

## 2024 Water Sampling Program

In June 2024 Afton residents were given the opportunity to have their well water tested for nitrates and Coliform bacteria. 150 sample kits were made available, but only 68 kits were picked up by Afton Residents. Of the 68 kits, samples from 58 wells were returned for analysis. The EPA drinking water standard for safe water is 10mg/L (milligrams per liter) or less for nitrate-nitrogen. Coliform testing is reported as absent or present. If Coliforms are present, the sample is analyzed to see if E. coli are present.

Nitrate results ranged from 0.05 (not detected) to 17.37. Higher levels were again noted in the more western parts of Afton (more open, frequently agriculture now in or in the past) and lower to the east and south (more trees, less agriculture now or in past). Enclosed with this article is a quarter quarter map with the nitrate results.

Nineteen samples tested positive for Coliform bacteria, including one with E. Coli (the type of Coliform bacteria that could indicate sewage contamination). Overall, this is 33% of all tested wells in Afton for 2024. These wells were scattered throughout Afton. A positive Coliform test does not prove a well is infected. While the sample is positive, the technique for collecting a sterile sample may not have been stringently followed allowing for false positive Coliform test results. Positive tests should be followed up with a retest with ultra close attention to technique, or treating the well and retesting. Washington County sends out instructions on the use of a bleach solution that can to be used to disinfect a well that shows the presence of any Coliform growth for those wells testing positive for coliform growth. For this year, again there was no good correlation between nitrate levels and the presence of Coliforms. Of the 33 wells with nitrate results of <0.05 (no nitrates found), 14 grew Coliforms (42%) while none of the 6 samples with nitrate results of 5-10 grew Coliforms, and one of two wells with nitrate results of >10 grew Coliforms (see Table 1). Of note there were 4 wells testing positive for Coliforms in the Old Village. Table 2 shows the general distribution of well samples testing positive for Coliforms as presented by quarter quarter section. Repeat testing for Coliforms has been done on 9 of the 19 of the wells with positive Coliform tests on the original collection date. Five of the nine returned samples remain positive for Coliforms.

Ongoing testing of well water for both nitrates and Coliform bacteria is the best way for well owners to monitor the quality and suitability of their drinking water. With this information, one can take corrective action if needed. With ongoing participation in this city sponsored well water sampling program more data are provided to help residents understand the health of our shared valuable water resource—our drinking water.

In the future we hope to continue to provide sampling opportunities to the residents of Afton, and we encourage you to participate in this project. The members of the NRGCC would like to thank the City Council for their ongoing support for this program. We wish to thank all those Afton residents who participated as this allows us to help monitor the health of our water.

TABLE 1

NITRATE		NUMBER OF	NUMBER WITH	%
LEVEL		SAMPLES	COLIFORMS	
0-2.0		43	16	37%
For 0-0.05		33	14	42%
For >0.05-2.0		10	2	20%
2.1-2.5		7	2	29%
5.1-10.0		6	0	0%
>10		2	1	50%
TOTAL		58	19	33%

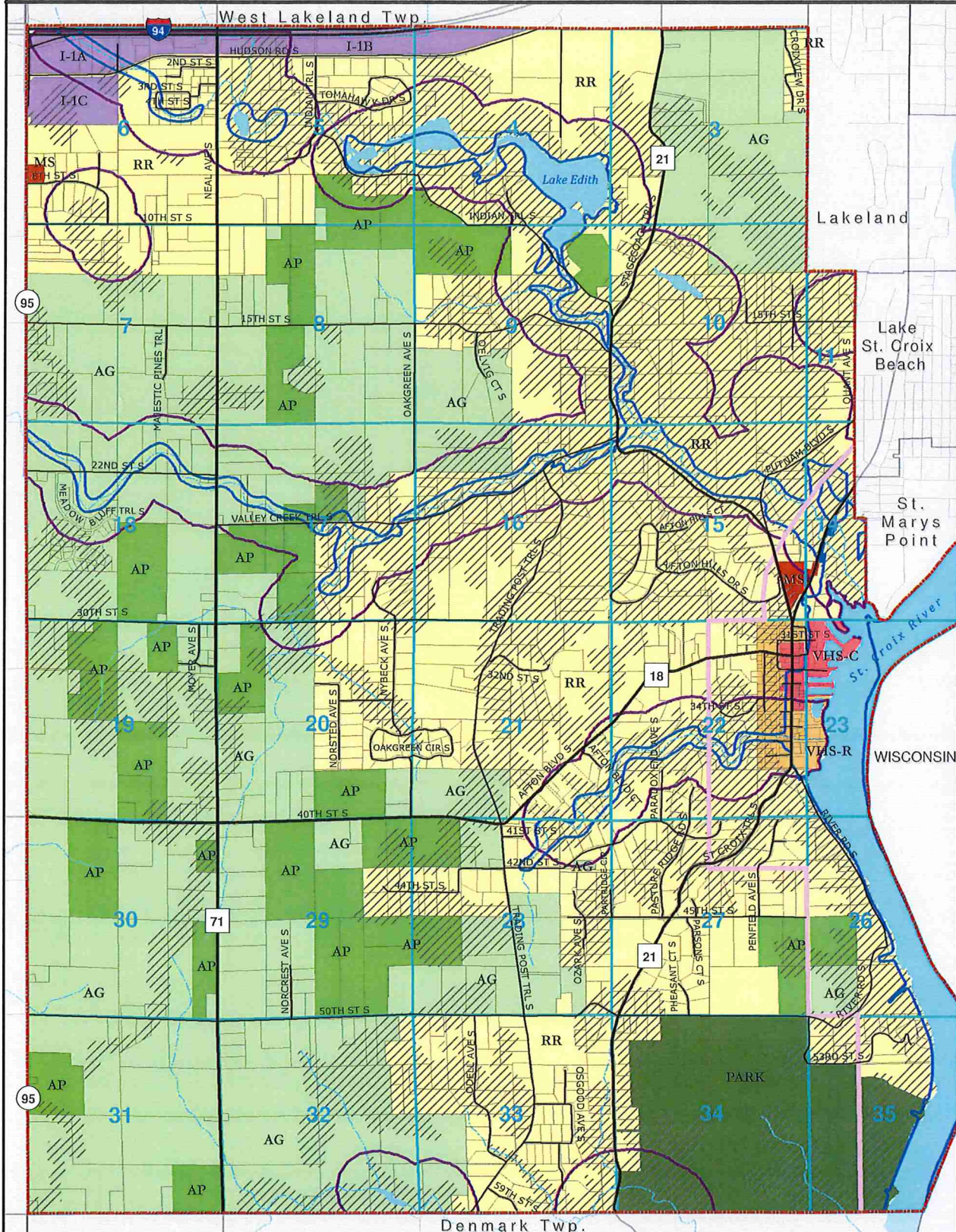
TABLE 2

Quarter	COLIFORM	COLIFORM
Section	NEG	POS
3	1	0
6	4	1
7	1	0
8	2	0
9	1	0
10	2	1
15	2	4
16	1	0
18	1	0
20	1	1
21	1	2
22	4	6
26	1	0
28	3	3
29	1	0
31	1	0
32	3	0
33	8	0
34	1	0
35	0	1
Total	39	19

Natural Resources and Groundwater Committee

# Zoning Map

# MAP 11



<b>Zoning Districts</b>	State Park	City of Afton	Streams	0	0.5	1	Miles
Agriculture	Marina Services	Parcel Boundaries	Section Lines				
Ag Preserve	Conservancy Overlay	Major Road	Floodplain Overlay (100 Year)				
Village Historic Site- Commercial	St. Croix River Bluffland	Local Road	Shoreland Management Areas				
Industrial			Lakes & Rivers				
Village Historic Site- Residential							
Rural Residential							

Map prepared October 2010 1000 Friends of Minnesota TRC      Data Sources: City of Afton, Metropolitan Council, MN DNR, MN DOT, Washington County