**Highlights:**

* 12th year in the program was 2018, testing is underway for 2019
* Lake Abanakee is a typical Adirondack lake – measurements are within the norms for most lakes
* Mesotrophic state – based on Phosphorus, Chlorophyll-A, and visibility
* Chlorophyll-a and conductance declining
* Sodium and Chlorine above background levels – low impact due to road salt

# Adirondack Lake Assessment Program (ALAP)

2018 marks the 21st year of the Adirondack Lake Assessment Program (ALAP), the largest, most professional, volunteer-driven water quality monitoring program in the Adirondack Park. ALAP is a partnership between PROTECT, the Adirondack Watershed Institute at Paul Smith’s College (AWI), and project sponsors and lake monitors. ALAP was established in 1998 to help develop a comprehensive and up-to-date database of water quality conditions in the Park

ALAP home page: <http://www.protectadks.org/programs/lake-assessment-alap/>

The last Lake Abanakee individual report was for 2014: <http://www.protectadks.org/wp-content/uploads/2015/03/ALAP-2014_Lake-Abanakee.pdf>

The ALAP report is now one comprehensive report (not individual lake reports) <https://www.adkwatershed.org/sites/default/files/alap_2018_v1_web.pdf>

# Hamilton County Soil and Water District (HCSWD) monitoring

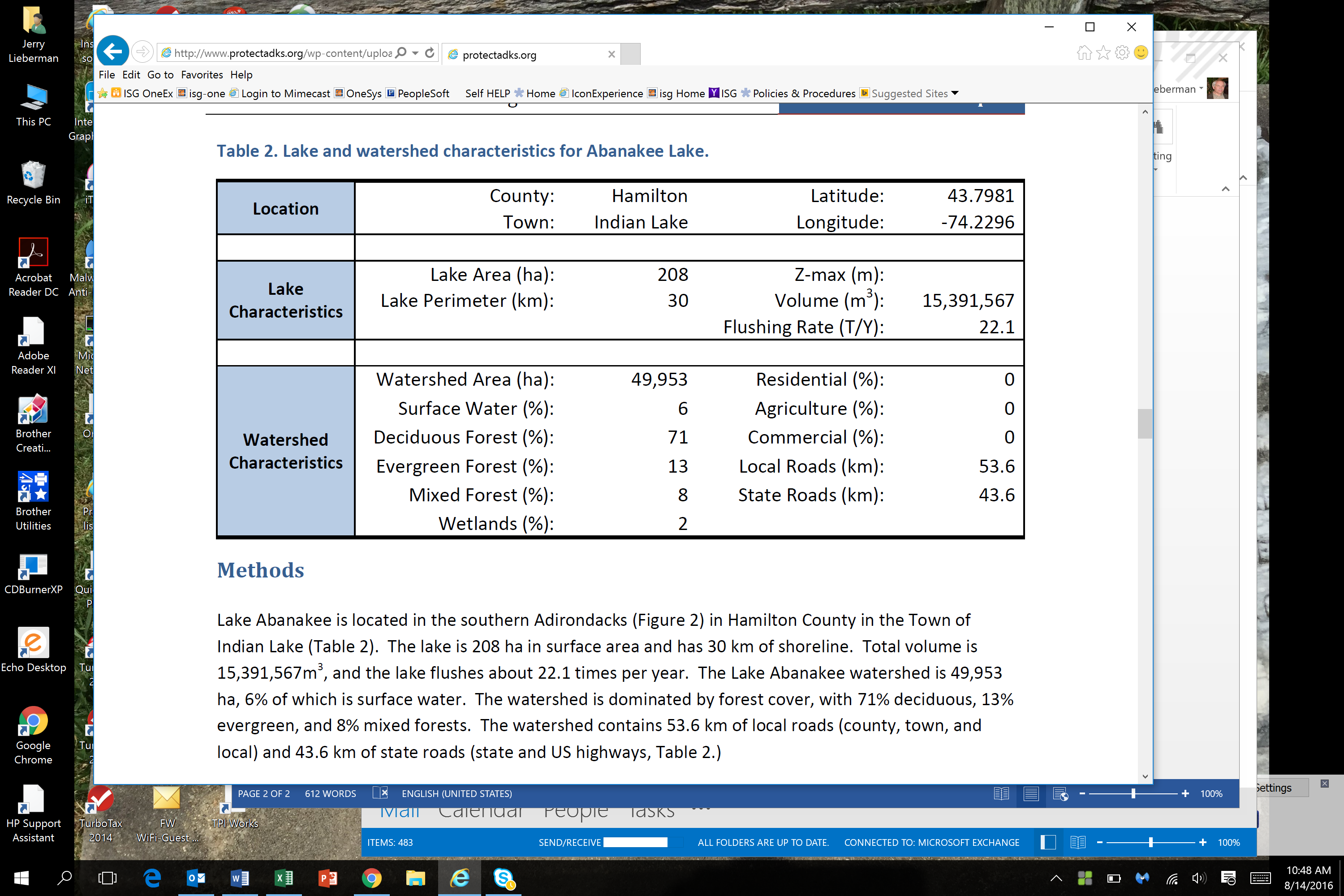
HCSWD also does lake testing for Hamilton County lakes. This was done from 1998 to 2003. They were restarted in 2013 and continue to monitor Lake Abanakee for mostly the same things as ALAP (ALAP does Conductivity and Color, HCSWD does Aluminum and Nitrates). It appears the measurements are similar (compared 2017 tests, there are no published 2018 results yet). We should consider whether it’s worth paying to participate in ALAP, when HCSWD provides this service (for Hamilton County lakes only), but we can always compare our measurements with ALAP via their annual reports. Water monitoring data is available on-line at <http://www.hamiltoncountyswcd.com/images/files/lakemonitoring/The_State_of_Hamilton_County_Lakes_a_25yr_Perspective_2comressed.pdf>

# What can we do???

* Make sure septic systems aren’t failing
* Limit lawn fertilizing to reduce Phosphorous and other nutrients
* Be judicious in using salt, it’s having an impact on most lakes
* Keep using phosphate free laundry products

# Summary of Lake Abanakee from 2018

Lake Abanakee is a 208 ha lake located in Hamilton County in the Town of Indian Lake. The lake is located within a 49,953 ha watershed dominated by forests.



* The Secchi disk transparency of the lake averaged 2.3 meters in 2018. The transparency of the lake has remained relatively constant over the 13 years of monitoring, with no statistical trend detected in the data. ALAP range is .9-7.7
* Chlorophyll-a concentration, a surrogate for algal productivity averaged 3.4 μg/L in 2018. Over the 13 years of monitoring, average chlorophyll concentrations have ranged from 1.2 to 6.2 μg/L with a significant downward trend detected in the data at a rate of approximately 0.3 μg/L/year. ALAP range is .5 – 12.2, with 2/3 less than 80% and not changing
* Total phosphorus concentration averaged 9.2 μg/L in 2018 (vs 10.4 in ‘17). Concentrations of this nutrient have been highly variable over time, and ranged from < 5 μg/L to 18.3 μg/L. No statistical positive or negative trend was detected in the data. ALAP measurements are from 4 to 42
* Lake Abanakee is a circumneutral water body with a typical pH value average of 6.8 (ALAP range is 5.8-9.2) pH units. The acid neutralizing ability of the lake is poor (alkalinity 7.6 mg/L – which better than ‘17 at 9.3) and the lake remains sensitive to acid deposition.
* Adirondack lakes in watersheds without paved roads typically have sodium and chloride concentrations less than 0.55 and 0.24 mg/L, respectively. The 2018 sodium and chloride concentrations in Abanakee Lake averaged 2.9 mg/L for sodium and 3.3 mg/L for chloride. These elevated values suggest the chemistry of the lake is influenced by the 43 km of salted state roads in the watershed. . The concentrations of these chemicals are well below the EPA drinking water standard established for sodium (20 mg/L) and the guideline recommended for chloride (250 mg/L). ALAP ranges are .5-50 for 75% of the lakes
* Calcium concentrations in the lake (2.7 mg/L) are below the threshold required for the establishment of a viable zebra mussel population (12-20 mg/L). ALAP range is 2-5 for 75% of the lakes

Though the data and accompanying analysis provided in this report give insight into the water quality of Lake Abanakee, more detailed limnological studies may be necessary to produce management recommendations or specific trend interpretations.

# ALAP report – Lake Abanakee Overview

