Water Monitoring Project Slated for Local Drilling Areas

Cayuta-Catatonk Water Watch seeks volunteers

by Sue Smith-Heavenrich

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When you ask the experts at Penn State and Cornell what landowners should do before drilling begins on their property, the very first thing they mention is baseline water testing. That means testing water wells prior to drilling so landowners know whether – and how – their drinking water is affected by gas extraction activities.

If baseline testing for water wells makes sense, why not baseline testing for rivers and streams, asks Van Etten resident Autumn Stoschek? "With increased industrial activity from shale gas extraction coming to our area, we need to be prepared," she says. "And gathering baseline data and monitoring stream health are powerful tools we can use to protect our water resources."

Stoschek proposed a community water monitoring project during an organizational meeting this spring. A dozen people showed up and brainstormed ideas for how such a project might go forward and Dr. Steve Penningroth, of the Community Science Institute, offered to provide training to volunteers.

"This will be different than the water monitoring projects in Tompkins county," Penningroth said. "The Cayuta-Catatonk Water Watch program will monitor specifically for contamination caused by gas drilling."

Penningroth currently trains and works with volunteers monitoring the water quality in six tributary streams of Cayuga Lake. Because the area is agricultural, volunteers test streams for nutrients (phosphorus, nitrogen and potassium) as well as sediments and coliform bacteria. But Penningroth believes he can modify his program to accommodate testing for drilling contaminants.

The Process

The first thing volunteers will need to learn, Penningroth says, is how to locate proposed gas wells. This means becoming familiar with DEC's gas well database, learning how to track permits and use maps. Then Penningroth will train volunteers to perform the water quality tests relevant to drilling areas.

"Streams are much harder to collect baseline data on than drinking water wells," Penningroth said. That's because water wells are located at a single point, while streams are several miles long. "The question becomes: where to take the samples?"

The Susquehanna River Basin Commission (SRBC) is establishing a remote water quality monitoring network that will continuously measure and report water quality conditions of smaller rivers and streams located in the northern tier of Pennsylvania and southern tier New York. The problem, noted Penningroth, is that the monitoring stations are pricey, costing thousands of dollars, and permanent. Also, the probes need calibrating on a regular basis.

A cadre of dedicated volunteers would not only be less expensive, but would offer the advantage of mobility. “A community monitoring program will allow us to tailor the monitoring to the gas drilling locations,” Penningroth said. “We will be able to target our monitoring of local waterways.”

Penningroth plans to teach volunteers how to do some basic chemical tests to monitor stream health. Turbidity, which indicates water clarity (the amount of particulate matter in the water), is relatively easy to do. He also hopes to include tests for pH (how acid or alkaline water is), the conductivity (which typically reflects the amount of dissolved solids or chlorides in the water), dissolved oxygen (the amount of oxygen in the water available to aquatic life), and hardness (measuring calcium, magnesium and metals).

“We’re also hoping to do biological monitoring,” Penningroth said. He’s looking for a few good men and women who are enthusiastic about sampling aquatic insects.

“Monitoring the insects will tell us a lot about the ecosystems,” Penningroth said. Whereas a chemical test is like a snapshot – indicating water conditions at the time the sample is taken – sampling benthic organisms (aquatic insects) gives information about water quality over a period of weeks.

“The community of insects lives in specific habitats,” Penningroth explained. He’ll be using DEC’s guidance documents to aid this aspect of the monitoring. In the end, Penningroth hopes to develop a suite of tests that are tailored to the shale gas industry but inexpensive enough for a community to adopt.

The key, he says, is developing a group of volunteers. That’s what the newly-formed Cayuta-Catatonk Water Watch hopes to do over the next couple of months. Starting August 29, the group is offering a series of four training workshops to prepare volunteers to monitor local streams and rivers.

“We’ve scheduled the workshops on Sunday afternoons, hoping that time will make it easier for people to participate,” Stoschek said. The workshops will take place at the Spencer Municipal Building, 41 N Main St, just behind the library. For more information or to sign up for the training, call Candace at 589-6412.

Sidebar:

Cayuta-Catatonk Water Watch Training Workshops

Sunday, August 29 from 3 - 6pm: maps, watersheds, and general land use impacts on water quality
Sunday, September 12 from 3 - 6pm: monitoring techniques and indicator tests for gas well contamination, including temperature, conductivity, total hardness, pH and dissolved oxygen; benthic macroinvertebrates (BMI); and observational monitoring.
Workshop #3 – TBA: identification of gas well permits and selection of monitoring locations.
Workshop #4 - TBA: benthic macroinvertebrates and biological monitoring.
All training workshops will be held at the Spencer Municipal Building (behind the library), 41 N. Main Street, Spencer, NY. For more information or to register, contact Candace at 607-589-6412.