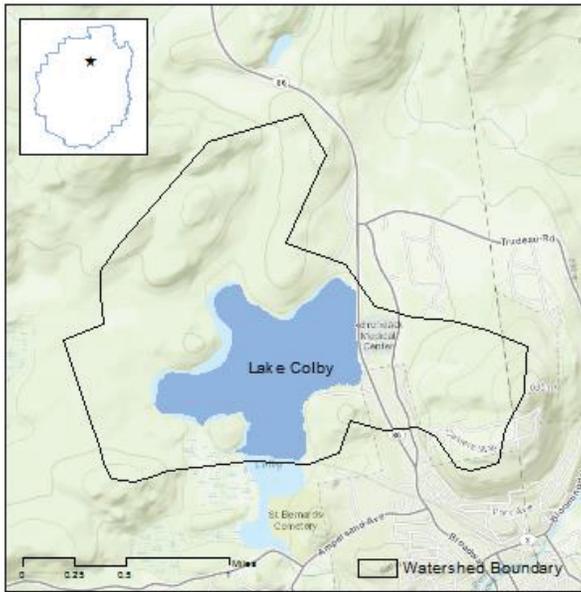


# Lake Colby



<b>Location</b>	County:	Franklin
	Town:	Harrietstown

<b>Lake Characteristics</b>	Surface Area (ha):	119
	Shoreline Length (km):	8
	Max. Depth (m):	14.3
	Volume (m <sup>3</sup> ):	7873831
	Flush rate (times/year):	0.7

<b>Watershed Characteristics</b>	Watershed Area (ha):	577
	Surface water (%):	22
	Deciduous Forest (%):	25
	Evergreen Forest (%):	25
	Mixed Forest (%):	3
	Wetlands (%):	20
	Agricultural (%):	0
	Residential (%):	5
	Local Roads (km):	1.4
	State Roads (km):	1.2

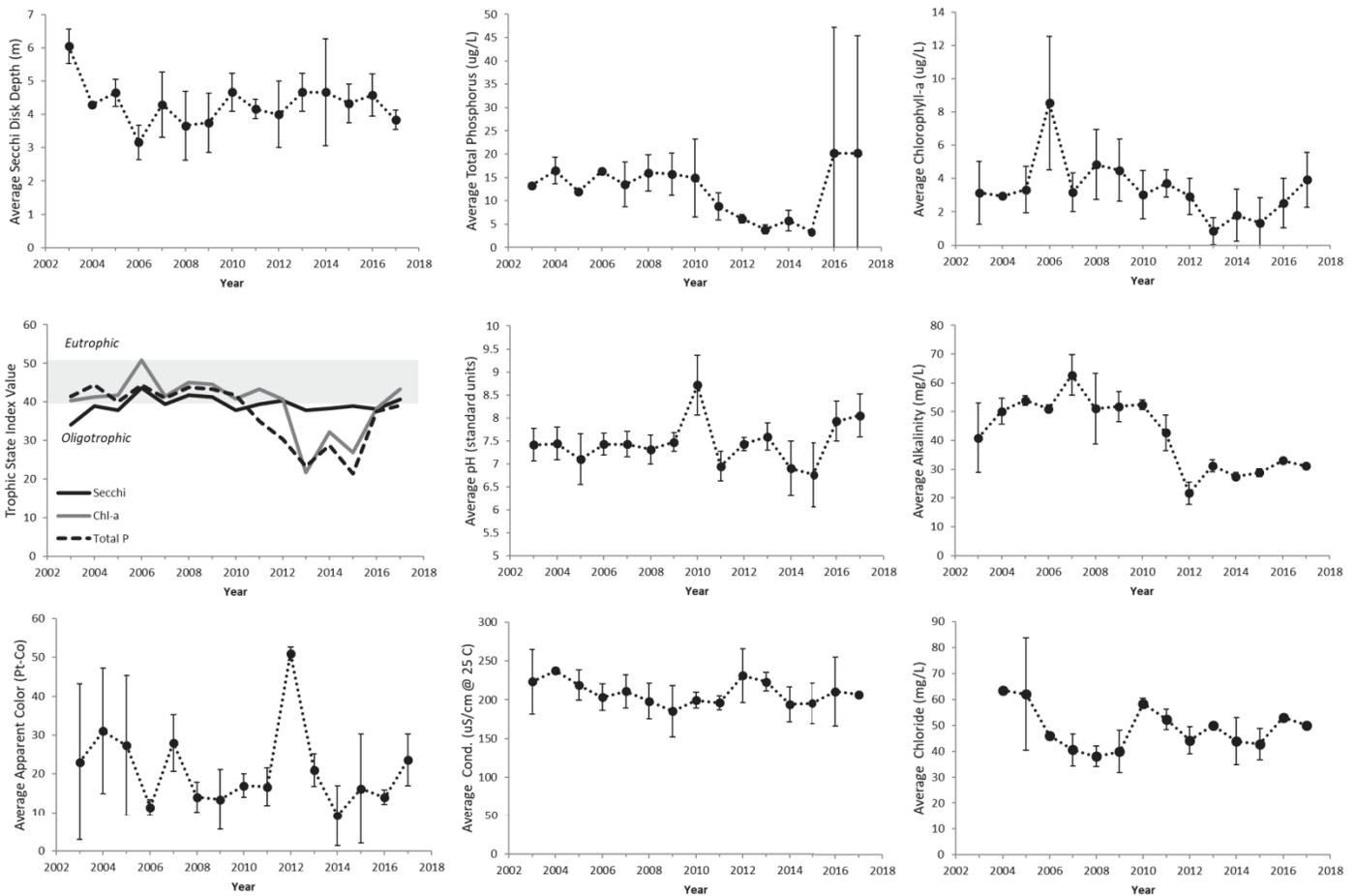
<b>Trophic State</b> Mesotrophic	<b>Acidity</b> Alkaline	<b>Acid Neutralizing Capacity</b> Well buffered – not sensitive	<b>Road Salt Influence</b> High
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Water quality values and historical trends for Lake Colby during the 2017 sampling season. Trend analysis was not performed on calcium or sodium data. BDL=below detection limit.

Water Quality Indicator	Sampling Date			Average	Trend
	7/2/2017	8/21/2017	9/11/2017		
Transparency (m)	4.0	3.5	4.0	3.8	No Trend
Total Phosphorus (µg/L)	7.9	49.2	3.7	20.3	No Trend
Chlorophyll-a (µg/L)	4.1	2.2	5.5	3.9	No Trend
Laboratory pH	7.8	8.6	7.8	8.1	No Trend
Sp. Conductance (µS/cm)	205.0	208.0	207.0	206.7	No Trend
Color (Pt-Co)	31.1	21.4	18.2	23.6	No Trend
Alkalinity (mg/L)		31.2		31.2	No Trend
Chloride (mg/L)		50.0		50.0	No Trend
Calcium (mg/L)		12.2		12.2	Not Analyzed
Sodium (mg/L)		24.8		24.8	Not Analyzed

\*See table of content for description of water quality indicators

# Lake Colby – Time Series



Annual average values of select water quality indicators for Lake Colby, 2003-2017. Vertical bars represent  $\pm 1$  standard deviation of the mean; Solid trend lines across the data indicate a statistically significant trend ( $p < 0.05$ ).

## Summary of Findings

Lake Colby is a 119 ha lake located in Franklin County in the Town of Harrietstown. The lake is located within a 577 ha watershed dominated by forests, but with significant residential and commercial development in the eastern portion of the watershed. Lake Colby has been monitored by ALAP volunteers and the Adirondack Watershed Institute since 2003.

- Lake Colby is currently classified as a mesotrophic lake, a change from the oligotrophic classification between the period of 2012-2016. For the second year in a row we have encountered an unusually high total phosphorus concentration. In 2016 we documented a concentration of 51  $\mu\text{g/L}$ , and this past July we documented 50  $\mu\text{g/L}$ .
- Water samples received in 2017 were alkaline in terms of their acidity. The alkalinity was 31.0 mg/L, indicating the lake is not sensitive to acid deposition. The calcium concentration was 12.2 mg/L, putting the lake near the suitability range for zebra mussels.
- Sodium and chloride concentration were 24.8 and 50.0 mg/L respectively, indicating that the chemistry of the lake is heavily influenced by the 2.6 km of roads in the watershed. The sodium and chloride concentrations of Lake Colby are greater than any of the other participating ALAP lakes in the 2017 and approximately 250 times greater than background concentrations for lakes in the Adirondack region.