

Is My Water Safe to Drink?

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Once again this summer, the TLA ran a drinking water testing program using Near North Laboratories, the public health lab in North Bay. The program was sponsored by the Temiskaming Health Unit, allowing the TLA to provide the water testing service free of charge to members. In contrast to previous years, members were encouraged to pick up small collection bottles for potable water testing from the TLA headquarters building and to bring back a sample taken from their tap the next collection day. These days were every other Wednesday throughout the summer. Accurate results were ensured by distributing instructions adapted for cottagers (from Near North's household instructions) with the sample collection bottles. This process also involved chain of custody forms, filled out with the summer staff's help. While some days involved a bit of a scramble to get the samples out by 11 AM, all the samples made it to the labs on time.

It is important that samples reach the public health labs within 48 hours of testing to ensure bacteria in the water are within the exponential growth phase of their lifecycle. This phase is the period where bacteria multiply most rapidly, and standards exist to determine how many bacteria were present initially. On the other hand, if samples were returned to the lab several days later, it would be unclear how contaminated the water was initially from the number of bacterial colonies present when tested.

Treatment systems used by cottagers on the lake include ceramic filters, UV filters, and a combination of both for maximum protection. Surface water, a category that includes lakewater, is naturally contaminated by coliform bacteria and sometimes *E. coli*. For this reason, it is very important that any lakewater to be used for drinking is disinfected before use – no matter how clean the lake. All lakes are used by a variety of animals, which contribute to the total coliform (TC) count present in the water, which can be quite high if no treatment system exists. However, potable water results should never show high *E. coli* counts. In this situation, it would be probable that a septic treatment system is improperly installed, perhaps too close to a water intake location. Thankfully, no cottagers' results had high *E. coli* recorded. The third category of bacteria used in results presented to cottagers is that of general background populations (GBP). These colonies are not harmful to humans, but they may indicate that more thorough yearly cleaning and maintenance should occur.

We take this opportunity to remind you that lakewater is NOT potable, and drinking it untreated means DRINKING *E. COLI* AND OTHER COLIFORM BACTERIA THAT CAN MAKE YOU SICK. Remember that this applies not only to drinking the water directly, but also washing vegetables and brushing your teeth. Illnesses from contaminated water generally manifest themselves as vomiting and/or diarrhea. This is not to say that every person who consumes untreated water will fall ill, but is it really a gamble you are willing to take for your family? After all, treatment systems cost less than \$1000 to install, and \$150/year for new UV bulbs or \$40/year for a new ceramic filter, both required on a yearly basis (perhaps less often if your cottage sees little use). Plus, there are systems – ceramic filters – that require no electricity whatsoever. Ontario drinking water standards mandate that water be considered potable only when both coliform and *E. coli* counts are zero, and cottagers using both types of systems have found such results.

It is important to use a treatment system to obtain clean water, and also important to test your water on a yearly basis to ensure continued safety and quality. The program this year worked even better than last year, and was well-received, as in previous years. If you have a treatment system, you should be testing your water on a yearly basis, and using the TLA program means your samples will arrive on time, with results communicated by email and/or phone a couple days later (Friday emails for Wednesday drop-offs). All you have to do is visit the TLA headquarters twice in the summer. And with all the maps to buy, free extras (like this year's pocket knives) to pick up, and books to borrow, how could you say no?

If you wish to find more information on water treatment options and links for more information, please take a look at my article from 2012 by visiting the TLA website at www.tla-temagami.org and looking for "Long-Term Water Testing" under the "Initiatives" tab or "Water" under the "Environment" tab.