



***E. coli* WATER TESTING**

KAWARTHA LAKE STEWARDS ASSOCIATION
2023

1. Sampling Dates – *please sample on this date or up to 2 days later*

- Tuesday July 4th
- Monday July 17th
- Tuesday August 8th
- Monday August 21st
- Tuesday September 5th

2. Site Selection

- The water should be 1 to 1.5 meters (3 to 5 feet) deep. Best areas to sample are areas of poor circulation, such as quiet bays, areas where waterfowl are numerous, marinas, or popular swimming areas. Please briefly describe each site in your *E. coli* sampling log (Appendix A)
- Identify sites with a unique code and ensure that site codes are used consistently for each sampling date and every year.

3. Sample collection and submission

- Take sample from a dock or boat; ***avoid wading to sampling point as this can churn up bacteria rich sediment.***
- Before sampling, label the bottle (while it's still dry) with waterproof ink.
- Before collecting the sample(s), wash your hands with soap and water.
- Unscrew the sample bottle lid and put it in a dry place.
- Plunge the sampling bottle with the opening facing down about 15 to 30 cm (6 to 12 inches) below the surface. Push the bottle horizontally, filling it just above the fill line.
- Carefully replace and tighten the cap.
- Put the sample in a cooler and then the fridge until it's transported to the SGS lab.
- After collecting the sample(s)
 - Wash your hands with soap and water.
 - Complete your personal *E. coli* sampling log (Appendix A) and the SGS Chain of Custody form (see Appendix B).
 - Deliver the sample(s) in a cooler to the SGS laboratory (Appendix B) within 24 hours of collecting the sample.

4. Results of the analysis

- Results will be emailed to you by the KLSA *E. coli* coordinator within a week of sampling.
- See Appendix C for help in interpreting the results and communicating them to your association.

Appendix A
***E. coli* Sampling Log**

Name of Tester _____

Name of Lake _____

Site(s) with brief description

example: BDB01 – quiet bay adjacent to several cottages _____

Date	Waves: C=calm R=ripples W=wavy	Rain in past 48 hrs: N=none L=light H=heavy	Presence of animals nearby, including birds or farm animals	Other Observations

Appendix B

E. coli Sample Submission

Sample delivery to SGS lab (185 Concession St, Lakefield)

- The SGS Lakefield Laboratory is in the building that has an orange stripe around it, use the door marked "Environmental sample drop-off".
- The lab is open at 8 am weekdays, excluding holiday Mondays.
- **Samples must arrive at the laboratory before 2 PM so they get analyzed that day**
 - Place samples on top of freezer in vestibule area; ensure the properly completed Chain of Custody form (see below) is with the sample bottles.
 - Knock on glass entrance door to sample reception or ring exterior doorbell to notify reception staff that your sample drop-off is complete.
 - Vacate the vestibule and the staff will immediately retrieve your samples for lab processing.

To fill out the Chain of Custody form, enter the following (see example below):

- **Association (or Lake) name at the top of the form** ("Black Duck Bay Road Association" in example below)
- **Sample(s) from each site are recorded on a separate line:**
 - **Sample Identifier** is the site code on the sample bottle label ("BDB01" and "BDB02" in example below)
 - **Date & time sampled** is when the sample was taken from the lake
 - **Number of bottles** is how many sample bottles from this site (usually just 1)
 - **Analysis Requested** check under the *E.coli* column
- **Sampled by** and **Relinquished by** should be named, signed and dated ("Bob Bailey" in example below)

SGS		Request for Laboratory Services and CHAIN OF CUSTODY (General)					
SGS Environmental Services - Lakefield: 185 Concession St., Lakefield, ON K0L 3H0 Phone: 705-653-2020 Toll Free: 877-747-7558 Fax: 705-653-4355 Web: www.ca.sgs.com SGS Environmental Services - London: 657 Concession Court, London, ON N6E 2E8 Phone: 519-872-4500 Toll Free: 877-848-8060 Fax: 519-872-0381 Web: www.ca.sgs.com							
Laboratory Information Section							
Received Date (mm/dd/yyyy):		LAB LIMS #:					
Received Time (After Hours Only):		Temperature Upon Receipt (°C):					
Billing & Reporting Information							
Invoice/Receipt to (to):	Company: Kawartha Lake Stewards Association		Quote #: 2023 400				
	Attention: Bob Bailey - robert.bailey@klsa.info		Attached Parameter List: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				
	Address:		Turnaround Time				
	Email:		Is "Rush Turnaround Time Required?" <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				
Project Name/Number:		P.O. #:	Specify: * Rush TA Requests Require Lab Approval				
Client Information/Report To:			Client Lab #: 2019				
Company Name: Kawartha Lake Stewards Association							
Association Name: Black Duck Bay Road Association							
Email: robert.bailey@klsa.info							
Sample Information							
Sample Identifier	Date Sampled (mm/dd/yyyy)	Time Sampled	# of Bottles	Analysis Requested (please enter the analysis required below and check off which analysis applies to each sample)			
				E.Coli (MPN/100L)			
BDB01	07/04/23	4:30pm	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BDB02	07/04/23	4:50pm	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sampled By (1): Name Bob Bailey		Signature		Date: 07/04/23 (mm/dd/yyyy)			
Relinquished by (2): Name Bob Bailey		Signature		Date: 07/05/23 (mm/dd/yyyy)			
Note: (1) Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. (2) Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm . (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction clause defined therein.							

Appendix C

Getting and Understanding the Results

When Will You See the Results?

E. coli test results are emailed to the KLSA *E. coli* coordinator from SGS lab within three days of sample submission. The KLSA coordinator of the *E. coli* program will distribute the results. Volunteers are encouraged to further distribute the results to their lake, cottage or road associations and interested parties. The goal is to maximize distribution of the results, create awareness of the program and develop an understanding of the potential water quality concerns.

What do the Results Really Mean?

Results of the *E. coli* testing will be presented as the total number of *E. coli* colony forming units per 100 milliliters (*E. coli* CFU per 100 mL). The following examples will assist in the interpretation of the results:

- The safe swimming level (at which public beaches are posted) is under 100 *E. coli* CFU per 100 mL. This is equivalent to approximately 7 incidents of waterborne disease per 1000 swimming events. If 10 children went swimming 14 times over a period of time, that would be 140 swimming events, and it would be very likely that one child would experience a waterborne disease (1 per 140 = 7 per 1000) such as gastrointestinal problems or an outer ear infection. Counts of over 100 are considered significant.
- KLSA feels that our lakes should be cleaner than a public beach, and we have set the trigger for retesting at 50 *E. coli* CFU per 100 mL. High counts (>50) can be temporary; they might be caused by a children or wildlife and quickly diluted.
- How serious is a count of up to 50? Anything under 50 can be considered low.

What Do You Do if You Have a High Count?

KLSA policy is that counts over 50 *E. coli* CFU per 100 mL trigger a retest. In the event of a high count, the KLSA Coordinator will contact the volunteer responsible for the site to determine if a retest is both required and feasible. If a decision is made to retest, ideally the retest should be conducted as soon as possible after the original test and should consist of three to five separate samples collected at the same site.

In the event of high retest counts, the responsible volunteer in consultation with a KLSA Coordinator will discuss possible courses of action. Neither the volunteer tester nor KLSA has any legal obligation to report high *E. coli* counts to anyone. Locations of sites are known only to the tester. It is up to the tester and his/her community to decide who they would like to inform regarding the high counts, and what if any remedial action they would like to take.