

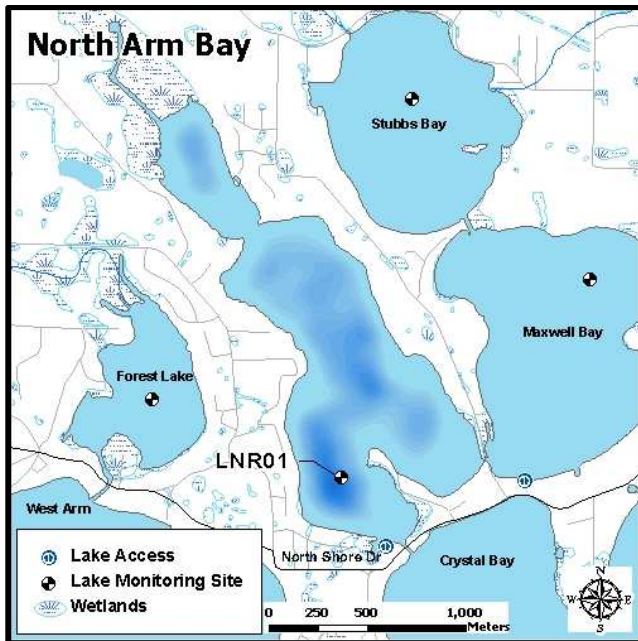
North Arm (DNR ID 27-0133-13)

MCWD Site ID: LNR01

Sample Location GPS Coordinates: 44.95313N, -93.6201W

Surface Area (acres): 307

Max. Depth (ft): 64



Site Information

Lake Minnetonka is a class 2B lake protected for aquatic life and recreation. Maxwell Bay 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 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.

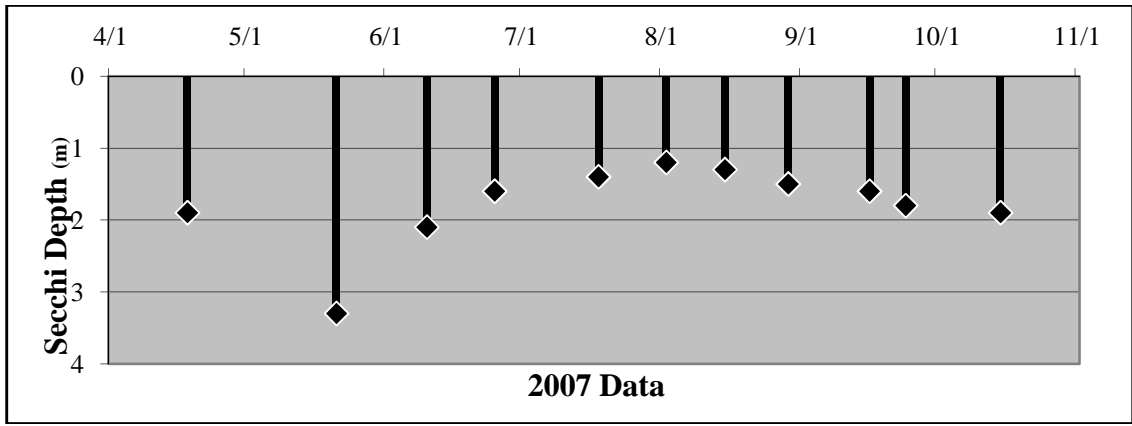
2007 Data Summary

- After high initial readings, Secchi Depth fell below the standard (1.2 m) by August and then increased slightly for the remainder of the season.
- Chlorophyll-*a* concentrations experienced a steady increase through mid-August before declining to almost below detection limit (<0.5 ppb) by the end of the season. Only the first and last samples analyzed were below the standard (15 ppb).
- TP concentrations declined throughout most of the season, but were well above the standard (40 ppb) for all samples. Beyond August the concentrations increased in every sample collected.

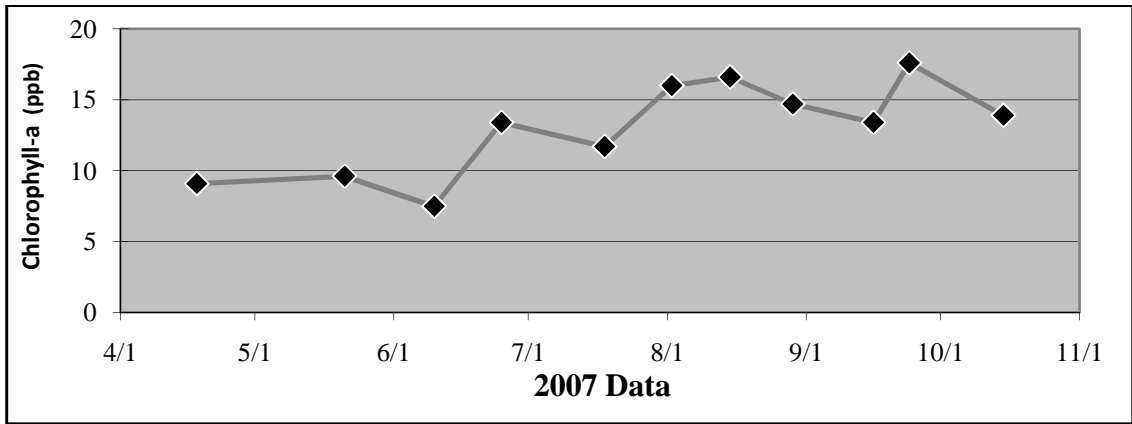
Table 2.16 North Arm 2007 Summary

2007 Summer (May-September) Water Quality Summary				
Parameter	Range	Mean	Grade	TSI value *
Secchi Depth (m)	1.2 - 3.3	1.6	C	54
Surface TP (µg/L)	16 - 62	36.3	C	56
Chlorophyll- <i>a</i> (µg/L)	7.5 - 17.6	13.9	B	56
		Overall Score	C+	55

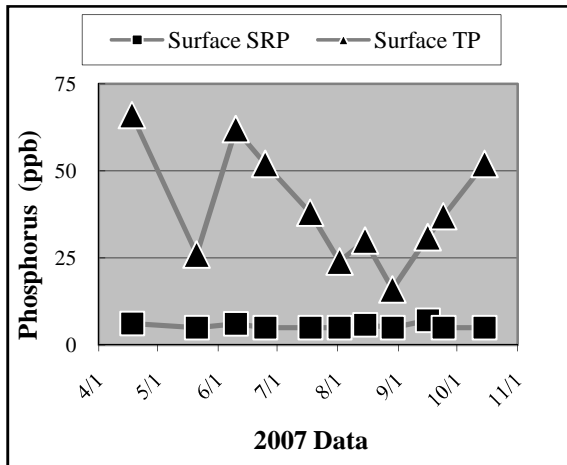
**excludes May Data*



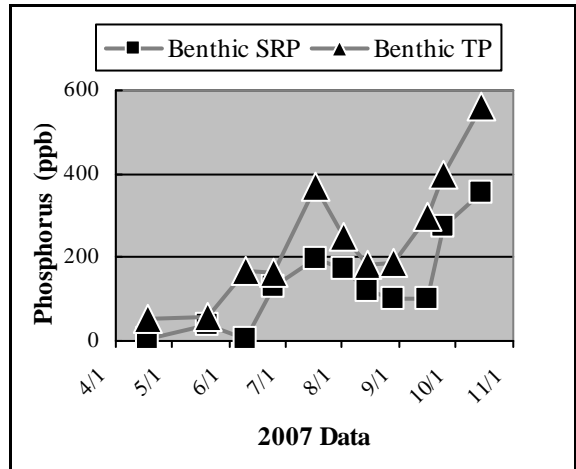
a.



b.

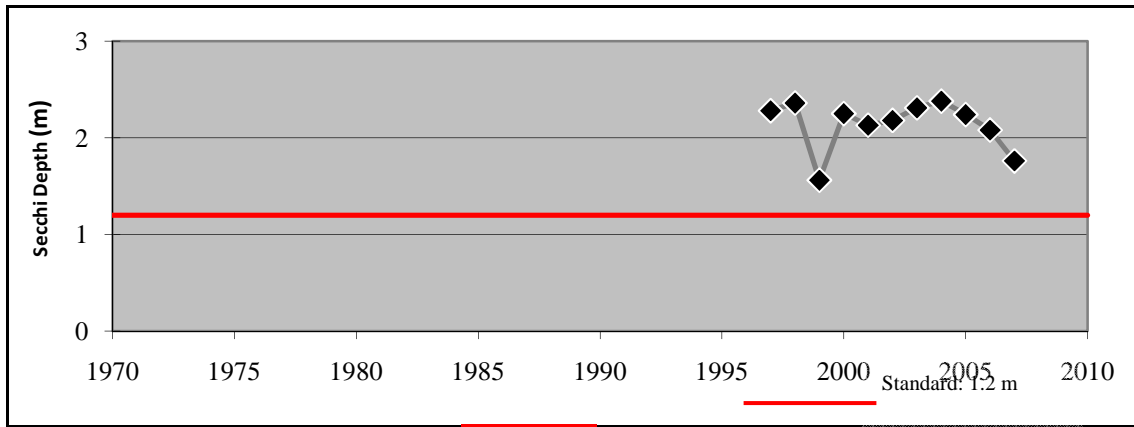


c.

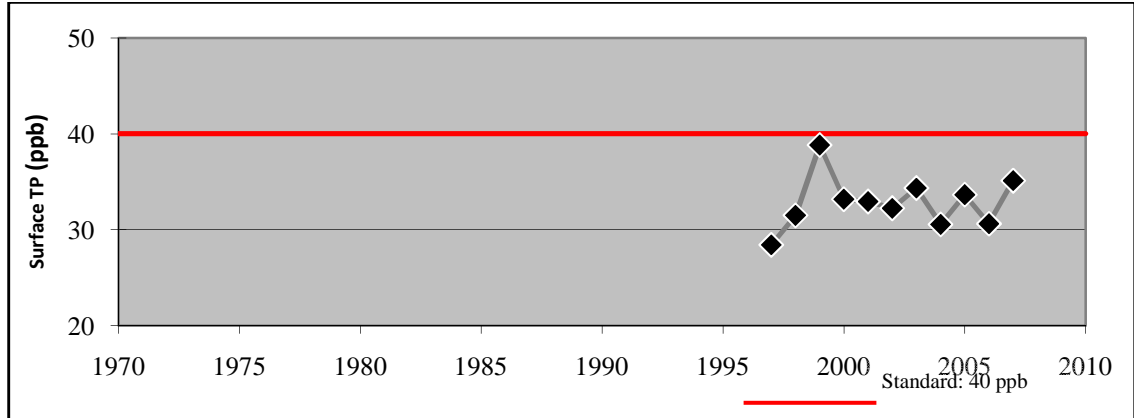


d.

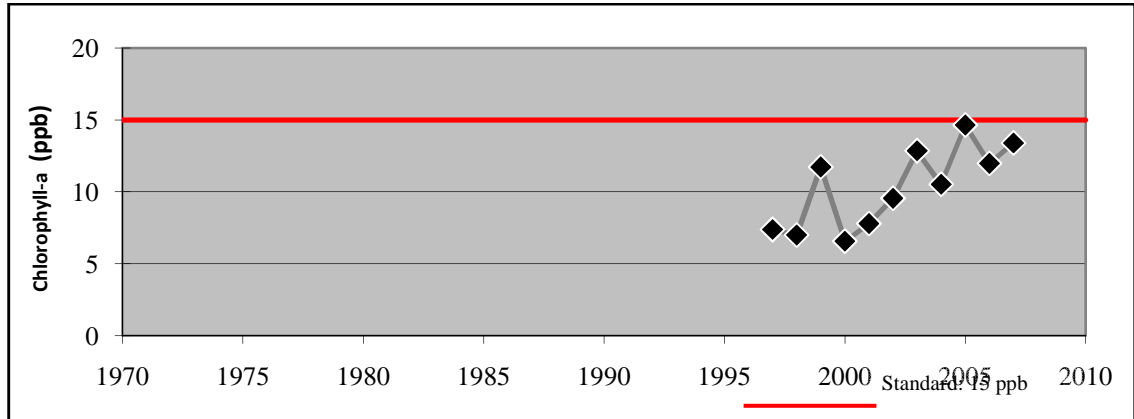
Figure 2.18 (a-d) North Arm
2007 Grade: C+



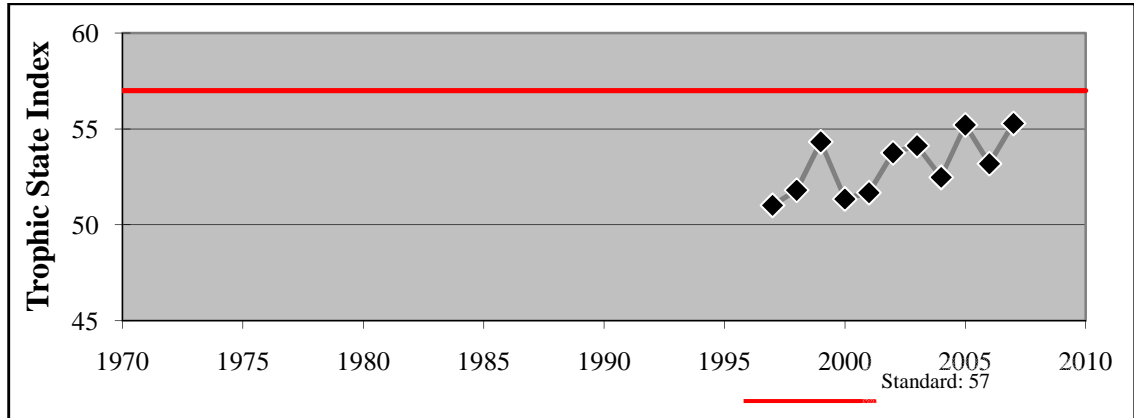
e.



f.



g.



h.

Figure 2.18 (e - h) North Arm - Summer Mean Values