

Shoreline Health Study Results

The shoreline health study lake-wide results are in! You may recall that over the summer of 2015, the KLCA worked with the CHA (Coalition of Haliburton Property Owners' Associations) to study the health of the shoreline around Bear and Kawagama Lakes. The study was completed by two specially trained environmental science university students who were billeted and boated around the shorelines of Bear and Kawagama by generous volunteer cottagers and residents. The students used a protocol from Watersheds Canada and Canadian Wildlife Federation's "Love Your Lake" Program (www.loveyourlake.ca). The study classified the percent of shoreline according to four categories:

1. Natural — Shoreline is in its "original" natural state.
2. Regenerative — natural vegetation has been removed in the past but is in the process of growing back to a natural state.
3. Ornamental — All natural vegetation has been removed and replaced with a mowed lawn or other non-native species; structures such as docks, decks, boathouses, ramps, etc. are predominantly present at the shoreline.
4. Degraded — Natural vegetation has been lost; soil erosion, undercutting of the bank, and / or exposed roots or shrubs and trees is significant.

Studies have shown that unless 75% of the shoreline is in a natural state, water quality will degrade over time. There is a strong argument to include the "Regenerative" portion of the lake with the "Natural", as it is hopefully shoreline returning to its natural state (passively or actively). Unfortunately there is no known conversion factor to equate a % Regenerative to % Natural. It is known that Regenerative is not as beneficial as Natural.

Please keep in mind that from a lake health perspective, Regenerative shoreline may not provide the same benefits as Natural because:

- The vegetation roots may not be as well developed or deep.
- Vegetation may not be as diverse – diversity aids in fish and wildlife habitat and runoff control.
- A Regenerative shoreline typically does not provide the fallen logs, branches in the water or shade that provide vitally important fish habitat.

The results for each property on Bear and Kawagama (who did not opt out) were sent *only* to the property owner(s), and privacy has been strictly maintained. For those who opted out their properties were not studied. Lake-wide results for Kawagama and Bear Lakes are now in and are shown in Table 1 on the next page.

You may note an apparent discrepancy between these results and the Muskoka Watershed Report Card Subwatershed data published on page 60 in this year's Reflections. This is a result of the Report Card data including considerable undeveloped backcountry areas, while the shoreline study focussed only on the shoreline surrounding Bear and Kawagama Lakes.

Table 1: Bear & Kawagama Lake-wide Shoreline Results

Shoreline Classification	Bear	Kawagama	Average to Date
Natural	36 %	58 %	48 %
Regenerative	41 %	23 %	27 %
Ornamental	23 %	19 %	24 %
Degraded	0 %	0 %	0 %
Natural + Regenerative	77 %	81 %	75 %

Note: Average to Date is based upon 795 km of shoreline around 47 lakes in Haliburton County studied to date.

What does this mean?

1. Bear can be described as being a bit of a concern given its low % Natural; however, this is mitigated, to an extent, by the % Regenerative. It is safe to say that because the combined total of 77% is barely above the 75% threshold a modest concern remains for the future health of Bear Lake. It ranked in the middle of the 47 lakes studied to date. In other words there were 23 lakes that scored worse and 23 lakes that scored better.
2. Kawagama, with its significantly higher % Natural and a combined total of 81%, is in better shape than Bear. While the combined total is only marginally better than Bear Lake there is considerably more shoreline in a Natural state. Of the 47 lakes studied to date, 13 had a combined % higher than Kawagama and 33 had lower.
3. Another mitigating factor in favour of both Bear and Kawagama is the fact our headwater is coming out of Algonquin Park. Regardless though, while there is not an urgency to working on the shoreline there is room for some improvement in order to retain the water quality we enjoy.
4. There is always a need for improvement, especially as climate change progresses. If you are interested in improving the health of your shoreline, it's best to start with areas that have been classified as **Ornamental or Degraded**. The property report sent to participating property owners provided extensive resource material for ideas on what to do and who to contact for assistance. If nothing else, we should all keep as much of our shoreline in a Natural and/or Regenerative state as possible and try to restore areas that we can. This will help Kawagama and Bear Lakes obtain 75% Natural as we move forward!

Restoration Grants of \$2250.00 have been provided to fund two restoration projects — one in Bear Lake (Middlebrook), the other on Kawagama (Wiebe). These are two outstanding examples of restoring shoreline to a much more environmentally healthy, natural environment that is also more aesthetically pleasing. In other words, shoreline restorations can be good for the environment *and* improve the looks of the property. Grants may still be available to assist you in shoreline restoration. If you have any questions please contact us at shoreline@klca.org.

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