

## Smithville Lake

Glacial Plains Region

Smithville Lake is a 7,087 acre Army Corps of Engineers reservoir located north of the Kansas City metro area.

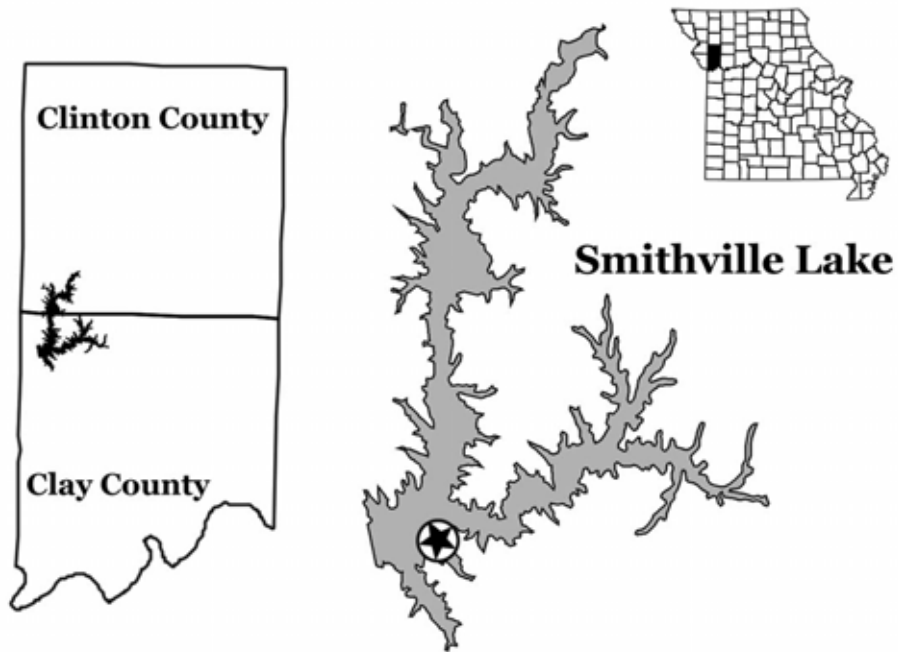


Figure 61. Location of Smithville Lake and its sample site.

### 2003 Results

Figure 62 shows how the parameters phosphorus, nitrogen, algal chlorophyll, inorganic suspended solids and Secchi transparency varied in Smithville Lake during the 2003 sampling season. The descriptive statistics appear in Table 30. A brief description of these results:

- Smithville Lake was sampled 7 times from May 19 to October 14
- Samples were collected from Fishing Dock
- Nitrogen concentrations were extremely stable throughout the sampling season, varying by only 150 ug/L
- Chlorophyll concentrations varied nearly 7-fold, while the maximum phosphorus concentration was only 50% more than the minimum
- A low chlorophyll concentration early in the season influenced the geometric mean for the season
- There was a possible algae bloom during the August sampling periods, based on a high concentration of chlorophyll compared to phosphorus
- Smithville lake was eutrophic in 2003, based on concentrations of chlorophyll, nitrogen and phosphorus

Table 30. Descriptive statistics for Smithville Lake – 2003

	Secchi (inches)	TP ( $\mu\text{g/L}$ )	TN ( $\mu\text{g/L}$ )	CHL ( $\mu\text{g/L}$ )	ISS (mg/L)
# of Samples	7	7	7	7	7
Median	32	29	600	24.1	5.9
Minimum	23	21	590	4.9	3.9
Maximum	45	32	740	33.7	7.9
Geometric Mean	32	28	639	20.0	5.6

Samples were collected between May 19 and October 14

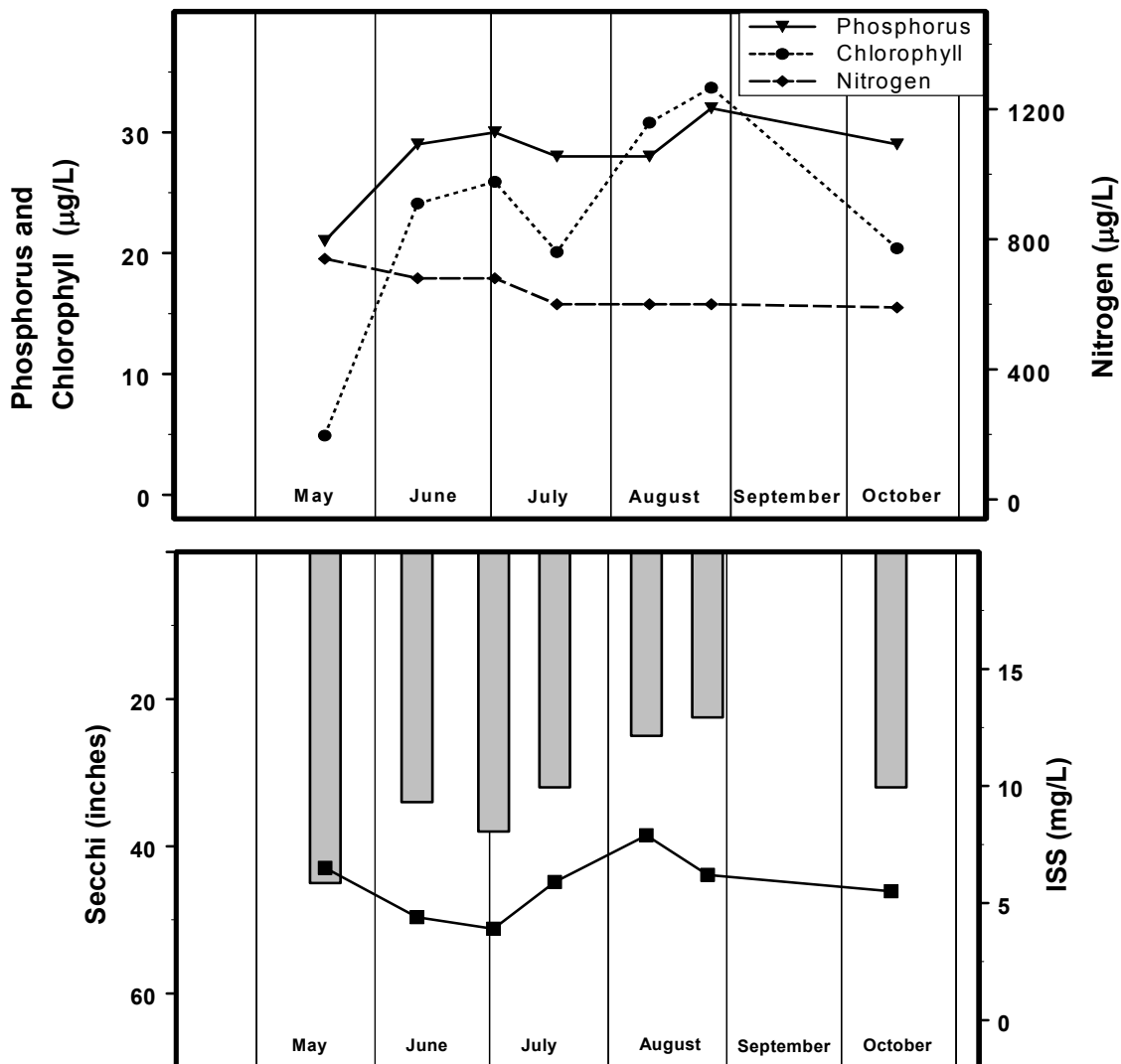


Figure 62. Seasonal fluctuations of parameters in Smithville Lake – 2003. Bars represent Secchi, line represents ISS.