

Otter Lake Landowners Association

Otter Lake News

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Spring 2021

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Message from the President

The ice is gone and it's time to begin another season here at Otter Lake. The winter here wasn't too bad. No really bad snow storms, no ice storms, no super cold temperatures and, unfortunately, no company. When I think back to a year ago, most of us were expecting COVID to be done by the end of the year. That certainly was not the case. On the brighter side, vaccines are now rolling out. Given the current schedule though, I think we're in for another quiet summer here. We will minimize our physical presence and put that energy into other methods of communication. Our Annual General Meeting will again be a "virtual" one. If we all continue to abide by the rules, we will get through this.

The Board of Directors have definitely not been idle during the winter. We've used ZOOM and our

telephones to keep in touch with each other as well as with our contacts at the Rideau Valley Conservation Authority (RVCA), the Township of Rideau Lakes (TRL), the Ministry of Natural Resources and Forests (MNRF) and many other organizations. In this newsletter you will read about some of the items we've been working on including an updated State of the Lake Report, invasive species, species at risk, fish habitats, climate change, the often dreaded septic inspection and even garbage collection. Also, coming very soon: a completely revamped web site from which to locate the latest news and events (links), lake health and much more! Stay tuned for email notices on this spring's OLLA web site launch... just in time for cottage season.

I sincerely thank the members of the Board and the other individuals who have put such great effort into maintaining and even improving the health of the lake and the quality of life in and around it. Many of the activities we want to pursue this year can be done while respecting COVID protocols. The Board of Directors is fully engaged, but, for some of the initiatives we will be reaching out to you, the members of OLLA. Stay tuned!

Jeff

jeff.neal.o7a@gmail.com

Introducing Our New Logo!

Submitted by Susan Thum

In this issue we are pleased to unveil our new logo. Our previous logo served us well over the years, but with the revamp of our website the logo refresh was a natural progression. Many thanks to board member

Eric Hempell who collaborated with Artist Charlotte Poon on the design presented in the banner at the top of page 1.

Eric describes the logo and what it represents, as follows:

"I hope it will be seen from many different perspectives and that everyone who sees it makes it their own, but this is what I see in it and why I feel that it represents OLLA.

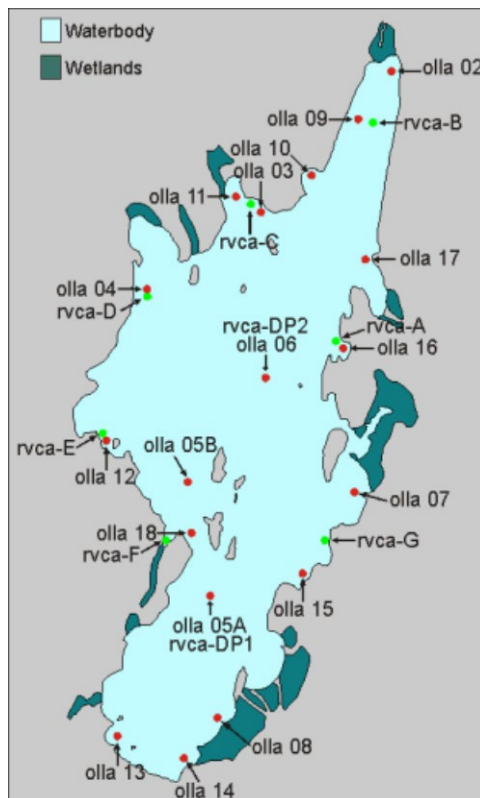
OLLA's stewardship of Otter Lake is what the logo is all about.

- a shoreline where our worlds meet and nature shares it's wonders with us
- the fauna we see is also looking back at us, relaxed and trusting us
- the chick is a reminder of future generations inheriting this habitat
- the otter reminds us to playfully enjoy the fruits of our labour
- ripples of OLLA affect every part of the lake and its inhabitants, local and downstream
- font chosen to look organic and weathered, like OLLA is in harmony with nature "

Lake Steward's Report - 2020

Submitted by Doug Franks

Water quality testing is an important diagnostic tool to help residents of Otter Lake monitor the health of the lake. The ecological and trophic status of a lake is generally determined by the levels of nutrients it contains and these are what we (OLLA) and RVCA measure at different sites around the lake at least three or four times a year. OLLA and RVCA's test sites are shown on the map on the left.



The sites have been chosen to be representative of the whole lake. Sites 05A, 05B and 06 represent the three deepest water sites (more than 90ft). Sites 04, 07, 08, 11 and 18 are in areas where there are known inflows from streams and wetlands into the lake. Other sites are in shallow bays where there is an increased tendency for weed and algae growth.

An overview of Factors that Influencing Water Quality

Recreational water quality can be expressed in terms of how clear the water appears. Water clarity is influenced by the amount of soil sediment and phytoplankton, or microscopic algae that are present in the water. Clarity is measured by a simple visual test using a Secchi Disk, 20-centimeter black and white disk attached to a measured line. The disk is then lowered into the lake until it is no longer visible and the depth recorded.

Nutrients & Bacteria

Information on water quality is gained through analysis of samples for nutrients, specifically phosphorus and nitrogen, which gives an indication of how much nutrient and energy is available for the growth of algae and aquatic plants.

Nitrogen is an important and essential nutrient in aquatic ecosystems. In addition to fertilizers, agricultural waste and wastewater contribute nitrogen into lakes. In large amounts, ammonia and nitrates can be toxic to aquatic organisms. Total Kjeldahl Nitrogen (TKN) which is what we measure determines the concentration of all forms of nitrogen in the lake. While there currently are no guidelines for acceptable levels of TKN, according to RVCA, TKN in water bodies not influenced by excessive organic inputs typically range from 100 to 500 µg/L.

Phosphorous is generally recognized as the limiting nutrient in freshwater ecosystems and the major nutrient contributing to eutrophication in lakes. Since phosphorous is the principal source of energy for all living organisms the amount of phosphorous in the environment will determine how fast an organism grows and proliferates.

Phosphorus is therefore the principal limiting factor in the growth of algae, meaning that algae growth will occur in greater amounts as more phosphorus is added to a lake. It should be born in mind that a conventional septic system cannot do much with phosphorous. Any phosphorous that enters a septic system from phosphorous containing detergents will emerge intact, enter the water table and eventually the lake. Phosphorus levels below 5 µg/L are typical of **oligotrophic** lakes that generally are clear and deep with few nutrients. Such lakes are typically found in the northern regions of Ontario. Phosphorous levels above 20 µg/L are typical of **eutrophic** lakes that are laden with nutrients which lead to excessive algae and plant growth. **Mesotrophic** lakes are in between these two extremes and are typical of the lakes found in our region of Ontario.

Bacteria are present in all lakes, they will be found in the feces of the wildlife (fish, waterfowl, beavers, etc.) that inhabit the lake. Coliforms are bacteria found in the large intestine of humans and other mammals and are usually present in soil. While some strains of coliforms do produce toxins, most are not harmful to humans. Some such as *Escherichia coli* (*E. Coli*) do produce pathogenic toxins. Therefore, levels of *E. Coli* are often used as indicators of possible contamination by fecal matter. Thus, high *E. Coli* levels in lakes or rivers can be an indication of septic pollution. The recommended safety level of *E. Coli* in a lake for recreational safety is not more than 100 colony-forming units (cfu) per 100ml of water. *E.coli* at any level is unacceptable for drinking water. Therefore, some form of treatment and purification is necessary for anyone who draws water from the lake for drinking purposes.

Dissolved oxygen (DO) is a measure of how much oxygen is dissolved in the water and the amount of oxygen available to living aquatic organisms. Without DO a lake would be totally without any aquatic life. The amount of dissolved oxygen in a lake can tell us a lot about its water quality. Although water molecules contain an oxygen atom, this oxygen is not available to aquatic organisms living in natural waters. A small amount of oxygen, up to about

14mg/L, is dissolved in water. Oxygen enters a lake from the atmosphere by wave action and from inflow streams. This dissolved oxygen is breathed by fish and zooplankton and is needed by them to survive. However, the concentration of dissolved oxygen in lakes is affected by temperature and has well defined seasonal cycles.

Testing in 2020 was a challenge for both OLLA and RVCA because of the COVID pandemic. Safe distancing in a small boat was virtually impossible to achieve and restrictions were implemented by Caduceon Labs that performs testing of surface water samples. Hence, OLLA believed water sampling could not be safely performed and did not sample in 2020. RVCA was able to achieve reduced sampling and testing of surface water in some lakes in the Rideau Valley watershed including Otter Lake. The results of water testing in 2020 are shown in the table below.

Water Quality Data - 2020																		
RVCA ID	OLLA ID	Total Coliform (cfu/100 ml)			E. Coli (cfu/100 ml)			Total Kjeldahl nitrogen (µg/l)				Total Phosphorous (µg/l)				Secchi Disk (meters)		
		Jun	Jul	Aug	Jun	Jul	Aug	Jun	Jul	Aug	Oct	Jun	Jul	Aug	Oct	Jun	Aug	Oct
RVL-26C	OLLA 03				5		0	400		400		7		4				
RVL-26DP1	OLLA 05A							400	700	300	8	9	2	5.50			6.00	
RVL-26DP3	OLLA 06							400	400	400	6	6	0	5.00			5.50	
RVL-26B	OLLA 09				0		3	400			8		5					
RVL-26E	OLLA 12																	
RVL-26F	OLLA 18				1		2	400		400		5		9				
Average							1.83		433.33				6.70				5.25	
Std. Error							1.77		100.00				1.77				0.35	
Oligotrophic									310 - 1160				3 - 18				5.4 - 28	
Mesotrophic									360 - 1400				11 - 96				1.5 - 8.1	
Eutrophic									390 - 6100				16 - 390				0.8 - 7.0	

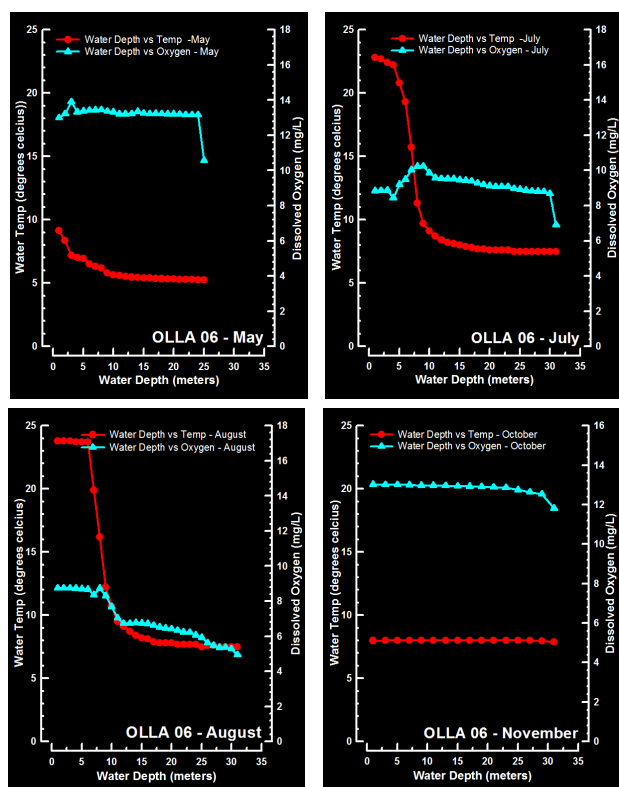
The results indicate that the trend that has been seen for the past five years remains the same. Low levels of *E. coli* were detected at some sites tested. These low values do NOT present a health hazard for swimming since in Ontario' public beaches are closed only when *E. coli* levels exceed 100 cfu/100ml.

Total Kjeldahl Nitrogen levels were in the acceptable range of between 200 - 500 µg/L, very similar to previous years. As for phosphorous, none of the sites tested had values greater than 10 µg/L and the average for the year was less than 7 µg/L, the lowest ever recorded for Otter Lake. Secchi depth readings were again between 5 and 6 meters indicating that the lake remains very clear and there were few algae blooms last summer despite the hot weather.

Therefore, Otter Lake is now one of very few lakes that is classified as oligotrophic which is quite unusual

for lakes for this area. The only other lake classified as oligotrophic is Wolfe Lake. Most oligotrophic lakes are usually found much further North.

OLLA does not have the sophisticated (and expensive) equipment required to measure DO. However RVCA does perform measurements of water temperature and DO usually 4 times per year in May, July, August and October or November at two of our deep water sites OLLA 5A and OLLA O6. Typical results obtained by RVCA in recent years are shown in the following graphs.



During the winter months when the lake is frozen over the water below the ice equilibrates to a temperature of 4 degrees Celsius (at which temperature water is at its maximum density). Since cold water can hold more dissolved oxygen than warm water. In winter and early spring, when the water temperature is still low, the DO concentration is high since no thermal gradient is established. In July the water has become stratified with a layer of warm water at the surface and colder water below the thermocline. As a result the DO concentration drops significantly. By August there is very steep drop in water temperature and a well-established

thermocline at 10 meters depth. Hence the DO concentration drops significantly below the thermocline since the DO at this depth can no longer be replenished. However, by November the water temperature has dropped to below 10 degrees, there is no more thermocline and DO concentrations return to the levels seen in the early spring. Cold water fish such as all species of trout live in the cold water below the hypolimnion and will not survive if DO levels fall below 4mg/L. While Otter Lake is not currently characterized as a "trout" lake the DO levels we experience at present would indicate that the lake would support species of trout if they were introduced.

Septic Inspection

Submitted by Karl Fiander

OLLA was advised officially on March 25 that the Township will be conducting a mandatory septic inspection of all waterfront properties on Otter Lake and Otter Creek during the period May to November 2021. Property owners should receive a notice by mail with details about when and where the inspections will happen. In most cases the property owner will be required to expose the two inspection covers for the septic tank. Inspections will be done by qualified personnel accredited under section 8 of the Ontario Building Code. The property owner is usually provided a reasonable period of time to correct minor defects such as tree encroachment and small concrete cracks. With major defects such as a system failure, whole or partial replacement may be required.

If you have any questions as the program approaches, please email Karl Fiander at OLLA: klfiander@gmail.com

Phragmites – Invasive European Common Reed

Submitted by Judy Hodgins

The European Common Reed, an Invasive Phragmites, is a plant of great concern in Ontario ... you have probably seen it growing along highways and roadways, as well as in wetlands and along

shorelines. While it prefers areas of standing water, it can survive in relatively dry areas due its ability to grow extremely lengthy roots. It is an aggressive plant that spreads quickly and out-competes native Phragmites.

Like most invasive plants, the Invasive Phragmites crowds out native plants and has a negative impact on wildlife. This invasive plant also grows very quickly causing lower water levels and increases fire hazards as stands of this reed are composed of high percentages of dead stalks.

It is difficult to differentiate between Native Phragmites and the Invasive Phragmites. Below are some pictures of Phragmites and more can be learned on how to identify, stop the spread, and destroy them by visiting the links provided at the end of this article.



A native Phragmites stand (left) and an invasive Phragmites stand (right).

Note the varied vegetation and lower density of native Phragmites stalks on the left and the taller, higher density invasive Phragmites stalks on the right.

*Native stand photo courtesy of Erin Sanders, MNR.
Invasive stand photo courtesy of Janice Gilbert, MNR.*



A native Phragmites seedhead (top) and an invasive Phragmites seedhead (bottom).

Note that the native Phragmites seedhead is smaller and sparser compared to that of the invasive Phragmites.

Photo courtesy of Erin Sanders, MNR.

A management program to combat Invasive Phragmites in Ontario is being funded by the Ministry of Natural Resources and Forestry (MNR) through a group of environmental organizations called the Green Shovels Collaborative. OLLA, was made aware of this initiative through its affiliation with the Lake Networking Group.

The Federation of Ontario Cottagers' Associations (FOCA) invited lake associations to apply for funding for projects for grassroots control and community outreach addressing Phragmites at the local level. Unfortunately, OLLA's application for funding was not approved.

We are asking Otter Lake residents to keep a look out for any stands of Invasive Phragmites around the lake and to send OLLA an email at olla@otterlake.org providing details of your sighting.

<https://www.ontario.ca/page/phragmites-fact-sheet>

<https://www.ontario.ca/document/invasive-phragmites-best-management-practices>

Update on Waste Collection for the Otter Lake Area

Submitted by Jeff Neal

After more than a year, the Township of Rideau Lakes (TRL) recently approved a new By-law relating to Waste Collection on Private Roads (<https://www.rideaulakes.ca/component/edocman/2020-43-private-road-curb-side-collection-policy/viewdocument/1047?Itemid=0>) which will take effect May 25, 2021. The decisions were made following road visits and the review of comments submitted by road associations and individuals. The reason behind the By-law is to establish a greater commonality of services within the Township. The By-law provides the minimum road requirements for Township vehicles to traverse these private roads for the purposes of curb side waste collection. This has resulted in some changes around the lake. A summary of the changes follows. The complete list of roads can be found on the Township web site (https://www.rideaulakes.ca/images/2021-03-01_Inspected_Private_Road_Listing.pdf).

Road	Change to Pickup
O1	Add winter and summer
O2	Lose winter
O5	Add winter and summer
O5A	Add summer
O5B	Add summer
O7	Add winter
O7A	Add winter
O8	Add winter
O10	Lose winter
O11	Add summer
O11A	Add summer

Western Chorus Frog Monitoring – Volunteers Wanted

Submitted by Jeff Neal

Blazing Star Environmental in conjunction with Environment Canada and Trent University recently announced they are looking for volunteers.

A familiar sound of early spring for all of us is the call of Spring Peepers and Western Chorus Frogs.



The Great Lakes-St. Lawrence-Canadian shield population of chorus frog is listed as threatened in Canada, and declines have been anecdotally noted in recent years. This project hopes to determine the distribution and extent of the chorus frog in its range through periodic monitoring of the species. However, the success of this program is largely dependent on a strong base of organizations and individual volunteers willing to complete short surveys during the chorus frog calling season. Currently, Blazing Star is in the process of recruiting volunteers to conduct these surveys.

For more information or to volunteer your time, contact: **Tiera Zukerman** Species at Risk Ecologist Blazing Star Environmental, Tiera@blazingstar.ca

Watersheds Canada – Planning for Our Shorelands

Submitted by Jeff Neal

Watersheds Canada recently reached out to lake associations and groups for input regarding work they are doing “towards the development of an online best-management practices resource which focuses on shoreline and shoreland policy in Ontario”. The OLLA Board of Directors completed the questionnaire and look forward to an update from the team working on this project. Any information we receive will be shared with our members.

Bring a Friend to OLLA!

Submitted by John McKenney

This will be the first year of our "Bring a Friend" membership drive. Members who encourage their lake friends to join OLLA will be entered into a draw for a free 1-year membership extension. The membership form will include a place for new members to name the OLLA friend who told them about the Association. There will be one winner for every five new members enlisted this way. The more members recruited, the more membership extensions we'll give away. Tell a friend about OLLA and you could win!

Based on a recent change to our Constitution, annual memberships include one AGM and are due for renewal by the next. We know how busy our members are, so we hope this will make it easier to remember the deadline for submitting your membership form and payment. Just in case, a reminder will be sent to all members ahead of the AGM that includes the membership form and instructions. You'll also find the form attached to this newsletter.



Watersheds Canada – Freshwater Stewardship Community

Submitted by Jeff Neal

Watersheds Canada is launching a free, online freshwater stewardship community.

Fostering community relationships and connecting with nature have become more difficult in this time of physical distancing. Thanks to funding from the S.M. Blair Family Foundation, Watersheds Canada is excited to launch a new online freshwater stewardship community, beginning in January 2021. This project will connect waterfront communities and individuals through free webinars, education resources, and networking opportunities. For more information, visit their web site:

(<https://watersheds.ca/freshwater-stewardship/>).

Spring Cleaning

Submitted by Susan Thum

Spring is in the air and many of us are thinking about our return to the cottage. Opening up also means clean-up. Eric Hempell recently read a web article about natural cleaning products and suggested sharing the link for those that may be interested. Eric explains, "Especially with septic inspections coming into focus and all. From a personal health and environmental perspective as to what goes into our septic systems, this will help those wondering."

The article, by Candice Batista, titled *5 Canadian Natural Cleaning Products for the Eco Conscious Home* can be found at:

<https://theecohub.ca/5-canadian-natural-cleaning-products-for-the-eco-conscious-home/>

Please note this article is provided for your information. The Otter Lake Landowners' Association does not endorse any of the companies/products mentioned in the linked article and acknowledges that there are many more options available should anyone wish to do more on-line research. With the current COVID-19 pandemic situation and the importance of disinfecting, careful thought should be given to selection of any cleaning products.

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Did you know?



Federation of Ontario Cottagers' Associations

OLLA members receive FOCA membership – Membership benefits can be found at the following link <https://foca.on.ca/member-services/benefits/>