

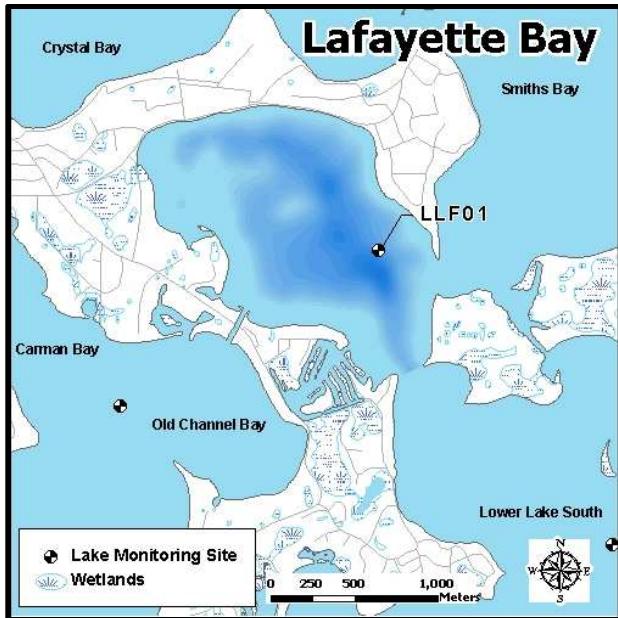
## Lafayette Bay (27-0133-00)

MCWD Site ID: LLF01

Sampling Location GPS Coordinates: 44.9314N, -93.5823W

Surface Area (acres): 460

Max. Depth (ft): 62



### Site Information

Lake Minnetonka is a class 2B lake protected for aquatic life and recreation. Lafayette Bay is located near the city of Minnetonka Beach on Lake Minnetonka. The lake is located in the central part of the lake connected to Old Channel Bay through the Narrows Channel with adjacent bays of Lower Lake South and Lower Lake North as well. 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),  $\text{NO}_3/\text{NO}_2$ , and ammonia ( $\text{NH}_4$ ). Chlorophyll-*a* surface concentrations were also analyzed and measurements of Secchi disc depth were recorded.

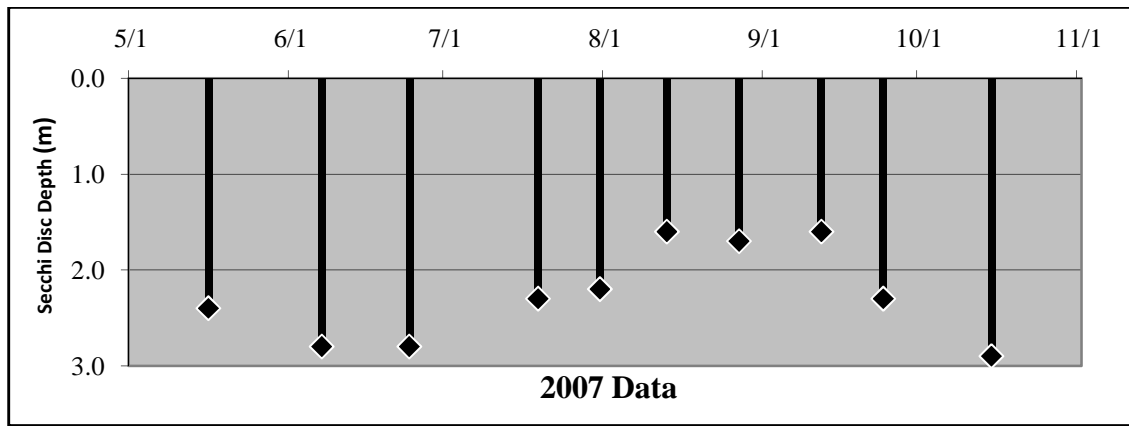
## 2007 Data Summary

- 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.

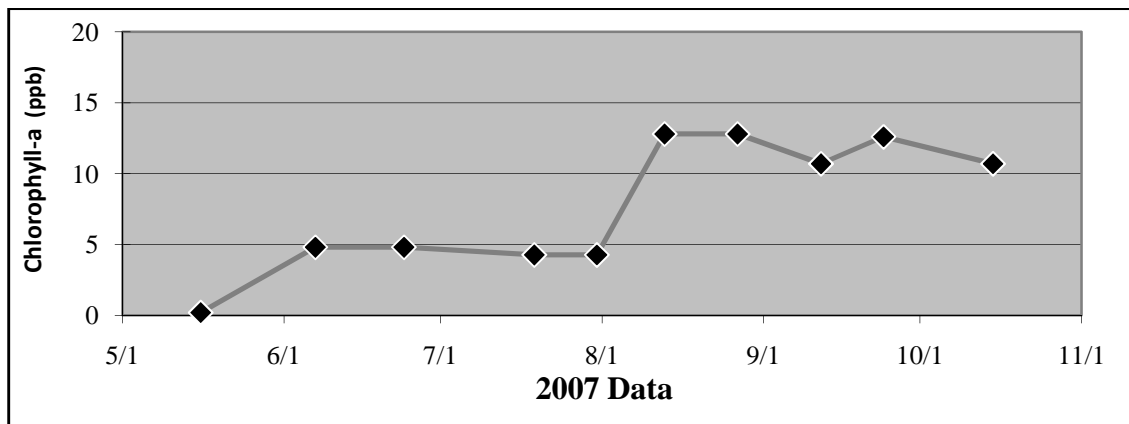
**Table 2.11 Lafayette Bay 2007 Summary**

<b>2007 Summer (May-September) Water Quality Summary</b>				
<b>Parameter</b>	<b>Range</b>	<b>Mean</b>	<b>Grade</b>	<b>TSI value *</b>
Secchi Depth (m)	1.6 - 2.8	2.2	C	49
Surface TP (µg/L)	21 - 132	32.4	C	54
Chlorophyll- <i>a</i> (µg/L)	<0.2 - 12.8	8.4	A	51
		<b>Overall Score</b>	<b>B-</b>	<b>52</b>

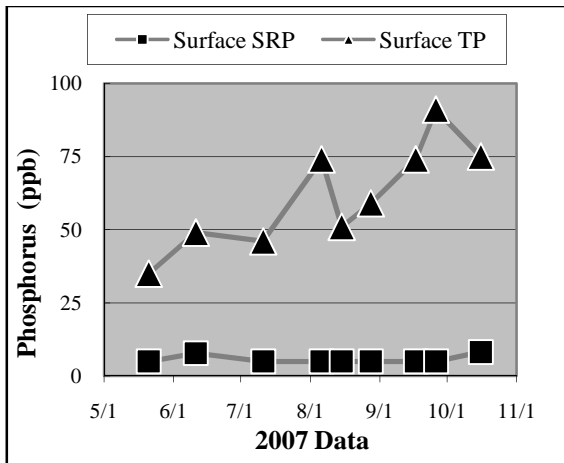
*\*excludes May Data*



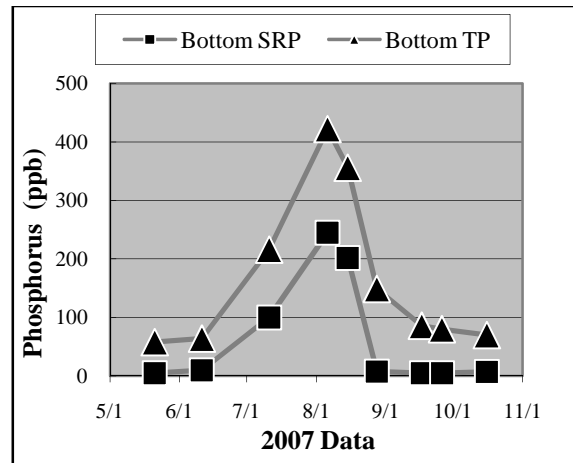
a.



b.

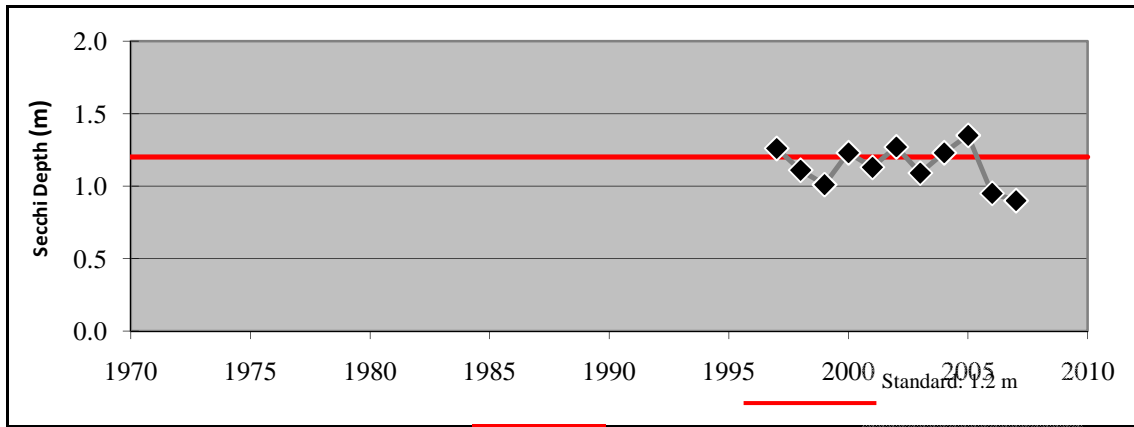


c.

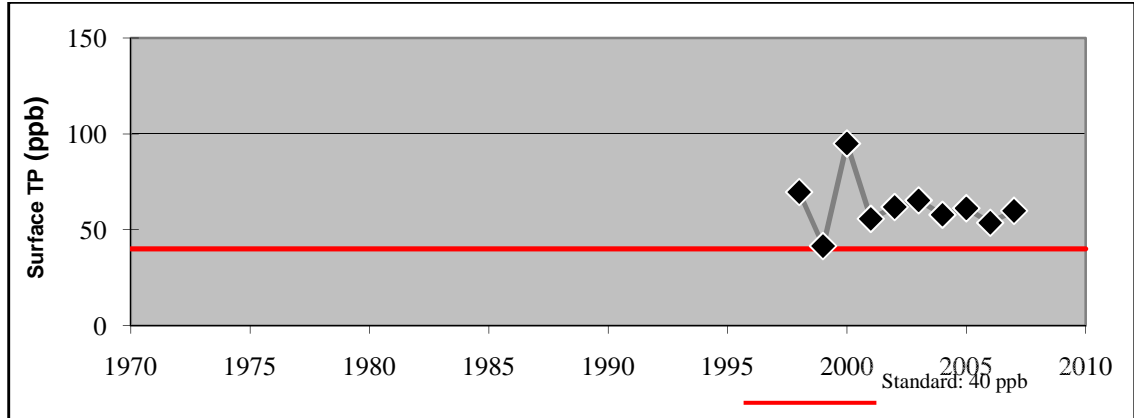


d.

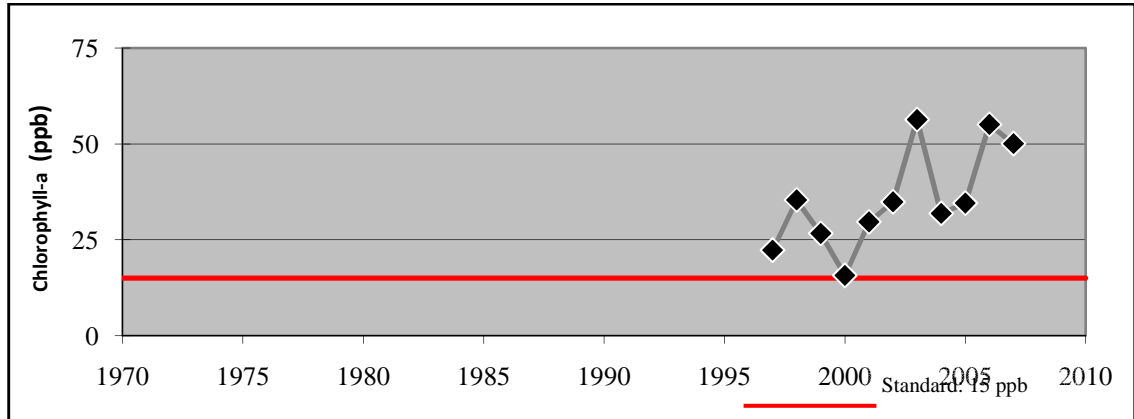
**Figure 2.12 (a-d) Lafayette Bay  
2007 Grade: B-**



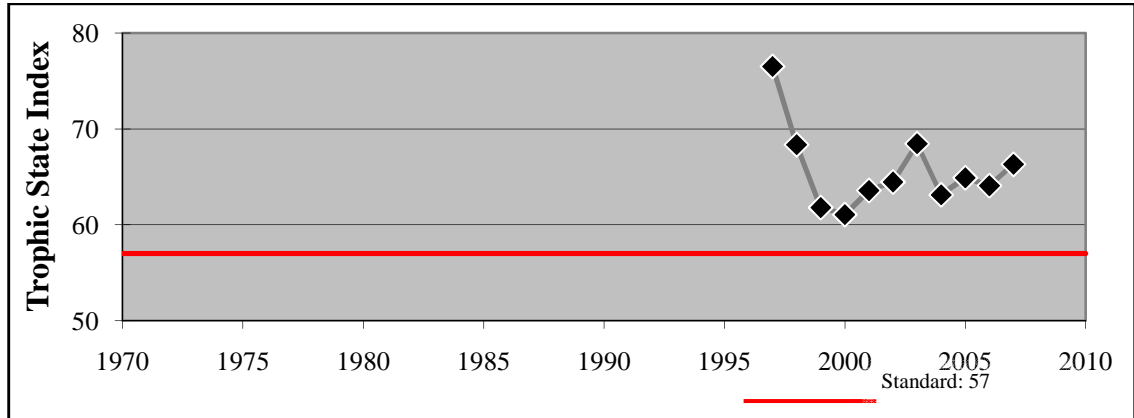
e.



f.



g.



h.

Figure 2.12 (e - h) Lafayette Bay - Summer Mean Values