

Streams of thought

By Kelly Voll / The Citizen

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Sloshing through bug-infested waters on a chilly April day is not most people's idea of fun, especially when there is a chance of meeting a hellgrammite - a frightening centipede-type larva that can swallow its prey without chewing.



Photos provided

Christopher Caza watches as Stephanie Mueller stencils the words, “Don't dump, drains into creek,” on the pavement next to a storm drain in the village of Moravia. Cody Spaulding, in the background, watches from the curb. After determining Dry Creek's water quality, the team set out last spring to make the community aware of how to keep the water clean.

But for some local students, getting their hands dirty in the name of science and cozying up with creek critters is preferable to sitting in the classroom.

Moravia Central School District and the Cayuga-Onondaga BOCES Center for Learning are getting students out of their seats and into streams to learn science and spread awareness about conservation.

Twelve students from Moravia Middle School - the Stream Team - spent spring 2009 wading through Dry Creek, the waterway at Fillmore Glen State Park, just outside Moravia. Using field equipment, students collected samples of water-dwelling macroinvertebrates - invertebrates visible to the naked eye.

They did counts of the creekside creatures, including fly nymphs and larvae. Using information about what kind of water the creatures tolerate, students used their data to determine the creek's water quality. When they analyzed their counts of pollution-sensitive organisms, students found that Dry Creek is healthy, said Karen Camp, seventh-grade physical science teacher.

After learning the creek is clean, students set out to keep it that way. They took to the village, stenciling the words, “Don't dump - drains into creek,” on the pavement next to storm drains.

Camp said many people don't think when dumping waste down storm drains or hosing oil off driveways.

"They don't realize you're going to be drinking this stuff down the road," she said. "We wanted to make citizens aware of that."

The students said they discovered a new world when they started exploring Dry Creek.

"I didn't know there were as many types of macroinvertebrates as there are," said eighth-grader Anna Carmichael. "I thought they could just live anywhere, but different ones have to live in different types of water."

Eighth grader Christopher Caza was impressed with the local support his team received.

"I liked how the community helped us out with it," Caza said. "The mayor gave us traffic cones and orange vests (to stencil the drains)."

Camp believes learning has become solely an indoor activity.

"I think today's children have lost contact with nature and when you lose contact with nature, you don't value it and if you don't value it, you won't protect it," Camp said. She explained that all the creatures studied were returned to their "homes."

Camp plans to take another Stream Team out this spring.

The Center for Learning students will also be taking to the streams with veteran water quality teacher Ann Moore, who teaches the sixth- through ninth-graders in an alternative middle school setting through BOCES.

"More than 60,000 people drink Owasco water," Moore said. "We want to do our best to connect what our students are learning to the real world."

Moore has been studying water quality for about 20 years, and has taken many students out on Seneca Lake in a research boat and on Owasco Lake in kayaks.

"Science is much more exciting outside," she said.

Moore hopes to give back to children what they have lost through years of staying indoors rather than playing outside. She wants them to develop the curiosity about nature they had when they were little.

"They may not become scientists, but it's important to become scientifically literate citizens," Moore said.

Her students are excited at the prospect of getting into the field in spring.

“It's important to study the water because we have to make sure no one gets sick,” said sixth-grader Chris Lucas. “You can find stuff and feel the differences in the water, rocks and seashells ... we'll get to experiment. We don't have to sit inside and just talk about it.”

Both the Moravia and BOCES students will be part of a larger effort when they take to the water this spring. The Finger Lakes Regional Stream Monitoring Program, a two-year pilot project of the Finger Lakes Institute at Hobart and William Smith Colleges, will take stream data collection to the next level, said Sheila Myers, education outreach coordinator for the institute. The program will be funded by a two-year grant from Time Warner Cable as part of its philanthropic campaign, Connect a Million Minds.

As part of this program, data collected by teachers and students will be added to an online database so it is accessible to everyone in the network. Myers said this type of scientific community is beneficial to education.

Teachers who participate will use the same protocol, improving the scientific integrity of the research. This will lead to solid data in one place to facilitate comparison. Network schools will also be able to share expensive science equipment they otherwise could not afford.

“We've just gotten great responses back,” said Myers. “(Working without a network) is like a scientist working in a vacuum. It's no fun.”

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