Keeping it clean: Town-gown collaboration helps monitor stream quality

By Kat Carlton 812-331-4351 | kcarlton@heraldt.com
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Standing on a rock in the middle of a stream at Lower Cascades Park, Bloomington High School North senior Mallory Pyke jotted down water clarity measurements onto a clipboard with data sheets.

"We want to make sure it's not polluted, because kids are playing in it," she said.

More than 150 North students Friday morning joined the latest group of citizen scientists to contribute data to Hoosier Riverwatch, which is an Indiana Department of Environmental Management program meant to increase public awareness and train community members on water quality monitoring issues.

"This is a relatively ambitious endeavor, from my perspective," said volunteer assistant Tara Darcy-Hall, who is a lecturer in Indiana University's biology department.

Darcy-Hall takes students from her Advanced Field Ecology class at IU to do stream sampling for Riverwatch, too.

Standing in the stream, she scooped some water into a long turbidity tube and explained to a group of students how they would later convert their measurements to find the turbidity, or clarity, of the water. Along with clarity, the students would record other data points such as phosphate levels to better detail the habitat, biology and chemistry of the area.

The students, bundled up in the chilly weather with their testing equipment at Lower Cascades Park, were among the six large groups that went to different stream sites around Bloomington's north side. The Indiana Native Plant and Wildflower Society provided grant money for the trip, which was largely organized by North teachers Angie Shelton and Samantha Agoos.

"We really wanted to give the kids an authentic experience," said Agoos. "This is a kind of primer experience for them."

This is the first year for the stream sampling field trip, created by the two teachers, who are also relatively new to North. Agoos said she also wanted to use the trip as a chance for students to develop their leadership skills. After a day and a half of training, Agoos let students take the wheel at the stream site.

"I want them to get things going on their own," she said. "For a lot of them, it's the first time they've done something like this."

Friday afternoon, each group convened back in their classrooms to compare data, which would be vetted by the teachers and sent in to the Hoosier Riverwatch official datasets.

Agoos said all of the locations tested low for nitrates and phosphates, which are usual indicators of fertilizers or other lawn care products. Students also found macroinvertebrates, including eight crayfish at the Lower Cascades site alone.

Agoos also said groups took additional samples back to school so they could do more testing and verify some of their data. Staff from the Monroe County Parks and Recreation Department, City of Bloomington Utilities, the Sycamore Land Trust and IU volunteered to help with the field trip.

Agoos said she hopes to facilitate similar trips in the future and that it was a true collaboration with environmental science teacher Shelton, as well as their other community partners.

"Its a lot of work, but it's very much worth it," she said. "Luckily, we had each other to work with."
Monitoring stream quality