

# ILLINOIS GROUNDWATER ASSOCIATION

## SPRING 2001 NEWSLETTER

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### **IGA Spring Meeting with GSA-NC in Bloomington-Normal, Illinois**

The IGA is pleased to announce that the Illinois Groundwater Association's Spring 2001 meeting will be held in conjunction with the Geological Society of America North-Central Section meeting in Bloomington-Normal Illinois. There will be field trips and workshops on April 20<sup>th</sup> to April 22<sup>nd</sup>, and presentations on April 23<sup>rd</sup> and April 24<sup>th</sup>. IGA is an affiliated organization to the GSA-NC meeting in 2001, and it only made sense to have our Spring meeting with GSA-NC so our members can have the advantage of both IGA and the expanded events of GSA-NC. A synopsis of the agenda and events at GSA-NC meeting is summarized in the subsequent feature in this newsletter. Links to the GSA-NC portion of the GSA web site are also provided if more detailed information is desired.

The IGA is sponsoring a GSA-NC symposium entitled "Groundwater Problems in Expanding Suburban Areas" that will be held on the morning of Tuesday, April 24<sup>th</sup> at 8:55 a.m. The symposium will be followed by other hydrogeology symposia that morning and in the afternoon. IGA members will be able to find the symposium location using the program that is provided as a part of their registration materials.

If you are a member of IGA you can register for the GSA-NC meeting and pay the GSA member rate. The GSA-NC pre-registration form there is a box (lettered f) that is labeled IGA. Check this box to register at the GSA member rate (\$75 for professional, \$25 for students). Note that this is the full meeting price. There may be a discount for attendees that only come for one day, but this pricing is not listed on the pre-registration form. You can always register the day of the meeting although it will cost a few dollars more (5\$ for students and \$10 for professionals attending the full meeting).

The IGA is hosting the **Illinois Groundwater Association Spring Business Meeting and Luncheon** on Monday, April 23, from noon-1 p.m. at the Bone Student Center Faculty Club. There is a box on the pre-registration form that IGA members can check (its labeled as Illinois Groundwater Association Business Meeting and Luncheon). The cost is \$12 and it will be held in the Bone Student Center, which is the same building where the conference is being held. This will be an opportunity to have lunch and get an update of the goings-on of the IGA. There will be a brief IGA-only meeting after the meal.

The 2001 GSA-NC meeting in Normal, Illinois promises to be a grand event, and we hope that you can attend both it and the IGA-sponsored symposium and luncheon. If you can't make the symposium or luncheon please stop by the IGA table, where we should have information on the Fall IGA meeting.



## Accommodations

An area map is available at the GSA web site. Blocks of rooms have been reserved at three properties located on Trader's Circle in Normal. **Holiday Inn** is the headquarters (309-452-8300, \$75 per room). Adjacent properties are **Best Western University Inn** (309-454-4070, \$50 per room), and **Super 8 Motel** (309-454-5858, \$44-54 per room for two). In addition, room tax is 8.5%.

Meeting registrants and guests are responsible for making their own lodging arrangements. Reservations should be made no later than **March 20, 2001**, to guarantee the special room rates that have been negotiated for the meetings. Be sure to indicate that you are participating in the North-Central Section meeting of the Geological Society of America to receive these special rates.

## Online Resources for the GSA-NC 2001 Meeting

[Register Online](#)

[View Abstracts and Schedule](#)

[Final Schedule with Abstracts](#)

Other resources are available at the GSA-NC portion of the GSA web site:

<http://www.geosociety.org/sectdiv/Northc/01ncmtg.htm>

## Featured Events at GSA-NC

### Special Poster Session on Undergraduate Research.

These posters are written and presented by undergraduate students. The posters may form a separate poster session or be part of another poster session.

### Workshops

Workshops are scheduled for Saturday, April 21, Sunday, April 22, and Tuesday, April 24, 2001.

Registration for workshops is limited. For additional information contact the conveners.

**1. Geological Models for Groundwater Flow Modeling** - This workshop is designed for those working on geologic models for groundwater flow modeling, particularly concerning the development and management of the large diverse data of variable quality that are required for 3-D geologic models. There will be emphasis on the Quaternary and pre-Quaternary deposits that host potable groundwater and that are the context of most waste-disposal issues. 8:30 a.m. to 4 p.m., Sunday, April 22. \$15; limit 40.

**2. Touch Another World** - This workshop is designed for middle and high school teachers. Meteorites and moon rocks can play an integral role in the secondary school earth science curriculum. Activities include: diagnostic analysis of physical characteristics to distinguish meteorites from earth rocks, manipulation of experimental variables in crater formation, petrologic comparisons of crystal structure to identify moon rocks on loan from NASA, and observations and descriptions of several types of meteorites including meteorites from Mars. 8:30 a.m. to 4 p.m., Saturday, April 21. Free to K-12 teachers; limit 30.

**3. Roy J. Shlemon Mentor Program in Applied Geology** - This workshop is for graduate and advanced undergraduate students and it is about professional opportunities and challenges in resource exploration and evaluation. Noon to 1:30 p.m., Monday, April 23. Free (includes lunch); limit 25. Meeting registration is not required to attend only this workshop.

**4. MSHA Part 46 Safety and Hazard Recognition** - The Mining Safety and Health Administration requires that as of October 2000, all persons entering a quarry, pit, or mine be escorted or have annual safety and hazard recognition training. This workshop outlines the operator requirements and provides information to develop the required training. 1:30 to 3 p.m., Tuesday, April 24. Free; limit 40.

**5. Sequence Stratigraphy for Graduate Students** - Free; by invitation.

**6. Advocacy Workshop** - Learn how your professional expertise and concerns can be effectively communicated to legislators and regulators. 8:30 a.m. to 4 p.m., Sunday, April 22. \$20; limit 40.

**7. RockWare Overview** - This workshop introduces students and professionals to RockWare products such as RockWorks 99, LogPlot 2001, 3D Visual Pro Advanced Visualization, and Geochemists Workbench. 8 a.m., Saturday, April 21, Felmley Hall of Science, Room 200. Repeated at 1 p.m. \$5; limit 18 per session.

### **Field Trips**

Field Trips (all pre-meeting) will be scheduled for Friday, Saturday, and Sunday, April 20 to 22, preceding the regular meeting sessions. Registration for field trips is limited.

**1. The St. Francois Mountains of Missouri: Window into the Mesoproterozoic** - The St. Francois Mountains of Missouri host the only surface outcrops of an extensive belt of Mesoproterozoic rocks that stretches from northeastern Arkansas to southern Michigan. The three-day field trip will highlight the variable lithologies and entire magmatic history of the St. Francois Mountains. Depart from Holiday Inn, 9a.m., Friday, April 20. \$150; limit 35.

**2. Quaternary and Environmental Geology of the Lower Illinois River Valley and Metro East St. Louis Area** - This two-day field trip will highlight the Quaternary deposits of southwestern Illinois, their paleoenvironmental records, and their relevance to societal issues. A high-resolution loess-paleosol record, fossiliferous lacustrine sediments (Illinoian), and older till deposits will be viewed. Slope stability, soil erosion, wetland remediation, resource, and groundwater issues also will be discussed. Depart from Holiday Inn, 8 a.m., Saturday, April 21. \$125; limit 35.

**3. Sequence Stratigraphy of Pennsylvanian Cyclothemic Strata in Central Peoria County, Illinois** - On this one-day field trip, participants will have the opportunity to examine middle (Desmoinesian Stage and Westphalian D Series) Pennsylvanian cyclothemic strata, adjacent to the field areas where both Udden and Wanless interpreted cyclic deposits. Topics of discussion will include: (1) how and if cyclothemic deposition fit within "Slossian" sequence stratigraphy, (2) whether a standard lithostratigraphic hierarchy is possible for cyclothemic strata, and (3) the local and regional sedimentologic and stratigraphic characteristics of the strata. Depart from Holiday Inn, 8 a.m., Sunday, April 22. \$50; limit 50.

**4. Carboniferous Whitewater: A Raft Trip Through the Pennsylvanian Strata of the Vermilion River Gorge Near Oglesby, Illinois** - From a starting point directly on the Ordovician-Pennsylvanian unconformity, the Vermilion River will take us past excellent exposures of several cyclothems as we weave along the axis of the La Salle Anticline. This one-day field trip should be of particular interest to geoscience educators looking for innovative ways to spark student interest. Depart from Holiday Inn, 8 a.m., Sunday, April 22. \$75; limit 35.

### **Business Meeting and Social Events**

#### **Welcome Reception.**

Sunday, April 22, 5 to 8 p.m., Bone Student Center Ballroom. Free.

#### **AWG Reception.**

Sunday following the Welcoming Reception in the Founders Suite, Bone Student Center (No Charge)

#### **GSA North-Central Section Management Board Business Meeting and Breakfast.**

Monday, April 23, 7 to 8:30 a.m., Holiday Inn North.

**North-Central Section of the Paleontological Society, SEPM, and Pander Society Annual Luncheon.**

Monday, April 23, noon to 1:15 p.m., BBC Activity Room. \$12.

**Illinois Groundwater Association Spring Business Meeting and Luncheon.**

Monday, April 23, noon to 1 p.m., Bone Student Center Faculty Club. \$12.

**North-Central Section Banquet and Business Meeting.**

Monday, April 23, 6:15 to 7:15 p.m., Bone Student Center Circus Room. \$22. Featured Speaker: Steve Ingebritsen, U.S. Geological Survey, 2001 Birdsall-Dreiss Distinguished Lecturer, Land Subsidence, Mon., April 23, 7:15 p.m., Bone Student Center Circus Room. Free.

**Campus Representatives Breakfast.**

Tuesday, April 24, 7 to 8:30 a.m., Holiday Inn North. Free.

**National Association of Geoscience Teachers Luncheon.**

Tuesday, April 24, noon to 1 p.m., Bone Student Center Faculty Club. \$12.

**Association for Women Geoscientists Luncheon.**

Tuesday, April 24, noon to 1 p.m., Bone Student Center Founders Suite. \$12.

## **IGA Student Research Grants Program**

Applications are invited for IGA student research grants for the year 2001-2002. The Illinois Groundwater Association annually awards up 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. 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](mailto:colin@geol.niu.edu)

This year, the deadline for receipt of completed applications will be Thursday April 31, one week after the IGA Spring meeting.

## Letter from the Chair

Greetings! My name is Steve Bennett and I will be serving the Illinois Groundwater Association as Chair for the 2001 calendar year. First, some background for those of you that don't know me. I am an Associate Professor in the Department of Geology at Western Illinois University, where I have been employed since 1994. I completed my undergraduate schooling at the University of Northern Iowa (as did our illustrious newsletter editor Erik Spande), earned my graduate degrees from Indiana University, and went directly to WIU. I joined IGA shortly after arriving in Illinois in an effort to become acquainted with regional hydrogeologic studies/concerns and, more importantly, to get to know the groundwater professionals in the state. I look forward to IGA meetings more and more each year as they are wonderful opportunities to interact with groundwater professionals from a wide variety of backgrounds. I feel the meetings are the most valuable part of membership in the IGA.

As for goals for the IGA during the coming year, myself and the other officers of the organization are attempting to increase our membership, reassessing the organization of our meetings, and continuing the transition towards electronic correspondence with our members. To spread the word about our organization, the IGA will have an informational display in the exhibitor's section of the upcoming North-Central Geological Society of America meeting. We also hope to reach professionals that may be interested in IGA membership through announcements in newsletters of other organizations or by direct mailing. To simplify the logistics of organizing our twice-yearly meetings, we have discussed the possibility of setting a rotating schedule for meeting locations. For example, our spring meeting could be held in northern Illinois rotating between a small group of locations (Argonne, or Fermi Labs, NIU) and our fall meeting could be held in the central portion of the state, again rotating the location between a small group of sites (Peoria, Champaign, Starved Rock). Please let me know if you feel this idea has merit. Posting our newsletter on the IGA website has saved the organization a lot of money so we intend to continue this practice. To contact our members directly we hope to build on our list of e-mail addresses. Eventually we want to be able to send all of our members an e-mail message notifying them when the newsletter is posted on our website.

I hope to see you all in Normal at the North-Central GSA meeting. The IGA is sponsoring a symposium entitled "Groundwater Problems in Expanding Suburban Areas" that will be held on the morning of Tuesday, April 24<sup>th</sup>. Other symposia scheduled for Tuesday include "Hydrogeological and 3-D Mapping Using Geophysics" and "Environmental Site Assessments: Applications, Methods, and Resources". It should be a very interesting and informative meeting.

Looking ahead, we are considering a location in Peoria for our fall IGA meeting. We hope to feature a keynote speaker to draw attendance (Terry Dixon is pursuing the McIllheny Lecturer from NGWA) and intend on scheduling a tour of the old municipal well.

Please feel free to contact me ([SW-Bennett1@wiu.edu](mailto:SW-Bennett1@wiu.edu)) if you have any suggestions for how we can improve the way the IGA serves its members.

## 2001 IGA Dues Reminder

2001 is already here, and so are the dues for 2001. For more information on registration, please call or e-mail Terry Dixon, IGA Treasurer, at (309) 693-5697. Please mail the form along with your registration fee to Terry Dixon, below.

Note that IGA membership gets you \$10 off the registration for the GSA-NC meeting, so if you are planning to attend then the 2001 dues are effectively only \$5!

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

<b>COST</b>		<b>NAME</b>
Renew Membership	\$15	Position: _____
New Membership	\$15	Employer: _____
Student	\$5	Address: _____

Clip form & mail to:

Terry Dixon  
Harding ESE  
8901 North Industrial Rd  
Peoria, IL 61615  
(309) 693-5697 Fax (309) 692-9364  
[TWDixon@mactec.com](mailto:TWDixon@mactec.com)

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
E-mail: \_\_\_\_\_

## IGA Treasurer a NGWA “Future Leader”

The IGA is proud to announce that our treasurer, Terry Dixon (Harding ESE), has been accepted into the National Ground Water Association Future Leaders of the Ground Water Industry program. The program provides and cultivates leadership development interspersed with industry insight and exposure to all segments. Dixon participated in the program’s national conference in Columbus, Ohio January 14 to 16, 2001. The program focused on providing information and skill development for those individuals planning to serve on a state, divisional or national industry board of directors at some point in the future. **Congratulations Terry!**

## New Director for the IGA: Edward Mehnert

Dr. Edward Mehnert was elected as the new Director for the IGA for a 2-year term starting in 2001. Dr. Edward Mehnert is a Geohydrologist and Head of the Groundwater Geology Section of the Illinois State Geological Survey in Champaign. He conducts applied research on the fate and transport of contaminants in groundwater. He also manages a professional staff of 11 hydrogeologists, geophysicists, and geochemists. Dr. Mehnert has been a member of the IGA since the late 1980s and previously served as newsletter editor. Dr. Mehnert holds degrees in Civil Engineering from the University of Illinois (Ph.D.), University of Notre Dame (M.S.) and Oklahoma State University (B.S.).

## **Illinois Regulatory Update**

*Summary by Gary Clark and Paul Kesich, former IGA Chairs*

There are a number of bills currently progressing through the Illinois legislature that relate directly to groundwater and groundwater issues. A synopsis of the bills is listed below.

### **Water Quality Protection Act of 2001, HB1083**

House Bill 1083 (HB 1083) creates the Water Quantity Protection Act of 2001. It requires approval from the Department of Natural Resources for the construction and operation of any groundwater or surface water withdrawal facility with a pumping capacity greater than two million gallons per day. Approval may also be required, according to rule, for smaller facilities if they adversely impact the availability of water for other existing uses. The Act does not apply to existing water withdrawal facilities.

Before granting approval for a withdrawal facility the Act allows the Department to require information identifying the source of the water, use of the water, and potential impacts to the water source and other users of the water source. Aquifer tests and aquatic habitat studies may be required to assist the Department in evaluating the impacts of the proposed water withdrawal.

The Act provides that the Department may only approve water withdrawals for those facilities that do not cause the following:

- ?? Long-term lowering of groundwater levels
- ?? Significant interference with the withdrawals of other users of the water source
- ?? Long-term decline in environmental, ecological, recreational or aesthetic values of the water source
- ?? Violation of water quality standards; a reduction in the capacity of the water source to assimilate waste; significant damage to aquifer storage and recharge capacities
- ?? Substantial negative impacts to the flows of perennial streams or wetlands

The Act allows the owner or operator of a facility to petition the Pollution Control Board for a review of a decision by the Department to deny or conditionally approve their request for a water withdrawal.

The Act establishes a Water Quantity Protection Committee composed of the Directors of the Department of Agriculture, the Environmental Protection Agency, and the Department of Natural Resources. This committee has the responsibility of providing assistance to the Department of Natural Resources in the drafting of rules for the Act. The rules prepared by the Department and the Advisory Committee must be submitted to the Pollution Control Board for approval.

The Act further provides that the regulation of groundwater and surface water resources is the exclusive power and function of the State and therefore, home rule units may not regulate water withdrawals.

### **Illinois Groundwater Quantity Management Act, HB0554**

*By Paul M. Kesich*

In the Fall 2000 IGA Newsletter, an article appeared about the 91st General Assembly Summary of HB3034. This bill would have created the Illinois Groundwater Quantity Management Act. The new



92nd General Assembly reintroduced a bill, HB0554, on February 5th covering the same issues. The bill was sent on to the Conservation and Land Committee on February 7th.

The act:

1. Allows the Department of Natural Resources to conduct groundwater quantity management area needs assessments for certain counties and develops groundwater quantity management area plans for those counties.
2. Provides that the county must adopt a plan.
3. Requires the Department and the county to review the plan at least every 5 years.
4. Requires the payment of compensation when a high capacity well causes well interference with a domestic well.
5. Allow certain counties to establish a domestic well upgrade fund to pay for the repair or replacement of domestic wells that fail to supply water or that experience a significant reduction in performance due to well interference.
6. Provides that a person who violates the Act may be fined not less than \$1000 and not more than \$2000 per day of violation.
7. Amends the Counties Code.
8. Provides that the county board may control and manage groundwater developments in a manner that is not inconsistent with the Illinois Groundwater Quantity Management Act.
9. Amends the Illinois Municipal Code.
10. Deletes a provision that a municipality may prevent or punish an injury to the municipality's water source or water works within 20 miles of its corporate limits.
11. Amends the Water Authorities Act.
12. Provides that permits issued by a water authority may set requirements based on guidelines set by the Department of Natural Resources for the spacing and location of wells and the depth of wells and the depth of pumps and settings.
13. Provides that a water authority may regulate the use of water during certain times in accordance with a plan developed by the Department of Natural Resources.
14. Provides that the provisions of the Act do not apply to water used solely for domestic purposes that is supplied from a well or other immediate source (the Act does not apply to water used for agricultural, farm irrigation, or domestic purposes that is supplied from a well or other immediate source).
15. Amends the Water Use Act of 1983.
16. Requires certain counties to be designated as groundwater emergency restriction areas and groundwater resource assessment areas.

### **State Aquifer Study, HB927**

House Bill 927 (HB 927) amends the Department of Natural Resources Act. It requires the Department of Natural Resources to conduct a study to (i) develop an understanding of the geology of each aquifer in the State; (ii) determine the groundwater flow through the geologic units and the interaction of groundwater with surface waters; and (iii) determine the chemistry of the geologic units and the groundwater in those units. HB 927 requires the Department to develop geologic and groundwater flow models for each aquifer in the State based upon information obtained from the study.

## Science Takes a Hit

*The following editorials summarizing the likely status of Federal science funding in fiscal year 2002, and how these funding allocations would affect institutions such as the USGS, came across my desk as an e-mail to members of the Iowa Academy of Science. The IAS received it from the National Council for Science and the Environment (<http://www.cnie.org>), who were kind enough to give me permission to publish it in the IGA Newsletter. I have also included the Boston Globe article that prompted the NCSE e-mail, and kept the links to related supporting articles in the Wall Street Journal. I hope you will find the NSCE opinions and editorials enlightening – IGA Editor.*

President George W. Bush will propose that "funds for the National Science Foundation rise just 1% in fiscal 2002," when he submits his initial budget, according to a February 16 report in the Wall Street Journal <http://www.cnie.org/updates/88b.htm>. Additionally, the paper reports that, "the U.S. Geological Survey, which performs water and biological studies for federal policy makers, is fighting to stave off a threatened 22% cut from its \$885 million appropriation for this fiscal year."

While budget numbers for other federal science programs have not been leaked yet, it is expected that the Environmental Protection Agency, among others, will face cuts. President Bush will present his budget priorities to a joint session of Congress on February 27 and on February 28, release a "blueprint" document laying out his budgetary themes and proposed spending levels for federal agencies and departments. Plans are to release the final detailed proposed Federal budget on April 3, an analyst from the Office of Management and Budget (OMB) reported to NCSE.

These budget numbers will change ONLY if there is a strong and sustained response from the scientific community and members of the public. We urge you and your colleagues to write to:

- ?? Mitch Daniels, Director, Office of Management and Budget, New Executive Office Building, 725 17th St. NW, Washington, DC 20500
- ?? President George W. Bush, The White House, 1600 Pennsylvania Ave, Washington, DC 20503
- ?? Your Senators. U.S. Senate, Washington, DC 20510 <http://congress.nw.dc.us/rollcall/>
- ?? Your Congressional Representative, U.S. House of Representatives, Washington, DC 20515 (ask that they send letters to OMB in support of science funding) <http://congress.nw.dc.us/rollcall/>
- ?? Your local newspaper (see attached editorial by David Warsh of the Boston Globe) [http://boston.com/dailyglobe2/051/business/Seed\\_corn\\_anyone\\_+.shtml](http://boston.com/dailyglobe2/051/business/Seed_corn_anyone_+.shtml)

Please send a copy of your letter to NCSE at [cnie@cnie.org](mailto:cnie@cnie.org) or fax 202-628-4311. A sample letter can be found at the CNIE web site.

## **Boston Globe Editorial – Seed Corn, Anyone?**

*David Warsh. Boston Globe on 2/20/2001, page C01. © Copyright 2001 Globe Newspaper Company.*

The rationale underlying the Bush economic policy came into sharper focus last week when the news surfaced that the administration was planning to cut back sharply on the science budget in order to make room for its tax cuts.

David Rogers reported in the Wall Street Journal Friday that under current plans, funding for the National Science Foundation will climb only 1 percent in the fiscal year that begins in October. The budget of the National Institutes of Health, which sponsors most of the nation's basic medical and biotech research, is scheduled to continue to soar, by as much as \$3.4 billion, under a prior legislative agreement that calls for doubling its budget over five years. But the US Geological Survey, which among its other duties monitors water and ecological conditions, is slated for a 22 percent cut - nearly a quarter of its \$885 million budget.

The news leaked after a Wednesday meeting of White House budget director Mitch Daniels and moderate Republican leadership of the House of Representatives. GOP legislators were quick to make their disapproval known. "Absurd," Representative James Walsh of New York told Rogers. Walsh is the Appropriations Committee member who oversees the NSF budget.

Meanwhile, the nation's universities, where most of the NSF's research is performed, have begun to mobilize. The Bush administration's desire to cut back sharply from the relatively generous science funding of recent years stems from its wish to hold budget increases to about the rate of inflation. The idea is to tightly cap the third of the budget subject to annual appropriations in order to facilitate big tax cuts.

Last week the president told the GOP budget-writing team he wants to hold the appropriations portion of his budget to an increase of about 4 percent when he presents it to Congress next week in a nationally televised address. But he also wants to increase defense appropriations by around 10 percent, a rate of growth about which there exists a broad bipartisan consensus. To do that means very slow growth or outright cuts in the other half of the discretionary budget, which includes almost everything the government does except Social Security, Medicare, and Medicaid. Nobody wants to cut education or law enforcement or transportation infrastructure or low-income housing or the Veterans Administration. So sticking it to the R&D budget is one of the alternatives.

Why cap the budget so tightly? To make room for that 10-year, \$1.6 trillion tax cut, of course. But what's so important about that number that it justifies clamping down on the scientific spending that constitutes our seed corn? The answer: Nothing at all. The Bush tax plan has its origins in the sense that it wasn't fair to quickly override the bipartisan tax reform act of 1986 that closed myriad loopholes in order to establish just two brackets for the income tax - with a top rate of 28 percent. First on the eve of the Gulf War, George H.W. Bush agreed to raise the top rate to 31 percent, in exchange for government spending cuts. Then in 1993, Bill Clinton pushed the top rate to 39.6 percent, in the name of deficit reduction.

With the elimination of a \$125,000 ceiling on a 2.9 percent Medicare payroll tax, that put the top rate at 42 percent - too high for the spirit of 1986 and the broad Reagan consensus it represented. Some parts of Bush's tax cuts are merited on grounds of fairness alone. But surely there is no need to make these cuts all at once. The well to do prospered greatly during the '90s boom. A 42 percent marginal rate didn't seem to slow growth much at all. So why not cut the top tax bracket to, say, 35 percent for now? And keep government spending on science intact?

## **New Research from the ISGS**

### **ISGS Abstract: The Loss of Specific Capacity within High-Capacity Wells of the Illinois-American Water Company Western Well Field**

*S.V. Panno, K.C. Hackley, E. Mehnert, D.R. Larson, D. Canavan and T.C. Young Illinois State Geological Survey Contract/Grant Report (to be released in ISGS EG series in Fall 2001)*

A progressive loss of specific capacity or well efficiency has been observed for over three decades in most of the high-capacity wells of the western well field owned and operated by the Illinois-American Water Company (IL-AWC) of Champaign, Illinois. Loss of well efficiency can result from the plugging of well screens by mineral deposits or the growth of bacterial colonies on the well screens. Such deposits can reduce the productivity of a well and significantly shorten its lifetime resulting in the need to invest hundreds of thousands of dollars in the construction of a new well.

The IL-AWC wells in their western well field are screened in the Mahomet aquifer, and pumped at rates that range from about 1,000 to 3,000 gpm. The company supplies fresh water for all of Champaign-Urbana. Concern for the loss of well efficiency prompted the IL-AWC to contact the ISGS for assistance in determining the cause of the problem. Preliminary work by the ISGS suggested that precipitation of calcite, due to pumping-induced degassing of carbon dioxide from groundwater adjacent to the wells, was contributing to the loss of specific capacity of the wells.

To test this hypothesis, the ISGS drilled two boreholes 15 feet and 60 feet from a high-capacity well that has been in operation since 1964. The boreholes were drilled using a new rotasonic drilling technique which does not require the use of drilling fluids. Clean drill core were collected and described in the field and samples were examined using a variety of microscopic, X-ray diffraction (XRD), and microbiological techniques. In addition, groundwater and suspended solid samples were collected from three different wells in the well field and analyzed.

The results of this investigation revealed that the loss of well efficiency in the production wells was due to the combination of several phenomena. Based on the available evidence, the ISGS deduced that iron-depositing bacteria was producing biofilms on the well screens (and probably within the gravel pack). As groundwater was pumped from the aquifer, mineral fragments, clay minerals, and newly precipitated calcite crystals (as suggested from preliminary work) were mobilized and drawn into the well. These three mineral components were trapped by the growing biofilm and produced a relatively insoluble scale on the well screen and in the gravel pack. In addition, the ISGS found that entrapment of clay minerals within the aquifer near the wells could contribute to the loss of hydraulic conductivity of the aquifer near a well and could result in additional loss of specific capacity of production wells. The ISGS made recommendations to the IL-AWC as to how to address the problem through periodic well treatments and suggested a minimum distance from the original well for drilling a new well on the same property.

Current and future publications of the ISGS can be found at the ISGS Groundwater Geology web site <http://www.isgs.uiuc.edu/isgshome/pubs-maps.htm>

## **IPCB Peaker Plant Informational Order**

*Edited from Summary of Peaker Plant Informational Order, IPCB's Web Site*

In response to a request from Governor George H. Ryan, the Illinois Pollution Control Board (Board) adopted an Informational Order (Docket No. R01-10) on natural gas-fired, peak-load electrical power generating facilities (peaker plants). Peaker plants generate electricity during periods of peak electricity demand. The recent proliferation of peaker plants has been a source of much public controversy in the Chicago metropolitan area.

The Informational Order follows seven days of public inquiry hearings across the State (August 23 and 24 in Chicago; September 7 in Naperville; September 14 in Joliet; September 21 in Grayslake; and October 5 and 6 in Springfield). The transcripts and public comments are available on the Board's Web site at [www.ipcb.state.il.us](http://www.ipcb.state.il.us).

Governor Ryan asked the Board to start Board inquiry proceedings. The Governor specifically asked that the Board hold public hearings to address the following issues and to make recommendations on whether further regulation or legislation is necessary to safeguard Illinois' environment:

- ?? Do peaker plants need to be regulated more strictly than Illinois' current air quality statutes and regulations provide?
- ?? Do peaker plants pose a unique threat, or a greater threat than other types of State-regulated facilities, with respect to air pollution, noise pollution, or groundwater or surface water pollution?
- ?? Should new or expanding peaker plants be subject to siting requirements beyond applicable local zoning requirements?
- ?? If the Board determines that peaker plants should be more strictly regulated or restricted, should additional regulations or restrictions apply to currently permitted facilities or only to new facilities and expansions?
- ?? How do other states regulate or restrict peaker plants?

In its Informational Order, the Board provides specific answers to each of the Governor's questions and makes recommendations. The Informational Order and companion report, when released, will be posted on the Board's Web site at [www.ipcb.state.il.us](http://www.ipcb.state.il.us). Copies may be obtained by calling the Board's Chicago office at (312) 814-3620 or its Springfield office at (217) 524-8500.

In its Informational Order, the Board recommends that the State tighten current environmental regulations concerning peaker plants to ensure the protection of the environment. For more information about the Board and its members, please visit the Board's Web site at [www.ipcb.state.il.us](http://www.ipcb.state.il.us).

# ILLINOIS GROUNDWATER ASSOCIATION

## 2001 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. An award will be 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 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

**2001 GROUNDWATER SCIENCE AWARDS  
REQUEST FOR NOMINATIONS (continued)**

This year the awards will be presented during our Fall meeting. **Nominations must be received by Friday, May 2001 for consideration.** Further information and nomination forms will be available at the IGA Spring 2001 meeting or they can be obtained by contacting Colin Booth, IGA Vice Chair at:

Dr. Colin Booth  
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DeKalb, IL 60115  
Phone: 815-753-7933  
e-mail: [colin@geol.niu.edu](mailto:colin@geol.niu.edu) fax: (815) 753-1945

**NOMINATION – 2001 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.)

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