

The Network News

A Newsletter for Nitrate Monitoring Network Volunteers

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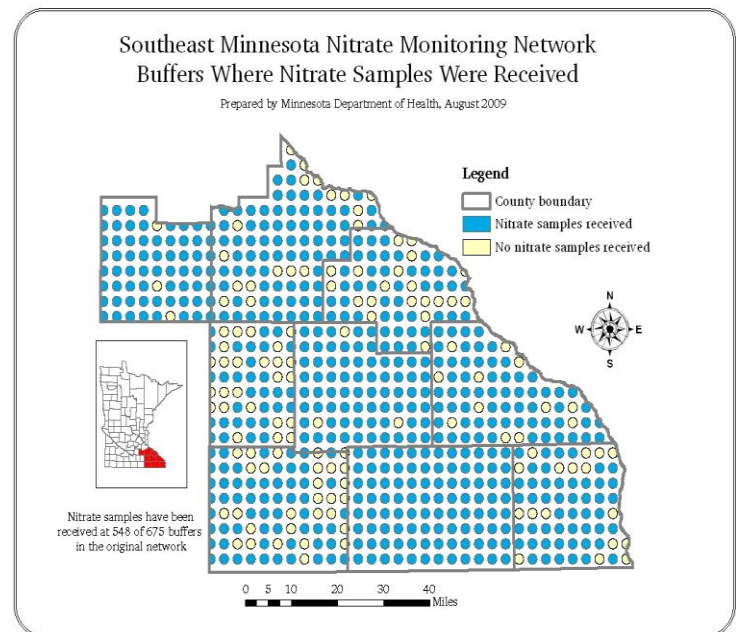
Nitrate Network Assembly Complete

James Lundy, MN Dept. of Health

Congratulations to all the volunteer well owners in the Southeast Minnesota nitrate 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% |
| AVERAGE | 13% |

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.

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.

