

# Lake of the Ozarks

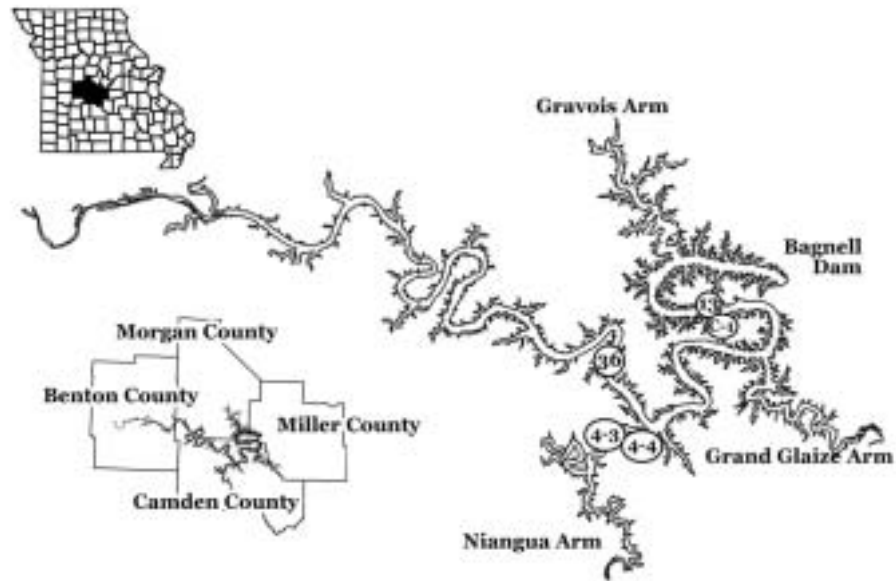


Figure 46. Location of sampling sites on Lake of the Ozarks.

Lake of the Ozarks is located in the Ozark Highlands, though a portion of the watershed originates in the Osage Plains Region. The Harry S. Truman Reservoir precedes this large impoundment on the Osage River. Even though the majority of the watershed is forest and grassland, the proximity of urban areas to the lake may influence water quality. Truman Reservoir also influences water quality. Past research has shown, when large volumes of water are being released from Truman scouring occurs in the old river channel. At these times, large amounts of inorganic suspended solids along with high concentrations of nutrients are brought into Lake of the Ozarks (Jones and Kaiser 1988).

<b>Parameters</b>		<b>13</b>	<b>36</b>	<b>4-3</b>	<b>4-4</b>	<b>C1</b>
<b>Secchi Transparency (inches)</b>	<b>Mean</b>	68	<b>45</b>	47	50	56
	<b>Minimum</b>	43	30	38	42	33
	<b>Maximum</b>	82	53	58	58	68
<b>Phosphorus (ug/L)</b>	<b>Mean</b>	25	<b>46</b>	35	38	25
	<b>Minimum</b>	18	33	30	32	16
	<b>Maximum</b>	39	69	42	52	43
<b>Nitrogen (ug/L)</b>	<b>Mean</b>	642	698	634	726	556
	<b>Minimum</b>	550	520	500	620	430
	<b>Maximum</b>	1010	1050	890	820	620
<b>Chlorophyll (ug/L)</b>	<b>Mean</b>	12.3	14.9	22.6	24.1	16.0
	<b>Minimum</b>	7.2	4.7	12.7	16.3	6.7
	<b>Maximum</b>	20.9	28.3	36.1	36.6	24.9
<b>ISS (mg/L)</b>	<b>Mean</b>	1.7	3.4	1.7	1.2	2.0
	<b>Minimum</b>	1.0	1.9	0.9	0.3	0.8
	<b>Maximum</b>	3.3	7.8	3.4	2.9	3.5

Table 14. Descriptive statistics for Lake of the Ozarks – 2004

Site 36, located in the main channel at the 36 mile marker, had the highest phosphorus levels, followed closely by the two sites (4-3 and 4-4) in the Niangua Arm of the lake. Sites 13 and C1 had the lowest phosphorus concentrations, about half of those found at Site 36. Mean nitrogen concentrations were comparable among the sites. The main lake sites had higher maximum values than the other three sites. Chlorophyll concentrations were higher at the Niangua Arm sites than in the main lake. This occurred even though Site 36 had more phosphorus. Slightly higher ISS concentrations at Site 36 may have “shaded” algae at this site, leading to lower algal production relative to phosphorus concentrations.

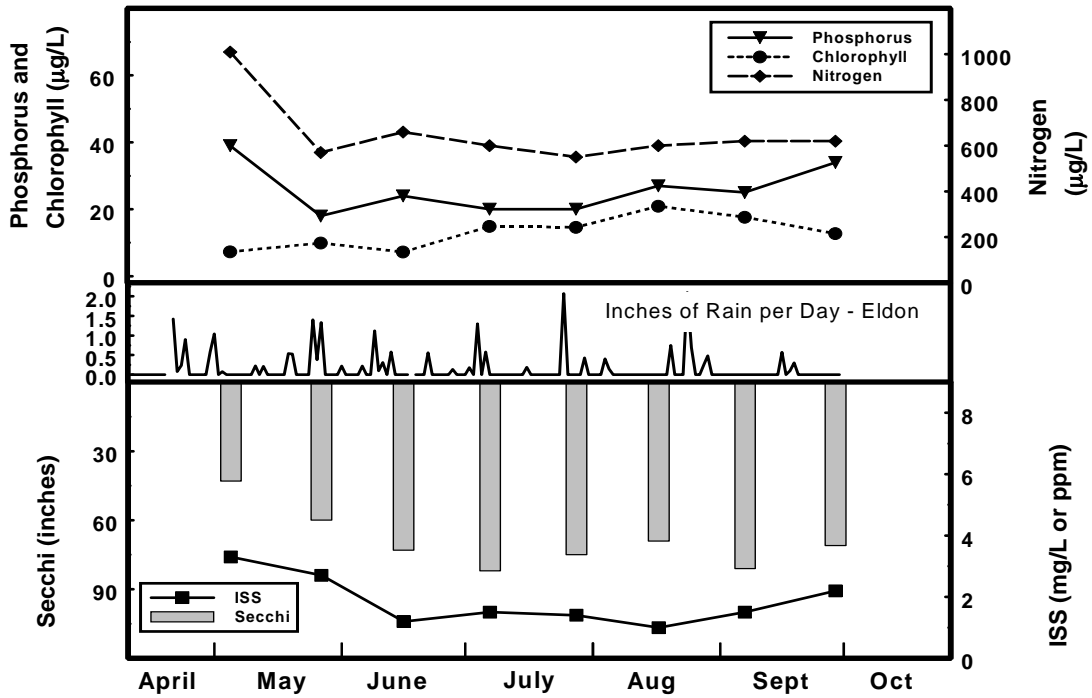


Figure 47. Seasonal fluctuations of parameters for Lake of the Ozarks, Site 13 – 2004

Site 13 and Site C1 seasonal graphs are nearly identical in both scale and pattern. For brevity, Site C1 is not shown.

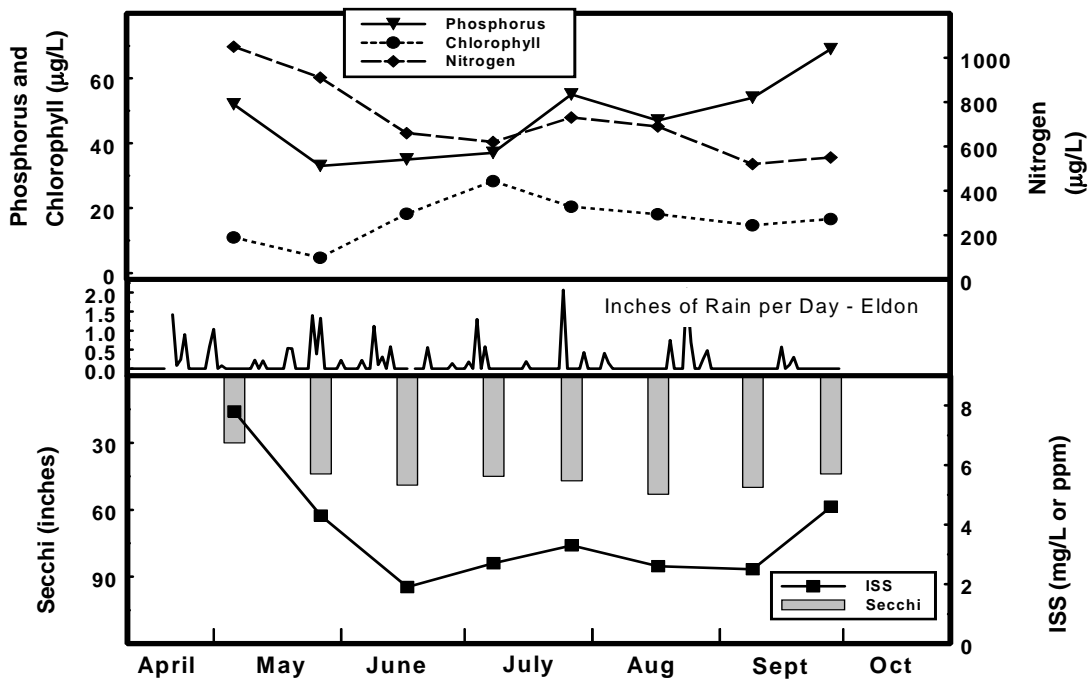


Figure 48. Seasonal fluctuations of parameters for Lake of the Ozarks, Site 36 – 2004

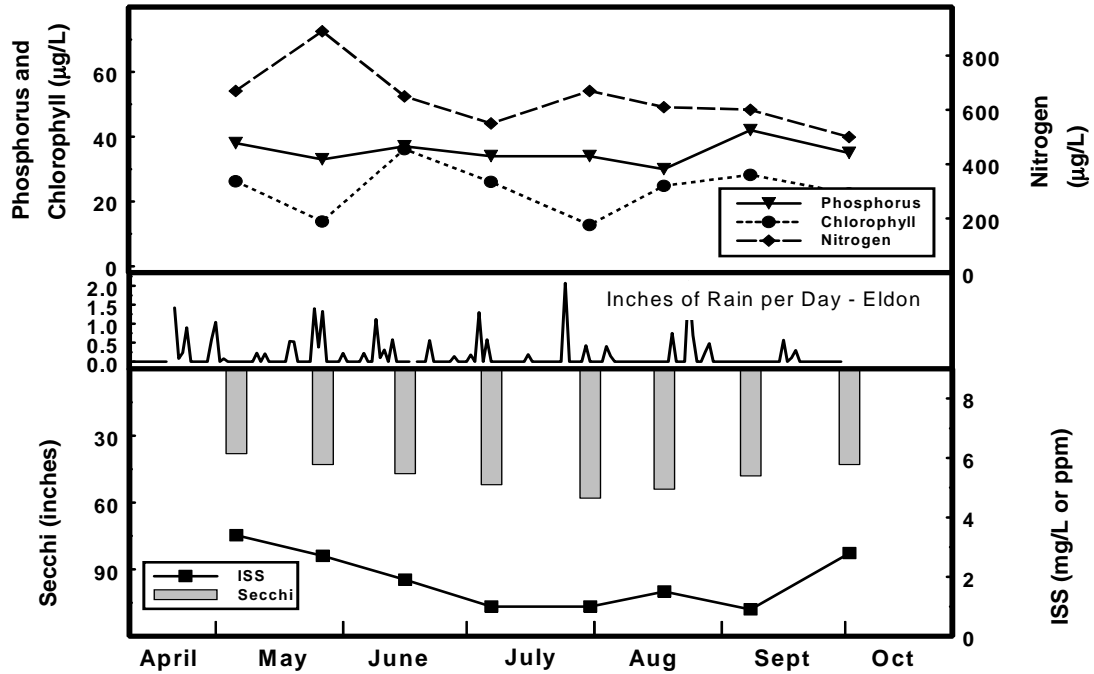


Figure 49. Seasonal fluctuations of parameters for Lake of the Ozarks, Site 4-3 – 2004 (Niangua Arm)

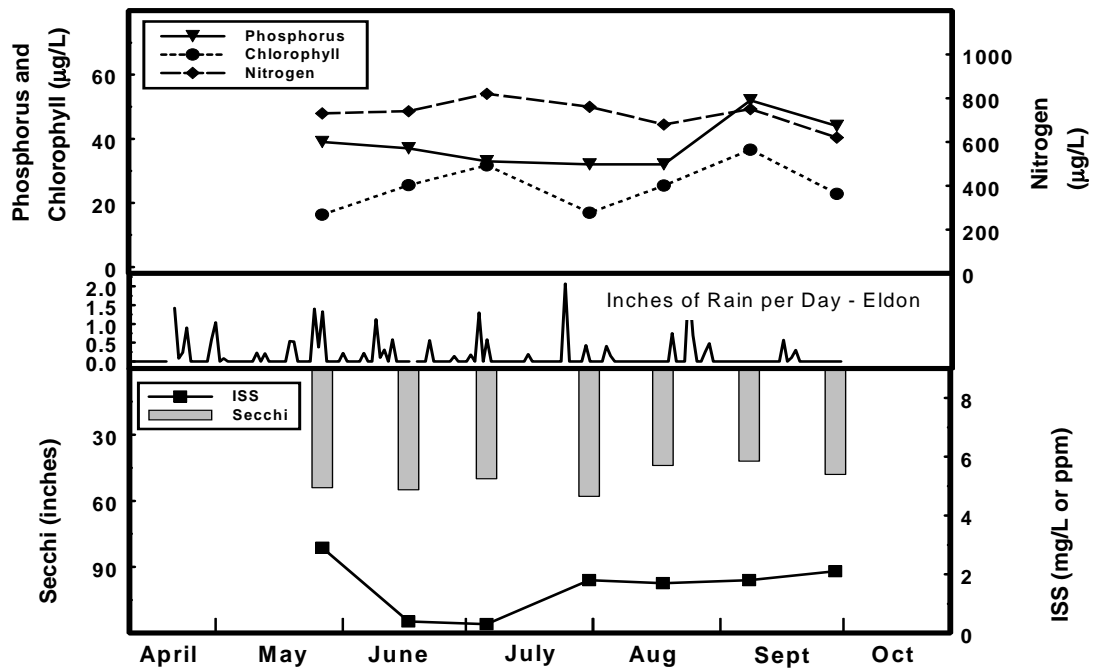


Figure 50. Seasonal fluctuations of parameters for Lake of the Ozarks, Site 4-4 – 2004 (Libby Cove on Niangua Arm)

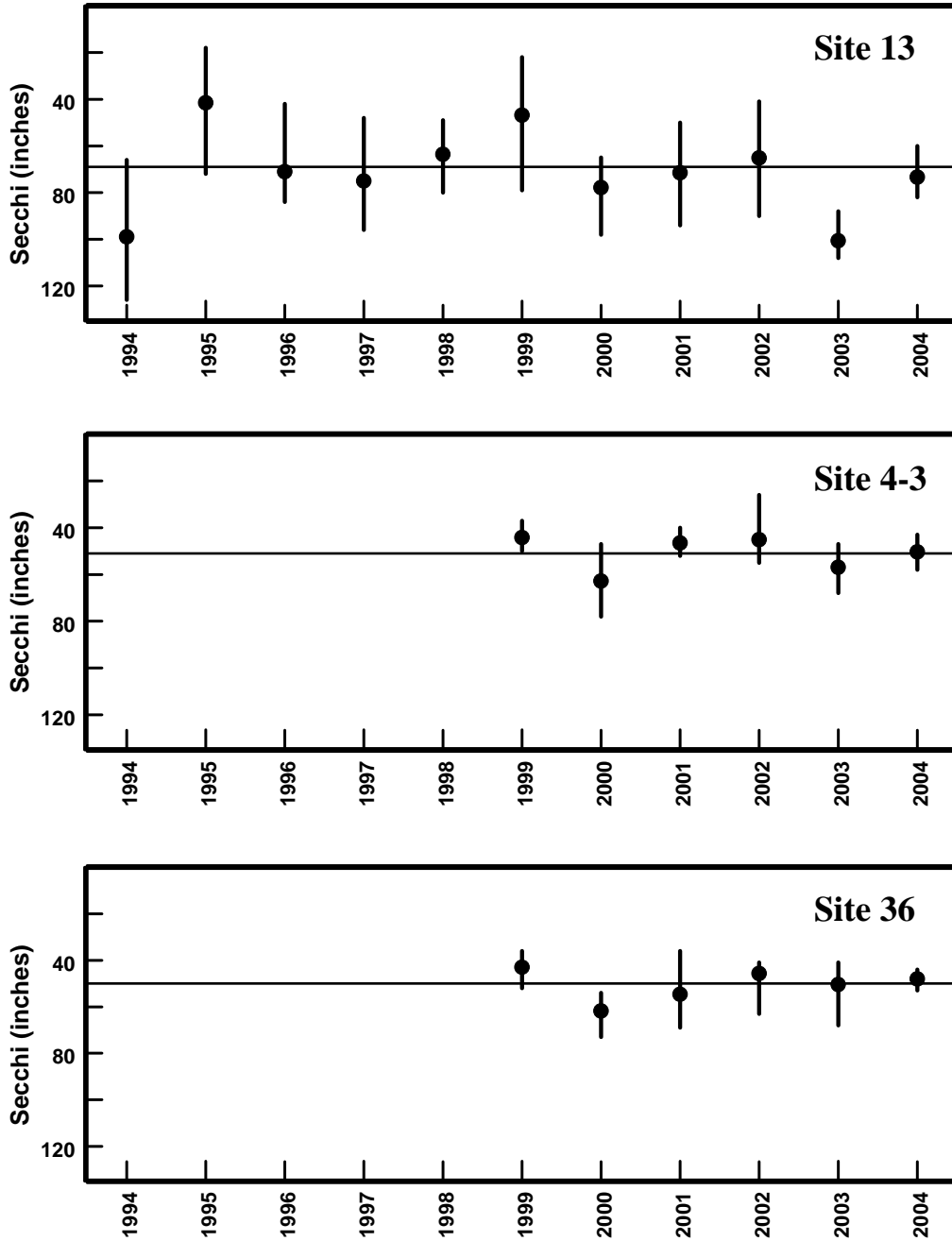


Figure 51. Secchi trends at three sites in Lake of the Ozarks

All three sites show the same pattern in Secchi transparency values over the years, but the clearer Site 13 shows greater variability between and within years.