THE HELM

News and Information from the Illinois-Indiana Sea Grant College Program **Winter 2006**

COSEE Great Lakes to Boost Science Education

By Terri Hallesy

Great Lakes science will finally have its day in many classrooms in the region and across the nation. The National Science Foundation and NOAA-National Sea Grant recently awarded $2.5 million for a regional Center for Ocean Science Education Excellence (COSEE) Great Lakes. This collaborative project will bring together educators, research scientists, and the public to enhance scientific literacy and environmental stewardship.

COSEE Great Lakes joins the talents of education leaders, scientists, and outreach specialists in the Great Lakes Sea Grant Network, which includes programs in Illinois-Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin. Over the five-year project, more than 2,000 teachers in grades 4-10 are expected to take part in COSEE Great Lakes activities and 350 researchers will help educate new audiences.

Illinois-Indiana Sea Grant is leading a critical aspect of the project—enhancing marine education in Great Lakes classrooms, while at the same time, bringing exemplary Great Lakes curricula to marine education nationally. Selecting from existing Great Lakes curricula, IISG will expand the *Greatest of the Great Lakes* activities into a new *Fresh and Salt* curriculum for schools across the nation. Teachers and scientists will play an active role by reviewing classroom materials.

IISG's Beth Hinchey Malloy provides hands-on experience for teachers on the U.S. EPA GLNPO research ship, the R/V Lake Guardian. COSEE will offer teachers many onboard opportunities to learn about Great Lakes issues. (Photo courtesy of U.S. EPA GLNPO)

"Teachers get excited about working with new topics, but unless the curriculum is excellent, and something they can actually take home with them, some of the better ideas may not get implemented," said project leader, Rosanne Fortner, professor emeritus, The Ohio State University. "As we work with scientists and teachers, we will expand what we can offer as curriculum to meet national needs as well as our own."

Six-day workshops on each Great Lake will take place; a Lake Michigan workshop sponsored by IISG is scheduled for 2008 in Illinois and Indiana. The program will work with prominent researchers, such as aquatic invasive species expert David Lodge of Notre Dame University, who are experienced in making their results accessible to teachers. At this workshop, teachers will engage in practical hands-on applications to build on their existing knowledge and help them deepen content skills.

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Inside This Issue

Shedd Aquarium Opens Great Lakes Invader Exhibit

IISG has collaborated with the Shedd Aquarium in Chicago on an exciting new exhibit— *Great Lakes Invasive Species*. "Sea Grant provided critical input while understanding the constraints of space and schedule," said Barbara Becker, Shedd's exhibit developer. IISG staff members and researchers supplied essential data as well as video of jumping Asian carp—a prominent feature of the exhibit. Sea Grant researcher David Lodge, University of Notre Dame, a primary resource for the exhibit, shared an important message for the public at the recent grand opening—that aquatic invaders are not inherently bad, they are just in the wrong place.

(Photo courtesy of Shedd Aquarium)

COSEE Great Lakes (continued from cover)

IISG will also empower teachers to help students participate in community awareness projects, which address local environmental issues and foster a greater awareness of ocean and lake sciences. "We want students to become more interested in science, and through COSEE, they will see how learning can be truly relevant to their lives," said Robin Goettel, IISG education coordinator and COSEE leader in Illinois and Indiana.

Educators will also have a unique opportunity to encounter Great Lakes freshwater science in on-the-water workshops aboard the R/V Lake Guardian, a U.S. EPA Great Lakes National Program Office (GLNPO) vessel. "Workshops in other Great Lakes and ocean sites and firsthand experience in working with scientists on a research vessel are just a sampling of the dynamic experiences in store for educators through the COSEE project," said Goettel. "Scholarships for travel will be available."

In the coming months, Great Lakes Sea Grant educators will be collaborating with more than 25 partners to coordinate COSEE activities and connect with local citizens. Illinois-Indiana Sea Grant will be working closely with the Chicago Public Schools, Peggy Notebaert Nature Museum, John G. Shedd Aquarium, University of Illinois Extension, Purdue University Extension, University of Notre Dame, U.S. EPA GLNPO, Alliance for the Great Lakes, and National Park Service, Great Lakes Education and Research Center.

For more information about COSEE Great Lakes in Illinois or Indiana, contact Goettel at (217) 333-9448 or goettel@uiuc.edu or contact Terri Hallesy at (217) 244-8809 or thallesy@uiuc.edu or visit the COSEE Web site at www.coseegreatlakes.net.

Irene Miles, Managing Editor
Robin Goettel, Copy Editor
Susan Boehme
Jennifer Fackler
Robin Goettel
Terri Hallesy
Beth Hinchley Malloy, Contributors
Rod Roberts, Designer/Layout
Larry Ecker, Graphic Designer

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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.

Legacy Act Brings Hope to Great Lakes Communities

For some communities, the Great Lakes Legacy Act offers a new lease on life. Signed into law in 2002, it authorizes $270 million to remove hundreds of tons of contaminated sediment that has built up over the years and left some local waterways severely polluted. These toxics can impact the environment, the economy, and human health in the region. U.S. EPA has identified 31 "Areas of Concern" in the U.S. portion of the Great Lakes.

So far, four communities are benefiting from this federal funding with many more under discussion. Susan Boehme, Illinois-Indiana Sea Grant coastal sediment specialist, who works with the U.S. EPA Great Lakes National Program Office, works closely with these communities as they go through this process. "I make sure that citizens have all the information they need as the project goes forward and that any concerns are heard," said Boehme.

She also helps the community take the next step, which is to take ownership of their rehabilitated environment. "EPA cleans up these sites, but the process doesn't include any long term restoration plans," said Boehme. "The community needs to initiate these plans."

In Muskegon, Michigan, where Ruddiman Creek and Pond are in the midst of the clean-up process, that has been an easy sell for Boehme. "This community fought for this project so they are enthusiastic about being involved," she said. "One resident said this project is a dream come true."

In Ruddiman Creek, the goal is to remove 80,000 cubic yards of contaminated sediment tainted with cadmium, chromium, PCBs, lead and other pollutants. Other projects have noteworthy numbers: from the (ominously named) Black Lagoon in Trenton Michigan, the first completed Legacy Act project, 115,000 cubic yards of polluted sediment or mud were removed (grease and oil were the main culprits); and from Hog Island Inlet, Superior, Wisconsin, 50,000 tons of muck were trucked away—including approximately 7,000 of lead. The newest project is the Ashtabula River in Ohio. Plans are to remove 25,000 pounds of hazardous PCBs over the next three to four years.

The natural water flow through Newton Creek in Superior, Wisconsin was diverted to remove contaminated sediment. Before the flow was restored, the creek was lined and covered with sand, gravel, and rocks to create a more natural shoreline and provide fish habitat. (Photo courtesy of U.S. EPA GLNPO)

For each project, after sediment is removed, the site is stabilized, work areas are restored, and efforts are put in place to prevent further contamination.

At this point, the community takes over. "Owning the project can mean finding funding to proceed with restoration plans," explained Boehme. "The next step might be creating biking or hiking trails, or whatever ideas are the consensus of the community."

The citizens of Waukegan, Illinois are being creative in their fundraising techniques. Waukegan Harbor is on list of toxic sites for which clean up has been proposed. "To raise money for restoration, the community is considering selling contaminated sediment or offering citizens the chance to buy a brick that will comprise a wall near the harbor and will display the names of contributors," said Boehme.

"This work provides a rich opportunity to do what Sea Grant does best—transferring knowledge from universities to communities, enabling them to improve their environments and shape their futures," said Boehme.

Sea Grant Academy: Training a New Generation of "County Agents in Hip Boots"

The first graduating class as well as the instructors from the National Sea Grant Extension Athelstan Spilhous Academy. (Photo by Bambi Provost)

In 2005, it was back to school for a number of Sea Grant extension agents. The Assembly of Sea Grant Extension Program Leaders successfully launched the National Sea Grant Extension Athelstan Spilhaus Academy, which was attended by 31 new extension agents from 21 different Sea Grant programs. IISG extension specialists Susan Boehme and Elizabeth Hinchey Malloy are among the graduates.

The academy was named in honor of Athelstan Spilhaus, an oceanography professor who first proposed the creation of a Sea Grant College system. Upon graduation, this year's participants received a certificate and a hip boot pin, which represents the vision that Spilhaus had in the mid-1960s when he called for the creation of a marine extension program, akin to land–based extension programs, complete with "county agents in hip boots."

The training program was designed to improve the knowledge and skills required for working in Sea Grant extension. "In the late 1990s several extension leaders began advocating for a Sea Grant Academy-like training program for newcomers," said Mike Liffmann, assistant director, Louisiana Sea Grant, who, along with Don Jackson, special project coordinator and Mike Spranger, assistant director, Florida Sea Grant, and Brian Miller, associate director, IISG developed and initiated the academy.

"The goal was to provide practical tools for agents and specialists so they can more effectively plan and carry out their duties," said Liffmann. "And we wanted to share the "Sea Grant way" and our distinguished history and culture. We were also motivated by the distinct graying of Sea Grant extension professionals throughout the country. Most of us have been with our programs for 15-25 years. During budgetary hard times of the 1980s and early 1990s, we simply did not have a significant infusion of youth and new blood in our ranks. Now that we do, the time is right for the academy."

In March, Sea Grant Academy began with a week-long session at the National Conference Center in Lansdowne, Virginia. This program featured an introduction to the fundamentals of Sea Grant extension as well as a project design and evaluation course. Academy participants took a trip to the National Sea Grant Office in Silver Spring, Maryland and to NOAA headquarters in Washington D.C. to meet with key NOAA personnel, including Louis Koch, NOAA Research deputy assistant director, Ron Baird, National Sea Grant College Program director, William Hogarth, NOAA Fisheries director, and Scott Rayder, NOAA chief of staff.

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IISG Knauss Fellows Go to Washington

This past year, Illinois-Indiana Sea Grant's Knauss Fellow played a role in critical coastal legislation, including the Senate's Ballast Water Management Act and the reauthorization of the National Aquatic Invasive Species Act. Both of these bills may come up for a vote in 2006.

Bridgett Chapin, a doctoral candidate from the University of Kansas, Department of Ecology and Evolutionary Biology, spent 2005 in NOAA's Office of Legislative Affairs. There, she provided input on legislation content, worked closely with stakeholders and legislators, and organized hearings.

"To prepare for hearings, I helped develop strategies, recruited and briefed witnesses, and wrote testimony," said Chapin. "Over the course of the year I learned to trust my instincts, which is critical in Washington."

"I also learned that no one carries the football downfield by themselves," said Chapin. "In my experience here, I learned the value of communicating with all the players related to a specific issue or proposal."

Although her main focus was on the issue of invasive species, Chapin's time in NOAA provided her opportunities to work in a variety of areas, including the Endangered Species Act, the National Environmental Policy Act, climate change, restoration in the Chesapeake Bay, and estuarine reserves. She also responded to Congressional inquiries about a range of NOAA-related topics and helped inform legislators about NOAA programs. "This office is both proactive and reactive," said Chapin.

Now Chapin is back in Kansas finishing her dissertation. Her research focuses on how well "ecoregion" classifications—relatively large areas of land or water that contain a geographically distinct collection of natural communities—account for natural variability of fish communities in streams. From there, she hopes to find an opportunity to work with the public and with government officials on watershed issues.

The Knauss fellowship program places highly qualified graduate students in the legislative and executive branch of government in the Washington, D.C. area for one year. Established in 1979, the program is named in honor of one of Sea Grant's founders, former NOAA Administrator, John A. Knauss.

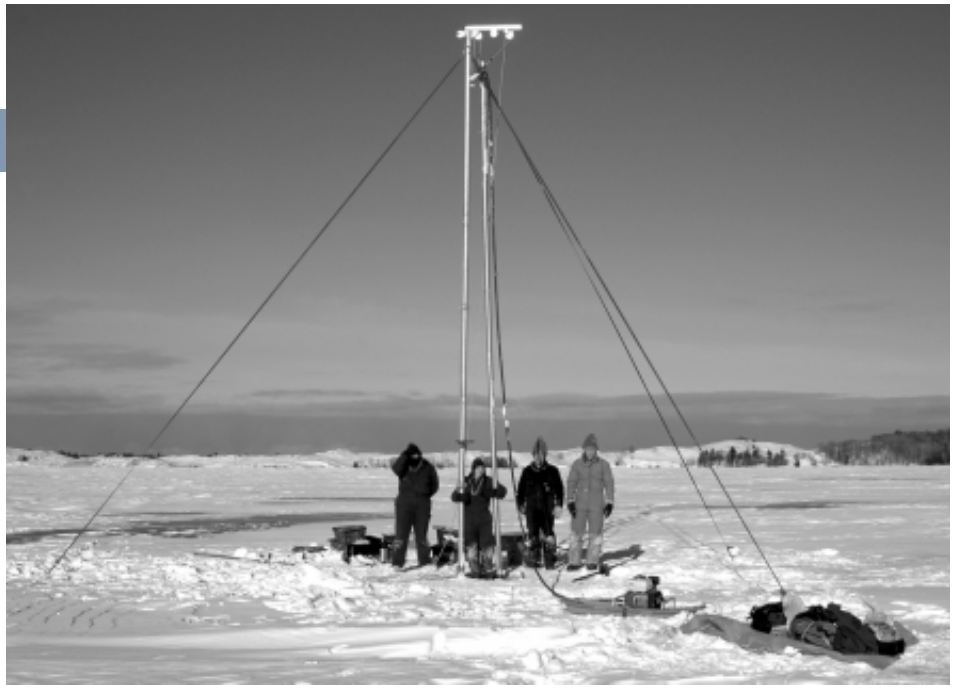
This year, IISG is sponsoring two Knauss Fellows. Kate Von Holle, who recently received her Master's Degree from the University of Illinois, Department of Natural Resources and Environmental Sciences, has been placed in the State Department, Office of Marine Conservation where she will work with the United Nations Fisheries Department.

Kenli Schaaf, who has just completed her PhD at Purdue University in the Department of Forestry and Natural Resources, will be a policy liaison in the Office of the Oceanographer of the Navy. In her research, she has focused on the human dimension of natural resources, more specifically, the effects of collaboration in resolving local land use issues.

Enter the Aquatic Invader Web Site Teacher Contest

Want to win new classroom supplies, books, or free invasive species specimens? Then join in the fun by participating in Sea Grant's "Nab the Aquatic Invader! Web site" teacher contest. Go to www.sgnis.org/kids/ and click on the 'Teacher Contest' red arrow. Enter by March 31, 2006 for your chance to win.

Historical Lake Levels Offer Insight into Future Lows



In January 2005, Fisher's team took sediment cores from Hamlin Lake along the east coast of Lake Michigan. (Photo courtesy of Tim Fisher)

At one point, about 10,000 thousand years ago, the Lake Michigan water level was so low that you could have stood at today's southern shoreline and not seen water because it was more than five miles away. At another point in its history, the lake's level was so high that it covered most of what is now Chicago.

In recent millenniums, the ups and downs of Lake Michigan have been far less dramatic. Nonetheless, fluctuations of even a foot or two can cause problems for commercial shipping, recreational boating, coastal development, and industry. For example, when lake levels are low, ships may need to carry less cargo, dredging in marinas can become a necessity, and water supply concerns are more pressing.

So that experts might better predict and thus prepare for future fluctuations, Sea Grant researcher Tim Fisher has gone back more than 10,500 years to reconstruct Lake Michigan lows. Previous research by Steve Baedke and Todd Thompson has documented the lake's highs as far back as 4,700 years. Fisher, a University of Toledo geologist, hoped to confirm lake level patterns going back even further. By focusing on the lake's low levels, the historical picture becomes more complete.

Fisher's team accomplished this by collecting sediment cores from three small lakes in the state of Michigan along the lake's eastern coast. "Because these lakes are so much smaller and shallower than the Great Lake, the logistics of retrieving sediment cores is much more doable and safer," said Fisher. "And they are ideally located along the lake's shore, which is the best place to discern water levels." The sediment cores revealed a 190-year lake level cycle and a much longer 570-year cycle.

So where does the lake stand today? "Right now the lake is low and has stayed low for perhaps the longest period since records have been kept," said Fisher. "Looking at previous data and our sand data, which match, in a few decades the lake level may decline to the low similar to the drought levels in the 1930s or we may have started that decline already," said Fisher.

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Stream Restoration Workshops Get Real-World Test

On the Fox River, the first dam on a large waterway in Illinois is being removed. In other rivers and streams in the region, smaller dams have been taken down and fish passages are springing up. Communities are responding to the problems of older dams in need of repair and diminished fish biodiversity in local streams and creeks.

In recent years, IISG's stream restoration workshops have been a valuable tool for natural resource managers, regulators, designers, environmentalists, scientists, and engineers. "The Sea Grant workshops provide an opportunity to talk with people who are actually doing projects like this, rather than just reading about it in a book. You realize that you can do this work," said Steve Pescitelli, a stream specialist with the Illinois Department of Natural Resources.

Since 2002, IISG and the Chicago Wilderness Consortium have sponsored four stream restoration workshops focusing on a range of topics, including dam removal, bioengineering, and riffle restoration. "At each workshop, we survey the participants to find out what topics they are most interested in, and plan the next one accordingly," said Leslie Dorworth, IISG aquatic ecology specialist.

These workshops provide the opportunity to hear from experts from around the U.S. and Canada as well as from the region. Field trips provide real world learning opportunities, both for participants and presenters. Pescitelli, who had been working on a fish passage over a dam on Big Rock Creek in northeastern Illinois, shared his experience with recent workshop participants. "I modeled this fish passage after some projects done in Canada," said Pescitelli. "When the designer of the Canadian fish passages visited the site during the field trips, his evaluation of the project was very helpful and we've incorporated some of his ideas."

This fish passage, which uses rocks to create a ramp across the dam, appears to be a success. "Fish were swimming over it before it was even done," said Pescitelli. "We have tagged some fish and will monitor for the next few years whether they pass over the dam." Pescitelli has also been involved in the creation of a small bypass channel on private property in northeastern Illinois.

In LaPorte County, Indiana, plans are ready to purposefully breach a dam on the Little Calumet River Headwaters and build a series of riffle pools. The dam in Red Mill County Park has been there since 1830 and no longer serves a function, except that it has led to the development of a wetland upstream with high quality flora and fauna. The park board engaged in a feasibility and design study to decide how best to address the problem of the aging dam, in light of its desire to preserve the wetland.

"We went into this process with four options on the table," said Tim Morgan, park superintendent. "In the end, we chose option number five, which includes maintaining the wetland through the use of riffle pools, maintaining current water levels, and lowering the dam by six feet."

"The Sea Grant workshops played a key role in this process," said Morgan. "The information in the workshop video helped the board become more open-minded and helped us understand that we need to consider the big picture as we make our plans."

The South Batavia Dam on the Fox River is the first on a large Illinois waterway to be removed. The Kane County Forest Preserve District faced the prospect of rebuilding the 87-year-old dam, which posed safety and environmental concerns. "The decision process was speeded up when the dam was breached," said Karen Kabbes, whose firm Kabbes Engineering, Inc. was the project manager on the dam removal effort.

Kabbes has also helped plan the stream restoration workshops. "These workshops are helpful towards understanding the complexity of the issues," said Kabbes. In fact, her participation in the workshops has inspired Kabbes to consider pursuing advanced coursework or an advanced degree in the field of stream restoration.

The newly built fish passage over the Big Rock Creek Dam in northeastern Illinois. (Photo courtesy of Steve Pescitelli)

IISG Awards New Research Funding

Illinois-Indiana Sea Grant has awarded a total of $450,000 to six research projects that address human and environmental health issues in the southern Lake Michigan region. For the years 2006-2007, IISG will support studies on aquatic invasive species; contaminants in drinking water, lakes and rivers; and the medicinal potential of Lake Michigan bacteria.

"These projects will provide new information that will play a critical role in future water resource policy making, planning, and management," said Phil Mankin, IISG research coordinator.

Three researchers from the University of Illinois will assess the impact of contaminants, but from a variety of perspectives. John Braden, an economist, will measure the financial benefits of cleaning up contaminated sites for communities near Great Lakes Areas of Concern, which are waters that have an impaired ability to support aquatic life. Braden hopes to speed up informed decision-making about contaminated sediment remediation in the Great Lakes.

Robert Hudson, an environmental chemist, will study the distribution and concentration of methylmercury—the form of mercury that poses a threat to human health and the environment—in wetlands along the southern shores of Lake Michigan. Wetlands can be a major source of methylmercury in streams and lakes.

Contaminants in drinking water will be the subject of Michael Plewa's research. Ironically, the process of disinfecting drinking water can result in the development of by-products that, in some cases, pose human health implications. Plewa, a geneticist, will assess the toxicity of a number of disinfectant by-products, known as DBPs, on mammal cells.

Two research projects will provide key information for managing the problem of aquatic invasive species in local waters. Nadine Folino-Rorem, a marine biologist at Wheaton College, will study *Cordylophora caspia*, a hydroid from the Caspian Sea that can be found in southwestern Lake Michigan. Little is known about the diet of these tiny, bottom-dwelling, invertebrate organisms in Lake Michigan and their impact on the food chain.

The electric barrier in the Chicago Sanitary and Ship Canal is designed to prevent invasive species from moving between Lake Michigan and the Mississippi River. However, despite the barrier, barges and boats may provide these species transportation through the canal. Daniel Schneider, an aquatic ecologist at the Illinois Natural History Survey and the U of I, will identify the risks that these vessels pose for transferring organisms and which species should be targeted for management efforts.

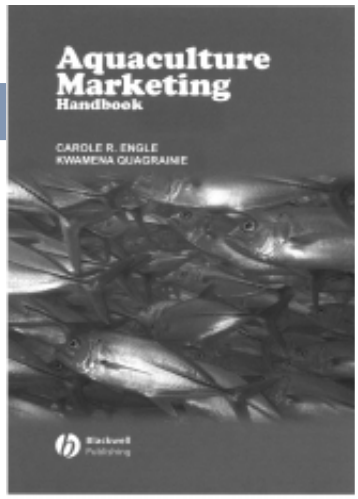
Finally, stepping into a new frontier, which may have implications beyond the region, Jimmy Orjala, a medicinal chemist at the University of Illinois at Chicago, will look to the waters of Lake Michigan for cures for disease. Taking advantage of new technology, he will culture Lake Michigan bacteria that previously could not be grown in the lab, and test these microbes for their anti-cancer and anti-tuberculosis properties.

Michael Plewa and Elizabeth Wagner test water samples for toxic disinfectant by-products.

"Through these six studies, we will shed new light on some critical problems that affect environmental quality and human health. The results of these efforts will be more finely-tuned resource policies and, ultimately, healthier, more vibrant communities," said William Sullivan, IISG director.

SEA GRANT STAFF UPDATE

Dr. Kwamena Quagrainie is Illinois-Indiana Sea Grant's new aquaculture marketing specialist. Quagrainie comes to the program from the University of Arkansas where he was an assistant professor of aquaculture marketing. Originally from Ghana, Quagrainie received his doctorate in agricultural economics from the University of Alberta in Canada. In his new role with Sea Grant, Quagrainie provides assistance to aquaculture producers in pursuing and realizing economic and market development opportunities. He also provides training and educational materials for farmers and extension educators in the farm business management area of enterprise budgets.



Author! Author!

Congratulations to Kwamena Quagrainie, whose new book *The Aquaculture Marketing Handbook* co-authored with Carole Engle, University of Arkansas at Pine Bluff, has just been released through Blackwell Publishing. To purchase a copy, visit www.blackwellpublishing.com.

"This 288-page book is an important introduction to aquaculture marketing for those involved in aquaculture and those new to the field. This book will be important to producers in Illinois and Indiana and will be an asset to Kwamena as he develops his program in the two states."

—Brian Miller, IISG, associate director

IISG's new education assistant is Julie Murphy. 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. Murphy earned a B.S. in physics from Illinois State University and taught high school physics and chemistry for five years in the Chicago area. This spring she will complete a M.S. in curriculum and instruction at Illinois State University and is taking classes towards an M.S. in library and information science at the University of Illinois. Murphy replaced Terri Hallesy, who was promoted to media communications specialist.

Sea Grant Academy (continued from page 4)

Participants then went back to their jobs to engage in directed learning and complete plan-of-work assignments. The group met again at Miracle Camp in Pensacola, Florida in September. (The original venue, University of Florida's Timpoochee 4-H Youth Camp in Niceville, Florida, was being used as a school for children displaced by Hurricane Katrina. Miracle Camp proved to be an excellent last-minute substitution.) This session featured plan-of-work presentations by academy participants, NOAA Coastal Services Center Public Issues and Conflict Management training, field trips to local Sea Grant projects, and training on becoming a "holistic agent."

"For the first time in my career, I felt that I was given all of the tools to succeed and excel in my job," said Boehme. "It has made my transition to an extension specialist smooth and enjoyable. Sea Grant Academy has also provided valuable tools I can use for the rest of my life. I have used the conflict management training in all sorts of situations. I wish I had this type of training when I first got out of college."

Illinois Water Conference 2006

In light of natural disasters like Hurricane Katrina, "Preparing for the Future" will be the theme of the Water 2006 Conference, October 3-5, in Urbana, Illinois. This meeting will bring together experts to discuss emerging issues such water supply planning, human and ecosystem health, Lake Michigan management, and the future of data collection, among other topics.

For more information, visit www.environ.uiuc.edu/iwrc/water2006.

Lake Levels (continued from page 6)

Fisher is also hoping to look to the past to tie lake levels to climatic conditions, which may have implications for any oncoming climate change. "If we are entering a different climate that is warmer or drier, or both, then maybe we can look to past lake levels that reflect these climate conditions," said Fisher. His data seems to show that lower lake levels indicate a drier climate. "But there is very little evidence about climate conditions going back 5,000 to 10,000 years ago," explained Fisher. "As this evidence comes to light in other research areas, we can put the pieces together."

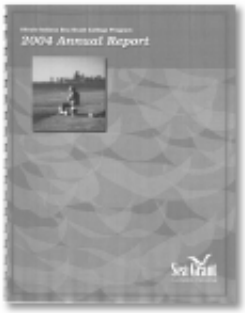
Illinois-Indiana Sea Grant Publications

What You Need to Know Before You Eat that Fish! PCBs and Your Family and The Lowdown on PCBs

Illinois-Indiana Sea Grant has created two one-page fact sheets that quickly summarize the issues and concerns of PCB levels in fish as they relate to your diet and the health of your family. Learn how PCBs 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-05-24 and IISG-05-23, respectively. To obtain a free copy of these fact sheets, contact Virginia Munday at 217-333-6444 or munday@uiuc.edu.

Illinois-Indiana Sea Grant College Program Strategic and Implementation Plan 2006-2010

Over the next four years, IISG will address a number of water-related issues in the two states, including contaminated sediments, invasive species, and water quatity. Here is our plan, laid out with goals and objectives in each of our four new thematic areas: Coastal Cities, Habitats and Ecosystems, Nourishing Healthy Communities, and Water for our Future. IISG-05-25. To obtain a free copy, contact Virginia Munday at 217-333-6444 or munday@uiuc.edu. To find the pdf online, visit www.iisgcp.org/products/program/StratPlan2006-10.pdf on the IISG Web site.



Illinois-Indiana Sea Grant College Program Annual Report 2004

This publication highlights activities and impacts associated with IISG in 2004. Learn how the program directly benefits the ecological and economic health of the southern Lake Michigan region. IISG-05-18. To obtain a free copy, contact Virginia Munday at 217-333-6444 or munday@uiuc.edu. To find the pdf online, visit www.iisgcp.org/products/program/annual2004.pdf on the IISG Web site.

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Exciting Teacher Opportunity—

Understanding the Benefits and Risks of Eating Fish

We invite teachers in grades 6-12 to come to the Shedd Aquarium on June 28, 2006 to update their scientific knowledge about the risks and benefits of fish consumption and learn how good consumer choices can play a role in environmental and human health. IISG and the Shedd Aquarium are offering a one-day workshop where teachers will hear presentations from scientists, get hands-on experience with classroom activities, and observe fish cooking demonstrations by area chefs. Through their *Right Bite* program, Shedd Aquarium experts will explain how one's seafood choices can make direct impacts on the environment.

Participating teachers can receive CPDUs and a stipend from IISG's *Fish School* project by going back to their classrooms and working with their students to develop school or community-based projects that inform local citizens. This workshop is designed to meet state education standards. For information, visit www.iisgcp.org/edk-12/FishSchool/ or contact Terri Hallesy at 217-244-8809 or thallesy@uiuc.edu. *(This project is funded through a COSEE Great Lakes grant from NSF and NOAA/Sea Grant and through a grant from U.S. EPA-GLNPO.)*

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

For a free subscription, program information or to send suggestions for articles or editorial correspondence write to us at the address below or contact

Irene Miles
University of Illinois
350 NSRC
1101 W. Peabody
Urbana, Il 61801
(217) 333-8055
miles@uiuc.edu

Visit our Web site at:
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.

William Sullivan, Interim Director
wcsulliv@uiuc.edu
University of Illinois
350 NSRC, 1101 W. Peabody
Urbana, IL 61801
217-333-6444

Brian K. Miller, Associate Director
bmiller3@purdue.edu
Purdue University
195 Marsteller St.
West Lafayette, IN 47907
765-494-3573

Aquaculture Marketing
Kwamena Quaqrainie
765-494-4200
kquagrai@purdue.edu

Aquatic Ecology
Leslie Dorworth
219-989-2726
dorworth@calumet.purdue.edu

Aquatic Invasive Species
Patrice Charlebois
847-872-0140
charlebo@uiuc.edu

Coastal Sediments
Susan Boehme
312-353-4383
boehme.susan@epamail.epa.gov

Communications/K-12 Education
Robin Goettel
217-333-9448
goettel@uiuc.edu

Environmental Planning
Martin Jaffe
312-996-8933
mjaffe@uic.edu

Great Lakes Ecosystem
Elizabeth Hinchey Malloy
312-886-3451
Hinchey.Elizabeth@epamail.epa.gov

Planning with POWER
Robert A. McCormack
765-494-3627
rmccormi@purdue.edu

Research
Phil Mankin
217-244-6916
pmankin@uiuc.edu

University of Illinois at Urbana-Champaign
Illinois-Indiana Sea Grant College Program
350 NSRC, MC-635
1101 W. Peabody Drive
Urbana, IL 61801

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