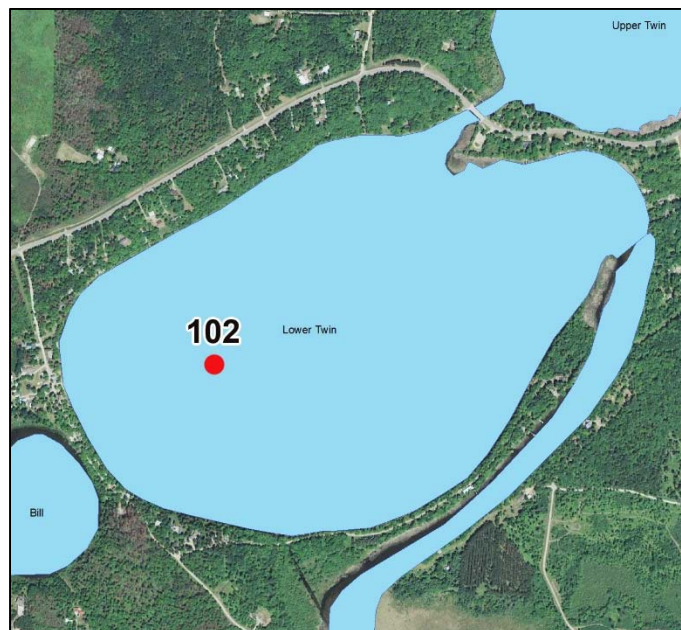


## Summary

Lower Twin Lake is a shallow, naturally eutrophic lake. Long-term trend analysis shows the water quality is stable. Potential lake impacts could come from shoreline runoff, septic systems and the Shell River. Residents can continue best management practices to protect the water quality into the future.

## Lake Vitals

MN Lake ID:	80-0030-00
Ecoregion:	Northern Lakes and Forests
Major Drainage Basin:	Upper Mississippi River
Surface area (acres):	225
Littoral area (acres):	225
% Littoral area:	100%
Max depth (ft), (m):	12, 3.7
Inlets / Outlets:	Shell River in and out
Public Accesses	1
Development Class:	Recreational Development
Aquatic Invasive Species:	Faucet Snail



## Water Quality Characteristics

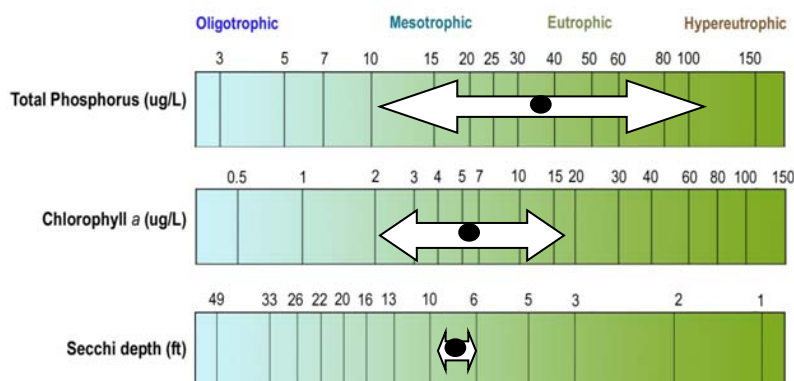
Years monitored: 1997- 2017

Parameters	Historical
Phosphorus Mean (ug/L):	36.8
Phosphorus Min (ug/L):	<5
Phosphorus Max (ug/L):	87.0
Number of Observations:	82
Chlorophyll-a Mean (ug/L):	15.5
Chlorophyll-a Min (ug/L):	3.0
Chlorophyll-a Max (ug/L):	85.0
Number of Observations:	82
Secchi Depth Mean (ft):	6.6
Secchi Depth Min (ft):	3.5
Secchi Depth Max (ft):	11.0
Number of Observations:	81

## Trophic State Index

Trophic State: Eutrophic (53)

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



## Long-term Trends

Primary site only. Recommend minimum of 8-10 years of data with 4+ readings per season. Minimum confidence accepted by MPCA is 90%

Data Quality	Excellent
Total Phosphorus:	No significant trend exists
Chlorophyll-a:	No significant trend exists
Secchi Depth:	No significant trend exists

## Ecoregion Comparisons

(Primary site only. Comparisons are based on interquartile range, 25th - 75th percentile, for ecoregion reference lakes)

Ecoregion:	Northern Lakes and Forests
Total Phosphorus:	Above Expected Range
Chlorophyll-a:	Within Expected Range
Secchi Depth:	Below Expected Range