Buteo Lake

Region - Osage Plains

Buteo Lake is located in Knob Noster State Park in Johnson County. The lake is 8 acres in size and is relatively shallow (maximum depth < 10 feet). This lake is owned by the Missouri Department of Natural Resources.

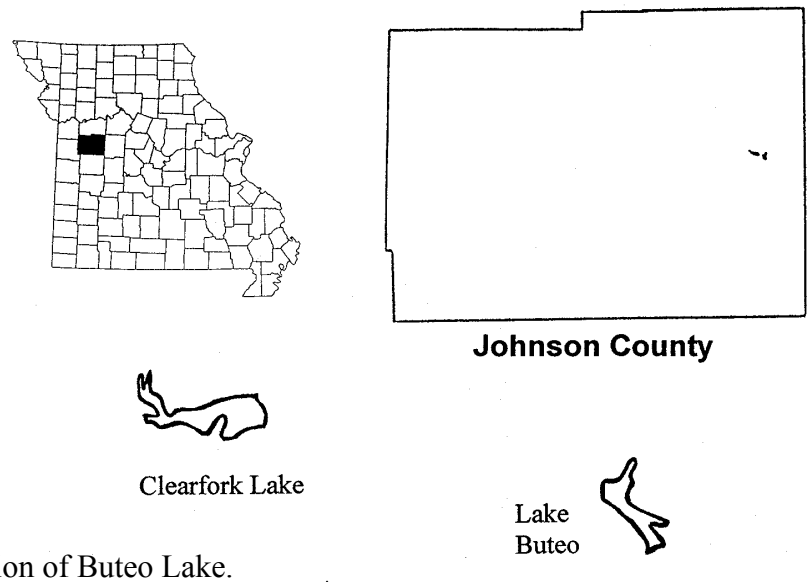

Figure 16. Location of Buteo Lake.

1999 Results

Figure 17 shows how the parameters phosphorus, nitrogen, algal chlorophyll, inorganic suspended solids, and Secchi transparency varied in Buteo Lake during the 1999 sampling season. A brief description of these results are:

- Phosphorus and nitrogen both show an increase on the last sample date with nitrogen more than doubling. It is possible these increases were due to the turnover process. (See page 12 for further explanation of turnover.)
- Chlorophyll values were relatively stable.
- Inorganic suspended solids were relatively low for a lake in the Osage Plains region of the state.
- Fluctuations in Secchi transparency followed changes in inorganic suspended solids.
- Average values measured for phosphorus, nitrogen and chlorophyll were in the eutrophic range.

Table 7. Descriptive statistics for Buteo Lake - 1999.

Parameters	Average	Median	Minimum	Maximum
Chlorophyll (µg/L)	15.8	15.8	12.2	19.6
Nitrogen (µg/L)	525	465	380	790
Phosphorus (µg/L)	28	28	22	34
ISS (mg/L)	4.1	4.0	2.5	5.8
Secchi (inches)	38	36	28	50

ISS = Inorganic Suspended Solids

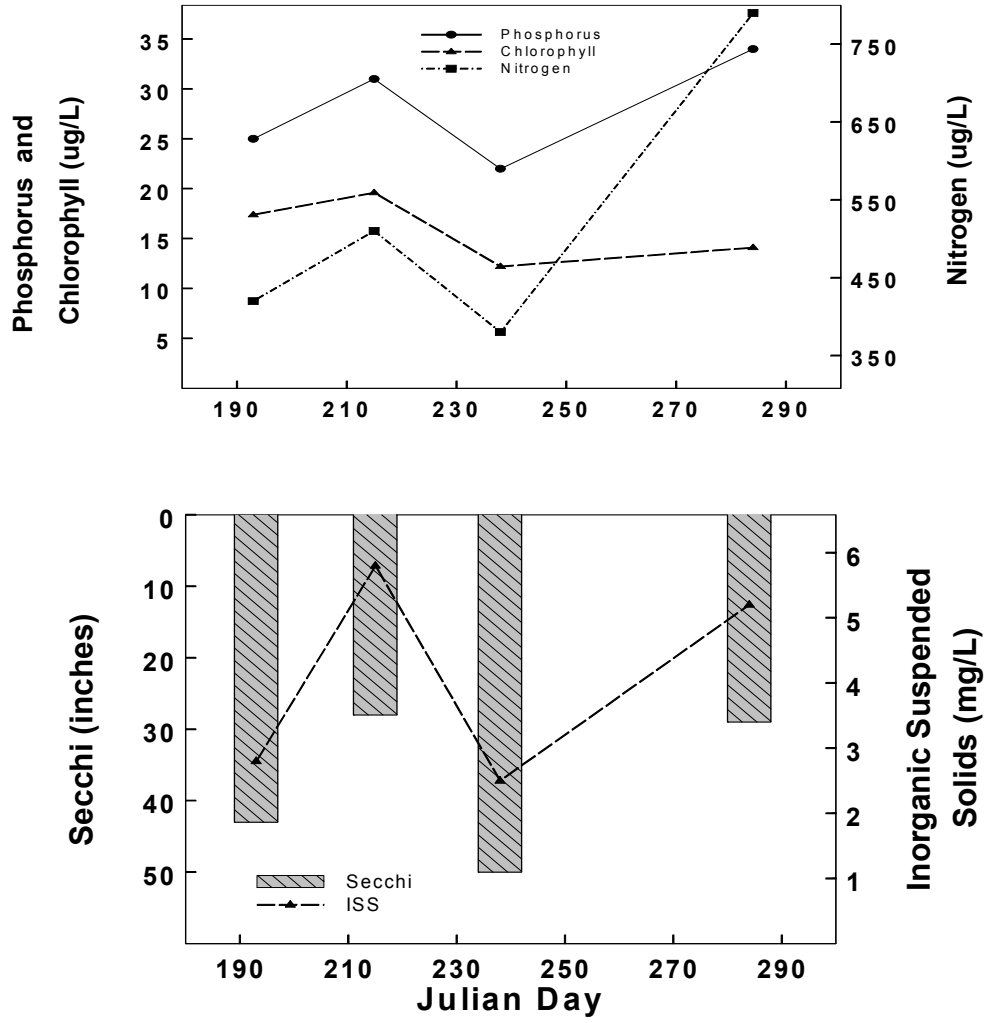

Figure 17. Seasonal fluctuations of parameters in Buteo Lake - 1999.

Clearfork Lake

Region - Osage Plains

Located in Knob Noster State Park in Johnson County, this lake is owned and operated by the Missouri Department of Natural Resources. The lake is 16 acres in size and has a maximum depth of approximately 15 feet near the dam. During 1999, Secchi transparency was the only water quality parameter monitored on the lake.

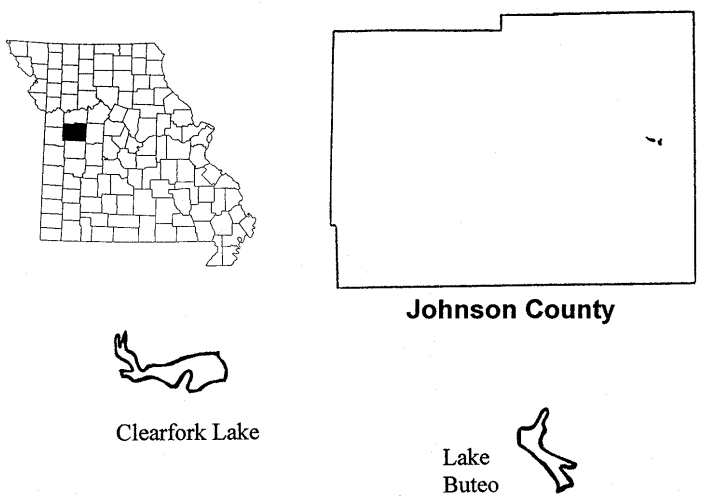

Figure 18. Location of Clearfork Lake.

Table 8. Secchi readings from Clearfork Lake - 1999.

Date	July 12	August 3	August 26	October 11
Secchi (inches)	24	18	32	82

- The average Secchi transparency for the lakes in the Osage Plains region is 28". (See page 9 for information on regional water quality.) Three out of four measurements were comparable to this value. The measurement of 82" was almost 3 times deeper than the regional average. The range of Secchi values suggests that water quality conditions are quite variable with the lake going from being very turbid to extremely clear for the Osage Plains Region.
- Average Secchi reading was 39".