



The Current

Issue 1, Spring 2009



Who is the Great Lakes Inventory and Monitoring Network?

By Ted Gostomski, Network Science Writer

"How do you like working at the Great Lakes Visitor Center?" I am often asked this question by park employees who know that I work for the National Park Service, that I don't work in any one park, and that my office is in Ashland. The NPS is a cooperating agency and a visible presence in the Northern Great Lakes Visitor Center, and the visitor center is in Ashland, but that is not where my office is, and it is not who I work for. But what's the difference? As long as the rangers know that I do indeed work for the National Park Service and they don't have to keep an eye on me when I'm lingering around the boats and the gas dock, who cares where my office is? I walk a fine line between personal pride and the need to correctly identify who I am and the program I work for. I attribute this to something I learned from a college professor: "you should always know who your peers are and where they work." So, for those who may not be familiar with the Inventory and Monitoring Program in general or the Great Lakes Network in particular, here's a brief primer.

The Inventory and Monitoring (I&M) Program is a National Park Service initiative to "improve park management through greater reliance on scientific knowledge." It is a national program, with 270 NPS units divided into 32 I&M networks based on geography and similar management issues. The Great Lakes Network (GLKN) was established in 2000 and is composed of nine parks in Minnesota, Wisconsin, Michigan, and Indiana (map). These nine parks represent the major landforms and freshwater systems of the Upper Midwest — a unique and special assemblage of natural resources!

The first four years of the GLKN's life was spent in the *inventory* phase. Working with biologists from all nine parks, we put together lists of the plants and animals known to be within park boundaries. Then we set out to fill in the gaps on those lists, to learn what we did not know about reptiles, plants, mammals; different parks needed different things, but after four years, we



The nine parks of the Great Lakes Inventory and Monitoring Network.

had developed complete lists of the major lifeforms found in all nine GLKN parks.

Knowing what is in the parks helped us to determine what we could and should be monitoring to "keep a finger on the pulse" of environmental health in the parks and across the region. A process of identifying "vital signs" (indicators) culminated with a list of 21 plants, animals, or processes common to most or all nine parks. We developed (or are developing) monitoring protocols for these things: water quality in lakes and rivers, bioaccumulative contaminants in eagles and fish, land cover and land use, forest

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2009 Field Schedule

BC - bioaccumulative
contaminants

LCLU - land cover/land use

VEG - vegetation

WQ - water quality

Apostle Islands NL

- Joan Elias (WQ)

Grand Portage NM

- Dr. Jim Wiener *et al.* (BC-fish; collecting dragonfly larvae)
- Joan Elias *et al.* (WQ)

Indiana Dunes NL

- David VanderMeulen (WQ)

Isle Royale NP

- Dr. Jim Wiener *et al.* (BC-fish)
- TBA (WQ)

Mississippi NRR

- Bill Route *et al.* (BC-eagles) (pending funding decision from MPCA)

Pictured Rocks NL

- Suzy Sanders, Jessica Grochowski *et al.* (VEG)
- Park staff (WQ)

Sleeping Bear Dunes NL

- Suzy Sanders, Jessica Grochowski *et al.* (VEG)
- Park staff (WQ)

St. Croix NSR

- David VanderMeulen *et al.* (WQ)

Voyageurs NP

- Dr. Jim Wiener *et al.* (BC-fish)
- Ulf Gafvert and Al Kirschbaum (LCLU)
- TBA (WQ)

Who is the Great Lakes Network?

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vegetation, landbirds, and weather and climate. Using these protocols, we began implementing the *monitoring* phase in 2006.

All of this work is being done in cooperation with the parks. The Great Lakes Network staff are not another set of managers to look after natural resources already being cared for by park managers. We are, in effect, assistants to the people charged with protecting the natural worlds at Sleeping Bear Dunes National Lakeshore, Indiana Dunes National Lakeshore, Mississippi National River and Recreation Area, St. Croix National Scenic Riverway, Apostle Islands National Lakeshore, Voyageurs National Park, Grand Portage National Monument, Isle Royale National Park, and Pictured Rocks National Lakeshore. Each park has many needs but limited staff and funding. So we are working with park staff and using standardized, consistent methods to establish long-term monitoring the parks can use to inform management, and we can all use to assess the health of the Great Lakes region overall.

Who is the Great Lakes Inventory and Monitoring Network? It is nine national park units, an office of eleven people in Ashland, Wisconsin, and an ever-expanding list of partners who care about the future of the U.S. National Parks and the Great Lakes region.

Oh, and by the way, I love working here. ●



Great Lakes Network Coordinator, Bill Route, presents information on bioaccumulative contaminants and Bald Eagles at the 2008 St. Croix River Research Rendezvous in Marine-on-St. Croix, Minnesota.

Network Office prepares for first programmatic review

Once I&M Networks around the country become established and their monitoring programs are up and running, national and regional I&M staff are reviewing the programs to evaluate their progress.

"The programmatic review is an opportunity for the parks served by an I&M Network office to give feedback on the service they are receiving and to suggest how the Network can work even better," says Steven Fancy, National I&M Coordinator and organizer of the reviews. "[This review] will be less formal and will require less preparation than subsequent reviews, but it will help the Network staff to step back after the rush to establish themselves and to see where they stand and where they are headed."

The Great Lakes Network office will undergo its first programmatic review on

March 30, 31, and April 1, 2009, at the Northern Great Lakes Visitor Center in Ashland, Wisconsin. Fancy and Midwest I&M Coordinator Carmen Thomson will be part of a four-person panel that moderates the two-day program, and resource managers, superintendents, and interpretive staff from the nine Great Lakes Network parks will be invited to attend.

Prior to the March review, a survey will be sent to each park's staff to gather information on how they view the development of the Great Lakes I&M program to-date and how well they are being served. The results of the survey will be compiled and incorporated into the March review.

Also during the March program, Great Lakes I&M staff will have a chance to make presentations that

showcase their work, and interpretive staff from the Network parks can participate in a workshop to brainstorm with the I&M Science Writer and staff of the Great Lakes Education and Research Center on creative ways to communicate the science of inventory and monitoring to the public.

Watch your Inbox for more information about the programmatic review, mark your calendars, and please try to attend so that we can all use this opportunity to improve the efficiency and effectiveness of inventory and monitoring in the Great Lakes Network parks. ●

Great Lakes I&M
Programmatic Review

30 March-1 April 2009

Northern Great Lakes
Visitor Center
Ashland, WI

Staff Insider: Tammy Keniry, Administrative Technician



Tammy Keniry is the Administrative Technician at the Great Lakes Network

Office. She has an undergraduate degree in Biology from the University of Wisconsin-Superior and a Master's degree in Aquatic Ecology from Michigan Technological University. Before coming to the National Park Service in 2003, Tammy assisted with fisheries projects and zebra mussel monitoring in

southern Lake Michigan, and she worked in institutional research and records at Northland College in Ashland. As the Administrative Technician, Tammy provides support for the I&M Network and the Great Lakes Exotic Plant Management Team (EPMT). ●

Upcoming Events

March

- ✓ I&M Coordinators meeting at the George Wright Society conference, Portland, OR (2-6).
- ✓ Water quality monitoring poster presentation, International Lake of the Woods Water Quality Forum, International Falls, MN (11-12).

April

- ✓ Western Great Lakes Research Conference, Ashland, WI (1-2).
- ✓ Great Lakes Network update presentation, I&M Data Managers conference, Tucson, AZ (1-2).

May

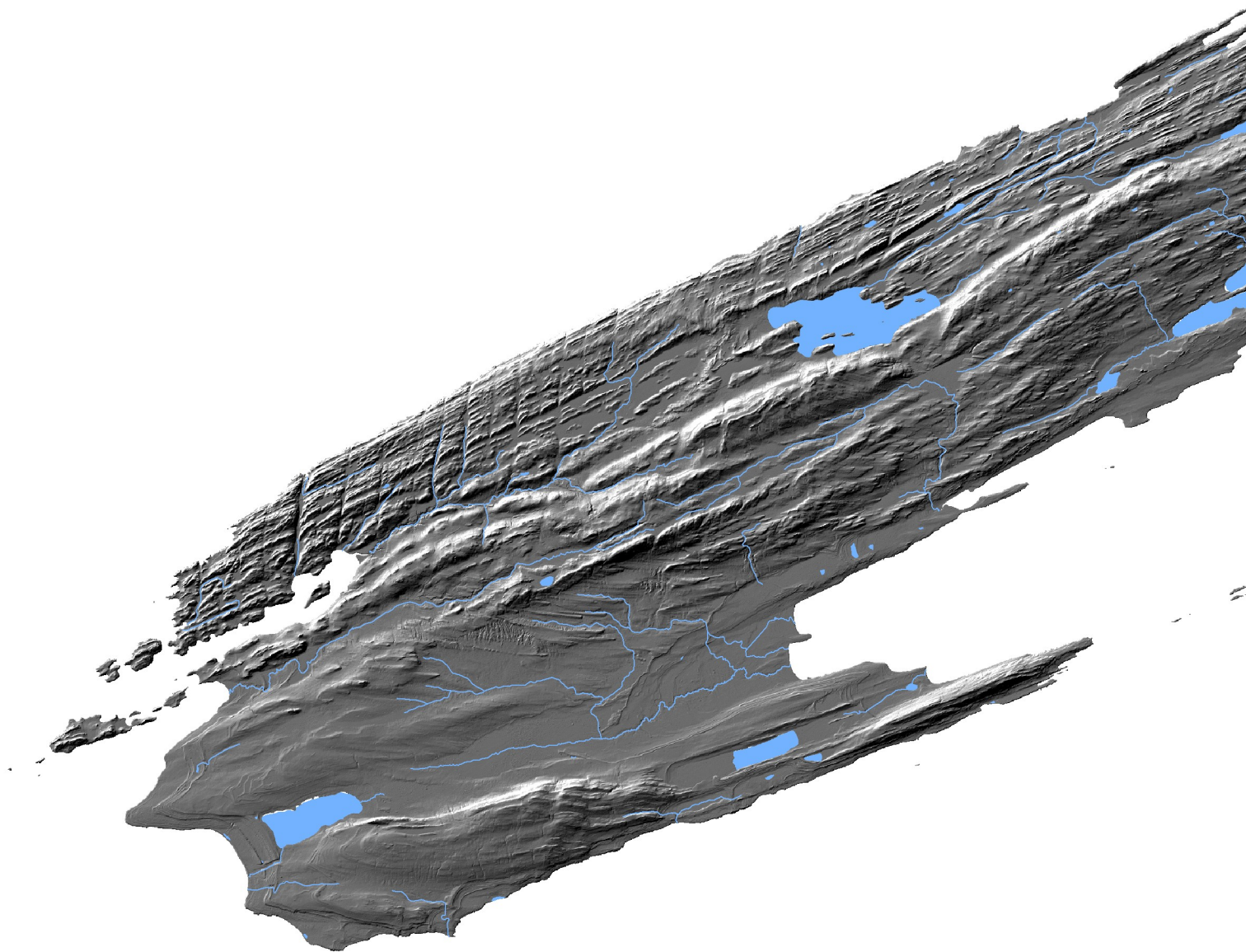
- ✓ I&M booth at Indiana Dunes BioBlitz (15-16)

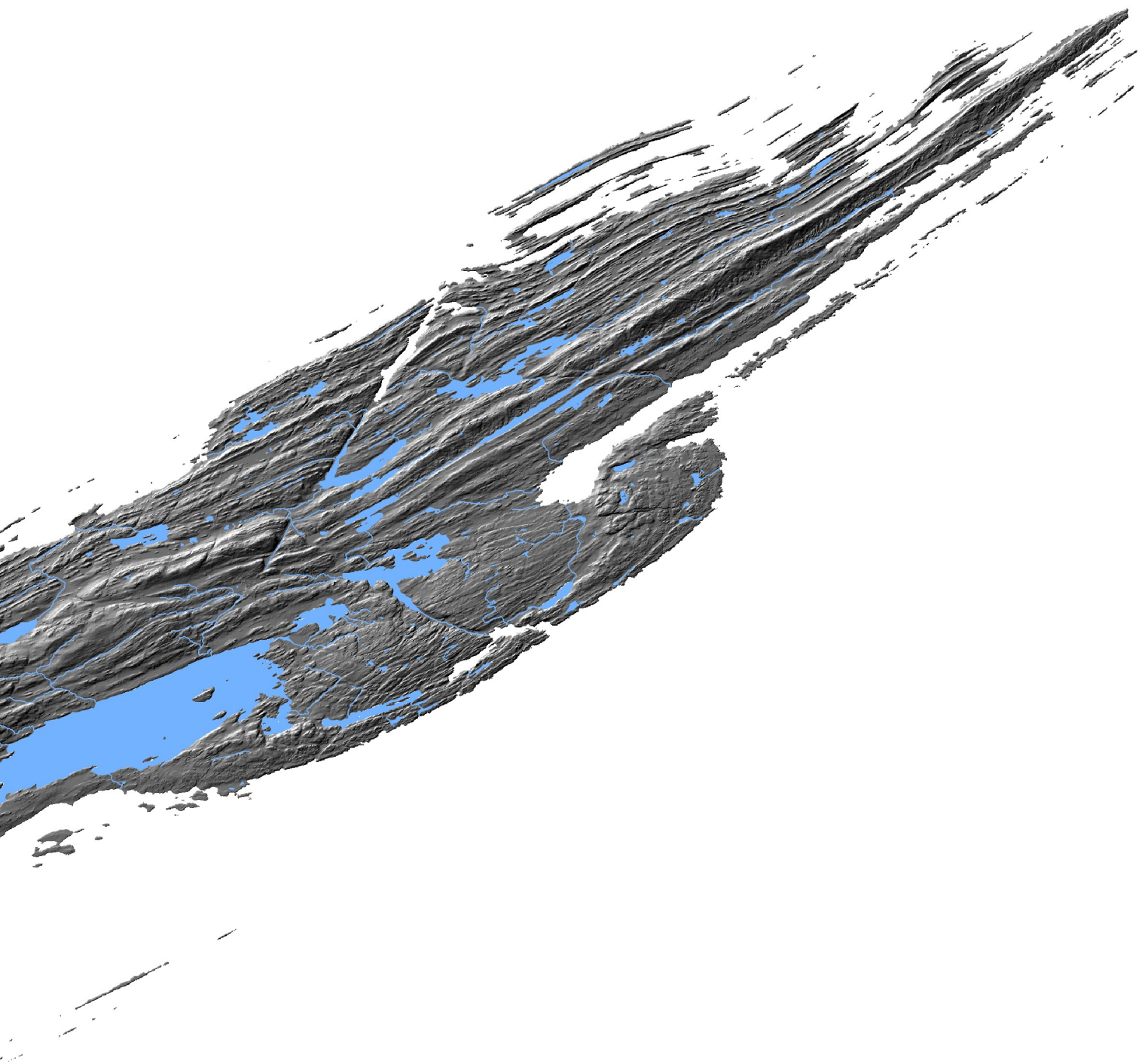
June

- ✓ I&M presentation, Woodenfrog Refectory, Voyageurs (26).

July

- ✓ Land cover-land use presentation, Woodenfrog Refectory, Voyageurs (17).





Topographic relief map of Isle Royale National Park, Michigan, derived from a 2004 LiDAR (light detection and ranging) elevation model.

Things We're Learning

From *An Amphibian and Reptile Inventory of Isle Royale National Park* by Gary S. Casper. Natural Resource Technical Report NPS/GLKN/NRTR—2008/146.

Color and pattern are extremely variable in gartersnakes from Isle Royale. Ruthven (1909) described color variation in detail, and Johnsson et al. (1982) also noted that color varies widely, from light brown and yellow to deep blue-black. In this study, we made color notes as well, only later to discover that we had re-described color variation very similar to that which Ruthven had detailed exactly 100 years ago. In our sample from the Daisy Farm area (N=20), 60% of specimens observed were normal, 30% had some stage of prominent red pigment, and 10% were melanistic (unpublished data; see photos). This stable color polymorphism is interesting, and possibly related to small population size and/or founder effects increasing the expression of recessive alleles. Similar color variation has been noted in other island and isolated populations in the Lake Superior and Lake Winnipeg basins (Mooi et al., in prep). R. Rutherford and J. Anderson also provided photo documentation of melanistic common gartersnakes observed at Tobin Harbor and Lake Richie in 2008 (personal communication).

The subspecies normally assigned to this region is the eastern gartersnake, *Thamnophis sirtalis sirtalis*, but individuals closely resembling the red-sided gartersnake, *T. s. parietalis*, are commonly encountered on Isle Royale, as noted by Ruthven (1909). The subspecies of *T. sirtalis* described from morphology appear to be nonconforming to molecular clades and are likely to be revised in the future (Janzen et al. 2002). ●

Literature Cited

Janzen, F. J., J. G. Krenz, T. S. Haselkorn, E. D. Brodie, Jr., and E. D. Brodie, III. 2002. Molecular phylogeography of common garter snakes (*Thamnophis sirtalis*) in western North America: implications for regional historical forces. *Molecular Ecology* 11:1739–1751.

Johnsson, R. G., P. C. Shelton, and P. A. Jordan. 1982. Wildlife of Isle Royale. Checklists of All Vertebrate Animals Known at Isle Royale Including Their Current Status. Isle Royale Natural History Association, Houghton, Michigan.

Mooi, R. D., J. P. Wiens, and G. S. Casper. In Prep. Extreme color variation within populations of the common gartersnake, *Thamnophis sirtalis*, in Manitoba, Canada.

Ruthven, A. G. 1909. The cold-blooded vertebrates of Isle Royale. Pages 329-333 in C. C. Adams. 1909. An ecological survey of Isle Royale, Lake Superior. A report from the University of Michigan Museum. State Board of the Geological Survey.



Color variation in Isle Royale gartersnakes
(Daisy Farm Campground, 2005). Photos by G.S. Casper.

Outreach and Communication—How would you like to hear from us?

When I was hired as the Biologist/Science Writer in May 2008, it was a sign that the Great Lakes Network office is committing itself to fulfilling the other side of monitoring: communicating the results and findings to the parks, our science partners and peers, and the general public. Our first effort at this was the distribution of briefing statements in August 2008. Each park received at least two of these briefings, which summarized individual monitoring programs occurring in the park. Not all of the monitoring programs were represented at that time, but the remainder of those statements (now called executive summaries) will be distributed in February or early March.

We have other tools planned, as well, all of which will complement the website, which has been

online since the early 2000s, but is also being updated. This newsletter is one of the ways we will communicate with the parks. Produced twice a year, this newsletter will focus on providing information about the upcoming field season (in a spring issue) and then briefly summarizing the season in the fall.

Fact sheets, site bulletins, our standard annual reports, and providing speakers to each park for a Summer Lecture Series or Brown Bag Seminar are other things we will offer. We are also considering posters and special event booths, and I am looking for ways to work with park interpreters so that they have the information and tools they need to communicate to the public about monitoring going on in their parks.

All of these things will only

be successful if they are useful to the park resource managers, interpreters, and Superintendents. If no one reads or uses the things we produce, then I am not doing my job. For that reason, it is important that we hear from you. If you think something could be less technical, have more pictures, or be tweaked in any way to make it more interesting, we want to hear it. Let us know if you would like one of us to give a presentation at the next meeting of your Friends group, or if you would like to have an I&M information booth at your next public event.

Please direct all comments, criticisms, suggestions, and requests to:

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Let us know if you would like one of us to give a presentation at the next meeting of your Friends group, or if you would like to have an I&M information booth at your next public event.

Inventory Reports Available Online

In an effort to make the information more widely available, I&M Networks across the country have been directed to publish inventory and monitoring reports in the National Technical Report Series.

To that end, all inventory reports first published in the Great Lakes Network series have been re-formatted and converted to PDF files, and they are now available to the public from the Natural Resource Publications Management website (www.nature.nps.gov/publications/NRPM/nrtr.cfm). The previous versions of the reports available on the Great Lakes Network website will be replaced with the re-formatted versions. ●



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**Improving park management through
greater reliance on scientific knowledge**



The Current is published twice a year for Great Lakes Network park staff, our partners, and others interested in resource management in national parks of the Great Lakes region.

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