

Stockton Lake

Ozark Highlands Region

Stockton Lake is a U.S. Army Corps of Engineers lake, located in Cedar, Dade, and Polk counties. Stockton Lake was constructed by damming the Sac River, creating a large lake with a surface area of 25,000 acres and a watershed of 742,400 acres. The project was completed in 1969 and the lake had filled by 1971. 58% of the land in Stockton Lake's watershed is covered by grassland/pasture and 28% is forested. Stockton Lake is an important recreational resource.

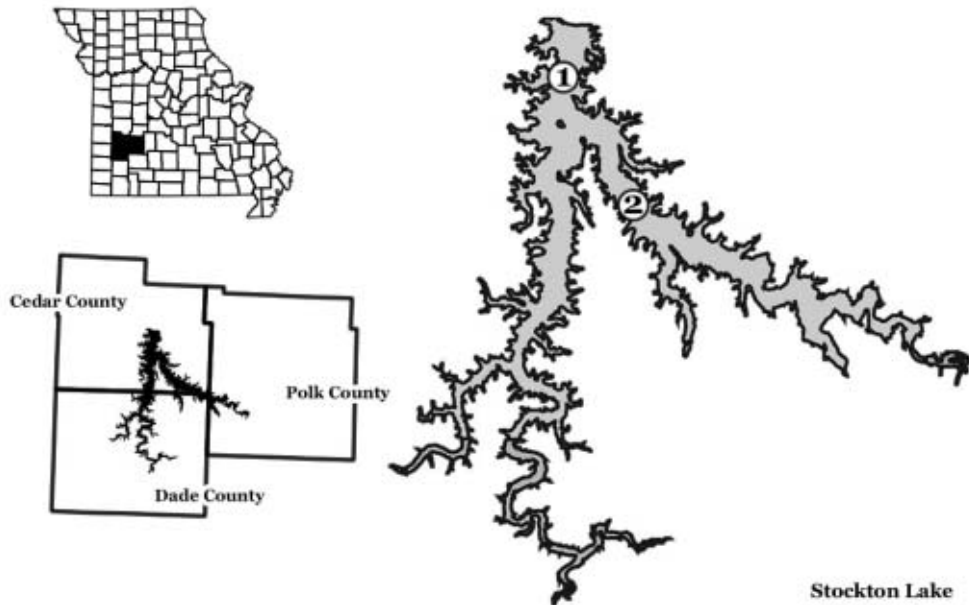


Figure 46. Location of Stockton Lake and sample sites.

2002 Results

Figures 47 and 48 show how the parameters phosphorus, nitrogen, algal chlorophyll, and Secchi transparency varied in Stockton Lake during the 2002 sampling season. The descriptive statistics appear in Tables 21 and 22. A brief description of these results:

- Stockton Lake was sampled eight times between April 24 and September 16.
- Parameters (except nitrogen) displayed similar fluctuations during the sample season at both sites.
- Phosphorus values were stable, with a small peak in early June.
- Secchi values at each site were high in April and May (around 250 inches), then dropped off for the remainder of the season (around 100 inches).
- Nitrogen values at Site 1 started high and decreased throughout the season.
- Stockton Lake was mesotrophic at both sites based on geometric means of nitrogen and phosphorus, and eutrophic based on the geometric mean of chlorophyll.

Table 21. Descriptive Statistics for Stockton Lake, Site 1 - 2002.

Parameters	# of Geometric				
	Samples	Mean	Minimum	Maximum	Median
Secchi Transparency (inches)	8	121	76	278	101
Phosphorus ($\mu\text{g/L}$)	8	11	8	15	11
Nitrogen ($\mu\text{g/L}$)	8	365	270	640	325
Chlorophyll ($\mu\text{g/L}$)	8	7.6	2.3	15.4	9.8

Samples were collected between April 24 and September 16

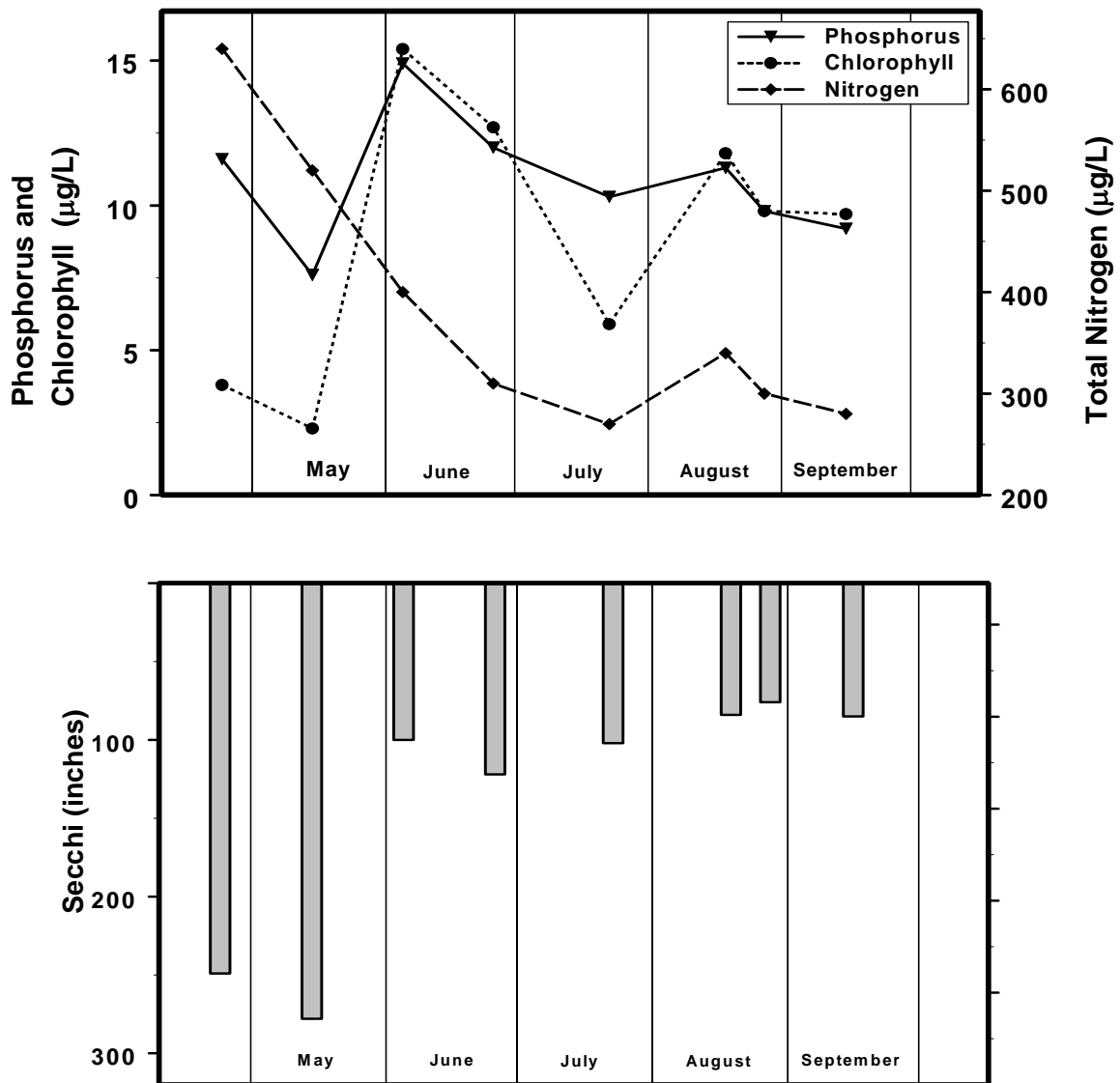


Figure 47. Seasonal fluctuations of parameters for Stockton Lake, Site 1 – 2002.

Table 22. Descriptive Statistics for Stockton Lake, Site 2 – 2002.

Parameters	# of Geometric			Maximum	Median
	Samples	Mean	Minimum		
Secchi Transparency (inches)	8	110	60	244	102
Phosphorus ($\mu\text{g/L}$)	8	11	7	18	12
Nitrogen ($\mu\text{g/L}$)	8	463	320	610	485
Chlorophyll ($\mu\text{g/L}$)	8	9.6	3.4	20.8	10.3

Samples were collected between April 24 and September 16

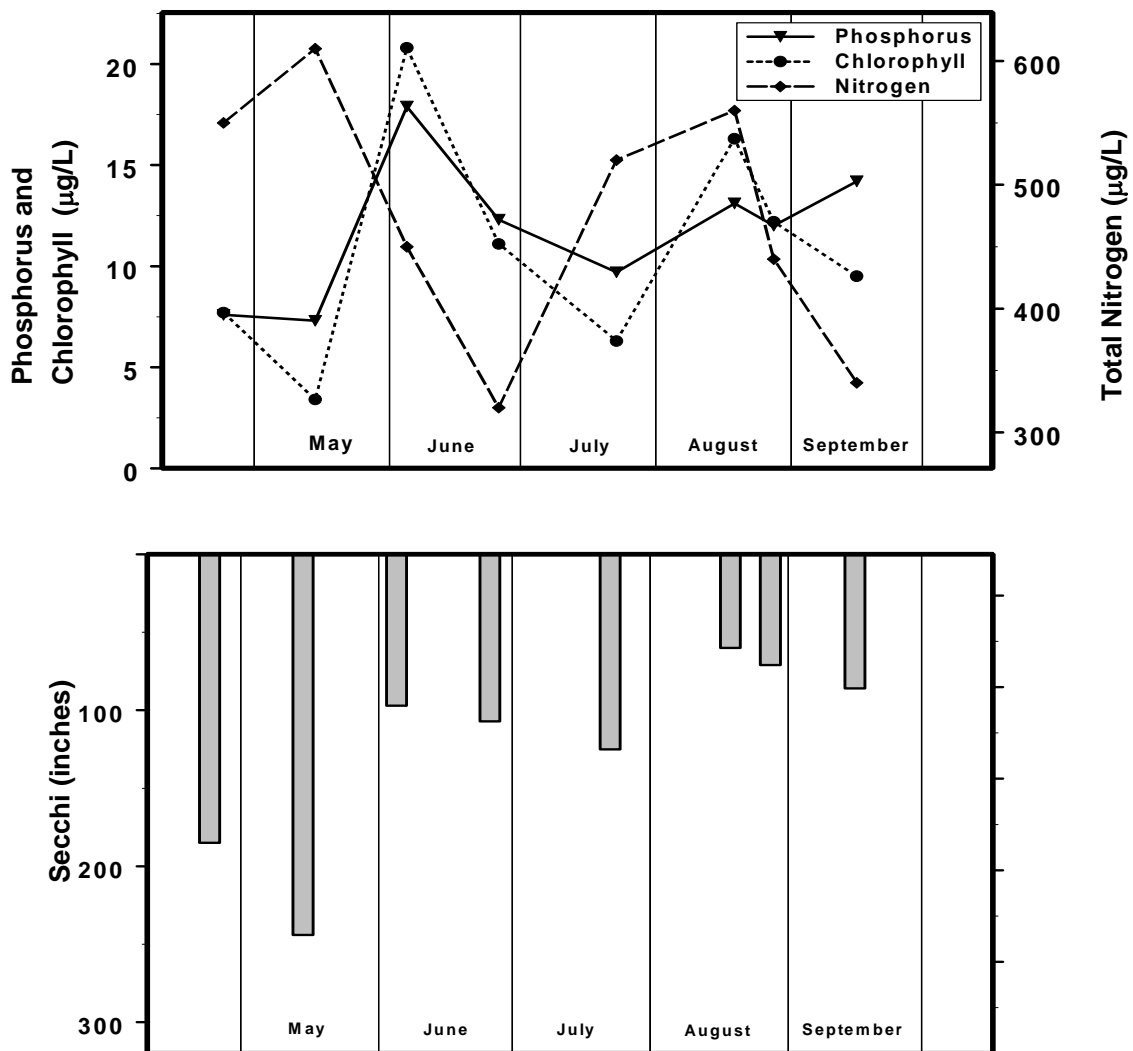


Figure 48. Seasonal fluctuations of parameters for Stockton Lake, Site 2 – 2002.