

Summary

Trout Lake is located 20 miles north of Grand Rapids, MN in Itasca County. There is no evidence of a water quality trend. Trout Lake has four inlets and one outlet, which classify it as a groundwater drainage lake. There is also a large groundwater interaction component with the lake itself. Water quality data have been collected on Trout Lake since 1992. These data show that the lake is oligotrophic (TSI = 36) with very clear water conditions all summer. In fact, it is so cold and deep that it supports lake trout. Trout Lake is part of the Wabana Chain of Lakes Association (WCOLA). The association is involved in activities such as water quality monitoring and education. Trout Lake itself is mostly located in federally-owned land.



Lake Vitals

MN Lake ID:	31-0410-00
Ecoregion:	Northern Lakes and Forests
Major Watershed:	Mississippi R. -Grand Rapids
Surface area	1736 acres
% Littoral area:	43%
Max depth:	157 (ft) 48 (m)
Aquatic Invasive Species:	None

Long-term Trends

Recommend minimum of 8-10 years of data with 4+ readings per season. Minimum confidence accepted by MPCA is 90%. Trends are determined using the Mann Kendall statistical test.

Total Phosphorus:	Improving (90%)
Chlorophyll-a:	No Trend
Secchi Depth:	No Trend (1992-2011, 2020)

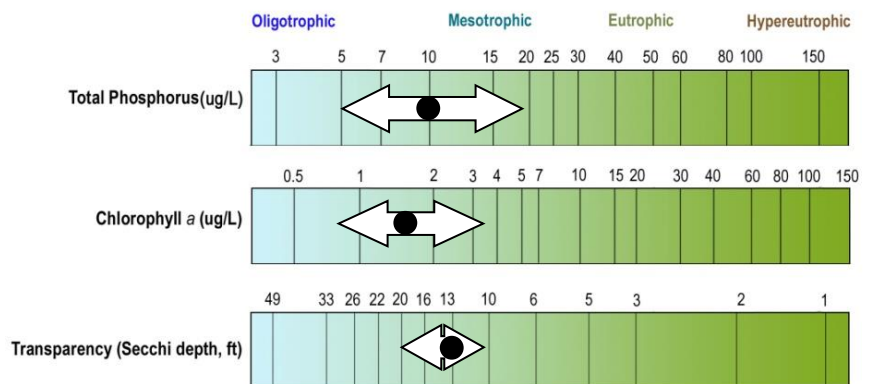
Water Quality Characteristics

Parameters	Site 204
Total Phosphorus Mean (ug/L):	9.4
Total Phosphorus Min (ug/L):	3
Total Phosphorus Max (ug/L):	33
Number of Observations:	43
Chlorophyll-a Mean (ug/L):	1.7
Chlorophyll-a Min (ug/L):	<1
Chlorophyll-a Max (ug/L):	4.1
Number of Observations:	38
Secchi Depth Mean (ft):	16.9
Secchi Depth Min (ft):	9.5
Secchi Depth Max (ft):	29.5
Number of Observations:	210

Trophic State Index

Trophic State: Oligotrophic (36)

The figure below shows the minimum and maximum values with the arrows and the mean with the black dot.



Historical Data Summary

Monitoring Program

Citizen Lake Monitoring Program	-
Itasca County Lake Assessment (+JLCWP)	-
Water Quality Inventory of Itasca County Lakes	-
MPCA Lake Monitoring Program Project	-
Lake Monitoring Program	-
Clean Water Legacy Surface Water Monitoring	-
Paleo Lakes	-
Bigfork River Watershed Priority Waters Assessment	Natural Resource Research Institute
Wabana Chain of Lakes	Itasca Community College
Wabana Chain of Lakes	Instrumental Research
Wabana Chain of Lakes	MN Chippewa Tribe

Laboratory

-	
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-	
-	
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-	
Natural Resource Research Institute	
Itasca Community College	
Instrumental Research	
MN Chippewa Tribe	

Years

1988, 1990, 1992-2011
2001-2002
2001
1988, 1991
2000, 2020
2015
2001-2002
2001-2002
2010, 2014
2005, 2008
1999, 2003