

New Indiana Clean Lakes Program Website

The new, re-designed Website of the Indiana Clean Lakes Program is now up and running. While not yet fully completed, the updated look and improved navigation should make this site easier to use than the old site. Look for continued additions to the site in the coming months. Please re-direct your browser to the new URL: <http://www.indiana.edu/~clp/>.

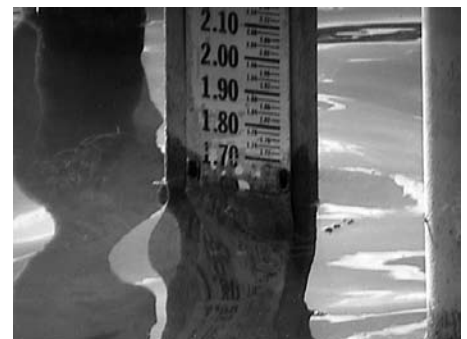


News from the Volunteer Lake Monitoring Program

2008 Monitoring Results

All the data collected and submitted by our volunteer lake monitors have been entered, tabulated, and summarized. A summary report for the years 2004 – 2008 is being prepared. During this past year, volunteer monitors collected over 400 Secchi disk measurements on 81 different lakes. Expanded Program volunteers collected an additional 148 sets of total phosphorus and chlorophyll *a* samples from 37 lakes that were analyzed in our SPEA lab. Summary results are posted on our new Website.

Several volunteers also collected lake water level information by reading and recording the level from the Indiana DNR staff gage on their lake. In this year's end-of-season questionnaire, 31 volunteer monitors stated that they would like to measure lake level regularly in 2009. We've shared contact information with the DNR Division of Water so that they can help accommodate the volunteers on these lakes. Lake level information on Indiana lakes is very useful in tracking long-term climate changes and in identifying seasonal lake level changes that could interfere with lake recreation or hamper lake biota.

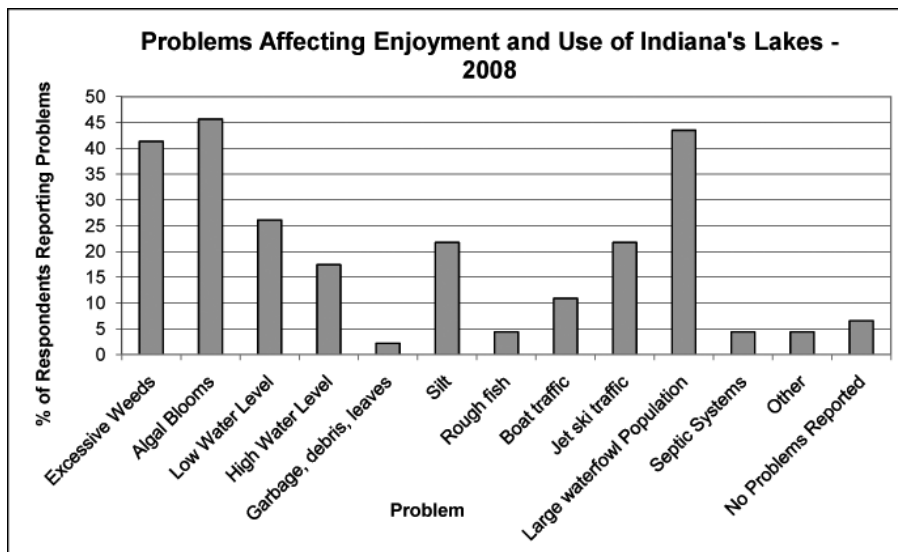


Volunteers measured no temperature and oxygen profiles in 2008 as we had to recall our outdated meters to turn them into YSI, Inc. for credit toward new meters. We will soon be distributing the new Model 550 temperature and oxygen meters, all with 100-foot cables, to Soil and Water Conservation District offices in:

- Fulton County (Rochester)
- Kosciusko County (Warsaw)
- Lagrange County (Lagrange)
- Marshall County (Plymouth)
- Noble County (Albion)
- Porter County (Valparaiso)
- Steuben County (Angola)

Volunteers can contact the nearest of these SWCD offices to arrange to pick up and use a meter at their lake. There is an additional meter at our lab in SPEA in Bloomington for volunteers in the Monroe County area to check out.

In our annual unscientific survey, completed by 61 percent of our volunteers, we also asked what problems were most prevalent on their lakes. The results were quite interesting. Algal blooms were the #1 problem, marked on 46 percent of the surveys. Close behind at 44 percent was "large waterfowl population." Excessive weeds were considered a problem on 41 percent of the returned surveys. The results are summarized in the bar chart below.



Five Volunteers Retire in 2008

Five of our volunteer lake monitors, representing 59 years of total volunteering experience, retired from volunteer monitoring this year. The retirees are:

- Don Arnold, Waubee Lake, Kosciusko County – 4 years
- Holly LaSalle, Expanded Volunteer, Lake Tippecanoe, Oswego Lake, James Lake, Kosciusko County– 6 years
- Patricia McClellan, Expanded Volunteer, Little Turkey Lake, Lagrange County – 12 years
- Steve Merrill, Long Lake, Noble County – 19 years
- Dick Smith, Expanded Volunteer, Silver Lake, Steuben County – 18 years

We appreciate the work of all of our volunteers. Over the years, we've developed some very nice friendships and really hate to see them go. However, after all their years of service, we can't complain. They all have made valuable contributions to Indiana's lakes. We wish them very well in their future endeavors. They will be difficult to replace.

Ten New Volunteers in 2008

Ten new volunteer lake monitors were trained in 2008. Some replace retired volunteers, while others are on lakes not monitored before. We look forward

to many years of collaboration with the following new additions to our program:

- Joe Peck (Silver Lake, Steuben County)
- Nick Stranger (Knapp Lake, Noble County)
- Kyle Turner (Loon and Beaver Dam lakes, Kosciusko County)
- Dave Patterson (Yellow Creek Lake, Kosciusko County)
- Drew and Margie Schrader (Locust Lake, Owen County)
- Kathy Clark (Lake Maxinkuckee, Marshall County)
- Jill Jordan (Ridinger Lake, Kosciusko County)
- Ron Hill (Sechrist Lake, Kosciusko County)
- Kathy Hiatt (Banning, Little Barbee, Sawmill, and Smalley lakes, Fulton County)
- Jeff Thornburgh (Tippecanoe, Oswego, and James lakes, Kosciusko County)

Indiana has about 1,000 lakes and reservoirs and we have volunteers on less than 10 percent of these. We are always looking to add more lakes to our program. If you are interested and don't see your lake on the 2008 summary results table on our Website (<http://www.indiana.edu/~clp/>), please contact us to learn how you can become a volunteer lake monitor.

Long-Time Volunteer Monitor, Bob Mayer, Dies

We are saddened to report the death in November of Robert J. Mayer, 78, of Wolcotteville, IN. Bob was very active in the Olin, Oliver, and Martin lakes association and monitored all three lakes for 15 years. During that time, Bob made 554 Secchi disk measurements and collected 171 sets of total phosphorus and chlorophyll *a* samples. Bob was a fixture at the annual Indiana Lakes Management Conference and attended a number of the North American Lake Management Society (NALMS)

annual conferences. He was a great friend and student of lakes and was always curious to learn more. We will miss him.



Bob Mayer

Indiana Lakes Conference 2009 Builds Partnerships with Fisheries Professionals

The 2009 Indiana Lakes Management Conference opened with a new twist – a joint meeting of the minds between the Indiana Lakes Management Society and the Indiana Chapter of the American Fisheries Society. This joint effort was the first endeavor to build camaraderie between the groups' members, allowing both societies to gain valuable information and share insight into Indiana's many lake management issues. The aquatic resources conference was held January 29-31 at the Sheraton City Centre in downtown Indianapolis and not even record snowfall in Indianapolis could keep attendees away.

The program opened with a plenary session focused on the National Fish

Habitat Action Plan (NFHAP). Five presentations detailed the complexity of the NFHAP, including an overview of the planning process in light of the importance of habitat and fisheries conservation; a review of the two phases in which Indiana is participating – the Midwest Glacial Lakes Partnership and the Ohio River Basin Fish Habitat Partnership; and a discussion and review of the variety of fish habitats available throughout the United States and thus the variety of data required to assess these habitats. Thursday's program concluded with separate business meetings for each society and an exhibitor reception.

During ILMS' business meeting, out-going President Ron Bedwell described ILMS' efforts during the past year, including numerous workshops, the joint conference, and the launching of ILMS' marina outreach program. The gavel was passed to new officers, with Ed Spanopoulos elected as the new president and Sara Peel elected as the new vice-president. With their previous positions open, Eileen Boekestein was appointed secretary, while Carrie Pintar was appointed as the new treasurer. Congratulations to elected board members: Angela Sturdevant, Nate Long, Heather Buck, Laura Esman, Jed Pearson, and Ed Sprague!

Concurrent sessions occurred throughout Friday with a total of 40 presenters covering a variety of fisheries and water quality-related topics. The fisheries technical session focused on fish species diversity, naturalization, and hybridization within both lake and stream communities. Additionally, the impacts of glaciation, low oxygen concentrations, and hydrologic alternations on fish communities throughout Indiana were also discussed. The technical session concluded with two presentations about work occurring at Lake Maxinkuckee where the use of an underwater autonomous vehicle is allowing researchers to better understand this complex lake community.

Concurrent with these topics were presentations focused on resources available for individual lake and watershed management, watershed and shoreline management practices, and lessons learned from the 2008 flooding events. Morning presentations by Katie Hodgdon from the Natural Resources Education Center, Bob McCormick from Planning with POWER, Eileen Boekestein with Kosciusko County Lakes and Streams, and Lyn Crighton from the Tippecanoe Watershed Foundation provided attendees with practical



At the ILMS conference.

information that they could use with their lake and watershed. This session included information on raising money, the importance of planning, the availability of information and resources, and a look at the future of invasive species.

The afternoon sessions covered on-the-ground implementation efforts like Indiana Wildlife Federations' Backyard Certification Program, conservation practices with which the NRCS can assist individuals and groups, shoreline protection efforts from the DNR, and looks at two specific ongoing efforts to reduce shoreline impacts to specific lakes. Bill Schmidt presented information on the phosphorus-free fertilizer ban effort that continues to evolve at Clear Lake in Steuben County, while Jarka Popovicova described shoreline development and planning efforts at a Prairie Creek Reservoir near Muncie.

The final two sessions of the day included a look at water quality monitoring and assessment tools and a review of aquatic plant management efforts throughout the state. The water quality monitoring session included a look at two projects focused on quantifying available water quality data through the Indiana Water Monitoring Inventory and an approach to developing indicators for water quality change. Additionally, members of the Upper White River Watershed Alliance provided a glimpse into their efforts to improve water quality within central Indiana. Hydrilla management at Lake Manitou and a look at the LARE aquatic plant management planning process through its first five years of work were both detailed during the aquatic plant management session.

Hands-on learning through workshops was the focus of Saturday's program. In total, four workshops occurred on Saturday morning: two focused on shoreline plant and fish identification and two focused on water quality management and goal setting. All four workshops provided attendees with detailed information usable with their association or management efforts.

In total, 187 individuals attended this three-day conference. Their attendance could not have occurred without the generous support of our 21 exhibitors and 14 conference sponsors. We look forward to inviting all of you to our 2010 conference, where we will be back to our normal scheduling, as the conference will occur in northern Indiana in late March. More details will be posted soon to www.indianalakes.org.

Hoosiers "Get Their Feet Wet" on New IDEM Wetlands Website

One of Indiana's most overlooked natural resources are spectacular wetland ecosystems, and the Indiana Department of Environmental Management (IDEM) has created a new Website to offer a glimpse into the state's varied wetland ecosystems. The newest Internet offering, a wetlands

virtual tour, can be found at www.wetlands.IN.gov.

Wetlands, which store rainwater and slow the movement of floodwater, can be affected by construction projects. IDEM administers several permits regarding construction, excavation, and dredging projects that propose to impact Indiana's wetlands, streams, rivers, and lakes.

"This Web-based educational component highlights just a few of the vibrant wetlands across the state of Indiana," said Thomas Easterly, IDEM commissioner. "Our goal is to help children and adults learn about the significance and beauty of these important natural resources."

The interactive map features short videos about 15 unique wetland sites located around the state of Indiana. Topics covered in the videos include information about each property and its history, as well as the wetland plants, trees, and wildlife that can be found at the site. In addition to interesting facts about each property, the map also offers information on the activities and amenities that are available.

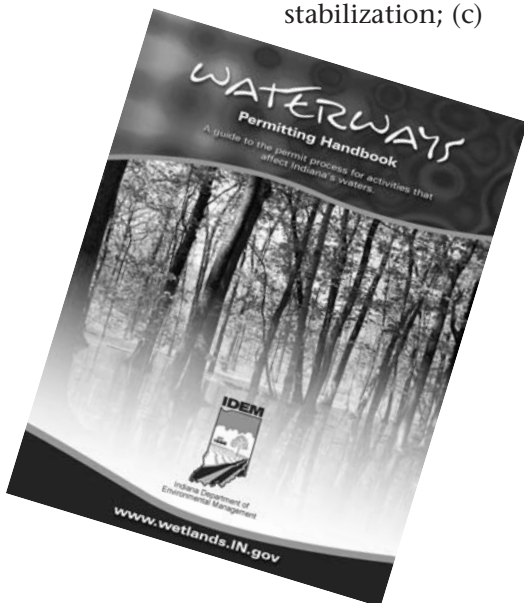
The screenshot shows the IDEM website interface. At the top, there is a search bar and navigation links for various government services. The main content area is titled "Indiana Department of Environmental Management" and "Indiana Wetlands Virtual Tour". A map of Indiana is displayed with several wetland sites marked. To the left of the map is a sidebar menu with categories like "Your Environment", "Wetlands", and "Find Out Where to Recycle". To the right of the map are sections for "Online Services", "Public Notices", and "What's New at IDEM".

IDEM Publishes New Waterways Permitting Guide

The IDEM Division of Water, in cooperation with the Indiana DNR and the U.S. Army Corps of Engineers, has prepared a new guide to help Hoosiers understand what actions involving Indiana's waters may require permits. The guide, *Waterways Permitting Handbook: A guide to the permit process for activities that affect Indiana's waters*, is available electronically on IDEM's wetlands Website at: <http://www.in.gov/idem/4138.htm>.

The purpose of this handbook is to provide general information concerning the legal requirements that apply when persons wish to engage in activities that will impact or affect wetlands or other regulated waters, including lakes, rivers, streams, and ponds. Given the complexity of state and federal regulations, this handbook provides a broad overview of key aspects of the regulatory processes involved, including the basic authorities of each regulatory agency, activities that are regulated, and information about what to expect from each agency.

Actions that could require one or more permits include (a) wetland filling or wetland excavating; (b) streambank or shoreline stabilization; (c)



construction of bridges, culverts, and stream crossings; (d) sand, gravel, or peat mining within streams, rivers, or wetlands; (e) and excavation or dredging of lakes, rivers, or wetlands. The guide is well-illustrated with easy-to-follow flow charts to help the reader understand the permitting process.

Algae Blooms Cost Billions in Damages

By Jeff Alexander

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Nutrient pollution that causes noxious algae blooms to blanket lakes is more than an environmental nightmare – the problem also reduces lakefront property values and causes billions of dollars in other economic losses, according to a new study.

Scientists at the University of Kansas concluded that algae blooms fueled by excessive concentrations of phosphorus and nitrogen in surface waters across the United States cause at least \$4 billion damage annually. Most of the damage comes in the form of reduced lakefront property values, degraded fisheries, and other recreational activities and the loss of biological diversity.

This is the first time scientists have put a price tag on the damage caused nationally by nutrient pollution in surface waters and the resulting algae blooms. The study, published in the journal *Environmental Science & Technology*, is significant locally because algae blooms have plagued several West Michigan lakes in recent years, including Muskegon, Mona, Bear, and Spring lakes.

Alan Steinman, director of Grand Valley State University's Annis Water Resources Institute, said the study illustrated the high cost of pollution problems

caused by excessive amounts of phosphorus and other nutrients in lakes.

"The greatest value is to let people know that there is a true cost to these impairments and losses, irrespective of what that [damage] number is, because many people right now don't think in those terms," Steinman said. "These kinds of studies hopefully help our elected officials, decisionmakers, and stakeholders to appreciate that nature has both intrinsic and extrinsic values."

Nutrient pollution caused by livestock manure and phosphorus-based fertilizers draining off farm fields and residential lawns has been linked to nuisance and toxic algae blooms in several lakes in the Great Lakes region.

Some counties in the region, including Muskegon and Ottawa, have banned the sale of lawn fertilizers containing phosphorus in an effort to reduce elevated phosphorus concentrations in area lakes.

According to the study, lakefront property values drop by 15 percent every time water clarity is reduced by one meter. Algae blooms can reduce water clarity to near zero; that phenomenon is common on Mona and Bear lakes during the hottest periods of summer.

Blue-green algae blooms, which have become common in recent years on Great Lakes bays and numerous inland lakes, can release toxic chemicals capable of sickening fish, wildlife, and humans.

Steinman said the Great Lakes are particularly vulnerable to nutrient pollution and the resulting algae blooms because water remains in the lakes for so long before flowing into the St. Lawrence River and, ultimately, the Atlantic Ocean.

**Have you checked out the Indiana Clean Lakes Program Web page lately?
Take a look at <http://www.indiana.edu/~clp/>
and see what's new and happening with the program and with Indiana lakes!**



WATER COLUMN

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Bloomington, IN
Permit No. 2

WATER COLUMN

**Published quarterly
by the Indiana Clean Lakes Program
as a medium for open exchange of
information regarding lake and
watershed management in Indiana**

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Perspectives

"If we had no winter; the spring would not be so pleasant; if we did not sometimes taste of adversity, prosperity would not be so welcome."

*– Ann Bradstreet, American poet
Meditation Divine and Moral (1655)*