

## Buteo Lake and Clearfork Lake

Osage Plains Region

Buteo Lake and Clearfork Lake are located in Knob Noster State Park in Johnson County. Buteo Lake is 8 acres in size and is relatively shallow (maximum depth < 10 feet). Clearfork Lake is 16 acres in size and has a maximum depth of 15 feet near the dam. The lakes are owned by the Missouri Department of Natural Resources.

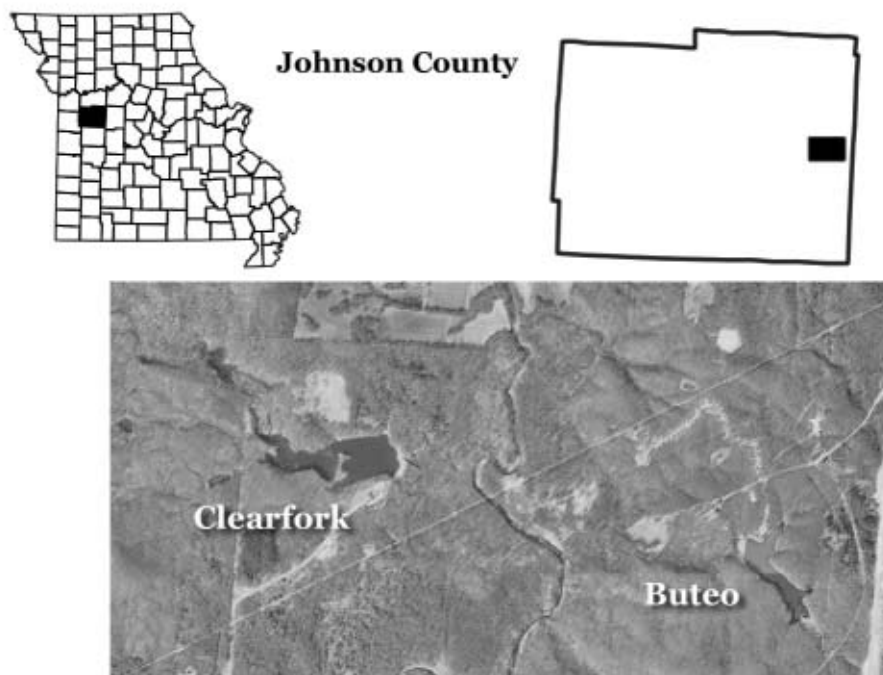


Figure 18. Location of Buteo Lake and Clearfork Lake.

### 2002 Results

Figures 19 and 20 show how the parameters phosphorus, nitrogen, algal chlorophyll, inorganic suspended solids and Secchi transparency varied in Buteo and Clearfork lakes during the 2002 sampling season. The descriptive statistics appear in Tables 8 and 9. A brief description of these results:

- 3 samples were collected from each lake between June 20 and July 30.
- Both lakes were eutrophic based on the geometric means of chlorophyll, nitrogen and phosphorus.
- Geometric mean chlorophyll, nitrogen and phosphorus values were lower at Buteo than at Clearfork, while Secchi values were greater.
- Water quality in both Buteo and Clearfork lakes in 2002 was comparable to 2001.

Table 8. Descriptive statistics for Buteo Lake – 2002.

Parameters	# of Samples	Geometric Mean	Minimum	Maximum	Median
Secchi Transparency (inches)	3	54	47	63	53
Phosphorus ( $\mu\text{g/L}$ )	3	27	21	33	29
Nitrogen ( $\mu\text{g/L}$ )	3	538	480	570	570
Chlorophyll ( $\mu\text{g/L}$ )	3	8.3	6.1	14.4	6.4
ISS (mg/L)	3	1.9	1.5	2.5	1.8

ISS=Inorganic Suspended Solids

Samples were collected between June 20 and July 30

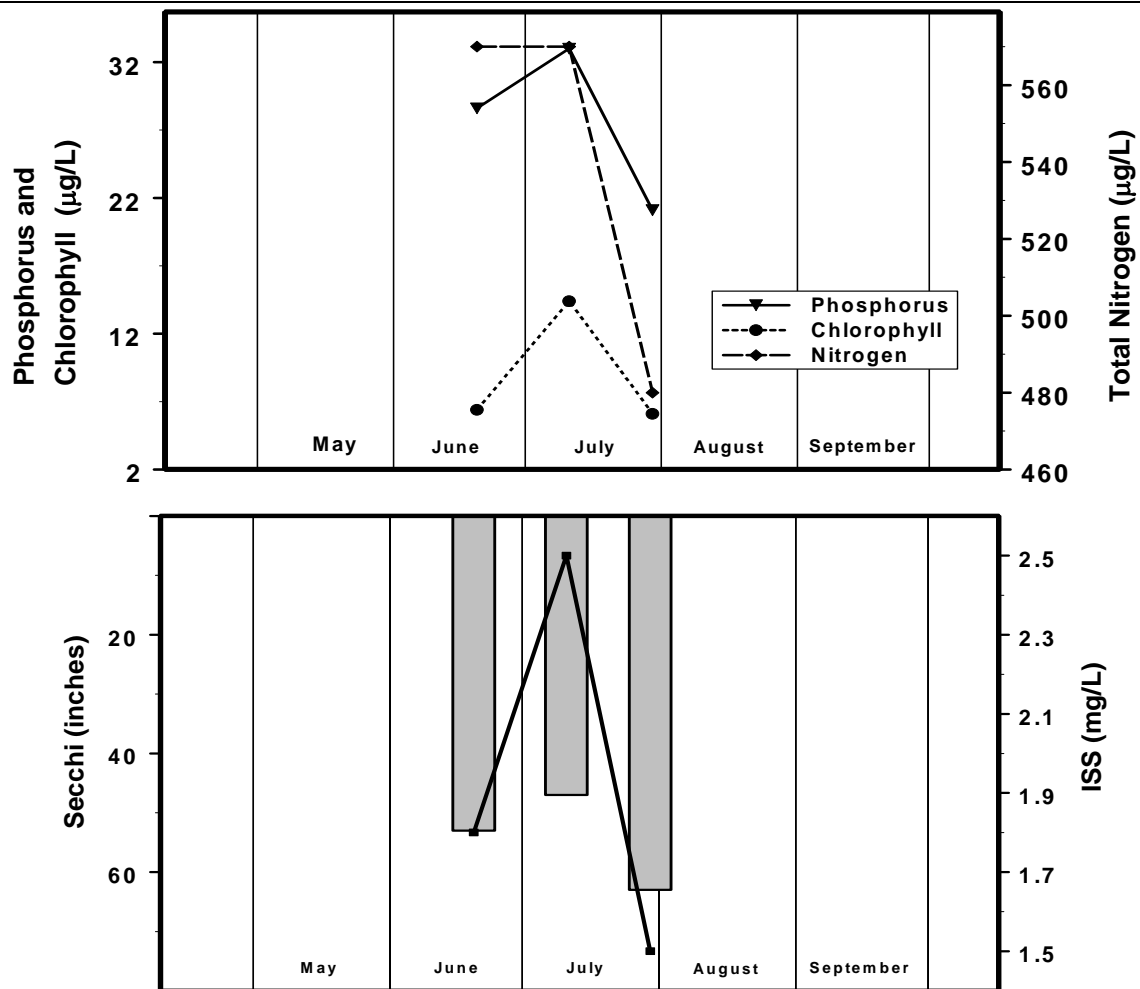


Figure 19. Seasonal fluctuations of parameters in Buteo Lake – 2002. Bars represent Secchi, line represents ISS. \*(although some parameters may appear quite variable, note the small scale of the axes)

Table 9. Descriptive statistics for Clearfork Lake - 2002.

Parameters	# of Samples	Geometric Mean	Minimum	Maximum	Median
Secchi Transparency (inches)	3	49	39	61	49
Phosphorus ( $\mu\text{g/L}$ )	3	43	36	51	43
Nitrogen ( $\mu\text{g/L}$ )	3	738	600	860	780
Chlorophyll ( $\mu\text{g/L}$ )	3	21.7	13.4	29.4	26.0
ISS (mg/L)	3	1.2	1.1	1.3	1.1

ISS=Inorganic Suspended Solids

Samples were collected between June 20 and July 30

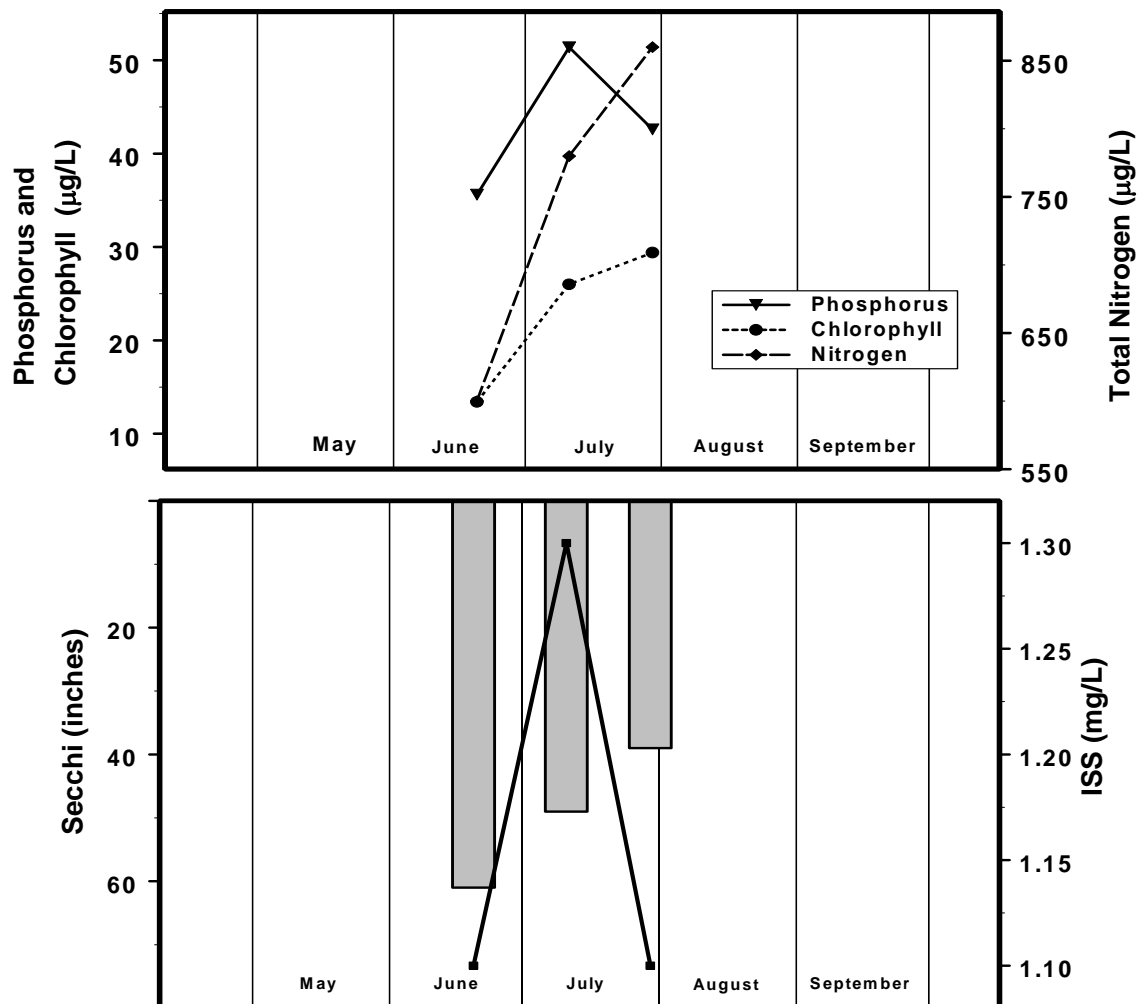


Figure 20. Seasonal fluctuations of parameters in Clearfork Lake – 2002. Bars represent Secchi, line represents ISS. \*(although some parameters may appear quite variable, note the small scale of the axes)