

# The Network News

A Newsletter for Nitrate Monitoring Network Volunteers

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<http://www.winona.edu/geology/WRB/WRB>

## Sustaining the Volunteer Nitrate Network

Linda Dahl, SEMWRB

The SE MN Water Resources Board received a grant from the Minnesota Pollution Control Agency, allowing us to continue monitoring through 2012. The goal from the start of this monitoring project was to create a network that could be sustained over the long-term, and this three-year continuation grant keeps us moving forward toward that goal.

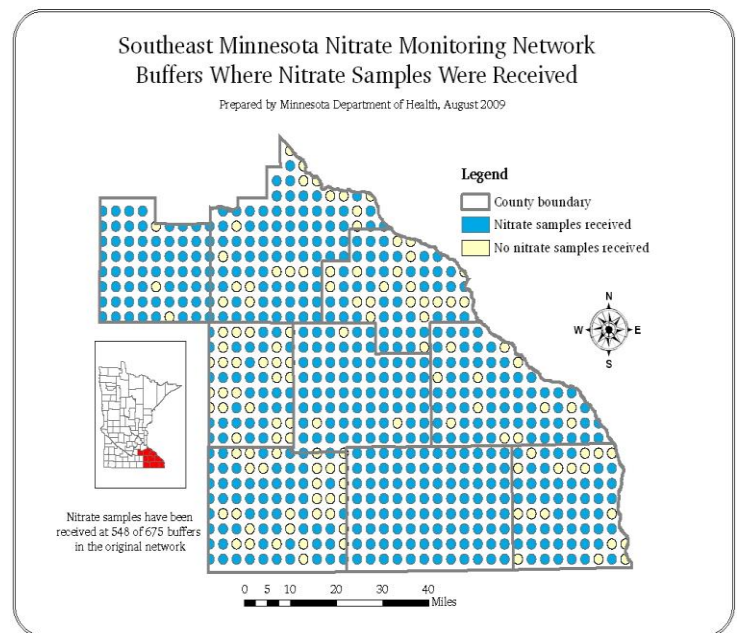
Of course, the active participation of the volunteers is the cornerstone of this network, so I'd like to say a sincere thank you to the volunteers for your part in helping to gain a better understand long-term nitrate trends in SE Minnesota's domestic drinking water.

trate monitoring network! The network is now completely assembled, and was sampled for the fourth time in August 2009. During the February and August 2008 sampling rounds, nitrate samples were received from 548 of the 675 "buffers" in the study. It's easy to see that your efforts add greatly to what we know about nitrate occurrence in the groundwater of Southeastern Minnesota.

In the coming months, MDH will assess several important regional aquifers (Jordan, Prairie du Chien, and Galena) by making maps and

computing average nitrate values for each. One thing the data indicate is that the Minnesota Water Well Construction Code is effective. This means that drinking water supply wells constructed to meet the code are unlikely to encounter elevated nitrate concentrations.

***The results from this study will give us the first picture of the overall quality of the drinking water in the region as it relates to nitrates.***



## Evaluation Survey

Thank you to all of the volunteers who returned your evaluation survey. The evaluations were overwhelmingly positive, with volunteers indicating they found their results useful and would be willing to continue as a network volunteer. **Thank you to all our volunteers! Your continued participation in the Volunteer Nitrate Monitoring Network is vital to obtaining valid and long-term nitrate data.**

## Average Nitrate Results by County

The study results will give us the region's first overall picture of nitrate levels in drinking water. Four nitrate rounds are now complete. The chart below shows the percentage of wells in each county in which nitrate concentration exceeded the state Health Risk Limit of 10 parts per million (ppm) (based on an average of the first three monitoring rounds).

County	Percent of total wells that tested greater than 10 ppm nitrates
Dodge	8%
Fillmore	17%
Goodhue	10%
Houston	21%
Mower	3%
Olmsted	8%
Rice	5%
Wabasha	25%
Winona	21%
<b>AVERAGE</b>	<b>13%</b>

## Why Test For Nitrates?

- Ingested at high levels, nitrate may cause acute health effects in infants. Chronic health effects may also occur.
- Nitrate renders our shallowest, most accessible aquifers unusable. Nitrate in ground water often means drilling to deeper aquifers, raising drilling costs. Ground water from deeper aquifers sometimes has unpleasant tastes or odors, leading to increased treatment costs.
- Nitrate is an indicator compound. When nitrate is present, other contaminants are commonly present too.
- Ground water and surface water are usually connected in a karst landscape. This fact can cause elevated nitrate in streams and adverse effects on aquatic populations.

## The Well Code and Nitrate Results

Since 1974, all wells constructed in Minnesota must meet location and construction requirements specified by the Minnesota Well Code.

Looking at the results of the first three rounds of monitoring, we find that 95 percent of the wells which were above the 10 ppm Health Risk Limit were wells drilled prior to the 1974 well code. The reasons for this may include well age, construction and depth.

## Loans for Well Sealing

Sealing old wells is vital to protecting groundwater quality. Old or poorly constructed wells can be a direct conduit for contaminants to reach groundwater supplies.

State law requires that only licensed well contractors seal wells. If you are interested in sealing an old well on your property, many Soil and Water Conservation Districts (SWCD) offer low-interest loans for well sealing. Contact your SWCD office for details.

