

Whitecliff Park Lake

St. Louis County

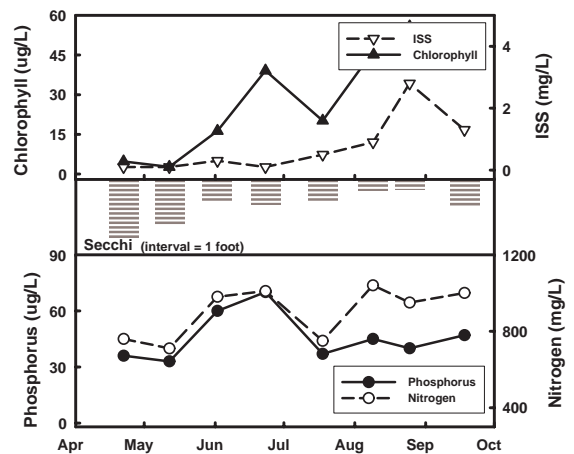
2008 DATA



Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
4/22	154	36	760	4.8	0.1
5/12	121	33	710	2.7	0.1
6/2	57	60	980	16.3	0.3
6/23	67	70	1010	39.1	0.1
7/18	61	37	750	20.2	0.5
8/9	32	45	1040	46.4	0.9
8/25	29	40	950	55.8	2.8
9/18	71	47	1000	47.1	1.3
Mean	64	45	891	19.4	0.4

2008 SUMMARY

Algal chlorophyll levels were low relative to nutrient concentrations during April and May, a condition indicative of light limitation. Inorganic suspended solid (ISS) levels were also low during this period, signifying that inorganic turbidity was not limiting light. The increase in chlorophyll concentrations on the third sample was accompanied by an increase in lake water temperature of 17°F. Low algal chlorophyll levels early in the sample season probably correlate to the lake mixing relatively deeply, with higher chlorophyll concentrations being measured once the lake has thermally stratified. The onset of stratification during May would limit the depth at which algal cells mix in the water column, thus allowing the algae to remain in a well lit environment. Having sufficient light, the algae would be able to proliferate which would result in an increase in standing biomass as measured by chlorophyll. As the season progressed, the amount of chlorophyll relative to phosphorus increased. During August and September samples the chlorophyll : phosphorus ratios were >1, indicating algal bloom conditions.



TRENDS

Chlorophyll measurements for the 2008 season were comparable to those from 2007, with ranges of 2.7 to 55.8 µg/L and 3.9 to 53.3 µg/L, respectively (geometric mean values differed by 3 µg/L). This represents extremely low year to year variation. The other water quality parameters also displayed small differences between the two years.

