to see from the IGA, for yourself and for the Illinois groundwater community? Let us know! Feel free to contact me

(colin@geol.niu.edu) or any board member - and please become involved with and take advantage of our association.

SPRING 2002 IGA MEETING FOCUS: RADIUM IN GROUNDWATER

The Spring 2002 IGA Meeting will be held at Northern Illinois University in the Holmes Student Center on April 24th, 2002. A focus of this meeting will be radium in groundwater, which is an ongoing challenge for many communities in Illinois who rely on groundwater for their drinking water supply. This urgency was created by the U.S. EPA, which finalized the requirement that water supplies achieve 5 picoCuries per liter or less radium, and 15 picoCuries per liter or less total alpha, by December 8, 2003. The IEPA anticipates that some water supplies will have difficulty attaining this objective, including those who are currently in compliance due to sampling methodology changes (<http://www.epa.state.il.us/environmental-progress/v26/n3/index.html>). Speakers will show the distribution of groundwater supplies affected by radium in Illinois, and how communities are dealing with radium concentrations in excess of recently finalized drinking water standards. Although radium in drinking water is the primary focus of the Spring IGA Meeting, other topics such as glacial geology and the results from site contamination investigations will also be presented. There will be something for everyone. The agenda is included at the end of the newsletter.

FALL 2001 IGA MEETING A SUCCESS

The Fall 2001 meeting was held on September 27th at the Par-A-Dice Hotel in Peoria, Illinois. The diverse agenda included an update on source water assessment protection by the IEPA Groundwater Section Manager, Rick Cobb, and a presentation on MTBE by Melissa Lenczewski of Northern Illinois University. Doug Walker of the ISWS discussed concepts in state and local scale groundwater investigations, and Sue Atherton of the Illinois American Water Company discussed water and politics. An investigation of PCE in Pekin, Illinois groundwater was presented by Doug Tennis of the Illinois American Water Company, and phytoremediation techniques in sediment-water systems were demonstrated by Kris Maillacheruvu of Bradley University. All in all the Fall 2001 IGA meeting was a success, and the IGA sends a special thanks to those who took the time to share their research and results with our members.

IGA CO-SPONSORS THE 2002 MIDWEST FOCUS CONFERENCE

Excerpted from the NGWA web site: www.ngwa.org/education/midwest.html

The National Ground Water Association (NGWA) has sponsored the 2002 Midwest FOCUS Ground Water Conference on April 11-12, 2002 in Chicago, Illinois. Twelve other organizations, including the IGA, are co-sponsoring this event. The NGWA is sponsoring this conference since the Midwest is experiencing a rapid population shift from rural to urban land use, and with it a growing water demand and a changing landscape. Changing landscapes have reduced recharge to aquifers, while overpumping of deeper aquifers has caused heavy drawdowns and geochemical changes at the same time that new, more stringent drinking water standards on arsenic and radium must be met. Known as one of the leading agricultural centers of the world, the Midwest has enjoyed fertile soils and abundant water resources. There are many challenges in for Midwest groundwater resources, such as balancing high crop yields and protecting ground water from nitrate and pesticide contamination. Another challenge is that rapidly growing northeastern Illinois is dangerously close

to the legal limit it can pump from Lake Michigan, which may require on further development of groundwater to keep up with the projected demand. It is not known if the aquifer systems handle further drawdowns, and what the implications will be if they can not. The conference will also feature groundwater clean-up cases at manufactured gas plants, gas stations and industrial sites. Special features include a MTBE remediation workshop and field training on monitoring well installation. For more information go to the NGWA web site (above).

2002 IGA DUES REMINDER

2002 is already here, so it is time to renew your membership for 2002. For more information on registration, please call or e-mail Terry Dixon, IGA Treasurer, at (309) 693-5697. Please print, complete, and mail this information along with your registration fee to Terry at the address provided below.

IGA membership dues are \$15. Student membership is \$5. Membership renewal for each calendar year is payable at the time of the Spring Meeting. **Make checks payable to the Illinois Groundwater Association.** Membership is available to anyone interested in groundwater resources in Illinois.

COST	NAME
Renew Membership \$15	Position: _____
New Membership \$15	Employer: _____
Student \$5	Address: _____

Clip form & mail to:	Phone: _____ Fax: _____
Terry Dixon	E-mail: _____
Harding ESE	
8901 North Industrial Rd	(309) 693-5697 Fax (309) 692-9364
Peoria, IL 61615	TWDixon@mactec.com

IGA STUDENT RESEARCH GRANTS PROGRAM

One of the primary goals of the Illinois Groundwater Association is to foster scholarship in the science of groundwater, and one way we support this effort is through our IGA Student Research Grant Program. Applications are invited for IGA student research grants for the year 2002-2003. The IGA annually awards one to several small grants (typically \$150 - \$300) to help support student research in groundwater in Illinois. Any undergraduate or graduate student registered for full- or part-time study at an accredited college or university in Illinois is eligible to apply. **This year, the deadline for receipt of completed applications will be Friday May 3rd.** Application forms and guidelines can be obtained from:

[Dr. Colin Booth](#)

IGA Grants Coordinator

Department of Geology and Environmental Geosciences

Northern Illinois University

DeKalb, IL 60115

Phone: 815-753-7933 fax: (815) 753-1945 E-mail: colin@geol.niu.edu

NOTES ON THE IGA NEWSLETTER

The IGA newsletter is changing. The first thing you will likely notice is the modification to the format, which had been essentially the same for the last 15 years. This format will continue to change incrementally to fit the web delivery of IGA and groundwater-related information to our valued members. The other major change is a shift in content, which will be clearly divided into categories that cover the wide range of groundwater issues of interest to our readership. If you have a particular issue that you feel is missing, or if you would like to report on an issue-of-interest, contact the IGA Editor or any IGA Board Member. They will be happy to hear any suggestions, or even complaints. Thank you for reading, and we hope to continue to improve the newsletter's value to you.

WHAT'S HAPPENING IN ILLINOIS GROUNDWATER...

CONSERVATION CONGRESS V ISSUES CREDENTIALS

By Paul Kesich, Fermilab

The Illinois Department of Natural Resources (DNR) is in the midst of issuing credentials to Illinois organizations that want to participate in Conservation Congress V. The Conservation Congress is a voluntary constituency outreach program of the Illinois DNR that brings together representatives of interest groups that the Department serves. It is a stakeholder consultation process, adapted to a legislative format, to help constituents guide the programs and policies of the DNR. Membership in the Conservation Congress is comprised of representatives from Illinois organizations, including not-for-profit corporations and businesses or other entities, whose goals and actions demonstrate a commitment to the protection, conservation, sustainable use and/or recreational enjoyment of Illinois' natural resources.

Once every three years Conservation Congress delegates assemble in the State Capitol to represent the views of our diverse constituency and to make recommendations to the DNR and policy makers of Illinois. Later this year, a series of caucuses will occur in each of the five DNR administrative regions. The interaction with related organizations at the caucuses provide tremendous networking opportunities.

The IGA participated in both the Conservation Congress III in 1997 (Molly Arp-Newell and Dan Kelleher) and Conservation Congress IV in 2000 (Paul Kesich and Terry Dixon). Credential forms certifying recognized organizations that meet bylaw requirements to participate in the process are due before May 31, 2002. We look forward to representing our membership in the upcoming Conservation Congress V in 2003. If you have any issues that you think should be brought up before the Congress, please contact Paul Kesich.

WATER RESOURCES WORKSHOP HELD IN KANE COUNTY

By Randy Locke, Illinois State Water Survey

On March 20, a workshop was held entitled "Making It Work! - A Workshop on Planning for a Sustainable Water Supply in Kane County." The purpose of the workshop was to educate officials from the twenty-seven municipalities of Kane County on water resources issues in the county. Northeastern Illinois Planning Commission (NIPC) projections suggest the population of Kane County will increase by 30 to 40 percent from 2000 to 2020, but water resources available to the county (shallow glacial aquifers, shallow bedrock aquifer, deep bedrock aquifer system, and the Fox River) are limited in their capacity to accommodate additional water demand. The NIPC projections indicate that 11 townships in Cook, Lake, McHenry, Kane, DuPage, and Will Counties may face local water-supply deficits by 2020. Four of those townships are in Kane County.

Approximately 165 professionals attended the workshop, a record for the yearly "Making It Work!" series of workshops by the Kane County Board and the DuKane Valley Council. Three Illinois Department of Natural Resources Agencies - the Illinois State Water Survey, Illinois State Geological Survey, and Office of Water Resources - worked with the Kane County Development Department to produce a series of presentations specific to Kane County covering present and future water demands, quality and availability of groundwater, and quality and availability of water from the Fox River. Other presentations covered the occurrence and movement of groundwater, basic principles of glacial geology and mapping, groundwater law in Illinois, and the status of Illinois' Lake Michigan allocation.

In May 2002, the ISWS and ISGS will be starting a 5-year water-resources investigation to provide the county with data and analyses to support a rational program of water-resources planning and management.

ILLINOIS GROUNDWATER ADVISORY COUNCIL APPOINTED

Modified from <http://www.epa.state.il.us/water/groundwater/groundwater-advisory-council.html>

Illinois Governor Ryan recently appointed a new Groundwater Advisory Council (GAC), which was started in the 1980s as a result of the Illinois Groundwater Protection Act. The GAC is composed of nine public members appointed by the Governor, including:

- Two persons representing environmental interests
- Two persons representing industrial and commercial interests
- One person representing each of the following: agricultural interests, local government interests, a regional planning agency, public water supplies, and the water well driller industry

The GAC is required to:

1. Review, evaluate and make recommendations regarding state laws, regulations and procedures that relate to groundwater protection
2. Review, evaluate and make recommendations regarding the state's efforts to implement the Illinois Groundwater Protection Act and to generally protect the groundwater of the state
3. Make recommendations relating to the state's needs for groundwater research
4. Review, evaluate and make recommendations regarding groundwater data collection and analyses

The current members are:

- Bill Compton (Chair), Caterpillar
- Dennis Duffield, Director of Public Works, City of Joliet
- Jack Norman, Sierra Club.
- Dr. George Czpar, Coordinator - Illinois Council on Agricultural Best Management Practices
- Dennis Dreher, Northeastern Illinois Planning Commission
- Robert J. Millar, Hamilton Sunstrand (Retired)
- Paul McNamara, Southwestern Metropolitan Planning Commission
- John D. Liberg, Illinois Association of Groundwater Professionals
- Robert C. Kohlhase, Farnsworth and Wylie

GROUNDWATER CONTAMINATION IN DUPAGE COUNTY

From Business & Legal Reports, Inc., Environmental Compliance EPA Region 5, Issue 244, March 2002

In recent months, sampling of private wells in the unincorporated areas of Lisle and Downers Grove have shown evidence of volatile organic compound (VOC) contamination at a number of locations. As a result, a Citizens' Advisory Group is being created by the IEPA to address the groundwater contamination in DuPage County. It is intended to provide a forum in which interested citizens can exchange information and express views while attempting to provide consensus recommendations to officials. The development of the group was a primary objective resulting from the first meeting of the Governor's Action Team that met recently to discuss the area's groundwater contamination problems and discuss solutions. Information can be obtained by calling Maggie Carson at 217-557-8138.

AGENCY AND REGULATORY UPDATE

U.S. EPA REVISES ARSENIC STANDARD TO 10 PPB

Article modified from U.S. EPA arsenic web site and press releases

The Safe Drinking Water Act requires the U.S. EPA to revise the existing 50 parts per billion (ppb) standard for arsenic in drinking water. On October 31, 2001 EPA announced its decision to move forward in implementing the standard for drinking water at 10 ppb. This decision was based on the recommendations of three advisory boards: The National Academy of Sciences looked at risk; the National Drinking Water Advisory Council examined costs to water systems throughout the nation; and EPA's Science Advisory Board assessed benefits.

The compliance date for these new arsenic standards is 2006. Nearly 97 percent of the water systems affected by this rule are small systems that serve less than 10,000 people each. The U.S. EPA plans to provide \$20 million over the next two years for the research and development of more cost-effective technologies. The Agency also will provide technical assistance and training to operators of small systems, which will reduce their compliance costs. The U.S. EPA will work with small communities to maximize grants and loans under current State Revolving Fund and Rural Utilities Service programs of the Department of Agriculture. Last year the U.S. EPA provided more than \$600 million

in grants and loans to water systems for drinking water compliance. "Our goal is to provide clean, safe, and affordable drinking water to all Americans," said Christie Whitman, Administrator of the U.S. EPA.

The following links contain more information on the U.S. EPA's revision of the arsenic drinking water standard and arsenic in Illinois groundwater:

Arsenic Summary - <http://www.epa.gov/safewater/arsenic.html>

Arsenic Fact Sheet - <http://www.epa.gov/safewater/ars/ars-oct-factsheet.html>

Arsenic Press Release -

<http://yosemite.epa.gov/opa/admpress.nsf/b1ab9f485b098972852562e7004dc686/6d26c015b807156e85256af6007b9bed?OpenDocument>

DRAFT Arsenic Implementation Guidance - <http://www.epa.gov/safewater/ars/implement.html>

National Academy of Science Assessment - <http://search.nap.edu/books/0309076293/html/>

Arsenic in Illinois Groundwater (IDNR-IDPH-IEPA) White Paper -

<http://www.epa.state.il.us/water/groundwater/publications/arsenic/>

Additional Arsenic Information - <http://www.sws.uiuc.edu/gws/arsenic/>

WEHRMANN TO LEAD ISWS GROUNDWATER SECTION

Allen Wehrmann has been named Head of the Groundwater Section at the Illinois State Water Survey in Champaign. Wehrmann, a registered professional engineer and a certified professional groundwater hydrologist, was the IGA chair in 1990. His 24 years of experience at the survey will undoubtedly help them address current and emerging Illinois groundwater issues. Congratulations Al!

FIRST ILLINOIS REGULATED RECHARGE AREA ESTABLISHED

Article modified from cited IPCB text

In September 1987, the Illinois General Assembly adopted Illinois Groundwater Protection Act (Pub. Act 85-863), which was later amended and has related stand-alone legislation associated with it (415 ILCS 55/1 (2000)). One amendment (415 ILCS 5/17.3 (2000)) is a program for wellhead protection. A principal aim of the wellhead protection program is to reduce the potential for pollution of water supply wells via regulation of activities at and near the wells. A regulated recharge area, one of the wellhead protection provisions, is a geographic region in which recharging of groundwater occurs, and in which the Illinois Pollution Control Board (IPCB) can impose enhanced regulations for the purpose of reducing the potential for contamination of that groundwater.

The IPCB adopted regulations (35 Ill. Adm. Code 617) establishing a regulated recharge area for the Pleasant Valley Public Water District, in Peoria County, Illinois, on July 26, 2001. This is the first regulated recharge area adopted in Illinois. Pleasant Valley provides public water supply service to an unincorporated area located south of Peoria in Peoria County, Illinois, and it is the only groundwater resource in the area capable of supplying the necessary water to this small area at the eastern edge of the Pleasant Valley service area. The groundwater protection needs assessment determined that the recharge area was unusually susceptible to contamination because of sensitive geology that allows groundwater contaminants to move freely and rapidly towards the Pleasant Valley wellheads. The assessment further found several industrial and commercial operations

within Pleasant Valley's recharge area beyond the maximum setback zone and concluded that a release or accidental spill in the recharge area could result in contamination of Pleasant Valley's water supply. A groundwater flow evaluation affirmed that recharge is occurring beyond the setback zones, and the wells were not adequately protected.

This summary is based on the recharge zone amendment. The full text of this regulated recharge area is available from the IPCB at: <http://www.ipcb.state.il.us/Archive/dscgi/ds.py/Get/File-14283/00-17r072601.pdf>

IPCB ADOPTS FINAL RULES FOR MTBE

Article modified from cited text

On January 24, 2002, the Illinois Pollution Control Board (IPCB) adopted final amendments to the Board's public water supply (35 Ill. Adm. Code 620) and Tiered Approach to Corrective Action Objectives (TACO) (35 Ill. Adm. Code 742) regulations for methyl tertiary butyl ether (MTBE). The effective date for these amendments is February 5, 2002. The adopted amendments are due to be published in the *Illinois Register* on February 22, 2002.

Groundwater Quality: The IPCB's final groundwater supply (35 Ill. Adm. Code 620) MTBE regulations are 20 parts per billion (ppb) for a preventative response level, and 70 ppb for Class I and Class II groundwater standards. The regulations also clarified sampling procedures for certain existing drinking water supply wells. For more information contact Joel Sternstein of the IPCB at 312/814-3665; e-mail: sternsteinj@ipcb.state.il.us.

TACO: The MTBE regulations for TACO (35 Ill. Adm. Code 742) were coordinated with those for groundwater supply and use the same comparison criteria. For additional information contact Amy Jackson at 217/524-8507; e-mail: jacksona@ipcb.state.il.us

Source: IPCB Environmental Register, January 2002, No. 571, available at: http://www.ipcb.state.il.us/Archive/dscgi/ds.py/Get/File-16592/January_2002_-_No_571.pdf

AIPG FIGHTS FOR ILLINOIS LPGs

By Martin Hamper, AIPG Illinois Chapter President

The Illinois Chapter of the American Institute of Professional Geologists (AIPG) has been busy over the last few months working to protect and promote the interests of Illinois Licensed Professional Geologists (LPGs). The Illinois Chapter has submitted comments opposing recent proposed regulations before the Illinois Pollution Control Board. These defeated regulations would have required geologists to be supervised by professional engineers. The Illinois Chapter has worked swiftly with the legislature to get bills introduced to include geologists into the Environmental Protection Act.

Adding LPGs to the Illinois SRP and LUST Programs

Geologists were not included in the 1993 Petroleum Underground Storage Tank amendments to the Environmental Protection Act, or in 1995 with regards to the Site Remediation Program. These exclusions prevented geologists from being able to continue to practice independently in programs

where they had historically practiced. This caused and continues to cause geologists economic harm.

In 2000, the Illinois Environmental Protection Agency (IEPA) sought to rectify the issue for geologists by proposing to include LPGs into the Petroleum Underground Storage Tank and Site Remediation Program regulations. The Illinois Pollution Control Board (IPCB) declined to include geologists as proposed by the IEPA even though it was advised by the Illinois Department of Professional Regulation that the changes sought by the IEPA were within the scope of the practice of geology.

The IPCB ruled in December 2001 that because geologists were not specifically included in the Environmental Protection Act, there was no authority to include geologists into the Petroleum Underground Storage Tank and Site Remediation Program regulations. The IPCB's proposed amendment would have allowed LPGs to conduct Petroleum Underground Storage Tank (UST) activities under the supervision of a Licensed Professional Engineer (LPE). The proposed regulation is unnecessary because it does not make any material difference in the current situation as anyone may conduct Petroleum UST activities under the supervision of an LPE, and there is no benefit to the public to specifically identify LPGs in the regulation.

Ron St. John, the 2001 President of the Illinois Chapter, submitted the Chapter's comments in opposition to the IPCB's proposed amendments and requested that the proposed amendments be deleted. The IPCB accepted the AIPG Illinois Chapter's comments and deleted references to geologists in the proposed rule. In its February 2002 ruling, the IPCB noted that there were bills introduced both into the Illinois House and Senate to include geologists into the Site Remediation and Petroleum Underground Storage Tank programs.

Adding Illinois LPGs to the Environmental Protection Act

Senate Bill 1968 and House Bill 5846 were introduced into the Illinois General Assembly in January 2002 to add geologists to the Environmental Protection Act. Martin Hamper, the President of the AIPG Illinois Chapter for 2002, is registered as a Lobbyist for 2002. This has allowed him to lobby legislators, legislative staffers, and agency senior managers on behalf of the Illinois Chapter. He successfully lobbied for the introduction of the House and Senate bills. The Illinois Society for Professional Engineers initially worked against the bills, but currently they do not object to Senate Bill 1968 as amended. Identical amendments to the House bill are expected once the legislature is back in session. Ron Dye, Vice President of the Illinois Chapter, also registered as a lobbyist for the Illinois Chapter, and appeared at the March 6, 2002 Senate Energy and Environment Committee Hearing along with Martin Hamper to answer questions the Senators may have had on the bill.

Call to Action

As the bills meander through the legislature, there may be a need for a letter writing campaign to convince legislators to vote for the bills. Please email Ron St. John (RStjohn@claytongrp.com), or Martin Hamper (Mhamper@ARCADIS-US.com) with your current email address and let them know of your willingness to send a letter when asked. Those on the email list will receive a notice to send the letter attached to the email under their signature to a particular legislator. To be effective, we will need hundreds of volunteers! Don't let us down! You do not have to be a Licensed Professional Geologist currently to participate.

References for further study:

- IPCB Board Adopts Rulemakings for Second Notice Site Remediation Program - <http://www.ipcb.state.il.us/News/030502.htm>
- IEPA Proposal (R01-26) - [IEPA-Proposal-R01-26.pdf](#) (IPCB web site search for 'R01-26' required)
- IPCB First Notice Decision (R01-26) - [R 01-026 02/21/02 Opinion and Order](#) (IPCB web site search for 'R01-26' required)
- Illinois Senate Bill 1968 Summary: <http://www.legis.state.il.us/scripts/imstran.exe?LIBSINCWSB1968>
- Illinois House Bill 5846 Summary: <http://www.legis.state.il.us/scripts/imstran.exe?LIBSINCWHB5846>

ISGS UPDATE

New Digital Logging System.

In 2001, the Illinois State Geological Survey (ISGS) acquired a new digital borehole logging system from Mt. Sopris (model MGX II). This logging system is designed for use in wells 2 inches to 12 inches in diameter and uses the ISGS's available gamma ray, neutron, density, resistivity (8 inch to 64 inch spacing), EM conductivity, caliper, fluid temperature & resistivity sondes. The ISGS has sufficient cable to log boreholes up to 3,500 feet. This logging system is mounted in a 4WD Ford Expedition to allow it to maneuver around most difficult well sites. Contact Tim Young at 217/244-2772 or young@isgs.uiuc.edu for more information.

Drilling Logs Sought

The ISGS seeks your drilling logs to map Illinois' geology. In exchange for your boring logs, the ISGS will run natural gamma and/or resistivity logs free of charge. Here are the details:

- Boreholes ≥ 50 feet deep and ≥ 2 inch diameter, prefer boreholes to bedrock
- Boreholes with permanent or temporary casing
- Boreholes in these priority areas–
 - Northeast Illinois: Boone, Cook, DuPage, Kane, Kankakee, Kendall, Lake, McHenry, Will, & Winnebago
 - Peoria Area: Marshall, Peoria, Putnam, Tazewell, Rock Island
 - Southwest Illinois: Madison, Monroe, Randolph & St. Clair
 - Central Illinois: Champaign, Macon, McLean, & Sangamon
- Boreholes that do not have free phase DNAPL or LNAPL are preferred

Contact Dr. Chris Stohr, ISGS, 217/244-2186 or stohr@isgs.uiuc.edu for more information.

ILLINOIS GROUNDWATER PUBLICATIONS OF NOTE

ILLINOIS GROUNDWATER PROTECTION PROGRAM REPORT

Article modified from the report cover letter

The Interagency Coordinating Committee on Groundwater submitted the biennial report for the Illinois Groundwater Protection Program to Illinois Governor Ryan on January 2002. Input for this report was also received from the Groundwater Advisory Council and four Priority Regional Groundwater Protection Planning Committees. This report provides a policy perspective on groundwater quality and quantity protection in Illinois, including a comprehensive status and assessment of the program.

The Groundwater Protection Act created a comprehensive, prevention-based policy focused on the beneficial uses of groundwater and preventing degradation. The report documents that much progress has been made but much more is needed in groundwater protection, especially in regard to vulnerable regional groundwater supporting potable uses. The report gives the status of various elements of groundwater protection, and provides future directions for groundwater protection program activities. The report also includes several figures and tables to help document progress.

The January 2002 Illinois Groundwater Protection Program report is available at the following link:
<http://www.epa.state.il.us/water/groundwater/publications/igpa2002.pdf>

ISGS GROUNDWATER PUBLICATION LIST UPDATED

The list of publications by the Illinois State Geological Survey Groundwater Geology staff has been updated to include publications through 2001. The list of publications can be viewed at
<http://www.isgs.uiuc.edu/ground-w/publications.html>

Other ISGS publications are available at this link: <http://www.isgs.uiuc.edu/isgshome/pubs-maps.htm>

NIPC'S STRATEGIC PLAN FOR WATER RESOURCE MANAGEMENT

Article modified from published text, cite below

Plan Background

Northeastern Illinois Planning Commission (NIPC) facilitated a strategic planning process to identify issues and strategies to address the complex and often interrelated water resource issues facing the northeastern Illinois region. This process, funded in part by a grant from the Illinois Department of Commerce and Community Affairs, involved a wide spectrum of public and private stakeholders within and adjacent to the six-county area. The goal was to develop a region-wide consensus to influence state policy on behalf of the region, to improve management at the regional and local level, and to enhance public understanding of water issues.

The resulting *Strategic Plan for Water Resource Management* (2001) was adopted by the Commission on September 25, 2001, and is intended to guide the region in responding to its water resources issues: water quality, stormwater and flooding, and water supply. The plan can be viewed at the NIPC web site: http://www.nipc.cog.il.us/water_plan_2001.htm.

Summaries of the three issue categories follows. A complete list of detailed issues and related strategies is contained in the plan.

Stormwater and Flooding

Flood prevention and stormwater management in northeastern Illinois can be particularly challenging due to the region's flat topography and broad floodplains. In the past, intensive agricultural development and urbanization did not fully consider the long-term consequences of altering the region's landscape. On an annual basis, current flood damages are estimated at nearly \$40 million. Ongoing and future development pose new challenges due to the reduction of the landscape's ability to absorb precipitation and the continuing pressure to develop flood-prone areas. Suggested strategies include improving watershed planning and coordination, increasing funding for floodplain mapping, and educating public officials and the public on stormwater and flooding issues.

Water Quality

Historical accounts describe a region with clean and abundant water resources. Rivers, lakes, and wetlands teemed with fish, birds, and aquatic plants. While agriculture can impair water quality due to the effects of erosion, channelization, and wetland loss, more severe impacts are caused by urbanization and associated discharges of pollutants from wastewater and stormwater sources. At one time, water quality became so degraded that many of the region's rivers and lakes supported little desirable aquatic life and would not be considered for recreational uses.

Fortunately, over the last 20 years, significant water quality changes have occurred. In particular, pollutant concentrations from point sources and discharges from combined sewer overflows have been reduced dramatically. However, many of our region's rivers and lakes, particularly those in urban and suburban watersheds, still are not safe for swimming and do not support diverse, healthy fish communities. Non-point source pollution contributions such as agricultural runoff, urban stormwater runoff, and erosion from construction sites are now the major sources of water quality impairment. Suggested strategies include establishing more protective water quality standards, increasing funding for wastewater treatment plant construction, and educating local officials, engineers, and the public on best management practices.

Water Supply

Although the Chicago metropolitan region lies adjacent to one of the world's largest freshwater sources, Lake Michigan, the region faces potential water supply shortages. Laws limit withdrawals from Lake Michigan, withdrawals from rivers and streams are regulated to maintain baseflow, and groundwater withdrawals are naturally constrained by the quantity of recharge the aquifers receive. And, experience has shown that the quality of surface and groundwater can suffer as watersheds urbanize. NIPC predicts that the six-county Chicago metropolitan area will grow by 1.3 million people between 1998 and 2020. As this increasing population consumes land, greater demands will be placed upon available surface water and groundwater supplies, and water supply resources may become inadequate to meet the region's needs. Suggested strategies include educating the public on the availability/non-availability of Lake Michigan water, increasing funding for research on the region's groundwater and surface water supplies, and protecting groundwater recharge areas.

Plan Implementation

NIPC will look for leadership from agencies and organizations identified in the plan to assist in implementation. The strategies identified in this plan will help direct future regional resources towards the common goals of improved regional water management. Since over 100 strategies were designated as high priority during the planning stage, at the beginning of the implementation stage it

will be critical to review those priorities. Implementers will be approached as a group to determine realistic priorities based on balancing funding, practicality, cost-effectiveness, and staff availability for implementation.

To request a copy of the plan (available in late April 2002), contact the NIPC's Publications Department at (312) 454-0400

FOCUS ON ILLINOIS GROUNDWATER EDUCATION

SHAWNEE GROUNDWATER WORKSHOP FOR TEACHERS

By Harry Hendrickson, Illinois Department of Natural Resources

On Saturday, January 12, fifteen southern Illinois science teachers learned about groundwater at a *Near and Far Science-Groundwater Workshop*. During the workshop the teachers:

- Developed an understanding of groundwater in the water cycle; learned about soil and well borings to discover underground resources
- Built a groundwater flow model representing local geology
- Practiced teaching methods from Projects WET, H2O BELOW, and BURIED TREASURE
- Received teaching materials valued at close to \$1000
- Learned of various resource-watch programs
- Learned of opportunities for projects through local resource personnel.

The Regional Office of Education, the Department of Natural Resources, Southern Illinois University, and local health, water, extension, and SWCD offices sponsored the workshop. For information on developing such workshops in your area, contact Harry Hendrickson at DNR (217-785-8577 or hhendrickson@dnrmail.state.il.us).

GROUNDWATER WORKSHOPS FOR TEACHERS PLANNED

By Harry Hendrickson, Illinois Department of Natural Resources

Please encourage teachers to participate in the following workshops, where they will build groundwater flow models, secure teaching methods, and earn continuing education or graduate credits.

- June 18, 2002. Belvidere. Protection of our drinking water and health--Workshop for Teachers. Sponsored by Northern Regional Groundwater Committee, Regional Office of Education 04, and others. Contact Ruth Roth, Winnebago Co. Health Dept. (815-962-5092) or Brenda Cox (815-636-3040).
- July 22-26, 2002. Chicago Botanic Gardens. Aquatic Institute for Teachers. Sponsored by Chicago Botanic Gardens, Department of Natural Resources, and others. Teachers will receive up to three credits for this week of learning activities on water and a community project related to water. Contact Marie Bernardy (847-835-8280) or go to www.chicagobotanic.org.

ILLINOIS AWARD WINNERS!

ILLINOIS' SHINING STARS IN GROUNDWATER PROTECTION

By Harry Hendrickson, Illinois Department of Natural Resources

The winners of the prestigious Shining Star Groundwater Protection Awards were announced in Springfield on October 24th, 2001. Winners for 2001 are Jasper County, the Village of East Alton, and McHenry County. These annual awards are made to local units of government for outstanding leadership and teamwork in protecting groundwater. The selection, made by professionals from government and the water industry, is based on completed groundwater projects. This awards program is part of the Illinois Groundwater Education Program that coordinates the participation of 12 agencies, more than 30 associations, and hundreds of volunteers in groundwater protection educational activities.

McHenry County was awarded the Shining Star Award for its groundbreaking groundwater mapping, research and planning. McHenry County is located just northwest of Chicago and is the fastest growing county in Illinois. In the past decade the population zoomed from 190,000 to 262,000, and in the next 20 years it is projected to reach 400,000.

McHenry County has permeable soils and glacial geology that are at risk to contamination. With public support over the past ten years, the county invested about \$300,000 in a cooperative geology and groundwater mapping program with the Illinois State Geological and Water Surveys. The state put about \$800,000 into the program. Geological formations and five aquifer layers were mapped and verified with a mass water balance based on water table measurements in more than 600 wells. Recharge areas and aquifer connections were also determined, as well as five-year capture zones for 32 community water supply wells. The study addresses both water quantity and quality concerns and can be applied to a number of land use decisions.

The county also found they needed an overall assessment to balance their groundwater resources with projected municipal and industrial needs. They also needed to develop policies to build groundwater concerns into county review processes. McNulty said, "We got started by contracting a consultant to develop a work plan. This was then presented to the county board, which has so far committed \$230,000 of the \$580,000 needed over three years to develop the McHenry County Groundwater Resources Management Plan." The management plan will heavily involve municipalities, industries, and the public in determining water needs. Policies will then be developed to incorporate groundwater issues in land use, zoning, and waste disposal decisions.

A Jasper County team was cited for its exemplary work in demonstrating the sealing of abandoned wells and in educating residents about groundwater protection.

In the early 1990s, the Jasper County Health Department and the Jasper County Soil and Water Conservation District (SWCD) participated in a one-time well sealing demonstration program through the Illinois Water Well Sealing Coalition and Association of Illinois Soil and Water Conservation Districts. Following the demonstration, they found sufficient interest to develop their own program. They teamed up, developed a plan and requested funding from the Jasper County Board. A \$2,500 fund administered by the SWCD was dedicated to sharing the costs of sealing wells with landowners. Many of these well sealings were used as demonstrations, and eventually there were demonstrations in each township. This year a new statewide well-sealing cost-share program through the Illinois Department of Agriculture and SWCDs is modeled after the Jasper County team approach. In addition to the well sealing demonstrations and programs there were a number of educational activities for general audiences, students, and communities that focused on the importance of groundwater resources and protection using tools such as groundwater models.

Although successful to date, the Jasper County Groundwater Protection Team has not lost sight of all that remains to be done and the large number of wells that still need to be sealed. They plan to continue their efforts and keep plugging away at abandoned wells, emphasizing education, demonstrations, and persuasion.

The Village of East Alton was cited for its innovative, science-based solution to a groundwater contamination problem and for protecting its well field.

The Village of East Alton found out that its water supply was contaminated with MTBE, a common gasoline additive. This detection prompted the Village to take immediate action, and they traced the contamination to leaking underground tanks at an abandoned service station a half mile from the Village's wells. The contamination was cleaned up and monitored, but the Village still had to deal with MTBE already in the area groundwater.

After analyzing several proposals that ranged from drilling a new well field to groundwater treatment, the Village selected an option where one of their existing wells was used to intercept the MTBE plume and the contaminated water was treated at a reactivated sewage treatment plant. On June 26, 2000, the proposed remediation system was tested and has been operating since. Treated water is discharged into the Mississippi under a court-approved permit. The highest level seen in raw water from the interception well was 580 parts per billion (ppb) and concentrations have decreased to 50-60 ppb since then. Water production for the Village was switched to wells with very little or no MTBE, so the finished water does not exceed 2 ppb. Village residents have been informed of progress through the press, the Village's quarterly newsletter, and the annual water report.

East Alton is now working on groundwater protection measures such as maximum setback zones and contingency planning to protect their water supply from future problems.

Summary. Highlights of the three awardees' work were featured at professional and governmental meetings last fall, and a certificate was presented to each at a local meeting. Previous winners of the Shining Star Groundwater Protection Award are:

- 1997 Pekin, Bethalto, St. Charles
- 1998 East Peoria, Galesburg, Loves Park
- 1999 East Dundee, Marengo, and Tazewell County
- 2000 Lockport Township, City of Carmi, and City of Crystal Lake

For more information on the Shining Star Awards contact Harry Hendrickson at: hhendrickson@dnrmail.state.il.us or 217-785-8577

ILLINOIS GROUNDWATER ASSOCIATION

2002 GROUNDWATER SCIENCE AWARDS

REQUEST FOR NOMINATIONS

The **Groundwater Science Awards Program** recognizes outstanding science-based achievements in the management, protection, and utilization of groundwater. Any individual or organization, including private and government sectors, involved in the research, education, consulting service, water well construction, or public service is eligible. Awards are presented from two categories.

Research/Scientific Achievement

Presented for outstanding achievements related to groundwater science. Due to the multidisciplinary nature of groundwater science, the award may recognize organizations, agencies, businesses or individuals.

Public Information/Education

Presented to persons or organizations that have advance understanding of groundwater science through preparing or presenting public information or education materials and programs to inform the public about groundwater issues.

The IGA Awards Committee chooses award recipients. The committee is composed of current membership representing state agencies, academia, the water well industry, and the consulting industry. Awards are presented during the Spring or Fall Meeting. The program is co-sponsored by the Illinois Groundwater Protection Education Program developed under the **Illinois Groundwater Protection Act**.

The awards program was begun in 1993 and has acknowledged the contributions of the following individuals and organizations:

Richard Berg, John Shafer, Joan Bade, Gerald Rosenquist, Protect Our Water and Environmental Resources (POWER) Project of Rockford	1993
Keros Cartwright, Roger Kanerva, John Foster, Clayton Simonson, Paul Kremmel, DuPage County Health Department	1994
Philip Reed, John Kempton, William Ebert, Harry Hendrickson	1995
Illinois Middle School Groundwater Protection Team, Robert Stain, George Gaffke	1996
Tom Prickett, Rick Cobb, Central Groundwater Protection Planning Committee	1997
Ross Brower, Ellis Sanderson	1998

**2002 GROUNDWATER SCIENCE AWARDS
REQUEST FOR NOMINATIONS (continued)**

This year the awards will be presented during our Fall meeting. **Nominations must be received by May 2002 for consideration.** Further information and nomination forms will be available at the IGA Spring 2002 meeting or they can be obtained by contacting Colin Booth, IGA Chair at:

Dr. Colin Booth
Department of Geology and Environmental Geosciences
Northern Illinois University
DeKalb, IL 60115
Phone: 815-753-7933
e-mail: colin@geol.niu.edu fax: (815) 753-1945

NOMINATION - 2002 GROUNDWATER SCIENCE AWARDS

A. Nominee Information

Name: _____
Title: _____
Firm: _____
Address: _____
Daytime Telephone: () _____

B. Nominator Information

Name: _____
Title: _____
Firm: _____
Address: _____
Daytime Telephone: () _____

C. Award Category: Achievement _____ Information/Education _____

D. Describe what the nominee has accomplished to deserve a Groundwater Science Award. Explain the nominee's outstanding, exemplary contributions to groundwater science, and the extension of his/her work for the benefit of others. (Please attach additional sheets if needed.)

PRELIMINARY AGENDA

Illinois Groundwater Association 2002 Spring Meeting

Hosted by the NIU Department of Geology and Environmental Geosciences

Illinois & Lincoln Rooms, Holmes Student Center
Northern Illinois University, DeKalb, IL
Wednesday, April 24, 2002

- 8:15 to 9:25 Registration, Coffee & Doughnuts/Muffins/Bagels
- 9:25-9:30 Opening Remarks: Colin Booth, IGA Chair
- Session 1**
- 9:30-9:50 City of DeKalb: Treatment of Radium in DeKalb's Public Water Supply
- 9:50-10:10 John Jansen, Aquifer Science & Technology: In-Situ Control of Radium, the Track Record and Emerging Technologies
- 10:10-10:30 Ed Smith, Illinois State Geological Survey: Glacial Geology and Groundwater Resources of DeKalb County
- 10:30-10:45 *Break*
- Session 2**
- 10:45-11:05 Stephen L. Burch, Illinois State Water Survey: A Comparison of Potentiometric Surfaces for the Cambrian-Ordovician Aquifer of Northeastern Illinois, 1995 and 2000
- 11:05-11:25 Joe Domborowski, Illinois Environmental Protection Agency: TCE Plume in Downers Grove
- 11:25-12:05 Robert Sanford and Charles Werth, University of Illinois at Urbana-Champaign, Department of Civil and Environmental Engineering: A Passive *In-Situ* Bioremediation Technology for Chlorinated Solvents: a Pore Scale to Benchtop Assessment.
- 12:05-1:20 *Lunch*
- Session 3**
- 1:20-1:40 Robert Kay, U.S. Geological Survey: Hydrogeology of the Unconsolidated and Uppermost Bedrock Deposits in the Calumet Region of Illinois and Indiana
- 1:40-2:00 George Roadcap, Illinois State Water Survey: The Presence of Bacteria in Extremely Alkaline (pH>12) Groundwater at Lake Calumet
- 2:00-2:20 Philip Carpenter, Shawkat Ahmed, and Michael Nellinger, Northern Illinois University: Geophysical Identification of Karstic Recharge Points in East-Central Illinois
- 2:20-2:40 Larry Lyons, Lyons Well Drilling: NGWA Update: Brownfield Legislation, Farm Bill & Right to Own
- 2:40-3:00 TBA
- 3:00-3:20 Illinois Groundwater Association, Business Meeting.

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