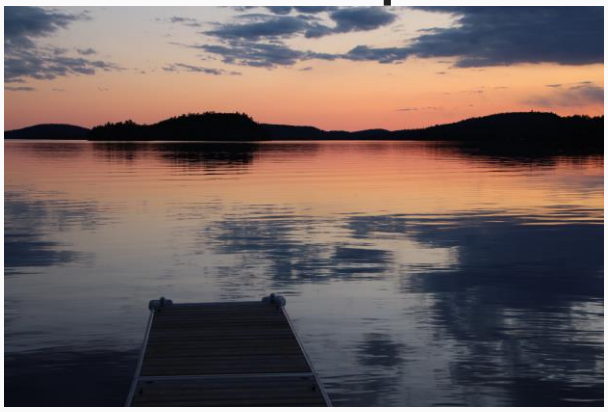
KLCA Newsletter - June 2020
"Preserve the Heritage"

Welcome to another season of KLCA Newsletters for 2020!

We hope you enjoy the information shared with you in these newsletters. If you have any ideas or suggestions for things that you would like to read more about or if you have anything that you would like to contribute, please email the editor at, info@klca.org. Have a great cottage season!

Lake Levels Report



The most recent dramatic event in the Muskoka Watershed occurred in the spring of 2019, and involved severe flooding of shoreline properties in many

districts and hardship in many areas, especially in the communities of Bracebridge and Huntsville. Fortunately, the adverse effects on Kawagama and Bear lakes were somewhat limited. Minden and other communities in the Trent – Severn Waterways were also affected.

In response to the above, the Minister of Natural Resources and Forestry appointed as a Special Advisor on Flooding, Douglas McNeil of McNeil Consulting Inc. in Winnipeg, to make recommendations to improve the existing flood policy framework. Following an extensive review, including attending a number of regional meetings, Mr. McNeil deposited his 157 page report on October 2019. There were 66 recommendations. It was an impressive piece of work. Would the report gather dust or would it see the light of day? On March 10, 2020, in Minden, Minister Yakabuski, at a meeting regarding flooding, made reference to the Report and so he had at least read it!

Several of the Report`s observations should be of interest to Kawagama and Bear Lake residents.

- The flooding was caused by a number of severe environmental events. The MNRF was not found to be negligent in any way.
- The dams in the Muskoka Watershed were not designed and cannot serve as flood control structures.
- Even if the dams could serve as flood control structures, no lake or reservoir capacity is available to accommodate flood waters. This is a very important observation for our two lakes, and counters the repeated demands of some Muskoka communities over the years, to restrict flow from the upper reaches of the watershed in times of spring flooding.
- Historically the large lakes in the watershed, were designated as navigation lakes and their lake levels were managed in order to minimise lake level fluctuation. The same could not be said of Kawagama and Bear lakes. Prior to 2006, Kawagama Targeted levels were a low of 353.8m to a high of 355.8m, a difference of 2 meters or 6.5 ft! Post 2006 the targeted fluctuation was reduced to 1 meter. In the past, with minimal water level fluctuation in the large lakes, the elaborate boathouses were designed and built with this in mind. The recent flooding and ice damage has certainly changed the outlook for these structures.

- Although floodplain mapping had been carried out many years ago, the pressure to develop shoreline structures was such that some municipalities permitted extensive development in floodplain areas, resulting in significant flooding and property damage recently. Fortunately, the topography of the shoreline in our lakes means that floodplains here are few and far between.

K.L.C.A. / M.N.R.F. Relations

On March 20th , a meeting was held with a Water Management Specialist, at the MNRF offices in Bracebridge. An annual face to face meeting with the M.N.R.F. is felt to be important in order to remind them where we are, and that we monitor lake levels closely.

The management of the dam here in the spring of 2019, was instrumental in our lakes escaping the brunt of the flooding. The torrent of water released down the Hollow River during the flooding was something to experience. The MNRF approach to the handling of the watershed challenges, in March and April, has undergone a significant change. When the Muskoka River Water Management Plan (M.R.W.M.P.) was adopted in 2006 it stipulated that March 15th would be the start date to begin to “fill” the lakes. The KLCA endorsed the change because it reduced the spring water level fluctuation for our lake to only one meter, and it was predicted that it would prevent the lake trout fry from being left high and dry in some locations, thus possibly increasing the lake trout population.

Given over 10 years of experience in the implementation of the March 15th start date, the results have been less than satisfactory. Studies of the Kawagama Lake trout population over the years, has not shown any significant increase in numbers. The massive rains in March of 2013, resulted in a request that Muskoka lake levels be reduced in March to the bottom of the Normal Operating Zone, in order to minimize flooding in that area. In response, and following a review by the MNRF, it was recognized that having a fixed date of March 15th for the whole watershed just wasn`t manageable. Climatic conditions vary from year to year, and with wide differences in snow pack amounts and water content, combined with widely different temperatures at that time of the year,

the “fill” dates had to vary from year to year. The result is that the start of the “fill” is totally dependent on the climate and not on the placement of logs in the dams. For Kawagama, the 2019 start date was April 8th. For 2020 the start date was March 9 th.

M.R.W.M.P. Amendments

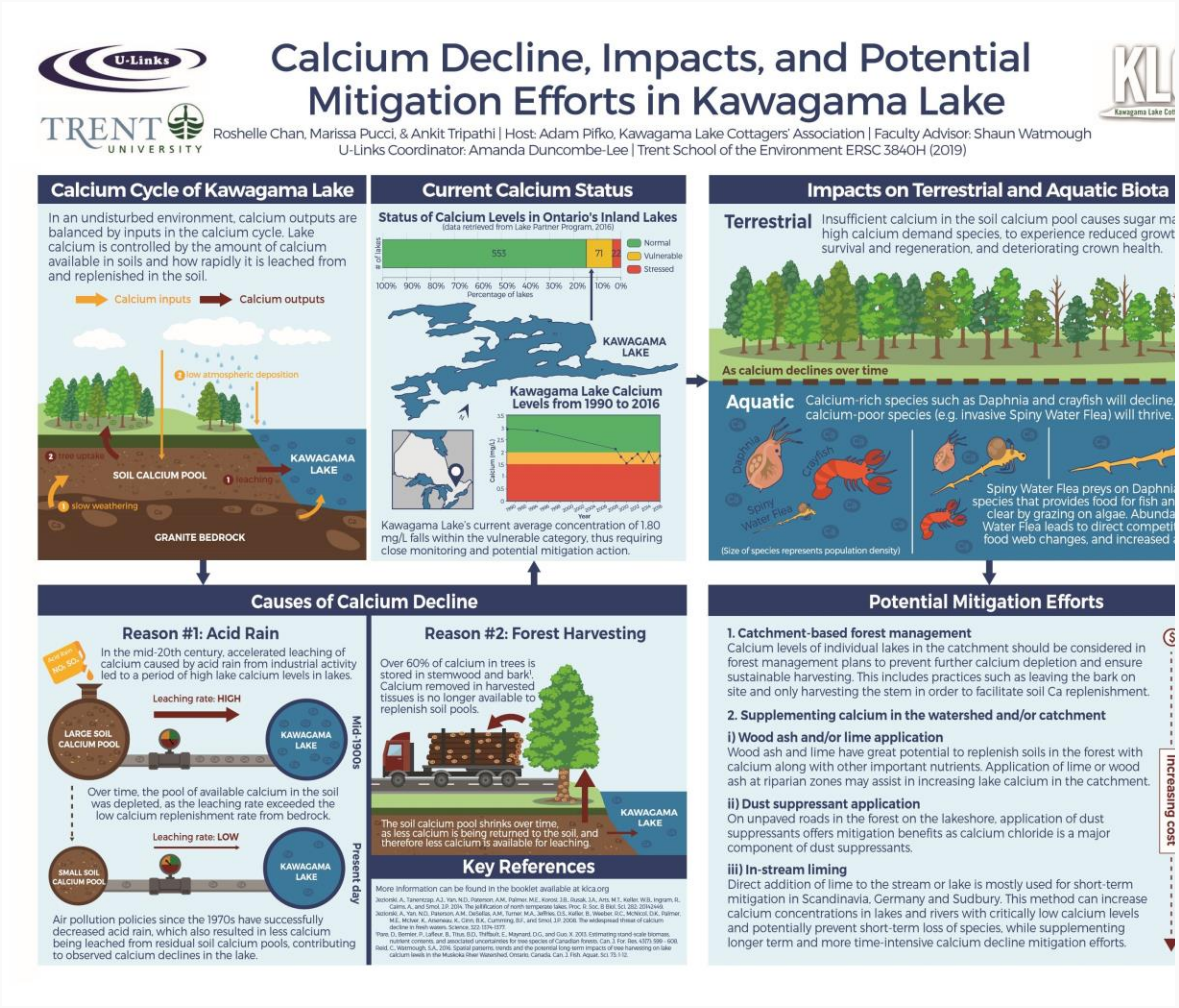
When the Plan was adopted in 2006, it was set to expire in 2016. It was hoped that all stakeholders which includes the K.L.C.A. would have an opportunity to report on their experiences, both positive and negative. This didn`t happen and the government, in a Technical Bulletin, made it clear that wide public consultation would not take place. A detailed, expensive and complex formula for requesting amendments was laid out. When the MNRF was asked if there is interest in amending the Plan, the reply was that there is all kinds of interest, from the population, stakeholders and municipalities, however little if anything has been accomplished. The process is very complex and expensive.

A K.L.C.A. request for amendments is almost out of the question, given the cost, the effort and the difficulty in developing widespread consensus in our community. Hopefully in the future, all stakeholders will be given the opportunity to advance suggestions for change.

Click here for more Lake Levels Information. https://klca.org/water-levels

Chair of the KLCA Committee on Lake Levels
Eric Millar

Kawagama Lake and Bear Lake Calcium Decline Project 2 (KLCA – U-Links – Trent University)



In the spring of 2019 a three-member team from Trent University completed a project for the KLCA that focused on calcium decline, impacts and potential mitigation efforts for Kawagama Lake and Bear Lake.

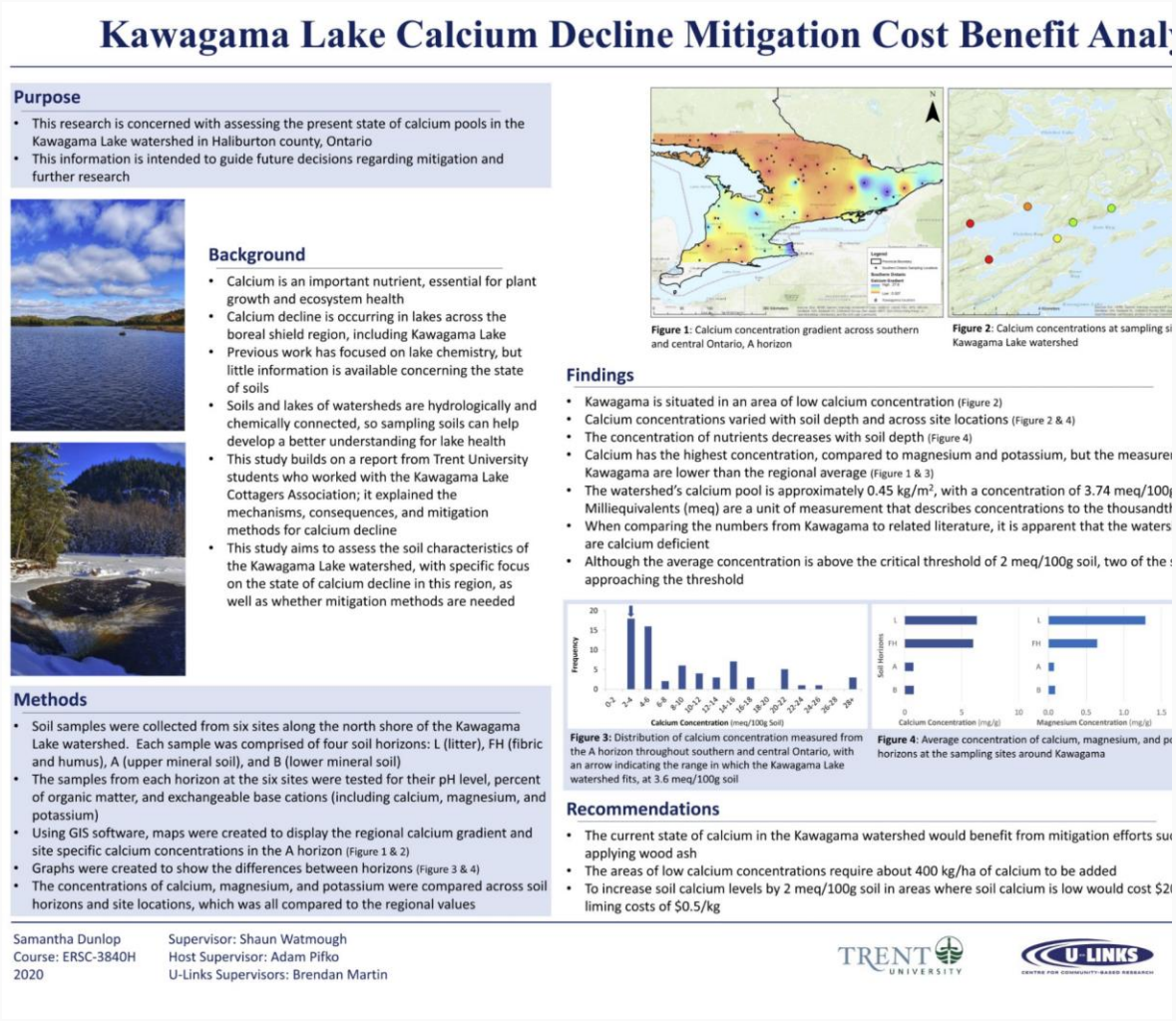
Calcium has been declining in Kawagama Lake due to historic and ongoing acid deposition. These declining calcium levels can have a negative impact on the aquatic food-chain and can thus affect the growth of various sport fish.

The project involved the consolidation of past research (a literature review) to understand the reasons behind this calcium loss in freshwater lakes (specifically Kawagama Lake), and the impacts of this decline on aquatic life, in addition to recommendations for action that can be taken to reduce this decrease.

In the fall of 2019, a second project was established with the U-Links and Trent University. The students involved in this project expanded on the previous project by performing in field sampling around Kawagama Lake and Bear Lake. The field sampling included the collection of soil samples from around both Kawagama and Bear. The samples were tested for pH level, percent of organic matter, calcium, magnesium, and potassium. These test values were then compared to regional values. Although the average Ca2+ levels around Kawagama were above the critical threshold, two of the sampling sites were recorded at this threshold and two other sites were approaching this critical value Ca2+ levels in this region are near the critical threshold of 2 meq/100g soil.

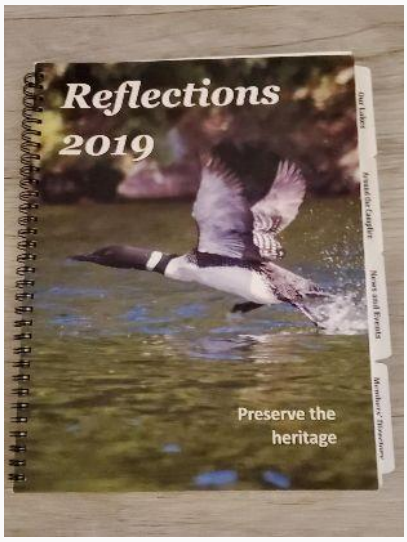
The recommendation provided by this study suggest a one-time application of dolomitic limestone to the soil. It proposes purchasing bags of dolomitic limestone from local co-ops or hardware stores to distribute into the soil at a ratio of 0.4 metric tons of limestone per hectare (162kg/acre). Since changes in soils occur slowly, monitoring would need to be conducted every five to ten years to reassess the state of calcium pools in the watershed and determine the frequency and quantity of reapplication.

At this point the KLCA is not recommending the application of dolomitic limestone. The studies suggested application amount is based on the average required in the surrounding area. More comprehensive soil sampling would be necessary around the lake to provide better guidance on the appropriate amount of dolomitic limestone concentration required and we would need specific guidance from experts before making recommendations to our membership.



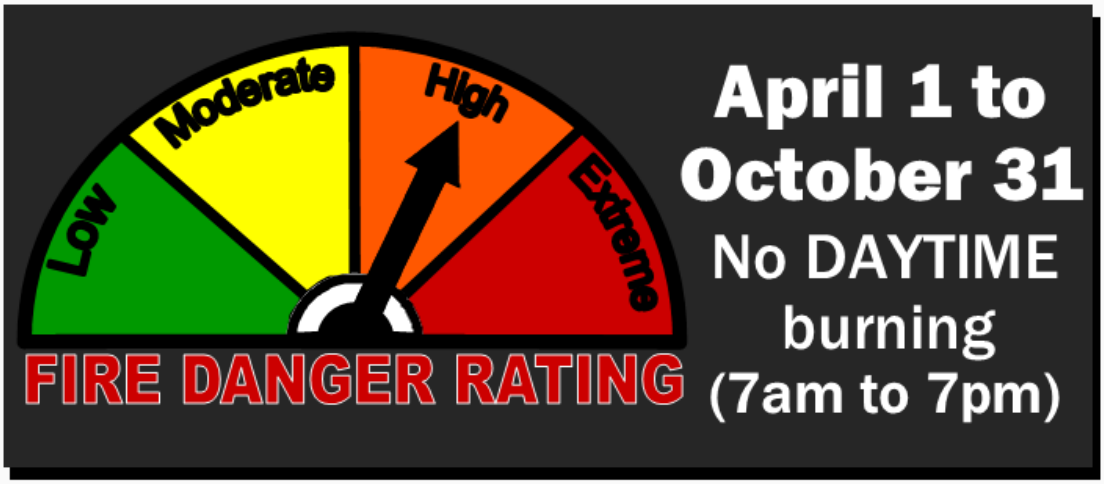
To see these posters in a larger format, please click on these links: https://static1.squarespace.com/static/5a731fbe914e6b798dad0a38/t/5ebaa6e5b9b26c763041a58c/1589290732888/KL+Ca+decline+mitigate+poster+compressed+-+Samantha+Dunlop+2020.pdf and https://static1.squarespace.com/static/5a731fbe914e6b798dad0a38/t/5cec6e55085229ffac177b44/1558998620046/FinalDraft+%281%29.pdf

Reflections Update



If you haven't received your copy of *Reflections* yet, you should be receiving it soon! Unfortunately, due to an error, the cover says 2019 instead of 2020. Despite that (or maybe because of that, given the way 2020 has started!), I hope you enjoy the yearbook and find it adds to your enjoyment of our lakes.

If you do not receive a copy of *Reflections* and believe that you should have, please check the status of your membership. You can check by logging into www.klca.org or by emailing membership@klca.org.



Watch out for Turtles!

It's springtime and the conditions are ideal for major turtle migrations, but also ideal conditions for an increase in turtle mortality from road accidents. Turtles can take more than 30 years to replace themselves and are an important part of our aquatic biodiversity. This is a friendly reminder to watch out on roads,

especially from May to July 1, for these invaluable friends. For tips and a video about what to do if you see a turtle crossing the road,
visit: https://www.turtleguardians.com/helping-a-turtle-across-the-road/
(re-printed from FOCA elert, May 2020)

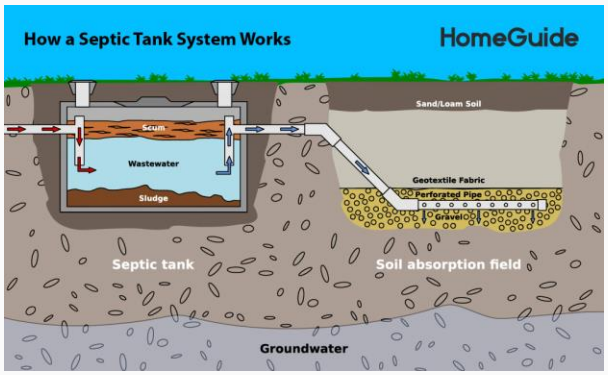
2020 Septic Re-Inspection Program:

As a result of the Covid-19 pandemic, year three of the septic re-inspection will be a voluntary participation for property owners scheduled to be inspected.

WSP Canada will be issuing notices, to property owners, in the year three areas on or before the end of June 2020. Property owners receiving notices who wish to have their inspection completed are to contact WSP to arrange an inspection date and time. Property owners who do not take part this year in the re-inspection program will be required to have an inspection completed in 2021.

Persons who request an inspection this year and fail to be present, on the date they pre-arranged with WSP, will be charged a No-Show Inspection Fee.

For more information, please contact the township of Algonquin Highlands or check out their website at; https://www.algonquinhighlands.ca/



Benthic Bio-Monitoring Update 2020

What is biomonitoring?

Biomonitoring samples benthic macro-invertebrates to measure lake health.

What are benthic macro-invertebrates?

Benthic macro-invertebrates are aquatic "bugs" that live on the bottom of a stream, river or lake. Aquatic worms, insects and crustaceans make up the bulk of our benthic macro-invertebrate samples.

Why do we monitor benthic macro-invertebrates?

Conventional water quality sampling consists of sampling at a specific point in time, that few minutes that it takes to collect a sample. Although this sampling provides great information for the specific time sampled, it does not necessarily tell us what is happening in the lake over the remainder of the year.

Benthic invertebrates live in a lake for up to three years. During this time, they are exposed to the full range of water quality conditions present in the lake. Some species require excellent water quality to survive while others are quite tolerant of pollution. By looking at the different species present at a sampling site, we can identify whether lake health is good, fair or poor.

Monitoring of benthic invertebrates allows us to answer several important questions: “Is development impacting lake health?” “Are our lakes becoming healthier or more degraded over time?” “Where will our stewardship activities be

most effective?" "Are our stewardship activities resulting in water quality improvements?" Find out more about benthic biomonitoring here.

Benthic Biomonitoring Project 2019

In October of 2019 two students came to Kawagama Lake and Bear Lake to sample various sites on the lake. The students then went through all the samples to identify the various benthic invertebrates that exist. The project looked to answer the following three main questions.

1. What benthic invertebrate communities exist in Kawagama Lake and Bear Lake?
2. Do the benthic invertebrate communities represent a healthy or impacted aquatic environment compared to similar lakes?
3. What do benthic invertebrate communities and water quality testing show us about the level of eutrophication on the lake and other water quality concerns?

The following is link is to the update provided in October 2019

Read more about the project in KLCA VP Adam Pifko's announcement here.

Conclusion of the 2019 Study

Monitoring the benthic invertebrate community of a lake can provide insight to the state of the lake's health, as well as act as an early warning system to degradation of water quality. The initial stages of this long-term monitoring program focused on establishing a baseline dataset of the benthic community at sites around the lake predicted to be impacted by human activities and sites predicted to be non-impacted. The areas of concern regarding water quality and aquatic ecosystem health included Fletcher's Bay near the inflow from the MClintock septage site as well as in Marina Bay near the marinas.
Estimations of benthic community richness, diversity, and pollution tolerance at the suspected impacted site near the marinas reveal that there is little concern to water quality and ecosystem health, although a more representative site would provide better insight. Estimations from the impacted site near the septage inflow in Fletcher's Bay indicate that there is likely to be some organic pollution degrading water quality and altering the benthic community structure. Despite pollution tolerance indices suggesting a decrease in water quality at this

site, richness and diversity estimations suggest that the benthic community and the ecosystem remain in good health.
Going forward with this monitoring program, it is recommended that steps be taken to improve the sampling process in order to get more accurate data that can address all of the KLCA's concerns. Such improvements include increasing the number of sample sites as well as ensuring those sites will be possible to sample in the fall when the water level is low. The addition of a team of sample pickers will greatly increase the efficiency of the sampling process and allow more sites to be sampled over a two-day time span.
Kawagama Lake and Bear Lake Final Report

Benthic Biomonitoring Project 2020

Benthic Biomonitoring will continue this year. New social distancing protocols have been put in place by U-Links that will allow them to continue with this project this year. The discussions that the KLCA has had with U-Links this year have focused on expanding the number of sites sampled. At this time the strategy will be to divide the lake into sections and deploy more than one sample team into these areas to increase the number of sites sampled. By increasing the overall number of sites sampled, the objective it to establish a better current measure of the complete health of the lake. This more complete picture of the lake health will help us monitor changes and answer the following questions.

1. What do the benthic invertebrate communities in Fletcher Bay and Marina Bay indicate about the water quality in these areas?
2. What do the benthic invertebrate communities for more densely populated areas on the lake show about the levels of eutrophication of these areas?
3. How do the results of these samples compare to the samples taken last year?

REGATTA/FIREWORKS CANCELLED FOR SUMMER 2020

It is unfortunate but necessary. The KLCA will be cancelling the Regatta and Fireworks for this summer t ensure everyone's safety. We look forward to seeing everyone next summer!

If you are interested in creating a "regatta" at your cottage and would like take pictures of what you are doing, we would love to see and share ther Some ideas will be posted in the next newsletter.

Please reach out to Kimberley.daries@peelsb.com

Signs of Spring

The Ministry of Natural Resources and Forestry and the Ontario Provincial Police remind Ontario residents to exercise caution as bears come out of hibernation this spring. Get tips for your home and neighbourhood, and find out what to do if you DO sight a bear, here: https://news.ontario.ca/mnr/en/2020/04/be-bear-wise-and-prevent-bear-encounters.html

What's been grazing in my lake?

Here are some clues

- If you go for a swim in a very healthy lake and get a mouthful of water - chances are good that you will have 2-3 of them in your mouth.
- They are nicknamed the *Living Lawnmowers of the Lake*
- They are voracious eaters of Algae including the dreaded Blue Green Algae
- They need Calcium to live and salt is not good for them
- In many lakes they are threatened

Here is a picture of one

They are Daphnia and are one of the greatest friends our lakes can have! Unfortunately the calcium they need to live on is declining and in many

Highlands lakes is already at a level where the Daphnia are dying off. According to the *Lake Health Report for the Haliburton Highlands* 17% of our lakes already have calcium levels low enough that the Daphnia are threatened.

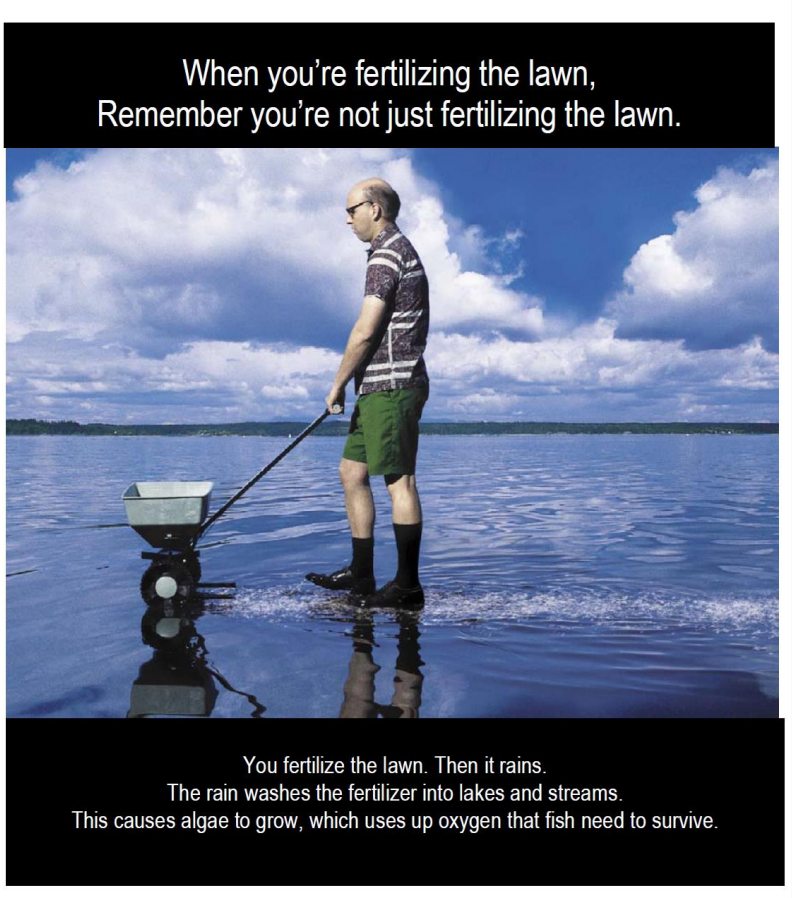
Now there is a new problem threatening our Daphnia. The MECP at Dorset has just published a study showing that the accumulation of Road Salt in our lakes – particularly those close to Highways- is killing off 6 different species of Daphnia.

What can be done? – A group in Muskoka is working on a potential solutions but they may be years away.
Is my lake one of the lakes with low calcium? – check your copy of *The Lake Health Report*
What else can we do – the decline of Daphnia is one of many new and growing threats to the health of our lakes so it is even more important that we focus on the 2 biggest things we can do to protect our lakes

- Natural shorelines with deep rooted vegetation – keeping what we have and renaturalization of what we have lost
- Keep our septic systems healthy

Author Paul MacInnes is Chair of the C.H.A.
Info sources – MECP Dorset, Dr Norman Yan and Friends of the Muskoka Watershed

The Lake Health Report in non-pandemic times is available at Organic Times in Minden and Northern Expressions- Haliburton



Member Discounts

As as member of the KLCA, you are also a member of FOCA (Federation of Ontario Cottagers). Did you know there are many discounts and benefits available to you? Please click here for more details.
https://foca.on.ca/member-services/benefits/

Our mailing address is:
KLCA
P.O. Box 98
Dorset, ON
P0A 1A0

Newsletter Editor: Alisa VanDerToorn