# Big Mantrap Lake                     Hubbard County

## Summary

Big Mantrap Lake has good water quality that is typical for the area. There are no trends from 1997-2017 (20 years), which means the water quality is stable. Potential lake impacts could come from shoreline runoff, septic systems and the two inlets to the lake. Residents can continue best management practices to protect the water quality into the future.

## Lake Vitals

| | |
|---|---|
| MN Lake ID: | 29-0151-01 |
| Ecoregion: | Northern Lakes and Forests |
| Major Drainage Basin: | Upper Mississippi River |
| Surface area (acres): | 1,618 |
| Littoral area (acres): | 849 |
| % Littoral area: | 52% |
| Max depth (ft), (m): | 68 |
| Inlets / Outlets: | 2 inlets / 1 outlet |
| Public Accesses | 3 |
| Development Class: | Recreational Development |
| Aquatic Invasive Species: | None Listed |
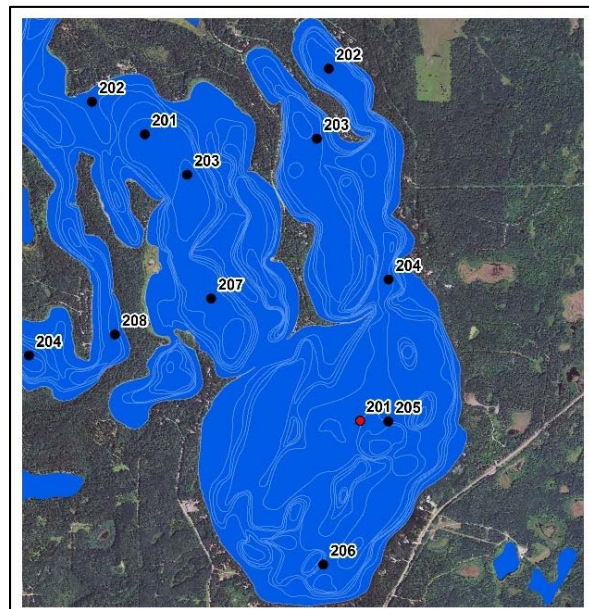
## Water Quality Characteristics

Years monitored: 1997-2017

| Parameters | Historical |
|---|---|
| Phosphorus Mean (ug/L): | 17.7 |
| Phosphorus Min (ug/L): | <5 |
| Phosphorus Max (ug/L): | 44.0 |
| Number of Observations: | 101 |
| | |
| Chlorophyll-a Mean (ug/L): | 5.5 |
| Chlorophyll-a Min (ug/L): | <1 |
| Chlorophyll-a Max (ug/L): | 20.0 |
| Number of Observations: | 100 |
| | |
| Secchi Depth Mean (ft): | 13.7 |
| Secchi Depth Min (ft): | 6.0 |
| Secchi Depth Max (ft): | 23.0 |
| Number of Observations: | 94 |

### Trophic State Index

Trophic State: Mesotrophic (43.4)

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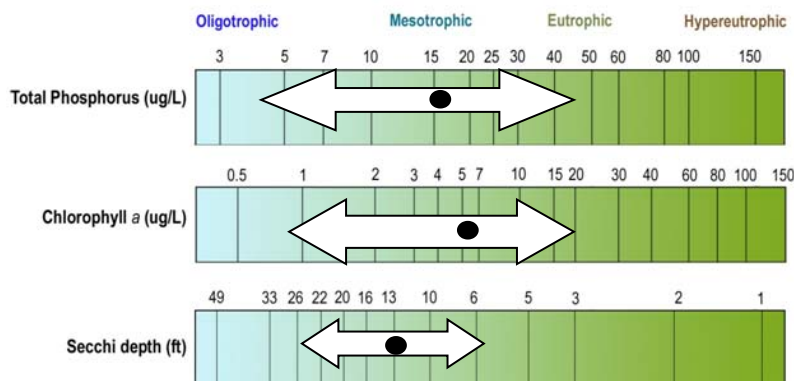


## Long-term Trends

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 | No significant trend exists |
|---|---|
| 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: | Within Expected Range |
| Chlorophyll-a: | Within Expected Range |
| Secchi Depth: | Within Expected Range |