



# Illinois Groundwater Association

## Fall 2008 Newsletter

25<sup>th</sup> Anniversary - Advancing Groundwater Knowledge Since 1983

Volume 24, Number 2  
September 2008

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## From The Chair

As you can see from other topics in this issue of the Illinois Groundwater Association's newsletter, the IGA is celebrating its 25<sup>th</sup> year of advancing groundwater knowledge in Illinois. Other articles presented here share the history of the IGA and the details of the 25<sup>th</sup> annual fall meeting. Under the circumstances, a question naturally occurred to me: How well have we groundwater professionals advanced groundwater knowledge in the past 25 years?

I must admit that 25 years ago this fall I wasn't thinking much about groundwater. I was 17 years old and a senior in high school. I lived in Chicago, so my water came from Lake Michigan to my house at a flat monthly rate and was returned to the lake through one of the most advanced wastewater treatment plants in the world. No quantity or quality issues to be discussed at our house in 1983. But I suppose that was a good thing – our water systems were reliable, safe and inexpensive, and so we took them for granted.

But what was being discussed in groundwater professions? What research was being done? What protections were in place? Here are some examples of groundwater in the news in 1983 that show where we were in protecting our most vulnerable and valuable resource here in the US.

- In February 1983, the Miami Herald reported that "despite dangers from hazardous-waste dumps, pesticides, substandard landfills and deteriorating underground gas tanks, Florida's efforts to protect vital groundwater supplies have been nearly as porous as the limestone bedrock that holds the water, a state task force has concluded."
- In April 1983, Phase I of the Woburn Environmental Studies Investigation was completed; the site was later made famous through the book and film, *A Civil Action*. As a result of questionable trial activities, poorly planned expert witness testimony, and the absence of a "smoking gun," the harm done to the environment and the community went relatively unpunished.
- A 1983 study performed under the jurisdiction of the General Accounting Office, the investigative arm of the US Congress, found that 33 of 38 landfills in Illinois were not performing groundwater monitoring adequately.

As the science matured and awareness increased about groundwater resources issues, major advances were made in fostering better ways to manage and protect groundwater. For example:

- In 1984, the US Congress responded to the increasing threat of leaking underground storage tanks (USTs) by adding Subtitle I to the Resource Conservation and Recovery Act (RCRA). Subtitle I required the USEPA to develop a comprehensive regulatory program for USTs storing petroleum or certain hazardous substances. The USEPA then published regulations requiring owners and operators of new tanks and tanks already in the ground to prevent, detect and clean up releases. At the same time, Congress banned the installation of unprotected steel tanks and piping beginning in 1985. As required, the State of Illinois adopted the USEPA rules and created the Illinois UST Program in 1987.
- In 1984, the USGS released the Modular Three-Dimensional Finite-Difference Ground-Water Flow Model, otherwise known as MODFLOW. The computer code,

## From The Chair (continued)

created by Michael McDonald and Arlen Harbaugh, solves the groundwater flow equation numerically, and is now widely considered the de facto standard for aquifer simulation.

- In 1986, due to CERCLA's high costs and relative ineffectiveness in cleaning up the nation's worst hazardous waste sites, the Superfund Amendments and Reauthorization Act was passed, which increased Superfund appropriations and provided for studies and new technologies to be used at these sites.
- Included in the Safe Drinking Water Act amendments of 1986 were requirements to expand the nation's groundwater protection program. In response to this federal law, Illinois passed the Illinois Groundwater Protection Act (IGPA) in 1987 and initiated work in areas that previously had not been given the attention needed to comprehensively protect groundwater. Some of the first actions taken included the assignment of minimum setback zones for all wells and the identification of contamination sources around more than 3,300 well heads.
- In 1991, the USGS implemented the National Water-Quality Assessment (NAWQA) Program to develop long-term consistent and comparable information on streams, rivers, groundwater and aquatic systems in support of national, regional, State and local information needs and decisions

related to water-quality management and policy.

I barely reached the 1990s, and as you can see, we have come a long way in 25 years.

But as these older concerns are continually addressed, new ones arise: looming water-supply shortages in the southwestern US as well as regionally in Illinois; the impacts of drought on water supplies in the southeastern US; the Great Lakes Basin Compact and efforts to safeguard our water resources in the Great Lakes; pharmaceuticals and personal care products (PPCPs) in groundwater; the effects of carbon sequestration in deep aquifers; and tritium releases in groundwater from nuclear power plants are just a few that readily come to mind.

One can look at all of this and think that our work is never done or in vain. But, in my last paragraph as Chair of the IGA, I leave you with these thoughts from people far more accomplished than I:

*Far and away the best prize that life offers is the chance to work hard at work worth doing.* - Theodore Roosevelt

*Work saves us from three great evils: boredom, vice and need.* - Voltaire

Onward to another 25 years!

Daniel J. Horvath,  
2008 Illinois Groundwater Association Chair

## Fall 2008 IGA Meeting at Starved Rock State Park



*Scenic wonders  
at Starved Rock  
State Park*

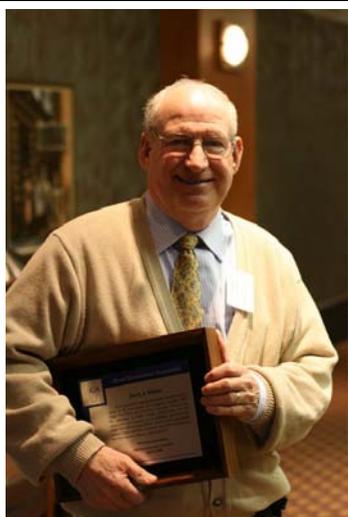
The IGA has a few favorite venues for our meetings. State universities such as [ISU](#) and [NIU](#) are always popular due to their central locations, great facilities and the warm welcome they always give us. We've also had more than a few meetings at the outstanding [Fermilab](#) facility with its breathtaking view atop the iconic [Robert Rathbun Wilson Hall](#).

One of the most remembered, however, is the idyllic [Starved Rock State Park](#). This scenic gem boasts sculpted bedrock, waterfalls, isolated glens, vast woodlands, hiking trails and wonderful accommodations at the 1930s-era log-and-stone [Starved Rock Lodge](#). If you've never had the time to visit Starved Rock or if it's been a while since your last visit (such as the spring 2006 IGA meeting) then this is your chance!

The fall 2008 IGA meeting will be held Wednesday October 22<sup>nd</sup> at Starved Rock State Park. In addition to the informative presentations on the agenda (later in the newsletter), there will be a guided tour of [Matthiessen State Park](#) hosted by Bill Shields of the Illinois State University and Mike Phillips of Illinois Valley Community College. Guide books on Starved Rock and Matthiessen State Park are available at the Starved Rock book store. Registration details for the meeting are on page 11.

Accommodations are available at the [Starved Rock Lodge](#) (800/868-ROCK). Other motels are available within eight miles including the LaSalle-Peru LaQuinta (815/224-9000), Fairfield Inn (815-223-7458), and Super 8 (815/223-1848). Come enjoy a great technical session, fresh fall air, a tour of Matthiessen State Park and the company of your colleagues!

## Spring 2008 IGA Meeting in Peoria



Jerry Dalsin receives his 2008 Illinois Groundwater Science Achievement Award.  
Photo by Randy Locke

The IGA had its spring 2008 meeting at the *Par-A-Dice* hotel (and casino!) in Peoria, Illinois. We'd last been at the *Par-A-Dice* seven years ago so it was high time we returned.

One of the IGA's activities that we truly enjoy is selecting recipients of the [Groundwater Science Awards](#). These awards recognize Illinoisans who have made outstanding contributions to groundwater "science". In 2007, we recognized Robert Sasman and William Dixon with *Achievement Awards* for their selfless service to the groundwater community. The IGA was also pleased to recognize Jerry Dalsin at the Spring 2008 IGA meeting for his decades-long dedication to groundwater supply, safety, and public health with an *Achievement Award*. Another honoree was the Mahomet Aquifer Consortium that received a *Public Information-Education Award*. The IGA is open to nominations for the *Groundwater Science Awards*, so if you know of worthy candidates please let us know so they can be properly recognized.

We were pleased that Greg Dunn of the *Illinois Environmental Protection Agency* gave an update on vapor intrusion regulations. The details of

the regulations are still in flux, but Greg stated that the new requirements may be stringent. His review generated considerable discussion with consultants that have clients that will be impacted by regulatory changes. Jerry Dalsin of the *Illinois Department of Public Health* gave a summary of regulatory changes for Illinois water wells. Our packed agenda also featured technical presentations on the Bloomington, Illinois regional water supply system, aquifer testing, watershed assessment in the Illinois River Basin, the influence of beaver dams on groundwater and land use and chloride in groundwater.

Our spring meeting also had a new feature – a public meeting on *Water*



Bob Sasman and Bill Dixon receive their Illinois Groundwater Science Achievement Awards in 2007. Photo by Randy Locke



Greg Dunn discusses upcoming Illinois vapor intrusion regulations with an attentive audience.  
Photo by Randy Locke

*Resources Planning for the Peoria Area*. Groundwater quality and quantity is a growing concern across Illinois, and the IGA was pleased to host a forum for public education and to solicit feedback from the public on groundwater policy. Several dozen citizens attended and the meeting was a success. The IGA will host additional meetings to foster both public involvement and education in key groundwater resources issues.

## Great Advances for the IGA: [IllinoisGroundwater.org](http://IllinoisGroundwater.org)

The new and improved IGA web site...



Since 1996, the IGA has worked hard at showcasing its activities and providing ready access to information on the web. This month, the IGA web site moved to its new home at [www.IllinoisGroundwater.org](http://www.IllinoisGroundwater.org) and took several leaps forward with an all new look and added functionality.

Randy Locke, a former IGA chair and current webmaster, and Pete Hlavach, a freelance web designer and owner of [mampco.com](http://mampco.com), teamed up to overhaul the site. After many months of development, the new site builds on previous content and adds:

- A new, more vivid interface with easy navigation
- The ability to [pay your membership online](#) as a recurring subscription or one-time payment using PayPal, a widely recognized leader in easy and safe online commerce
- The ability to [register online](#) for an upcoming meeting, and
- Customized *Google* searches that will help you quickly find what you're looking for including text in from IGA abstracts and newsletters.

Some content like the directory of expertise will be transitioned in the near future. Please update your bookmarks and links pointing to the old address ([www.iga.uiuc.edu](http://www.iga.uiuc.edu)). Service to that address will be discontinued after December 31, 2008.

Check out [www.IllinoisGroundwater.org](http://www.IllinoisGroundwater.org) and let us know what you think!

## Fall 2008 IGA Student Grants

A primary goal of the Illinois Groundwater Association is to foster groundwater scholarship. One way we support this effort is through our [Student Research Grant Program](#), and the IGA has granted over \$13,000 in direct financial support to deserving students since 1987.

Student grant applications are accepted in the spring and fall of each year, and for fall 2008 we anticipate awarding at least two grants worth a maximum of \$500 each. The fall application deadline is September 26, 2008.

Any undergraduate or graduate student registered for full- or part-time study at an accredited college or university in Illinois is eligible to apply. Notifications have been sent to many eligible institutions, and we encourage students to submit their applications as early as possible.

The application form and guidelines can be obtained from the [student grants section](#) of the web site or from:

**Edward Mehnert**  
IGA Grants Coordinator  
Illinois State Geological Survey  
615 East Peabody Drive  
Champaign, IL 61820  
217/244-2765 Fax 217/244-2785

Benefits of the IGA student grants go well beyond monetary support for research. As part of the grant conditions, students present their findings at an IGA meeting - a great opportunity to improve professional presentation skills in front of a supportive and interested audience. Overall, involvement in the IGA gives students a chance to network with groundwater professionals in academia, government and industry, learn about relevant issues, improve



Student grants help prepare the next generation

your resume and hone your skills. Improving groundwater knowledge is what it's all about.

## IGA Groundwater Science Award

The IGA Groundwater Science Awards Program recognizes Illinoisans who have made outstanding contributions to groundwater science in the spirit of the *Illinois Groundwater Protection Act*. For the purposes of these awards, groundwater science is broadly defined to include research, education, consulting service, water well construction, or public service as related to the scientific management, protection, and/or utilization of groundwater.

The program was originally co-sponsored by the Illinois Groundwater Protection Education Program developed under the [Illinois Groundwater Protection Act](#), but is now solely managed by the IGA. The IGA has presented two types of awards starting in 1993, and the list of honorees reads as a who's-who of Illinois groundwater professionals. The Achievement Award typically recognizes singular and life-long contributions to groundwater science, and the Public Information/Education Award is given to people or organizations that have fostered groundwater-related activities in Illinois. IGA members and interested parties are welcome to recommend people, programs, or organizations for a [Groundwater Science Award](#). Recipients are honored at one of the semi-annual IGA meetings.

### Groundwater Science Awards for 2008

The IGA is pleased to announce that **Kane County Board and Development Department** has been selected to receive the **Illinois Groundwater Science Public Information/Education Award** for the group's dedication to the scientific study and management of groundwater resources and educational outreach in Kane County, and ongoing efforts to extend groundwater planning and management throughout the northeastern Illinois region.

#### **Kane County Board & Development Department**

In early 1997, the Kane County Board formed the Kane County Stormwater Management Planning Committee to provide for a more coordinated and comprehensive approach to stormwater and floodplain management. The County's Comprehensive Stormwater Management Plan was adopted by the County Board in October 1998 followed by the County's Stormwater Ordinance in November 2000. The success of the implementation of its innovative and emulated stormwater management program served as a model for a resource-based approach to comprehensive water resources management planning.

In April 2002, the Kane County Board passed a resolution directing the County Development Department, with the assistance and expertise of the Illinois State Water Survey (ISWS) and Illinois State Geological Survey (ISGS), to embark upon the most comprehensive water resources study undertaken by a county in the State of Illinois. Kane County recognized that its water supply is essential to the vitality and well-being of the region. Therefore, it committed to developing a Countywide Water Supply Plan that would ensure a sustainable water supply to meet the demands of the projected 2030 population and the longer-term needs of future generations of Kane County residents.

The County Board entered into a contract with the ISWS and ISGS to conduct scientific investigations, prepare computer models, and report on the future availability of potable water for the citizens of Kane County. A Stakeholders Committee comprised of local government representatives, water resource professionals, and other interested parties, was created to assist in the process. The results of this 5-year scientific effort, presented at a September 2007 workshop attended by over 300 local stakeholders, allow the 30 municipalities and other water providers within the County to collectively plan and manage their future potable water supplies based on a level of science unsurpassed by any other county in the State of Illinois.

The goal of these progressive and cooperative efforts by Kane County, the State Surveys, the Stakeholders Committee and the September 2007 Workshop participants is to successfully create a shared vision among the communities of Kane County for planning and managing its limited water resources. The priority water resource challenge facing Kane County is to define, protect, and preserve its existing water supplies and manage future growth to ensure that all necessary steps are taken to maintain sustainable yields and high water quality in its surface and subsurface water resources for years to come.

## IGA Groundwater Science Award (continued)

Through the foresight and commitment of the Kane County Board and its Development Department staff, a new scientific framework has been established on which to build water supply planning and management efforts in the region. Currently, the County is working with the Northeastern Illinois Regional Water Supply Planning Group and the Chicago Metropolitan Agency for Planning to draft the regional water supply framework plan (scheduled for completion in June 2009). Other county-specific water-resource policy matters will be addressed in the near future that will use sound science and a commitment to water resources protection and management at their core.

## Support IGA with Your Membership Dues

Membership in the IGA is open to anyone interested in the groundwater resources of Illinois and dues help the IGA meet its educational and charitable mission. Professional member dues are \$25, and student membership is \$5 per year. With your membership dues, you support the IGA. We offer several convenient ways to pay: cash, check or now [pay online](#) with a credit card or PayPal account.

We encourage you to [pay online](#), because it is the quickest and simplest way to help the IGA. Using this payment method also gives you the choice of selecting a recurring or single-year subscription. Never worry about forgetting to pay your dues again!

If you prefer to pay by cash or check, please complete the [membership form](#) on the web site or the form below. **Please make checks payable to the Illinois Groundwater Association.** Cash or check memberships expire on December 31<sup>st</sup> of each year. Online memberships are for 12 months from the date of payment.

|                  |      |                         |
|------------------|------|-------------------------|
|                  | COST | Name: _____             |
| Renew Membership | \$25 | Position: _____         |
| New Membership   | \$25 | Employer: _____         |
| Student          | \$5  | Address: _____          |
|                  |      | _____                   |
|                  |      | Phone: _____ Fax: _____ |
|                  |      | E-mail: _____           |

### Clip this form and send with payment to:

[Diane Lamb](#), IGA Secretary  
 Hanson Professional Services  
 1525 S. Sixth Street  
 Springfield, IL 62703  
 Cell: (309) 256-2199 or Fax: (217) 788-2503

## IGA Meetings – Get Your CEUs Here

Continuing education units (CEUs) are required for many Illinois professionals. The IGA Fall 2008 program has been approved by the Illinois Department of Public Health as meeting the annual three-hour training requirements for local health department water program personnel as specified in the Local Health Department Grant Protection Rules, Section 615.320 (c) 2. Interested Sanitarians can attend the meeting and have an IGA officer sign their program to show attendance.

The IGA has also been approved for CEUs for Drinking Water Operators, and approval is pending

with the IDPH for CEUs for the Licensed Environmental Health Practitioners.

Other professions also can use the IGA's meetings for CEUs. For instance, Illinois Professional Engineers (PEs) can attend IGA meetings for CEUs.

Some educational programs require that our meeting agenda be preapproved. Be sure to ask an IGA officer in advance if your educational program is included. If it isn't, we'll work with you to meet your educational needs!

## The IGA Celebrates 25 Years – a Retrospective

The Illinois Groundwater Association has been thrilled to serve the citizens of Illinois to promote groundwater and groundwater-related issues during its 25 year history. It almost doesn't seem possible that the IGA has been around that long and, as the IGA Chair Dan Horvath has noted, groundwater was far from the minds of most of us when the IGA was founded in 1983. It is humbling to remember that many of the students we are pleased to assist with student grants were not even born in 1983.

As we finish our 25<sup>th</sup> year as an organization it is helpful to reflect on how the IGA started, how it developed, and then contemplate where the IGA needs to go in the future. This history was adapted from a document prepared by Bob Sasman with help from Dan Kelleher, Susie Dodd, and Steve Wilson. The full text is available at the IGA web site in the [history section](#).

### Seeds of an Idea

The initial ideas that led to the formation of the Illinois Groundwater Association (IGA) were developed by Jim Gibb, Ellis Sanderson and Bob Sasman (all with the Illinois State Water Survey (ISWS)) in October 1982. Their ideas began to form during and immediately after the annual meeting of the Mid-West Groundwater Conference in Iowa City, Iowa.

During the early part of 1983, a series of informal discussions were held between Jim Gibb, Ellis Sanderson and Bob Sasman; Monte Nienkirk, Illinois Environmental Protection Agency (IEPA); Gary Clark, Illinois Department of Transportation, Division of Water Resources (IDOT); Chuck Grigalowski, Waste Management, Inc; and Greg Buffington, Layne-Western Company. Drafts of constitutions and bylaws of other organizations were reviewed and utilized to develop the IGA's constitution and bylaws. The IGA was formed in June of 1983 with the support of the National Water Well Association (NWWA), which provided a loan of \$300 to the IGA for start-up and early operation costs. The IGA repaid that loan in June 1984.

Invitations to join the IGA were mailed to over 400 people in federal, state, regional, county and local governments, consulting engineering firms, industrial and environmental engineers, well contractors, and representatives of other organizations using an ISWS mailing list.

### Planting the Seeds

The first meeting was held in June 1983. Eighty-three people attended, representing 7 public water

supplies, 3 counties, 6 state agencies, 3 federal agencies, 12 consulting firms, 3 well construction contractors and 5 industrial firms. In addition to the technical program, there was considerable discussion regarding details of organization: including types of programs desired, membership requirements, location and time of meetings, annual dues, formation



Past IGA officers at the 20th anniversary meeting in Joliet, Illinois. Front row (L to R): Ed Mehnert, Bob Sasman, Bob Kohlhasse, Jim Michels, and Sara Williams. Back row (L to R): Steve Wilson, Steve Bennett, Steve Esling, Colin Booth, Paul Kesich, and Al Wehrmann. Photo by Randy Locke.

of a Constitution and Bylaws, governing organization and election of officers.

Following the initial meeting, an ad hoc committee met to discuss issues raised during the first meeting, an appropriate method of electing the first slate of officers, and an agenda for the second meeting. IGA's first slate of officers for 1984 would be elected at the next meeting, in November 1983: Chairman, Vice Chairman, Secretary-Treasurer and 2 Directors. A form requesting nominees from a list of those who indicated a willingness to assist with the organization was mailed with the notice for the Fall meeting.

The following Charter Officers were elected to serve for 1984: Chairman, Jim Gibb; Vice Chairman, Monte Nienkirk; Secretary-Treasurer, Bob Sasman; and Directors, Ken Bowden, Northern Illinois University (NIU) and Greg Buffington. Initial annual dues were set at \$5. Initial committees established included those for membership, nominating and a newsletter. The proposed Constitution and Bylaws were discussed, with recommendations for modification and elaboration of several items. It was agreed that invitations for membership should be extended to anyone interested in Illinois groundwater. There would be a spring and fall meeting each year, but a third might be planned for special occasions. Suggestions for the meeting

## The IGA Celebrates 25 Years – a Retrospective

agenda included formal presentations, with opportunity for discussion and an open forum to cover a wide variety of topics related to groundwater.

Drafts of the Constitution and Bylaws as modified during the three initial meetings, were approved by the membership in October 1984. Papers applying for not-for-profit tax exempt status were forwarded to the



Recent Logo



New Logo

Internal Revenue Service (IRS) during 1984. After several revisions, approval of tax exempt status was received in 1985.

### Spreading the News

Discussions started in 1984 regarding the printing of an Association newsletter. Ken Bowden printed the first edition in September 1985, using it as the notice for the October 1985 meeting and as a ballot for election of 1986 officers. A more formal newsletter became a reality in February 1986, with Bruce Hensel and Ed Mehnert, both with the Illinois State Geological Survey (ISGS), serving as editors.

In 1986 the IGA decided it should have an identifying logo for use on newsletters and correspondence. The executive committee decided to conduct a contest for the design, with entries to be judged by the executive committee and the newsletter editors. Prizes to be awarded included \$50 and a plaque for first place, \$30 for second place, and \$20 for third place. Winners of the contest announced at the Fall 1986 meeting were: 1st place, Don Keefer, ISGS; 2nd place, Keith Benson, City of Rockford; 3rd place, Tim Larson, ISGS. Due to misplacement of the entries, various drafting and editing problems, and a conflict with the ISGS logo, a final design was not produced until 1990.

In 1987, the IGA cooperated with the Illinois Section of Environmental Engineering & Water Resources

Division, American Society Civil Engineers, in hosting a water resources symposium, held at the Rosemont Conference Center October 21-22, 1987.

### Cultivating Students' Skills

A student research grant program was initiated in 1987, to promote research in Illinois groundwater resources investigations. The purpose of the awards is to advance the knowledge of groundwater resources in Illinois by: a) supporting groundwater research in the State at a level at which IGA support can be significant; b) encourage the training and development of students as future groundwater professionals; and c) encourage the involvement of students in the goals and activities of IGA. The awards originally ranged from \$200 to \$300, based on a competitive evaluation of student applications and the discretion of the Executive Committee.

In 1991, the membership approved a change in the Bylaws, establishing a Student Director, as a member of the Association governing board. This person was to be a student at a university in Illinois studying in a field related to groundwater. The first Student Director was Dan Kelleher, then a student at Northern Illinois University, DeKalb.

In 1993, IGA and the Illinois Groundwater Protection Education Program developed an annual *Groundwater Science Award* to recognize individuals and organizations providing significant contributions towards groundwater protection. Harry Hendrickson, Groundwater Education Coordinator, provided a major impetus for the establishment of this award. The program has included *achievement awards* to individuals and *public information/education* to individuals, committees, groups and organizations offering significant programs for groundwater protection.

### And to the Future?

The development of the IGA has provided a forum for learning new groundwater regulations, techniques for groundwater monitoring, technical innovations in the groundwater field, case histories of interesting groundwater problems and solutions, and activities and programs of public and private organizations. Groundwater is and will continue to be a key – and perhaps the key – resource that will ensure our continued health and well being. The IGA will continue its mission to advance the knowledge of groundwater resources in Illinois through education, scholarship, and providing a forum for those interested in groundwater.

In honor of our 25<sup>th</sup> Anniversary, we recognize and thank Past IGA Chairs for their efforts, outstanding service and excellent leadership:

Note: Some affiliations noted below are historically correct, but may not be current.

1983 – Jim Gibb, Illinois State Water Survey

1984 – Jim Gibb, Illinois State Water Survey

1985 – Jim Gibb, Illinois State Water Survey

1986 – Monte Nienkirk, Illinois EPA

1987 – Greg Buffington, Layne-Western Co.

1988 – Gary Clark, Illinois DOT

1989 – Jim Michels, Engineering Enterprises, Inc.

1990 – Al Wehrmann, Illinois State Water Survey

1991 – Ron Kaufmann, Northern Illinois University

1992 – Kelly Warner, U.S. Geological Survey

1993 – Beverly Herzog, Illinois State Geological Survey

1994 – Bob Kohlhase, Farnsworth & Wylie

1995 – Anna Maxwell Dennis, Illinois Basin Environmental, Inc.

1996 – Steve Wilson, Illinois State Water Survey

1997 – Dave Larson, Illinois State Geological Survey

1998 – Steve Esling, Southern Illinois University

1999 – Jerry Dalsin, Illinois Department of Public Health

2000 – Paul Kesich, Fermi National Accelerator Laboratory

2001 – Steve Bennett, Western Illinois University

2002 – Colin Booth, Northern Illinois University

2003 – Ed Mehnert, Illinois State Geological Survey

2004 – Randy Locke, Illinois State Water Survey

2005 – Erik Spande, CH2M Hill

2006 – Steve Van der Hoven, Illinois State University

2007 – Don Keefer, Illinois State Geological Survey

2008 – Dan Horvath, Resource Consulting, Inc.

## STARVED ROCK STATE PARK

Based on a summary from [Illinois DNR](#)

While the field trip this year will be to Matthiessen State Park, you may also be interested to know more about Starved Rock State Park. Starved Rock is a true gem and has over 2,500 acres of thick woodlands, river valleys, canyons, and overlooks that offer many spectacular recreational opportunities. There's so much to do that you'll come back again and again.

The backdrops for park activities are 18 canyons formed by glacial meltwater and stream erosion. They slice dramatically through tree-covered, sandstone bluffs for four miles at Starved Rock State Park, which is located along the south side of the Illinois River, one mile south of [Utica](#) and midway



Majestic Views

between the cities of LaSalle-Peru and [Ottawa](#).

The park is best known for its fascinating rock formations, primarily St. Peter sandstone, laid down in a huge shallow inland sea more than 425 million years ago and later brought to the surface. While the areas along the river and its tributaries still are predominantly forested, much of the area is a flat, gently rolling plain. The upland prairies were created during an intensive warming period several thousand years after the melting of the glaciers. The Illinois River Valley in the Starved Rock area is a major contrast to the flatland. The valley was formed by a series of floods as glacial meltwater broke through moraines, sending torrents of water surging across the land and deeply eroding the sandstone and other sedimentary rocks.

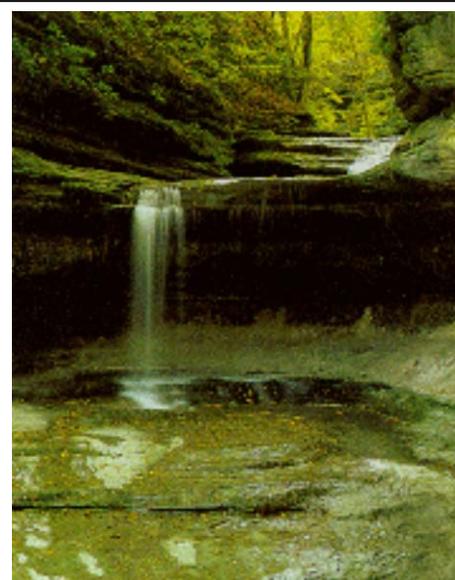
During early spring, when the end of winter thaw is occurring and rains are frequent, sparkling waterfalls



IGA Field Trip at Starved Rock.  
Photo by Randy Locke

are found at the heads of all 18 canyons, and vertical walls of moss-covered stone create a setting of natural geologic beauty uncommon in Illinois. Some of the longer-lasting waterfalls are found in French, LaSalle and St. Louis canyons.

Waterfalls, rivers and streams can undercut a cliff, creating overhangs in the sandstone, like Council Overhang at the east end of the park. Other sights can be seen from the bluffs themselves. The porous sandstone bluffs allow water to soak quickly through, only to collect in greater quantities on the slopes below. The resulting lush vegetation supports an abundant wildlife and bird population.



Languid Waterfalls

## Fall 2008 IGA Meeting Registration

Please return a form for each person attending. Registration includes a continental breakfast, a catered lunch and afternoon refreshments. **If you aren't a member yet, become one and save up to \$45 on meeting registrations this year!** Send this information to [Diane Lamb](#), IGA Secretary, by Tuesday October 14<sup>th</sup>, 2008 by mail, e-mail, or fax (see information below) to qualify for early registration. Make checks payable to the Illinois Groundwater Association if registering by mail, or pay at the conference if registering by email or fax. For faster and simpler registration, [register online now](#) at [www.IllinoisGroundwater.org](http://www.IllinoisGroundwater.org).

### Early Registration (received by 10/14/2008)

Member: \$65.00

Non-Member: \$100.00

Student: \$20.00

### Late Registration (after 10/14/2008)

Late Member: \$75.00

Late Non-Member: \$110.00

Late-Student: \$20.00

### Contact Information

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Employer: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

## IGA Membership

Membership in the IGA is open to anyone interested in the groundwater resources of Illinois and dues help the IGA meet its educational and charitable mission. Professional member dues are \$25, and student membership is \$5 per year. We offer several convenient ways to pay: cash, check or now [pay online](#) with a credit card or PayPal account. See page 6 for additional details.

### Membership Dues

(Re)new: \$25.00

Student: \$5.00

Send registrations and memberships to:

[Diane Lamb](#), IGA Secretary  
Hanson Professional Services  
1525 S. Sixth Street  
Springfield, IL 62703  
Cell: (309) 256-2199 or  
Fax: (217) 788-2503

### Contact Information

(if same as above, check here )

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Employer: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

Provisional Agenda

## Illinois Groundwater Association 2008 Fall Meeting

October 22, 2008

Starved Rock Lodge, Utica, Illinois

- 8:30–9:00 Registration
- 9:00–9:15 Opening Remarks and commemoration of the IGA's 25<sup>th</sup> Anniversary, **Dan Horvath**, IGA Chair
- 9:15-9:30 Presentation of the *Illinois Groundwater Science Public Information and Education Award* to Kane County
- 9:30- 10:00 **Bill Dey**, *Illinois State Geological Survey*, Hydrogeologic mapping for groundwater resource investigations in Kane County, Illinois
- 10:00-10:30 **BREAK**
- 10:30-11:00 **Sam Panno**, *Illinois State Geological Survey*, Mega-Dairy Sites in Jo Daviess County: An Island in a Sea of Karst?
- 11:00-11:30 **Joyce Harris**, *Illinois State University*, Recovery of hyporheic function in modified agricultural streams over time, Headwaters of the Mackinaw River, Illinois, USA
- 11:30-1:00 **Lunch/Executive Committee Meeting**
- 1:00-1:30 **Paulo De Sa'Rego**, *CH2M Hill*, Digital Soil Logging: Using PDAs for Field Data Collection
- 1:30-2:00 **Tom Holm and Steve Wilson**, *Illinois State Water Survey*, Spatial Variability of Arsenic in Glacial Aquifers
- 2:00-2:05 Closing Remarks: **Dan Horvath**, IGA Chair
- 2:05-4:00 Field Trip to Matthiessen State Park, Bill Shields *Illinois State University* and Mike Phillips *Illinois Valley Community College*

## IGA Officer Candidates for 2009

**CANDIDATE FOR CHAIR: DR. MELISSA L ENCZEWSKI** is an Associate Professor of Contaminant Hydrogeology in the Department of Geology and Environmental Geosciences at Northern Illinois University. She obtained her B.S. in microbiology from University of Arizona and stayed there to receive her M.S. in soils, water and environmental science. After working in industry for four years, she returned to graduate school for her Ph.D. at the University of Tennessee. Currently her research focuses on fate and transport of organic contaminants (BTEX, MTBE, TCE, pharmaceuticals, etc.) in fine-grained materials.

**CANDIDATE FOR VICE-CHAIR: MR. STEVEN KROLL** is an Indiana, Illinois, and Wisconsin licensed professional geologist with Patrick Engineering, Inc. in Lisle, Illinois. Steve received his B.S. in Environmental Science from Bradley University in 1999 and his M.S. in Geology from Northern Illinois University in 2004. His work as a hydrogeologist has focused on the evaluation of the hydrogeologic impact of mining operations, the characterization and remediation of soil and groundwater contamination, local and regional groundwater resources assessments, landfill siting, and groundwater modeling. Steve has been a member of the IGA since 2002 and was a recipient of an IGA Student Research Grant in 2003.

**CANDIDATE FOR DIRECTOR: DR. ERIC PETERSON** is an Associate Professor in the Department of Geography-Geology and Illinois State University. Eric also serves as the Graduate Program Coordinator for the Hydrogeology Program. He received a B.S. in Earth Science and Mathematics and a M.A. in Mathematics from the University of South Dakota, a M.S. from the University of Arkansas, and a Ph.D. from the University of Missouri. His current research interests include groundwater-surface water interactions and karst hydrogeology.

**CANDIDATE FOR SECRETARY: MS. DIANE LAMB** Diane Lamb is currently working at Hanson Professional Services. Other professional experience has included hydrogeology work with Andrews Engineering and I SGS geophysics. She has a B.S. in Geology (2002) and an M.S. in Hydrogeology (2004) from Illinois State University. Master's thesis work was partially funded by an IGA student grant and involved working with the Bloomington Water Treatment Plant conducting a dissolved nitrate study within the unsaturated and shallow saturated zones. Diane worked ten years for IDOT in Peoria before returning to college. Involvement in community groups has allowed experience holding various offices and has enabled association with several community organizations.

**CANDIDATE FOR TREASURER: DR. STEVE BENNETT** received his B.S. (1988) in Geology from the University of Northern Iowa and both his M.S. (1990) and Ph.D. (1994) in Geology from Indiana University. Dr. Bennett joined the Western Illinois University faculty in 1994 and is an Associate Professor in the Department of Geology. He teaches courses in introductory physical geology, environmental studies, oceanography, hydrogeology, and geological field methods. Dr. Bennett is formerly a Director and Chair of the IGA and has served as its Treasurer since 2003.

**CANDIDATE FOR STUDENT DIRECTOR: DOUG KOLB** graduated with a B.S. in Geology from North Dakota State University (December, 2003) and then accepted a position as a Geographic Technician with Navteq in their Fargo, North Dakota production office. Navteq is a global leader in premium-quality digital map data and navigational services including internet websites (MapQuest, Google Maps, etc.), GIS solutions and Location Based Services. In April of 2004, Doug was promoted to Geographic Analyst and was relocated to the Salt Lake City, Utah field office. Doug resigned from Navteq in August of 2007 and accepted a graduate teaching position at Southern Illinois University-Carbondale (SIU-C). At SIU-C, Doug's academic focus includes hydrogeology, geochemistry, stratigraphy and economic geology. His master's thesis is entitled: "The Quaternary Geology of the Evansville, Illinois 7.5 Minute Quadrangle".

**Illinois Groundwater Association****BALLOT FOR THE ELECTION  
OF 2009 OFFICERS**

- Chair**      ( ) **Dr. Melissa Lenczewski**  
Northern Illinois University  
DeKalb, Illinois  
( ) \_\_\_\_\_
- Vice-Chair** ( ) **Mr. Steven Kroll**  
Patrick Engineering  
Lisle, Illinois  
( ) \_\_\_\_\_
- Director**    ( ) **Dr. Eric Peterson**  
Illinois State University  
Normal, Illinois  
( ) \_\_\_\_\_
- Secretary** ( ) **Ms. Diane Lamb**  
Hanson Professional Services  
Springfield, Illinois  
( ) \_\_\_\_\_
- Treasurer** ( ) **Dr. Steven Bennett**  
Western Illinois University  
Macomb, Illinois  
( ) \_\_\_\_\_
- Student Director** ( ) **Mr. Doug Kolb**  
Southern Illinois University - Carbondale  
Carbondale, Illinois  
( ) \_\_\_\_\_

Instructions: Place an "x" in the box opposite to the candidate of your choice. If you prefer to vote for a candidate not listed, write the name and business affiliation of the candidate of your choice in the space provided and mark with an "x". Write-in candidates must be members of the IGA. Mail or e-mail the completed ballot to:

[Diane Lamb](#), IGA Secretary

Hanson Professional Services  
1525 S. Sixth Street  
Springfield, IL 62703  
Cell: (309) 256-2199 or  
Fax: (217) 788-2503

## Illinois Groundwater Update

### Proposed Groundwater Standards for Illinois

By Martin Hamper, ARCADIS

The Illinois Environmental Protection Agency has made a proposal to the Illinois Pollution Control Board (PCB) to amend the Illinois Groundwater Standards under 35 IAC Part 620. The Illinois PCB has accepted the Illinois EPA's request for hearings on the proposed rules. The hearings were scheduled for June 18 in Chicago, and July 16 in Springfield. The proposal includes new standards for 4 inorganic compounds, 30 organic compounds, and 8 explosive

contaminants. The Class I Groundwater Standard proposed for perchlorate is 0.0049 mg/L. Many of the proposed standard catch Part 620 up to TACO (Part 742), but there are 16 proposed Groundwater standards that are not currently addressed in the TACO regulations. Visit <http://www.ipcb.state.il.us/> for more information.

*Originally published in the American Institute of Professional Geologists Illinois Chapter July 2008 newsletter*

### Illinois HB4762 Stalled. Wait until Next year?

By Martin Hamper, ARCADIS

The Illinois Chapter of the American Institute of Professional Geologists strongly supports the passage of HB4762. **Representative Angelo Saviano** (77<sup>th</sup> District, Chairperson, Regulation and Registration Committee) has sponsored the bill for us. The purpose of House Bill 4762 is to allow college students to take the Geology Fundamentals Exam for professional licensing in Illinois during their senior year. The bill would also reduce the number of Board Members needed for a quorum on the Professional Geologist Licensing Board. The Governor has failed to fill the vacancies on the

Professional Geologist Licensing Board and so the quorum number is proposed to be reduced to all the Board to make voting decisions. The bill has made it through the House and reached First Reading in the Senate on May 21, 2008 and was referred to the Rules Committee on May 22, 2008. **Senators Michael No lan** (22<sup>nd</sup> District) (Elgin) and **William Delgado** (2<sup>nd</sup> District) (Chicago) are sponsoring our bill in the Senate. Thanks!

*Originally published in the American Institute of Professional Geologists Illinois Chapter July 2008 newsletter*

### EPA Proposes New Requirements for Geologic Sequestration of Carbon Dioxide

By Martin Hamper, ARCADIS

The United States Environmental Protection Agency (USEPA) is proposing new federal requirements for the geologic sequestration of carbon dioxide through underground injection. The proposed rules should hit the Federal Register soon. There will be geologic siting requirements that include the identification of formations suitable to receive the injected fluids and confine the fluids for the long term, protecting the lowermost underground source of drinking water (USDW).

A detailed geological assessment is essential to evaluating the presence and adequacy of the various geologic features. Permit applicants will be

required to submit data to demonstrate that the injection zone is sufficiently porous to receive the carbon dioxide without fracturing and extensive enough to receive that planned amounts. The USEPA reports that theoretically there is enough capacity to sequester a thousand years of emissions from nearly 1,000 coal-fired power plants, and so it can be expected that this technology can be an important one in the portfolio of options deployed to reduce carbon dioxide emissions.

*Originally published in the American Institute of Professional Geologists Illinois Chapter July 2008 newsletter*

# Illinois Groundwater Update

## Illinois EPA Closes in on Vapor Intrusion Rules

By Martin Hamper, ARCADIS

The Illinois Environmental Protection Agency continues to work with industry groups and the general community on the development of vapor intrusion regulations for 35 IAC Part 742, Tiered Approach to Corrective Action Objectives (TACO). There will be additions to the TACO lookup tables for indoor vapor intrusion. The only inhalation pathway will become "outdoor" inhalation and some values will change in the table. The new indoor inhalation

pathway will include residential and industrial commercial remediation objectives for soil, groundwater and soil gas. There will be specific rules for building design for vapor intrusion mitigation. Look for the draft rules to hit the Pollution Control Board later this year.

*Originally published in the American Institute of Professional Geologists Illinois Chapter July 2008 newsletter*

## Combined USEPA Screening Levels

By Erik Spande, CH2M HILL

Default screening tables and a risk evaluation calculator are available from the USEPA and Oak Ridge National Laboratory (ORNL). The "[Regional Screening Levels for Chemical Contaminants at Superfund Sites](#)" screening level/preliminary remediation goal website was developed with Department of Energy and ORNL under an Interagency Agreement as an update of the EPA Region 3 RBC Table, Region 6 HHMSSL Table and the Region 9 PRG Table. The web site contains

tables of risk-based screening levels, calculated using the latest toxicity values, default exposure assumptions and physical and chemical properties, and a calculator where default parameters can be changed to reflect site-specific risks. Guidance, user's guides, FAQs, and table downloads in Excel and PDF formats are available at the web site.

*Originally published in the American Institute of Professional Geologists Illinois Chapter July 2008 newsletter*

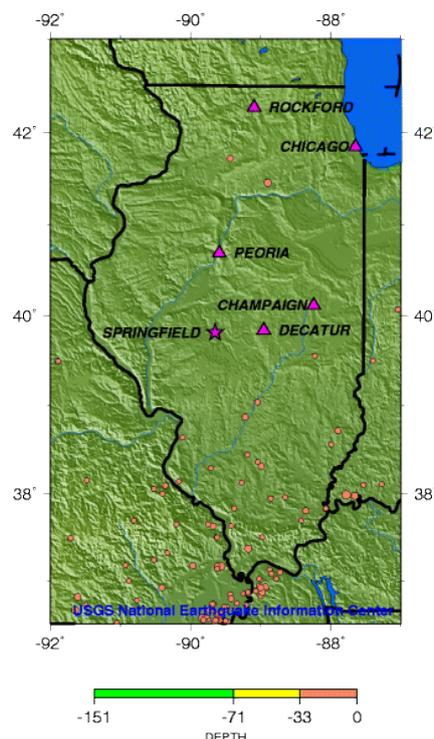
## April 2008 Earthquake in Southern Illinois

By Erik Spande, CH2M HILL

As reported by the [Illinois State Geological Survey](#), the Mt. Carmel area of Illinois experienced a 5.2 magnitude earthquake on April 18, 2008. The earthquake was felt in 18 states and the epicenter of the earthquake was located in the Wabash Valley Seismic Zone. This area was the location of previous magnitude 5 earthquakes in 1968 and 1987. The 1968 magnitude 5.3 earthquake was the largest recorded in the central United States since 1895. ISGS geologists provided data to the Governor's office, Illinois Emergency Management Agency (IEMA), and the public through press interviews and continuous updates to the ISGS Web site. *Note: the Illinois Seismicity map is from the USGS web site.*

*Originally published in the American Institute of Professional Geologists Illinois Chapter July 2008 newsletter*

### Seismicity of Illinois 1990 - 2006



# Illinois Groundwater Update

## Tritium in Groundwater

Erik Spande, CH2M HILL

The [Illinois Environmental Protection Agency](#) has been monitoring tritium leaking into groundwater from spills at several nuclear power generating plants in the state – at Byron, Dresden and Braidwood. The Agency has kept the public informed by posting links to this web page for fact sheets, news releases and other Illinois EPA documents, and links to other sites regarding tritium. Violations notices have been issued for the

Braidwood facility (December 16, 2005 and February 28, 2006), and the Agency is working to correct the situation. Illinois EPA is also working with Exelon to remedy the tritium plumes at the Dresden and Byron facilities.

*Originally published in the American Institute of Professional Geologists Illinois Chapter July 2008*

## Pharma in Illinois Groundwater

Summarized from an [IEPA Press Release](#)

The IEPA has completed its report summarizing the findings of unregulated pharmaceuticals and personal care products in Illinois drinking water supplies from samples taken in Chicago and four water supplies that rely on river water as their source. The report indicates that Illinois' drinking water continues to be safe, and the Illinois EPA sees no cause for immediate concern; however, low levels of several pharmaceuticals were found in Illinois drinking water.

While there are no federal standards established for pharmaceuticals, the Illinois EPA tested drinking water as a proactive step to assess the scope of the presence of pharmaceuticals in our waterways to ensure that our drinking water supplies are adequately protected. Illinois EPA screened for 56 chemicals typically found in drugs and personal care products that may be released from water treatment plants into lake and river water. Illinois EPA detected low concentrations of 16 of these chemicals.

In March of this year, the Illinois EPA collected samples from both untreated "source" water and from the treated drinking water from public water supplies in Chicago, Aurora, Elgin, East St. Louis and Rock Island. In addition, the city of Springfield collected its own samples and provided the data to Illinois EPA; these data can be seen at [www.epa.state.il.us](http://www.epa.state.il.us). The samples were analyzed for 56 pharmaceuticals and chemicals commonly found in prescription medications and commonly used in personal products, including: pain relievers, antibiotics, anticonvulsants, antidepressants, an insect



repellent, and chemicals derived from coffee and tobacco.

The IEPA consulted with the Illinois Department of Public Health to determine chemical concentrations that would be protective of human health. While all samples revealed low chemical concentrations far below levels that could likely pose a public health risk, chemical concentration in samples of lake water were lower than samples of river water. As a follow up step, the Illinois EPA will continue to do additional sampling, to provide an even better understanding of potential risks from pharmaceuticals in water.

The IEPA has also issued guidelines for [safe disposal of pharmaceuticals](#). In short:

- Don't flush or burn, since this introduces the chemicals into the water or air, respectively
- Reduce when possible
- Dispose of at a household hazardous waste collection event, or if needed the general trash

## Illinois Groundwater Update

### Northeastern Illinois Groundwater Contamination

An [Illinois State Water Survey Study](#) shows that since the 1950s, chloride (salt) levels in shallow groundwater have increased significantly in Cook and surrounding counties, indicating that the quality of groundwater resources needed to meet future growing demand is deteriorating, according to Illinois State Water Survey (ISWS) researchers Walt Kelly and Steve Wilson.

Chloride is a common contaminant of lakes, rivers, and groundwater in urbanized areas from sewage waste, landfills, and, of most importance in the Chicago region, road-salt runoff during the winter. Although chloride in drinking water is not a health hazard, it is a useful indicator of water contamination. Kelly and Wilson analyzed data from 4,600 private and public well samples collected between 1906 and 2005 in Cook, DuPage, Kane, Lake, McHenry, and Will Counties.

Median chloride levels for all six counties steadily increased from 6 milligrams per liter (mg/L) prior to 1950 to nearly 20 mg/L in samples from 1990 to 2005, with many samples having much higher concentrations. The greatest increases in chloride contamination were found in the western counties surrounding Chicago—DuPage, Kane, and McHenry Counties, and to a lesser extent, Will County. In DuPage County, the median value



of chloride increased from 4 mg/L prior to 1950 to 101 mg/L in 1990-2005.

Groundwater chloride levels in 1990-2005 samples from Cook (median 25 mg/L) and Lake (4 mg/L) Counties were not as high as expected, given the large population and industrial development in that region. Kelly explained that thicker clay deposits closer to Lake Michigan may be helping to protect groundwater sources from surface contamination. Another possible protective factor is the curbing of roads, which diverts storm water runoff into streams and rivers. In curbed areas, less rain water and snow melt from roadways is absorbed into the soil to replenish groundwater supplies.

### USEPA Not to Regulate Drinking Water Contaminants

The U.S. Environmental Protection Agency has made a [final determination](#) not to regulate 11 contaminants on the second drinking water contaminant candidate list (CCL 2). The agency has concluded that the contaminants do not occur nationally in public water systems, or occur at levels below a public health concern. The agency's final regulatory determination is based on extensive review of health effects, occurrence data and public comments.

The 11 contaminants include naturally occurring substances, pesticides, herbicides, and chemicals used (or once used) in manufacturing. While none of the contaminants were found nationally at levels of public health concern in public water systems, EPA is updating health advisories for seven of the contaminants to

provide current health information to local officials for situations where the contaminants may be present.

A regulatory determination is a formal decision on whether EPA should initiate a rulemaking process to develop a national primary drinking water regulation for a specific contaminant. Under the Safe Drinking Water Act, every five years EPA develops a CCL and then makes a regulatory determination for at least five contaminants on the list. In 2005, the agency published the second CCL, which listed 51 contaminants. In May 2007, EPA requested public comment on its preliminary regulatory determinations not to regulate 11 of these 51 CCL 2 contaminants.

## Illinois Groundwater Update

### Groundwater Research Funds Available

Research funds for groundwater topics in northeastern Illinois (specifically Kane, DuPage, Kendall, Will and Kankakee Counties) are available from the Northeast Illinois Regional Groundwater Protection Planning Committee. Contact the Committee Chair, Dan Horvath ([dhorvath@resourceillinois.com](mailto:dhorvath@resourceillinois.com)) for additional information.



### Groundwater in the News



Erik Spande – CH2M HILL

Two recent articles on groundwater caught my attention. The first was [Facing the Freshwater Crisis](#) in the [Scientific American](#) and the second was [Water News: Bad, Good and Virtual](#) in the [American Scientist](#). Both highlight ongoing challenges that will be faced with an increasingly critical resource that many of us take for granted – fresh water. The articles were not all doom and gloom and I encourage IGA members and interested parties to review both articles. I don't think you will be disappointed.

Increased demand, effects of climate change on water supplies, and how technology and better public policy may be used to better manage water systems for human use with less impact on natural ecosystems were key themes of these articles. There isn't space for a complete (or even an incomplete) review here, but a few key ideas were stood out for me. First, there was the idea of 'virtual water', which is a measure of the amount of water needed to grow crops or make products. Countries that are net exporters of water (such as

the USA, Brazil, India and Australia) effectively send their 'virtual' water to net importing countries (such as much of Africa, the Middle East, and Russia). Understanding how much water is used on a unit-product basis, who uses these virtual water products, and the balance of these exchanges are useful tools for policy makers. Second, both articles discussed a wide range of technologies and conservation efforts that can increase available fresh water and better manage existing water resources, but they noted that all of these technologies would require significant policy changes and in many cases large-scale infrastructure investment would be needed. Hard decisions will have to be made, and if we don't make these hard decisions that they will be made for us.

### McHenry County Aquifer Studies

As reported in the Chicago Tribune on August 19, 2008, the McHenry County board has provided \$155,000 so the Illinois State Geological Survey can continue to fieldwork and gather data to construct a 3-dimensional map up to 300 feet below ground surface in McHenry County. This map will help planners determine aquifer recharge and better manage aquifer resources to meet growing residential, commercial and public water needs. Water use in McHenry County is expected to double by 2030, drawing an additional 30 to 40 million gallons a day from county aquifers. Water shortages

are forecast for southeastern areas of the county, so planners will try to steer development away from high-recharge areas to improve recharge rates.

This county funded effort continues selected activities initiated as part of statewide water resources planning efforts. Projected water demand could increase 64 percent by mid century in the 11 counties in northeastern Illinois, creating serious shortages in areas that do not have access to Lake Michigan water – such as McHenry County.



# Illinois Groundwater Association Survey

Help improve the IGA... Tell us what you think!

Please rate the following:

|  | <u>poor</u> |   | <u>neutral</u> |   | <u>excellent</u> |
|--|-------------|---|----------------|---|------------------|
| <b><u>MEETINGS</u></b>                                   |             |   |                |   |                  |
| Organization   | 1           | 2 | 3              | 4 | 5                |
| Location choices   | 1           | 2 | 3              | 4 | 5                |
| Field trips frequency<br>(1=too few, 5=too many)         | 1           | 2 | 3              | 4 | 5                |
| Registration cost<br>(1=overpriced, 5= underpriced)      | 1           | 2 | 3              | 4 | 5                |
| Ease of registration<br>(1=very difficult, 5= very easy) | 1           | 2 | 3              | 4 | 5                |
| Presentation quality                                     | 1           | 2 | 3              | 4 | 5                |
| Length of presentations                                  | 1           | 2 | 3              | 4 | 5                |
| Overall meeting quality                                  | 1           | 2 | 3              | 4 | 5                |
| <b><u>COMMUNICATIONS</u></b>                             |             |   |                |   |                  |
| Newsletter frequency<br>(1= too few, 5=too many)         | 1           | 2 | 3              | 4 | 5                |
| Newsletter quality                                       | 1           | 2 | 3              | 4 | 5                |
| Newsletter content                                       | 1           | 2 | 3              | 4 | 5                |
| Website quality  | 1           | 2 | 3              | 4 | 5                |
| Website content  | 1           | 2 | 3              | 4 | 5                |
| Website navigation                                       | 1           | 2 | 3              | 4 | 5                |
| E-mail frequency<br>(1= too few, 5=too many)             | 1           | 2 | 3              | 4 | 5                |
| E-mail content   | 1           | 2 | 3              | 4 | 5                |
| Overall communication                                    | 1           | 2 | 3              | 4 | 5                |
| <b><u>ASSOCIATION VALUE</u></b>                          |             |   |                |   |                  |
| Member services  | 1           | 2 | 3              | 4 | 5                |
| Member benefits  | 1           | 2 | 3              | 4 | 5                |

# Illinois Groundwater Association Survey – Page 2

1. How can the IGA improve its meetings?
  
  
  
  
  
  
  
  
  
  
2. Do you have any suggested meeting topics, locations or field trips?
  
  
  
  
  
  
  
  
  
  
3. How can the IGA improve its communications?
  
  
  
  
  
  
  
  
  
  
4. What is your internet connection speed?
  - a). <57 kilobits/sec (dialup)
  - b). 57-256 kilobits/sec (sub broadband)
  - c). 256-1544 kilobits/sec (broadband like DSL or cable)
  - d). >1544 kilobits/sec (broadband like T-1 or greater)
  
  
  
  
  
  
  
  
  
  
5. Do you get most of your internet-based IGA information at work or home?
  
  
  
  
  
  
  
  
  
  
6. What IGA service do you value the most?
  
  
  
  
  
  
  
  
  
  
7. Additional Comments

Thank you for your time! Please return the completed survey to:

Danielle Wallin, IGA Director and Membership Committee Chair  
Farnsworth Group, Inc.  
860 Unit D Center Court  
Shorewood, IL 60404  
[dwallin@f-w.com](mailto:dwallin@f-w.com)  
Fax: (815) 744-6965