

Nepahwin Lake Field Summary 2020

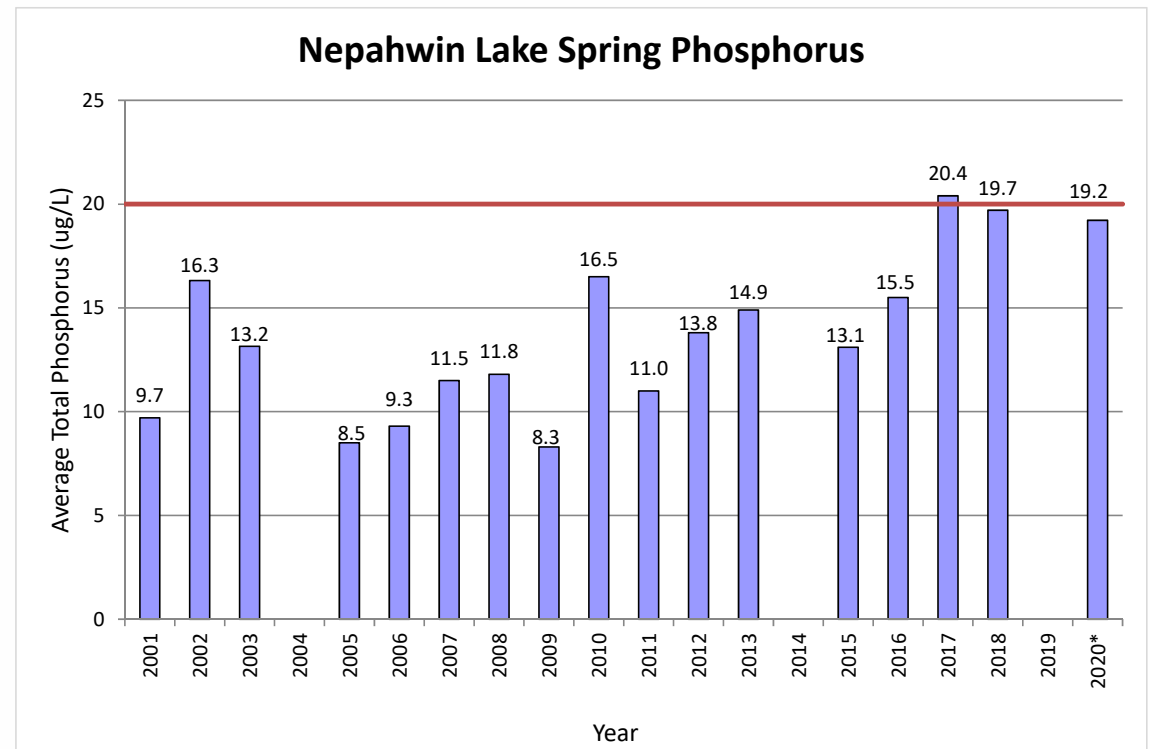
Taylor Menard
Lake Water Quality Program Coordinator
City of Greater Sudbury



2019-2027 Strategic Plan Priorities

Spring Phosphorus

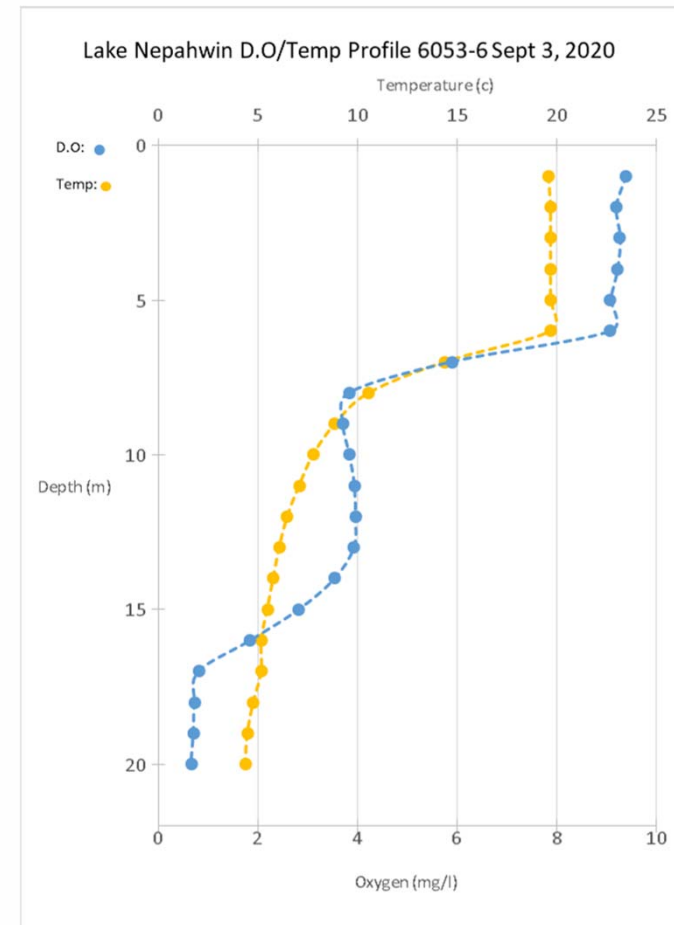
- 2020 Lake Partner program on pause due to COVID-19 restrictions
- Samples analyzed by Testmark and ALS Laboratories
- 2020 samples completed at 3 sampling locations, average TP value: **19.22 ug/l**



Ice Free Sampling

- Total phosphorus values at secchi depth ranged between **2 - 8.6 ug/l** at individual sites during ice-free period via Testmark results
- Total phosphorus values at 1m off bottom during hypoxic/anoxic conditions ranged between **15.5 - 168 ug/l** at individual sites
- Epilimnion (top layer of water column) has relatively low TP values during the ice-free season while the lowest areas of the hypolimnion (lowest layer of water column) are exhibiting low oxygen levels and higher TP values as a result

2020 Nepahwin Lake Ice Free Total Phosphorus (ug/l)		
Date	Surface Avg	1m off Bottom Avg
20-07-2020	2	118.8
06-08-2020	4	114
19-08-2020	6	46.7
03-09-2020	2	50.17
29-09-2020	28.3	80.3



Sodium & Chloride

- Canadian Water Quality Guideline for chloride to protect aquatic life is 120 mg/L
- Spring Values:
Sodium: 96.5 mg/l
Chloride: 286.5 mg/l
- Ice Free Values:
Sodium: 88.0 mg/l
Chloride: 169.7 mg/l
- Ice free values include surface and 1m off bottom samples so is a good representation of full water column
- May 7/8 - Snow and Rain with temps around -2 to -5c, influx of salt likely a factor in the spring values

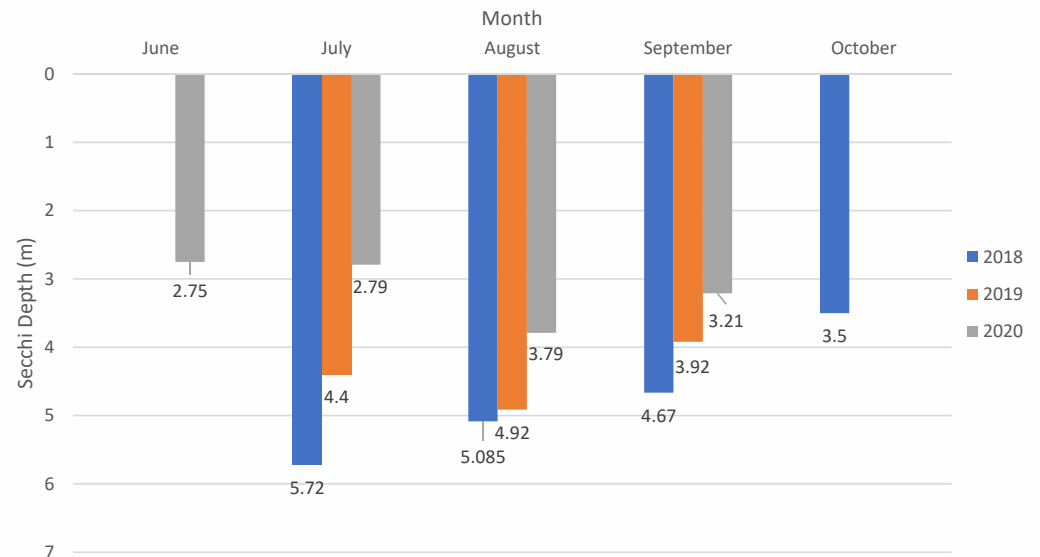
Date	Chloride (mg/L)
03-Jul-18	150
30-Aug-18	159
12-Sep-18	152
18-Sep-18	157
26-Sep-18	157
02-Oct-18	158
06-Jun-19	157
15-Jul-19	158
13-May-20	286.5
03-Sep-20	169.7



Secchi Depth & Water Clarity

- Lower water clarity in 2020 than in past 2 years based on secchi depths
- Spring had a higher amount of suspended algae*
- Many potential factors affecting this including weather patterns, extended ice-free periods, changes in algae types etc
- Will require further monitoring and an excellent opportunity for stewardship involvement

Nepahwin Lake Secchi Depth Averages by Month



Love Your Lake

- ~280 shoreline properties assessed between Sept 7 - 14
- Values surveys are open to lake residents up until December 31st
- Individual property reports and a lake wide summary report are created by the Canadian Wildlife Federation based on the surveys completed.
- Summary report will be made available to the lake stewardship
- Reports are expected to be completed ~May 2021



Questions

Greater | Grand
Sudbury™

greaterudbury.ca

