

WATER QUALITY TESTING ON CORDOVA LAKE

In 2018, water testing for E. coli was initiated on Cordova Lake by the Cordova Lake Cottage Association to determine the safety of our water for recreational purposes.

E. coli is bacteria that is present in the feces of all warm-blooded animals (which includes humans) and acts as a good indicator of fecal contamination of our lake. There are many ways in which lakes can become fecally contaminated such as by run-off after a rain storm from animal or geese waste, faulty septic systems or agricultural waste. While our testing could not identify the source of contamination, the results did indicate that there is some need for concern and further monitoring.

A total of four samples were collected and submitted to SRS Environmental Services in Lakefield. While the laboratory continues to set the safety standard at 100, the Ontario Ministry of the Environment has recently increased their safety standard from 100 units of E. Coli per 100 mL water to 200 units per 100 mL. A level of 200 or more is a safety risk for humans and the level at which beaches across Ontario are closed.

The results of our testing are outlined below. When levels came back over 200 on the river, a subsequent test was run in several areas along the river from the bridge on Vansickle Rd to the mouth of the river to determine if the levels throughout the river were consistent. The river levels on Jul-06-18 ranged from 34 to 100 units E. coli per 100 mL. The highest level remained present in the area of Site 3. The decrease in levels after 3 days suggests that the initial high level was due to run-off after the rainstorm.

The location of sample collection sites were as follows:

Site 1 – Beach on Fire Route 57

Site 2 – Grassy shoreline at North End of McMillan Drive

Site 3 – On river, approximately 700 to 1,000 feet North of the mouth of River

Site 4 – Stump Bay (across from the mouth of the River)

Site 5 - Chipmunk Crossing

Site 6 – South End Islands

DATE	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6
Jul-03-18*	65	79	220	21	4	2
Aug-07-18*	25	10	200	4	5	3
Sep-16-18	4	6	36	1	5	1

*NOTE: These samples were collected on the day following a major thunderstorm with high winds.

The results showed that while the South End of the lake was no concern, the North End had much higher levels and the river was especially concerning. It must be noted that the first two sample dates were following a significant thunderstorm when run-off into the lake would be at it's highest.

Peterborough County Health Department was contacted to determine what our next steps might be. It is impossible to determine the cause of the high levels of E. coli, whether it be run-off from Canada Geese or other animal feces or a faulty septic issue. Peterborough Health indicated that there is no mandatory septic system testing in place at this time. The only way to check to see if faulty septic issues are playing a role in our high E. coli levels is to have a voluntary inspection done or to issue a specific complaint to Peterborough Health. Canada Geese are also a problem along this portion of the river and must be considered as a potential cause for the increased levels.

The take home message would be to use caution when swimming in the river after a rainstorm. More monitoring will take place in 2019.

PHOSPHORUS LEVELS AND CLARITY

Cordova Lake has been part of the Lake Partners Program, which undertake testing for phosphorus levels and water clarity, since 2002.

Phosphorus is a nutrient which aids in the growth of plant life but most important in lakes, algae. The more phosphorus, the more algae and the risk of algae blooms which can emit toxin substances are always of concern.

Clarity testing helps to indicate the amount of suspended plant matter within our water, most specifically algae. Our lake in currently has a clarity depth of 5 metres. This is considered mesotrophic which is the borderline for the growth of algae.

For 2019, we will have added an additional site towards the North end of the lake determine if both sites are similar.

Remember, the most important way to minimize phosphorus levels is to eliminate the use of phosphate-containing soaps, cleaners and fertilizers that eventually make their way into our lake.

If anyone has questions or suggestions regarding the water quality testing of Cordova Lake, please contact the Cordova Lake Cottage Association. We are always interested in hearing from you.

Sandy Rice, Vice-President
Cordova Lake Cottage Association