



WATER IN THE NEWS

2015 At A Glance

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Wabash Sampling Blitz Gets Citizen Scientists Monitoring in Indiana

By: Sara Peel, Wabash River Enhancement Corporation

At a time when state water monitoring agencies are looking for ways to collect more watershed-scale data with fewer resources, local volunteers may offer a cost-effective way to help make state ends meet. Volunteers are a natural resource for watershed-scale monitoring projects given their vested interest in the water quality condition of local waterbodies and their proximity to them.

In Lafayette, Indiana, the Wabash River Enhancement Corporation (WREC) and Purdue University have demonstrated a novel approach to using volunteers to identify water quality problems – the Wabash Sampling Blitz. The idea behind this event is to collect data at a large number of sites, providing a “snapshot” of water quality conditions at a given time. The idea for the sampling blitz emerged from the concerns of watershed stakeholders about water quality issues in the Wabash River and its tributaries, and that monitoring was needed to identify specific problem “hotspots” within the 475 square mile watershed. While this snapshot approach is not designed to show how conditions vary temporally, it can provide a basis for comparing waterbodies spatially because all streams are sampled concurrently. Once problem areas are identified, the data can then be used as a baseline against which more intensive, targeted sampling data may be compared.

The initial blitz was conducted within a two-hour period on September 18, 2009, when samples were collected at 210 sites and analyzed by volunteers for temperature, pH, orthophosphate, nitrate and nitrite nitrogen, and copper. Volunteers also filtered water samples for lab analysis of ammonia, nitrate-nitrite, orthophosphate, and organic carbon. In addition, E. coli was sampled at a subset of sites. The blitz has been repeated every April and September since with sample collection occurring at nearly 300 sites to provide data for each monitoring snapshot. Blitz monitoring has evolved over time and now includes both field collection of temperature and analysis of turbidity using turbidity tubes as well as collection and filtration of samples for field test strip and laboratory analysis. Since 2009, more than 1,500 unique citizen scientists have collected data through this unique program.

Wabash Sampling Blitz

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This diverse engagement and outreach program has transformed resident behavior toward thinking on behalf of the Wabash River. One participant noted “I have never thought about water quality until participating in the Blitz. It really made me aware of how many small tributaries ultimately flow into one river”. Another said, “It was especially interesting seeing the quality of water so close to my home”. To date, about 36% of participants reported that they have used the Blitz as a starting point to make changes that would improve water quality in their community. Participants indicated that they made a number of changes as a result of their participation in the Blitz and learning about their potential to positively impact the Wabash River, including:

- They are no longer using pesticides
- They are no longer throwing medication in the trash but dropping it off at collection events
- They have installed rain barrels on their property
- They have installed low-flow toilets and shower heads and have implemented other water conservation practices in and around their homes, such as installing pervious pavement and planting rain gardens
- They pick up dog waste more often
- They have created recycling plans
- They have initiated a neighborhood conversation effort to teach the public about tree and native planting options.

The Wabash Sampling Blitz is a great example of how local citizens can be meaningfully involved in local watershed planning and protection efforts. The program has been recognized on both the state and national level for engagement, environmental education and volunteer monitoring. Learn more about this great program or view it firsthand for yourself during the spring 2015 event occurring on April 17th! For more information or to register for the Wabash Sampling Blitz, visit the WREC website at <http://www.wabashriver.net/wabash-sampling-blitz> or contact Sara Peel, Coordinator of Watershed Projects, at speel@wabashriver.net.



Sampling volunteer measures stream transparency

You're invited!

The Indiana Water Monitoring Council (InWMC) invites you to become a member. Membership and participation in the activities of the Indiana Water Monitoring Council (InWMC) are open to any person, organization or agency with responsibility for, or interest in, water monitoring in Indiana. Members of the InWMC are a diverse and interesting group of individuals and organizations that collect, use, or study water-monitoring data in Indiana. The InWMC addresses the full range of water resources, physical, chemical, and biological, including ground and surface waters.

InWMC serves as a broad-based collaborative body to help achieve effective and efficient collection, interpretation, and dissemination of basic data and processed information for use in addressing issues of Indiana waters.

Membership Types:

General Members. General members are dues-paying members with voting privileges and may participate in all InWMC activities, including the chairmanship of subcommittees. Dues are \$10/year.

Affiliate Members. Affiliate members pay no dues and do not have voting privileges, but may participate in InWMC activities, including participation on subcommittees, except subcommittee chairpersonship.

Join the InWMC today at:
<http://www.inwmc.org/page-303780>

Wabash River Consortium to be held February 20, 2015

Submitted by: Kent Wamsley, The Nature Conservancy

We would like to welcome you to the 2nd Wabash River Consortium meeting in Terre Haute Indiana; along the banks of the Wabash River on February 20 from 9 am to 3pm EST at the Girl Scout facility at 1100 Girl Scout Lane, Terre Haute, Indiana.

Over the last couple years since the first Consortium has taken place many scientists, researchers, and biologists have been doing work on the Wabash River. Some of this work has involved collaboration across state and agency boundaries, and some has been more locally focused.

The Consortium seeks to connect the states that share this majestic resource; the Wabash River, and encourage the education and collaboration among all parties working on the Wabash River through research focused activities.

Please join us for a day for collaboration and informational sharing. If you are interested in presenting please notify Kent Wamsley ASAP (kwamsley@tnc.org).

Topics and Speakers

- James Gammon - Introductory remarks and Wabash history
- Reuben Goforth - Invasive species of the Wabash River
- Rob Colombo - Fishes of the Wabash River
- Mark Pyron - Food webs of the Wabash River
- Bob Barr - Indiana's changing landscape
- Jerry Sweeten - Response to lowhead dam removal

Please RSVP to Kent Wamsley at kwamsley@tnc.org as lunch will be provided

IDEM's List of Impaired Waters

By: Greg Bright, Commonwealth Biomonitoring

The Indiana Department of Environmental Management (IDEM) collects a LOT of water quality information. Data collected includes both chemical and biological information. Every two years, IDEM analyzes all their recently-collected water quality monitoring data and prepares a "303(d)" list. The number 303(d) refers to a section of the Federal Clean Water Act which requires each state to identify waterbodies which do not meet the state's water quality standards and to establish a priority order for actions to improve them. This list is also commonly referred to as the "impaired waterbodies" list.

A list of impaired waterbodies in Indiana can be found on the IDEM website at: www.in.gov/idem/nps/3937.htm. In 2012, Indiana had 3,040 separate waterbodies on its list. Twenty different monitored parameters caused at least one case of water quality impairment. The parameter responsible for the largest proportion of impairment was *E.coli*, making up 35% of all impairment listings. The parameters with the next highest numbers of impairments were PCBs in fish tissue and impaired biotic communities (fish or macroinvertebrates). PCBs in fish tissue and IBCs each account for an additional 20% of the listings identified on the 2012 list. Other parameters which make up at least 5% of the impairment listings include nutrients, low dissolved oxygen, and mercury in fish.

Which parts of Indiana had the most number of impaired waterbodies? The average number of impairments by county is 32. Lake County led the way with 122 listings. Other highly urbanized counties (Porter, Marion, and Allen) also had higher than average numbers of impaired waterbodies. But there are some surprises in the list too. Less populous counties such as Whitley, Perry, Spencer, Pulaski, Dubois, Harrison, Steuben, Lagrange, Kosciusko, and Posey also have a higher than average number of impaired waterbodies.

Save the Date!

Indiana Lake Management Society (ILMS) Annual Conference

Join ILMS for the 27th Annual Indiana Lake Management Conference March 5th and 6th, 2015 at Oakwood Resort on Lake Wawasee, Syracuse, Indiana.

If you are involved in water quality assessment, lake community development, best management practice implementation, community water body monitoring, simply enjoy working with your lake association and/or community then consider attending the 27th annual Indiana Lakes Management Conference.

You can register online for the conference and view the conference agenda here:

<http://www.indianalakesmanagementsociety.wildapricot.org/event-1791271>

2015 Trained Individual Contractor's Workshop

Date: March 3, 2015

Time: 8:00 am to 4:30 pm

Location: Hamilton County Fairgrounds
2003 Pleasant Street, Noblesville, IN 46060

Admission: \$35 Training Only
\$85 Training and Testing

Join us for the 2nd year of the Contractor's Workshop. In addition to the training, this year's workshop will provide an option testing portion for those wishing to be certified with the participating municipalities of the Upper White River Watershed.

Indianapolis Boat Sport and Travel Show

Date: February 20- March 1, 2015

Where: Indiana State Fairgrounds
1202 E. 38th Street, Indianapolis, IN 46205

Admission: \$14

Recent News Releases

Discovery of Larval Missouri River Pallid Sturgeon Heralded. ST. LOUIS — Jan 20, 2015, 6:07 PM ET
By Jim Suhr, Associated Press.

The discovery of two lab-confirmed tiny pallid sturgeons in the Missouri River near St. Louis offers fresh proof the endangered species descending from the dinosaur era is reproducing.

<http://abcnews.go.com/US/wireStory/discovery-larval-missouri-river-pallid-sturgeon-heralded-28356625>

The "Why" Behind the "Wow": Three Perspectives on Record 2014 Salmon Returns. By Ryan Hagerty, U.S. Fish and Wildlife Service. See entire article at: <http://usfwspacific.tumblr.com/post/103123628495/the-why-behind-the-wow-three-perspectives-on>

U.S. Fish and Wildlife Service Announces over \$21 Million in Grants to Conserve Coastal Wetlands. Chris Darnell, National Coastal Wetlands Conservation Grant Program. See entire article at:

<https://www.fws.gov/coastal/CoastalGrants/>

Scientific Report Shows Strong Connection Between Wetlands, Streams, Rivers and Estuaries. Jan 15, 2015.

By Lek Kadeli. See entire article at:

<http://blog.epa.gov/epaconnect/2015/01/scientific-report-shows-strong-connection-between-wetlands-streams-rivers-and-estuaries/>

What Makes Rivers Different Colors? January 12, 2015. By Devin Dotson. See entire article at: <http://www.americanrivers.org/blog/what-makes-rivers-different-colors/>

Indiana Clean Lakes Program

By: Melissa Clark, Indiana University

We are starting our 27th year of the Indiana Clean Lakes Program (ICLP). As a reminder, the ICLP is a program within the Indiana Department of Environmental Management's (IDEM) Office of Water Management. The program is administered through a grant to Indiana University's School of Public and Environmental Affairs (SPEA) in Bloomington. The ICLP is a comprehensive, statewide public lake management program with five components:

1. Public Information and Education
 - Produce and distribute the quarterly Water Column newsletter
 - Sponsor the annual Indiana Lake Management Conference
 - Prepare informational brochures
 - Prepare lake assessment reports
 - Conduct training and informational workshops

We offer multiple training workshops to help encourage and nurture lake stewardship. These are scattered around the state and often hosted by a lake association.

If you'd like us to join your group, please let us know! While deep in winter, we are planning for this year and winter-time workshops help dust of the cabin fever. We'll be hosting multiple Aquatic Invasive Species workshops that highlight macrophyte identification and mapping.

Help us be the eyes for your lake by preventing the spread of invasive species, monitoring their distribution and the overall habitat of your lake. This year we are rolling out our Zebra Mussel Early Detection Monitoring Program. We'll be offering a "Limnology 101" workshop at this year annual Indiana Lakes Management Conference (ILMS) (http://indianalakes.org/conference_2015.html) at the Oakwood Resort on Lake Wawasee. Come join us!

2. Technical Assistance
 - Assist lake associations with interpreting water quality data
 - Attend lake association meetings
 - Present programs to lake associations

Sometimes conferences are challenging to accommodate yet you have an eager group of lake enthusiasts, the ICLP can join lake meetings to provide technical assistance from going over data to offering your group a workshop. All these efforts build better lake stewardship and creative positive dialogue.

3. Citizen Scientist Volunteer Lake Monitoring
 - Citizen scientists monitor water transparency on 80 Indiana lakes
 - Volunteers in an expanded program collect monthly samples for total phosphorus and chlorophyll-*a* analysis

We have an amazing group of citizen scientists that really help our monitoring efforts spread more thoroughly across the state. We are always working to expand this group and get more folks involved so if you live on a lake or visit a lake often enough to sample for the ICLP regularly, we'd love to hear from you. The volunteer efforts are invaluable to the State's mission to current lake condition and trends. Citizen scientists also can join our Aquatic Invasive Species Monitoring program efforts for macrophytes and zebra mussels. All this data is available on the ICLP website:

<http://www.indiana.edu/~clp/>.

4. Lake Water Quality Assessment
 - Conduct routine assessments of water quality on Indiana lakes
 - Identify regional and/or temporal patterns in lake data
 - Identify lake conditions that warrant further attention

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Indiana Clean Lakes Program

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We will sample another 80 randomly selected lakes around the state this summer. Many parameters we measure in the field including temperature, dissolved oxygen, conductivity, light levels, and Secchi disk transparency. Other parameters we collect to process back in the lab including phosphorus, nitrate, ammonia, pH, alkalinity, zooplankton, and phytoplankton. Once all parameters are analyzed we upload this data to the ICLP website as well: <http://www.indiana.edu/~clp/>. So, there is a lot of data available online for your lakes allowing you to track trends over time.

5. Coordination with Other State and Federal Lake Programs

- Work with other state and federal agencies to coordinate efforts and enhance the protection of Indiana lakes

There are many different entities that manage lakes, whether it's a U.S. Army Corps of Engineers reservoir or an Indiana Department of Natural Resources beach. We are all working towards improving lake stewardship and protecting these resources we love so much. For example, our Aquatic Invasive Species Monitoring Program volunteers directly complement the Indiana Department of Natural Resources (IDNR) initiatives by learning how to prevent the spread, detect their presence, and report and map their distribution.

Join the ICLP and become a citizen scientist! You can meet us at the ILMS conference or at the Northern Indiana Lakes Festival, invite us to present a workshop to your lake association, find us out on your lake this summer. Please visit our website or Facebook page for updates and announcements!

Website: <http://www.indiana.edu/~clp/>

Facebook: <https://www.facebook.com/IndianaCLP>