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Senate committee hearing highlights Great Lakes Day in Washington

## Senators: restoration must be a priority

The restoration and protection of the Great Lakes cannot wait.

That was the message delivered to members of Congress at a Senate committee hearing and other events around Capitol Hill during Great Lakes Day in Washington, March 16, 2006.

Members of the Great Lakes Congressional Delegation, regional leaders and stakeholders joined together in stressing that, while the federal budget may be tight, the Great Lakes are a national resource of such stature, with needs that are so critical, that room must be made for them.

"We have to get real about some of these problems," said Sen. George Voinovich, R-Ohio, chairing a hearing of the U.S. Senate Committee on Environment and Public Works. "If we don't find the resources to do something about them, we're going to lose our lakes."

Voinovich was one of a number of Great Lakes senators and others to offer their views during the hearing on the Great Lakes Regional Collaboration Strategy to Restore and Protect the Great Lakes. The hearing was one of the main events of Great Lakes Day in Washington, the annual policy forum

co-sponsored by the Great Lakes Commission and Northeast-Midwest Institute to focus attention on Great Lakes issues and legislation.

Committee Chair James Inhofe, who opened the hearing before passing

of the budget is getting clobbered and there are many things we ought to be doing that we're not doing," Sen. Voinovich said. "I think we're being penny-wise and pound-foolish."

Andy Buchsbaum, director of

*From left, Great Lakes senators Mike DeWine, Carl Levin and Debbie Stabenow offer testimony on the Great Lakes Regional Collaboration at a committee hearing held during Great Lakes Day in Washington.*



the gavel to Sen. Voinovich, expressed skepticism that major Great Lakes initiatives could be funded in the current budget climate. However, Sen. Voinovich expressed concerns about the potential costs of not taking action, at one point citing the breach of the New Orleans levees following Hurricane Katrina as an example.

"My concern is the domestic side

the Great Lakes office of the National Wildlife Federation and co-chair of the Healing Our Waters campaign, cited a recent report issued by more than 60 Great Lakes scientists concluding that the Great Lakes are experiencing a historic crisis due to the cumulative effects of a combination of long-established and new stresses.

"Scientists are coming to a consen-

*continued on page 5*



## Embracing change

Another "Great Lakes Day in Washington" has come and gone. As with most big events that require significant planning and coordination there is always a sense of relief and accomplishment when the meeting is over and the immediacy of the moment has passed.

Over the years, Great Lakes Day has been a familiar venue for meeting with members of Congress, networking with regional partners and strategizing over how to convey Great Lakes concerns to decisionmakers on Capitol Hill. Many of us have become accustomed to the culture, rhythms and format of Great Lakes Day, including the low-ceilinged basement rooms of the Rayburn House Office Building and the eggs, bacon and toast of the traditional sit-down breakfast.

As our planning for Great Lakes Day began last fall, several of our Commissioners and other project partners challenged us to consider some changes. This was inspired in no small part by the significance of the Great Lakes Regional Collaboration and a desire to present a united regional message in support of its recommendations. Foremost among these suggestions was to structure the events in order to increase the involvement of Great Lakes leadership (e.g., governors, mayors and tribes), encourage broader participation from the Great Lakes community, and magnify the Great Lakes message to members of Congress and the administration. Through hours of discussion (and some debate), the decision was made to simplify the breakfast venue, seek a congressional hearing to replace the traditional issues briefing and set up team visits to congressional offices.

To say that these changes were embraced enthusiastically and without trepidation would be untrue. Change is hard under the best of circumstances. Throw uncertainty and a shortened timeline into the mix and it became an exercise of faith for us to visualize success for the event. But successful it was!

Initial feedback indicates that people liked the change of format and that they experienced a sense of excitement and energy with Great Lakes Day that they hadn't felt in years. People appreciated the opportunity for more networking that the less formal breakfast provided and were pleased with the spacious setting for the event in the Senate Russell Building. The hearing and office visits were also viewed favorably by the Great Lakes Day participants that we talked to.

All this is certainly encouraging, but there is always room for improvement. Encouraging more congressional involvement and leadership in Great Lakes issues will require a strategy that goes well beyond a once-a-year event in Washington. We and our partners are committed to developing such a strategy and welcome ideas from our readership in this regard.

Embracing change can be hard but seeing the good fruit that change often brings can make it easier to contemplate the next time around.

*Thomas R. Crane*

Thomas R. Crane  
Interim Executive Director

"Encouraging more congressional involvement and leadership in Great Lakes issues will require a strategy that goes well beyond a once-a-year event in Washington."

## Annual Meeting to be held Oct. 3-5 in Duluth

This fall, the Great Lakes Commission returns to Minnesota for its 2006 Annual Meeting, to be held Oct. 3-5 at the Downtown Waterfront Holiday Inn and Suites in Duluth. Registration information, discussion topics and other details will be posted at [www.glc.org/meeting](http://www.glc.org/meeting) as they are finalized over the coming months.

# Semiannual Meeting focuses on land use

Land-use activities are inherently linked to the overall health of the Great Lakes and the region's quality of life. Changes in land use have a cumulative impact on water quality and quantity, and thus the vitality and resiliency of ecosystems in the Great Lakes region. These changes also can have significant economic and lifestyle impacts for the region, some of them negative.

For these reasons, the Great Lakes Commission organized its 2006 Semiannual Meeting, May 2-4 in Sheboygan, Wis., around the issue of sustainable land use. With the theme of "Sustainable Land Use: Using Natural Assets to Promote Economic Prosperity," the meeting took a detailed look at smart growth initiatives in the Great Lakes states, and explored how individual communities are using natural assets to drive greenfields protection and urban redevelopment to create places that offer economic and quality of life amenities. The meeting offered a forum for the Commission to consider opportunities for playing a role in supporting sustainable land use and smart growth in the Great Lakes region.

Between 1982 and 1997, more than 11 million acres of farmland in Great Lakes states were converted to other uses – an area greater than lakes Erie



*Attendees of the 2006 Semiannual Meeting have an opportunity to tour an ongoing sustainable redevelopment project in Milwaukee's Menomonee Valley, a onetime shipping and rail center that fell into disuse and decay. The end vision for the project calls for a combination of new manufacturing on the site, along with recreational areas such as sports fields and a greenway/linear park along the river, above. Image: Wenk Associates.*

and Ontario combined. The conversion of farmland to urban development results in more paved surfaces, which increases stormwater runoff that bears with it the chemical residues of urban life into our rivers and streams and can overwhelm sewage treatment plants with the ultimate release of untreated waste into Great Lakes waterways.

The way that land is developed plays an important role in the prosperity of the region. Unplanned, low-den-

sity growth (e.g., urban sprawl), once thought to be cheap and efficient, is increasingly proving to be economically inefficient and environmentally unsustainable. As older areas lose population to newly developed ones, overall costs of providing public utility services, housing and roads are increased, while at the same time a shrinking tax base makes it harder for the older areas to bear the costs they already have. Population loss, declining employment opportunities, aging infrastructure, and declining schools are trends that plague cities across the Great Lakes region.

More than a quarter of the Commission delegation represents agencies that have direct responsibility for land-use programs, with many more indirectly involved in land-use issues. Six out of the eight Great Lakes states have statewide initiatives that promote smart growth and/or comprehensive planning. This made the Commission's Semiannual Meeting a natural setting for examining the progress and pitfalls of these initiatives, and considering opportunities for member states to address these issues as a region.

Contact: Victoria Pebbles, [vpebbles@glc.org](mailto:vpebbles@glc.org).

## Boating study undergoing final review

A comprehensive study on the economic benefits of recreational boating in the Great Lakes is currently under final review by the U.S. Army Corps of Engineers. The study is being managed by the Great Lakes Commission as a component of the John Glenn Basin Program authorized by Congress in the Water Resources Development Act of 1999. A primary objective is to demonstrate, through documentation of economic benefits, the federal interest in maintaining authorized recreational harbors in the Great Lakes.

A second phase of the study, now underway, will produce further data on Great Lakes-related boating including more detailed information on the geographic distribution of Great Lakes boating activity and location of boat storage and an online system for identifying, verifying and estimating the different economic values of marinas. The second phase is scheduled to be completed by summer 2006.

For more information, contact: Dave Knight, [dknight@glc.org](mailto:dknight@glc.org).

## Revised Great Lakes Day format proves popular



*Scenes from Great Lakes Day 2006, beginning at top left: Elden Montross, of Michigan United Conservation Clubs (MUCC), speaks with Dan Beattie, director of the state of Michigan's Washington Office, during the breakfast reception while MUCC's Dan Radloff looks on; a team consisting of Commission Chair Tom Huntley, Observer Craig Czarnecki of the U.S. Fish and Wildlife Service, Minnesota Commissioner Ed Oliver and Interim Executive Director Tom Crane pay a visit to the office of Rep. Mark Kennedy (R-Minn.) and meet with aide Michael Yost; Ohio Gov. Bob Taft is interviewed*

This year's Great Lakes Day in Washington had a different look and feel, as a number of changes were made to the traditional lineup of events. Foremost among these, the U.S. Senate Committee on Environment and Public Works scheduled a hearing on the Great Lakes Regional Collaboration to coincide with the day's events. The hearing took the place of the issues briefing for congressional staff that the Commission has sponsored in the past.

In addition, the Congressional Breakfast that opens the day was moved to the high-ceiling and marbled Senate Caucus Room of the Russell Building, from its usual location in the basement of the Rayburn Building, and was set up as a continental breakfast reception rather than a sit-down meal as in the past. The change proved to be a popular one, with many attendees saying they appreciated the increased networking opportunities the informal arrangement provided.

Two members of Congress, Rep. Steven LaTourette (R-Wis.) and Rep. Vernon Ehlers (R-Mich.) provided brief remarks, as did Commission Chair Tom Huntley and Northeast-Midwest Institute Director Dick Munson, representing the event's co-sponsors.

The afternoon was dedicated to congressional office visits by teams of Commission and partner organization representatives, who met with members of Congress and key staff to discuss the recommendations of the Regional Collaboration and show support for them as a regional agenda. The meetings also provided an opportunity to present the Commission's FY 2007 legislative priorities, which reflect common themes adopted by the region's governors, mayors and other Regional Collaboration partners. (The full legislative priorities document, *Supporting Great Lakes Restoration*, is featured as a special insert in this issue)

*by reporters following his testimony on Great Lakes needs before the Senate Environmental and Public Works Committee; and Rep. Vernon Ehlers (R-Mich.) and Michigan Commissioner Ken DeBeausseart converse at the breakfast reception.*

# Senate hearing highlights Great Lakes Day in Washington

(continued from page one)

sus that the Great Lakes are at a tipping point,” he said, describing a cascading effect of combined stresses resulting in abrupt and major changes that could lead to a breakdown of major sectors of the ecosystem. “The rapidness of the process of change is unique in Great Lakes history.”

Ohio Gov. Bob Taft, representing the Council of Great Lakes Governors, urged that Congress take a number of specific actions representing major elements of the Regional Collaboration strategy, among them:

- Pass the National Aquatic Invasive Species Act;
- Fund the completion and operation of two permanent dispersal barriers in the Chicago Sanitary and Ship Canal to keep the Asian carp out of the Great Lakes;
- Support the president’s request for contaminated sediment cleanup under the Great Lakes Legacy Act to be funded at \$49.6 million – if not the full \$54 million authorized level;
- Provide an additional \$50 million to U.S. EPA’s brownfield program to clean up abandoned industrial waterfront properties in the Great Lakes basin;
- Support the president’s commitment to restore 200,000 acres of wetlands in the Great Lakes basin by appropriating \$28.5 million.

Also testifying before the committee, Sen. Mike DeWine, R-Ohio and Sen. Carl Levin, D-Mich., described a Great Lakes restoration bill that the two senators have introduced that is based on the recommendations of the Regional Collaboration and includes, among other things, comprehensive invasive species legislation, measures to restore fish and wildlife habitat, resources for addressing sewage overflows and contaminated sediment cleanup, a phase-out of mercury products, and support for additional Great Lakes research and program coordination.

“The plans are there – there’s no

shortage of plans,” Sen. Levin said. “The data is there – there’s no shortage of data. What’s lacking is the funding.”

Testimony from the hearing is avail-

able online at [http://epw.senate.gov/hearing\\_statements.cfm?id=252789](http://epw.senate.gov/hearing_statements.cfm?id=252789)

Contact: Jon MacDonagh-Dumler, [jonmacd@glc.org](mailto:jonmacd@glc.org).



*Honorees at the 2006 RDX Conference were, left to right, Larry Alber, N.Y. State Dept. of Environmental Conservation; Jeff Herter, N.Y. S. Department of State, Division of Coastal Resources; and Charley Hickman, U.S. Geological Survey. Alber and Hickman received the 2006 RDX awards for achievement in Great Lakes information management, while Herter received an honorary award from the Central New York Region of the American Society for Photogrammetry and Remote Sensing (ASPRS). Photo: Christine Manninen, Great Lakes Commission.*

## Data managers gather for second Great Lakes RDX Conference

On April 4-6 in Rochester, N.Y., the Great Lakes Commission led a team of numerous partners in hosting the 2006 Regional Data Exchange (RDX) Conference. Held in conjunction with the 5th Annual New York State Remote Sensing Symposium, the event was attended by more than 175 participants and featured wide-ranging sessions on the development and application of remote sensing and geospatial technologies to improve monitoring programs and resource management across the region.

Plenary sessions focused on regional observing systems, data distribution, and related technologies for real-time data and information acquisition and sharing. Event partners included the Central New York Region of the American Society for

Photogrammetry and Remote Sensing, the SUNY College of Environmental Science and Forestry, the Ontario Ministry of Natural Resources, NOAA’s Great Lakes Environmental Research Laboratory, the Rochester Institute of Technology, and the New York Department of State.

This was the second RDX Conference, following the inaugural event in October 2004. Additional conferences are to be held every 18 months, augmented by a series of workshops every six months. The next workshop, this fall in Sioux Falls, S.D., will focus on cataloging of regional imagery and photography.

For more information, visit <http://rdx.glc.org>. Contact: Christine Manninen, [manninen@glc.org](mailto:manninen@glc.org).

# GLOS project to model Huron-to-Erie flows in 3-D

The St. Clair River, the outlet of Lake Huron, is home to a concentration of Canadian petrochemical plants known as Chemical Valley. It is also the source of drinking water for many communities along its shores and those of Lake St. Clair downstream. When chemical spills occur, those communities are affected.

That's one of the key reasons the waterway has been chosen for one of the first major initiatives of the Great Lakes Observing System (GLOS): the development of an advanced computer model to simulate water levels, currents and other physical characteristics within the Huron-to-Erie corridor (HEC). The system will also be useful in studying beach contamination, forecasting water levels and predicting physical and ecological changes in the corridor.

The goal is to create a three-dimensional (3-D) hydrodynamic model of the St. Clair River - Lake St. Clair - Detroit River system. The project is being organized by the Great Lakes Commission as part of its role in coordinating initial GLOS development.

"There have been several 1-D and 2-D models created in the past, but they have not provided comprehensive coverage of the entire corridor nor have they been capable of showing mixing actions or the movement of spills at different depths," said Roger Gauthier, manager of the Commission's Data and Information Management Program. "We need to know what the movement is within the water column and we need to know the movement in near real-time. That's why a continuously operating 3-D model is so important."

The 3-D hydrodynamic model would simulate complex flow patterns within the waterway and provide better predictions of pollutant dispersion to protect drinking water intakes along the HEC.

It would also provide essential in-

formation on nearshore current movements that can adversely affect beach contamination, and allow better short-term forecasts of water levels and flows for use by commercial navigation interests and recreational boaters.

In addition, the 3-D model would be extremely useful for predicting and monitoring ecological impacts of climate change and human modifications within the coastal zone.

The new model would be run "operationally," meaning it would generate detailed sub-surface flows on a 24-hour/day basis, with graphic displays provided on the Internet on a continuous basis.

The project is co-sponsored by the Southeast Michigan Council of Governments (SEMCOG) and two of its key members, Macomb and St. Clair counties. The counties, which lie along the St. Clair River and Lake St. Clair, are developing a real-time water quality monitoring system that would directly use output from the high-resolution 3-D hydrodynamic model.

A workshop to discuss user requirements, design characteristics and implementation planning for the new hydrodynamic model was held March 16-17, 2006, in St. Clair, Mich. Nearly 50 technical experts and stakeholders representing a broad range of U.S. and Canadian government entities, academic institutions, binational agencies, commercial interests and affected public took part.

Participants agreed that a coordinated U.S./Canadian model is needed for the corridor and that it should be based upon "open source" modeling tools, to provide for the broadest potential use over time.

Contact: Jon Dettling, [dettling@glc.org](mailto:dettling@glc.org).

## Did you know

During Prohibition, the Huron-to-Erie corridor was by far the main route for smugglers bringing liquor into the United States. The Detroit and St. Clair rivers and Lake St. Clair accounted for an estimated 75 percent of the liquor supplied to the country during that time.  
Source: The Detroit News.

## Workshop promotes web mapping tools

Distributed web mapping services, integrated information management systems and Internet protocols are playing an increasingly important role in the delivery of data products to a broad user community. To help advance the use of these tools, the Great Lakes Commission organized a workshop, "Distributed Web Mapping for the Great Lakes and St. Lawrence River Basin," Nov. 18 at the U.S. Environmental Protection Agency Region 5 training center in Chicago.

The main focus was a discussion of the tools and technologies that can be used to deliver data products and the organizational challenges that limit data sharing and exchange. The discussions made it evident that more efforts are needed to develop tools, policies and agreements on data sharing and exchange, especially among local, state and federal jurisdictions.

Wisconsin and Ontario have been developing their infrastructure using current data standards and sharing approaches to distribute state level data. The Great Lakes Information Network (GLIN) was suggested as an ideal vehicle to deliver web mapping services for the region.

Contact: Peter Giencke, [pgiencke@glc.org](mailto:pgiencke@glc.org).

## GLOS elects inaugural board of directors

The Great Lakes Observing System Regional Association (GLOS-RA) has incorporated in the state of Michigan as a nonprofit and elected a 12-member board of directors to guide its operations.

Members of the new board are: Dr. Alfred Beeton, scientist emeritus, NOAA Great Lakes Environmental Research Lab; Dr. Jeffrey Boehm, John G. Shedd Aquarium; Dr. Gerald Galloway, School of Public Policy at the University of Maryland and president-elect of the American Water Resources Association; Mark Grazioli, retired engineer, U.S. Army Corps of Engineers, Detroit District; Philip Keillor, retired coastal engineering specialist, University of Wisconsin Sea Grant Institute; Dr. Gail Krantzberg, McMaster University in Ontario (formerly with the International Joint Commission); Dr. Frank Kudrna, Kudrna & Associates engineering services; Dale Phenicie, consultant, Council of Great Lakes Industries; Dr. Harvey Shear, University of Toronto at Mississauga (formerly with Environment Canada); Dr. Richard Stewart, University of Wisconsin-Superior/Great Lakes Maritime Research Institute; Nelson Thomas, retired water quality specialist, U.S. Environmental Protection Agency; and Bill Werick, retired planner, U.S. Army Corps of Engineers.

The Commission continues to serve as secretariat for GLOS through an arrangement with the NOAA Coastal Services Center. GLOS is one of 11 regional associations that have been established through the national Integrated Ocean Observing System to develop sustained and integrated monitoring networks for all U.S. coastal areas, including the Great Lakes.

For more information, visit: [www.glos.us](http://www.glos.us), or contact: Roger Gauthier, [gauthier@glc.org](mailto:gauthier@glc.org).



**Marsh Monitoring Program tracks AOC recoveries** – *The Great Lakes Commission and Bird Studies Canada (BSC) are in the second year of a two-year partnership to track the health and ecological integrity of wetlands through the latter's Marsh Monitoring Program. The program, a binational monitoring initiative that engages volunteer "citizen scientists" to measure the status and trends of water-dependent species and their habitats, is being used to track the recovery of selected Great Lakes Areas of Concern (AOCs). The program was implemented in five U.S. or binational AOCs in 2005, with another six scheduled this year. Funding is provided by U.S. EPA - GLNPO. Here, BSC's Steve Timmermans reviews training kits during a field demonstration in the St. Clair River AOC in February. For more information, visit the Great Lakes Marsh Monitoring Program web site, [www.bsc-eoc.org/mmpmain.html](http://www.bsc-eoc.org/mmpmain.html), or contact: John Hummer, [jhummer@glc.org](mailto:jhummer@glc.org). Photo: John Hummer.*

### Gerald F. Mikol, 1951-2006

The Great Lakes community is mourning the passing of Gerry Mikol, Alternate Commissioner from New York and recently retired regional director of the state Department of Environmental Conservation (NYDEC). Mikol passed away April 2, 2006, after a yearlong illness.

Mikol was extensively involved in Great Lakes issues throughout his career. Appointed to the Great Lakes Commission in 1994, he also served on the Great Lakes Protection Fund, the New York State Great Lakes Basin Advisory Council and the Water Quality Board of the International Joint Commission.

"Gerry had one of the most demanding jobs of any of our Commissioners but still managed to do a good job of keeping the Great Lakes – and the Great Lakes Commission – on the radar screen in Albany," said Mike Donahue, former Commission president/CEO. "He was a great advocate for the Commission staff and had the deepest respect for its many talents – something I observed and appreciated over the years."

As an Alternate Commissioner, Mikol frequently represented the commissioner of the NYDEC, who serves as chair of the New York Delegation to the Great Lakes Commission. As such, he played an active role in both Board and Commission meetings, and had a significant influence on Commission activities.

Memorial donations may be made to Memorial/Honorary Gift, Trout Unlimited, 1300 N. 17th St., Suite 500, Arlington, VA 22209.



# New appointees join state, provincial delegations

The Great Lakes Commission welcomes the appointment of five Commissioners, Associates and Alternates to its ranks, and of two new Observers.

Denise Sheehan, appointed last November as commissioner of the New York State Department of Environmental Conservation, is the new chair of the New York Delegation. She began her service with NYDEC in 1998, overseeing implementation of the Clean Water/Clean Air Bond Act, and served as executive deputy commissioner prior to her current position.

Leslie Sgro, deputy director of the Illinois Department of Natural Resources, has been appointed a Commissioner. As deputy director, she oversees the offices of Resource Conservation, Realty and Environmental Planning, Water Resources, Mines and Minerals, and Scientific Research and Analysis.

Dan Eichinger, conservation policy advisor to Michigan Lt. Gov. John Cherry, has been named an Alternate Commissioner. Eichinger has already been an active participant in Commission activities in his role as an aide to Lt. Gov. Cherry, who is vice chair of the Commission. He previously



*Sheehan*



*Sgro*



*Eichinger*

served as director of membership for the Michigan United Conservation Clubs.

The province of Ontario has appointed two Alternate Associate Commissioners, Rob Messervey and Ranissah Samah. Messervey is manager of the Water Resources Section of the Ministry of Natural Resources. He is a member of the International Joint Commission's Niagara Board of Control and represented Ontario during the Great Lakes Charter Annex Agreement negotiations.

Samah is a senior policy advisor (U.S.A.) with the Office of International Relations & Protocol of the Ministry of Intergovernmental Affairs focusing on Ontario-U.S. relations, particularly in support of shared environmental



*Messervey*



*Samah*

and economic objectives.

Chicago's Shedd Aquarium, the Commission's newest Observer organization, has appointed Jeffrey Boehm, senior vice president of conservation science, as its Observer. Also, Craig Czarnecki, supervisor of the U.S. Fish and Wildlife Service (USFWS) Ecological Field Office in East Lansing, Mich., has been named the new Observer representing USFWS.

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## After 14 years of work, hazardous spill atlas is complete

Since 1992, the Great Lakes Commission has been working with U.S. EPA Region 5 to produce the Inland Sensitivity Atlas (ISA) series, a collection of regional guides for hazardous spill responders and planners. Now that project is complete, although the work itself has not ended.

The last section of the atlas was completed in December 2005, with the finalization of the Northwest Ohio ISA, one of 33 regional atlases developed under the project. The atlases give hazardous spill responders and planners an easily navigable and detailed over-

view of the area surrounding a potential spill, with sensitive areas and potential spill sources mapped.

The ISA project was undertaken in order to fulfill the requirements of the Oil Pollution Act of 1990 (OPA), which mandated the collection of these data to assist in the planning for and response to potential spills on surface waters. The project covers all six states in U.S. EPA Region V, plus those counties bordering Lake Erie in Pennsylvania and the Ohio River in Kentucky and West Virginia.

With the series now complete, the

focus is now upon maintaining and updating the ISA series on a statewide basis. The first of these, for the state of Michigan, is due to be completed this summer.

Project partners also include the Upper Mississippi River Basin Association and the U.S. Geological Survey Upper Midwest Environmental Services Center.

The published atlas is available to responders on CD-ROM or over the Internet at [www.epa.gov/region5oil](http://www.epa.gov/region5oil).

For more information, contact: Stuart Eddy, [seddy@glc.org](mailto:seddy@glc.org)

## Remote monitoring of the Great Lakes



### Lack of user demand stymies potential benefits

Satellite remote-sensing technologies have improved over the recent past and now can provide high resolution spatial, spectral and temporal detail on water quality characteristics of the Great Lakes. Research in optics, physics and atmospheric modeling over more than 30 years has enabled satellite observations to reliably estimate concentrations of chlorophyll, suspended inorganic sediments and dissolved organic matter in surface waters of the Great Lakes and to map land cover change in the watersheds draining into the lakes. These products have significant utility in protecting biodiversity and indigenous wildlife habitats, and anticipating impacts from harmful algal blooms, the introduction of additional exotic species and human modifications to coastal ecosystems.

It was hoped that the ability to acquire a continuum of Great Lakes water quality products from space would be welcomed by the water quality monitoring community. Such a welcome, however, has not been forthcoming. Rather, the application of satellite remote sensing for water quality monitoring continues to be overlooked as an essential tool for effective policy-making. Consequently, satellite remote sensing is dramatically underutilized in aquatic ecosystem assessment.

So who does use these tools? There are four distinct groups of end-users:

- The remote sensing community, which conducts laboratory and field studies to determine optical properties of aquatic systems; develops, modifies, and validates models and water quality algorithms; and conducts long-term studies on changes in aquatic systems;
- The non-remote sensing scientific community, which represents a multitude of disciplines that con-

duct water research on scales ranging from molecular levels to basin-wide assessments. Members of this group sometimes use information obtained through satellite remote sensing but do not seem to understand or show interest in space-based monitoring per se; and are generally unaware of the advantages or disadvantages of applying remote sensing techniques to their research;

- The private sector community, which generates and profits from remote sensing products, including hardware, software and the data itself; and
- The policy- and decisionmaking community, including politicians and other public officials, who establish guidelines, policies, and laws, and provide public funds for research and education. This group consists of influential end-users who need the information that remote sensing satellite technology can provide, but are not pulling in concert with the space technology push to exploit these tools for the public good.

Four levels of satellite-derived products can also be described, illustrating the summation of increasingly complex tasks to convert data into information. They range from raw recorded satellite data (Level 1), derived estimates of organic and inorganic aquatic material (Level 2), measures of bioproductivity (Level 3) and thorough comprehensive watershed assessments (Level 4). Remote sensing scientists guide the development of satellite products used from Level 1 through Level 4.

Clearly, this small community of scientists is the principal producer and the main end-user of satellite remote sensing. There is a plethora of

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**Dr. Robert Bukata**  
National Water  
Research Institute  
(Canada)



*Dr. Robert Bukata is a remote sensing scientist with Environment Canada's National Water Research Institute and the author of "Satellite Monitoring of Inland and Coastal Water Quality: Retrospection, Introspection, Future Directions."*

#### **The issue:**

*Despite its vast potential, remote sensing has yet to be fully embraced by the user community*

*The views expressed are those of the authors or the organizations they represent alone and do not necessarily reflect those of the Great Lakes Commission or its member jurisdictions.*

## Miners Castle crumbles

One of the best-known landmarks at Pictured Rocks National Lakeshore was forever altered April 13 when half of the rock formation known as the Miners Castle crumbled into Lake Superior.

Only a handful of witnesses, mostly anglers and tourists, were on hand that morning when the northeast "turret" of the castle abruptly collapsed and fell 90 feet into the lake. No injuries were reported.

The often-photographed landmark has illustrated numerous publications, calendars, presentations and other materials related to the Great Lakes, including those produced by the Great Lakes Commission.

Geologists suggest the collapse may have been caused by the end of a freeze-thaw cycle that culminated with the arrival of spring. Ice forming in a large crack in the rock would have expanded as it froze, enlarging the fracture. When the ice melted this spring, it may have been all that was left holding the rock in place and down it went.

Such freeze-thaw cycles are con-



*Miners Castle as it appeared before the right-hand "turret" fell into Lake Superior on April 13. Photo: Michigan Travel Bureau.*

sidered responsible for the rock falls that routinely take place along the sandstone cliffs of Pictured Rocks. The National Park Service says at least five major falls have occurred over the past 12 years.

Miners Castle was named in 1771 by members of a prospecting expedition to the region.

### Great Lakes Calendar

#### **13th Annual International Conference on the St. Lawrence River Ecosystem**

May 16-18, 2006, Cornwall, Ontario  
Contact: Christina Collard, 613-936-6620, [ccollard@riverinstitute.ca](mailto:ccollard@riverinstitute.ca)

#### **International Association for Great Lakes Research (IAGLR) 2006 Conference**

May 22-26, 2006, Windsor, Ontario  
Contact: Tim Johnson, 519-825-7316 or Lynda Corkum, 519-253-3000 ext. 2717, [06chairs@iaglr.org](mailto:06chairs@iaglr.org)

#### **40th Canadian Meteorological and Oceanographic Society (CMOS) Congress**

May 29-June 1, 2006, Toronto, Ontario  
Contact: David Hudak, 905-833-3905, ext. 242, [cmos2006@cmos.ca](mailto:cmos2006@cmos.ca)

#### **Canadian Water Resources Association 2006 National Conference**

June 4-7, 2006 Toronto, Ontario  
Contact: Pierre Paquette, 905-685-1211, [pierre@allsetinc.com](mailto:pierre@allsetinc.com)

#### **Great Lakes United's 24th Annual General Meeting**

June 9-11, 2006, Detroit, Mich.  
Contact: Bonnie Danni, 716-886-0142, [bonnie@glu.org](mailto:bonnie@glu.org)

#### **USEPA 2006 Community Involvement Conference**

June 27-30, 2006, Milwaukee, Wis.  
Contact: Lisa Gebler, 301-589-5318, [ciconference@emsus.com](mailto:ciconference@emsus.com)

#### **Eighth International Conference on Mercury as a Global Pollutant**

August 6-11, 2006, Madison, Wis.  
Contact: Christopher Babiarez, 608-265-5085, [cbabiarez@wisc.edu](mailto:cbabiarez@wisc.edu)

### Bukata: Remote sensing (cont'd from page 9)

reasons for this apparent disconnect between the providers of satellite-derived water quality products and a much broader and influential end-user community. These include inaccessibility to reliable and well-documented archival data, lack of universal standards, unswerving adherence to historical monitoring protocols and the suspect reputation of remote sensing technologies that in the past promised more than they delivered.

Obviously, meaningful com-

munication between remote sensing scientists and other stakeholders is essential. Applications of space-acquired water quality products must be convincingly articulated to seemingly disinterested end-users, if remote sensing of the Great Lakes is not to be prematurely consigned to history.

The popular movie *Field of Dreams* proclaims that "if you build it, they will come." We've built such a field. Thus far, however, it is only the remote sensing scientists who are playing on it.

# Downturn for Great Lakes spending in proposed FY2007 budget

The President's proposed FY2007 budget generally decreases funding levels for most Great Lakes programs. While Congress will likely seek to restore some of those funds through the appropriations process, the federal budget is under considerable pressure due to costs resulting from Hurricane Katrina and military operations, so the prospects for many Great Lakes pro-

grams are unclear.

A dramatic decrease is proposed for the Environmental Protection Agency's budget with a \$193-million cut (down to \$687 million) to the Clean Water State Revolving Fund. Substantial funding cuts are also proposed for the Corps of Engineers' work in the Great Lakes, such as maintenance of shipping channels (already reduced severely last year). Many of the Corps' environmental programs are targeted to receive no funding, including: Great Lakes Fishery & Ecosystem Restoration, Great Lakes Remedial Action Plans & Sediment Remediation, and the John Glenn Basin Program. Similarly, the Great Lakes Basin Program for Soil Erosion and Sediment Control, a conservation program with a successful history over nearly 15 years, will receive no funding though it was appropriated at \$2.5 million last year. Finally, the Soo Lock replacement project will not go forward under the President's budget, which provides no funding for this critical navigation infrastructure.

Other programs remain significantly underfunded in relation to authorized levels. The Great Lakes Commission is requesting full funding of

\$28.5 million for the Great Lakes Fish & Wildlife Restoration Program. Certain selected areas fared better. The Great Lakes Legacy program – which cleans up contaminated sediments at Areas of Concern – is proposed at \$49.6 million, a \$19.6-million increase over the FY 2006 appropriation.

Meanwhile, Great Lakes members of Congress have introduced legislation in the U.S. House and Senate to implement some of the key recommendations of the Great Lakes Regional Collaboration. Collectively known as the Great Lakes Collaboration Implementation Act of 2006, the bipartisan legislation has the support of the Council of Great Lakes Governors and the Healing Our Waters – Great Lakes Coalition, consisting of more than 85 state, regional and national zoos, museums, aquariums, and hunter-, angler- and conservation organizations. The two bills, H.R. 5100 and S. 2545, were introduced by Rep. Vernon Ehlers (R.-Mich.) and Sen. Mike DeWine (R-Ohio) and Sen. Carl Levin (D-Mich.), respectively. Approximately 30 other members of the Great Lakes Congressional Delegation have signed on as co-sponsors.

## Where in the Great Lakes?



Can you identify this Great Lakes landmark? E-mail your answer, along with your name, address and phone number to [kirkh@glc.org](mailto:kirkh@glc.org) or mail it to the *Advisor* at the address on the back page. All correct responses received by June 15, 2006, will be entered into a drawing for the winner's choice of either a Great Lakes Commission t-shirt or oversized coffee mug.



Our previous winner is Eric Bobinsky, of Berea, Ohio, who identified this photo of the Old Mackinac Point Lighthouse on the Straits of Mackinac. Thanks to everyone who entered!

*Photos: Top, Kirk Haverkamp, Great Lakes Commission. Bottom: Christine Manninen, Great Lakes Commission.*

## Michigan loses status as top boating state

Michigan has long prided itself on having more registered boats than any other states. Now, that ranking has been lost to Florida.

Lingering economic woes due to layoffs in the auto industry and other manufacturing, along with a general migration toward southern and western states, are blamed for Michigan losing the number one spot. Boat registration in the state has fallen an estimated six percent since 2001, according to the National Marine Manufacturers Association (NMMA), from approximately 1 million to 945,000 registered boats.

Recreational boating brings an estimated \$3.7 billion into the Michigan

economy each year.

Despite the decline, the state remains a boating heavyweight. Actual registrations trail Florida by only 1,272 boats and do not include canoes and some other small boats that don't have to be registered. Third-place California, meanwhile, is another 50,000 boats back. In addition, the Michigan boating season is only a fraction as long as the two warm-weather states.

The Great Lakes remains the nation's premier boating region, with more than a quarter of all U.S. boat registrations being in the six Midwestern Great Lakes states, according to the NMMA.

# Commissioners' Corner



Todd Ambs, chair, Wisconsin Delegation

## Solutions need to be on solid ground

In May, the Great Lakes Commission turned its attention to land-use issues at our Semiannual Meeting. It seems odd that land use is something we need to consider to ensure the viability of a major water resource such as the Great Lakes. If we go out into the middle of the lakes on a boat, we thrill to the sight of crystal clear water all around us, as far as the eye can see. It is only when we return to the near-shore areas that we find the suspended sediment, the foul-smelling green mats of cladophora, the closed beach signs and related ecological problems.

These near-shore areas support 95 percent of our resource utilization activities – the boating, fishing and swimming, not to mention drinking water intakes. So our largest challenges are in our areas of highest use.

However, the solutions are not to be found in the lakes, though that is where the problems are. The solutions must be found on land – because that is where these problems come from, through the impacts of our land uses on the water.

Some of the key recommendations of the Great Lakes Regional Collaboration are tied to land use. Gov. Doyle, in his Conserve Wisconsin agenda, has identified actions to advance green building, promote water and energy conservation, and foster redevelopment through an urban environment and reinvestment initiative. The seeds of new ideas are also starting to blossom in efforts like smart growth planning, green building programs, innovative urban forestry efforts, and a variety of environmental standard certification programs. Other ideas like rain gardens, natural stream or lake shore development or natural landscape restoration are becoming increasingly important economic considerations in new developments and redevelopments, providing evidence of increasing behavioral changes and evolving social desires.

If we are to sustain the joys of looking at the beauty and majesty of our lakes from the shorelines, we need to turn around today, and focus on new efforts to change how we treat the land.

## ADVISOR

The *ADVISOR* is published quarterly by the Great Lakes Commission. The Great Lakes Commission is a binational agency established in 1955 to promote the orderly, integrated and comprehensive development, use and conservation of the water and related natural resources of the Great Lakes basin and St. Lawrence River.

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Cover photo: Sailing into Mackinac Island, Michigan Center for Great Lakes and Aquatic Sciences



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Eisenhower Corporate Park  
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