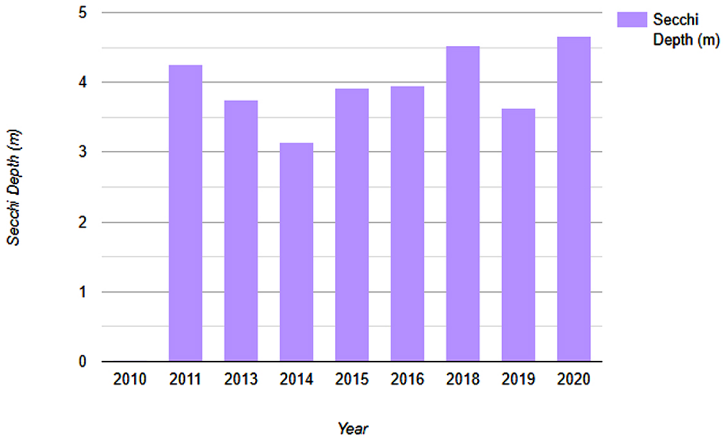
LPP summary for 2020
NORTH OTTER LAKE (STN 7101, Site ID 1)
(Deepest, 400m west of Salmon Lake culvert)

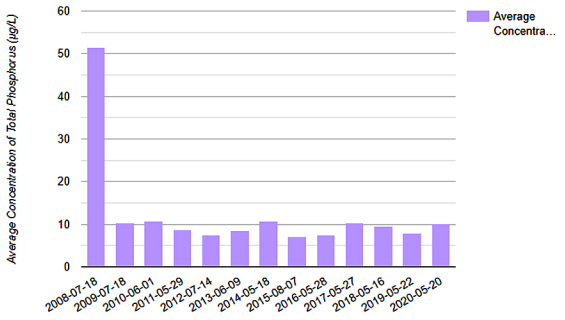
Secchi depth report



Water Transparency (Secchi Depth in meters)	
Year	
2011	4.26
2013	3.75
2014	3.15
2015	3.92
2016	3.96
2018	4.53
2019	3.63
2020	4.66

Increases in phosphorus can decrease water clarity by stimulating algal growth. However, the amount of phosphorus in the lake is not the only factor controlling light penetration, as the amount of dissolved organic carbon (DOC) or non-biological turbidity also plays an important role. Water clarity can also be altered by invading species such as zebra mussels. It is always best, therefore, to use total phosphorus to evaluate the nutrient status of the lake. Nonetheless, water clarity readings are useful for tracking changes in the lake that might be occurring that would not be noticed by monitoring TP concentration alone, e.g. zebra mussel invasions.

Average Total Phosphorus (TP) Concentration (µg/L)



Average Total Phosphorus (TP) Concentration (µg/L)			
Date	Sample 1 (µg/L)	Sample 2 (µg/L)	Average (µg/L)
2008-07-18	55.44	47.46	51.45
2009-07-18	9.540000000000001	10.99	10.27
2010-06-01	10.200000000000001	11.4	10.8
2011-05-29	8	9.4	8.7
2012-07-14	7.6000000000000005	7.4	7.5
2013-06-09	8.4	8.8	8.6
2014-05-18	11.2	10.2	10.7
2015-08-07	7.6	6.6	7.1
2016-05-28	7.6	7.6	7.6
2017-05-27	10.2	10.4	10.3
2018-05-16	10	9	9.5
2019-05-22	7.8	8	7.9
2020-05-20	8.8	11.6	10.2

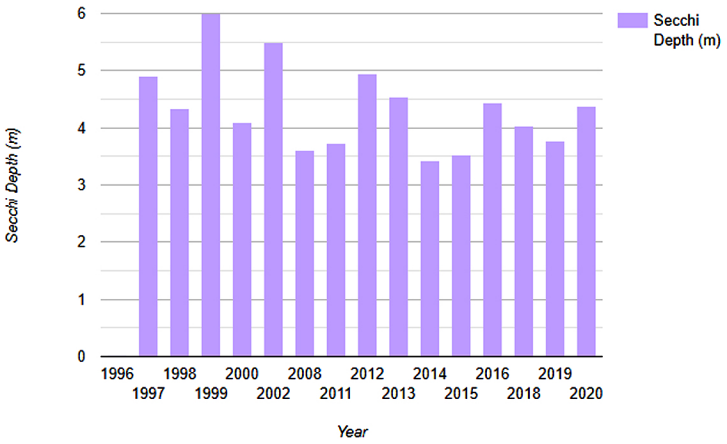
Total phosphorus concentration are ideally used to interpret nutrient status in Ontario lakes, since phosphorus is the element that controls the growth of algae in most Ontario lakes. Increases in phosphorus will decrease water clarity by stimulating algal growth. In extreme cases, algal blooms will affect the aesthetics of the lake and/or cause taste and odour problems in the water.

Many limnologists place lakes into three broad categories with respect to nutrient status. Lakes with less that 10 µg/L TP are considered oligotrophic. These are dilute, unproductive lakes that rarely experience nuisance algal blooms. Lakes with TP between 10 and 20 µg/L are termed mesotrophic and are in the middle with respect to trophic status. These lakes show a broad range of characteristics and can be clear and unproductive at the bottom end of the scale or susceptible to moderate algal blooms at concentration near 20 µg/L. Lakes over 20 µg/L are classed as eutrophic and may exhibit persistent, nuisance algal blooms.

Note: Tea stained lakes, with high dissolved organic carbon (DOC), are called dystrophic lakes and do not share the algal/TP relationships described above. Generally there can be more TP in a dystrophic lake without the occurrence of algal blooms. The chemistry of these lakes is quite complex.

LPP summary for 2020
NORTH OTTER LAKE (STN 7101, Site ID 2)
(Deepest, near the Scout camp)

Secchi depth report



Water Transparency (Secchi Depth in meters)	
Year	
1997	4.90
1998	4.33
1999	6.00
2000	4.10
2002	5.50
2008	3.60
2011	3.73
2012	4.94
2013	4.53
2014	3.42
2015	3.52
2016	4.44
2018	4.02
2019	3.77
2020	4.38

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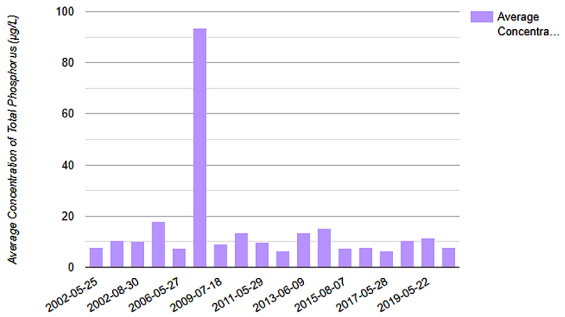
Average Total Phosphorus (TP) Concentration (µg/L)



Average Total Phosphorus (TP) Concentration (µg/L)			
Date	Sample 1 (µg/L)	Sample 2 (µg/L)	Average (µg/L)
2002-05-25	8.4	7.09	7.75
2002-07-27	11.03	9.91	10.47
2002-08-30	9.950000000000001	10.4	10.18
2003-07-09	19.980952000000002	15.832380571428569	17.91
2006-05-27	7.38	7.76	7.57
2008-07-18	97.94	89.11	93.53
2009-07-18	8.86	9.15	9
2010-06-01	10.6	16.6	13.6
2011-05-29	9.4	10	9.7
2012-07-14	6.6000000000000005	6.4	6.5
2013-06-09	12	14.8	13.4
2014-05-18	17.2	13.2	15.2
2015-08-07	6.8	8.4	7.6
2016-05-28	7.8	8	7.9
2017-05-28	6.8	6.2	6.5
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2019-05-22	11.4	11.4	11.4
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