

Tri City Lake

Tri City Community Lake is centrally located between Hallsville, Centralia and Sturgeon, in Boone County Missouri. The lake is 30 acres and has a watershed of 325 acres. Land use is 45% crop, 28% forest, and 17% grassland/pasture. The lake's small ratio of watershed size to lake volume means that this lake is able to process inputs from the watershed. Thus the lake has only moderate nutrient levels, even though 45% of its watershed is cropland.

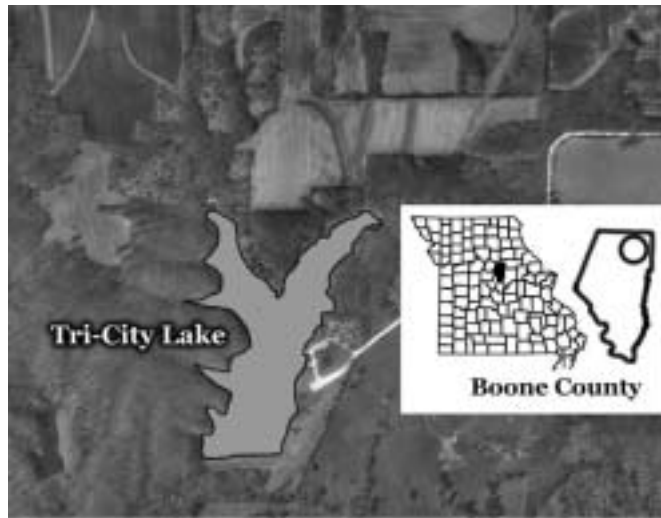


Figure 140. Location of Tri City Lake.

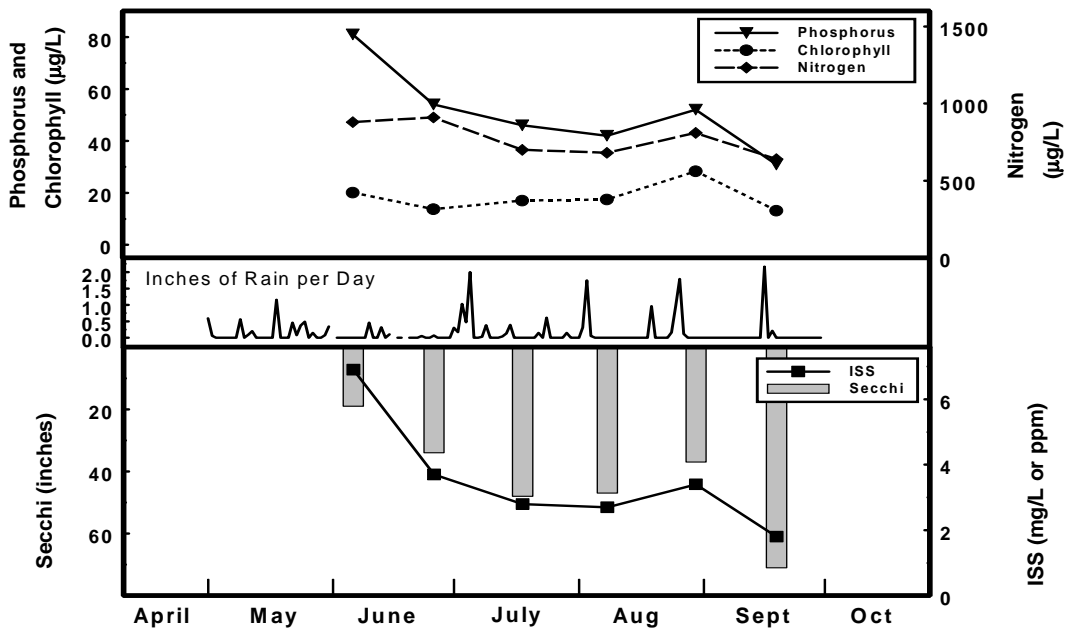


Figure 141. Seasonal fluctuations of parameters for Tri City Lake – 2004

Table 52. Descriptive statistics for Tri City Lake – 2004

	Secchi (inches)	TP (ug/L)	TN (ug/L)	CHL (ug/L)	ISS (mg/L)
Geometric Mean	40	49	763	17.6	3.3
Minimum	19	31	640	13.1	1.8
Maximum	71	81	910	28.3	6.9
N	6	6	6	6	6

2004 Results

Figure 141 shows how the parameters nitrogen, phosphorus, algal chlorophyll, inorganic suspended solids and Secchi transparency varied in Tri City Lake during 2004. The descriptive statistics appear in Table 52.

A brief description of the results:

- Phosphorus concentrations closely follow ISS concentrations in Tri City Lake.
- Chlorophyll concentrations roughly followed phosphorus concentrations, except during May and June, when chlorophyll concentrations were lower than would be expected based on phosphorus concentrations. This phenomenon is common when ISS concentrations are high enough to cause the shading of algae.
- Ranges of nutrient, chlorophyll and ISS concentrations are as expected, with phosphorus ranging nearly threefold, nitrogen maximum less than double the minimum, and chlorophyll concentrations doubling.