

Whitecliff Park Lake



2009 DATA

St. Louis County
 Latitude: 38.5561 Longitude: -90.3688

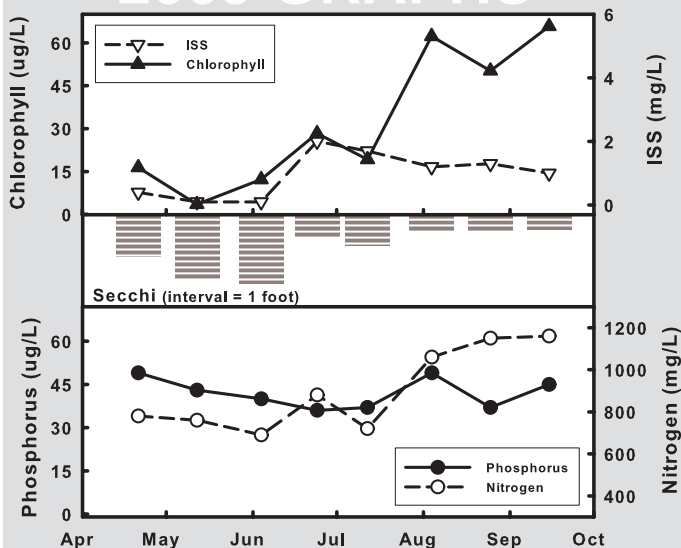
Date	4/21	5/12	6/4	6/24	7/12	8/4	8/25	9/15	Mean
Secchi (inches)	87	132	141	46	64	35	35	33	61
TP (µg/L)	49	43	40	36	37	49	37	45	42
TN (µg/L)	780	760	690	880	720	1060	1150	1160	882
CHL (µg/L)	16.4	3.5	12.2	28.3	19.2	62.3	50.2	65.8	23.0
ISS (mg/L)	0.4	0.1	0.1	2.0	1.7	1.2	1.3	1.0	0.6

Whitecliff lake's water clarity ranged from nearly 12 feet to less than 3 feet in 2009, with most of that range represented in June. Nutrient values varied comparatively little through the season, with the 2009 maximum phosphorus concentration that was only 30% higher than the minimum concentration. It is common for a Missouri lake's phosphorus concentrations to range two-fold within a given season. In late June, the chlorophyll concentrations doubled, and more or less increased as the season progressed. Based on the low concentrations of chlorophyll relative to available phosphorus in the early season, and the more typical relationship later in the season, it is likely that grazing by spring zooplankton was suppressing algae growth. Fish predation of the zooplankton community accelerated by late June, allowing increased

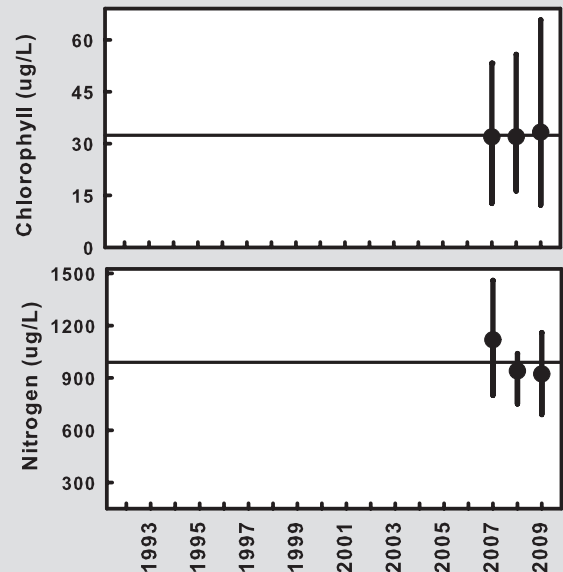
algae growth. The increased nitrogen and stable phosphorus concentrations of August and September imply that a blue-green algae bloom occurred. Many blue-green algae (cyanobacteria) are capable of "fixing" atmospheric nitrogen into their cells.

Variable chlorophyll concentrations are not unique to 2009. Interestingly, the chlorophyll values of 2009 were nearly identical to the previous 2 years, with both seasonal means and ranges varying little. Nitrogen concentrations in 2009 were the lowest to date, but still quite similar to 2008.

2009 GRAPHS



TREND GRAPHS



See pages 10-11 for help interpreting graphs