

Long-Term Trend Lake Studies – 2014 IR

Long Term Trend Lakes – Sixty-three lakes across the state have been monitored annually for water quality over the long term. One lake has been monitored since 1968, and the majority of lakes have been monitored for at least 20 years. These long-term records allow tracking of water quality changes over time and also provide regional reference conditions for each defined lake class. By characterizing within-lake and among-year variability in water quality, the LTT lakes provide context for lake assessments elsewhere that are based on a couple of years of data. They also provide an invaluable resource to lake managers who can use this data set to help identify the source of and then hopefully solve water quality problems.

Trend lakes are distributed throughout the state and were selected by both lakes and fisheries staff in each region with at least one lake in each of the defined lake classes. Trend lakes were selected to ensure that these lakes represent the lake class and will, over the long-term, represent trends for the region.

Trend lakes are sampled annually for water quality during spring turnover and three times during summer (15 July - 15 September) for water quality. Total phosphorus, Secchi depth, chlorophyll *a* and field vertical profiles of dissolved oxygen, temperature, pH and conductance compose the core indicators collected each sampling date (except chlorophyll *a* in spring). Other supplemental water quality parameters collected once each summer may include conductivity, alkalinity, color, and, on specified lakes, nitrate, nitrite, and total Kjeldahl nitrogen. Calcium and magnesium are sampled every 5 years on selected lakes.