

HOFF LAKE

MN Lake ID: 61-0092-00

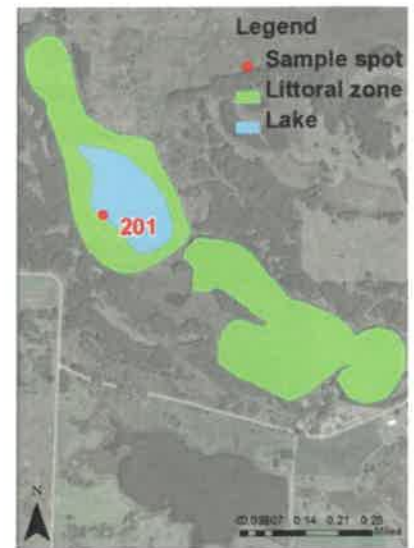


SUMMARY

Hoff Lake is a mesotrophic lake with moderate levels of productivity. Algae concentration results (chlorophyll-a) and transparency show that the lake rarely experiences severe algae blooms. There has been no new water chemistry data collected on Hoff Lake since 2013. Some transparency data has been collected as recently as 2016-2021.

LAKE VITALS

ECOREGION:	North Central Hardwood Forest
MAJOR WATERSHED:	Chippewa River
SURFACE AREA (ACRES):	101.75
LITTORAL AREA (ACRES):	83.8
% LITTORAL DEPTH:	82.4%
MAX DEPTH (FT):	38
AQUATIC INVASIVE SPECIES:	None



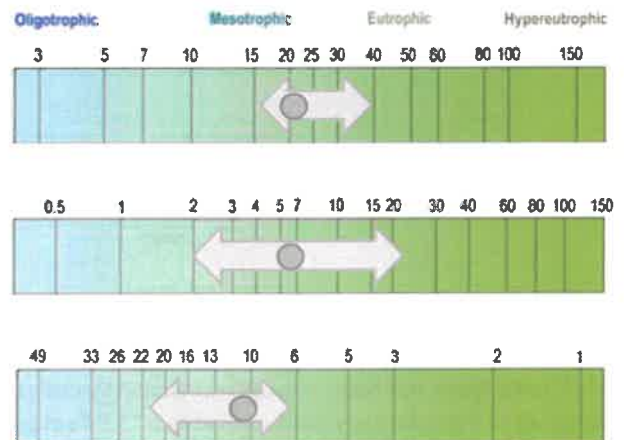
WATER QUALITY CHARACTERISTICS

YEARS MONITORED: 2009 - 2010 (TP & CHL-A)

PARAMETERS	201
TOTAL PHOSPHORUS MIN (UG/L):	16
TOTAL PHOSPHORUS MAX (UG/L):	39
NUMBER OF OBSERVATIONS:	14
TOTAL PHOSPHORUS MEAN (UG/L):	22.3
CHLOROPHYLL-A MIN (UG/L):	2
CHLOROPHYLL-A MAX (UG/L):	21
NUMBER OF OBSERVATIONS:	14
CHLOROPHYLL-A MEAN (UG/L):	6.6
SECCHI DEPTH MIN (FT):	7
SECCHI DEPTH MAX (FT):	21
NUMBER OF OBSERVATIONS:	14
SECCHI DEPTH MEAN (FT):	11.6

TROPHIC STATE INDEX

Mesotrophic (45.6)



ECOREGION COMPARISONS

ECOREGION: North Central Hardwood Forest

TOTAL PHOSPHORUS:	Better Than Expected Range
CHLOROPHYLL-A:	Within Expected Range
SECCHI DEPTH:	Better Than Expected Range

PRIMARY SITE ONLY. COMPARISONS ARE BASED ON INTERQUARTILE RANGE, 25TH - 75TH PERCENTILE, FOR ECOREGION REFERENCE LAKES.

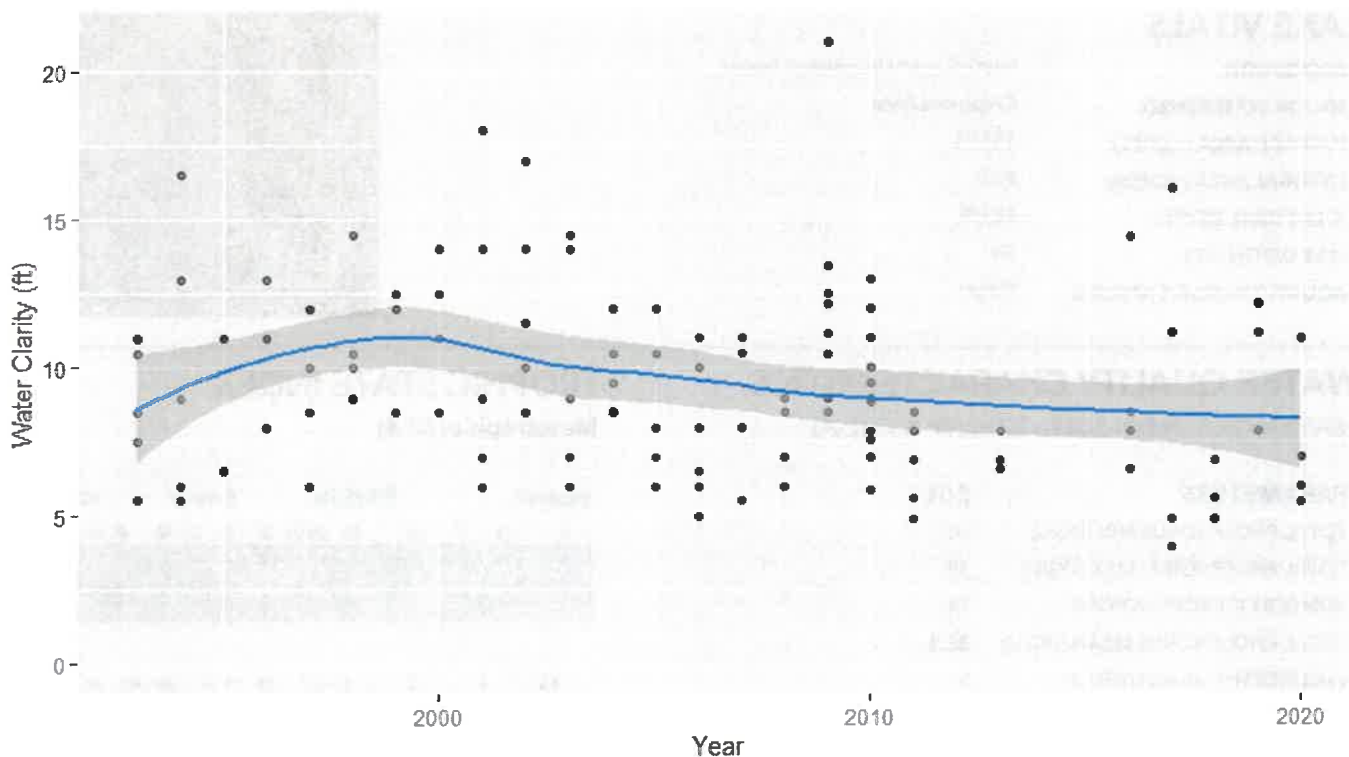


TREND ANALYSIS REPORT

For detecting trends, a minimum of 8-10 years of data with four or more readings per season are recommended by the MPCA. Where data does not cover at least eight years or where there are only few samples within a year, trends can be misidentified because there can be different wet years and dry years, water levels, weather, etc., that affect the water quality naturally. The data was analyzed using the Mann Kendall Trend Analysis.

SITE	PARAMETERS	DATE RANGE	TREND
201	Transparency	1993-2021	Declining with 95% confidence
201	Total phosphorus	2009-2010	Insufficient data
201	Chlorophyll-A	2009-2010	Insufficient data

HOFF LAKE TRANSPARENCY TREND



GRAPH SOURCE: MINNESOTA POLLUTION CONTROL AGENCY

Hoff Lake does not have enough consistently collected water chemistry data to analyze trends. MPCA's analysis of the long-term transparency data indicates a "1.0 feet per decade" reduction in water clarity. Hoff Lake should be considered for additional sampling, including total phosphorus and chlorophyll-a. This would enable the analysis of water quality trends, which could be compared to the data collected in 2009 and 2010.