

Whitecliff Park Lake



2011 DATA

St. Louis County
Latitude: 38.5561

Longitude: -90.3688

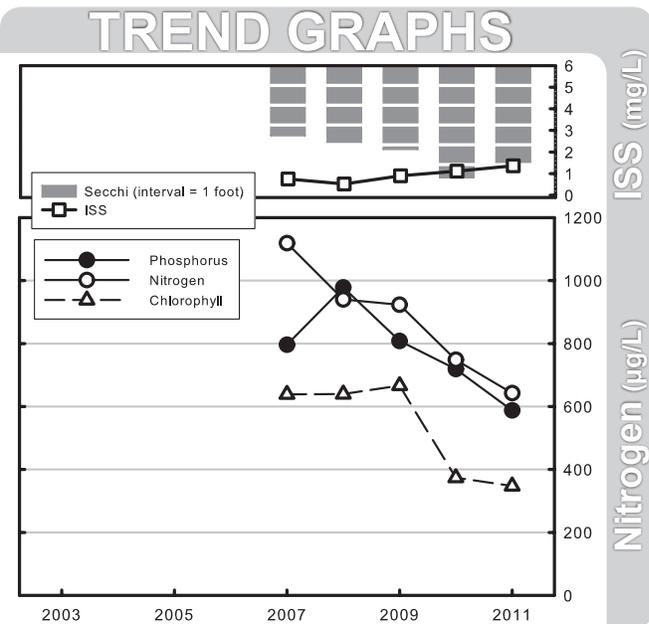
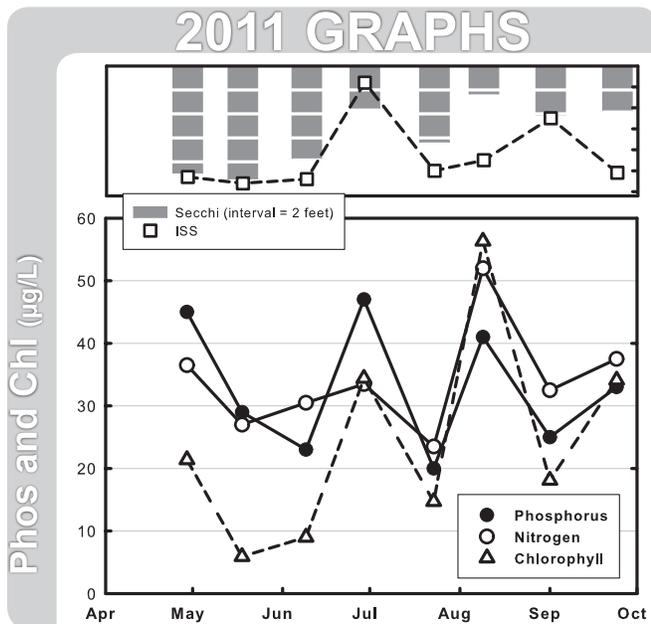
Date	4/29	5/18	6/9	6/29	7/23	8/9	9/1	9/24	Mean
Secchi (inches)	107	113	92	42	76	28	49	44	62
TP (µg/L)	45	29	23	47	20	41	25	33	31
TN (µg/L)	730	540	610	670	470	1040	650	750	665
CHL (µg/L)	21.4	5.9	9.0	34.4	14.7	56.3	18.1	34.1	19.4
ISS (mg/L)	0.7	0.4	0.6	5.2	1.0	1.5	3.5	0.9	1.2

Water quality parameters in Whitecliff Park Lake did not display the predictable seasonal pattern of decreasing nutrients and suspended sediment that is common in Missouri lakes. The variable nature of water quality in this lake may relate to it being in an urban setting (most monitored lakes in the state have more rural watersheds). Differences in the land use within the watershed would affect the timing and amounts of inputs entering the lake.

Algal chlorophyll concentrations tended to track fluctuations in nutrients, though the amount of chlorophyll being produced relative to available nutrients changed during the season. During the first three samples the chlorophyll-phosphorus ratio (a way of gauging how efficient the algae use phosphorus) averaged 0.36, a value that is within the normal range for Missouri lakes. During the remainder of

the season the ratio averaged 0.92, a value that represents very efficient use of nutrients by the algae.

Over the five years in which Whitecliff Park Lake has been monitored the total nitrogen values during the summer have declined. In 2007 the summer geometric mean total nitrogen value was 1119 µg/L, while the 2011 mean was 642 µg/L. This represents a decline of 43%. The maximum summer mean phosphorus value occurred in the second year of monitoring, but has also declined over the last four summers by about 39% (49 µg/L in 2008 and 29 µg/L in 2011).



See page 3 for help interpreting graphs