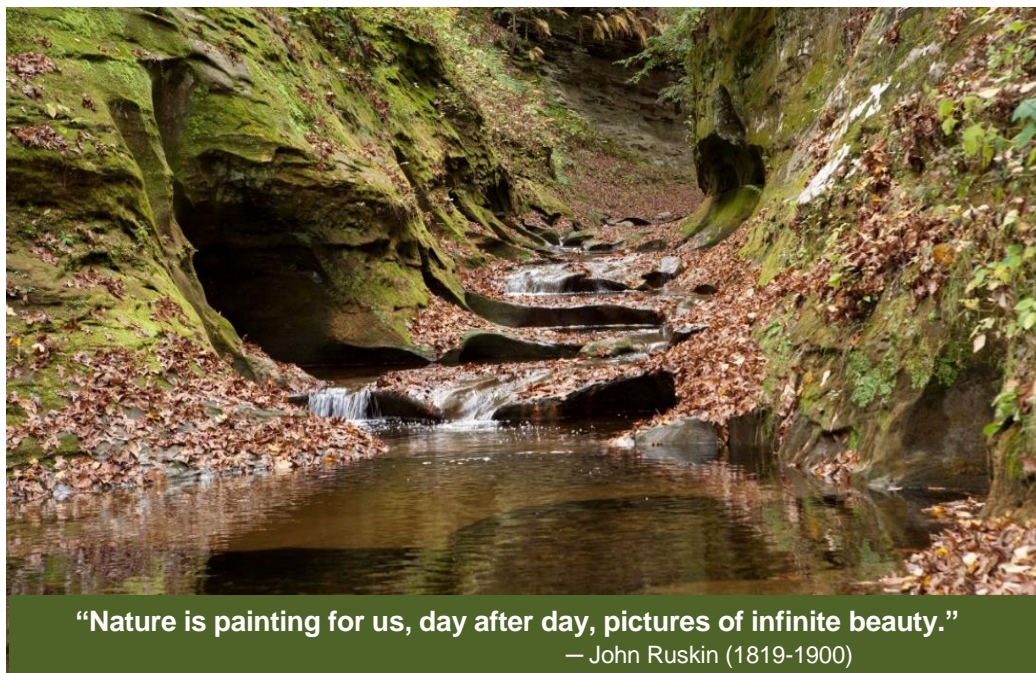


Riffles & Pools

Office of Water Quality www.idem.IN.gov



"Nature is painting for us, day after day, pictures of infinite beauty."

— John Ruskin (1819-1900)

Fall Creek Gorge Nature Preserve - Warren County

Greetings Riverwatchers!

We hope your summer has been a great one! Our dedicated instructors led many great workshops in the first half of the season, despite our sometimes stormy weather. To date, 176 persons have received basic Riverwatch training this year. Several of those have already secured sampling kits and are out getting their feet wet with monitoring activities. That's fantastic!

We hope you found time to celebrate Indiana's water resources at a local river or environmental festival this summer, or perhaps even made it to the Indiana State Fair. Don't you love visiting the fish tanks in the DNR Building? I know from experience that they are even cooler from behind and above when you get to care for these beautiful creatures. IDEM's booth situated near the fish tanks gave fairgoers tips on reducing food waste and [composting](#), as well as a close-up look at red wiggler worms that eat food scraps and produce castings, a valuable soil amendment for gardens.

Another great exhibit at the fair is the [Pathway to Water Quality](#), a model watershed that for 25 years has been introducing citizens to the important role that soil, flora, fauna, and people play in our having access to clean, usable water. The Indiana Conservation Partnership—comprised of IDEM and other agencies—manages the exhibit. Great job to all staff members involved in this year's state fair!

By the time you read this, many of us will have witnessed what has been dubbed Eclipse 2017, or the Great American Eclipse. Aren't the forces of nature and our universe amazing? I find it awesome and humbling at times.

— Carol Newhouse, Hoosier Riverwatch Coordinator

Autumn 2017

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- Nitrate-Nitrite Test Strip Update
- Waterway Cleanup Manual Returning Soon
- Reporting Environmental Emergencies vs. Filing Complaints
- Health and Quality of Waterways Remain a Priority
- Inspired by Fossils

MARK YOUR CALENDARS!

Upcoming Basic Training Workshops

Saturday, Sept. 9 -
Frankfort

Friday, Sept. 15 -
Franklin

Saturday, Sept. 16 -
Indianapolis

Upcoming Advanced Training Workshop

Saturday, Oct. 14 -
Zionsville

Hoosier Riverwatch is administered by



Nitrate-Nitrite Test Strip Update



Heads up, Riverwatchers! Our spring shipment of nitrate-nitrite test strips do not appear to be working well. The reagents for this particular test are quite sensitive, so it is possible that conditions were not optimal for them at some point during storage or shipping. We will be sending replacement bottles to those who may have received malfunctioning strips. If we miss you and you need strips, feel free to complete the online [Equipment Request Form](#) to let us know. Thank you for your patience!

Waterway Cleanup Manual Returning Soon

A healthy river, stream, or lake has many components. Aquatic debris—or *human-created waste that is deliberately or accidentally released into a waterway or waterbody* (i.e., litter)—is not one of them! Part of Hoosier Riverwatch's mission is to involve Indiana citizens in becoming active stewards of our water resources through cleanup activities. IDEM is updating the old "Organizing a Cleanup" manual that the Riverwatch staff created in the early 2000s during the program's Indiana Department of Natural Resources days.

Motivated citizens who are inspired to restore beauty and life to Indiana's rivers and streams through grassroots stewardship can use the tips and tools in the manual to better plan a cleanup—and maybe even stabilization and beautification work—so their time and energy is used wisely. Modeling environmental stewardship through stream and riverbank cleanups can influence others to consider their actions and make a positive difference. Look for the manual [online](#) in late autumn.

"When we save a river, we save a major part of an ecosystem, and we save ourselves as well because of our dependence—physical, economic, spiritual—on the water and its community of life."

— Tim Palmer, *The Wild and Scenic Rivers of America*



Illustration by tom mcCain

Thanks and Farewell to Summer Interns

The Governor's Public Service Summer Internship Program introduces bright and motivated college students to the operations and officials of state government. The Watershed Assessment and Planning Branch (WAPB) of IDEM's Office of Water Quality hosted several university students this summer. The interns learned how to sample Indiana waterways alongside the agency's professional water staff. They were a great asset to IDEM's programs, bringing with them a lot of enthusiasm, energy, extra hands, and fresh perspectives! We appreciate all of IDEM's interns and wish them well in their future endeavors!



IDEM's [website](#) details how and when university students can apply for a paid internship for summer 2018. The State Personnel Department's [website](#) features IDEM's internship video and more information about the program.

WAPB summer interns (L-R):
Breegan Anderson, Cassi Root, Kyle Linville,
Maya Rao, and Scott Zello

Reporting Environmental Emergencies vs. Filing Complaints

If you saw strange orange stuff coming from a factory outfall to a river, would you know what to do? IDEM's [Emergency Response](#) staff received a call about such an incident in Howard County. Emergency responders located at IDEM's satellite office on Shadeland Avenue in Indianapolis and at its four [regional offices](#) respond to incidents involving spills to soil or waters of the state. The orange stuff ended up being naturally occurring iron bacteria and no emergency response was necessary. Even so, it was important that somebody called. It is better to be safe than sorry when it comes to protecting our environment.



Citizens play an important role in safeguarding the environment. Anyone who notices what appears to be an environmental emergency should immediately call IDEM's 24-Hour Emergency Spill Line toll free at (888) 233-7745 or (317) 233-7745. In cases where a citizen has a complaint about an environmental concern such as open dumping of trash or other debris, storm water run-off from construction or industrial activities, open burning of trash or other materials, activities in wetlands, or any other activity listed on IDEM's [File a Complaint](#) webpage, he or she should follow the instructions provided and file a complaint with IDEM's complaint coordinator.

Example Calls to IDEM's Emergency Spill Line



- ▶ ***There is black smelly water in the creek near a residence in Johnson County.***

Findings: A 6" sanitary sewer line had broken about ¼ mile upstream two weeks prior. Once found, the break was fixed and 1,000 gallons of sewage was removed from the stream using a vacuum pump. Biochemical oxygen demand (BOD) was significantly reduced and able to be absorbed by the high water volume downstream. Most importantly, no fish died.



- ▶ ***There appears to be soap suds on the river's surface.***

Findings: The foam is naturally occurring. Foam on streams and rivers typically occurs in the autumn as leaves decay. Organic compounds that contain fatty acids are released. These contain hydrophilic and hydrophobic parts which cause them to rise to the surface where air mixes in, forming bubbles. (To learn more, read the IDEM Office of Water Quality "Foam on Water" [fact sheet](#).)



- ▶ ***A semi truck rolled into a creek in Hendricks County.***

Findings: An oil pan broke during an attempt to recover the semi truck, spilling about 10 gallons of used motor oil into said creek. Sorbent booms and pads were used to recover and remove the oil from the creek.

Health and Quality of Waterways Remain a Priority



Volunteers from Gaylor, Inc., 2005



Elkhart River Restoration Association, c. 2010



White River Yacht Club, 1992



Ball State University student river cleanup volunteers from the Indiana Chapter of the American Fisheries Society, 1998. Then-BSU student Stacey Rifner, now Stacey Sobat (front row, second from right), now serves as chief of the Probabilistic Monitoring Section in the Watershed Assessment and Planning Branch of IDEM's Office of Water Quality!

A recent [statewide poll](#) by the IndyStar shows that Hoosiers rank their concern about polluted waterways even higher than their concern about lowering taxes. Environmental concerns, as a whole, were ranked high by over 70 percent of those polled, with concerns about the health of rivers, lakes, and reservoirs being the highest. The report coincides well with August being National Water Quality month and Governor Eric Holcomb proclaiming August 6-12, 2017 Water Quality Week in Indiana.

While there is certainly much to be done, it is refreshing once in a while to look back and be inspired by what volunteers have already accomplished. A recent review of old water program files by Hoosier Riverwatch staff offered a chance to do just that.

It was impressive to see the large number of individuals, families, clubs, and groups that had made a commitment to river cleanups. It was even more impressive to learn about the sheer time and energy invested by specific groups who consistently cleaned local waters, season after season, year after year. Some of these groups were hauling human-created debris out of Indiana rivers years before any State initiative to do so. And many groups are still at it, even today. Kudos to all involved!

It is difficult to say which is more amazing: a) the fact that citizens donate so much time and energy pulling tons of trash from our waterbodies, or b) the sad fact that so much trash ends up in our waters to begin with. The opportunity to see and read names, ages, activities, river miles covered, photos and newspaper articles depicting such selfless hours spent in cleaning up Indiana's rivers was heartwarming for Riverwatch staff.

In view of yet another great September celebration of the [White River Festival](#) in central Indiana, it is pleasant to note that such names as [White River Alliance](#), [Friends of the White River](#), [White River Yacht Club](#), [Rocky Ripple Community Association](#), White River Watchers (on Twitter @WhiteRiverWatch), and others like them are still heavily invested in protecting and improving this valuable river resource. It was enjoyable to learn that in 1992, the White River Yacht Club received the national Teddy Roosevelt Conservation Award. This award, granted by then-President George Bush and former U.S. Representative Dan Burton, recognizes outstanding accomplishment and achievement in the areas of conservation and wise stewardship of natural resources.

While we cannot guarantee you will win an award, we do think you will enjoy getting involved in local river activities. To do so along the White River this month, check the link above to learn more about river cleanups in Noblesville, Carmel, and Fishers on September 9; or any other fun and family-friendly activity taking place from Muncie to Martinsville September 9-30.

Inspired by Fossils

The Hoosier Riverwatch staff recently found an interesting article about ancient fossil beds in the Waccamaw River near Myrtle Beach, South Carolina. For those brave enough to dive beneath the black waters of the [Waccamaw](#), finds include shark and mosasaur teeth as well as arrowheads and pottery shards. (Yes, we had to Google mosasaur, too!)

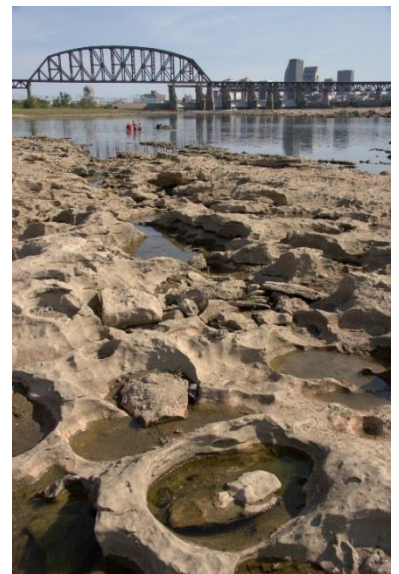
Fortunately, Hoosiers do not have to travel that far to view such ancient finds. Sugar Creek in Montgomery County has long been the source of some of the best [crinoid fossil](#) displays in museums within the northern hemisphere. [Falls of the Ohio State Park](#) in Clarksville is also a great place to explore and gaze at many types of fossils on what was once an ancient sea floor.

Keep in mind, though, that collecting fossils on State property is illegal so as to protect these resources for future generations to enjoy viewing. The Falls does allow fossil collecting at designated [collecting piles](#) next to the parking lot behind the newly renovated 16,000-square-foot Interpretive Center. And word has it that the road cut along U.S. 421 north of Madison and [other localities](#) where fossil collecting is permitted might provide better chances of finding fossils because those areas may be less picked over. If you go to a location near a road, park safely away from the road, wear bright clothing, and protect yourself from chiggers by covering your body and using chigger repellent. Also be conscious and respectful of the plants and animals near the road cut. Please remember that collecting on private property always requires permission from the landowner.

A quick review of the geologic timeframe reveals that crinoids from Sugar Creek are from the Precambrian period, which is older than the Devonian fossil beds near Clarksville, and that fossils at both Indiana locations predate the Cretaceous artifacts found in the Waccamaw. How cool is that!



Crinoid fossils
Photo courtesy of Indiana DNR



Devonian fossil beds at Falls of the Ohio State Park, Clarksville

Spotlight on “Living Fossils”



Photos by Karen Becraft

Harkening back 250-300 million years, Meganeura were the now-extinct ancestors of modern day dragonflies. They were among the first winged insects on Earth, with wingspans of nearly 30 inches.

Shown here are Eastern Pondhawk (*Erythemis simplicicollis*) dragonflies which inhabit ponds, lakes, and small streams. They feed on flying insects including other dragonflies. Female and juvenile males are apple green in color with black markings on their top middle abdominal segments. The thorax and abdomen of males turn a powder blue color as they mature.

According to James R. Curry in his book, *Dragonflies of Indiana*, the Eastern is the only Pondhawk species to occur in Indiana. The book also states that there are nearly 100 species of dragonflies in Indiana.

Mark Your Calendars

2017 Basic Training Workshop Schedule

A Hoosier Riverwatch basic training workshop will introduce you to hands-on water quality monitoring methods. You will learn about aquatic habitat and practice chemical and biological assessment techniques. Each workshop is held both indoors and outdoors unless weather or water conditions permit otherwise. 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.

Saturday, Sept. 9 **Frankfort** – Camp Cullom, 6815 W. Co. Rd. 200 N. (8:30 AM – 4:30 PM). Contact Leah Harden at (765) 659-1223 (x3) or leah.harden@in.nacdnet.net for information or to register.

Friday, Sept. 15 **Franklin** – Johnson County SWCD Office, 550 E. Jackson St., Ste. 202 (9 AM – 4 PM). Instructor will be Julie Speelman. Contact Blair Beavers at (317) 736-9540 (x101) or blair-beavers@iaswcd.org for information or to register.

Saturday, Sept. 16 **Indianapolis** – Holliday Park, 6363 Spring Mill Rd. (9:00 AM – 4:00 PM). Contact John Ulmer at hoosierwatersheds@gmail.com or (317) 769-3500 for information or to register. Professional growth points are available for science teachers.

2017 Advanced Training Workshop Schedule

Advanced training workshops are typically a half-day or longer. Participants must have completed a full-day, basic training workshop prior to signing up for an advanced workshop.

Saturday, Oct. 14 **Zionsville** – *E. coli* monitoring workshop to be held at the Sullivan Munce Cultural Center, 225 W. Hawthorne (9 AM – Noon). Contact John Ulmer at (317) 769-3500 or hoosierwatersheds@gmail.com for information or to register. Workshop will include background and hands-on practice with *E. coli* sampling, as well as introductory time spent working with Hoosier Riverwatch's online database.

Training workshops are free unless otherwise indicated, but you must register in advance. Training comes at a cost to the program as well as to the host and/or instructor. Please be considerate and, once confirmed, contact your instructor if you cannot attend the workshop for which you have registered. Check the Hoosier Riverwatch [workshop schedule](#) regularly for new offerings around the state!



Frog in pond at Eagle Creek Park
(Marion County)

**"If there is magic
on the planet, it is
contained in water."**

– Loren Eiseley
The Immense Journey
1957



Autumn leaves floating in Eagle Creek
at Turkey Foot Park (Boone County)



**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



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**"Do what you can,
with what you have,
where you are."**

– Theodore Roosevelt

Dave Ellis, a member of the
Hoosier Canoe and Kayak
Club, removing trash from
Eagle Creek Reservoir in
Indianapolis in August 2009



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 ground water 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*.



Participants of the June 29 Riverwatch workshop pause before wading into the Tippecanoe River for the field training part of their day. Instructor Lyn Crighton (center of photo in chest waders) taught this workshop in North Webster, where she serves as executive director of [The Watershed Foundation](http://www.thewatershedfoundation.org).