

Lake Steward Report – 2022

General Comments

As part of OLLA’s Lake Trout Spawning Project, oxygen levels and water temperatures were checked throughout 2022. Unfortunately, the dissolved oxygen dropped below the acceptable level in August. We will continue to monitor these readings and will continue our discussions with the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNR) regarding the re-introduction of Lake Trout to Otter Lake.

It was a banner year for our loon population with a total of 5 chicks being raised around the lake. In the fall, the 5 juveniles were seen “rafting” together before heading off to warmer climates. The loon nesting platforms constructed by volunteers did not get used by the loons this year.

Results of Water Quality Testing in 2022

Water quality testing was back to normal this year following the setbacks caused by the Covid pandemic. The lake continues to be very healthy although there was one sample taken offshore from the O4 road (Test Site OLLA 03) that showed an extremely high E. Coli reading of 98. To put this in context, the City of Ottawa closes beaches if the level reaches 100. We will be monitoring this closely this year.

Water Quality Data - 2022																			
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	May	Jun	Aug	Oct	May	Jun	Aug	Oct	May	Jun	Aug	Oct
n/a	Barker's Creek				12		8												
RVL-26C	OLLA 03				0		98		400	400			10	14					
RVL-26D	OLLA 04				0		1		500				12						
RVL-26DP1	OLLA 05A							370	500	470		2	7	13		4.0	8.5	4.0	4.5
RVL-26DP3	OLLA 06							370	400	480		2	3	9		3.5	7.0	5.0	5.0
n/a	OLLA 08								400				6						
RVL-26B	OLLA 09				0		9		400	430			2	8					
n/a	OLLA 17						3												
RVL-26F	OLLA 18				0		0		400	410			4	4.1					
RVL-26G	n/a				1		7		400	460			8	10					
Average					10.69			424.38				7.13				5.19			
Std. Error					26.56			43.35				4.03				1.71			
Water Quality Recommendations					<100			<500				<20							
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			

Note: OLLA testing sites highlighted

Total Kjeldahl Nitrogen (TKN) levels were in the acceptable range of between 200 - 500 µg/L, very similar to previous years. As for Total Phosphorous (TP), none of the sites tested had values greater than 14 µg/L, below the Provincial Water Quality Objective (PWQO) – Lakes of less than 20 ug/L.

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Secchi depth readings ranged between 3.5 and 8.5 metres indicating that the lake remains very clear.

RVCA performed measurements of water temperature and DO in May, June, August and October at two deep water sites OLLA 5A/RVCA DP1 and OLLA O6/RVCA DP2. The results obtained by RVCA in 2022 are shown in the graphs on the next page.

The concentration of dissolved oxygen in lakes is affected by temperature and has well-defined seasonal cycles. Cold water can hold more dissolved oxygen than warm water. The red lines indicate water temperature vs depth showing the rise/fall in temperature, particularly at the surface, while the temperature at deep water levels remains more constant regardless of the month. The blue lines indicate the dissolved oxygen levels vs depth. DO concentrations are high in early Spring but begin to decline over the Summer when the water temperature rises.

Note: For more technical information on water quality please go to our website <https://otterlake.org/environment/water-observation/>

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