

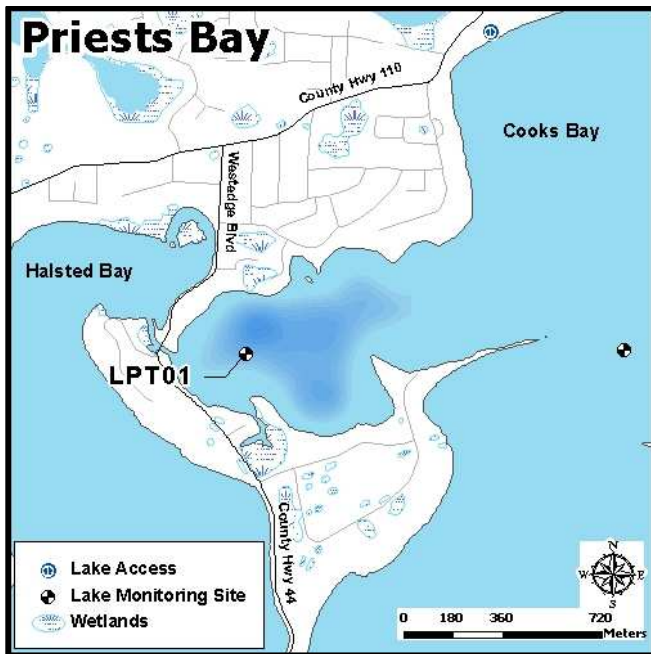
Priests Bay (DNR ID 27-0133-00)

MCWD Site ID: LPT01

Sample Location GPS Coordinates: 44.91861N, -93.68074W

Surface Area (acres): 120

Max. Depth (ft): 46



Site Information

Lake Minnetonka is a class 2B lake protected for aquatic life and recreation. Priests Bay is located on the western side of Lake Minnetonka near the city of Minnetrista. The bay is adjacent to Cooks Bay and Halsted Bay. Water Quality information is available starting in 2004. 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.

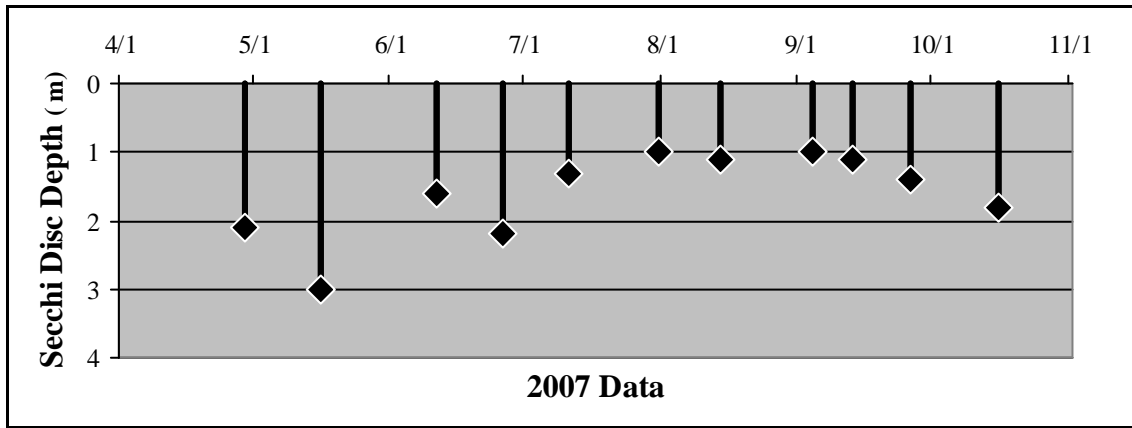
2007 Data Summary

- Secchi disc depth was above the standard (1.2 m) for much of the season. Declining depths were seen starting in mid-May. Measurements were below the standard starting at the end of July through mid-September and then increased above the standard for the remainder of the season.
- Chlorophyll-*a* concentrations were above the standard (15 ppb) for the majority of the season. Only the first two samples had concentrations below the standard while increasing concentrations occurred from mid-May to mid-July. A decline was seen in late July but concentrations increased to peak levels by mid-September.
- TP concentrations were near the standard (40 ppb) for most of the season. The peak concentration occurred in mid-May and then dropped just below the standard through June. After June concentrations gradually increased for the remainder of the season.

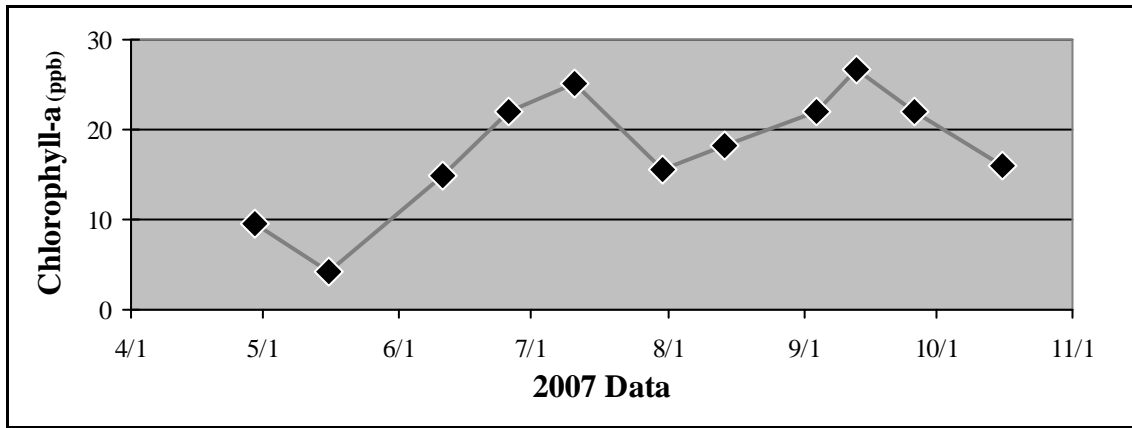
Table 2.19 Priests Bay 2007 Summary

2007 Summer (May-September) Water Quality Summary				
Parameter	Range	Mean	Grade	TSI value *
Secchi Depth (m)	1.0 - 3.0	1.3	C	56
Surface TP (µg/L)	32 - 87	42.6	C	58
Chlorophyll- <i>a</i> (µg/L)	4.3 - 26.7	20.8	B	60
		Overall Score	C+	58

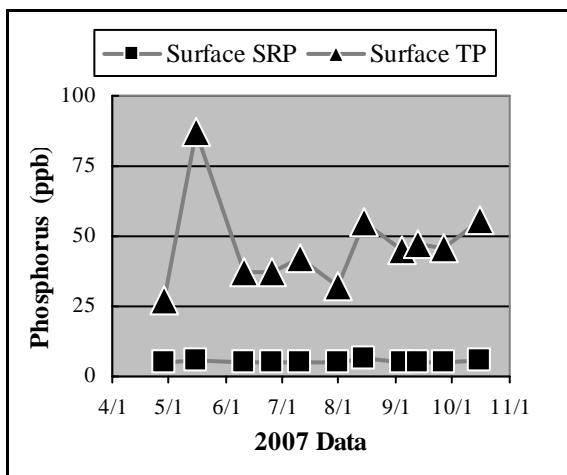
**excludes May Data*



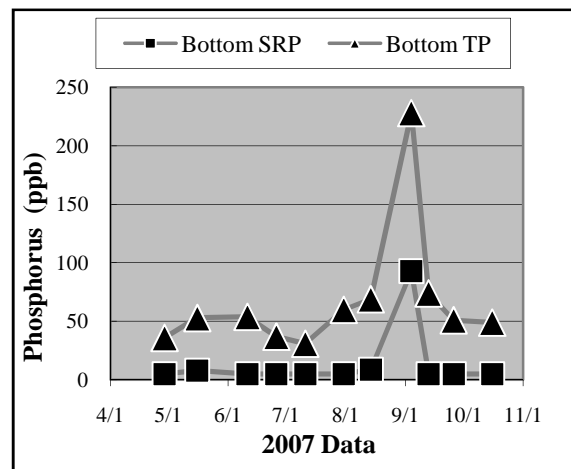
a.



b.

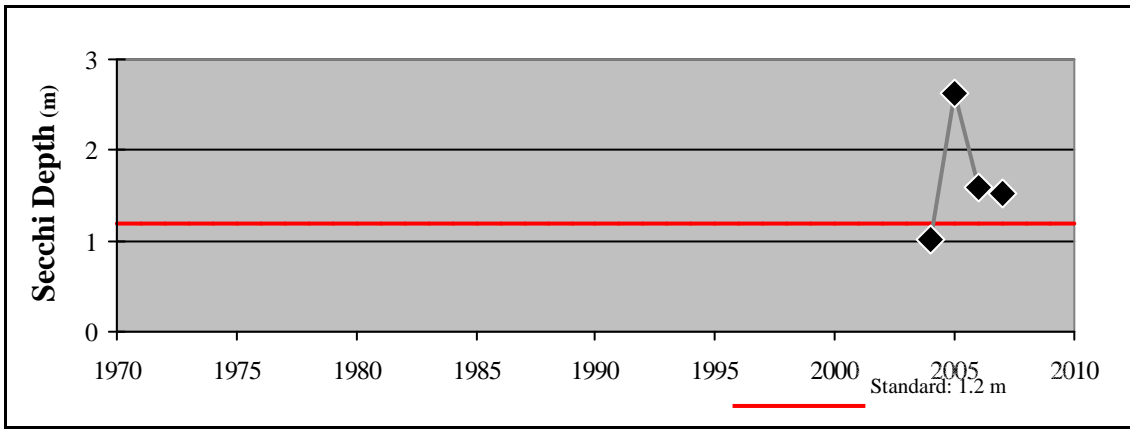


c.

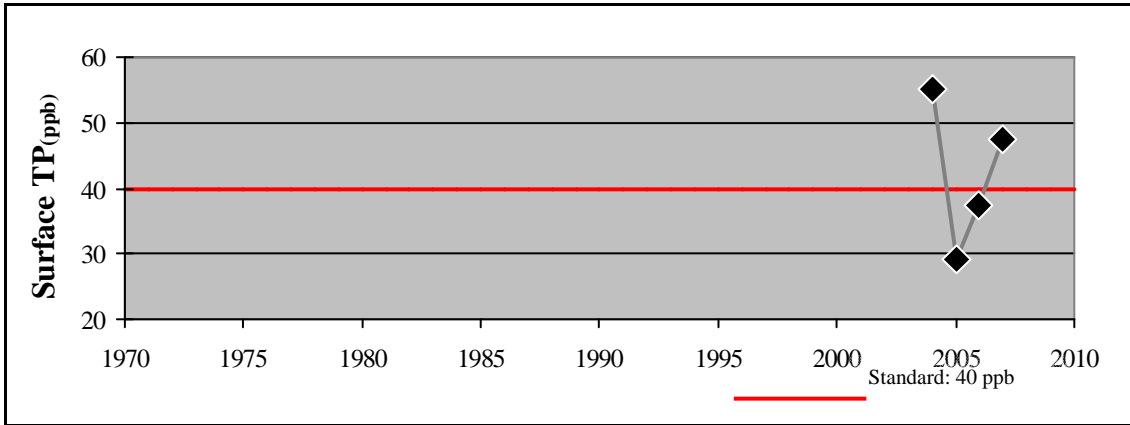


d.

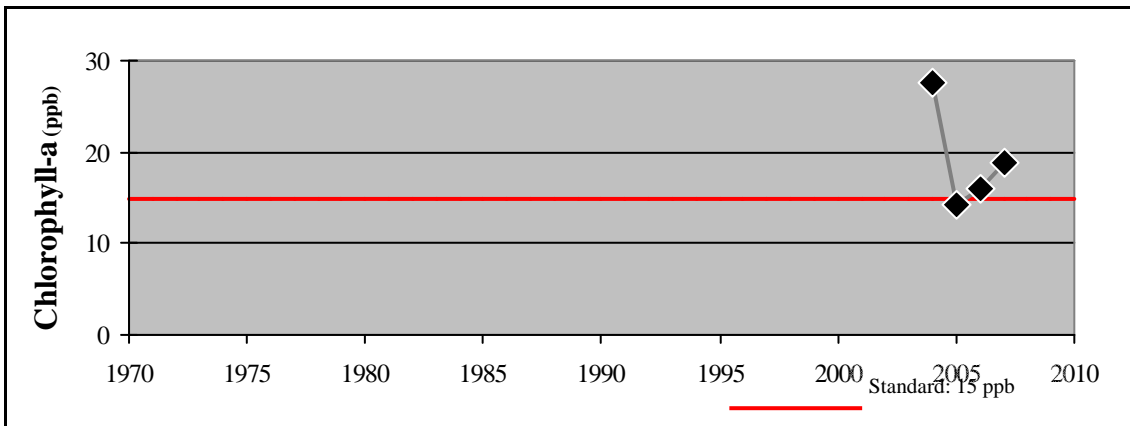
Figure 2.21 (a-d) Priests Bay
2007 Grade: C+



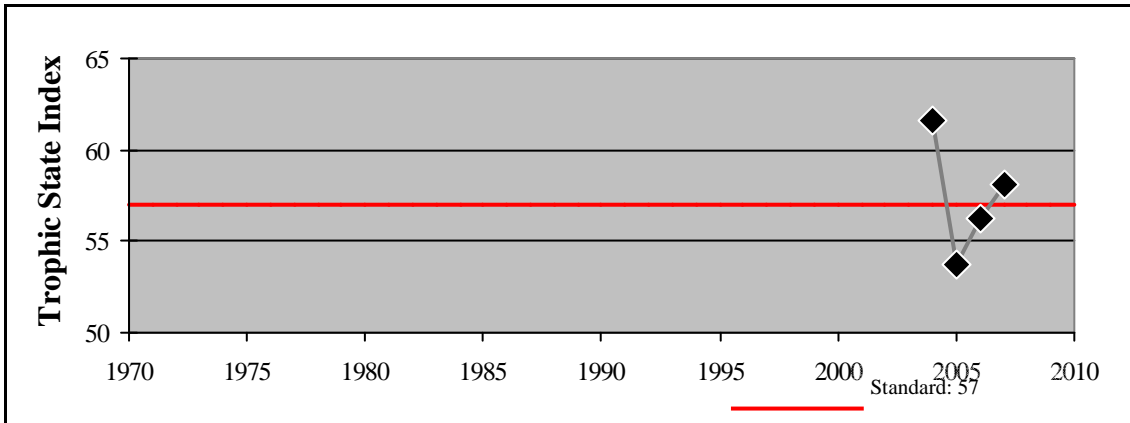
e.



f.



g.



h.

Figure 2.21 (e - h) Priests Bay - Summer Mean Values