

Riffles & Pools

Office of Water Quality

idem.IN.gov



Greetings Riverwatchers!

With summer in full swing, it can be hard to beat the heat. Indiana was forecast to have another heat dome the week of July 21-25. According to the Weather Channel, a heat dome is an expansive (up to 1,000 miles!) bulge of warm air and high pressure. The high pressure causes air to descend and warm as it approaches the Earth's surface. This can cause prolonged extreme heat with little chance for rain or a comforting breeze. Although heat domes promote drought due to lack of precipitation, the humidity will remain high. In part, this is due to "corn sweat", a process during which corn and other plants release water vapor into the atmosphere through evapotranspiration. The U.S. Geological Society reports one acre of corn can release over 3,000 gallons of water into the atmosphere each day during the growing season. This results in uncomfortably hot and humid weather.

Fortunately, IDEM's Drinking Water Branch ensures Hoosiers have plenty of safe, clean water to stay hydrated. The branch ensures that over 4,000 public water systems, from city-wide utilities to rural schools and businesses, are inspected and comply with standards set by the federal Safe Drinking Water Act (SDWA). The branch also oversees the certification of drinking water operators, ensuring professionals are equipped to run public water systems effectively and efficiently. Additionally, the branch oversees permits for construction involving water systems and protection for ground and surface water sources. A big thank you to all those in IDEM's Drinking Water Branch!

Stay hydrated and stay cool this summer!

Dylan Allison
Hoosier Riverwatch Coordinator

Summer 2025

In this Issue:

Lake Manitou TMDL

Indiana Crayfish Finders

New Training Videos

HRW on WRTV

Indy Parks Summer Camps

Upcoming Workshops

Aug. 27 – Brownsburg

Sept. 5 – Bristol and Greenwood

Sept. 12 – Noblesville

Sept. 26 – Greenwood (advanced workshop)

Oct. 3 – Richmond

Hoosier Riverwatch is sponsored by IDEM



Lake Manitou TMDL

July was Lakes Appreciation Month and IDEM celebrated it in historic fashion. IDEM's Watershed Planning and Restoration Section conducted the first-ever lake-specific Total Maximum Daily Load (TMDL) project in Indiana. The target was Lake Manitou, a 775-acre lake in the Tippecanoe watershed of Fulton and Miami counties. According to Fulton County Indiana Tourism, the reservoir was created in 1827 when the U.S. government built a dam and mill to satisfy a treaty with the Potawatomi Tribe. Lake Manitou derived its name from the Potawatomi word for 'spirit'. Indigenous people believed the lake's waters held a monster fish or serpent of supernatural powers. Early settlers knew the lake as 'Devil's Lake' (Lake Manitou Association). Today, Lake Manitou offers a haven for boating, fishing, and wildlife viewing.

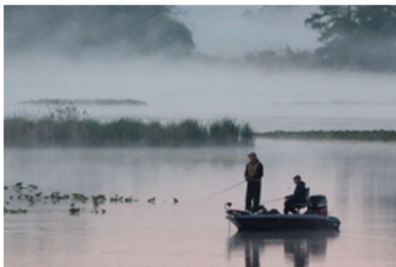


Photo courtesy Lake Manitou

Although recreation on the lake is a popular pastime, Lake Manitou faces the challenge of impairment due to excess levels of phosphorus. While natural in smaller quantities, excess nutrients such as phosphorus can lead to algal blooms. Blue-green algae can cause health risks for both people and pets that recreate in the water. To assist with the assessment and reduction of nutrient levels, IDEM developed a Total Maximum Daily Load (TMDL) plan for the lake. Although IDEM has developed many [TMDL reports](#), this is the first one submitted for a lake within Indiana. The primary purpose of these reports is to assess impaired bodies of water, identify possible causes for impairment, model how much reduction in a pollutant is required to meet water quality standards, and propose best management practices to improve the water quality.

IDEM staff reviewed the lake's historical biological and chemistry data spanning from 1997 to 2020. Much of the data was collected by the IDEM-funded Clean Lakes Program. According to the report, an estimated average of 61.9 lbs. of phosphorus is entering the lake every day. To meet Indiana's reservoir water quality standards, it is estimated that the amount of phosphorus entering the lake would need to be reduced by 40%.

To assist in this reduction goal, residents within the watershed can take several actions. First, limit the use of fertilizer and avoid spraying near the edge of a waterway. Use phosphorus-free fertilizer when possible. Next, conduct regular maintenance of septic systems. Homeowners should plan to have septic tanks inspected every several years. Lastly, explore joining a local watershed group to help with local initiatives. The Lake Manitou Association, for example, has conducted a variety of projects to protect, restore, and manage the lake. Find more info at lakemanitou.org. For more information on the Lake Manitou TMDL Report, visit idem.IN.gov/nps/resources/total-maximum-daily-load-reports/lake-manitou.



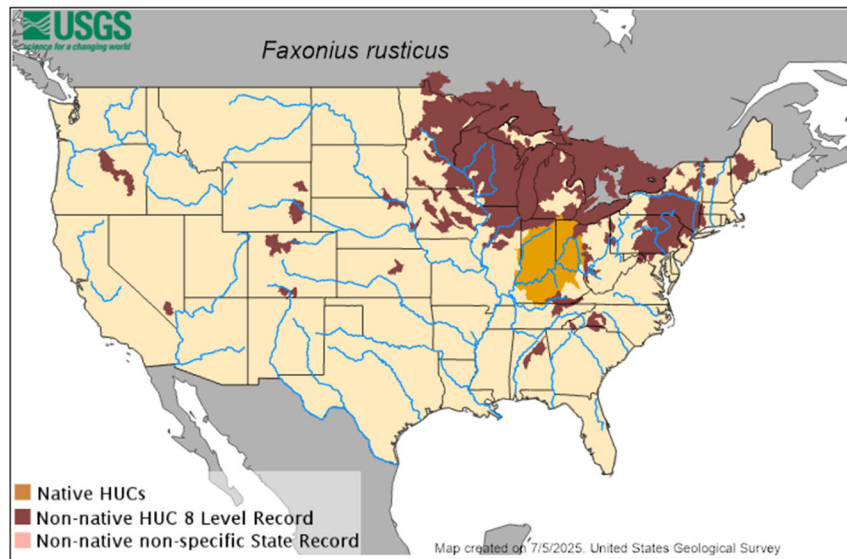
The Pastime was a double-decker boat that offered tours of Lake Manitou in the 1930s and '40s – for only 25 cents! Photo courtesy of Fulton County Tourism



IDEM's J.D. Sparks presents on the TMDL project at the Indiana Lakes Management Society Annual Conference. Photo courtesy of IDEM.

Indiana Crayfish Finders

Calling all crayfish catchers and crawdad enthusiasts! Hoosier Riverwatch's new initiative is the Indiana Crayfish Finders. Participants will collect data on these freshwater crustaceans. The project complements efforts of [Illinois Crayfish Finders](#), a collaborative partnership between Illinois RiverWatch and the Illinois Natural History Survey. By expanding this community science project across the Indiana-Illinois border, we can collect even more data on these macroinvertebrates. This two-year project seeks to find and identify crayfish in Illinois, both native and invasive. (Note: The Rusty Crayfish (*Faxonius rusticus*) is non-native to Illinois and northern Indiana, but native to southern IN and the Ohio River basin.)



Both Crayfish Finders projects utilize [iNaturalist](#) to collect data. iNaturalist is a participatory science platform that allows one to submit observations for community review. Photos can be submitted via phone while in the field or later via computer. To allow accurate species identification, observers are encouraged to take proper photos. Illinois RiverWatch has developed training videos for instructions on crayfish collection, photography, and data submission (links below).

Full Training Session - [youtube.com/watch?v=h8MZxSaEemI](https://www.youtube.com/watch?v=h8MZxSaEemI)

Photography Review - [youtube.com/watch?v=82Y4gDVvCI8](https://www.youtube.com/watch?v=82Y4gDVvCI8)

Hoosiers are welcome to participate! Visit [inaturalist.org/projects/indiana-crayfish-finders](https://www.inaturalist.org/projects/indiana-crayfish-finders) to submit data and view observations. For more information on complete Hoosier Riverwatch training, visit [hoosieriverwatch.com](https://www.hoosieriverwatch.com).



Lights, Camera, Hoosier Riverwatch

It's been a long-term goal for the Hoosier Riverwatch program to offer instructional videos on water monitoring methods. That goal has come to fruition with the creation of a series of videos recently posted on IDEM's YouTube page. The videos can serve as a refresher for current volunteers or as an introduction to those interested in Hoosier Riverwatch training. IDEM videographer, Aidan Whitney, and Hoosier Riverwatch coordinator, Dylan Allison, collaborated to film, narrate and edit short "how-to" clips. Currently, the video series covers most of the water chemistry tests conducted during Hoosier Riverwatch sampling. Additional videos to highlight habitat evaluation, biological surveys, and data entry will be added in the future. View the entire playlist [here](#).



Photos Courtesy of WRTV

Hoosier Riverwatch was in front of the camera again for a segment on the 5 p.m. news. WRTV reporter, Maci Tetric, stopped by a training workshop in Greenwood to see what the buzz is about. Hoosier Riverwatch Coordinator, Dylan Allison, was asked why Hoosier Riverwatch is an important program.

"Having a volunteer group be able to go out into areas that aren't able to be reached by IDEM staff, helps us fill in the data gaps," Allison explained. "We're looking for any water quality data we can get!"

WRTV joined the participants at the creek to observe the training on testing the habitat, biology and chemistry of a stream. Saige Sentell, of the Beanblossom Creek Watershed in Bloomington, was asked what workshops offer to students.

"The way I might interpret a landscape is different than how somebody else might interpret our landscape," Sentell said, "The tools and resources that standardize research allow us all to see it through a similar lens."

To watch the whole segment, visit wrtv.com/news/local-news/volunteers-learn-to-monitor-water-at-hoosier-riverwatch-workshop.

To view a calendar of Hoosier Riverwatch workshops, visit hoosieriverwatch.com/#cal.



Hoosier Riverwatch Goes To Summer Camp

Hoosier Riverwatch Coordinator, Dylan Allison, visited two Indy parks in July to engage with their summer camps. Washington Park lacks a stream but does offer a small pond for exploration. Activities were conducted that illustrate watersheds and non-point source pollution. Water chemistry testing and biological surveys were also demonstrated.



Grassy Creek Regional Park opened a new environmental center this year. The community hub offers a state-of-the-art playground, meeting rooms and live animal displays. Dylan conducted activities with the park's summer camp in the environmental center before walking to a nearby wetland for a water monitoring demonstration. Campers were able to explore the contents of dip net samples from the wetland; countless dragonfly larva and giant water bugs were collected!



Hoosier Riverwatch also visited Conner Prairie to assist in its [*Curious by Nature*](#) Homeschool Nature Program. The program features a series of speakers that engage with local homeschoolers on a variety of topics, like foraging and nature art. Dylan Allison connected with students on the banks of the White River, demonstrating how Hoosier Riverwatch volunteers sample water chemistry and macroinvertebrates.



Photos Courtesy of IDEM



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Mark Your Calendars

2025 Workshops

Wednesday, Aug. 27

Brownsburg – Arbuckle Acres Park (10 a.m. – 4 p.m.) Instructor: Sarah Wolf.
Register [here](#).

Friday, Sept. 5

Greenwood – Greenwood Nature Center (10a.m. – 4 p.m.) Instructor: Dylan Allison.
Register [here](#).

Bristol – Bonneyville Mill County Park (9a.m. – 4 p.m.) Instructor: Krista Daniels.
Register [here](#).

Friday, Sept. 12

Noblesville – Forest Park (10 a.m. – 4 p.m.)
Instructor: Sarah Oakley & Dylan Allison.
Registration link coming soon!

Friday, Sept. 26

**Advanced Macroinvertebrate Workshop
Greenwood** – Greenwood Nature Center (10 a.m. – 2 p.m.) Instructor: Dylan Allison.
Register [here](#).

Friday, Oct. 3

Richmond – Earlham College (10 a.m. – 4 p.m.) Instructor: Dylan Allison.
Register [here](#).

IDEM Office of Water Quality Mission

The Office of Water Quality's mission is to monitor, protect and improve Indiana's water quality to ensure its continued use as a drinking water source, habitat for wildlife, recreational resource and economic asset.

The office achieves this by developing rules, guidance, policies, and procedures; assessing surface and groundwater quality; regulating and monitoring drinking water supplies and wastewater facilities; protecting watersheds and wetlands; and providing outreach and assistance to the regulated community and the public while supporting environmentally responsible economic development.

Hoosier Riverwatch Mission

The mission of Hoosier Riverwatch is to involve the citizens of Indiana in becoming active stewards of Indiana's water resources through watershed education, water monitoring and clean-up activities. Hoosier Riverwatch is a water quality monitoring initiative sponsored by the **Indiana Department of Environmental Management's Office of Water Quality**.

For more information, go to idem.IN.gov/riverwatch.