

Somers Lake 86-0230-00

Somers Lake is a moderately sized, deep lake located approximately two miles north of Maple Lake, Minnesota. Somers Lake's watershed is small with an area of 1,165 hectares (2,883 acres) and a watershed to lake ratio of 18:1. Land use is dominated by cropland and the percentage is within the range of values expected for the NCHF (Appendix D).

The average TP and chl-*a* values for Somers Lake were 84 µg/L and 49 µg/L respectively. Each was above the water quality standard for lakes within the NCHF ecoregion. Total phosphorus and chl-*a* data, collected in 2009 and 2010, ranged from 45 µg/L to 93 µg/L and 16 µg/L to 64 µg/L respectively. Coinciding with the high levels of TP and chl-*a*, the water clarity for Somers Lake was above the water quality standard with an average of 1 meter (3.3 feet) (Appendix A).

Historic profile data, collected in 1996, indicated that Somers Lake formed a thermocline in May and July but was well mixed during other monitoring months. This suggests that Somers Lake may form a thermocline during calm periods but otherwise remains mixed. With the exception of June, DO levels dropped below 5 mg/L at varying depths with anoxic conditions developing below.

Long-term chemistry and Secchi data is available to complete a trend analysis. Figure 75 indicates a slight decline in TP levels; however, water clarity within Somers Lake is also declining. Total phosphorus averages for all years have been above the water quality standard.

Based on the chemical monitoring results and water clarity, Somers Lake was classified as a eutrophic lake. Additionally, based on the TP and chl-*a* standards for the support of aquatic recreation, Somers Lake was determined to be non supporting of aquatic recreational use and was listed as an impaired water under the 2008 303(d) Impaired Waters List. Recent data supports this listing.

Figure 75. Sommers Lake long-term water quality data

