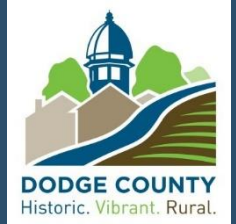


Dodge County Volunteer Nitrate Monitoring Network Spring 2021 Results



Summary of Results

The Dodge County Volunteer Nitrate Monitoring Network started in February of 2008 in order to get an accurate representation of nitrate in private drinking wells. This program helps state agencies, local government, and the public get a better understanding for what effects our ground-water. High nitrate levels in drinking water can result in serious health effects for infants. The state's Health Risk Limit for nitrate-nitrogen is 10 mg/L.

Dodge County has a wide variety of geology that creates unique landscape features, aquifer depths, and potential for water contamination. For example, the "Driftless Region" in the north-eastern portions of the county contain Decorah shale and have more exposed aquifers. Whereas the southwestern portions of the county have protected aquifers due to sandy glacial moraine deposits.



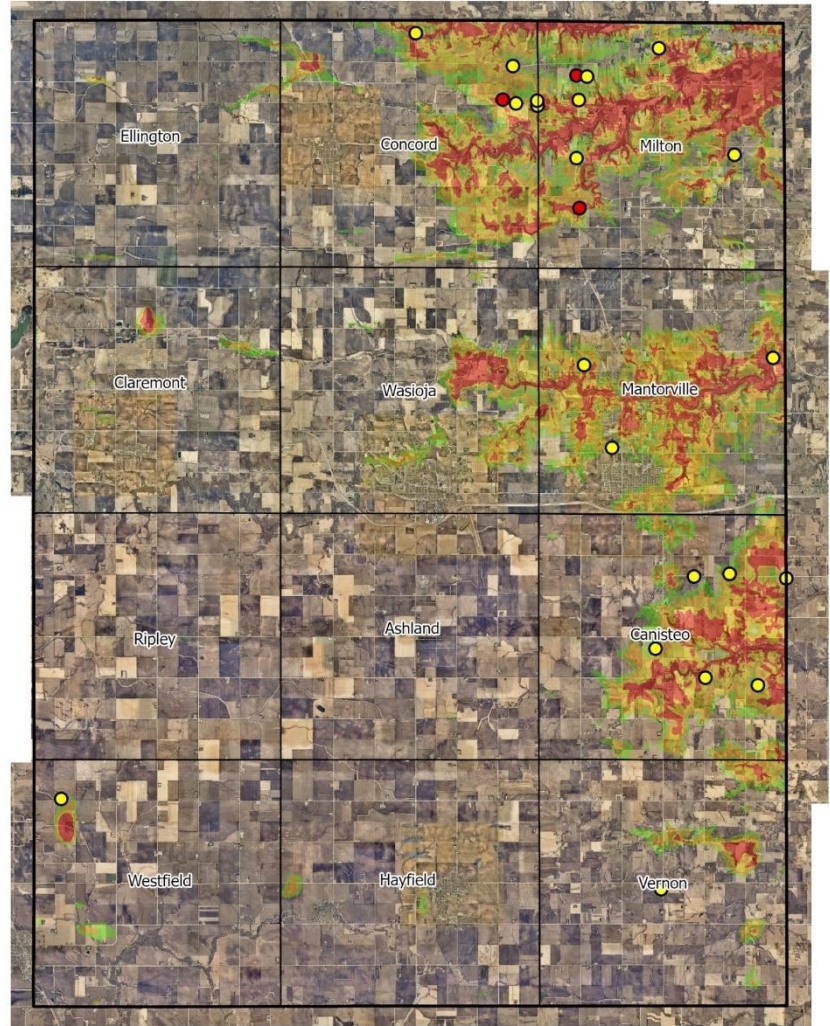
VNMN High Nitrate Wells - Mar 2021

Bedrock Sensitivity

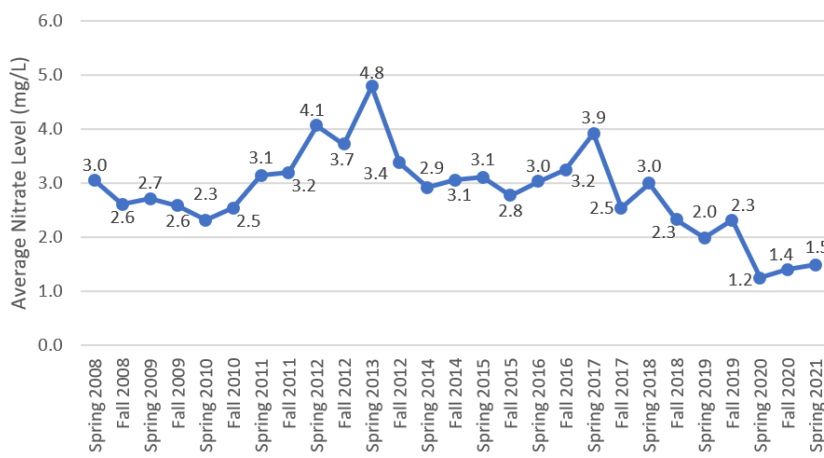
- 0m - 10m
- 10.01m - 20m
- 20.01m - 30m
- 30.01m - 40m

VNMN Wells

- > 10.01mg/L
- 3.01mg/L - 10.00mg/L



Dodge County Long Term Averages



In the spring of 2021, 172 private drinking water wells were sampled for nitrate. On a county scale, 90.01% of participating wells have water that is below the Health Risk Limit for nitrate-nitrogen.

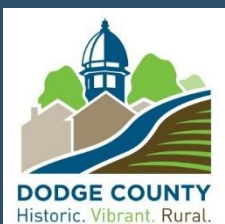
SPRING 2021 RESULTS BY TOWNSHIP

Spring 2021									
Townships	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		
Ashland	13	0	0.5	0.14	0.1	0.23	100.00%	0.00%	0.00%
Canisteo	20	0	9.7	2.36	0.1	8.09	70%	30%	0.00%
Claremont	9	0.1	0.9	0.34	0.2	0.82	100%	0.00%	0.00%
Concord	17	0	10.1	2.86	0.25	9.5	70.64%	17.60%	11.76%
Ellington	11	0	0.4	0.2	0.2	0.31	100%	0.00%	0.00%
Hayfield	10	0.1	0.5	0.22	0.1	0.5	100%	0.00%	0.00%
Mantorville	16	0	9.6	1.96	0.1	7.05	81.25%	18.75%	0.00%
Milton	34	0	11	2.50	0.1	8.12	76.46%	17.64%	5.88%
Ripley	6	0.1	0.4	0.17	0.1	0.3	100%	0.00%	0.00%
Vernon	12	0.1	2.6	0.45	0.1	1.1	100%	0.00%	0.00%
Wasioja	13	0.1	1.4	0.38	0.2	0.85	100%	0.00%	0.00%
Westfield	11	0	8	1.58	0.1	7.7	81.81%	18.18%	0.00%
Total	172	0	11	1.10	0.1	8.12	90.01%	8.51%	1.47%

Nitrate levels vary widely across the townships of Dodge County. Concord township had the highest percentage of wells (11.76%) greater than 10 mg/L, with 6 townships having wells (100%) below the 3mg/L limit. Townships that have nitrate percentages in the 3-10mg/L range are technically under the Health Risk Limit, but are considered impacted. Impacts on drinking water can come from many activities that are performed on the surface such as manure spreading, fertilizer/pesticide application to crops, faulty septic systems, or landscape features. Landscape features include proximity to sinkholes, Decorah shale, and high nitrate wells.

Dodge County Environmental Services thanks you for your continued participation in this volunteer project! You are the ones that make this program possible and are protecting our local groundwater. If you have further questions about wells or the VNMN, please contact Water Program Manager Melissa DeVetter at melissa.devetter@co.dodge.mn.us or Environmental Tech Jackson Miller at jackson.miller@co.dodge.mn.us or by phone at (507) 635-6273.

Updated October 2021



Dodge County Environmental Services