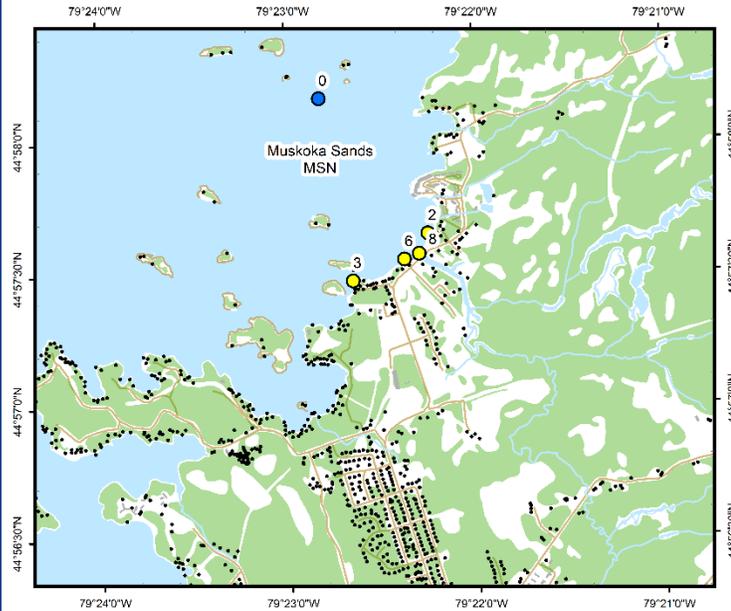




Muskoka Sands (MSN)



Area Description:

The Muskoka Sands sampling area is a highly developed region in southeastern Lake Muskoka at the inflow of the Hoc Roc River. Development within the area includes a large resort and golf course, a substantial number of residential properties and a large road network adjacent to the lake. Land use in the upstream reaches of the Hoc Roc River includes agricultural, industrial, residential, and natural wetland areas. MLA monitoring at Muskoka Sands began in 2003.

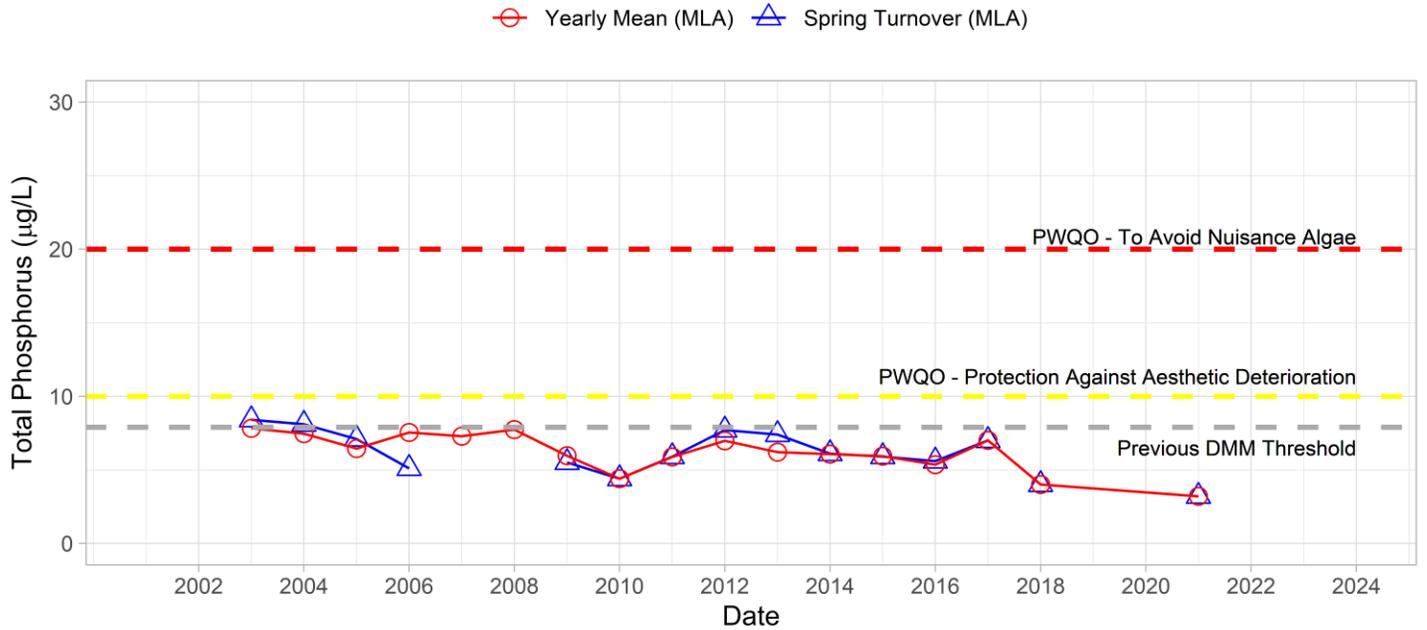
Volunteer Recognition: Carol Hoskins, Sam Daviau, Sheila Robinson, George Fallis, Stephen Sims.

2021 Water Quality Results:

	Mean Secchi Disk (m)	Total Phosphorus ($\mu\text{g/L}$)		E. coli Yearly Geometric Mean (cfu/100mL)	Total Coliforms Yearly Geometric Mean (cfu/100 mL)
		Spring Turnover	Yearly Mean		
MSN-0	3.7	3.2			
MSN-2				22 (4)	239 (75)
MSN-3				7(2)	99 (58)
MSN-6				25(17)	151(114)
MSN-8		6.1	17.0 (6.5)*		

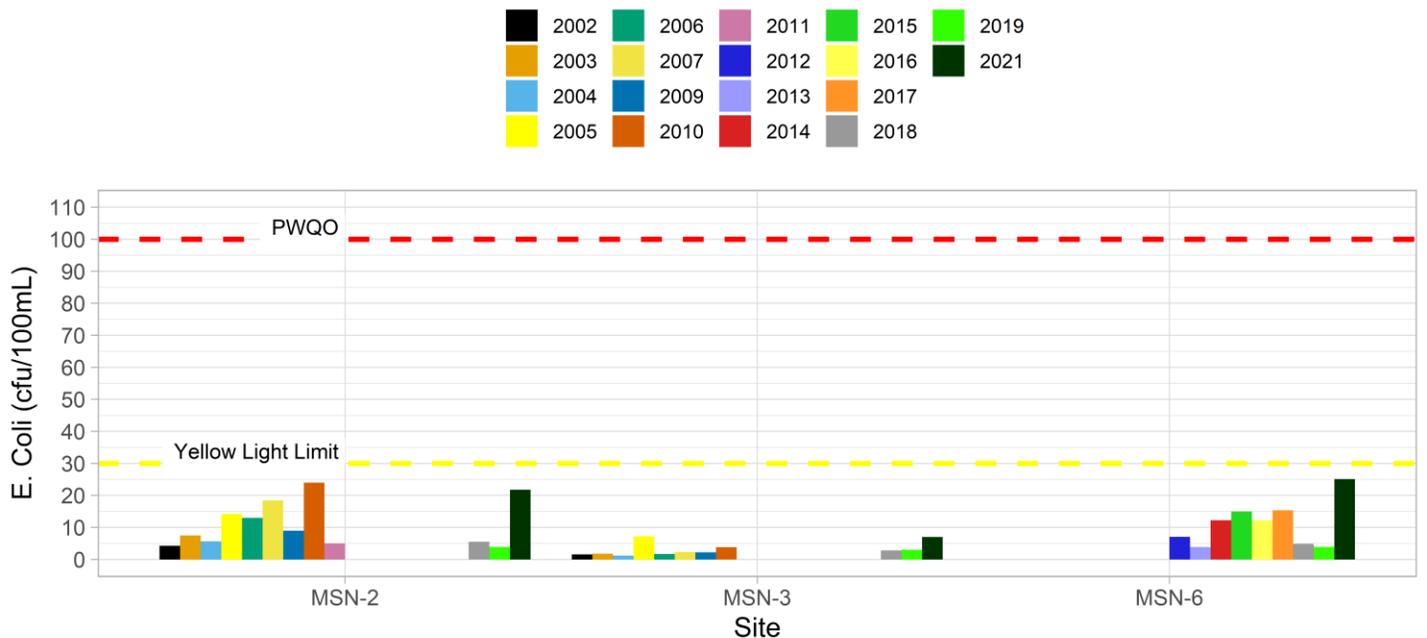
Note: * a single anomalous value (48.6 $\mu\text{g/L}$ on June 27th) substantially impacted the annual mean and we have therefore presented the annual average both with and without this datum.

Phosphorus at MSN-0



Note: Grubbs test indicates no outliers in Spring or Annual Total Phosphorus data.

E. Coli Annual Geometric Mean at Muskoka Sands



The spring phosphorus concentration at the deep-water station (MSN-0) was below the historic DMM threshold of 7.9 µg/L and Provincial Water Quality Monitoring Objectives for Protection Against Aesthetic Deterioration (10 µg/L) and Nuisance Algal Growth (20 µg/L). Nearshore monitoring of spring phosphorus concentrations at MSN-8 was the lowest on record, however annual average phosphorus concentration was the highest on record. A single “Heavy” storm event sample (48.5 mg/L) on June 27th exerted a substantial influence on the annual average, all other samples collected were below 10 µg/L. Bacteria sampling was also impacted by sampling during the June storm event with total coliform and E. coli counts of as much as 100X higher during that sampling event. No retests of the June 27th sampling



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event were performed as is typical for the program when a value exceeds 50 cfu/100mL. Geometric mean bacteria count summary data have been presented both with and without the June sample. Average annual Secchi disk depth (3.7 m) was consistent with previous monitoring (1.0 - 5.25 m). **HESL recommends ongoing sampling to continue to monitor for long-term trends and emerging issues.**