

MARLU LAKE

MN Lake ID: 61-0060-00



POPE SOIL & WATER



SUMMARY

Marlu Lake is a shallow eutrophic lake. Algae concentration (chlorophyll-a) data was only collected in 2009 and 2010, but during those years there were noticeable algae blooms in late summer. Transparency data does not reveal any detectable trends, which indicates that the lake is stable. Because total phosphorus and chlorophyll-a were only monitored for two years, there is not enough data to analyze trends at this time. Marlu Lake should be considered for future monitoring efforts.



LAKE VITALS

ECOREGION:	North Central Hardwood Forest
MAJOR WATERSHED:	Chippewa River
SURFACE AREA (ACRES):	312.49
LITTORAL AREA (ACRES):	N/A
% LITTORAL DEPTH:	N/A
MAX DEPTH (FT):	N/A
AQUATIC INVASIVE SPECIES:	None

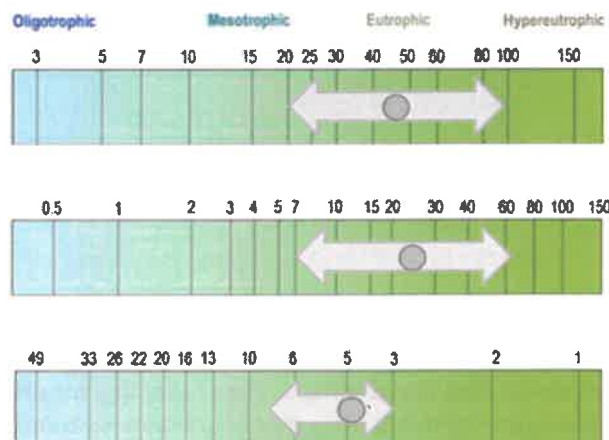
WATER QUALITY CHARACTERISTICS

YEARS MONITORED: 2009 - 2010

PARAMETERS	202
TOTAL PHOSPHORUS MIN (UG/L):	20
TOTAL PHOSPHORUS MAX (UG/L):	96
NUMBER OF OBSERVATIONS:	18
TOTAL PHOSPHORUS MEAN (UG/L):	46.9
CHLOROPHYLL-A MIN (UG/L):	7
CHLOROPHYLL-A MAX (UG/L):	61
NUMBER OF OBSERVATIONS:	18
CHLOROPHYLL-A MEAN (UG/L):	25
SECCHI DEPTH MIN (FT):	3
SECCHI DEPTH MAX (FT):	8
NUMBER OF OBSERVATIONS:	18
SECCHI DEPTH MEAN (FT):	4.8

TROPHIC STATE INDEX

Eutrophic (58)



ECOREGION COMPARISONS

ECOREGION: North Central Hardwood Forest

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

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

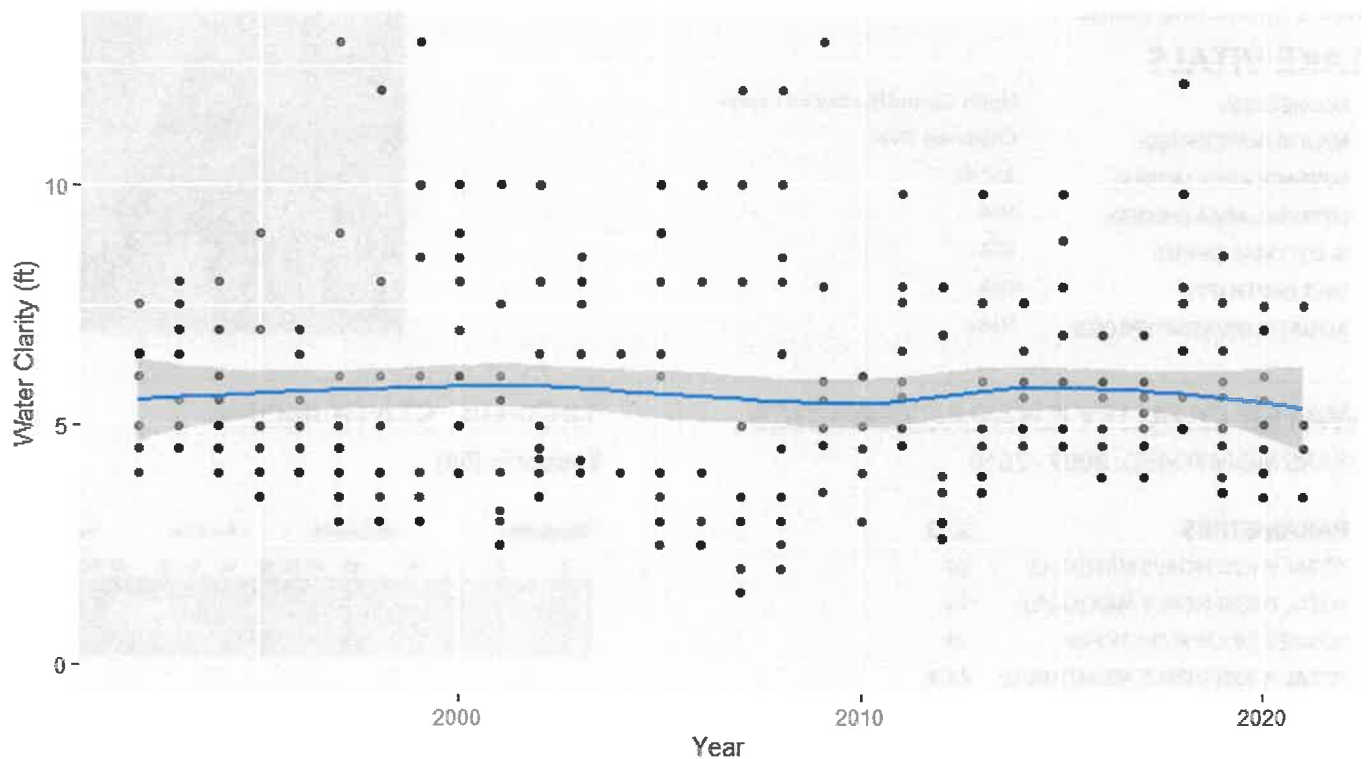


TREND ANALYSIS REPORT

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
202	Transparency	1996-2021	No significant trend exists
202	Total phosphorus	2009-2010	Insufficient data
202	Chlorophyll-A	2009-2010	Insufficient data

MARLU LAKE TRANSPARENCY TREND



GRAPH SOURCE: MINNESOTA POLLUTION CONTROL AGENCY

Marlu Lake shows no evidence of water quality trends for transparency monitored over the past 25 years. Limited chemical data is available, as data collection for phosphorus and algae concentration only took place for two years. Transparency monitoring should continue so trends can be tracked in future years. Marlu Lake should be considered for additional monitoring as well. Analysis of chlorophyll-a and total phosphorus would allow Marlu Lake to be assessed by MPCA for potential protection or restoration status.