

Summary of Water Testing in Three Mile Lake in 2018

Testing is done by lake volunteers. For this year the volunteers were Rudy Clausen and Arnie and Nancy Pundsack.

We have found some Environmental Protection Agency (EPA) kits for testing well water. The one we have selected measures the levels of bacteria, lead, pesticides (Atrazine and Simazine), nitrate and nitrites, iron, total chlorine, pH, total hardness, total alkalinity and copper. Testing is sensitive to the parts per million (ppm) level. The cost of the test kit is about \$50.00. We tried it and didn't find any pesticides in the lake. Don't know if the testing process is reliable.

2018 Overview: What a summer this was. Starting in the spring the water level was low which gradually got better in the fall. Then in August the Ministry of Health posted a warning on the lake not to swim in the lake. This caused a lot of concern to the cottage owners. The communication about this warning was terrible. In fact, we never did have a toxic algae bloom. There was a potential toxin in the lake called gloeotrichia, but there were no blooms. We did learn how sensitive our lake is to potential toxins.



Test sites one to five

Summary of water testing data for 2018

As in previous years, we have tested the phosphorus, coliform and *E. coli* level of the water at 5-6 spots in the lake. See the above map for the site locations. We also measure the clarity of the water several times during the summer. The results follow:

Lake partner results of testing of **phosphorus** levels at the deep spot in the lake (spot #5)

21 June 2018	7.0, 7.2µg/l
2 August18	10.6, 11.4 µg/l
22 August	9.8, 9.6 µg/l
13 September	10.2, 9.8 µg/l

Note: two samples are collected to insure accuracy of the results

The **coliform** samples were collected from 5-6 spots in the lake. Samples were collected two times during the summer. Because the water level was low in the spring, we could not get our boat into Sandy Cove

cfus	TML-1	TML-2	TML-3	TML-4	TML-5	Sandy cove
May 20	36-43	13	11	3	8	-
Aug 19	213	434	307	451	65	

The maximum acceptable value for recreational waters is 1000 cfus (colony forming units).

Geese were present in August, skewing the results for sites one to four.

The ***E. coli*** samples were also taken three times during the summer at the same 5-6 spots as coliform sampling

cfus	TML-1	TML-2	TML-3	TML-4	TML-5	Sandy cove
May 20	30	<3	3	<3	<3	-
Aug 19	28	13	<3	8	39*	

The maximum acceptable level for recreational waters is 100 cfus.

*Geese were present

Finally, a secchi disc was used to determine the **water clarity** throughout the summer. These samples are taken from the deep part of the lake. Typically, our lake is the clearest in the spring and clarity decreases during the summer. The average clear water depths over several years are as follows:

2004	4.2 meters	3 tests
2005	3.9	9 tests
2006	5.3	5 tests
2009	3.7	12 tests
2011	3.6	5 tests
2012	4.1	6 tests
2015	2.9	6 tests
2017	3.1	5 tests
2018	3.9	6 tests

In general, it appears that our lake is healthy. There is concern about the lakes in our vicinity that are exhibiting toxic algae blooms and, more recently, containing a new invasive species of miniature jelly fish (about 1 inch in diameter). They don't sting humans.

We need to continue our lake testing and control what goes into the lake from runoff or is carried in by contaminated watercraft.