

Perch Lake

DNR Lake ID: 69-0932-00
 County: St. Louis
 Major Watershed: Little Fork River
 Ecoregion: Northern Lakes and Forests
 Surface Area: 340 acres
 Maximum Depth: 21 feet
 Water Quality Data: 5 years
 Secchi Data: 15 years



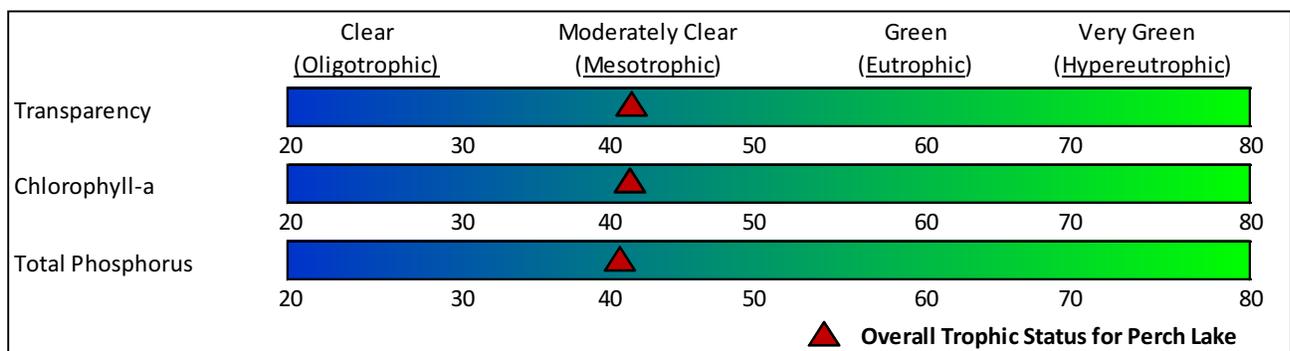
2013 Water Quality Summary

Sampling results for Perch Lake in 2013 were very similar to the lake's historical average and within expected ranges for this region. The trophic status of Perch Lake is mesotrophic which is indicative of moderately clear, good quality lakes of intermediate depth, temperature and nutrient levels. Overall, Perch Lake appears to be in good condition and should be closely managed to protect it.

Perch Lake Water Quality

Parameter	2013 Sampling Perch Lake	Historical Average Perch Lake	MN Northern Lakes & Forests Ecoregion
Total Phosphorus (ug/l)	15	13	14 - 27
Chlorophyll mean (ug/l)	2.7	3.3	4 - 10
Secchi Disk (feet)	13.4	11.7	8 - 15
Secchi Disk (meters)	4.1	3.6	(2.4 - 4.6)
TSI-Phosphorus	43	41	42 - 52
TSI-Chlorophyll-a	40	42	44 - 53
TSI-Secchi	40	42	38 - 47

Carlson's Trophic Status Index (TSI)

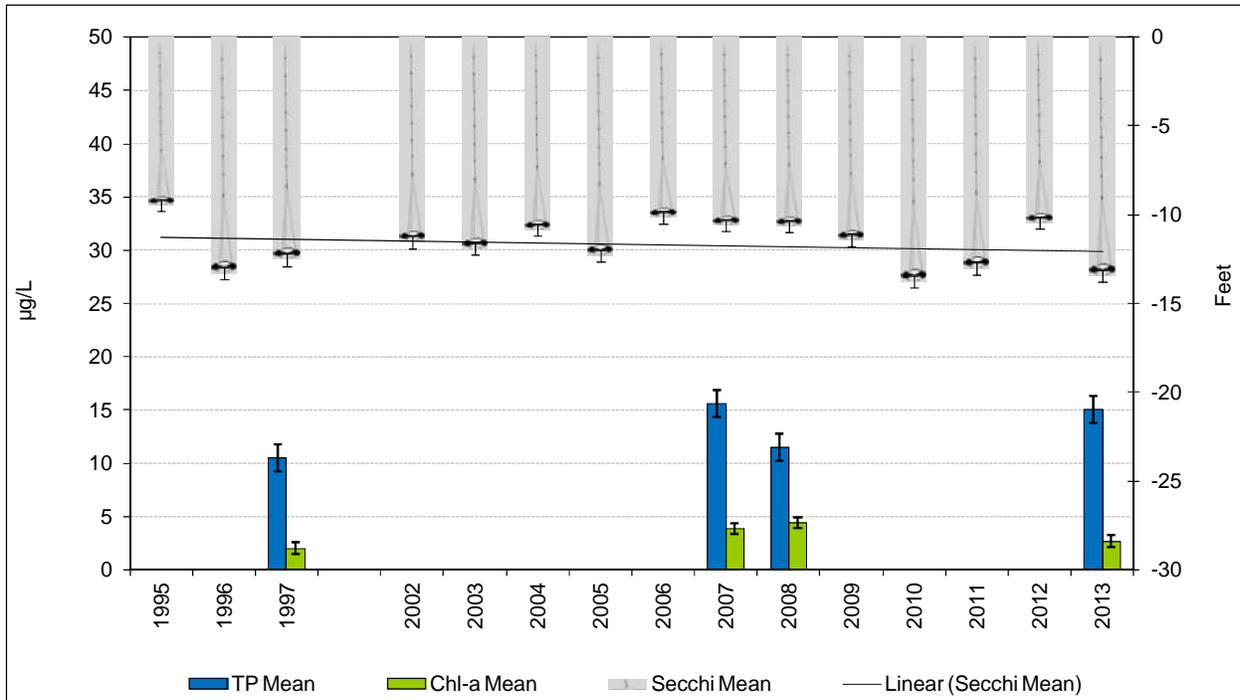


Note: Trophic State Indices (TSIs) are an attempt to provide a single quantitative index for the purpose of classifying and ranking lakes, most often from the standpoint of assessing water quality. TSIs ranges from clear lakes, low in nutrients (oligotrophic), to green lakes, with very high nutrient levels (hypereutrophic).

Historical Water Quality Summary

Perch Lake's historical data for total phosphorus and chlorophyll-a do not meet the minimum requirements for looking at trends. There is however 15 years of secchi data, of which 12 are consecutive, which provides sufficient data to perform long term trend analysis. Although the secchi data doesn't show a "significant" positive trend, it is indicating a slight increase in clarity from 1995 to 2013 which is encouraging.

Note: For detecting trends, a minimum of 8-10 years of data with 4 or more readings per season are recommended. Minimum confidence accepted by the MPCA is 90%. This means that there is a 90% chance that the data are showing a true trend and a 10% chance that the trend is a random result of the data.



Monitoring Recommendations

Transparency monitoring at site 203 should be continued annually. It is important to continue transparency monitoring weekly or at least bimonthly every year to enable year-to-year comparisons and trend analyses. Phosphorus and chlorophyll a monitoring should continue at site 203, every 5 years or as the budget allows, to track future water quality trends.