

PIONEER LAKE TMDL SUMMARY

Impairment

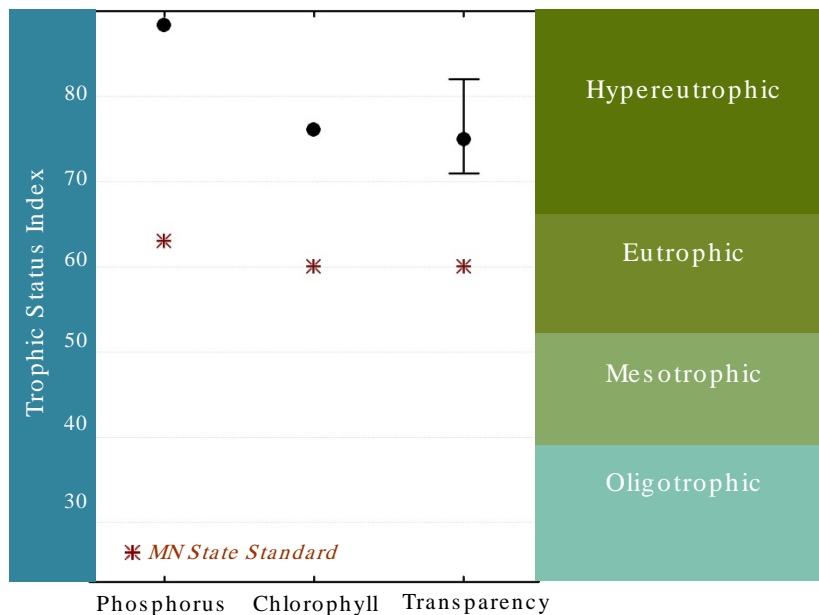
Aquatic recreation due to excess nutrients in the lake.

Water Quality Goal

A 96% reduction in phosphorus loads to the lake is needed to restore the aquatic recreation use of Pioneer Lake.

Observed Water Quality

Mean and Range of Annual Averages (Secchi: 2002, 2004, 2009 TP/Chl-A 2009)



Water Quality Standard

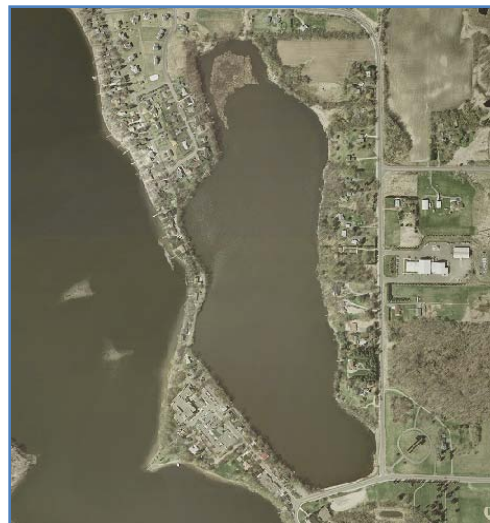
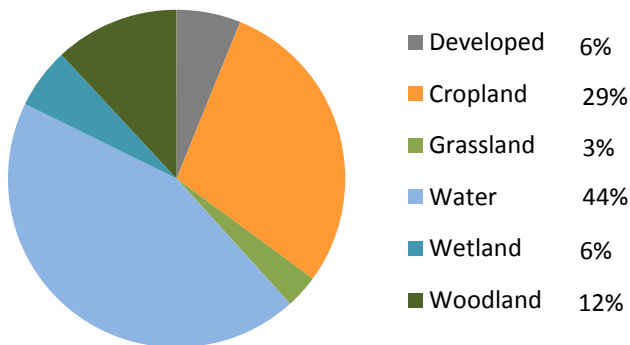
Secchi transparency – 1.0 m

Chlorophyll-*a* – 20 µg/L

Total phosphorus – 60 µg/L

Land Cover

Pioneer Lake



BASIC FACTS

| | |
|-------------------|------------|
| DNR ID | 13-0034-01 |
| Lake Surface Area | 77 acres |
| Littoral Area | 100% |
| Lake Volume | 385 ac-ft |
| Mean Depth | 5.0 ft |
| Maximum Depth | 8 feet |
| Drainage Area | 91 acres |
| Watershed Area: | |
| Lake Area Ratio | 1.2:1 |

Key Findings

- One Imminent Threat to Public Health septic systems has been recently upgraded.

Main Phosphorus Sources

- Internal loading
- Road runoff
- Septic Systems

Fish & Plants Present

- Curly leaf pondweed (invasive)
- Canada waterweed
- Cattails (non-native)
- Bluegill
- Black bullhead
- Pumpkinseed sunfish
- Yellow bullhead