Tri City Lake

Boone County
Latitude: 39.1904 Longitude: -92.2085

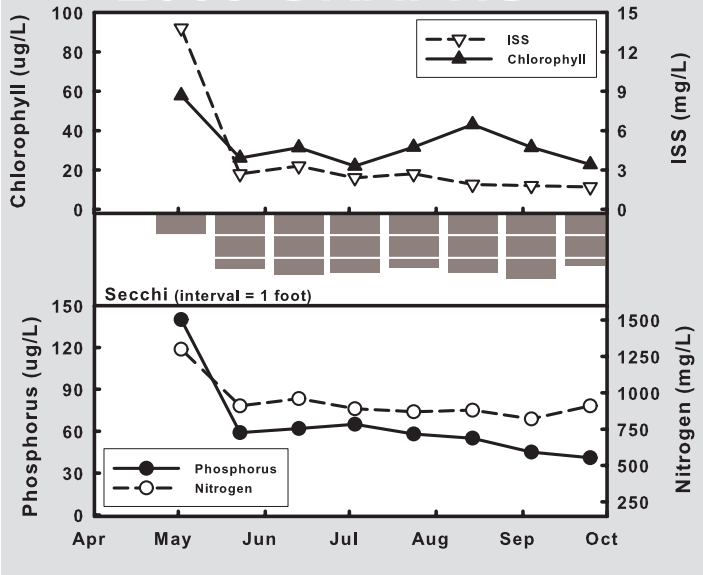
2009 DATA

Date	5/2	5/23	6/13	7/3	7/24	8/14	9/4	9/25	Mean
Secchi (inches)	12	30	33	32	29	32	35	28	28
TP (µg/L)	140	59	62	65	58	55	45	41	61
TN (µg/L)	1300	910	960	890	870	880	820	910	934
CHL (µg/L)	57.8	26.1	31.4	22.0	31.6	43.1	31.5	22.8	31.7
ISS (mg/L)	13.8	2.7	3.3	2.4	2.7	1.9	1.8	1.7	2.9

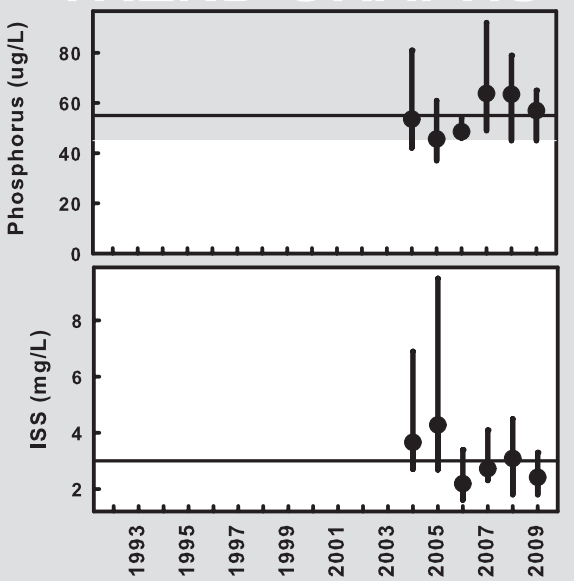
Tri City Lake was sampled 8 times during 2009. Save for the April sample (when nutrient, chlorophyll and sediment concentrations were high), conditions at Tri City Lake were consistent throughout the season. When the April value is excluded, water clarity varied by just 7 inches, total phosphorus by 24 µg/L, total nitrogen by 140 µg/L and ISS (sediments) by less than 2 mg/L. Chlorophyll concentrations varied roughly 2-fold throughout the season (excluding April), a somewhat low range (but not low values) for Missouri lakes.

Phosphorus concentrations were higher than expected at Tri City Lake, exceeding both the long term mean and the proposed criteria for the 3rd consecutive year. Phosphorus binds very readily to sediment particles, and increases in phosphorus concentrations are often associated with erosion and runoff. However, ISS concentrations have been at or below the long term mean for the last 4 years, implying that the elevated phosphorus concentrations observed in recent years may be the result of internal loading rather than runoff. Internal loading is the introduction of phosphorus from the lake bottom to the water column. Phosphorus that was introduced to the lake years earlier can reappear in the water, confounding efforts to curb algae growth by addressing nutrient inputs to the lake.

2009 GRAPHS



TREND GRAPHS



See pages 10-11 for help interpreting graphs