

## Little Dixie Lake

Region - Ozark Border

Little Dixie Lake is located in Callaway County and is owned and managed by the Missouri Department of Conservation. This 200 acre lake has a watershed of 2,315 acres in size and is approximately 15% forest, 35% grassland and 35% crop.

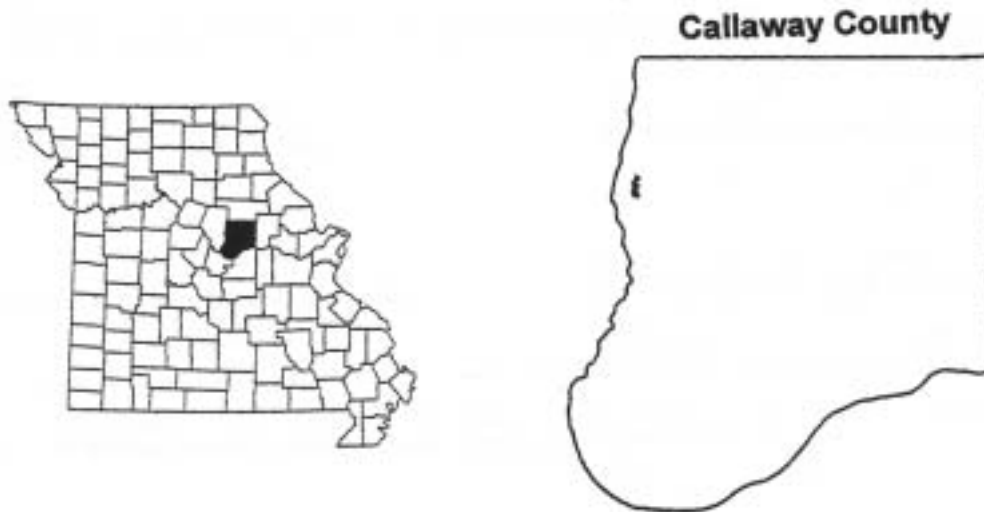


Figure 32. Location of Little Dixie Lake.

### 2000 Results

Figure 33 shows how the parameters phosphorus, nitrogen, algal chlorophyll, inorganic suspended solids, and Secchi transparency varied in Little Dixie Lake during the 2000 sampling season. A brief description of these results are:

- ▶ Eight samples were collected, the first on 4-13 and the last on 9-8.
- ▶ Phosphorus showed low to moderate variability with no real seasonal pattern.
- ▶ Nitrogen showed a steady increase throughout the year. Usually during summer months in Missouri reservoirs nitrogen decreases. One possible explanation for the recorded nitrogen increase would be the presence of bluegreen algae. Bluegreens can transfer atmospheric nitrogen into their cells, thus into the lake water sample. The peak in algal chlorophyll corresponded to the peak in nitrogen.
- ▶ Secchi values were relatively stable. It appears that the amount of inorganic suspended solids and/or algae affected the Secchi at different times throughout the sample season.
- ▶ This is the second year of sampling. Average values of the parameters from last year were comparable to this year's values. Chlorophyll values were higher, but this was due to the higher values recorded late in the 2000 sample season.
- ▶ Average values for phosphorus, nitrogen and chlorophyll were in the eutrophic range.

Table 16. Descriptive statistics for Little Dixie Lake - 2000.

Parameters	Average	Median	Minimum	Maximum
Chlorophyll ( $\mu\text{g/L}$ )	24.1	17.5	5.3	68.0
Nitrogen ( $\mu\text{g/L}$ )	714	750	490	910
Phosphorus ( $\mu\text{g/L}$ )	50	46	38	68
ISS (mg/L)	4.0	3.3	1.4	8.2
Secchi (inches)	32	33	26	38

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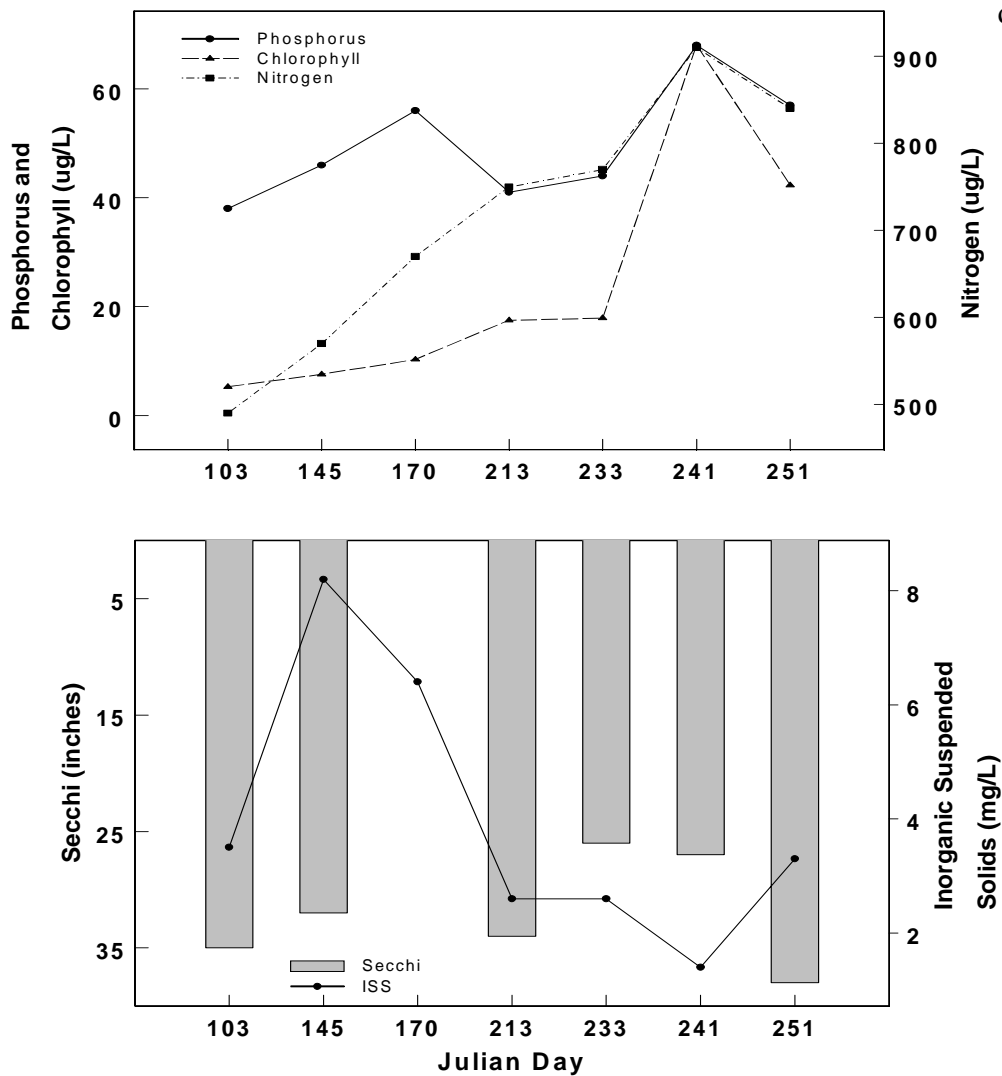


Figure 33. Seasonal fluctuations of parameters in Little Dixie Lake - 2000.