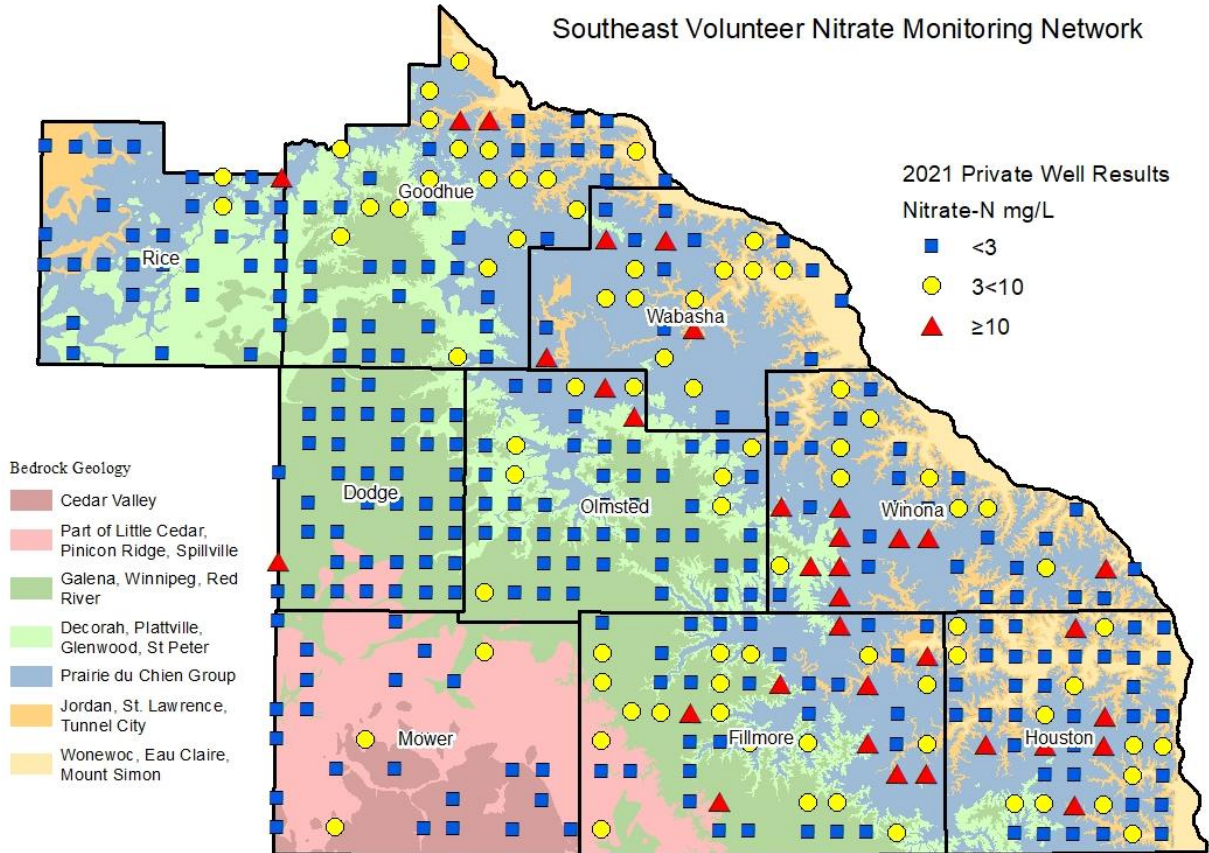
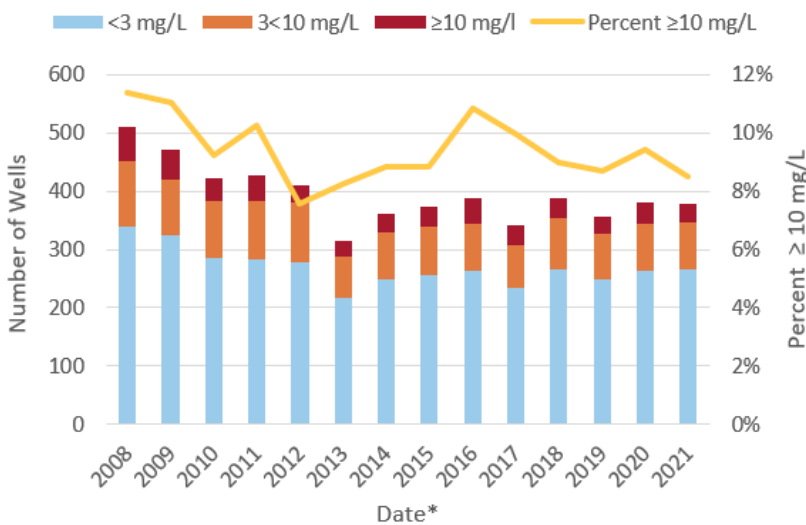


SOUTHEAST MINNESOTA VOLUNTEER NITRATE MONITORING NETWORK 2021 RESULTS

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



Southeast Long Term Nitrate Ranges



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

Southeastern Minnesota has karst geology that makes it vulnerable to groundwater contamination. The areas near the edge of the Decorah formation are especially vulnerable to nitrate contamination which is illustrated in the map.

In 2021, 378 private drinking water wells were sampled for nitrate. On a regional scale, 91.5% of participating wells have water that is below the Health Risk Limit for nitrate-nitrogen.

Results from 2021 are similar to previous years with 70.6% of nitrate results <3 mg/L, 20.9% in the 3<10 mg/L range, and 8.5% are ≥10 mg/L. Varying participation rates have minimal impact on the overall picture as the proportion of wells in each nitrate category remains nearly the same.

2021 NITRATE RESULTS BY COUNTY

Counties	Total Wells	Nitrate-N Summary Statistics					Percentage of Wells		
		Min	Max	Mean	Median	90th	<3 mg/L	3<10 mg/L	≥10 mg/L
		Nitrate-N mg/L or parts per million (ppm)					Percent		
Dodge	40	<0.25	10.33	0.39	<0.25	0.3	97.5%	0.0%	2.5%
Fillmore	55	<0.25	22.09	4.59	2.87	13.1	52.7%	30.9%	16.4%
Goodhue	52	<0.25	11.94	2.89	0.78	8.5	61.5%	36.5%	1.9%
Houston	51	<0.25	23.09	3.73	1.19	10.0	64.7%	25.5%	9.8%
Mower	26	<0.25	7.82	0.85	<0.25	4.7	88.5%	11.5%	0.0%
Olmsted	51	<0.25	16.53	1.68	<0.25	6.1	82.4%	13.7%	3.9%
Rice	35	<0.25	11.88	0.66	<0.25	<0.25	91.4%	5.7%	2.9%
Wabasha	26	<0.25	14.42	4.99	3.53	12.0	46.2%	38.5%	15.4%
Winona	42	<0.25	24.45	5.10	1.14	17.9	59.5%	19.0%	21.4%
Total	378	<0.25	24.45	2.87	<0.25	9.3	70.6%	20.9%	8.5%

Nitrate concentrations varied between counties in the Southeast Minnesota region. Winona County had the highest percentage of wells (21.4%) greater than 10 mg/L. Wells with nitrate results in the range of 3 to 10 mg/L are considered impacted by human activities on the land surface. The water in the impacted range is above natural levels of nitrate, but below the Health Risk Limit. Wabasha (38.5%), Goodhue County (36.5%), and Fillmore County (30.9%) 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. Olmsted County and Olmsted Soil and Water Conservation District, 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.

Additional Programs to Protect Water Quality

Soil and Water Conservation Districts (SWCDs) in the area have cost share programs available to assist with sealing wells, installing water treatment systems, and new well construction on private property. Cost share is set at a 50 - 90% rate with a maximum amount per well. Be sure to contact your local SWCD about this cost share before work is done, as preapproval is required to qualify for the cost share. Private well water should also be tested annually for bacteria by a certified laboratory. Use the QR Code in the bottom right corner to watch a video for more information about recommended testing and maintenance of your well in SE Minnesota.

Thank you to the homeowner volunteers! Their participation makes this program possible and helps protect local groundwater. If you have any questions for MDA, please contact Kimberly Kaiser at kimberly.kaiser@state.mn.us, 651-201-6280 or contact Caitlin Brady the Olmsted County Water Resources Coordinator: 507-328-6396, brady.caitlin@co.olmsted.mn.us

Updated June 2022



Watch video for private well users (Tap In)



<https://youtu.be/gZN7AXMqilc>