

Riffles & Pools

Office of Water Quality www.idem.IN.gov



Pictured here are Earth Day preparations at White River State Park in April 2013. Earth Day plans for April 2020 have been moved to Saturday, July 18 (11 AM-4 PM) at nearby Historic Military Park, due to COVID-19 precautions. Hang tight for now and we will see you in the creeks again soon.

Greetings Riverwatchers!

The most common feedback on the evaluation forms from Hoosier Riverwatch workshops is that the most valuable part (or the aha! moment) is the “hands on.” People LOVE spending time in the water, turning over rocks, and looking for bugs. They even enjoy running chemistry samples, taking flow readings, and cooperating with others to get the job done. Why? Because it is like play. It is the closest thing to recess they have encountered in a long time.

For now, though, we are all being asked to keep “hands off,” “wash often,” and not congregate or carry out unnecessary tasks. Therefore, while IDEM staff continue to carry out essential, public health focused field work, the Hoosier Riverwatch staff encourage all of our valuable volunteers (monitors, instructors, and YOU dear reader) to hunker down and wait for the all-clear from those in authority.

Meanwhile, have a conversation, clean a closet, read that book, organize that photo album, or go out for a walk close to home. Check back with us later when it will be time, once again, to get our boots wet and our hands dirty. Until then, we trust you will all stay well and healthy!

— Carol Newhouse, Hoosier Riverwatch Coordinator

Spring 2020

In this Issue:

- [Buck Creek-Busseron Creek Success Story](#)
- [HRW Instructors' Retreat and Meet](#)
- [Dandelions](#)
- [R&P Staff Message](#)
- [Chloe Gard Shadows IDEM Assessment Staff](#)

MARK YOUR CALENDARS!

Canceled or Postponed Workshops

~~April 4 – Indianapolis~~

~~April 25 – Indianapolis~~

~~Apr. 26 & May 3 – South Bend~~

Upcoming Workshops

June 6 – Frankfort

June 13 – Fort Wayne

June 18 – North Webster

July 9 – Battle Ground

Sept. 4 – Bristol

Sept. 12 – Indianapolis

Hoosier Riverwatch is administered by



Watershed Success Stories: Buck Creek-Busseron Creek

The 9th installment of the [stories of watershed success](#) efforts collected by IDEM staff and grant recipients over the years:

The Buck Creek-Busseron Creek watershed is in Sullivan County in southwest Indiana (see figure on right). The watershed contains 2 miles of Busseron Creek, along with 37 stream miles of two major tributaries of Busseron Creek: Robbins Branch (10.3 stream miles) and Buck Creek (27 stream miles).

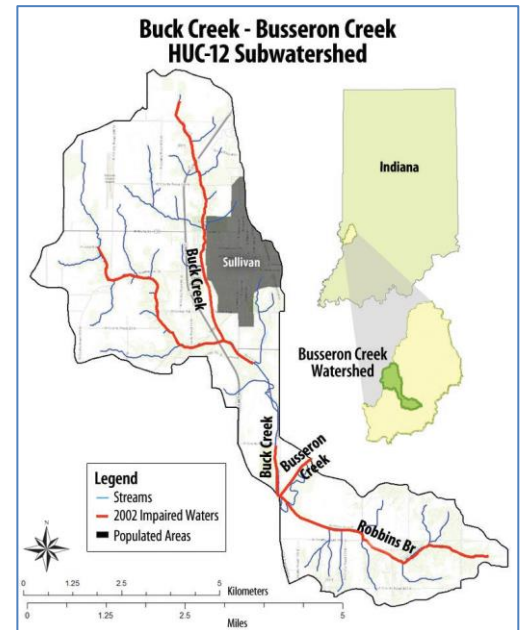
The watershed is mixed land use, with 54% in cultivated crops, 21% in forest, and 7% in pasture/hay with some minimal mining activity. Though the watershed is mostly rural, it also contains much of the city of Sullivan, whose wastewater treatment plant has several combined sewer overflow outlets that empty into Buck Creek.

Scientists with the Indiana Department of Environmental Management (IDEM) found phosphorus levels above 0.3 mg/L during sampling events in 1999 and 2000; with 1.1 mg/L and 0.47 mg/L, respectively, in Buck Creek and Robbins Branch. Dissolved oxygen was also found to be low in these same creeks (4.79 and 4.7 mg/L, respectively), although not low enough to warrant an impaired listing with the state.

Additional sampling in 2006 revealed that aquatic community scores (16 points) were below expected benchmark levels of 36 points (for index of biotic integrity). This new finding, coupled with phosphorus readings from the previous visit, was enough to list the waterbody as impaired. Following this listing, IDEM awarded Section 319 funds to support the creation of a watershed management plan for this area in 2010. The plan, along with a variety of state and federal funds, was used to install the following best management practices (BMPs) in the watershed:

- 20 acres of access control
- 64.1 acres of conservation cover
- 3,556 acres of conservation tillage
- 972 acres of cover crops
- 2 acres of critical area plantings
- 600 feet of fence
- 34 acres of filter strip
- 13.4 acres of grassed waterway
- 10,725 acres of nutrient management
- 3,687 acres of pest management
- 100 feet of streambank protection
- 13 water and sediment control basins
- 1 waste management system
- 82.7 acres of waste recycling

Multiple partners collaborated to restore water quality in the Buck Creek-Busseron Creek watershed. IDEM provided \$795,635 in [Section 319 grants](#) to the Sullivan County Soil and Water Conservation District, which coordinated planning and restoration work in the watershed and provided \$612,885 in landowner and in-kind match. The [U.S. Department of Agriculture](#) provided \$408,464 in Environmental Quality Incentives Program, Wildlife Habitat Incentives Program, Conservation Stewardship Program, and Conservation Reserve Program funds to install BMPs. The [Indiana State Department of Agriculture](#) also provided \$20,785 in state funding for marketing, education programs, technical assistance, and BMPs.



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Watershed Success Stories: Buck-Busseron Creeks (cont.)

When IDEM returned to sample this area in 2016, results showed improvements in both dissolved oxygen and nutrients (see monitoring data table to the right). Biological sampling also showed recovery of the macroinvertebrate community on Buck Creek (scoring 36 on the IBI instead of just 16.)

As a result, IDEM proposed to move forward with removing these segments of Buck and Busseron creeks, as well as Robbins Branch, from the list of impaired waterbodies in Indiana.

However, with resegmentation occurring in much of Indiana due to better resolution of mapped waterways—coupled with changes in guidelines for assessing nutrient impairments—portions of the creeks in this watershed were removed from the listing of impaired waterways while other stretches were either added or remained on the impaired list.

Sampling Date	Dissolved Oxygen (mg/L)	Nitrogen, Nitrate-Nitrite (mg/L)	pH (standard units)	Phosphorus, Total (mg/L)
Robbins Branch Segment INB11F9_T1001 (Monitoring Site WBU-15-0041)				
6/6/2016	9.97	4.7	8.16	0.087
7/6/2016	9.35	3.0	7.87	0.094
9/20/2016	7.21	0.6	7.27	0.161
Buck Creek Segment INB11F9_T1003 (Monitoring Site WBU160-0029)				
6/6/2016	5.96	1.7	7.72	0.274
7/6/2016	6.68	1.3	7.81	0.483
9/20/2016	7.66	0.2	7.27	0.283
Buck Creek, Unnamed Tributary Segment INB11F9_T1004 (Monitoring Site WBU160-0161)				
6/6/2016	6.30	2.6	7.77	0.335
7/6/2016	7.41	1.6	7.96	0.444
9/20/2016	7.30	0.2	7.59	0.351

The end result is improved water quality as a result of better land use practices in parts of the watershed, while more work needs to occur in other portions of the same. This is understandable when one looks at the uniqueness of this watershed on the map. It has Buck Creek flowing southeast, while Robbins Branch flows northwest towards the Busseron. Still, a great start all in all to addressing water quality in this part of Sullivan County, and we look forward to even better outcomes here in the future.

As of this past decade, Indiana's nutrient assessment methodology states that a waterbody is classified as **impaired** if two or more of the following conditions are met on the same date:

1. Dissolved oxygen below 4 mg/L or consistently in the 4-5 mg/L range
2. Nitrogen concentration above 10 mg/L
3. Total phosphorus greater than 0.3 mg/L
4. pH exceeding 9.0 standard units (SU) or consistently in the 8.7-9.0 SU range
5. Algae is deemed "excessive" based on field observations by trained personnel



Friend or foe? Food or weed? As Euell Gibbons used to say about pine trees, "Many parts are edible." The internet is full of recipes for dandelion 'parts,' either in salad, wine, tea, tonics, fried, raw, etc.

It even appears that, while we may not all trace our roots back to the Mayflower, these sunny fellows just might, as they arrived in the eastern U.S. in the mid-1600s. One thing is for sure: I recently felt sorry for some bees waking early this March, as there were yet no dandelion cafés around for them to feast on.

Don't ask children what they want to be when they grow up. Ask them what problems they want to solve.

Jaime Casap

Riverwatch Instructors' Retreat and Meet

It is always inspiring to spend time with our wonderful, talented HRW instructors. They bring much to the table with regard to professional training and expertise, as well as experiences in classroom and field with Riverwatch. On March 6, instructors gathered from around the state to attend a half-day retreat in Indianapolis. They met with IDEM's HRW staff to wrap up the 2019 season and prepare for workshops in 2020.

IDEM was pleased to present certificates recognizing Years of Service to the following: Lyn Crighton (20 years), Dan Shepardson (a belated 10-year certificate from 2016), Jennifer Krauser and Sharon Partridge (both for 5 years). Certificates being mailed to those not in attendance include: Nicholas Servis (10 years, Dubois County), as well as Carrie Parmenter (Posey County), Chaunce Sprouse (Lake County), Michael Wilhite (Orange County) and Sandy Belth (Monroe County) for 5 years each. We hope Dan (and others trained in 2006) come back here next year for their 15-year certificates; along with instructors trained in 2001.



Left to right: Jennifer Krauser (St. Joseph County), Mary Cutler and Dan Shepardson (Tippecanoe County), Seth Harden (Marion County), Leah Harden (Clinton County), John Ulmer (Boone County), Shelley Chaffee (St. Joseph County), Sharon Partridge (Allen County), Nancy Brown (Elkhart County), and Kriste Lindberg (Monroe County). Also in attendance but not available for the photo: Lyn Crighton (Kosciusko County) and Cathy Meyer (Monroe County).

In addition to meeting IDEM Media staff (working on video production for Hoosier Riverwatch) and giving feedback on whether workshops should focus on education versus higher quality data, instructors enjoyed presentations by:

- Phil Perry, Chief of the Compliance and Enforcement Branch of IDEM's Office of Air Quality – gave us handy advice on what is or isn't legal with regard to burning and ground level nuisance dust in Indiana, as well as who to call should we encounter it.
- Sharon Partridge, Director of Tri-State Watershed Alliance and HRW Instructor – demonstrated for us the database maintained for them up at Purdue Fort Wayne and how to link her sampling sites to the L-THIA watershed land use model at Purdue University.
- Charles Hostetter and David Jordan, IDEM Technical and Logistical Services Section staff – introduced us to the new Cyanotoxin analyzer in the laboratory.
- Scott Frosch, IDEM Office of Land Quality Emergency Responder – shared stories and photos from the field regarding unusual things seen or reported in Indiana waters; some natural, others not.

As always, instructors enjoyed going home with new gear and refilled supplies to aid in training new Riverwatch volunteer stream monitors in the coming year!

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.

We wish to inform you that, in keeping with the current (and hopeful) COVID-19 preventative protocols, the three workshops scheduled for April and early May—in Indianapolis (Garfield and Holliday parks) and South Bend (St. Patrick's Park)—are being canceled or postponed. Watch for updates on these locations in the [workshop schedule](#) later this season.

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| Saturday, June 6 | Frankfort, IN – Camp George C. Cullom (8:30 AM – 4:00 PM). Instructor will be Leah Harden. Contact Leah at 765-659-1223 (x3) or leah.harden@in.nacdn.net to register <i>by June 1</i> . |
| Saturday, June 13 | Fort Wayne, IN – Metea Park Nature Center (9:00 AM – 5:00 PM). Instructor will be Sharon Partridge. Contact Sharon at 260-755-8111 or sspd2655@gmail.com to register. |
| Thursday, June 18 | North Webster, IN – North Webster Community Center (8:30 AM – 4:30 PM). Instructor will be Lyn Crighton. Contact Paige Hubner at 574-834-3242 or paige@watershedfoundation.org to register. |
| Thursday, July 9 | Battle Ground, IN – Brier Environmental Education Center, Tippecanoe Battlefield (8:30 AM – 4:30 PM). Instructors will be Mary Cutler and Darci Zolman. Contact Mary Cutler at 765-567-2993 or mcut@msn.com to register. |
| Friday, September 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, September 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. |



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www.hoosierriverwatch.com



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Your *Riffles & Pools* staff (Carol Newhouse, HRW Coordinator, and Denise Szocka, IDEM Media and Communications Services Editor) wish you all the best as we patiently wait to weather the COVID-

19 storm. As we used to say back in the heyday of the CB-radio/travel days of the 1980s and '90s, "See you on the flip side." Stay well and healthy, everyone!

Chloe Gard, a student at Heritage Christian School, was made an honorary HRW instructor on March 11; when she came in to shadow IDEM water assessment staff for a day. She enjoyed both office/lab and field work that day.



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](http://www.hoosierriverwatch.com) is a water quality monitoring initiative sponsored by the Indiana Department of Environmental Management's *Office of Water Quality*.



Crooked Creek near Cold Spring School during a recent Indianapolis springtime. Looking forward to things greening up again real soon!