

West Sturgeon Lake

DNR Lake ID: 69-0939-03
 County: St. Louis-Itasca
 Major Watershed: Little Fork River
 Ecoregion: Northern Lakes and Forests
 Surface Area: 113 acres
 Maximum Depth: 35 feet
 Water Quality Data: 3 years
 Secchi Data: 7 years



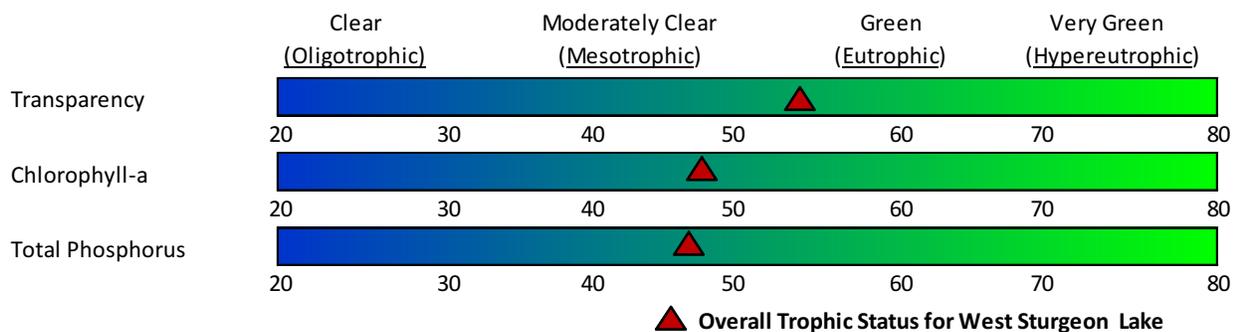
2013 Water Quality Summary

Sampling results for West Sturgeon Lake in 2013 were overall below (worse than) the lake's historical average and nearing the upper range for this region. The trophic status of West Sturgeon Lake is mesotrophic to borderline eutrophic which means the lake is near a threshold where it likely experiences problems with algae blooms and macrophyte problems (submergent vegetation growth). Although it is supportive of all swimmable/aesthetic uses it may experience periods each year where recreation is inhibited, but due to the high tannin stain of the water algae blooms are limited in comparison with lakes that are clearer. Although the lake is classified as borderline eutrophic, further study is required to determine if its current status is a result of natural conditions or anthropogenic (human).

West Sturgeon Lake Water Quality

Parameter	2013 Sampling West Sturgeon Lake	Historical Average West Sturgeon Lake	MN Northern Lakes & Forests Ecoregion
Total Phosphorus (ug/l)	27	20	14 - 27
Chlorophyll mean (ug/l)	7.7	6.0	4 - 10
Secchi Disk (feet)	4.0	5.1	8 - 15
Secchi Disk (meters)	1.2	1.6	(2.4 - 4.6)
TSI-Phosphorus	52	47	42 - 52
TSI-Chlorophyll-a	51	48	44 - 53
TSI-Secchi	57	54	38 - 47

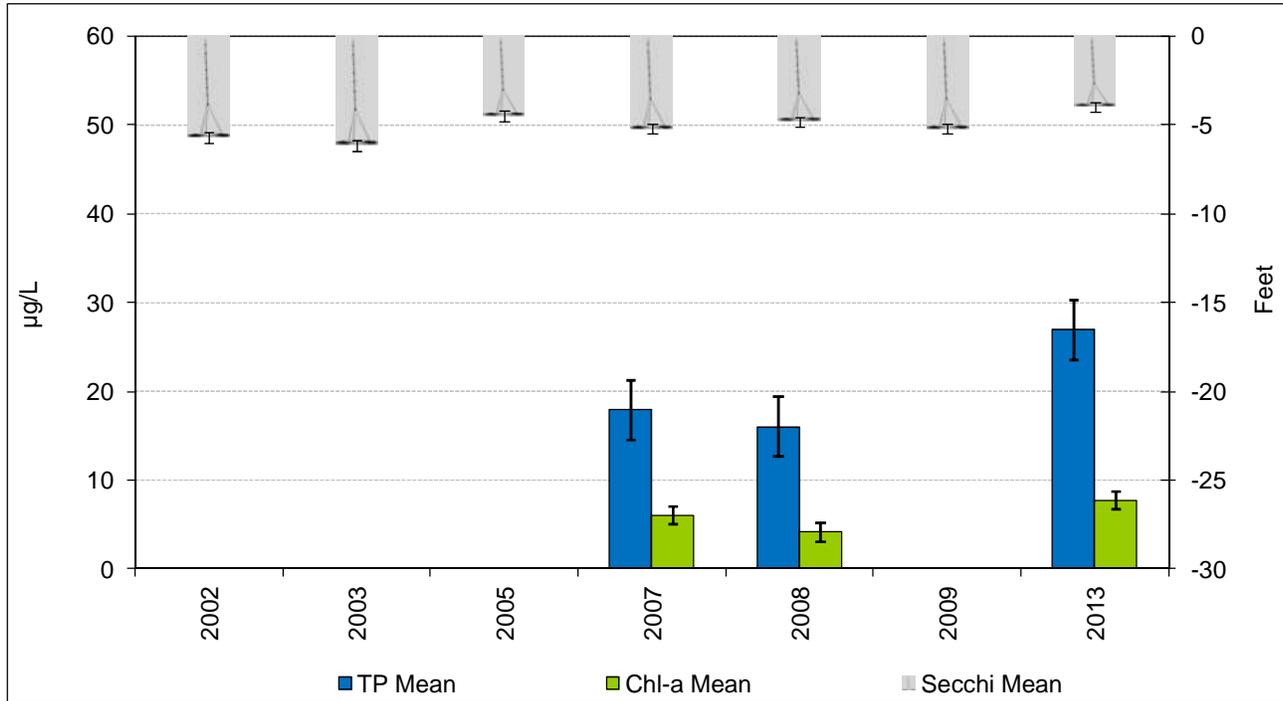
Carlson's Trophic Status Index (TSI)



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

West Sturgeon Lake’s historical data for total phosphorus, chlorophyll-a, and secchi do not meet the minimum requirements for looking at trends.



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.