

WATER QUALITY, WATER LEVELS AND SHORELINE HEALTH & PROTECTION

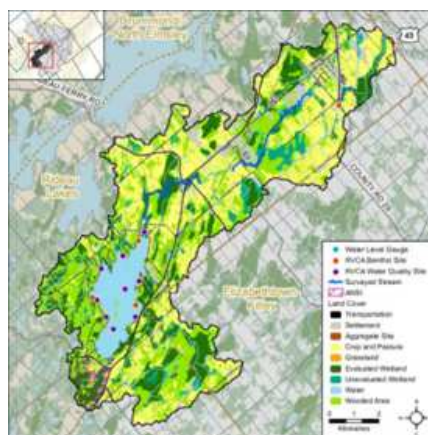
Sections 3.1, 3.2 and 3.3 of the Otter Lake Sustainable Lake Plan deals with, respectively: Water Quality; Water Levels; and Shoreline Health & Protection.

Goals:

- Water Quality: Water quality in Otter Lake and its watershed will be protected and enhanced.
- Water Levels: Measure, record and communicate water levels to Rideau Valley Conservation Authority (RVCA) and Otter Lake Landowners’ Association (OLLA) members.
- Shoreline Health & Protection: Encourage the re-naturalization and retention of natural shorelines.

WATER QUALITY

Water quality testing is an important diagnostic tool to help residents of Otter Lake determine the health of the lake. In the 2006 lake survey, 132 respondents (86%) responded with “strongly agree” to the statement “The quality of the water in our lake is important to me”, the remaining respondents responded with “agree”.



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)				
		May	Jun	Jul	Aug	May	Jun	Jul	Aug	May	Jun	Jul	Aug	May	Jun	Jul	Aug	May	Jun	Jul	Aug	
	OLLA 02			0	2			730	350			20	14									
RVL-28C	OLLA 03			0	2			440	550			0	25									
RVL-28D	OLLA 04	3	0	0	2			440	550			0	25									
RVL-28E	OLLA 05A					380	380	450	350	0	0	0	7	4.50	5.75	5.75	12.50					
	OLLA 05B																					
RVL-28G	OLLA 06							370	380	400	0	0	0	0	3.75	5.50	12.50					
	OLLA 07	37	2	0	0			430	550			12	17									
	OLLA 08							0	730				25									
RVL-28F	OLLA 09			0	2			330	380			11	10									
	OLLA 10	1	0																			
	OLLA 11							0	0	340	440											
RVL-28E	OLLA 12							0	0	310	500	15	14									
	OLLA 13																					
	OLLA 14	12	0																			
	OLLA 15																					
RVL-28A	OLLA 16							0	0	330	460		7	12								
	OLLA 17	1	0	0	0			420	530			10	21									
RVL-28F	OLLA 18	3	0	0	4			530	530			11	22									
	Average	3.83	0.48	0.20	0.20			446.15	492.28			12.84	7.18									
	Std. Error	5.75	0.20	0.20	0.20			42.28	42.28			2.16	1.40									

Three objectives are set out in Section 3.1 of the Lake Plan, with a total of 14 action items identified.

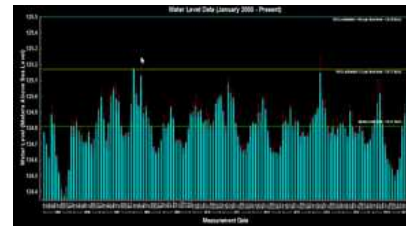
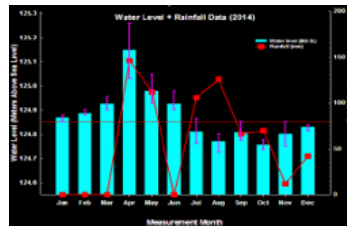
QUICK LINKS to educational and informative documents, presentations and websites:

- http://www.otterlake.org/water_qual.html
- <https://watersheds.rvca.ca/91-middle-rideau/catchments/otter-creek/156-2-surface-water-quality-conditions>
- <https://www.ontario.ca/page/water-quality-ontario-2014-report>

WATER LEVELS

The natural fluctuation of water levels does not necessarily have a negative effect on the natural environment, and can improve shoreline and wetland habitats around the lake. Although flooding has some environmental benefits, it can also cause shoreline erosion, and compromise sewage systems.

The natural rock ridge (depicted below) limits how much water can outflow from Otter Lake. During drought conditions and extremely low water levels, there is little outflow through Otter Creek due to the natural rock ridge. Even though no water is flowing in Otter Creek during drought conditions, significant water losses continue in the summer months due to surface evaporation. RVCA has stated that lakes, like Otter Lake, can lose 1 to 2 cm, per day. On sunny days, when temperatures are at or above 30°C, evaporation rates on lakes can be as high as 2.5 cm/day.



Two objectives are set out in Section 3.2 of the Lake Plan, with a total of 6 action items identified.

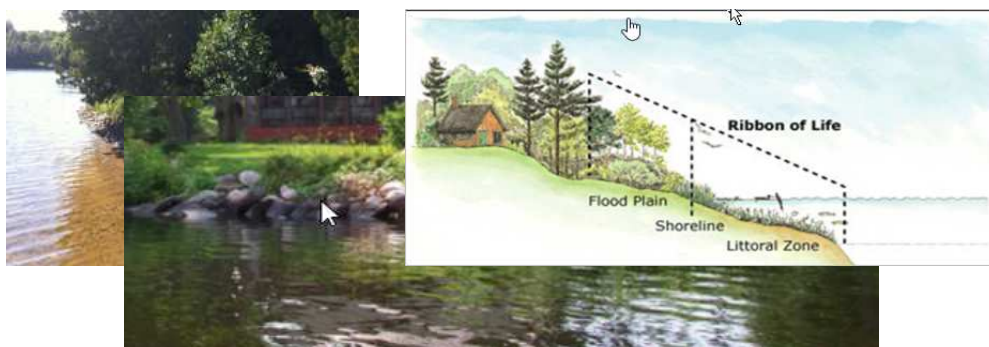
QUICK LINKS to educational and informative documents, presentations and websites:

http://www.otterlake.org/water_level.html

SHORELINE HEALTH & PROTECTION

Natural buffers of shrubs and trees can help filter water, reducing excess nutrients and particles from entering the lake. Excess nutrients can contribute to unwanted growth of aquatic vegetation or algae. Particles and eroding soils can reduce water clarity; and, over time, the settling particles can increase the rate of sedimentation, causing the lake to become shallower and changing the overall lake environment. Healthy shrubs and trees, with various heights, leaves, berries, fruits, and flowers, provide essential sources of food and shelter for many species of wildlife. The shoreline environment – the very link between land and water – is used by over 90% of all life at some point during their lives. Ultimately, keeping our shorelines healthy keeps our lakes healthy.

Watersheds Canada was engaged by OLLA, for their “Love Your Lake” program, in 2015. Watersheds Canada, in June/July 2015, completed an assessment of every shoreline property. Mailings were sent to all property owners in May 2016 with instructions for accessing their personalized shoreline property report, with suggestions on how to naturalize respective shorelines.



One objective is set out in Section 3.3 of the Lake Plan with a total of 3 action items identified.

QUICK LINKS to educational and informative documents, presentations and websites:

<http://watersheds.ca/our-work/love-your-lake/>

http://www.rvca.ca/programs/shoreline_naturalization_program/

<http://www.rvca.ca/water/index.html>