DEPARTMENT OF AGRICULTURE

CLEAN WATER LAND & LEGACY AMENDMENT

Township Testing Program Update-March 2018

The Minnesota Department of Agriculture (MDA) conducted a major revision of the Nitrogen Fertilizer Management Plan (NFMP) in March of 2015. The plan calls for an assessment of nitrate conditions at the township scale. The MDA determines current nitrate-nitrogen concentrations in private wells, on a township scale, through the Township Testing Program. The MDA has identified townships throughout the state that are vulnerable to groundwater contamination and have significant row crop production. More than 70,000 private well owners will be offered nitrate testing in over 300 townships by 2019 (Figure 1).

How does it work?

The MDA works with local partners such as counties and soil and water conservation districts (SWCDs) to coordinate private well nitrate testing using Clean Water Funds. The map in Figure 1 serves as a starting point for planning sample locations and is modified based on local expertise from the counties or SWCDs.

Each selected township is offered testing in two steps, the "initial" sampling and the "follow-up" sampling. In the initial sampling, all township homeowners using private wells are sent a nitrate test kit. If nitrate is detected in their initial sample, the homeowner is offered a follow-up nitrate test, pesticide test and well site visit.

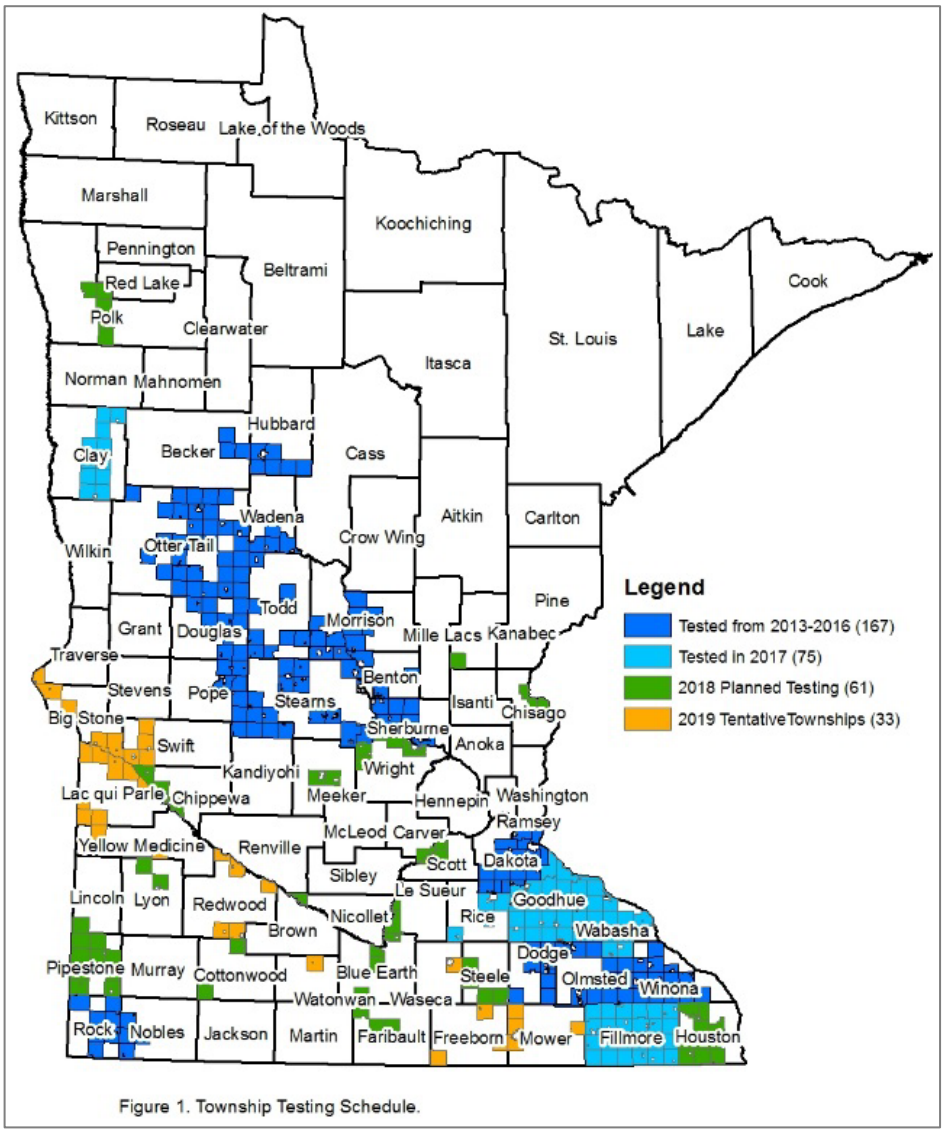


Figure 1. Township Testing Schedule.

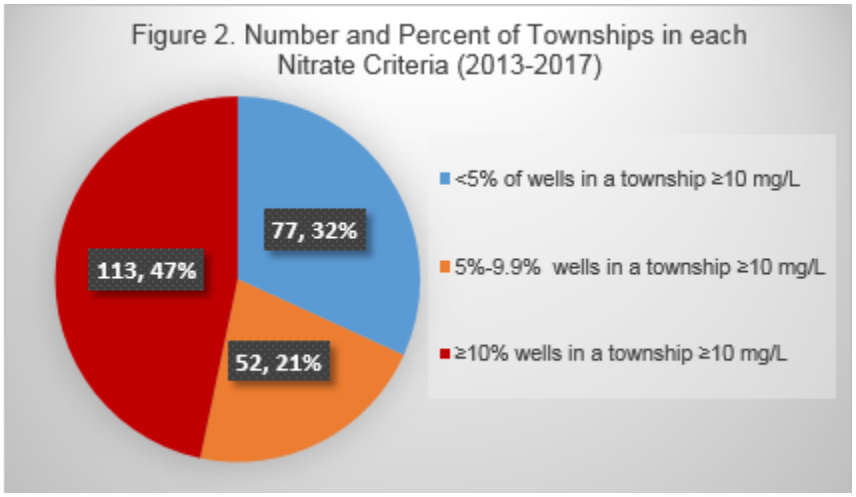
Trained MDA staff visit willing homeowners to resample the well and then conduct a site assessment.

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.

The assessment helps to identify possible non-fertilizer sources of nitrate and to see the condition of the well. A well with construction problems may be more susceptible to contamination. It is common for the TTP to sample 50 to 150 wells per township.

In Clay County, 11 townships were tested and in all of those townships less than 5% of the wells above the 10 milligram per liter (mg/L) Health Risk Limit (HRL) for Nitrate-N. Several more townships in Polk county will also be tested in order to further evaluate whether the Beach Ridge sand and gravel deposit is creating a narrow band of vulnerable groundwater in that region.

Results



As of March 2018, 242 vulnerable townships from 24 counties participated in the TTP from 2013 to 2017 (Figure 2). In the 242 townships tested, 113 (47%) have 10% or more of the wells over the HRL for Nitrate-N. In contrast, it was determined that in 77 townships less than 5% of the wells were over the HRL for Nitrate-N.

Overall, 10.1% (2,583) of the 25,652 wells exceeded the HRL for Nitrate-N (Table 1). Figure 3 shows the percentage of wells over the HRL for each township during the initial sampling. These results have yet to be analyzed for possible nitrogen sources, so the final percentage of wells over the HRL from a non-point source may change based on follow-up sampling.

Next Steps

Once the follow-up sampling 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 MDA uses the final results to determine if additional action is warranted, as described in the Minnesota Nitrogen Fertilizer Management Plan (NFMP). Find more information about the NFMP on the MDA website at www.mda.state.mn.us/nfmp.

Table 1. Townships Tested 2013-2017

Total Wells	<3	3<10	≥10	≥10
	Nitrate-Nitrogen mg/L (ppm)			
	Number of Wells			Percent
25,652	19,277	3,792	2,583	10.1%

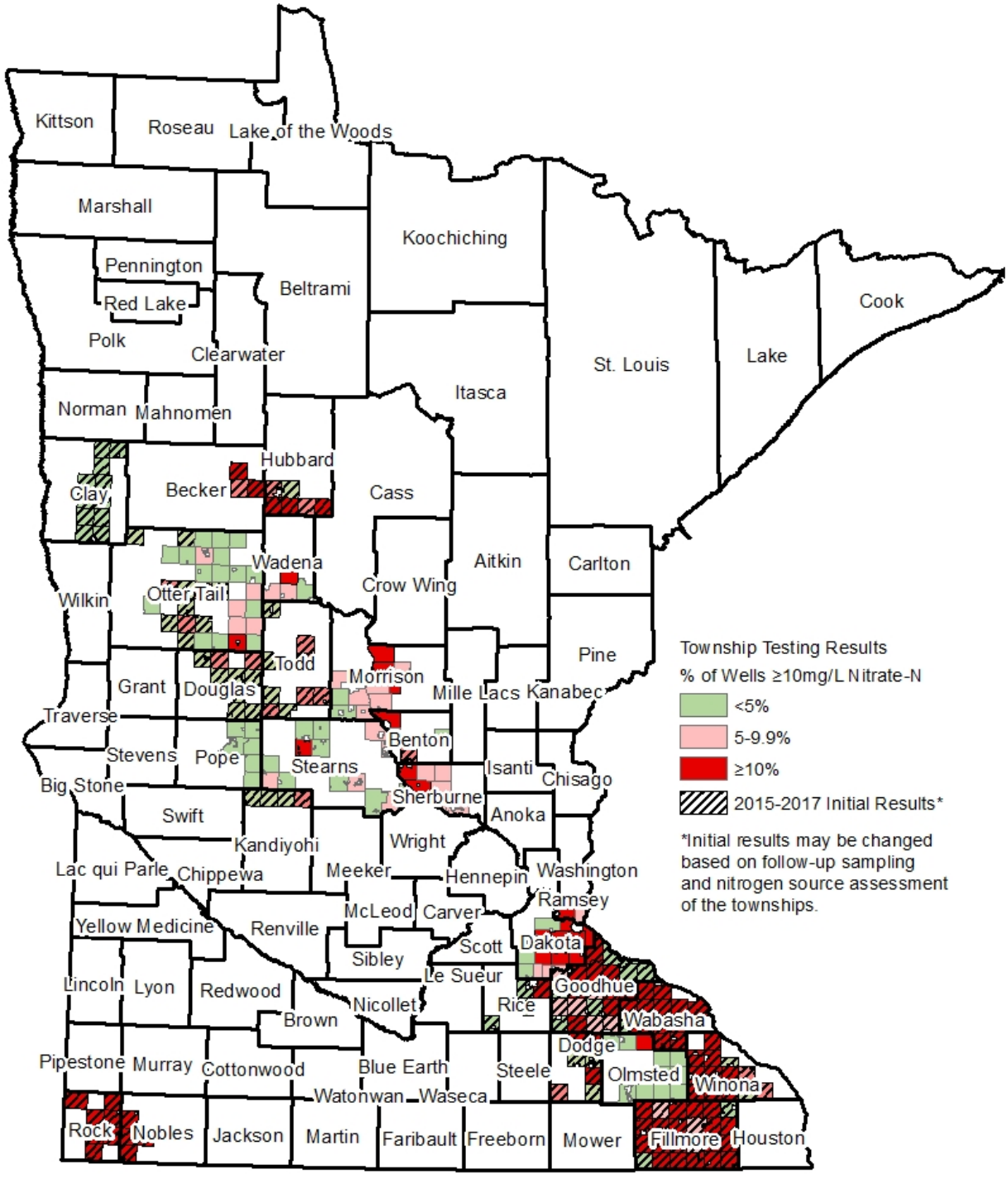


Figure 3. Initial and Final Township Testing Results.