

Buteo Lake and Clearfork Lake - 2001 Data

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.

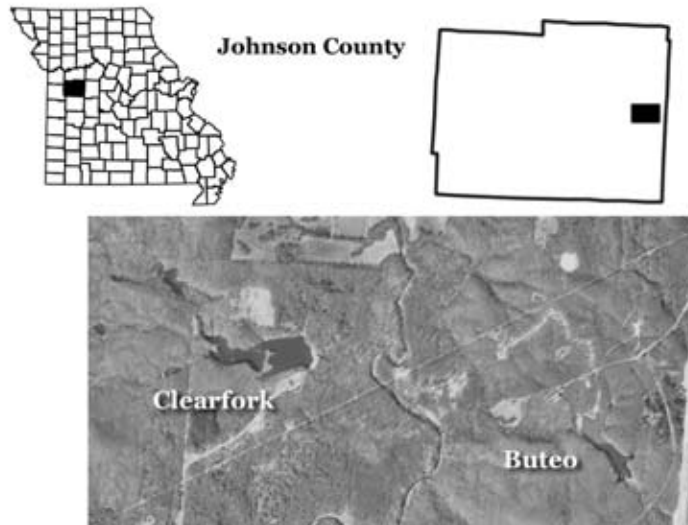


Figure 21. Location of Buteo Lake and Clearfork Lake.

2001 Results

Figures 22 and 23 show how the parameters phosphorus, nitrogen, algal chlorophyll, inorganic suspended solids and Secchi transparency varied in the lakes Buteo and Clearfork during the 2001 sampling season. The descriptive statistics appear in Tables 10 and 11. A brief description of these results:

- Three samples were collected at each lake from June 28 to August 9.
- Both Buteo and Clearfork had ISS peaks on June 28 (Julian Day 179). The 2001 high values were 13.5 and 17.9, respectively. The 2000 season's high value for ISS was 3.8 and 2.9 for Buteo and Clearfork, respectively.
- Buteo Lake was eutrophic in 2001, based on phosphorus and nitrogen geometric means and mesotrophic based on the chlorophyll geometric mean.
- Clearfork Lake was eutrophic for chlorophyll, nitrogen and phosphorus in 2001, based on geometric mean values.
- Values for chlorophyll and nitrogen were lower at Clearfork than at Buteo, while the Secchi and phosphorus values were similar.
- With only 3 samples for each lake, it is impossible to determine the presence of a seasonal trend.

Table 10. Descriptive statistics for Buteo Lake – 2001.

Parameters	# of Geometric		Minimum	Maximum	Median
	Samples	Mean			
Secchi Transparency (inches)	3	40	32	48	40
Phosphorus ($\mu\text{g/L}$)	3	28	23	38	26
Nitrogen ($\mu\text{g/L}$)	3	615	530	770	570
Chlorophyll ($\mu\text{g/L}$)	3	6.3	4.8	9.9	5.2
ISS (mg/L)	3	3	0.7	13.5	3.0

ISS=Inorganic Suspended Solids

Samples were collected between June 28 and August 9

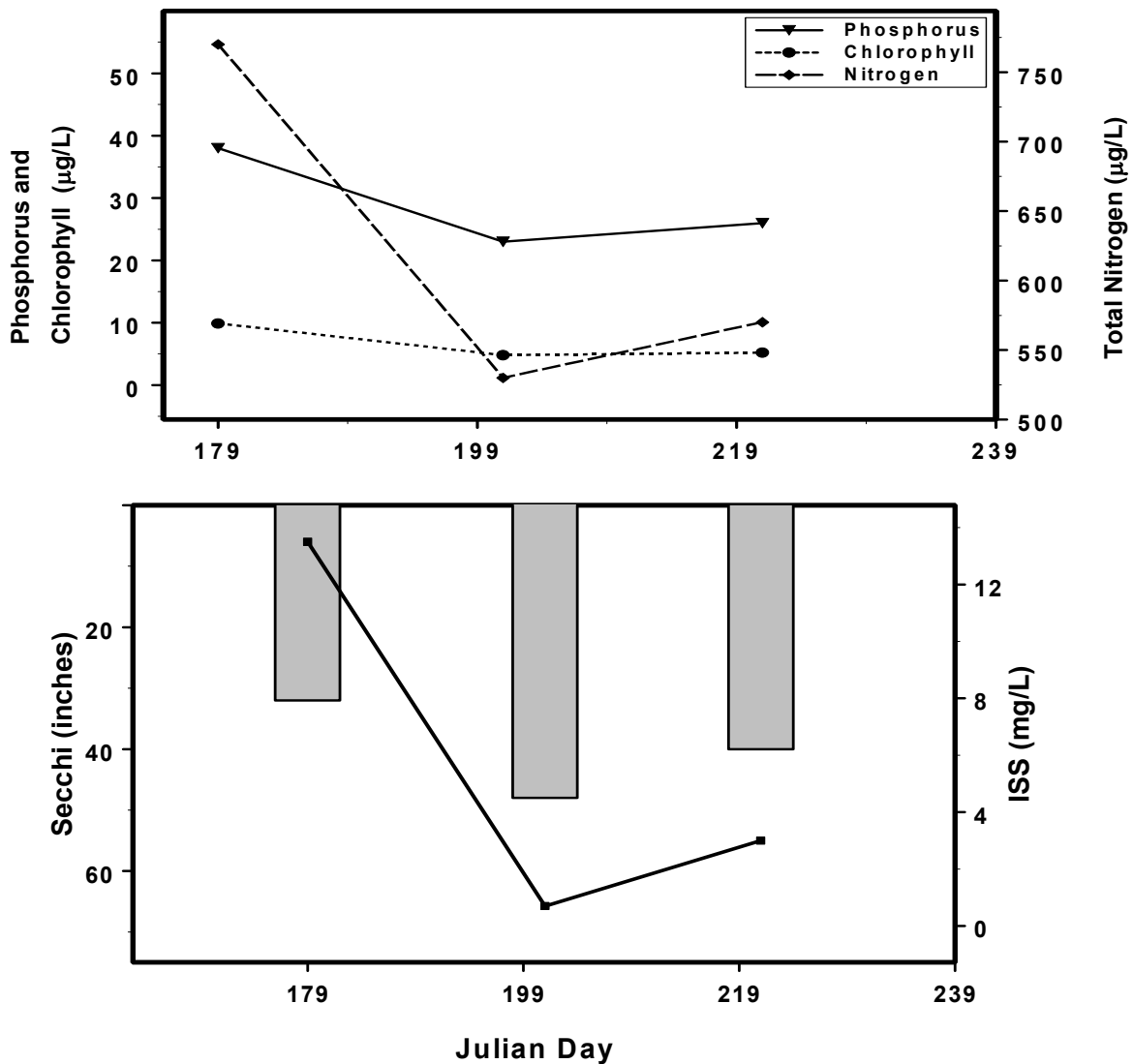


Figure 22. Seasonal fluctuations of parameters in Buteo Lake – 2001. Bars represent Secchi, line represents ISS.

Table 11. Descriptive statistics for Clearfork Lake - 2001.

Parameters	# of		Minimum	Maximum	Median
	Parameters	Geometric			
	Samples	Mean			
Secchi Transparency (inches)	3	34	24	44	38
Phosphorus ($\mu\text{g/L}$)	3	43	37	51	41
Nitrogen ($\mu\text{g/L}$)	3	939	900	990	930
Chlorophyll ($\mu\text{g/L}$)	3	19.8	12.8	36.7	16.4
ISS (mg/L)	3	2.6	0.6	17.9	1.6

ISS=Inorganic Suspended Solids

Samples were collected between June 28 and August 9

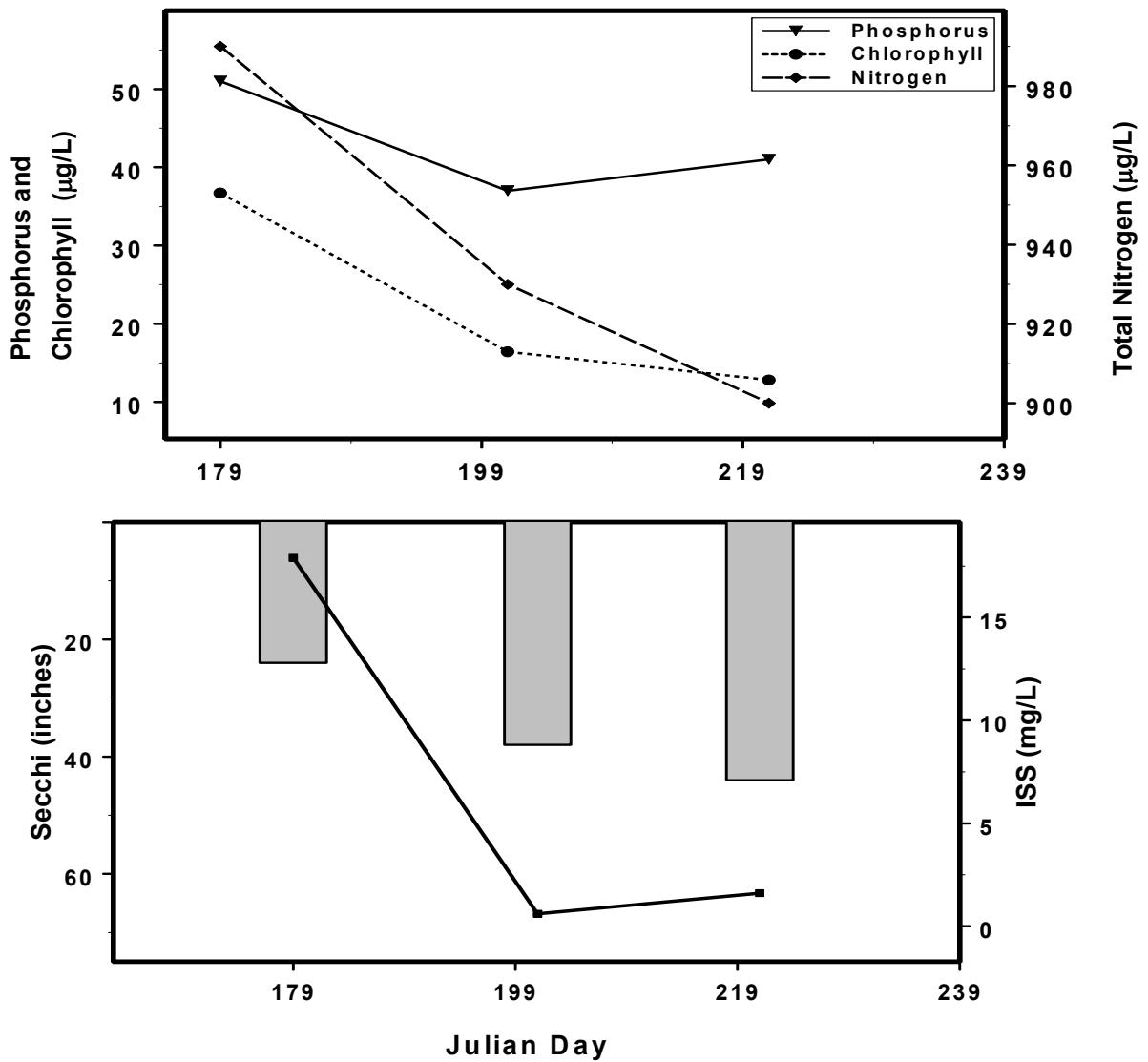


Figure 23. Seasonal fluctuations of parameters in Clearfork Lake – 2001. Bars represent Secchi, line represents ISS.