

Riffles & Pools

Office of Water Quality

idem.IN.gov



Photo Courtesy of IDEM

Greetings Riverwatchers!

Happy summer! I hope everyone is staying cool in this Indiana heat. We are often reminded of the importance of water during the summer months. Many Hoosiers spend more time outdoors and can see water everywhere. We can see it from the sprinklers watering the neighborhood lawns to the local pond that provides a favorite fishing spot. From the glass of ice water after a morning run to the public pool full of elated children. Let us be mindful of the significance of our water this summer.

One place that illustrates many water-related topics is the Pathway to Water Quality exhibit at the State Fair. Managed by the Indiana Conservation Partnership, the model watershed has served as a fixture at the fairgrounds since 1993. Visitors can walk through a shaded grove while discovering environmentally friendly practices like rain gardens, permeable concrete, and a two-stage ditch. Fair-goers can answer trivia questions at the greeter's booth, engage in kid-friendly activities in the education area, and gather a cold drink of water at the popular water well pump. Make sure to stop by during your visit to the Indiana State Fair (Aug. 2–Aug.18)!

Dylan Allison
Hoosier Riverwatch Coordinator

Summer 2024

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Sept. 21 – South Bend

Oct. 2 – Brazil

More Coming Soon!

Hoosier
Riverwatch is
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Hoosier Riverwatch Helps in Campus Cleanup

Students from Indiana University volunteered an afternoon of their time to clean up Campus River while learning hands-on monitoring techniques. The annual event was a collaboration between the IU Office of Sustainability, City of Bloomington, and the Monroe County Stormwater Department. “The Campus River, part of the larger White River that flows southeast through Bloomington and travels underground via a culvert through downtown Bloomington, is particularly prone to runoff and pollution as one of the lowest points on campus and its location right outside of the IMU, where several IU dining options are located.” (Brian Rosenzweig, The Herald-Times)



Hoosier Riverwatch instructor, Kriste Lindberg, demonstrated how to measure several water quality parameters, including pH, turbidity, and biological index. In combination with litter cleanup, the student volunteers were able to make a meaningful impact on a well-known campus landmark. Data collected during the event was uploaded to the Hoosier Riverwatch database which is publicly available. For the original article, visit [The Herald-Times](#).



Photos Courtesy of The Herald-Times



NONPOINT SOURCE SUCCESS STORY Update

Indiana

Aquatic Life Use Restored in Two Hogan Creek Watershed Streams

Update Overview

The Indiana Department of Environmental Management (IDEM) listed several streams in the Hogan Creek watershed on its Clean Water Act (CWA) Section 303(d) List of Impaired Waters beginning in 2002 due to elevated *Escherichia coli*, impaired biotic communities, and low dissolved oxygen (DO). Partners developed and implemented the Hogan Creek Watershed Project (HCWP) in 2005, out of which the Hogan Creek Watershed Management Plan (WMP) was developed. After years of implementing best management practices (BMPs) and education and outreach in the watershed, monitoring revealed that aquatic life and/or recreational use is supported. IDEM removed biotic community impairments in Little Hogan and South Hogan Creeks from the CWA 303(d) list in 2022 (see [earlier success story](#)) and will propose to remove *E. coli* and DO impairments from Goose Run and Little Hogan Creek in 2024.

Problem

Hogan Creek flows from its headwaters in northeast Ripley County until it reaches its confluence with the Ohio River, just north of the town of Aurora in southeastern Indiana (Figure 1). The greater Hogan Creek watershed (HUC 0509020304) includes Little Hogan Creek, South Hogan Creek, and Goose Run, in adjacent subwatersheds, constituting approximately 35 miles of stream combined. The Hogan Creek watershed is nearly half agricultural and half forested land. According to the 2007 Hogan Creek WMP, the Hogan Creek Steering Committee identified the top five concerns within the watershed as water quality, dumping of garbage, failed septic systems, cropland erosion, and urbanization. A windshield survey conducted by members of the Hogan Creek Technical Committee in 2006 identified farms that allowed livestock direct access to two tributaries of Hogan Creek and had numerous overgrazed pastures.

IDEM measured water quality in the watershed in 2010 as part of its Ohio River probability monitoring program and discovered that DO fell below the 4 milligrams per liter (mg/L) state standard on Goose Run, measuring at 2.42 mg/L. Additionally, *E. coli* was elevated on Little Hogan Creek (INV0341_T1006). Elevated (in this case) means that two individual sampling events were above the single sample maximum of 235 colony-forming units (CFU)/100 milliliters (mL) and the geometric mean of five equally spaced samples collected over a 30-day period was greater than the state water quality standard of 125 CFU/100 mL.

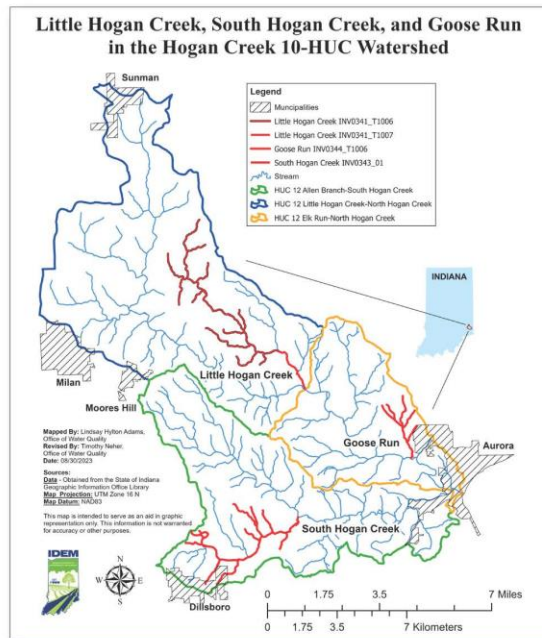


Figure 1. Southeastern Indiana's greater Hogan Creek watershed includes the Little Hogan Creek, South Hogan Creek, and Goose Run subwatersheds.

Story Highlights

The Dearborn County Soil and Water Conservation District (SWCD) formed the HCWP in 2005, and the resulting WMP was approved in 2007. Since the approval of the WMP, the group has received four CWA section 319 implementation grants. See the 2020 success story, [Aquatic Life Use Restored in Two Hogan Creek Watershed Streams](#), to learn about efforts through 2018 that restored Little Hogan and South Hogan creeks. The most recent grant was administered in 2018, where the HWCP used the funding to install BMPs in critically needed areas within the watershed. The fourth round of implementation concluded in February of 2022, marking 14 years of BMP implementation.

Since the initial funding of section 319 implementation dollars in 2008, the HWCP has received \$757,851 in federal grant money. These dollars have supported the implementation of several BMPs within the watershed, notably over 3,500 acres of cover crops; 2,600 feet of access roads; 96,000 feet of fencing; 232,330 square feet of heavy use area protection; 180 acres of pasture and hay planting; 1,100 acres of roof runoff management; and 44 watering facilities.

Additional funding was acquired through the Clean Water Initiative Program sponsored by the Indiana State Department of Agriculture, which supported another 300 acres of cover crops, 50 feet of access roads, and one watering facility. Likewise, the U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) helped implement numerous BMPs in the watershed in 2005–2021, including over 1,100 acres of cover crops; 7,500 feet of fence; 31,300 square feet of heavy use area protection; 1,000 acres of improved nutrient uptake efficiency; 9,000 feet of livestock pipeline; and 13 watering facilities. The HWCP is proud of the work done in the watershed over the many years and are considering updating the 2007 WMP.

Results

IDEM conducted performance monitoring in 2022 on Little Hogan Creek, which showed significant improvements from previous performance monitoring at three separate stream branches within the watershed. These three stream segments now fully support their designated aquatic life uses due to improved water quality throughout the watershed. The Little Hogan Creek showed five DO measurements taken in April 2022 ranging from 9.43 mg/L to 13.08 mg/L. The upstream segment of Little Hogan Creek measured *E. coli* at a geometric mean of 99 CFU/100 mL, below the impairment threshold of 126 CFU/100mL. And finally, the Goose Run monitoring showed five DO values ranging from 9.4 mg/L to 13.4 mg/L. All three monitored stream segments are meeting their aquatic life uses, and IDEM will propose to remove the impairments from its list of impaired waters in 2024.

Partners and Funding

The partnerships involved in the HCWP have been crucial to the success of the watershed restoration over the past 18 years. The partnership with IDEM led to the funding of the WMP with the CWA section 205(j) funds of \$78,376, as well as the subsequent section 319 funding of the four implementation projects that totaled \$757,851 with a \$888,086 match in cost-share. The USDA-NRCS partnership provided \$170,871 through the Environmental Quality Incentives Program and the Conservation Stewardship Program. Additionally, the Indiana State Department of Agriculture partnership provided \$241,542 of funding through the Clean Water Initiative. The success of the watershed implementation was also due to the Historic Hoosier Hills Resource Conservation and Development Program's support of administrative duties and outreach and Ripley County SWCD for their assistance with project outreach, education, and cost-share program efforts. Other important partnerships included Purdue Extension, Dearborn County Health Department, IDNR, ORSANCO, and the City of Aurora.



U.S. Environmental Protection Agency
Office of Water
Washington, DC

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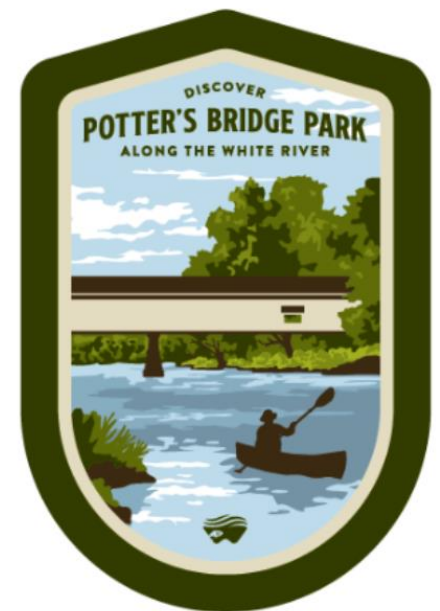
For additional information contact:

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Discover White River Pass



If you live within the Upper White River watershed, there is a new activity that will guide your exploration of key areas along the waterway. The Discover White River Pass is a free and engaging activity guide connecting users to river-related fun. Activities include visiting local parks, canoeing via local paddlesports locations, and volunteering during cleanup efforts. Geolocation allows for users to “check in” when visiting individual parks. Each activity offers the user points which can be redeemed for prizes. Prizes include stickers, t-shirts, canoe/kayak rentals, and entry into a raffle to win a guided fishing outing with Two Forks Guide Service. No app download required, and points can be earned through October 2024. Visit discoverwhiteriver.com/pass to sign up and start earning points!



Photos Courtesy of Discover White River

Water Exploration Weekend at Conner Prairie

Hoosier Riverwatch teamed up with Conner Prairie to offer education to visitors on the theme of water. Coordinator Dylan Allison led water quality monitoring along the bank of the White River. The program was incorporated into Conner Prairie's Water Exploration Weekend which also offered other water-related programs like a guided paddle by Friends of the White River and sculpting clay mussels by local artists. Families were able to try their hand at testing the river's pH and dissolved oxygen levels as well as identifying assorted macroinvertebrates.



Mark Your Calendars

- Monday, Aug. 19** **Valparaiso, Ind.** – Valparaiso Public Library
9:30 a.m.– 4:30 p.m. **CST**
Instructor: Ashley Sharkey. Register [here](#).
- Tuesday, Aug. 20** **ADVANCED E. coli Workshop**
Valparaiso, Ind. – Valparaiso Public Library
9:30 a.m. – 1:30 p.m. **CST**
Instructor: Ashley Sharkey. Register [here](#).
- Friday, Aug. 30** **Bristol, Ind.** – Bonneyville Mill County Park
9 a.m. – 4 p.m.
Instructors: Krista Daniels and Jenna Wait. Register by Aug. 23 [here](#).
- Saturday, Sept. 21** **South Bend, Ind.** – St. Patrick’s County Park
9 a.m. – 4 p.m.
Instructor: Jan McGowan. Register at 574-654-3155.
- Wednesday, Oct. 2** **Brazil, Ind.** – Clay County 4-H Fairgrounds
10 a.m. – 4 p.m.
Instructor: Dylan Allison. Register [here](#).

More Workshops Coming Soon!





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Environmental Management**
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Welcome New Instructors

On July 24, an instructor course was held in Michigan City for individuals who are committed to educating Hoosiers on water quality monitoring. We welcome the following to our team of educators!

- Gwen Rentz, Starke County Surveyors Office
- Jen Birchfield, Northwestern Indiana Regional Planning Commission
- Katelyn Walker, White County SWCD
- Matthew McLaughlin, Indiana Toll Road Concession Company

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.