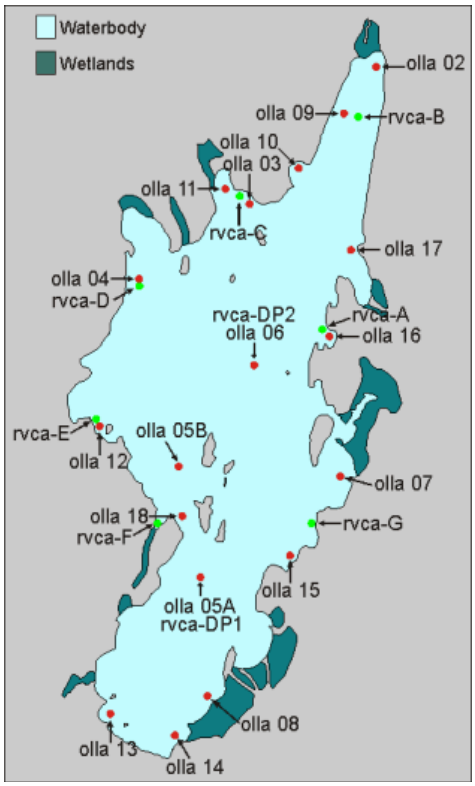
Lake Steward's Report - 2019

Water quality testing is an important diagnostic tool to help residents of Otter Lake determine the health of the lake. We need early warnings to predict important changes in the lake's ecological process. 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 3 or 4 times a year. OLLA and RVCA's test sites are shown on the map on the right. The sites have been chosen to be representative of the whole lake. Sites 05A, O5B and 06 represent the 3 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.



Testing in 2019 was done by RVCA. The results of water testing in 2019 are shown on the left. They indicate that the trend seen in 2018 is continuing. E. coli was undetectable at most sites tested, but were moderately high in August at sites OLLA 03 and 09. Both these sites are shoreline locations in shallow bays at the North end of the lake. The reason for these higher than normal values are unknown, but these sites will be retested again in 2020. These 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.

Water Qualiy Data - 2019

RVCA ID	OLLA ID	Total Coliform (cfu/100 ml)			E. Coli (cfu/100 ml)			Total Kjeldahl nitrogen (µg/l)				Total Phosphorous (µg/l)				Sechi Disk (meters)		
		Jun	Jul	Aug	Jun	Jul	Aug	Jun	Jul	Aug	Oct	Jun	Jul	Aug	Oct	Jul	Aug	Oct
RVL-26C	OLLA 03				0		30	230		400		12		2				
RVL-26DP1	OLLA 05A							430	360	400	370	8	16	2	3	5.50	6.00	
RVL-26DP3	OLLA 06							416	300	400	430	7	12	2	2	5.00	6.50	
RVL-26B	OLLA 09				0		34	240		400		7		3				
RVL-26E	OLLA 12				0		0	300		330		8		5				
RVL-26F	OLLA 18				0		0	240		300		7		3				
Average					8.00			339.00				6.71				5.75		
Std. Error					13.89			71.07				4.32				0.65		

Total Kjeldahl Nitrogen levels were generally in the acceptable range of between 200 - 500 µg/L, very similar to last year and only 3 test sites had total phosphorous values greater than 10 µg/L and the average for the year was less than 7 µg/L. Secchi depth readings were again about 6 metres indicating that the lake remains very clear but there were few algae blooms last Summer despite the hot weather.

Therefore, Otter Lake remains very close to being classified as oligotrophic

which is quite unusual for lakes for this area. Oligotrophic lakes are usually found much further North

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Lake Steward