


Leonard Lake Stakeholders Association
 A community focused on protecting, nurturing and cultivating the natural, physical and social characteristics of Leonard Lake




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- LEONARD LAKE CAUSATION STUDY introduction.
 - Cover letter to the District of Muskoka regarding the study draft report prepared by Riverstone Environmental Services Inc.
 - a link to the full LLSA document critiquing the Riverstone draft Causation Study report. This document was prepared by the Leonard Lake Water Team and members of the LLSA board.
 - Upcoming webinar information on the damage caused by road salt.
 - Can you recommend a cottage cleaning service?

LEONARD LAKE CAUSATION STUDY

RiverStone Environmental Solutions Inc. was retained in February 2021 by The District Municipality of Muskoka (DMM) to undertake a Causation Study for Leonard Lake in response to recent cyanobacteria blooms, and to the updated water quality policies in the Muskoka Official Plan.

The Leonard Lake Causation Study results were delayed until November 28, 2022 and at that time a zoom meeting was held by the DMM and Riverstone to present the draft study findings.

The [Riverstone Leonard Lake draft report](#) has been posted on the Engage Muskoka website since December 8, 2022.


A cover letter(see next section) with a summary of issues, and the full LLSA critique were sent to the DMM January 10, 2023. We are indebted to Dr. Ken Riley (Water Team lead and Leonard Lake property owner) for the contribution of time, professional expertise, leadership and commitment to the technical review, research and drafting of the critique. The input from Water Team members and LLSA board members was invaluable in the process, as was the final review, edits and relevant references provided by Dr. Mark Verschoor, a recognized limnologist. Dr. Verschoor was active in the study of our lake in 2017 leading up to the Watson report, and most recently he worked with the LL Water Team on the 2022 algal related project.

The [LLSA critique of the River](#) [Causation Study](#) is not displayed in this EBLAST due to the length of the document, however, the link in this paragraph provides access to the full LLSA critique.

22 (37.9%)

36 (62.1%)

LEONARD LAKE STAKEHOLDERS ASSOCIATION
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January 10, 2023
 District Municipality of Muskoka
 70 Pine Street
 Bracebridge, ON
 P1L 1N3
Attn: Cassie Emms

Riverstone Environmental Solutions Inc.
 47 Quebec Street
 Bracebridge, ON
 P1L 2A5
Attn: Al Shaw

RE: Comments - Causation Study, Leonard Lake, RiverStone Environmental Solutions Inc.

We would like to express our appreciation to the District Municipality of Muskoka (DMM) for funding, implementing, and coordinating the Leonard Lake Causation Study, and to Riverstone Environmental Solutions Inc. (Riverstone) for undertaking and preparing the draft study report.

The LLSA Board and the members of the Leonard Lake water testing team have carefully reviewed the Riverstone draft report with the end goal of supporting the DMM and Riverstone in the finalization of a practical and relevant report that will enlighten stakeholders and lead to the best possible management practices and sound policy decisions. Gaps and omissions are discussed along with supplemental data and research findings that we suggest should be included. We respect the time and effort that has resulted in the completion of this major step – the draft report - and agree that the best way forward is to provide you with direct and candid feedback at this time.



Comments to provide you with direct and varied feedback at this time.

It is our opinion that the Riverstone Leonard Lake Causation Study report in its current state is substantially deficient in evidence to determine the primary causes which lead to algal blooms on the lake, and that the study has not fully addressed the terms of the TOR.

The attached Comments Paper is intended to highlight and describe in detail, a range of issues we have identified in the Riverstone draft study that diminish the effectiveness and relevancy of the Causation Study and the report. Some examples of key issues in the report include:

-Key lines of evidence relevant to Leonard Lake algal blooms were not explored, i.e., the impact of chloride, sampling for reduce iron, recognition of internal nutrient loading.

-The draft report fails to acknowledge that limited data (sampling at only one spot, at one depth, once a year) cannot be construed as representative of the entire lake throughout the entire season.

-The draft report has largely failed to address the TOR issue that states "Determine the extent to which development is causing cyanobacterial blooms.."

-The draft report has recommended few "mitigation actions that can be taken by stakeholders, the district, and others to ensure water quality may be enhanced in the long-term".

-There is little evidence in the report to indicate that Climate Change is the primary contributing factor, (also termed primary driver) for algal blooms in Leonard Lake.

-Much of the Literature Review, Lines of Evidence and Weight of Evidence sections of the draft report are not based on data or evidence specific to Leonard Lake although data exists.

-The 2017 study entitled "Leonard Lake, Water Quality and Agal Blooms", rich in lake specific data and extensive research, is authored by two of the most highly respected specialists in Harmful Algae Blooms and Algal Taxonomy in Canada. Riverstone failed to make use of this highly relevant resource.

-Riverstone has disregarded evidence and extensive data pertinent to the Leonard Lake Causation Study provided by LLSA. One example includes 5 years of Leonard Lake bloom report logs (2017-2021) which contain information on wind, water temperature and associated weather conditions.

Our 2022 Leonard Lake Water Study (report currently in preparation) contains data that we feel is highly relevant to the Leonard Lake specific factors leading to algal blooms and the Causation Study TOR. The report will be finalized in April 2023, beyond the cut-off date of January 13. Some 2022 Leonard Lake Water Study data has been included in the attached Comment Paper, however we believe the learnings from this study are beneficial not just to the Leonard Lake Causation Study but potentially to other lakes experiencing algal blooms.

We would suggest that after you have had time to read and consider the points raised it would be helpful to meet and discuss next steps. We want the lake stakeholders to know that the best possible result comes from the causation study and be assured that we are committed to working collaboratively with both the DMM and Riverstone.

Sincerely,

Mark Scarrow, President
Leonard Lake Stakeholders Association



WEBINAR - JOIN DIRECTOR DR. NORMAN YAN TUES. JAN 24TH

We invite you to a talk with Dr. Norman Yan (with research from Dr. Neil Hutchinson) who will prove that the road salt problem in Muskoka lakes is widespread. It will likely worsen in the future with development pressures and climate change.

Friends of the Muskoka Watershed is working to protect our Muskoka Watershed forever.

To register for the workshop email sandy@fotmw.org

WANTED - RELIABLE CLEANING SERVICE

Good morning LLSA and Happy New Year. I am seeking a cleaning service for our summer home on Glen Gordon Road and would like to ask if any resident on the lake has a recommendation? I would appreciate it if you would email me at ding.dong@sympatico.ca

Sincerely, Vince Dong

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