2016 Summary of Three Mile Lake Water testing

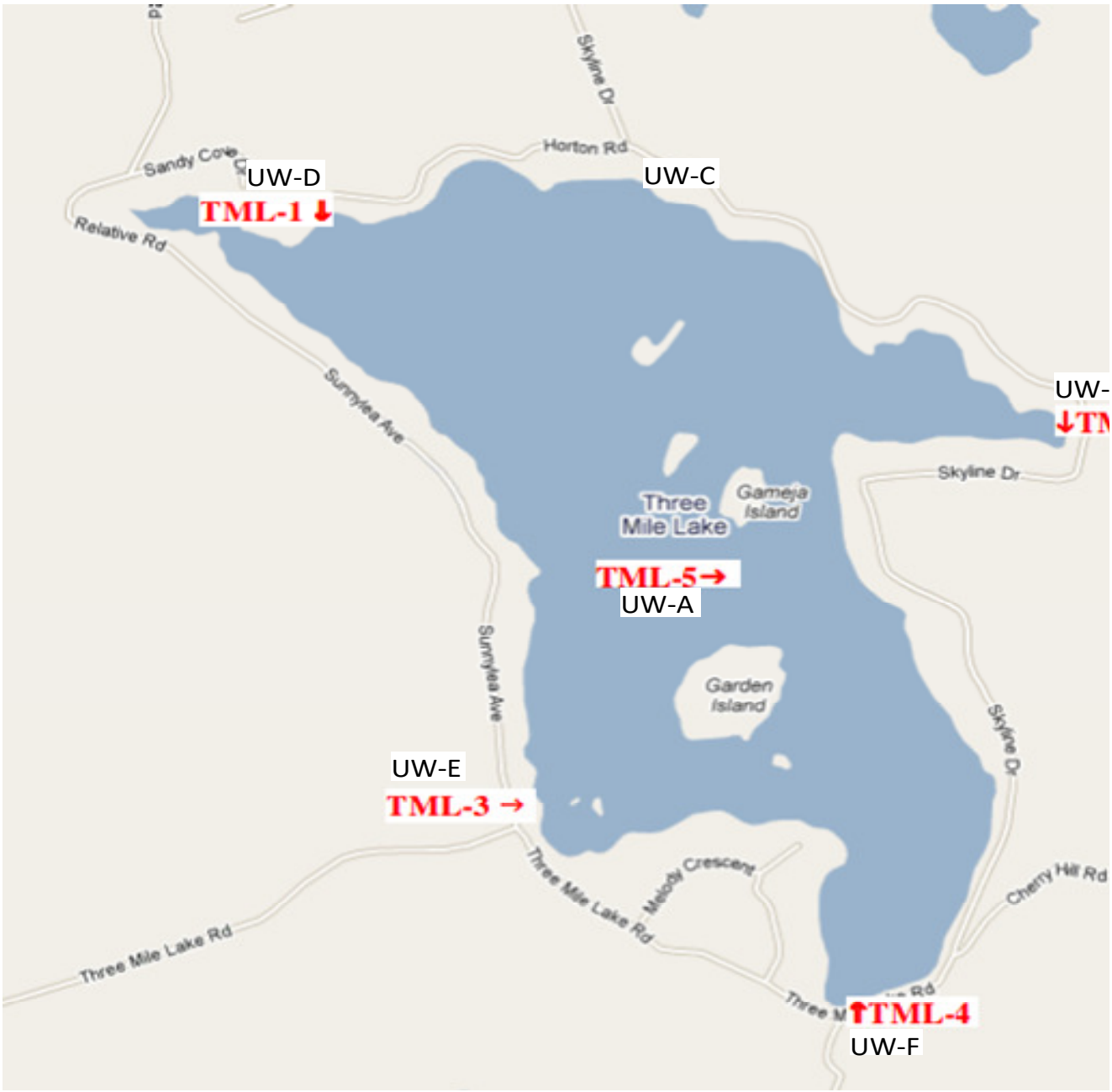
Testing is performed by lake resident volunteers. For this year the volunteers were Jim Douey, Arnie and Nancy Pundsack. Testing of E. coli and coliform were done three times during the summer at six different spots in the lake and samples were collected three times during the summer for determination of the phosphorus content by the Lake Partner Program

Summary

In the previous five years our water testing was enhanced by participation of students from the University of Waterloo in Huntsville. Unfortunately, the U. of Waterloo cancelled their testing program in 2016. One of the professors is trying to get the program reinstated. We hope he is successful.

In 2016 we added testing of *E. coli* and coliform in Sandy Cove and that site will be included in 2017 testing as well.

In general, the water quality appears to be stable and within normal ranges. Of note this year is how clear the water was in June and July reaching clarity levels of up to 5-6 meters. This is unusual as normally our lake becomes less clear in mid-summer. We believe the clarity is a result of little or no runoff because of the long period of no rain. Once the rains came in August the clarity was reduced to 2-3 meters. This shows how important it is to control runoff from our cottages into the lake.



Test sites for water sampling in Three Mile Lake

Testing data

The **coliform levels** were tested three times during the summer at 4-5 spots and once at Sandy Cove. All values were below the threshold for recreational water. The maximum allowable value is 1000 cfus (colony forming units).

cfus	TML-1	TML-2	TML-3	TML-4	TML-5	Sandy Cove
6/4/2016	13	3	11	79	49	-
7/26/2016	52	25	59	171	76	-
8/27/2016	11	43	43	69		49

The ***E. coli*** levels were also tested three times during the summer. The recreational water threshold is 100 cfus.

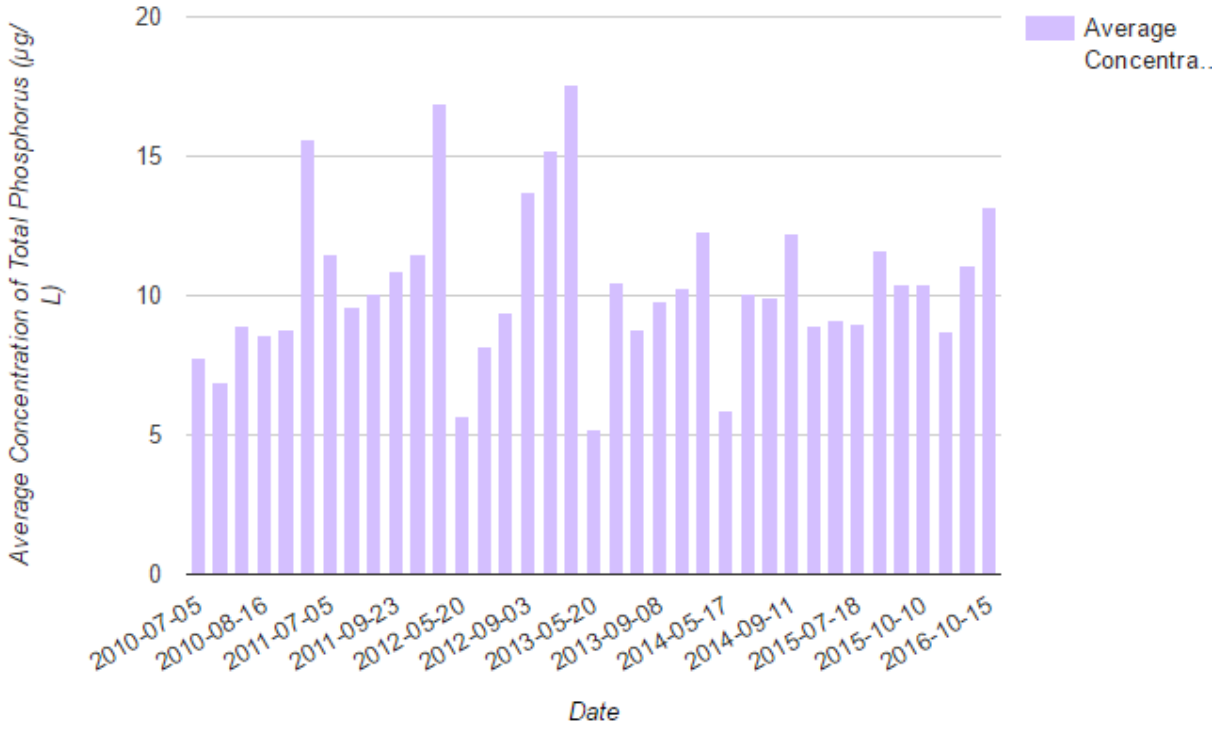
cfus	TML-1	TML-2	TML-3	TML-4	TML-5	sandy
6/4/2016	<3	<3	<3	<3	<3	
7/26/2016	11	<3	<3	<3	<3	
8/27/2016	3	11	<3	<3		43*

*Safe, but unusually high for our lake

High **phosphorus levels** can be a driver of algae blooms. It is preferred to have phosphorus levels less than 20 µg/L. Two samples are submitted for each test site to verify the consistency of our sampling.

Date	Test results µg/L	Average of results µg/L
6/15/2016	10.0, 7.4	8.7
7/25/2016	12.0, 10.2	11.1
10/16/2016	14.4	13.2

As an added bonus we are including the phosphorus levels for the last seven years.



Average Total Phosphorus (TP) Concentration (µg/L) 2010 to 2016

(We are lucky that our phosphorus levels continue to be below 20 µg/L because the possibility of having a toxic algae bloom increases with higher phosphorus levels.)

Finally, the **water clarity,** as determined with the Secchi disk this summer, is as follows:

6/4/2016	3.5meters
6/15/2016	5.0 meters
6/30/2016	6.0 meters
7/26/2016	4.5 meters
8/27/2016	3.2 meters
9/14/2016	2.1 meters

We are still looking for a lab to test the water for toxins like antibiotics, insecticides, etc.