

## Creve Coeur Lake

Ozark Border Region

Creve Coeur is a 320-acre lake located in the Missouri River floodplain, where the nutrient-rich soil is easily eroded. Even though the lake is part of a 1,141-acre park, the area adjacent to the lake is urban. Creve Coeur Lake differs from all of the other lakes in the program in that it is not a reservoir, but an oxbow lake. Having once been part of the Missouri River, this lake is now about two miles from the present channel, separated over time by the natural meandering of the river.

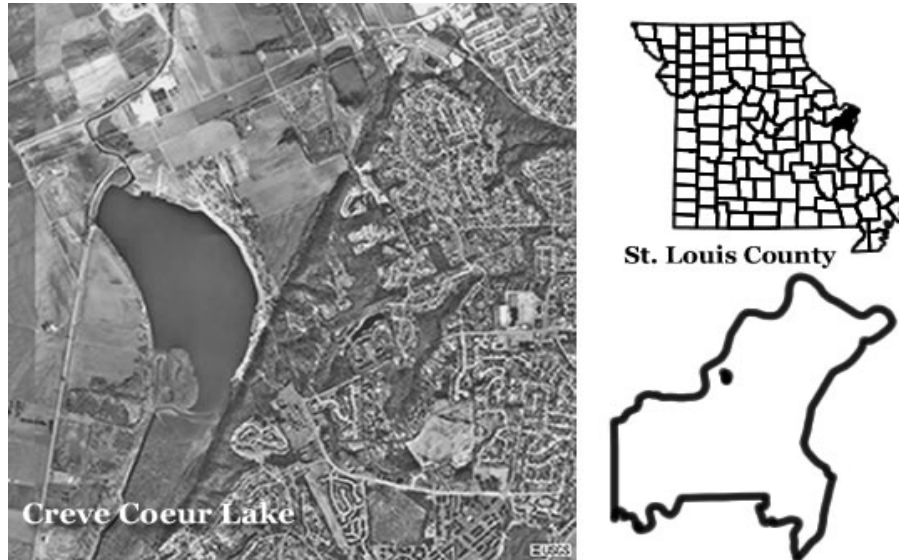


Figure 30. Location of Creve Coeur Lake.

### 2003 Results

Figure 31 shows how the parameters phosphorus, nitrogen, algal chlorophyll, inorganic suspended solids and Secchi transparency varied in Creve Coeur Lake during the 2003 sampling season. The descriptive statistics appear in Table 15. A brief description of these results:

- A total of 5 samples were taken between June 1 and September 14
- Secchi values were low (average 15”) and varied little (7” difference between maximum and minimum)
- Chlorophyll concentrations did not vary much throughout the season, though concentrations were quite high.
- Algae are very likely limited by the amount of sunlight that can penetrate the sediment-rich waters of Creve Coeur Lake – light limitation usually occurs around 10 mg/L ISS
- Inorganic suspended solids *minimum* value was 7.8 mg/L and averaged nearly 14 mg/L
- Creve Coeur Lake was hypereutrophic based on chlorophyll and phosphorus concentrations and eutrophic based on nitrogen concentrations

Table 15. Descriptive statistics for Creve Coeur Lake – 2003.

	Secchi (inches)	TP ( $\mu\text{g/L}$ )	TN ( $\mu\text{g/L}$ )	CHL ( $\mu\text{g/L}$ )	ISS (mg/L)
# of Samples	5	5	5	5	5
Median	1	185	660	73.4	12.2
Minimum	13	130	590	62.2	7.8
Maximum	20	301	820	76.3	23.4
Geometric Mean	15	186	667	71.0	13.8

Samples were collected between June 1 and September 14

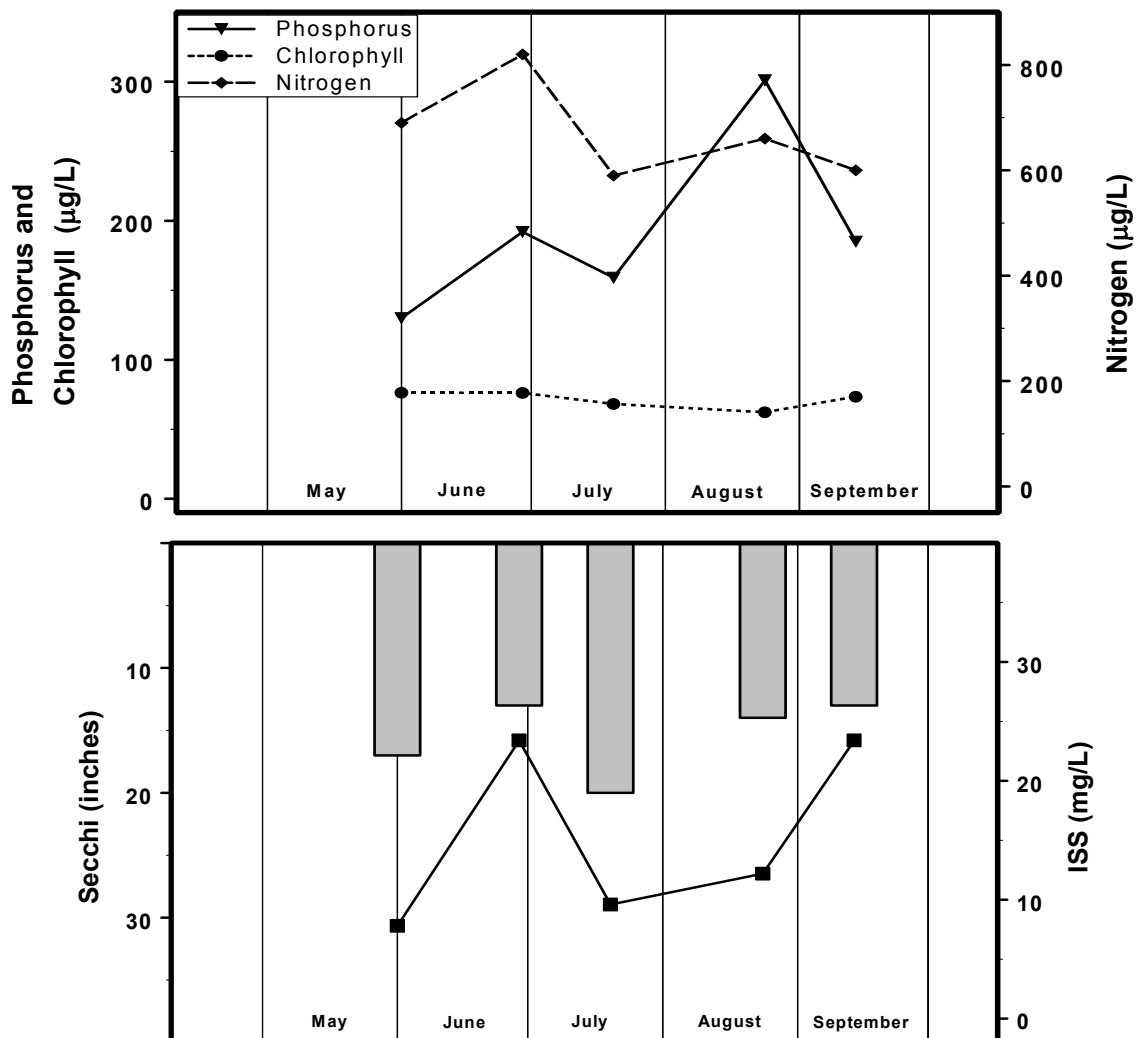


Figure 31. Seasonal fluctuations of parameters in Creve Coeur Lake – 2003. Bars represent Secchi, line represents ISS.