

WESTPORT

MN Lake ID: 61-0029-00



POPE SOIL & WATER



SUMMARY

Westport Lake is a shallow eutrophic lake and is on the MPCA Impaired Waters List. Algae concentration results (chlorophyll-a) show that the lake experiences algae blooms every summer, but the levels have been decreasing. There is evidence of improving trends in water clarity. Westport Lake has adequate historical water quality monitoring data, which makes a lake evaluation like this possible. Monitoring should continue to enable future water quality analyses such as nutrient loading and runoff modeling.

LAKE VITALS

ECOREGION:	North Central Hardwood Forest
MAJOR WATERSHED:	Sauk River
SURFACE AREA (ACRES):	203.13
LITTORAL AREA (ACRES):	203.13
% LITTORAL DEPTH:	100%
MAX DEPTH (FT):	12
AQUATIC INVASIVE SPECIES:	None



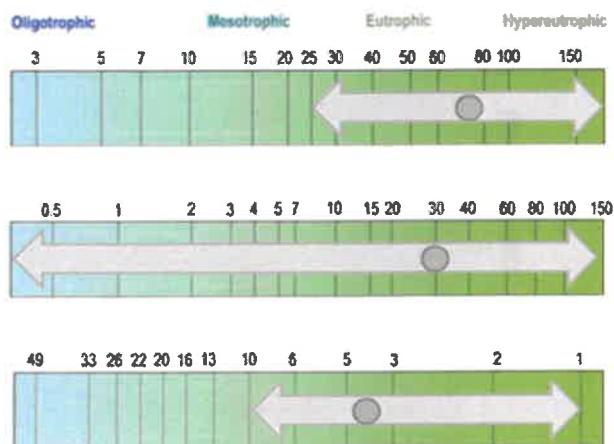
WATER QUALITY CHARACTERISTICS

YEARS MONITORED: 2007 - 2021

PARAMETERS	202
TOTAL PHOSPHORUS MIN (UG/L):	25
TOTAL PHOSPHORUS MAX (UG/L):	176
NUMBER OF OBSERVATIONS:	82
TOTAL PHOSPHORUS MEAN (UG/L):	73.5
CHLOROPHYLL-A MIN (UG/L):	0
CHLOROPHYLL-A MAX (UG/L):	147
NUMBER OF OBSERVATIONS:	76
CHLOROPHYLL-A MEAN (UG/L):	29.8
SECCHI DEPTH MIN (FT):	1
SECCHI DEPTH MAX (FT):	10
NUMBER OF OBSERVATIONS:	80
SECCHI DEPTH MEAN (FT):	4.2

TROPHIC STATE INDEX

Eutrophic (61.3)



ECOREGION COMPARISONS

ECOREGION: North Central Hardwood Forest

TOTAL PHOSPHORUS:	Poorer Than 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.



2021 WATER QUALITY CHARACTERISTICS

SITE 202

PARAMETERS	TOTAL PHOSPHORUS (UG/L)	CHLOROPHYLL-A (UG/L)	SECCHI DEPTH (FT)
MIN:	32	1	3
MAX:	109	61	7
NUMBER OF OBSERVATIONS:	5	5	5
MEAN:	84	27.6	4.4

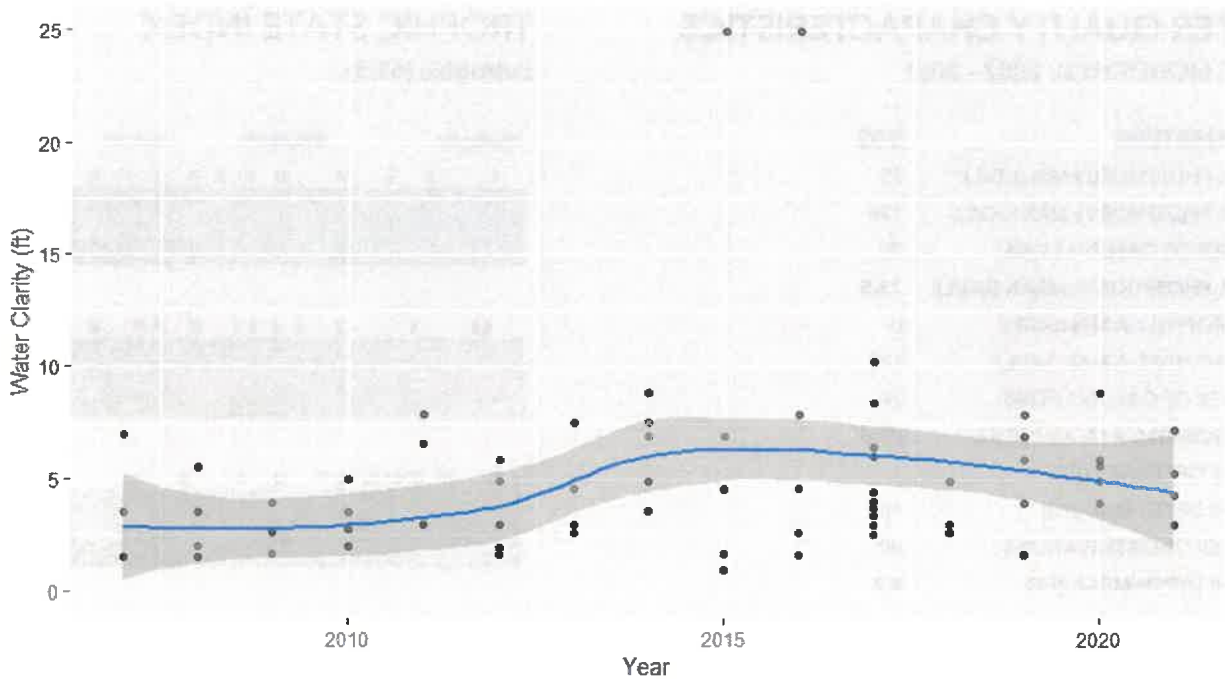
TROPHIC STATE INDEX: 60.4

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	2007-2021	Improving with 99% confidence
202	Total phosphorus	2007-2021	No significant trend exists
202	Chlorophyll-A	2007-2021	Improving with 99% confidence

WESTPORT LAKE TRANSPARENCY TREND



GRAPH SOURCE: MINNESOTA POLLUTION CONTROL AGENCY

Westport Lake shows evidence of an improving trend in transparency and algae concentration (chlorophyll-a). Nutrient levels appear to be stable. Monitoring should continue so that these trends can be tracked in future years and to inform lake restoration efforts.