THE HELM

News and Information from the Illinois-Indiana Sea Grant College Program **Summer 2005**

Plant Retailers Provide Potential Source of AIS

By Irene Miles

Aquatic invasive species (AIS) are probably available right now at a retailer near you. When University of Notre Dame researchers went shopping for invasive species, they found a number of them for sale in the southern Lake Michigan region.

Iris pseudacorus (Photo by Rodney Barton)

With funding from Illinois-Indiana Sea Grant, Dr. David Lodge, biologist, and his graduate student Reuben Keller, set out to assess whether the trades contribute to the spread of invasive species. They shopped at pet and nursery retailers both large and small, as well as fish markets in Chicago. The researchers found many invasive and potentially invasive species, often misidentified.

"At pet stores, we were able to purchase species that are already invasive, such as goldfish and koi," said Keller. "With these fish, the biggest risk is increasing their spread in local waterways."

At Asian markets in Chicago, they found bighead carp—often taken home alive. Both bighead and silver carp pose a serious threat to the Great Lakes ecosystem if they become established in Lake Michigan. (State and federal management agencies have developed barriers and other strategies to try to prevent these Asian carp species from entering Lake Michigan. The State of Illinois has also outlawed the sale of live Asian carp.)

It was nurseries however, that provided the richest source of AIS. "Water gardening poses the greatest risk for new introductions and invasions," said Keller. "It is a booming business, and shoppers often want the newest and prettiest plants that are hardy for the region. This means that each year there is an influx of new plants that are capable of surviving in the environment."

Of the plant species for sale, many are already serious invaders in the Great Lakes region, including water chestnut (*Trapa natans*), true forget-me-not (*Myosotis scorpiodes*), and yellow

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Inside This Issue

A Fond Farewell to Dick Warner

By Phil Mankin (on behalf of the Sea Grant staff)

Illinois-Indiana Sea Grant staff meetings over the past four years have generally started with the director asking each member to say a few words about what is going on in their corner of the Sea Grant world. This is just the beginning of a process of eliciting input and comments on a wide range of topics relevant to our mission. A director realizes that staff members know more than he does about so many of these important areas. Accepting their advice while providing guidance without intrusion has been the approach to these meetings over recent years and has contributed to the high level of accomplishments and morale within the program.

Illinois-Indiana Sea Grant has had the good fortune to thrive under this type of leadership from Dr. Dick Warner. Dick has moved on to new and exciting challenges within the University of Illinois, providing a critical link between extension and research activities across the Urbana-Champaign campus. In addition to his new leadership duties, Dick will continue to direct the Illinois Water Resources Center, which has been a partner in numerous projects with this Sea Grant Program.

One of the more difficult aspects to the director's job is working with diverse groups and individuals, each with separate interests. But, Dick has a knack for visualizing new connections and partnerships, bringing together people and ideas. This creates a shared excitement for the job. His willingness to take risks and inspire others to do the same provided an atmosphere where creativity and innovation could flourish.

He set the tone for teamwork and high achievement for the Sea Grant staff. He guided the program through a four-year evaluation by the National Sea Grant Program Assessment Team resulting in IISG being ranked in Category 1, the highest level of performance. The Final Evaluation Report noted that the program leadership is "active, positive, and visionary." But, just as important to Dick was his helping and encouraging at least four staff members to start or complete degrees that will help them in their careers.

Among Dick's many abilities, two straightforward, but important ones stand out: he does good work, and he supports his colleagues. And to him, a colleague means fellow scientists, the staff, students, government officials, and university administrators alike. His effectiveness allowed him to become a manager to all, a mentor to some, and a coach to more than a few. There may be other administrators as good, but none better.

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Sea Grant ILLINOIS - INDIANA

Illinois-Indiana Sea Grant is one of 31 programs of the National Sea Grant College Program created by Congress in 1966. Sea Grant is a partnership of universities, government, business and industry that addresses marine and Great Lakes needs to enhance sustainable coastal economic development. Funding is provided by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA Grant #NA86RG0048), Office of Sea Grant, University of Illinois at Urbana-Champaign and Purdue University, West Lafayette, Indiana. University of Illinois and Purdue University offer equal opportunities in programs and employment.

IISG Announces Interim Director

As Illinois-Indiana Sea Grant launches into new directions and searches for a new director, Dr. William Sullivan, the director of the Environmental Council at the University of Illinois, will lead the program.

In his role as interim director, Sullivan brings to Sea Grant a background of research on the relationships between people and their environments. He was the co-founder of the Human-Environment Research Lab and is a U of I associate professor of landscape architecture, natural resources and community development.

"This is a great and finely-tuned program," said Sullivan, "My task is to keep it running, but I also hope to open doors to new partners and expanded visibility, especially in Chicago. The southern Lake Michigan region faces significant concerns related to aging infrastructure, urban growth and sustainability of natural resources. Through Sea Grant science, we can help foster healthy communities."

In recent years, through two joint appointments, IISG has expanded its partnership with the U.S. EPA Great Lakes National Program Office to address broader Great Lakes ecosystem issues such as monitoring and remediation of contaminants. Sea Grant also played a pivotal role in the signing of the historic Wingspread Tri-State Accord, an agreement by four regional planning agencies to address economic, environmental, and transportation concerns across traditional boundaries. And, IISG is a key player in the Great Lakes region in efforts to manage and control the spread of aquatic invasive species.

Now, as the program completes a one-year strategic planning process, the focus will be on four new cross-cutting topic areas: Habitats and Ecosystems; Water for our Future; Coastal Cities; and Nourishing Healthy Communities.

"Many problems facing urban areas today need to be addressed from a number of perspectives," said Dr. Brian Miller, IISG associate director. "Sea Grant's new progressive approach is designed so that scientists and program staff members work together across a multitude of disciplines to achieve positive impacts in the southern Lake Michigan region."

Plant Retailers Provide Potential Source (continued from cover)

flag iris (*Iris pseudacorus*). "We came to the conclusion that most aquatic plants sold in the Great Lakes area are not properly identified, making it impossible for consumers to be sure what they are buying, and difficult for agencies to effectively regulate which species are for sale," said Lodge.

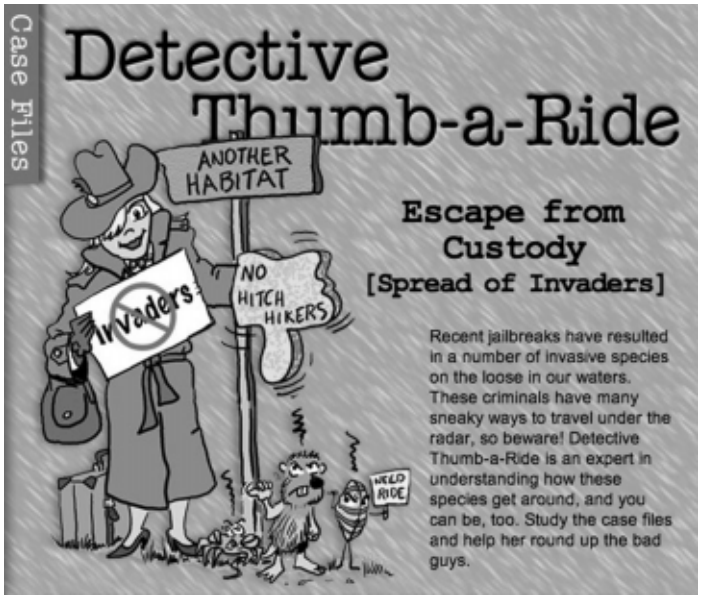
"Roughly half of the plant species we purchased were identified only with common names, which are ambiguous at best," said Keller. "We also purchased 140 plants that were identified with a Latin name, but only 61 percent of those names were correct." Many of the species available from water garden suppliers are not yet known to have escaped and become invasive, but they possess characteristics that make them potential threats. Since new species are added to the market each year, Lodge and Keller are developing a risk assessment tool for aquatic plants in the Great Lakes region.

"We are creating a system that many people will be able to use accurately and consistently to predict whether a species is likely to become invasive," said Lodge. At some point, this tool will be available for use by wholesalers and retailers, and possibly by regulatory agencies to determine which species should be available for sale in the region.

Lodge and Keller are now focused on raising awareness. Along with IISG, they are working closely with the Habitattitude™ campaign, which unites the pet industry and nurseries with federal agencies in an effort to educate aquarium owners and water gardeners to help prevent the release and escape of non-native plants and animals. They are also developing an outreach program that includes input from relevant retail industry leaders, and are cooperating with the Shedd Aquarium in education programming on invasive species.

Web Site Recruits AIS Detectives

By Detective Thumb-a-Ride (as told to Jennifer Fackler)



About two years ago, the sergeant of our precinct decided to create a new department—one that solely investigates aquatic invasive species (AIS) through the efforts of five officers: Detective ID, Detective Dollars and Sense, Detective Ecofriend, Detective Barrier and me. My name is Detective Thumb-a-Ride and it's my job to investigate how AIS move from their origin to their new homes.

Our jobs are not easy ones. It seems like everyday there are new sightings of AIS. We have to ID the species, figure out their origin, track down their new locale, determine the damage they have done and then on top of that, we have to prevent them from moving to their next location. We have been so busy that Sarge suggested we enlist the help of some private investigators. Detective ID came up with a great idea—create a Web site in which students, our honorary private investigators, can help us keep these bad guys in check. We call the site "Nab the Aquatic Invader, Be a Sea Grant Super Sleuth!" (I came up with the name, pretty good huh!) We want everyone to go to this Web site and have some fun while learning about invaders in aquatic environments close to their home. Go to www.sgnis.org/kids to check it out.

This site was created for honorary private investigators in grades 4–10 with the hope that they will help us capture invasive species and get the word out on how to prevent more detrimental AIS spread. To help with that, there are great pictures of the Top 10 Suspects. The private investigators find clues and information through activities that are found under each of the detectives. For instance, the activities on my page all pertain to the transportation or movement of the species.

For you educators out there, this site is a haven of resources and ideas to use in your classroom. We created a section just for you called the Top Desk Administrator. You can locate curriculum, multimedia, fact sheets, posters, and workshops. There is even a place to send us your student's projects to be posted on the site. In Kids Secret Headquarters, your students can get a glimpse of career opportunities in the field of AIS on the "Meet the Scientists" page.

Our department has been such an inspiration for other precincts across the country that they are planning to open AIS departments. They will focus on species in the Atlantic Ocean, Pacific Ocean, and the Gulf of Mexico. Be on the lookout for these new suspects and let us know what else you'd like to see on this site.

NAB THE AQUATIC INVADER WEB SITE WINS MULTIPLE AWARDS!

Association for Communication Excellence
2005 Gold Award—Web sites
2005 Outstanding Professional Skill Award—Information Technology

2005 Sea Grant Week People's Choice Awards
Second Place—Web sites

Fish School Is in Session

Fish provide key nutrients for growing young minds and healthy bodies of all ages, but some are contaminated with pollutants that can have serious health effects, particularly on babies and children. Illinois-Indiana Sea Grant has made it a priority to inform critical audiences about eating fish wisely.

A new education program, *Fish School: Taking Stock of Risks and Benefits*, involves scientists, nutritional experts, Extension educators, teachers, and students in southern Lake Michigan communities to raise awareness in those who need it the most—women in their child-bearing years and families who fish for their food.

"The Calumet River is one of the most polluted rivers in the country, yet many immigrants regularly fish along its banks as they did in their countries of origin," said Diana Dummitt, Illinois Science Teachers Association's former executive director. "Even those who don't fish can be at risk," said Leslie Dorworth, IISG aquatic ecology specialist. "Some people rely on canned tuna to provide a significant portion of their diet. On the other hand, others believe that lakes and rivers are unclean and simply stop eating fish."

To help strike a balance, the Illinois Science Teachers Association and IISG are working with other agencies and universities to foster creative ways for people to learn from each other.

With funding from U.S. EPA Great Lakes National Program Office, 13 middle and high school teachers learned directly from scientists and are working with University of Illinois and Purdue University Extension educators to develop teaching programs and plan health expos. These teachers will return to their classrooms this fall and inspire students to inform their families, their schools, and their communities.

"Students will design posters, exhibits or other creative projects that will be on display at a number of community events," said Robin Goettel, IISG communications coordinator and education specialist. "Students are our future consumers and decision-makers. They also provide a unique way to connect with communities about the benefits and risks of fish consumption."

IISG and Extension will also use more traditional means to reach out to underserved populations. They have developed workshops to explain the latest fish consumption advisory information directly to local families. The workshops will also be available in Spanish, Polish, and Chinese. Flip charts created for these workshops can be downloaded at www.iisgcp.org/products/free.htm

IISG's Dorworth has also collaborated with Charles Santerre, Purdue University food toxicologist, to measure the mercury levels in fish sandwiches from fast food restaurants. "The amount of mercury in these fish sandwiches was well below levels of concern for pregnant or nursing women who eat no more than the recommended 12 ounces of fish each week," said Dorworth. "And these sandwiches provide essential fatty acids necessary for healthy fetal development."

Teacher Mike Williams demonstrates how to "weigh" benefits and risks of eating fish. Fish School workshop participants included teachers, scientists, Extension educators, and Sea Grant's education team.

Second Place Award!

Illinois-Indiana Sea Grant's Safe Fish Consumption Outreach and Education Project won Second Place in the 2005 Sea Grant Week People's Choice Awards for Collaborative Communications.

AIS-HACCP Program Expands to Resource Managers

As they move from one water body to the next, resource managers typically take some type of precaution to prevent the spread of aquatic invasive species (AIS). Now, Sea Grant has designed a state-of-the-art model that will help managers and other field personnel develop a systematic plan to ensure that their activities are not contributing to the spread of AIS.

Hazard Analysis and Critical Control Point, or HACCP, was designed to prevent contamination in food products for the space program and has been used extensively by the seafood industry to ensure food safety. Several years ago, the Great Lakes Sea Grant Network adapted this approach for use in the bait and aquaculture industries as well as for all federal hatcheries (which all now have HACCP plans) to help prevent the spread of invasive species. The networks latest effort is to reach out to resource professionals.

"Over the next two years, we will provide training in HACCP principles to resource professionals, including resource managers, conservation officers, sampling crews, researchers, and volunteer monitors—anyone who is doing sampling or moving equipment from one water body to another," said Patrice Charlebois, IISG aquatic invasives specialist.

Two workshops were held this spring in conjunction with Illinois and Indiana Inland Lake Association meetings with 35 in attendance. Two more workshops are planned for 2006. Altogether, 28 workshops are planned throughout the Great Lakes region.

"To develop a HACCP plan, workshop participants analyze each step in their field activities to pinpoint where significant risk of transporting AIS can occur," said Charlebois. "That's where it is most appropriate and efficient to take action to prevent the spread of AIS."

Nicole Vidales works with Illinois Environmental Protection Agency and is concerned about her upcoming fieldwork in the Chain-O-Lakes in Lake County, Illinois because much of these waters suffer a zebra mussel infestation. After attending the workshop and developing a HACCP plan, Vidales incorporated stronger action to prevent the spread of AIS into her field schedule. "We will sample in lakes that do not have a zebra mussel infestation first, and then go to the others," she said. "Also, we typically inspect our boats and pull off any plant material after being in a water body, but now, in addition to that, we will power wash our boats after sampling lakes that are infested with AIS."

Whether these workshops help prevent the spread of AIS will depend on the implementation of HACCP plans. "We plan to certify participants who develop HACCP plans and do follow-up surveys to find out the extent to which they are being used," said Charlebois.

Experts Focus on Southern Lake Michigan Region Water Supply

In the southern Lake Michigan region, subdivisions spring up like weeds in what were once farm fields, turning sleepy towns into bustling communities and at the same time, taxing local resources. Most of this growth is happening away from major metropolitan centers—in places where the lake is not an available source of drinking water.

This is one of many concerns addressed at the "Straddling the Divide" Conference in Chicago earlier this year. This gathering brought together over 200 engineers, planners, scientists, consultants, and local government officials from Illinois, Indiana and Wisconsin to discuss future water supplies for the region.

"Many of the participants learned more about the region's limited water supply and how it might constrain future growth," said Martin Jaffe, Illinois-Indiana Sea Grant environmental planning specialist. "It may seem counterintuitive to be concerned about sufficient drinking water while sitting along one of the largest sources of freshwater in the world, but in Illinois, Lake Michigan is being tapped to its legal limit. And, many communities that depend on deep aquifers for their drinking water are using them at unsustainable rates," he explained.

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Aquaculture Class Inspires High School Students

Rasha Abed never thought she'd come to love yellow perch—not for dinner, but alive and swimming around in a tank. She was one of four East Chicago Central High School students that took part in an aquaculture study a year ago as part of an environmental science class. This past year, 27 freshmen biology students engaged in the school's growing aquaculture program.

Abed, who is now a student at Purdue University Calumet, was employed to help guide the freshmen through the process. "Before this project, I hadn't worked with animals on this level, where I am continually monitoring them," said Abed. "It's not just about feeding the fish. The project forces you to think about the big picture of what makes an aquaculture business successful."

This new effort in this Indiana high school is the brainchild of Jim Gentile of Aquatic Research Interactive, Inc., whose mission is to increase knowledge about the aquatic environment. This non-for-profit organization uses a range of methods to reach students, including distance learning through video conferencing with SCUBA divers.

The local high school aquaculture project was conceived when Gentile had been given several 55-gallon aquarium tanks. He devised an educational project that made use of them and with funding from Illinois-Indiana Sea Grant, he was able to obtain additional equipment and develop the classroom curriculum.

"Aquaculture is an up-and-coming science that provides a number of educational applications," said Gentile. "In the first class project, the students were initiated into the practical and forecasting aspects of aquaculture using yellow perch as the model. They raised these fish in three groups, each with different diets. The goal was to determine which diet offers the best growth rate for perch raised in a closed system."

At the end of the six-month study, the students wrote up a report of their results, finding that the perch grew fastest eating a high-protein, high-fat diet. They also concluded that over time the cost of raising the fish would outweigh the value of the crop. This past year, students studied different stocking rates of these same yellow perch.

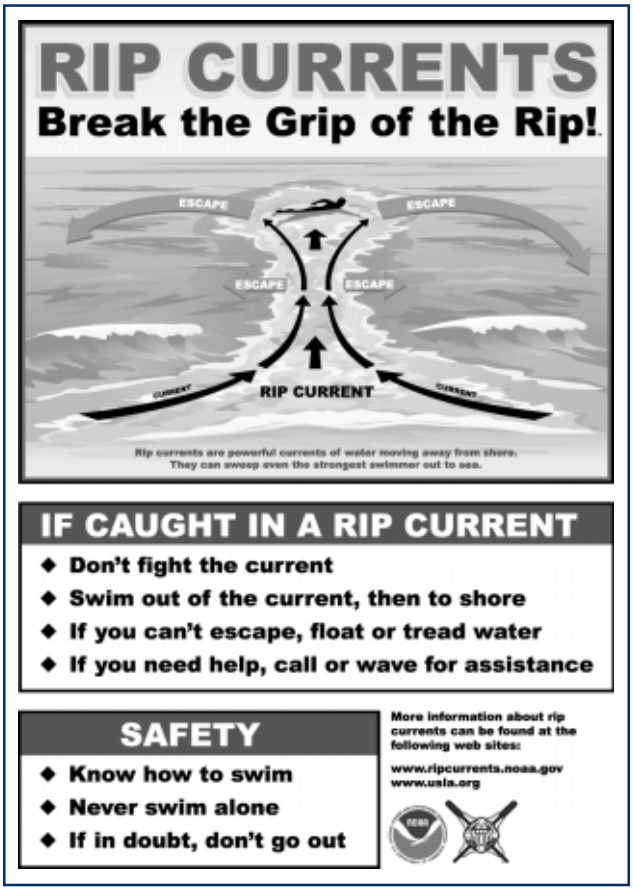
"My goal is to develop a fully-inclusive, year-long high school course in aquaculture, complete with an onsite pond so that students can get a better understanding of being responsible for a big aquaculture system," said Gentile.

Rasha Abed explains the latest aquaculture research project of the East Chicago Central High School biology class.

Rip Current Awareness Can Save Lives

By Terri Hallesy

Rip currents have been making a lot of waves lately, both in the news and along beaches. These narrow, fast-moving channels of water that pull away from shore, are powerful enough to sweep away even the strongest swimmers. In recent years, more than 20 people have died along the shores of the Great Lakes, and nationally they account for over 100 deaths every year. Rip currents account for 80 percent of all surf zone drownings and fatalities and are the number one cause of drowning on ocean beaches, according to the U.S. Lifesaving Association (USLA).



"The key to preventing rip current drowning deaths or injury is public awareness and education," said Jim Lubner, Wisconsin Sea Grant Institute water safety specialist. Over the past 25 years, many Sea Grant programs have developed campaigns to raise awareness of rip currents through the use of beach and boardwalk signs, brochures, press releases, videos, seminars, and Web sites. This year, NOAA's Weather Service, Ocean Service, and Sea Grant designated a week in early June as National Rip Current Awareness Week. Several Great Lakes Sea Grant programs have held regional workshops and developed products and campaigns to inform the public about this phenomenon.

"These outreach efforts are designed to help local residents and visitors familiarize themselves with rip currents, avoid these dangerous coastal hazards, and understand how to swim out of a rip current," said Lubner.

Ron Kinnunen, Michigan Sea Grant Extension agent explains, "Since the last rip current drowning in 1998 in northern Lake Michigan, the Mackinac County Water Safety Review Team developed an ambitious public education program. There has not been another rip current-related drowning in the region since this effort started."

Michigan Sea Grant has collaborated with NOAA, National Sea Grant, NOAA-National Weather Service and USLA to develop brochures and beach signs (pictured here) warning people of rip currents and how to escape them. "Sea Grant programs across the country have already distributed over 200,000 of the brochures so far, both in English and Spanish," said Elizabeth LaPorte, Michigan Sea Grant communications director. "There has been tremendous cooperation between all the Sea Grant programs with the printing, distributing, and provision of funds for this effort."

Contact Michigan Sea Grant at msgweb@umich.edu to order signs and brochures, or visit www.ripcurrents.noaa.gov for more information.

NEW "SEA GRANTERS" ON BOARD

Dr. Beth Hinchey Malloy is IISG's new Great Lakes ecosystem specialist, based in the U.S. EPA Great Lakes National Program Office (GLNPO). She is helping to develop programs that deliver research-based information to decision makers, natural resource managers, and agency professionals on ecosystem monitoring, wetland habitats, and mass balance issues. She is also helping to develop and participate in educational events onboard EPA's research vessel. Hinchey Malloy was formerly a research ecologist and post-doctoral fellow at the EPA's Atlantic Ecology Division in Rhode Island. She has a Ph.D. in marine science from the College of William & Mary, Virginia Institute of Marine Science. Her research interests include organism-sediment interactions, fish and shellfish-habitat relationships, and sediment geochemistry.

Dr. Susan E. Boehme is the program's first coastal sediment specialist with the Great Lakes Legacy Program at U.S. EPA-GLNPO. She received her Ph.D. in chemical oceanography from North Carolina State University. There, and in subsequent positions, she has studied sediment chemistry, sea surface-atmospheric exchange of carbon dioxide, and water column distributions of nutrients and chemical constituents. Bringing her scientific perspective to public policy at the New York Academy of Sciences, Boehme was the director of the project "Pollution Prevention, Industrial Ecology and the New York/New Jersey Harbor." Now, in her role with Sea Grant, she will be assisting Great Lakes communities that are working with EPA to remove contaminated sediments from local water bodies.

Terri Hallesy joined Illinois-Indiana Sea Grant as a communications assistant. She supplies aquatic invasive species and fish contaminant information to a variety of audiences and helps researchers relay their findings to the public through Sea Grant's educational Web site, teacher training workshops, traveling trunks, and other communications and outreach activities. Hallesy coordinates the Zebra Mussel Mania Traveling Trunk national lending center network. She earned a B.S. in elementary education from Southern Illinois University. Previously, Hallesy held management positions in industry and served nine years as a licensed social worker and counselor in the academic and social service field.

Congratulations!

Mark Einstein with Purdue University Director of Extension Dave Petritz.

Mark Einstein, Illinois-Indiana Sea Grant's chief Web officer, was awarded a Certificate of Appreciation from USDA for "ten years of outstanding support and dedication to the Aquaculture Network Information Center and its users." AquaNIC (www.AquaNIC.org) was the nation's first network information center, and it still stands as the primary gateway to the world's electronic aquaculture resources. Annually, the site is accessed by two million visitors from 167 countries.

Water Supply Conference *(continued from page 6)*

Conference participants were introduced to real world examples of how communities are tackling these issues, including Kane County, Illinois, where local planners are taking proactive measures to address future water needs in this fast-growing location. According to Philip Bus, a Kane County planning director, the county's 2030 Land Resource Management Plan establishes objectives towards protecting groundwater and encouraging water conservation, and calls for legislation to establish regional water authorities.

"The conference was a first step in creating a community of professionals focused on water supply issues," said Jeff Wickenkamp of the Northeastern Illinois Planning Commission (NIPC), which led the conference. "It was a great opportunity for participants to develop connections with other experts in the region."

The two-day event was organized through the Southern Lake Michigan Water Supply Consortium, which consists of over 40 resource professionals focused on a sustainable, high quality water supply for future generations. The water planning area encompasses 17 counties, nearly 8,000 square miles and more than 1,500 government entities in the three states.

The consortium sprung from the Tri-State Wingspread Accord, signed in 2002 by four regional planning agencies in an effort to address environmental, transportation, and economic concerns in the greater Chicago metropolitan area. Illinois-Indiana Sea Grant provided early funding and expertise to initiate both the accord and the consortium. IISG's Martin Jaffe and his student, Jesse Elam, worked closely with NIPC and the Illinois State Water Survey to help launch the consortium and plan the conference. Early efforts were leveraged by a grant from The Joyce Foundation, which provided much of the conference funding.

To find out more about the consortium or to read conference presentations, visit www.nipc.org/environment/slmrwsc/mission.htm.

Illinois-Indiana Sea Grant Publications

Contaminants in Fish and Seafood: A Guide to Safe Consumption

This 12-page brochure, available in English and Spanish versions, provides critical information about which fish are safer to eat and which cooking methods result in safer fish, as well as recommendations on how often to eat certain fish. To obtain a free copy, contact Susan White at 217-333-9441 or white2@uiuc.edu.

What You Need to Know Before You Eat that Fish! and The Lowdown on Mercury

Illinois-Indiana Sea Grant has created two one-page fact sheets that quickly summarize the issues and concerns of mercury levels in fish as they relate to your diet and the health of your family. Learn about mercury, how it can affect the health of your children, and how to reduce your exposure to this pollutant while retaining the benefits of a diet that includes fish. IISG-05-01 and IISG-05-02, respectively. To obtain a free copy of these fact sheets, contact Susan White at 217-333-9441 or white2@uiuc.edu.

Open Space Planning

The Planning with POWER program provides readers a clear description of what qualifies as open space and how it can benefit a community. This brochure includes steps, tools, and examples to help local officials or organizations initiate open space planning. IISG-04-18. To obtain a free copy, contact Cindy Salazar at 765-494-3573 or salazarc@purdue.edu.

Stormwater and Non-Point Source Pollution

This Planning with POWER brochure explains the effects of stormwater run-off and the pollution it creates. It provides both simple and extensive steps you can take to prevent non-point source pollution and reduce stormwater run-off. IISG-04-19. To obtain a free copy, contact Cindy Salazar at 765-494-3573 or salazarc@purdue.edu.

Illinois-Indiana Sea Grant Impacts

Illinois-Indiana Sea Grant has played an important role in addressing a number of coastal concerns in the region. These full-color reports describe the critical issues facing the region and Sea Grant's response through research, education, and outreach. Available as a set or individually in four topic areas: aquaculture, IISG-04-04; aquatic invasive species, IISG-04-05; coastal business and environment, IISG-04-06; and water quality, IISG-04-07. To obtain a free copy, contact Susan White at 217-333-9441 or white2@uiuc.edu.

Happenings & Education around Lake Michigan (*The HELM*), reports on Illinois-Indiana Sea Grant research, extension, education and other Lake Michigan issues and activities.

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www.iisgcp.org

Illinois-Indiana Sea Grant College Program fosters the creation and stewardship of an enhanced and sustainable environment and economy along southern Lake Michigan and in the Great Lakes region through research, education and outreach.

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