

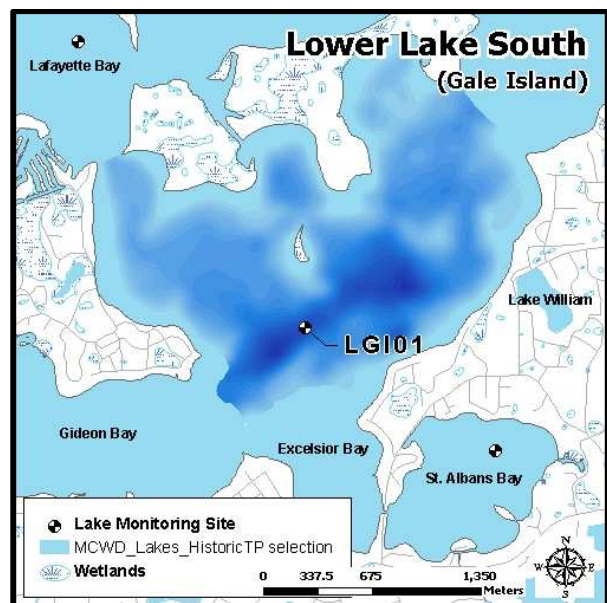
Lower Lake South (Gale Island) (DNR ID 27-0133-00)

MCWD Site ID: LGI01

Sampling Location GPS Coordinates: 44.91498N, -93.5666W

Area acres): 1069

Max. Depth ft): 77



Site Information

Lake Minnetonka is a class 2B lake protected for aquatic life and recreation. Lower Lake South is located near the cities of Tonka Bay and Greenwood. The bay is located in the south central area of Lake Minnetonka and is adjacent to Gideon Bay, Lower Lake North, and Lafayette Bay. Water quality information is available beginning in 1974. MCWD staff have been monitoring the lake on a bi-weekly basis from the time of ice out (April) to the time of fall mixing (mid-October) since 2006. A YSI multi-probe meter was used to measure dissolved oxygen (DO), temperature ($^{\circ}\text{C}$), pH, and specific conductivity ($\mu\text{S}/\text{cm}$) from the water surface and at each meter depth to the bottom. Water samples were collected at 1 meter below the water surface as well as one meter from the bottom. Surface and bottom sample parameters analyzed included total phosphorus (TP), total dissolved phosphorus (TDP), soluble reduced phosphorus (SRP), total nitrogen (TN), total dissolved nitrogen (TDN), NO_3/NO_2 , and ammonia (NH_4). Chlorophyll-*a* surface concentrations were also analyzed and measurements of Secchi disc depth were recorded.

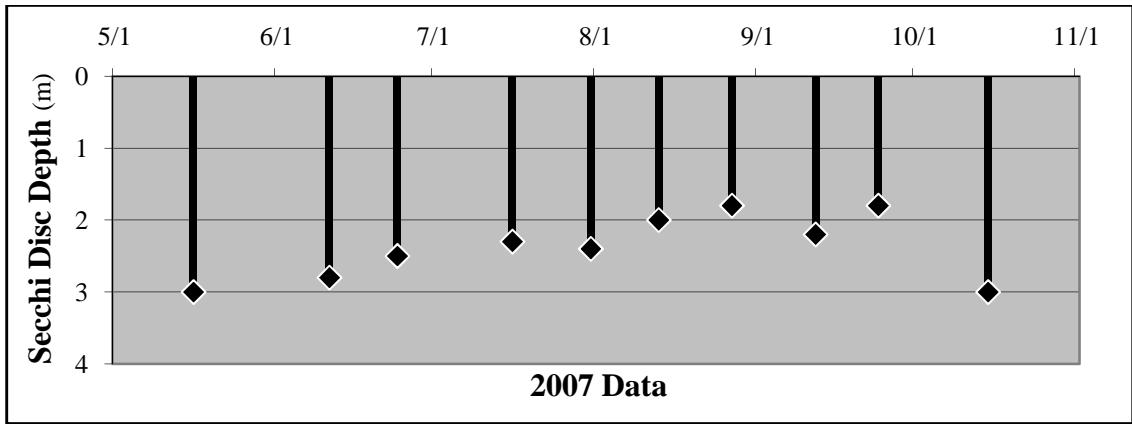
2007 Data Summary

- Secchi disc depth remained above the standard (1.2 m) throughout the season gradually decreasing in depth as the summer progressed.
- Chlorophyll-*a* concentrations increased throughout the season, declining in late July, and remaining below the standard (15 ppb) for the entire summer.
- TP concentrations increased throughout most of the season and were below the standard (40 ppb) for all but the last sample collected.

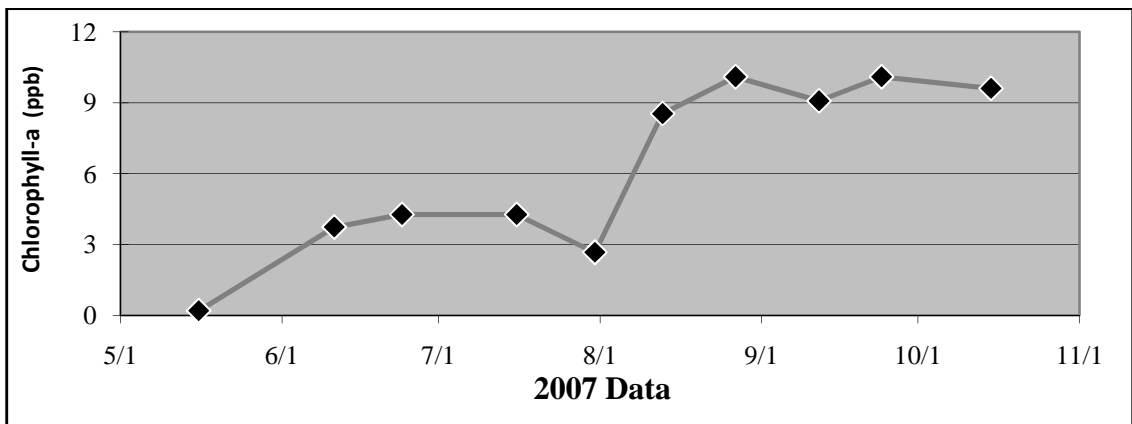
Table 2.14 Lower Lake South 2007 Summary

2007 Summer (May-September) Water Quality Summary				
Parameter	Range	Mean	Grade	TSI value *
Secchi Depth (m)	1.8 - 3.0	2.3	B	48
Surface TP ($\mu\text{g/L}$)	12.0 - 37	26.0	B	52
Chlorophyll- <i>a</i> ($\mu\text{g/L}$)	<0.2 - 10.1	5.9	A	49
		Overall Score	B+	50

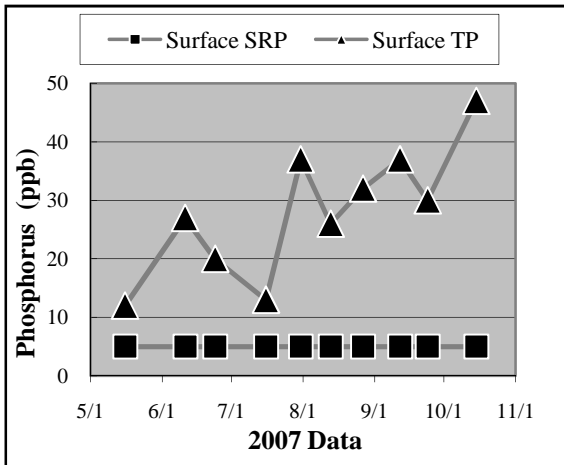
**excludes May Data*



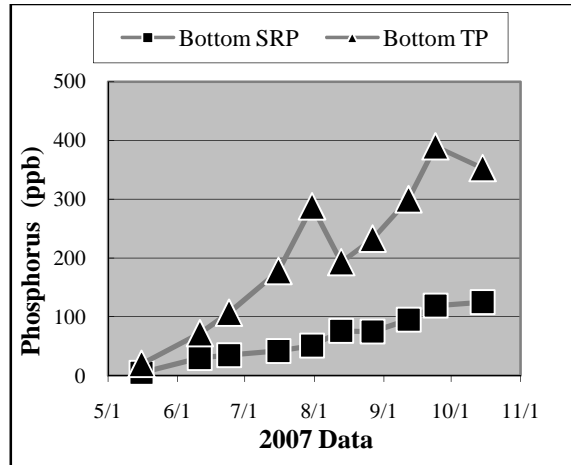
a.



b.

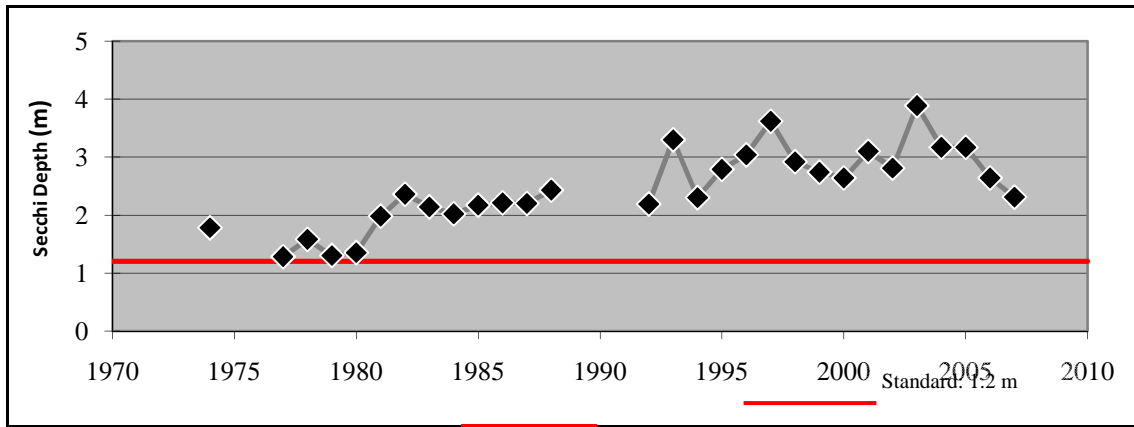


c.

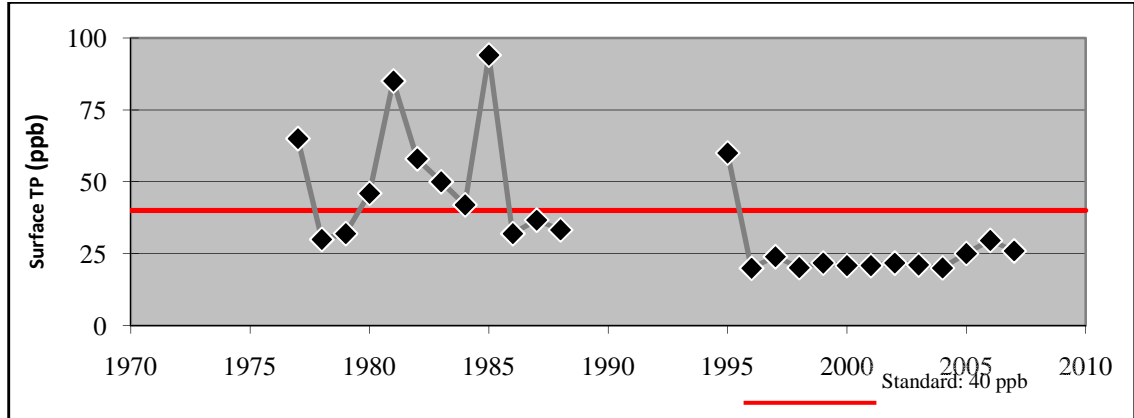


d.

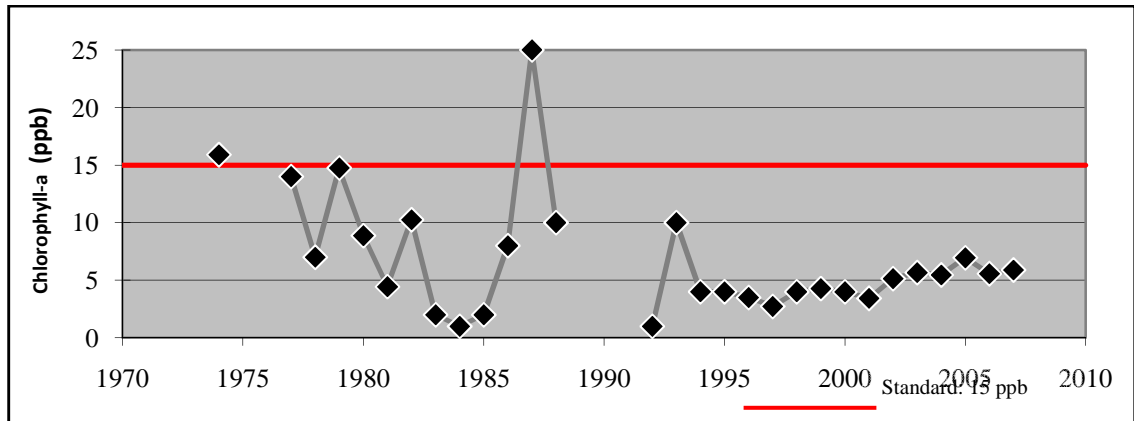
**Figure 2.16 (a-d) Lower Lake South (Gale Island)
2007 Grade: B+**



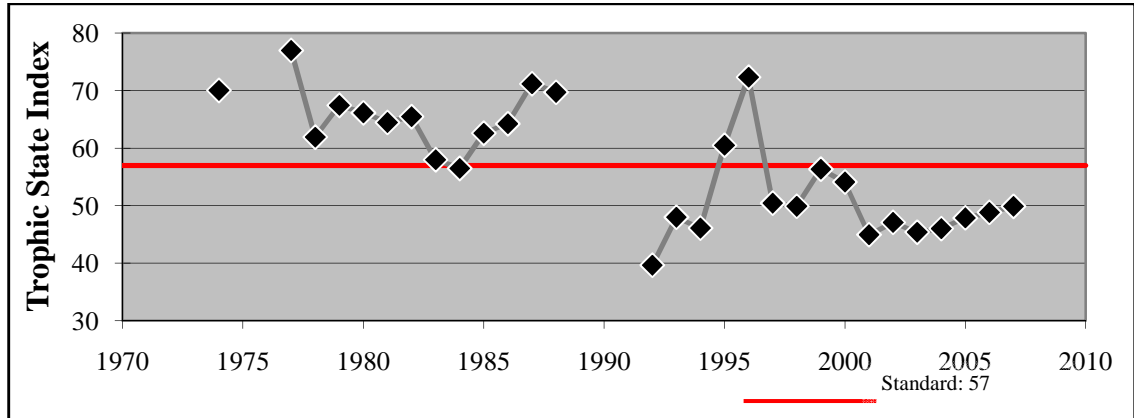
e.



f.



g.



h.

Figure 2.16 (e - h) Lower Lake South (Gale Island) - Summer Mean Values