Summer 2012

The Network News

A Newsletter for Nitrate Monitoring Network Volunteers

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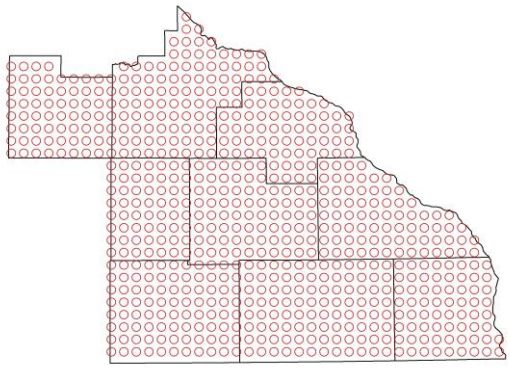
You are Not Alone

You are part of a network of 675 volunteers with the Southeast Minnesota Volunteer Nitrate Monitoring Network. When you sample your individual well you gain a better understanding of your own drinking water quality, but at the same time you are part of a larger network. The data collected by all the volunteers helps fill in the missing information needed to understand drinking water quality across Southeast Minnesota.



NINE-COUNTY STUDY AREA

You may think to yourself "Why keep testing every year if my results don't change much?" While your individual results may not make large changes from one year to another, all of the data in the region, looked at over time, will provide water quality scientists with the information they need to detect trends in groundwater quality.

Network Fact: *We had close to a 90 percent return rate of samples during our first six rounds of monitoring – thank you!*

We're Expanding!

Over the past five years, nine southeastern Minnesota counties have coordinated efforts to address the shared water protection goals of their water plans. The project team, including local water planners, county commissioners and state agency staff has cooperated, with funding provided through an EPA Section 319 grant, to develop a low-cost groundwater monitoring network in Southeast Minnesota that relies on volunteers to sample their private drinking water supply wells and send the samples to their county representative for nitrate analysis.

This project has gained the attention of water quality experts with the MN Pollution Control Agency, MN Departments of Health and Agriculture, and the US Geologic Survey, among others, who see this established network as having broader potential. The MN-PCA is providing continuation funding, and the project team will prioritize ways to use the existing network for larger studies of groundwater quality. In coming years, homeowner volunteers will be given the opportunity to test for additional parameters and targeted pollutants in their well water samples.

Why Did We Form a Volunteer Network?

Although nitrates are a proven health risk, Minnesota has no program in place to determine long-term trends for nitrate contamination in private drinking water wells. This situation exists despite the fact that the Minnesota Ground Water Protection Act of 1989 states that pollutants found to be consistently at or above the Health Risk Limits require "expanded investigation of source and extent".

The Volunteer Nitrate Monitoring Network is a low-cost, sustainable means of obtaining long-term trend data for nitrate occurrence in private drinking water supply wells

This project is the result of water resource staff in the nine SE MN Counties working together to create a regional project that gives the ground water-vulnerable counties of southeastern Minnesota an opportunity to obtain significant long-term water quality data at a time when federal pressure has caused the state to focus their attention on surface water concerns at the expense of protecting drinking water sources.

The Volunteer Nitrate Monitoring Network is a low-cost, sustainable means of obtaining long-term trend data for nitrate occurrence in private drinking water supply wells and determining the efficacy of our water quality programs.

With information on well construction and surrounding geology, along with sample results we are able to:

- Get a picture of the overall levels of nitrate in private drinking water
- Assess trends over time
- Determine average nitrate concentration by major aquifer
- Compare nitrate levels in aquifers based on their geologic setting (type of bedrock and presence or absence of overlying protective layers)
- Assess nitrate levels in wells based on their construction (such as those with casing grout and those without)

An initial assessment of the first four rounds of data by MN Department of Health indicate that the presence of overlying geologic protective layers and the presence of casing grout play important roles in groundwater nitrate levels. Nitrate levels increase when either of these are absent, and are highest when both are absent.

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What's Ahead

During the upcoming school year we will be working with Winona State University statistics department students and faculty to analyze our first five years of data.