Sugar Creek Lake

Sugar Creek Lake is a 346-acre lake located in Randolph County. Owned by the City of Moberly, it is used as the city's drinking water reservoir. Sugar Creek's watershed is approximately 6,700 acres.

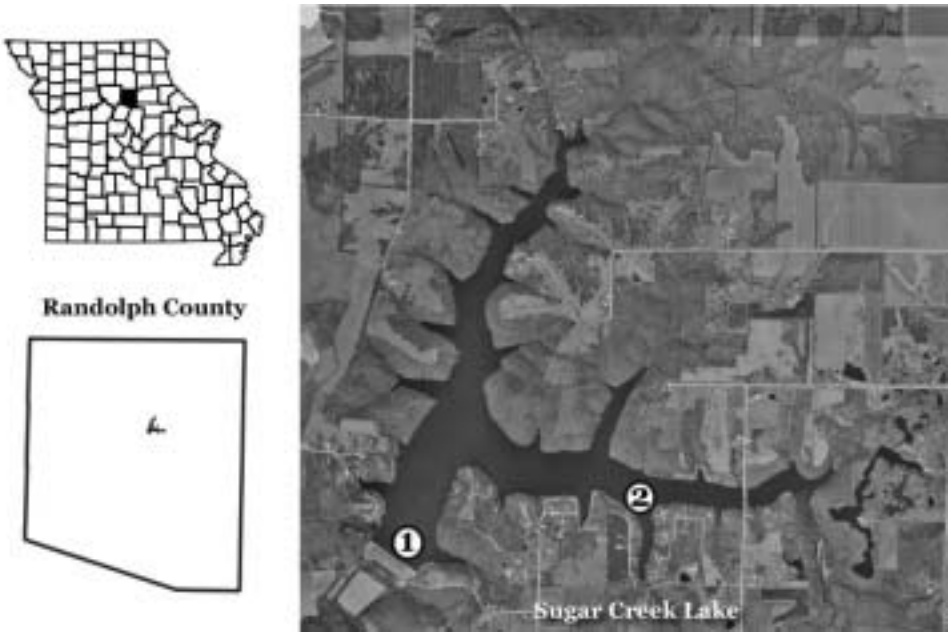

Figure 107. Location of Sugar Creek Lake

2004 Results

Figures 108 and 109 show how the parameters nitrogen, phosphorus, algal chlorophyll, inorganic suspended solids and Secchi transparency varied in Sugar Creek Lake during 2004. The descriptive statistics appear in Tables 44 and 45.

A brief description of the results:

- Both sites are very similar. Mean Secchi transparency values at the two sites differed by only 4 inches.
- Aside from the September 18 sample at Site 1, the nutrient and chlorophyll concentrations were very stable throughout the season at both sites.
- The September 18 peak in phosphorus and chlorophyll concentrations was not observed at Site 2. This suggests that the source of phosphorus that caused the algal peak is either in the other arm of the lake or somewhere between Sites 1 and 2.

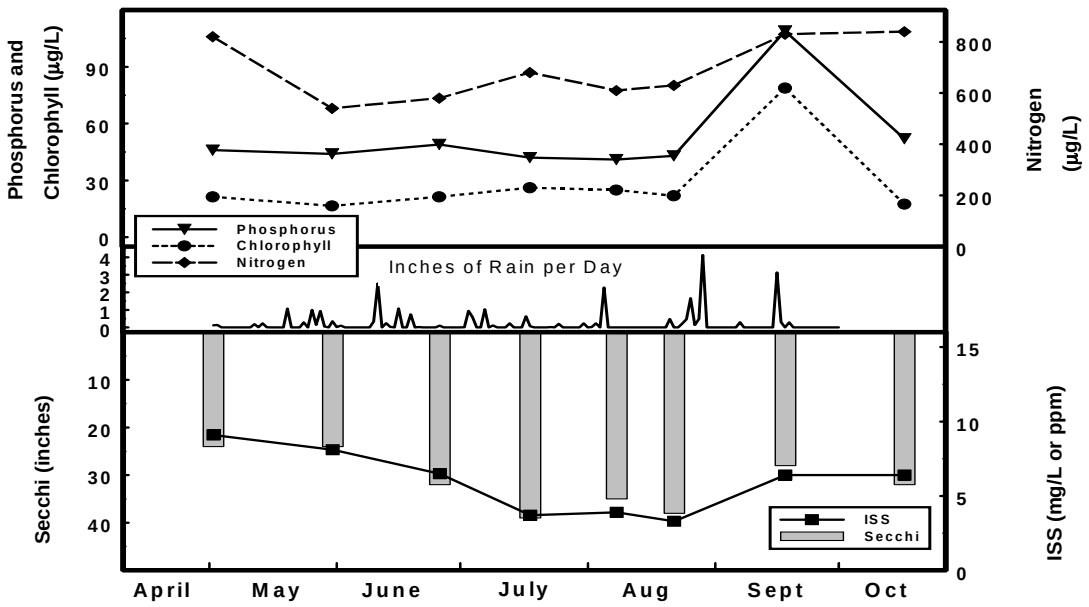

Figure 108. Seasonal fluctuations of parameters for Sugar Creek Lake, Site 1 – 2004

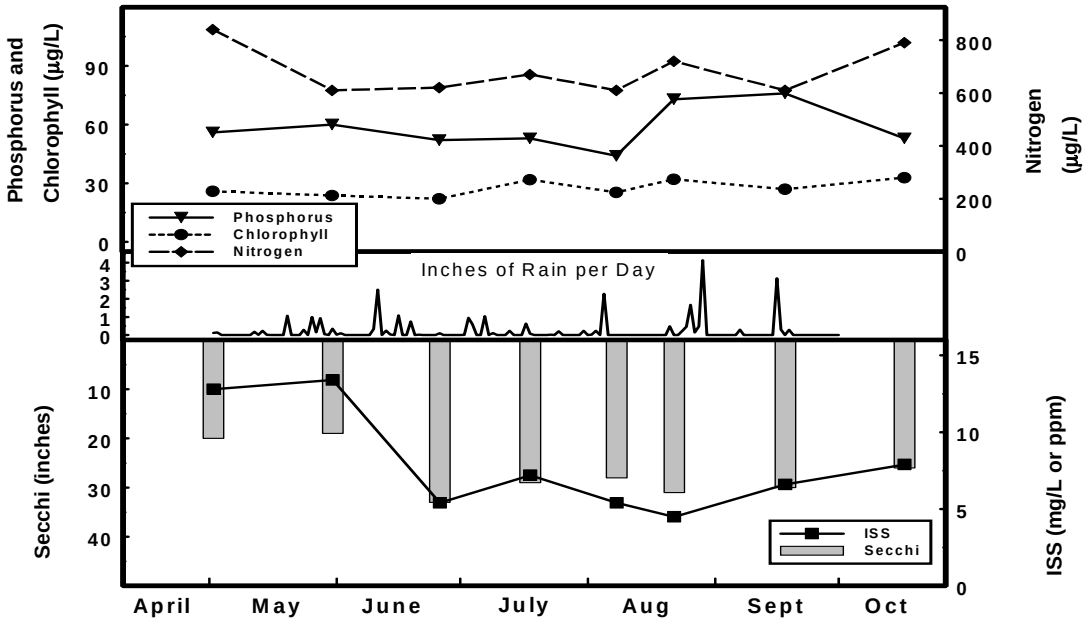

Figure 109. Seasonal fluctuations of parameters for Sugar Creek Lake, Site 2 – 2004

Table 44. Descriptive statistics for Sugar Creek Lake, Site 1 – 2004

	Secchi (inches)	TP (ug/L)	TN (ug/L)	CHL (ug/L)	ISS (mg/L)
Geometric Mean	31	50	682	24.9	5.6
Minimum	24	41	540	16.5	3.3
Maximum	39	109	840	78.8	9.1
Number of Samples	8	8	8	8	8

Table 45. Descriptive statistics for Sugar Creek Lake, Site 2 – 2004

	Secchi (inches)	TP (ug/L)	TN (ug/L)	CHL (ug/L)	ISS (mg/L)
Geometric Mean	27	58	679	27.3	7.3
Minimum	19	44	610	22.0	4.5
Maximum	33	76	840	32.8	13.4
Number of Samples	8	8	8	8	8

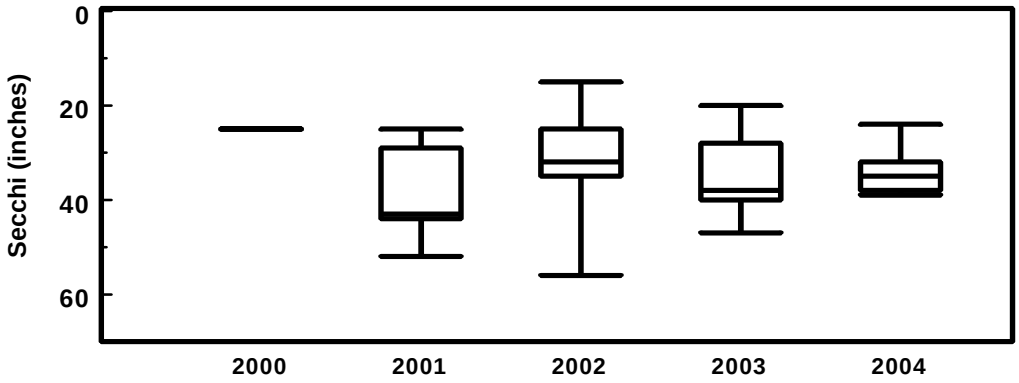

Figure 110. Secchi trends in Sugar Creek Lake, Site 1. No apparent trends. All parameters are consistent across all years observed.

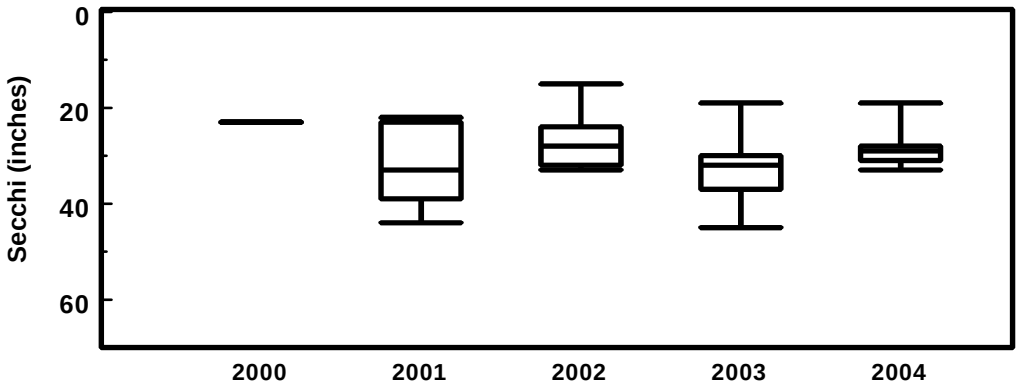

Figure 111. Secchi trends in Sugar Creek Lake, Site 2. No apparent trends. All parameters are consistent across all years observed.