

The District Municipality of Muskoka
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Attention: Summer Valentine BSc, MPL, MCIP, RPP
Director of Planning

October 20, 2016

Re Planning and Economic Development Committee meeting of October 20, 2016

Please consider my comments regarding “Muskoka Water Quality Model and Policy Review Project” and the “Proposed Official Plan Amendment #45 – Lake System Health Policy Update”.

The July 21, 2016 Appendices “I” and “J”, made available during public consultation on Proposed OPA #45, provide an excellent basis to begin discussion. I ask the committee to acknowledge the federal government as one of the “other stakeholders” as referenced in F.15-17, page 15, Appendix “II” dated September 22, 2016.

According to Environment and Climate Change Canada’s website,

“When it comes to water governance in Canada, the federal government has jurisdiction related to fisheries, navigation, federal lands, and international relations, including responsibilities related to the management of boundary waters shared with the United States, including relations with the International Joint Commission. It also has significant responsibilities for agriculture, health and the environment, and plays a significant role supporting aquatic research and technology, and ensuring national policies and standards are in place on environmental and health-related issues. ...

Water Regulations

Regulations are rules of conduct which the governor-in-council or minister is empowered to make to facilitate the carrying out of an Act of Parliament. Regulations exist under some federal water-related legislation (e.g., Fisheries Act, International River Improvements Act), but not others (e.g., Canada Water Act).

Water quality regulations

Ideally, polluting contaminants should be prevented from entering the water. At the most, in some circumstances, they can be allowed only in low concentrations. All provinces and territories in Canada have pollution control regulations. In deciding which substances to control, and to determine their concentrations and how they may enter the environment, a number of questions have to be asked, including:

- what are the sources, amounts and effects of various substances?
- what happens to them and what do they do after they have entered the water? do they change? to what?
- where do the substances end up?
- can they be prevented from reaching the water body or removed by treatment?

An example of a substance successfully regulated to reduce pollution is the phosphate found in laundry detergents. The Canadian Environmental Protection Act (CEPA) regulates many of the substances that have a deleterious effect on the environment.”

- <https://www.ec.gc.ca/eau-water/default.asp?lang=En&n=E05A7F81-1#Introduction>

F.19 and F.20, page 16 of Appendix “II” dated September 22, 2016 acknowledges public concerns and HESL finding that too much emphasis is placed on phosphorus levels. Until Causation studies and environmental stresses are comprehensively identified in a Muskoka Water Quality Model, I respectively request Leonard Lake remain on Appendix “J” and only be removed after remediation results in water quality improvement.

Leonard Lake provides its own particular indicators, to support the view it remains over threshold, is highly sensitive and belongs on the list of over threshold lakes (ie – Appendix “J”). Based on the Final Report from HESL, the July 21, 2016 Appendix stated,

“HESL finds that planning policy based on the Recreational Water Quality Model and with a narrow focus on phosphorus is no longer warranted for several reasons, including:

- the accuracy of the existing model, with results not effectively predicting measured phosphorus levels on a lake specific basis;
- the emergence of multiple environmental stressors that also significantly impact lake health.”

Given the over emphasis on phosphorus, I suggest the list of seven in Appendix J be titled “OVER STRESSED WATERBODIES”, and the list include Leonard Lake, resulting in a list of eight.

For almost sixty years Muskoka remains my second home. I have witnessed degradation to the water quality, the shoreline, and the most important ribbon of life, being the area extending beneath the water’s surface from the shoreline to the centre of the body of water. From shoreline alteration to removal of rocks, stones, vegetation and fallen trees extending into the water, forming part of the natural lake bed.

The District Municipality of Muskoka and the Ministry of Municipal Affairs and Housing, along with all other levels of government and persons accessing the waterways have a duty to “maintain the bed and banks of the watercourse” extending along the lake bottom, where a mere 20 metre buffer zone is incapable of sustaining the water quality of most waterways. I am not referring to the shoreline. The zone I describe is a form of riparian right. The right to maintain the water beds, extending from high water mark into the centre of the water body rests with all persons, property owners and stewards of the lakes and watersheds. If the District has no authority over the “zone” I describe, Appendix “II” should disclose the District’s authority and influence over this area, citing the applicable acts, such as the Planning Act, that permit or limit their authority over this area. Stewardship over water quality begins with recognition of all levels of government having jurisdiction or influence over governance, treatment, and rehabilitation.

Please define “shoreline” as the “high water mark”, and “setback” to include either side of the “high water mark” – providing the District has jurisdiction into the lake beds.

The July 21, 2016 Appendix “I” recommended considering “a wider range of stresses on Muskoka’s lakes, including climate change;

- continue to address water quality in a precautionary manner;
- ensure that while all lakes are worthy of policy protection, certain lakes may require additional environmental examination and potentially additional protection;”

Leonard Lake is deserving of additional environmental examination and additional protection. As the HESL report emphasized “a narrow focus on phosphorus is no longer warranted”, it is recommended to the Committee and the District, that Leonard Lake not be removed from Appendix J, until such time as a Causation Study can be completed. This would be consistent with F.37 of September 22, 2016 version of Appendix “II”.

“Additional water quality indicators” may referenced in F.20, page 16 of Sep 22/16 version of Appendix “II” should be established by Muskoka District Council, in partnership with MNR, MOE, and federal government Acts, Agencies and Departments.

Your September 22, 2016 Report to Chair and Members of the Planning and Economic Development Committee provides comfort towards finalizing proposed OPA # 45.

F.19, under “General Development Policies” of the June 21, 2016 Appendix “I”, stated, “This program has been designed to address recreational water quality only and does not include factors to address fisheries values.”

Notwithstanding this qualification, recreational water quality indicators must not exclude aquatic habitat, including plants, fish, and other natural life forms, including leech, and crayfish.

Please find attached family photographs supporting past activities that are all but extinct on Leonard Lake. Where photographs are not available, the following textual summary will provide examples of key indicators to consider as they may or may not relate to phosphorus levels and Leonard Lake's "stress" level.

During the 1960's, every bay on Leonard Lake had extensive white water lily beds. In most bays, they created the impression of land. On one occasion, our dog jumped out of the canoe and into the water lilies believing the canoe had reached the "shoreline". Fifty years later, the white water lily (*Nymphaea odorata*) is difficult to find, and are nearing extinction on Leonard Lake. The lily beds provided shelter for the bullfrog (refer to attached photo from 1960). The bull frog is nearing extinction on Leonard Lake.

The unusually high pH from acid rain and other external influences may have caused their demise; however, the white water lily takes in phosphorus, and later releases it during the decomposition process in the fall. Have studies into Leonard Lake's state of health considered increasing average water temperatures, declining oxygen levels, increasing pH levels and the impact of lake bed vegetation deterioration when correlating the recent phosphorus levels? If the shoreline has been altered, the tendency is towards increased nutrient enrichment of water from run-off, causing an increase in waterbed vegetation. If humans tend to urbanize the landscape and burn leaves and fallen trees, the natural enrichment of lake has been altered. Could these factors result in skewed phosphorus levels resulting in a false sense of water quality stability on Leonard Lake?

Many cottagers extricated the lilies by hand. Other cottagers acted as stewards for the lily. If swimming near the water lilies during the '60's, a swimmer would guarantee acquiring leeches. These blood suckers were abundant then, but, recent lake data supports the lake's leeches to be near extinction.

The crayfish were abundant in shallow bays, where they would seek shelter under the rock strewn sandy bottoms. Presently, most cottagers have removed the stones, logs and rocks that lined the lake's bed adjacent to the high water mark of Leonard Lake. With the habitat for crayfish destroyed, the crayfish appear to be extinct on Leonard Lake. The lake's ecosystem has been significantly altered.

There are still indigenous crayfish to be found along the banks of the Rouge River, in the city of Toronto. Why have crayfish populations sustained themselves in the Rouge River and become near extinct in Muskoka?

Leonard Lake was considered a fishermen's paradise for small mouth bass, walleye and white fish. The DDT eliminated the walleye. Small mouth bass and white fish are currently rare catches in Leonard Lake. Refer to common catches between the mid '50's to 1980, as evidenced by the attached photographs.

The common loon is nearing extinction on the lake. When walking any of the roads accessing the lake, during the '60's and '70's, it was possible to fill a quart sized container with wild strawberries, wild blueberries, wild raspberries and wild blackberries, as the summer season progressed. These berries are now near extinction.

With no natural plant life remaining in the lake, with ecosystems destroyed, with fish, leech and crayfish populations near extinction, is it possible the natural phosphorus levels in the lake have diminished?

The lake is becoming sterile, yet water clarity has not returned to the depths we observed in the '60's and '70's.

The most symbolic pictures attached compares a mid '60's photograph of one tree island, where Lawrence Jay and I were exploring the island. The one tree and brush have long since departed, but the skeleton of an island remains, as a bare rock formation protruding from beneath the lake's surface.

Your plans and efforts to provide protection for the lakes and rivers are appreciated and I thank-you for the opportunity to speak to the water quality model.

Thank-you,

Bill Tryon
Leonard Lake