

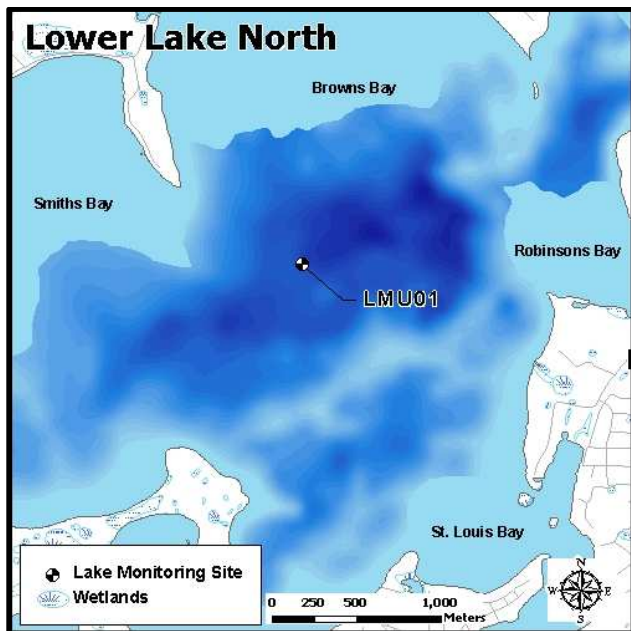
Lower Lake North (27-0133-02)

MCWD Site ID: LMU01

Sampling Location GPS Coordinates: 44.94635N, -93.54041W

Area (acres): 1008

Max. Depth (ft): 73



Site Information

Lake Minnetonka is a class 2B lake protected for aquatic life and recreation. Lower Lake North is located near the cities of Orono, Deephaven, and Minnetonka Beach on Lake Minnetonka. Adjacent bays include Lafayette Bay, Browns Bay, Smiths Bay, and Robinsons Bay. Public lake access is available at the Grays Bay boat access located off of Bushaway Road (County Road 101) 1 mile south from US Hwy 12 in Wayzata. Boat Access is also available from the Carsons Bay boat access located half a mile west off Minnetonka Blvd from Vine Hill Road in Deephaven. Water quality information is available beginning in 1997. 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.

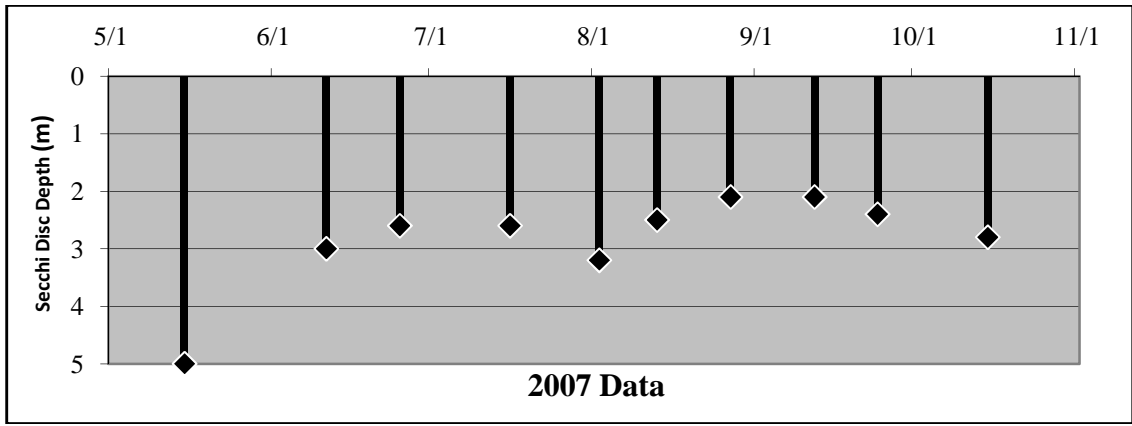
2007 Data Summary

- Secchi Depth remained above the standard (1.2 m) throughout the season remaining constant for the most season.
- Chlorophyll-*a* concentrations increased throughout the season remaining below the standard (15 ppb) for the entire season.
- TP concentrations remained below the standard (40 ppb) for most of the season before mid-September with the exception of one sample in mid-June.

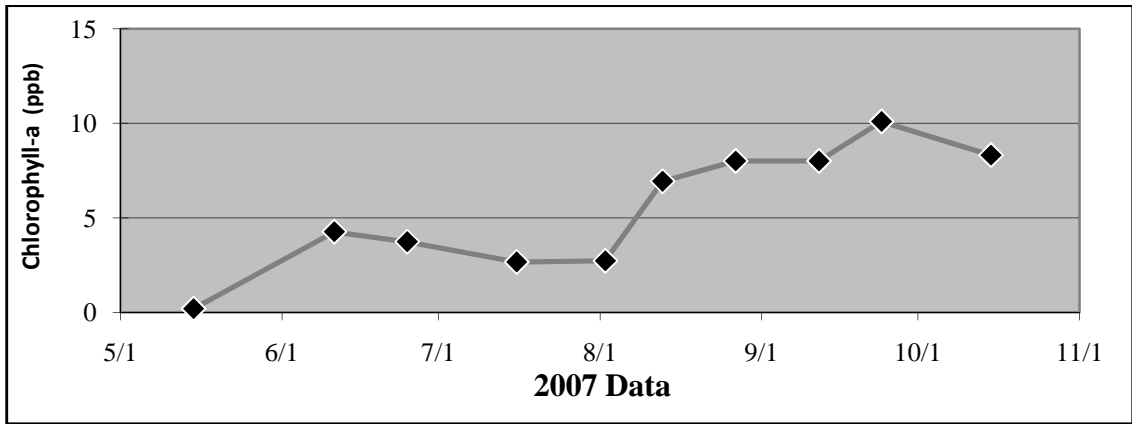
Table 2.13 Lower Lake North 2007 Summary

2007 Summer (May-September) Water Quality Summary				
Parameter	Range	Mean	Grade	TSI value *
Secchi Depth (m)	2.1 - 5	2.6	B	46
Surface TP ($\mu\text{g/L}$)	10 - 70	29.4	B	53
Chlorophyll- <i>a</i> ($\mu\text{g/L}$)	<0.2 - 10.1	5.8	A	48
		Overall Score	B+	49

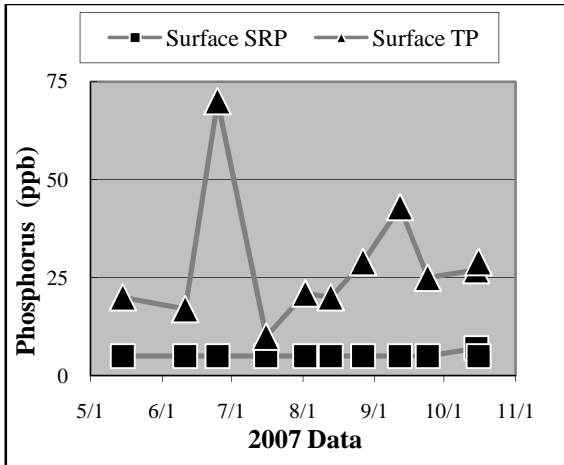
**excludes May data*



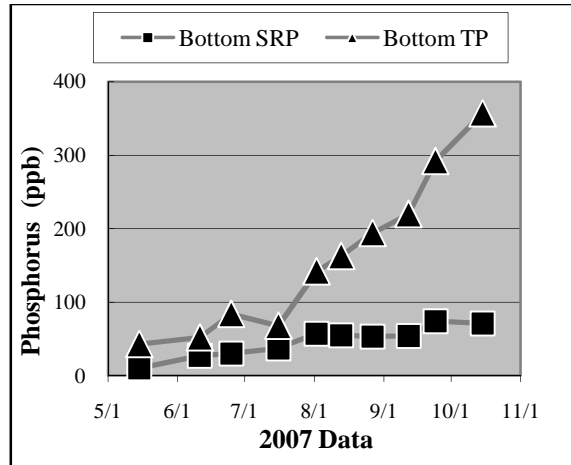
a.



b.

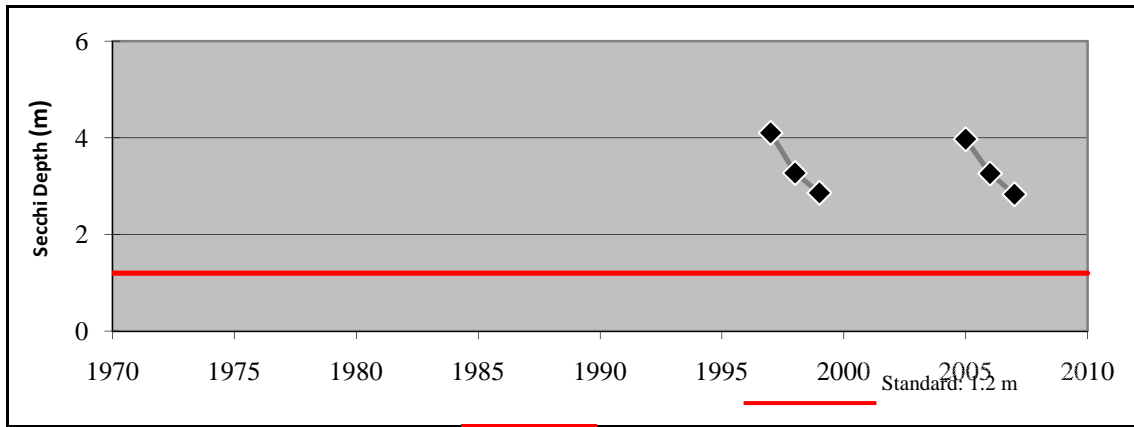


c.

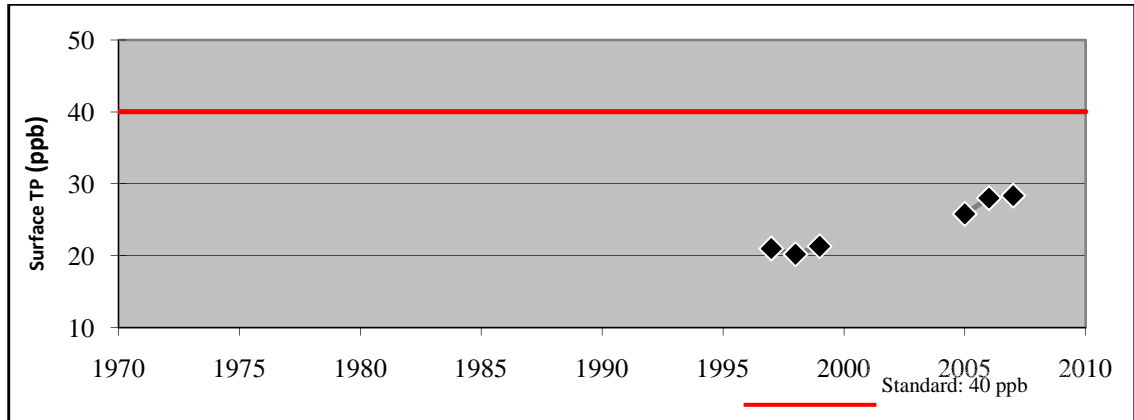


d.

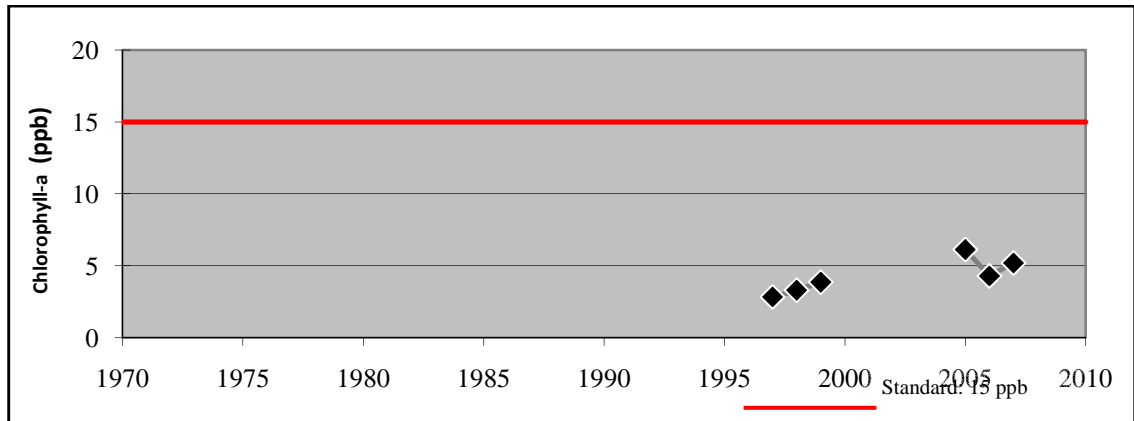
**Figure 2.15 (a-d) Lower Lake North
2007 Grade: B+**



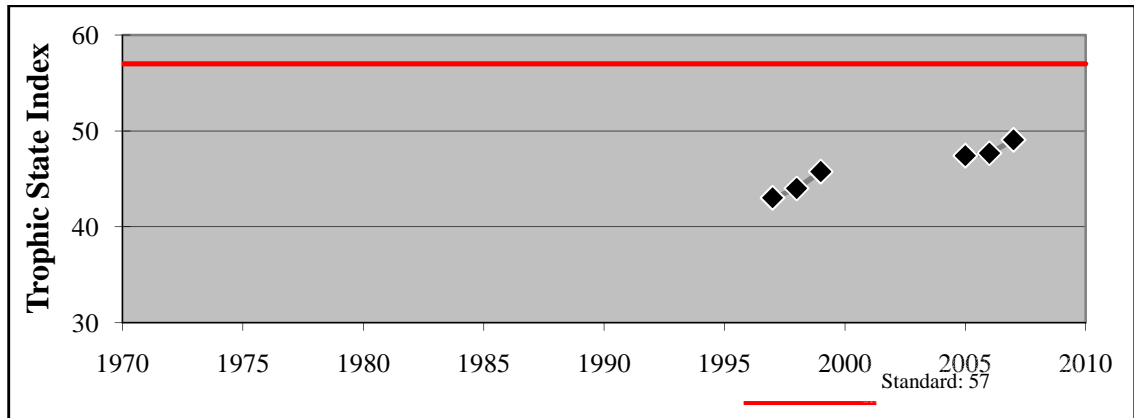
e.



f.



g.



h.

Figure 2.15 (e - h) Lower Lake North - Summer Mean Values