

SOUTHEAST MINNESOTA VOLUNTEER NITRATE MONITORING NETWORK 2017 RESULTS

The Southeast Minnesota Volunteer Nitrate Monitoring Network was developed in 2008 in order to determine nitrate trends in the region.

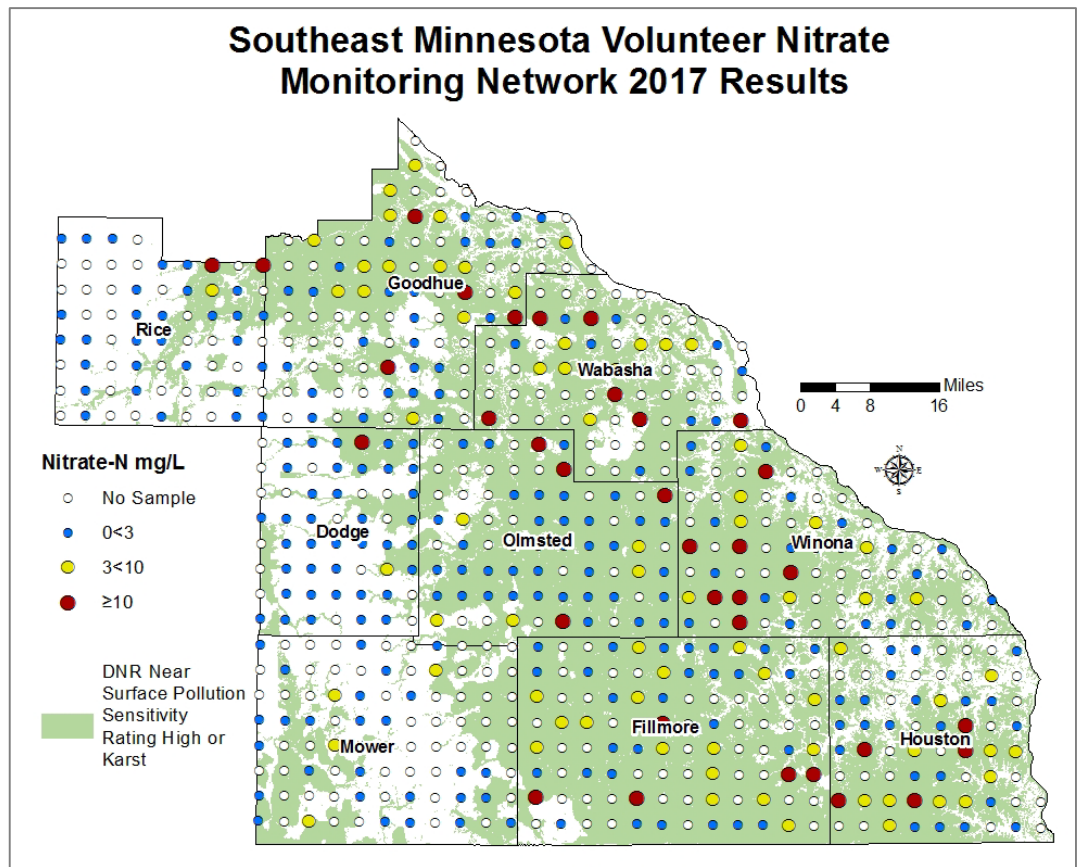
Drinking water high in nitrate can cause serious health effects in infants. The state's Health Risk Limit for nitrate-nitrogen is 10 mg/L.

Southeastern Minnesota has karst geology that make it vulnerable to groundwater contamination.

In 2017, 341 private drinking water wells were sampled for nitrate.

2017 Nitrate-N Results

- 68.9% were < 3 mg/L
- 21.1% were 3<10 mg/L
- 10.0% were ≥10 mg/L

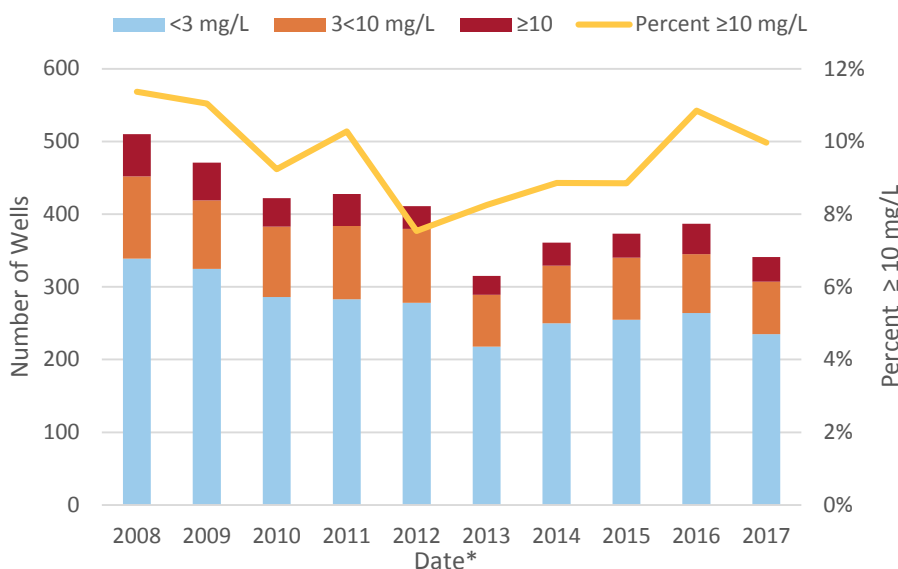


On a regional scale, 90% of participating wells have water that is below the Health Risk Limit for nitrate-nitrogen.

Results from 2017 are similar to previous years with 69% of nitrate results <3 mg/L, 21% in the 3<10 mg/L range, and 10% ≥10 mg/L. Even with the decline in participation rates since 2008, the overall picture is still representative of the network as the proportion of wells in each nitrate category remains nearly the same.

In 2017 sample kits were mailed later in the fall than usual and may be the primary cause for the reduced number of wells sampled. Volunteers likely had already turned off their outdoor faucets and been unable to sample during the winter months.

Southeast Private Well Network



*In 2008 and 2009, 2 samples were taken per year. The Fall sampling is represented for the purpose of consistency.

2017 NITRATE RESULTS BY COUNTY

Counties	Total Wells	Nitrate-N Summary Statistics					Percentage of Wells		
		Min	Max	Mean	Median	90th ¹	<3 mg/L	3<10 mg/L	≥10 mg/L
		Nitrate-N mg/L or parts per million (ppm)					Percent		
Dodge	40	<0.25	10.9	0.4	<0.25	<0.25	95.0%	2.5%	2.5%
Fillmore	50	<0.25	15.5	3.8	1.5	9.8	56.0%	34.0%	10.0%
Goodhue	45	<0.25	14.4	3.5	1.4	10.0	57.8%	33.3%	8.9%
Houston	38	<0.25	23.1	4.7	2.6	13.2	55.3%	31.6%	13.2%
Mower	31	<0.25	7.0	0.8	<0.25	5.1	87.1%	12.9%	0.0%
Olmsted	45	<0.25	18.3	2.3	<0.25	8.9	80.0%	11.1%	8.9%
Rice	33	<0.25	19.6	1.3	<0.25	1.6	90.9%	3.0%	6.1%
Wabasha	23	<0.25	24.3	6.1	5.9	12.1	39.1%	34.8%	26.1%
Winona	36	<0.25	27.2	4.5	1.7	12.1	55.6%	25.0%	19.4%
Total	341	<0.25	27.2	3.0	<0.25	10.1	68.9%	21.1%	10.0%

¹The 90th Percentile means that 90% of reported results are below this value.

Nitrate concentrations varied between counties in the Southeast Minnesota region. Wabasha County had the highest percentage of wells (26.1%) greater than 10 mg/L. An important aspect of the Southeast Minnesota Volunteer Nitrate Monitoring Network is that it was statistically designed to look at long term trends as a whole region and not on a county by county basis.

Wells with results in the range of 3 to 10 mg/L are considered impacted but safe for drinking; the water is above natural levels of nitrate but below the Health Risk Limit. Groundwater in this range is being impacted by activities on the land surface. Wabasha (34.8%), Fillmore County (34.0%), and Goodhue County (33.3%) have the highest percentage of impacted wells.

The Minnesota Department of Agriculture will continue to offer free nitrate sampling kits to participating well owners on an annual basis. Southeast Minnesota Water Resources Board, along with local well network coordinators, will continue to provide local coordination for the entire network. A coordinated effort will continue to engage well owners for continued participation and to fill any areas where wells may have dropped out or are missing.

This work could not be done without the help of homeowner volunteers! Thank you for making this program possible. Your participation is helping to protect local groundwater. If you have any questions for MDA, please contact Kimberly Kaiser at kimberly.kaiser@state.mn.us or by phone: 651-201-6280 or you may contact Bridgette Timm the Executive Director at the Southeast Minnesota Water Resource Board: timmm.bridgette@co.olmsted.mn.us.

Updated May 2018



Southeast Minnesota Water Resources Board

Dodge · Fillmore · Goodhue · Houston · Mower · Olmsted · Rice · Steele · Wabasha · Winona



In accordance with the Americans with Disabilities Act, this information is available in alternative forms of communication upon request by calling 651-201-6000. TTY users can call the Minnesota Relay Service at 711. The MDA is an equal opportunity employer and provider.