

Water Quality Results

ALCA is one again participating in the Lake Partnership Program (LPP), which is Ontario's volunteer-based, water-quality monitoring program. The LPP monitors the lakes total phosphorus levels as well as water clarity for more than 1400 Ontario Lakes. For a description of this program visit the website

<https://desc.ca/programs/LPP>

Results are posted each January and can be reviewed at <https://foca.on.ca/lake-partner-program-sampling-assistance/>

Total Phosphorus

Our LPP Program volunteers collect Total Phosphorus (TP) samples in May of each year and returns the water sample to the Dorset Environmental Science Centre for analysis.

By measuring total phosphorus and water clarity, it is possible to detect long-term changes that may be due to impacts of shoreline development, climate change and other stresses.

Phosphorus is the element that limits algal growth in the majority of Ontario lakes. Generally, more phosphorus means more algal growth.

Limnologist place lakes into three broad categories with respect to nutrient status:

1. Oligotrophic - less than 10 ug/L TP : lake with low primary productivity, as a result of low nutrient content. These lakes have low algal production, and consequently, often have very clear waters, with high drinking-water quality. Aylene Lake falls into this category.
2. Mesotrophic - TP between 10 and 20 ug/ L : lakes with intermediate level of productivity. These lakes have medium-level nutrient content and have clear waters with submerged aquatic plants.
3. Eutrophic - TP over 20 ug/ L: lakes rich in phosphates, nitrates and organic nutrients that promote a proliferation of plant life, especially algae.

Total phosphorus Results:

Total 2018 TP results in Ontario varied from 1.6 ug/L TP1 to 260 ug/ L TP1 – Aylene Lake 3.80 ug/ L TP1

Lake Name	Township	STN	Site ID	Site Description	Latitude (DMS)	Longitude (DMS)	Date	TP1 (µg/L)	TP2 (µg/L)	Data Collector
AYLEN LAKE	DICKENS	160	1	Mid Lake, deep spot	453700	775100	30-May-02	5.30	5.60	LPP Volunteer
AYLEN LAKE	DICKENS	160	1	Mid Lake, deep spot	453700	775100	08-Jun-03	1.20	1.90	LPP Volunteer
AYLEN LAKE	DICKENS	160	1	Mid Lake, deep spot	453700	775100	16-May-04	4.62	9.31	LPP Volunteer
AYLEN LAKE	DICKENS	160	1	Mid Lake, deep spot	453700	775100	14-Jul-17	3.80	2.80	LPP Volunteer
AYLEN LAKE	DICKENS	160	1	Mid Lake, deep spot	453700	775100	02-Jun-18	3.80	3.60	LPP Volunteer

Water Clarity

Our Lake Partner Program volunteers make monthly water clarity observations from May to October using a Secchi disk (Secchi disk is an opaque disk to gauge the transparency of water by measuring the depth at which the disk ceases to be visible from the surface).

Water clarity may be affected by increased phosphorus levels, invading species such as zebra mussels or watershed disturbances.

Total Secchi Depth Results:

Total 2018 Secchi results varied from 0.4(m) to 13.4(m) – Aylene Lake at 4.8(m)

Lake Partner Program - Annual average ice-free Secchi depths									
Lake	Township	STN	Site ID	Site Description	Latitude (DMS)	Longitude (DMS)	Year	Secchi depth, average (m)	Number of Secchi disk measurements
AYLEN LAKE	DICKENS	160	1	Mid Lake, deep spot	453700	775100	2001	6.9	7
AYLEN LAKE	DICKENS	160	1	Mid Lake, deep spot	453700	775100	2002	5.7	5
AYLEN LAKE	DICKENS	160	1	Mid Lake, deep spot	453700	775100	2003	5.4	5
AYLEN LAKE	DICKENS	160	1	Mid Lake, deep spot	453700	775100	2004	5.5	6
AYLEN LAKE	DICKENS	160	1	Mid Lake, deep spot	453700	775100	2017	4.8	4
AYLEN LAKE	DICKENS	160	1	Mid Lake, deep spot	453700	775100	2018	4.8	4