

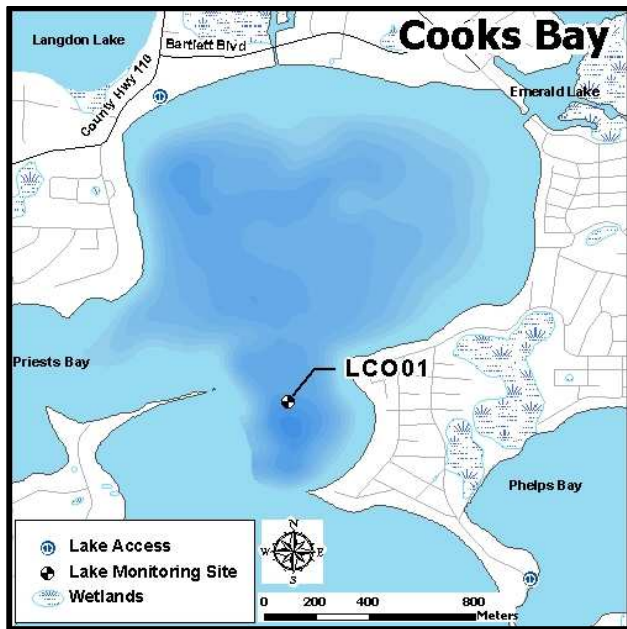
Cooks Bay (DNR ID 27-0133-00)

MCWD Site ID: LCO01

Sampling Location GPS Coordinates: 44.91800N, -93.66310W

Surface Area (acres): 362

Max. Depth (ft): 43



Site Information

Lake Minnetonka is a class 2B lake protected for aquatic life and recreation. Cooks Bay is located near the cities of Mound and Minnetrista on Lake Minnetonka. Adjacent bays include Priests Bay, West Upper Lake and Emerald Lake. Public lake access is available in West Upper Lake at the Lake Minnetonka Regional Park. Water quality information is available beginning in 1996. 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.

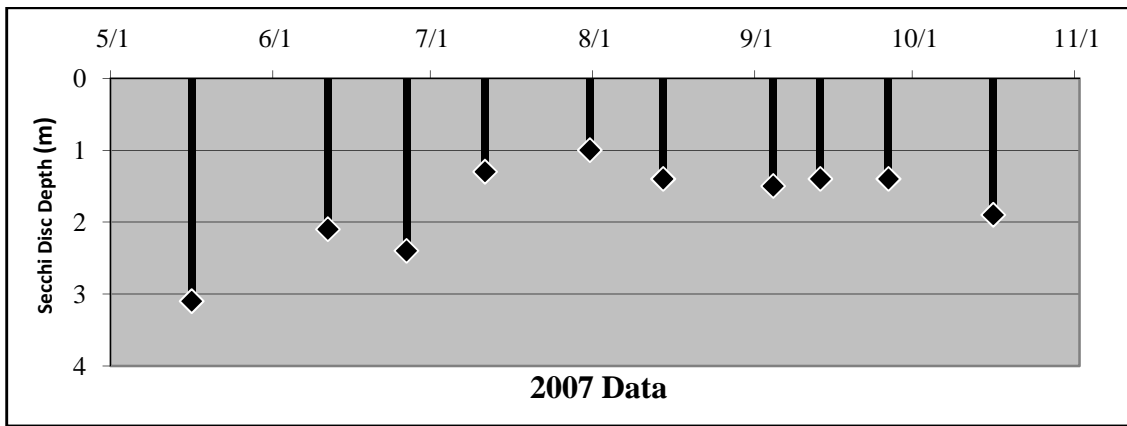
2007 Data Summary

- 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 throughout the season, ending at just above standard (15 ppb).
- After a dramatic initial increase to over twice the standard (40 ppb) Chlorophyll-*a* concentrations returned to near standard levels for the remainder of the season.

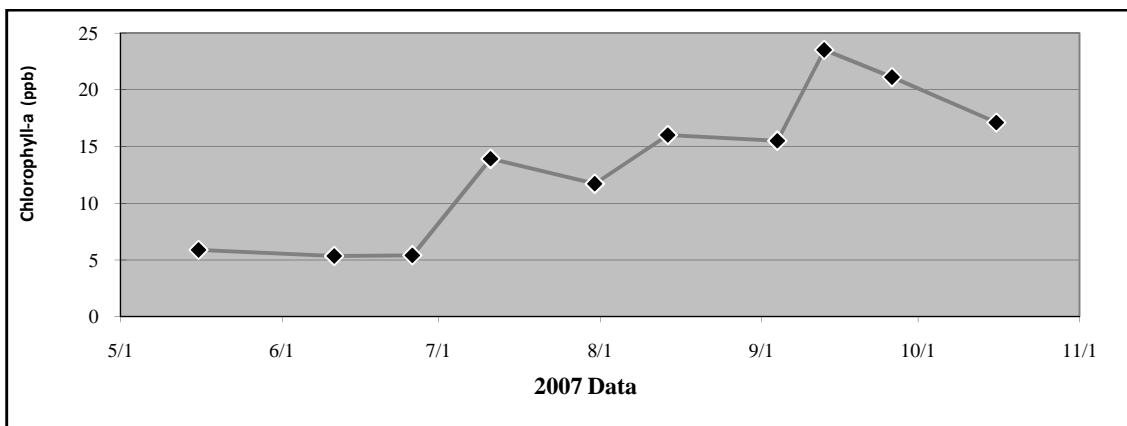
Table 2.4 Cooks Bay 2007 Summary

2007 Summer (May-September) Water Quality Summary				
Parameter	Range	Mean	Grade	TSI value *
Secchi Depth (m)	1.0 - 3.1	1.6	C	54
Surface TP ($\mu\text{g/L}$)	12 - 101	34.1	C	55
Chlorophyll- <i>a</i> ($\mu\text{g/L}$)	5.3 - 23.5	15.3	B	57
		Overall Score	C+	55

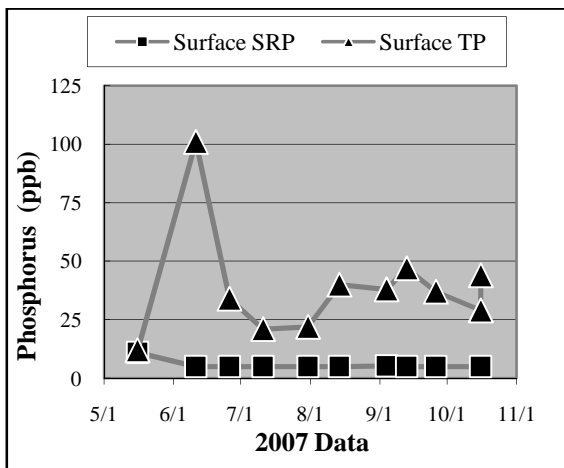
**excludes May Data*



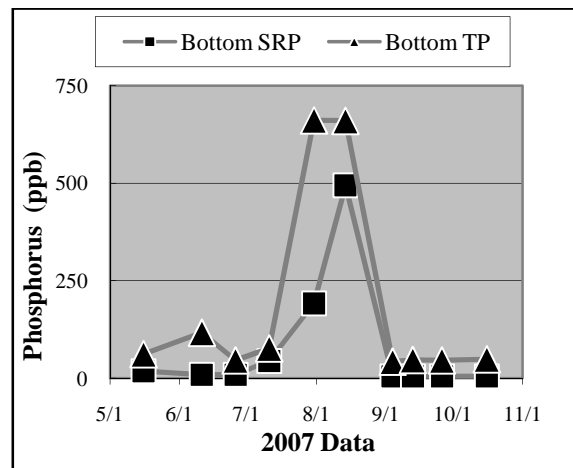
a.



b.

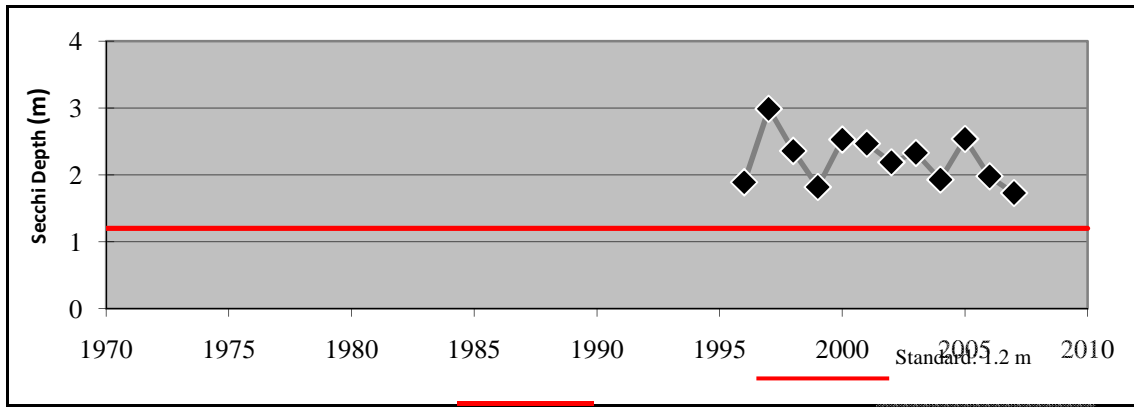


c.

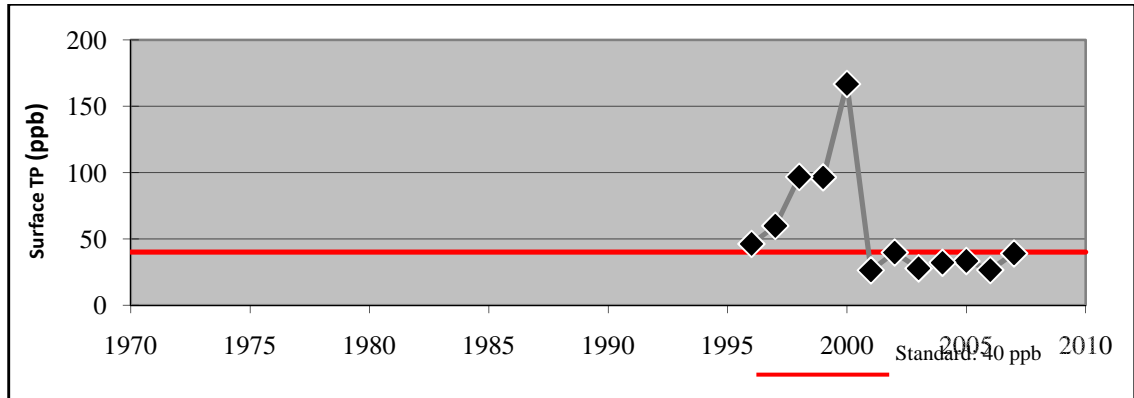


d.

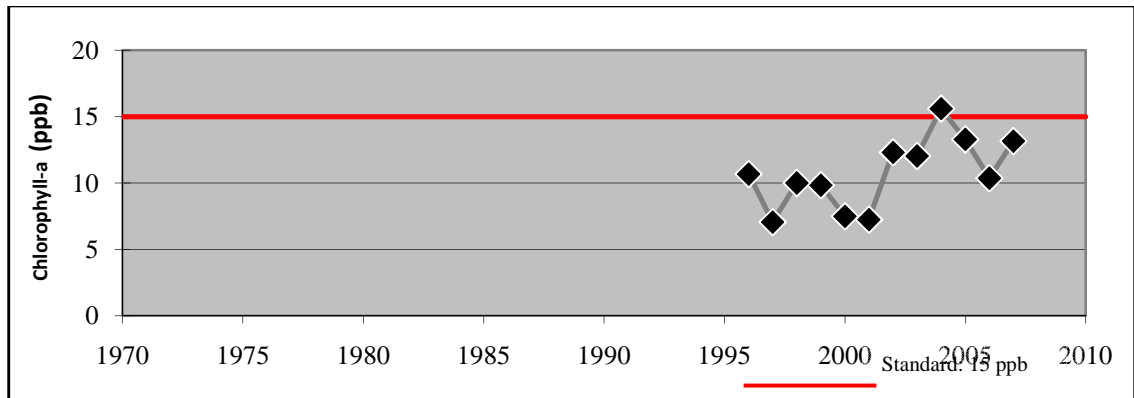
**Figure 2.5 (a-d) Cooks Bay
2007 Grade: C+**



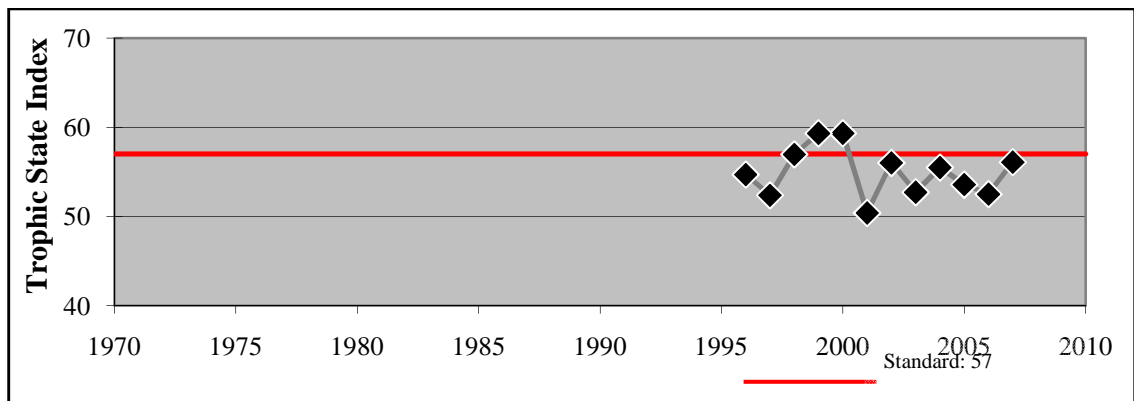
e.



f.



g.



h.

Figure 2.5 (e - h) Cooks Bay - Summer Mean Values