

Morrison County: Overview of Nitrate Levels in Private Wells (2013-2015)

The Minnesota Department of Agriculture (MDA) created the Township Testing Program to help identify where elevated nitrate levels in private wells may exist. The MDA has identified approximately 250-300 townships around the state where groundwater contamination is likely to occur due to geologic conditions in tandem with substantial row crop acres.

The MDA worked with the Morrison Soil and Water Conservation District to identify sensitive townships and then implement a successful nitrate testing strategy. In Morrison County, the following townships met the criteria: **Agram, Belle Prairie, Bellevue, Buh, Culdrum, Swan River, Elmdale, Little Falls, Ripley, Two Rivers, and Swanville.**

This overview provides the nitrate results termed "Round One". "Round One" basically describes the nitrate results from virtually all of the participating wells including those impacted by point sources such as nearby septic tanks, feedlots and other nitrogen sources.

In 2013 and 2015, homeowners with a private well in the selected townships received a test kit in the mail. Homeowners played a key role since they were responsible for collecting the water sample and sending it to the certified lab. Homeowners also provided some important information about their well. The following map and table provides results from Round One.

Morrison County Highlights

- # Vulnerable Townships Tested: 11
- Households Receiving Kits: 3,680
- Number of Wells Tested: 1,222
- % Wells Over the Health Standard: 15

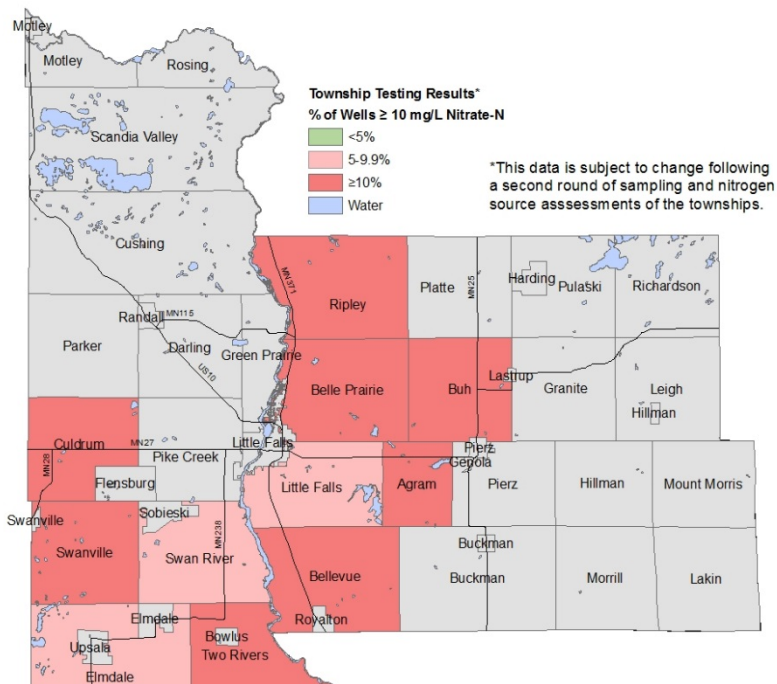


Table: Morrison County Round One Nitrate Results in 2013 and 2015

Township	Total Wells**	Year Tested	Nitrate as Nitrogen mg/L or parts per million (ppm)				Percent of Wells ≥10
			Min	Max	Mean	Median	
Agram	109	2013	<0.03	40.8	9.8	10.2	52%
Belle Prairie	101	2013	<0.03	39	4.8	0.2	18%
Bellevue	135	2013	<0.03	43.7	3.7	0.0	11%
Buh	52	2013	<0.03	31.2	2.8	0.0	12%
Culdrum	58	2013	<0.03	28.2	2.9	0.0	14%
Swan River	70	2013	<0.03	40.9	3.7	0.0	11%
Elmdale	148	2015	<0.03	70.3	2.9	0.0	9%
Little Falls	281	2015	<0.03	48.5	3.6	0.6	7%
Ripley	106	2015	<0.03	18.1	3.6	0.5	16%
Two Rivers	113	2015	<0.03	37.8	3.7	0.2	12%
Swanville	49	2015	<0.03	25.8	2.7	0.0	12%
Total	1,222	13 - 15	<0.03	70.3*	4.0*	11.7*	15%*

*Represents an average. **All well types included.

Why is there a "Round Two"?

Frequently nitrate is detected because of either well construction issues or a localized area is impacted from a point source such as a septic tank or nearby feedlot. Round Two was offered to homeowners when measurable nitrate was detected during the first sampling. Trained MDA staff visited willing homeowners to resample the well and then conducted a site assessment. The assessment helps identify well results impacted by obvious construction issues and/or non-fertilizer sources of nitrogen such as septic systems.

Round Two sampling is scheduled for completion by the end of 2016. It is common for 5 to 10% of the wells to eventually be removed from the original data set. Once Round Two is completed, the MDA conducts an analysis of the results and prepares a final report for each county (visit www.mda.state.mn.us/townshiptesting). The Morrison County Final Report will be available in 2017.

The final results will indicate the severity and magnitude of nitrate in groundwater in the township. These results will help guide the decision making process in the event that corrective actions are needed. These actions are described in Minnesota's Nitrogen Fertilizer Management Plan (NFMP). Find more information about the NFMP on the MDA website at www.mda.state.mn.us/nfmp.

Funding Acknowledgement

Funding for this project is provided by the Clean Water, Land and Legacy Amendment

