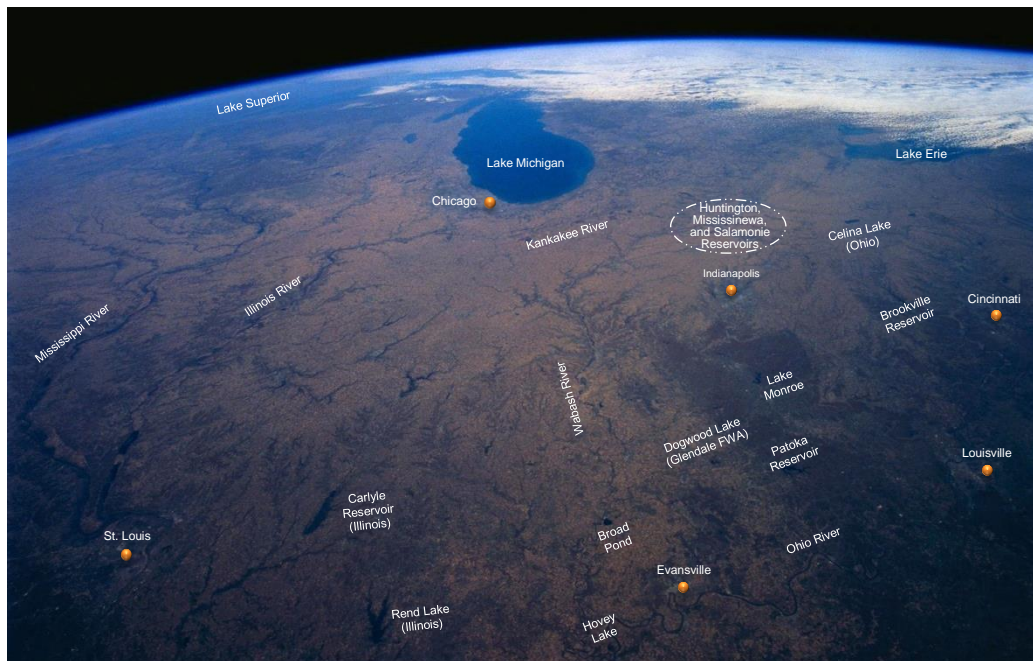


Riffles & Pools

Office of Water Quality www.idem.IN.gov



Looking north across Indiana and the Midwest to the northern edge of Lake Michigan. As the globe slowly gets up and running and back in business, what are your priorities? Our home and life support system, planet Earth, awaits our active stewardship.

Photo by NASA, 1993

Greetings Riverwatchers!

We hope everyone is healthy and in good spirits! The past few months have been challenging for all Hoosiers. With challenges come opportunities for growth. Perhaps you learned new tools for communicating and staying in touch or found time for hobbies or work-related projects that would otherwise remain untouched. We certainly hope spare time enabled you to slow down and enjoy the moments. Our neighborhood walks and sojourns to favorite parks provided welcome, temporary relief from life under quarantine.

As we slowly return to work and society, we need to be resilient to the changes around us and find greater strength, deeper meaning, and growth from this experience. Time marches on, and we want to share one change to HRW. Riverwatch coordinator Carol Newhouse is on a leave of absence to address health issues. We wish Carol a speedy recovery! Our staff look forward to working with Riverwatch instructors and volunteers to keep HRW wheels moving forward. Citizen involvement in water quality concerns is vital to the future success and welfare of our water resources. We appreciate your involvement and support!

– *Kristen Arnold, Technical and Logistical Services Section Chief
Watershed Assessment and Planning Branch*

Summer 2020

In this Issue:

- [Boyles Ditch Success Story](#)
- [IDEM COVID-19 Actions](#)
- [Ensuring Safe Drinking Water as Buildings Reopen](#)
- [How the Pandemic Affected Watershed Assessment and Planning at IDEM](#)
- [White River Mainstem Project](#)

MARK YOUR CALENDARS!

Canceled or Postponed Workshops

June 13 — North Webster

July 9 — Battle Ground

Upcoming Workshops

June 13 – Fort Wayne

Sept. 4 – Bristol

Sept. 12 – Indianapolis

Hoosier
Riverwatch is
administered by

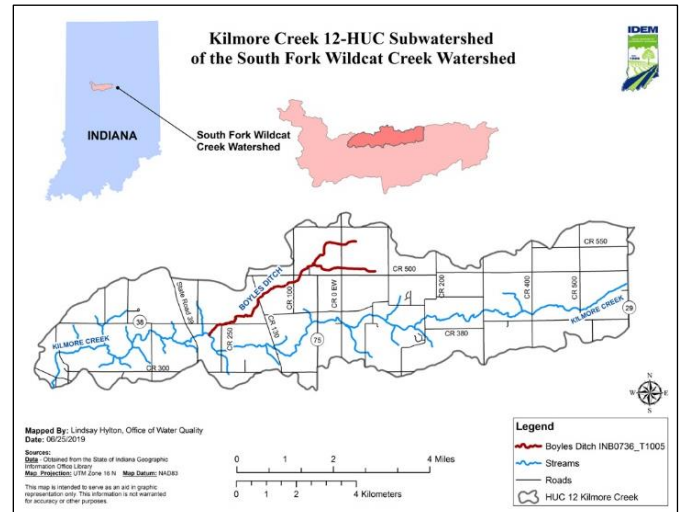


Watershed Success Stories: Boyles Ditch

The 10th installment of the [stories of watershed success](#) efforts collected by IDEM staff and grant recipients over the years:

Boyles Ditch is a small, roughly 6-mile-long stream in the northern portion of the Kilmore Creek sub-watershed, which is in the South Fork Wildcat Creek (SFWC) watershed in Clinton County (see figure on right). Boyles Ditch is surrounded almost entirely by cultivated crops. While the main stem of Kilmore Creek contains a substantial amount of forested stream buffer, the Boyles Ditch segment is largely unbuffered.

In 2004, IDEM conducted a biological study on the SFWC watershed. Three sampling sites on Boyles Ditch had failing index of biotic integrity (IBI) scores (i.e., scores less than 36 in Indiana indicate the stream is not supporting a well-balanced aquatic community). The fish community data collected at these three sites showed IBI scores on Boyles Ditch ranging from 12 to 34. IDEM listed Boyles Ditch on its 2006 Clean Water Act [Section 303\(d\) List of Impaired Waters](#) due to high levels of *Escherichia coli* (*E. coli*) and impaired biotic communities. Agricultural activities related to crop cultivation and livestock-rearing contributed nonpoint source pollution to a stream already lacking in quality aquatic habitat. To address these and other existing impairments, IDEM developed a total maximum daily load (TMDL) for *E. coli*, total suspended solids, total phosphorus, and nitrate-nitrite in 2008 for the SFWC watershed.



Boyles Ditch is in the Kilmore Creek Subwatershed.

Partners, Funding, and Project Highlights

For over two decades multiple partners have been collaborating to restore water quality in Boyles Ditch and the SFWC watershed. In the late 1990s, the Indiana Association of Soil and Water Conservation Districts (IASWCD) provided strategic planning and technical assistance to the larger Wildcat Creek watershed using \$189,500 in Clean Water Act (CWA) [Section 319 funding](#). The Wildcat Creek Watershed Network (now known as the Wildcat Creek Watershed Alliance) received funding to hire an executive director to develop a long-term strategic plan for the watershed to serve as the foundation for future planning and implementation efforts.

In 2005, the [Clinton County Soil and Water Conservation District](#) (SWCD) received \$96,100 in CWA Section 319 funding to write the South Fork Wildcat Creek-Blinn Ditch and Kilmore Creek-Boyles Ditch watershed management plan (WMP). In 2006, the Wildcat Creek Watershed Alliance assumed implementation of the plan using \$150,000 in CWA Section 319 funding. From 2005-2012, watershed partners conducted education and outreach through stakeholder meetings, public workshops, field days, newsletters, and community cleanups. Workshop topics included the use of cover crops, proper septic system management, and soil health maintenance.

From 2001-2017, the Clinton County SWCD used \$754,628 from private funds and CWA [Section 205\(j\)](#) and Section 319 grant funds to prepare a new nine-element watershed management plan (WMP) for the SFWC watershed (in 2009), with implementation starting in 2012, and to provide cost share for best management practices (BMPs). Clinton County SWCD also used \$337 in local funds to decommission a well. The WMP stated that roughly 14 of the 21.5 miles of waterways in the Kilmore Creek subwatershed are

Continued on next page ▼

Watershed Success Stories: Boyles Ditch (cont.)

BMPs Implemented in the SFWC Watershed				
Practice type	Amount Implemented			
	USDA NRCS	CWA 319/ Clinton Co. SWCD	CRP	Total
Cover/green manure crop	10 ac			10 ac
Critical area planting	1 ac			1 ac
Grass filter strip			4.4 ac	4.4 ac
Grass waterway			5.2 ac	5.2 ac
Manure transfer	1 ac	800 ac		801 ac
Nutrient management	1,101.7 ac	2,594 ac		3,695.7 ac
Pasture and hay planting	34 ac			34 ac
Pest management	1,331.7 ac	2,970 ac		4,301.7 ac
Prescribed grazing	52 ac			52 ac
Residue and tillage management	1,280 ac	3,244 ac		4,524 ac
Riparian buffers	5 ac		5.2 ac	10.2 ac
Soil management	51.7 ac			51.7 ac
Tree and shrub establishment	12 ac			12 ac
Two-stage ditch		2,253 ft		2,253 ft
Underground outlet	651 ft			651 ft
Use exclusion	9 ac			9 ac
Waste utilization	1,746 ac	145.4 ac		1,891.4 ac
Water well/well decommissioning	1	1		2
Wetland restoration			5 ac	5 ac

Notes: ft = feet; ac = acres

listed as impaired, including all of Boyles Ditch and downstream portions of Kilmore Creek. A volunteer windshield inventory conducted during WMP development noted sites with active erosion, livestock with access to waterways, and areas of trash dumping.

The U.S. Department of Agriculture's (USDA's) [Natural Resources Conservation Service](#) provided additional funding and technical assistance through programs in the Kilmore Creek subwatershed totaling \$7,017,438. The USDA Farm Service Agency's [Conservation Reserve Program](#) provided \$6,185 in funding for various conservation practices and floodplain restoration.

Landowners added roofs/covers (2), installed heavy use area protection (0.5 acres [ac]), and constructed facilities for animal mortality (3), composting (1), watering (8), and waste storage (1). They added a pumping plant, pipeline (3,560 feet [ft]), access roads (1,710 ft), and fencing (6,500 ft). They also applied a range of other BMPs (see table on left).

Results

IDEM's follow-up monitoring on Boyles Ditch in 2017 showed the fish IBI score improved to 54, a significant increase from the score of 34 seen in 2004 and well above the minimum IBI score of 36 needed to indicate support. The Qualitative Habitat Evaluation Index (QHEI) score was 69 in 2017, up from 47 in 2004 (QHEI scores below 51 indicate poor habitat). On the basis of these data and thanks to the efforts and cooperation of many citizens, IDEM is proposing to remove the IBC impairment from this segment of its impaired waters list in 2020.

IDEM COVID-19 Actions

IDEM provides an essential service that is critically important. The agency has not relaxed any policies or issued any broad-based waivers from meeting stringent regulatory requirements during the COVID-19 pandemic. The vital oversight functions and emergency response capabilities that protect Hoosiers and the environment are very much in place, and IDEM continues its [mission and functions](#) across Indiana. Details about IDEM actions during the pandemic are available on the [IDEM COVID-19 Actions](#) page.

The agency's Indianapolis offices are currently closed to in-person public activity, and [regional offices](#) are open to the public by appointment only. IDEM management anticipates state offices will reopen to the public in early July. Staff have been transitioning back to the offices using a phased approach since May 11. Those whose jobs are suited for telework may continue to conduct business remotely per the [Back on Track Indiana](#) plan, as long as they work in-office one day every two weeks and follow [safety precautions](#). Please subscribe to the IDEM COVID-19 Actions page for updates.

Ensuring Safe Drinking Water as Buildings Reopen

Depending on where you live, your drinking water comes from groundwater or surface water (i.e., a river, stream, lake, or reservoir). You can use U.S. EPA's [interactive map](#) to identify the source of your drinking water. Watershed protection groups can use the map to locate drinking water providers, potential sources of contamination, polluted waterways, and information on local protection projects.

Facilities that provide drinking water, such as municipal water supplies, subdivisions, mobile home parks, schools, daycares, factories, churches, restaurants/bars, and campgrounds, are responsible for ensuring their water is safe to drink.



To date no findings indicate the COVID-19 virus is waterborne. However, during the pandemic, many facilities have been temporarily closed or used less frequently. When water is not used over an extended period, it will become stagnant. Stagnant or standing water can cause conditions that increase the risk for growth and spread of *Legionella* and other harmful biofilm-associated bacteria. When water is stagnant, hot water temperatures can decrease to the *Legionella* growth range (77–108°F, 25–42°C). Stagnant water can also lead to low or undetectable levels of disinfectants such as chlorine and could also cause corrosion issues. It is critical to ensure water systems are safe to use after a prolonged shutdown to minimize the risk of Legionnaires' disease and other diseases associated with stagnant water.

To protect the health and safety of consumers, IDEM advises facility operators on how to systematically flush their indoor plumbing to ensure their systems are delivering fresh water, not stagnant water. In general, flushing involves opening taps and other fixtures and letting water run to remove any stagnant water within plumbing and fixtures. IDEM's guidance for operators is available under [Important Notices](#).

How the Pandemic Affected Watershed Assessment and Planning at IDEM

The Watershed Assessment and Planning Branch had to temporarily suspend field sampling in late March per Governor Eric J. Holcomb's Stay-at-Home executive order. Field activities were allowed to commence in mid-May. The branch's Performance Measures Monitoring project will not be completed due to the late start of the field sampling season. [Fixed station monitoring](#) and the [Maria Creek Watershed Characterization Project](#) experienced data gaps during the Stay-at-Home phase.

The branch anticipates completing these projects as planned this year:

- [Cyanobacteria and Cyanotoxin Beach Monitoring](#)
- [Probabilistic Monitoring](#)
- White River Mainstem Monitoring (see next page)
- [Fish Tissue Contaminant Monitoring](#)
- [Lake Monitoring](#)



To learn more about the Watershed Assessment and Planning Branch, please visit IDEM's [website](#).

White River Mainstem Project

IDEM will begin a fifth cycle of probabilistic monitoring in June 2020 by sampling the mainstem White River and tributaries from the headwaters to the mouth encompassing three 8-Digit Hydrologic Units (05120201, 05120202, 05120203). IDEM will sample the East Fork White River and tributaries in 2022.

The probabilistic monitoring program is named for its design for statistical probability. IDEM collects and analyzes water samples from randomly selected streams of different sizes within a given basin. Results from a small number of sampling sites provide a snapshot of the overall physical, chemical, and biological quality of the waters within the basin at a given point in time.



White River in the Indianapolis metropolitan area

IDEM was approached by the Muncie Sanitary District's Bureau of Water Quality to collaborate on a project with the Indiana Department of Natural Resources' (IDNR) Division of Fish and Wildlife to sample fish communities on the mainstem White River. To evaluate the White River mainstem as supporting or non-supporting for aquatic life use, approximately 65 targeted sites will be sampled for water chemistry, fish community, and habitat.

In October 2019, IDEM received \$25,000 in funding from U.S. EPA to analyze water chemistry samples for nutrients. U.S. EPA's Chicago lab will be analyzing water chemistry samples for general chemistry and dissolved metals, saving IDEM \$55,000 in laboratory costs. Site reconnaissance (working with land-owners and others to determine the best route to access the site) started in November 2019. Sampling for this project will end by October 2020. Results should be available by early 2021.



White River in the Indianapolis Metropolitan Area

The objectives of this project are to:

- Collect samples to give a "snapshot" of the water quality of the West Fork White River and White River.
- Assess stretches of the West Fork White River and White River that have not been sampled for many years.
- Collect additional data at historical IDNR sites to continue monitoring and managing the fish community.
- Sample stream reaches on the [303\(d\) List of Impaired Waters](#) for possible removal of impairment(s).
- Identify shifts in fish community structure along the river.
- Identify how far up the West Fork White River invasive Silver Carp (*Hypophthalmichthys molitrix*) and Bighead Carp (*Hypophthalmichthys nobilis*) have reached.

The stretch of the West Fork White River and White River included in the project is 405 river miles long. West Fork White River has a drainage area of 5,367.5 square miles (mi²), with 24.2% forest, 17.6% developed land, and 1.6% wetland. The entire White River has a drainage area of 11,340.9 mi², with 30% forest, 12.9% developed land, and 1.8% wetland.

IDEM's [interactive story map](#) provides more information about the project. If you have questions, please contact Stacey Sobat, Watershed Assessment and Planning Branch, at (800) 451-6027 (press 5) or (317) 308-3191, or ssobat@idem.IN.gov.



Scan with a QR code reader for more information

Mark Your Calendars

2020 Basic Training Workshop Schedule

A Hoosier Riverwatch Basic Training workshop introduces you to hands-on water quality monitoring methods. You will learn about aquatic habitat, chemical, and biological assessment techniques. Sessions are held in- and out-of-doors. All interested persons, age 18 and over, are welcome to attend. Once trained, certified educators are qualified to teach these methods and topics to their students.

Workshops are free of charge. But it is important to register in advance using the contact given for the workshop you are interested in. Training does come at a cost to the program, however, as well as to the host and/or instructor. So, please, contact your instructor or host if you will *not* be able to attend the workshop that you have signed up for.

Please remember that volunteers and instructors should abide by [federal](#), [state](#), and local protocols for social distancing, hand washing, and face masks as appropriate at the time of their training.

Saturday, June 13 **Fort Wayne, IN** – Metea Park Nature Center (9:00 AM – 5:00 PM). Instructor will be Sharon Partridge. Contact Sharon at ssp2655@gmail.com or 260-755-8111 to register.

Friday, Sept. 4 **Bristol, IN** – Bonneyville Mill County Park (9 AM – 4 PM). Instructor will be Krista Daniels. Please register at www.elkhartcountyparks.org by September 1.

Saturday, Sept. 12 **Indianapolis, IN** – Holliday Park (9:15 AM – 4:30 PM). Instructor will be John Ulmer. Contact John at 317-769-3500 or hoosierwatersheds@gmail.com to register.

Please watch for updates to the [workshop schedule](#) later this season.

Photo Contest Highlights Agriculture and Conservation

The Indiana State Department of Agriculture is now accepting submissions for the 13th annual [Indiana Agriculture Photo Contest](#). The contest is open to Indiana residents and was created to recognize the hard work and contributions of Hoosier farmers, as well as the beauty of the state's agricultural landscape. Participants are encouraged to submit up to five photos in digital format that reflect the wide array of agriculture. Riverwatch volunteers and instructors might be particularly interested in the conservation category, which highlights Indiana's natural beauty with photos of landscapes, water, and wildlife. Photos will be evaluated based on creativity, composition, and category representation. **Entries must be submitted by 5:00 p.m. (ET) on Tuesday, June 30, 2020.**

"Water is the most critical resource issue of our lifetime and our children's lifetime. The health of our waters is the principal measure of how we live on the land."

— Luna Leopold



**Indiana Department of
Environmental Management**
Office of Water Quality
Watershed Assessment
and Planning Branch

Mailing Address:
Shadeland Office
100 North Senate Avenue
Indianapolis, IN 46204-2251

Office Location:
Western Select Building
2525 North Shadeland Ave.
Indianapolis, IN 46219

Phone:
(317) 308-3392
(800) 451-6027 (toll free in Indiana)

Email:
riverwatch@idem.IN.gov

Hoosier Riverwatch Program:
www.idem.IN.gov/riverwatch

Hoosier Riverwatch Database:
www.hoosierriverwatch.com



Visit IDEM on Facebook



Subscribe to
this newsletter &
other IDEM updates



View and/or subscribe
to the State of Indiana's
Events Calendar (look for
subscribe in the lower left)

Indiana Water Summit to be Held in August

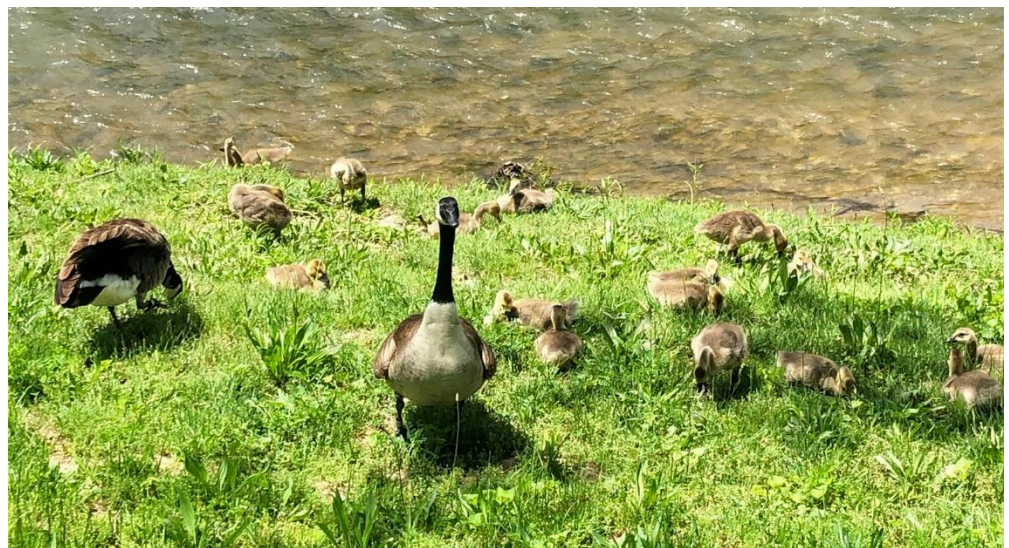
The White River Alliance is a 16-county consortium of local governments, industry, utilities, universities, agriculture, and the regional community that work to improve and protect water quality in the White River Watershed. The alliance will hold its annual Indiana Water Summit on August 12-13, 2020 in downtown Indianapolis (or virtually if required by COVID-19 circumstances). The summit provides an opportunity to increase our collective understanding of statewide water resources, learn from national experts and other communities, and find the best ways to protect our water assets. Details are available on the Alliance [website](#).

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 cleanup activities. [Hoosier Riverwatch](#) is a water quality monitoring initiative sponsored by the Indiana Department of Environmental Management's *Office of Water Quality*.



A Canada geese family on the White River inspired IDEM Environmental Manager Tim Fields to capture the moment while he was in the field on Memorial Day collecting bacteriological (*E. coli*) samples for assessing the ability of streams and rivers to support recreational use in the West Fork White River basin. Remember to always get the landowner's permission if you plan to sample a river or stream on private property.