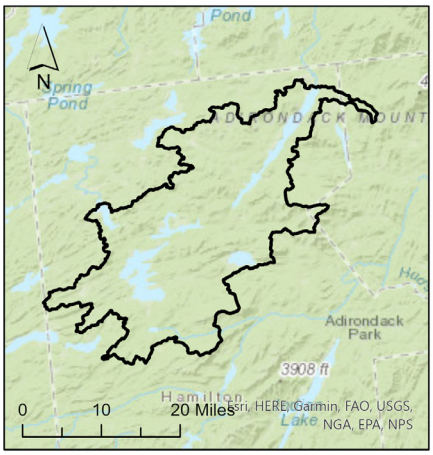
ADIRONDACK LAKE ASSESSMENT PROGRAM

LONG LAKE



Location

- County: Hamilton
- Town: Long Lake

Lake Characteristics

- Surface Area (ha): 1,685
- Shoreline Length (km): 78
- Max Depth (m): 13.7
- Volume (m^3): 65,403,234
- Flushing Rate (times/year): 10

Watershed Characteristics

- Watershed Area (ha): 76,376
- Surface Water (%): 2
- Deciduous Forest (%): 41
- Evergreen Forest (%): 19
- Mixed Forest (%): 8
- Wetlands (%): 17
- Agriculture (%): 0
- Residential (%): 1
- Local Roads (km): 62
- State Roads (km): 60

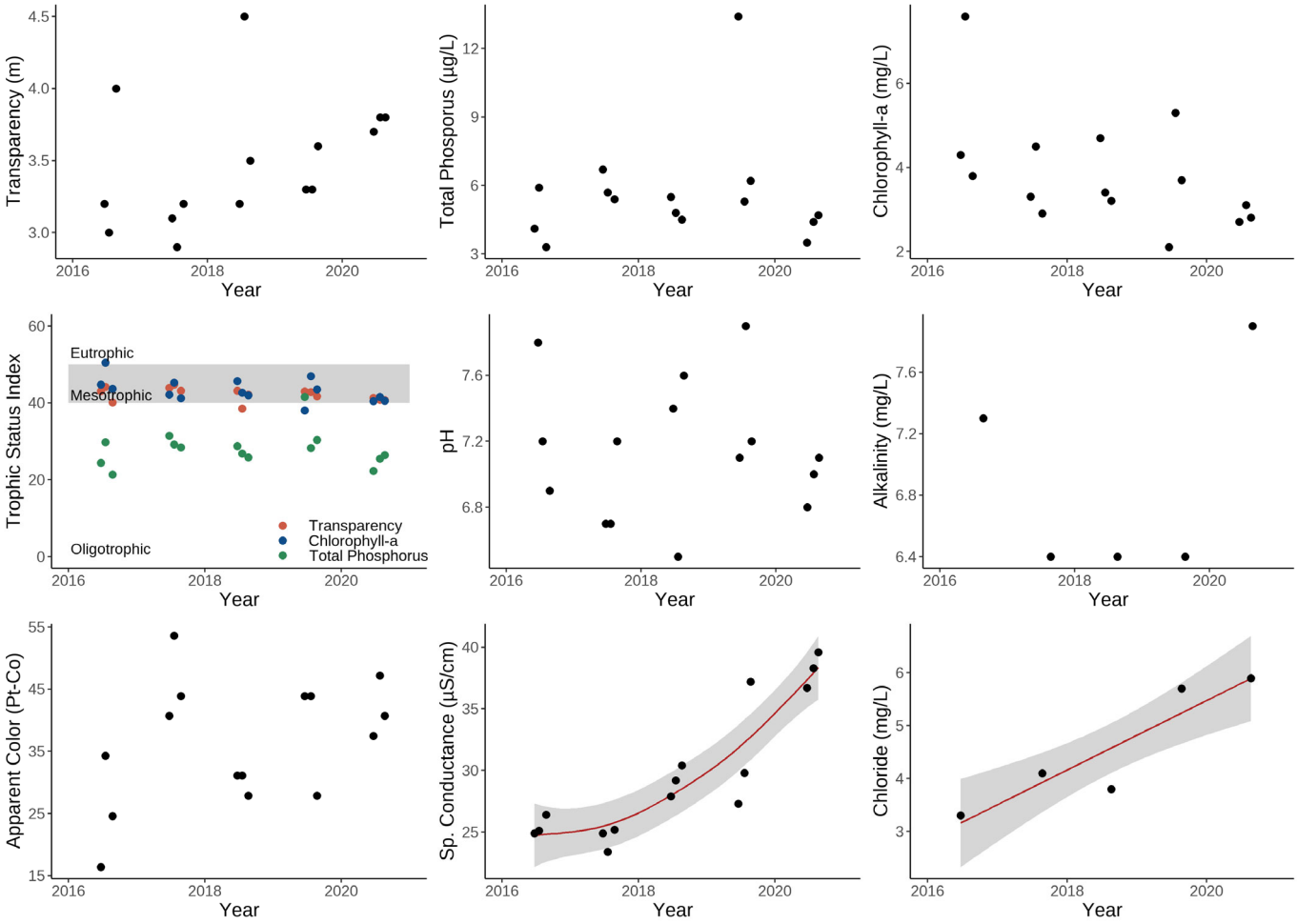
Trophic State	Acidity	Acid Neutralizing Capacity	Road Salt Influence
Mesotrophic	Circumneutral	Moderate	Present - Low

2020 DATA

Water quality values for Long Lake during the 2020 sampling season. BDL = below detection limit.

	06/20/2020	07/25/2020	08/21/2020	Average
Transparency (m)	3.7	3.8	3.8	3.8
Total Phosphorus (µg/L)	3.5	4.4	4.7	4.2
Cholorphyll-a (µg/L)	2.7	3.1	2.8	2.9
Laboratory pH	6.8	7.0	7.1	7.0
Sp. Conductance (µS/cm)	36.7	38.3	39.6	38.2
Color (Pt-Co)	37.5	47.2	40.7	41.8
Alkalinity (mg/L)	NA	NA	7.9	7.9
Chloride (mg/L)	NA	NA	5.9	5.9
Calcium (mg/L)	NA	NA	2.0	2.0
Sodium (mg/L)	NA	NA	3.7	3.7

HISTORICAL DATA



Raw data of select water quality indicators for Long Lake, 2016-2020. Trend analysis conducted using a generalized additive model. Fitted lines across the data indicate a statistically significant trend ($p < 0.05$).

SUMMARY OF FINDINGS

Long Lake is a 1,685 ha lake located in Hamilton County in the Town of Long Lake. The lake is located within a 76,376 ha watershed dominated by forests. This is Long Lake's fifth year in the Adirondack Lake Assessment Program.

- Long Lake is classified as a mesotrophic lake based on transparency depth and chlorophyll-a concentration, and as an oligotrophic lake based on total phosphorus concentration. A disparity such as this is typical for lakes experiencing phosphorus limitation.
- Water samples submitted in 2020 were circumneutral in terms of their acidity, with an average of 7.0 pH units. The alkalinity was 7.9 mg/L, indicating moderate sensitivity to acid deposition.
- Sodium and chloride concentrations were 3.7 and 5.9 mg/L respectively, indicating that the chemistry of the lake is influenced by the 122 km of roads in the watershed, but the influence is rather low. A significant increase in chloride concentration and conductivity was detected from 2016 to 2020.