

# Lake Taneycomo

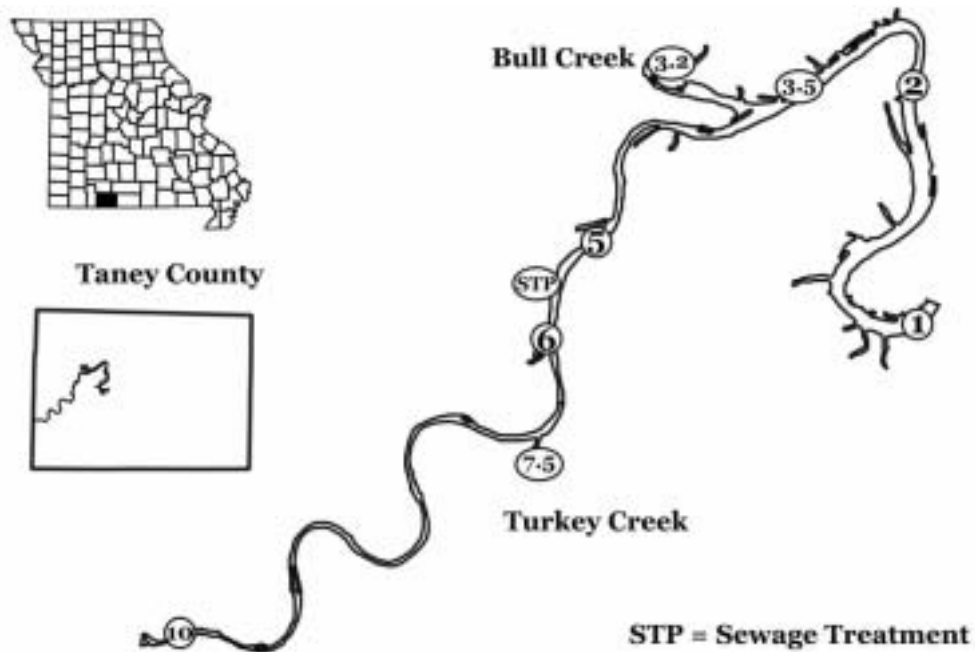


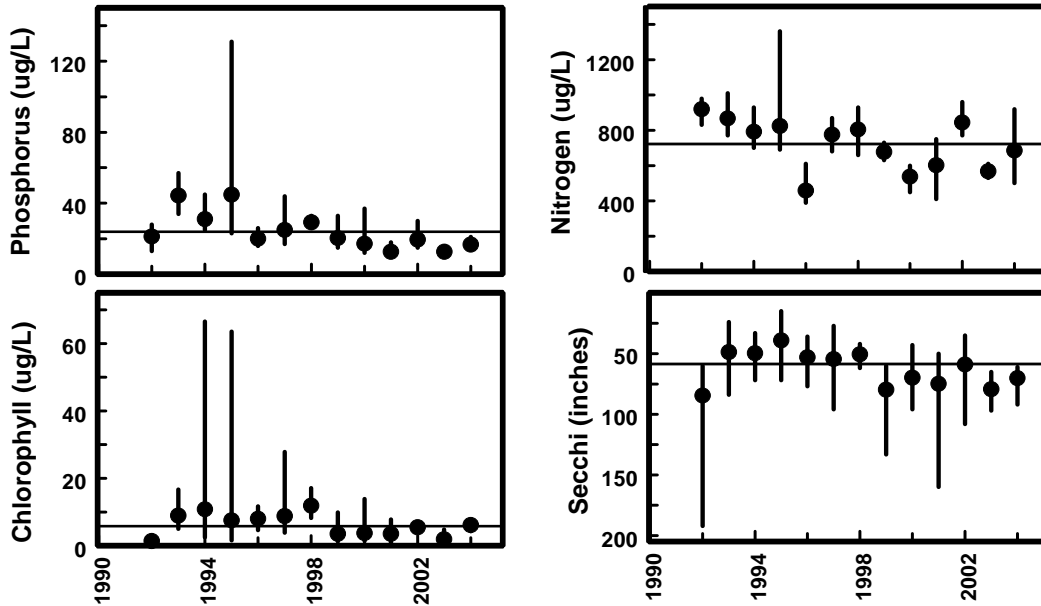
Figure 134. Location of Lake Taneycomo and sample sites.

Lake Taneycomo is a 22 mile long, 2080 acre lake in the White River Basin. It is located between Table Rock Lake and Bull Shoals Lake. While the majority of Lake Taneycomo's watershed is forested, the lake is influenced by the location of Branson and other nearby developed areas. The majority of water flowing through Lake Taneycomo originates from the deep waters of Table Rock Lake. This water source plays a large role in determining the overall water quality of Lake Taneycomo. Another major influence on water quality in Lake Taneycomo is the residence time (see page 6 for more information on residence time) of the water in the lake, which can be very short (Knowlton and Jones 1990).

<b>Parameters</b>		<b>1</b>	<b>2</b>	<b>3.5</b>	<b>10</b>	<b>3.2</b>
<b>Secchi Transparency (inches)</b>	<b>Mean</b>	62	69	57		40
	<b>Minimum</b>	49	48	48		30
	<b>Maximum</b>	92	112	63		47
<b>Phosphorus (ug/L)</b>	<b>Mean</b>	20	16	23	11	25
	<b>Minimum</b>	14	13	15	7	18
	<b>Maximum</b>	31	21	38	14	40
<b>Nitrogen (ug/L)</b>	<b>Mean</b>	691	658	655	742	570
	<b>Minimum</b>	500	580	600	630	440
	<b>Maximum</b>	920	770	830	880	710
<b>Chlorophyll (ug/L)</b>	<b>Mean</b>	5.3	4.5	6.4	0.6	
	<b>Minimum</b>	2.2	1.6	2.8	0.3	
	<b>Maximum</b>	8.2	14.5	12.8	1.2	
<b>ISS (mg/L)</b>	<b>Mean</b>					3.5
	<b>Minimum</b>					2.7
	<b>Maximum</b>					5.6

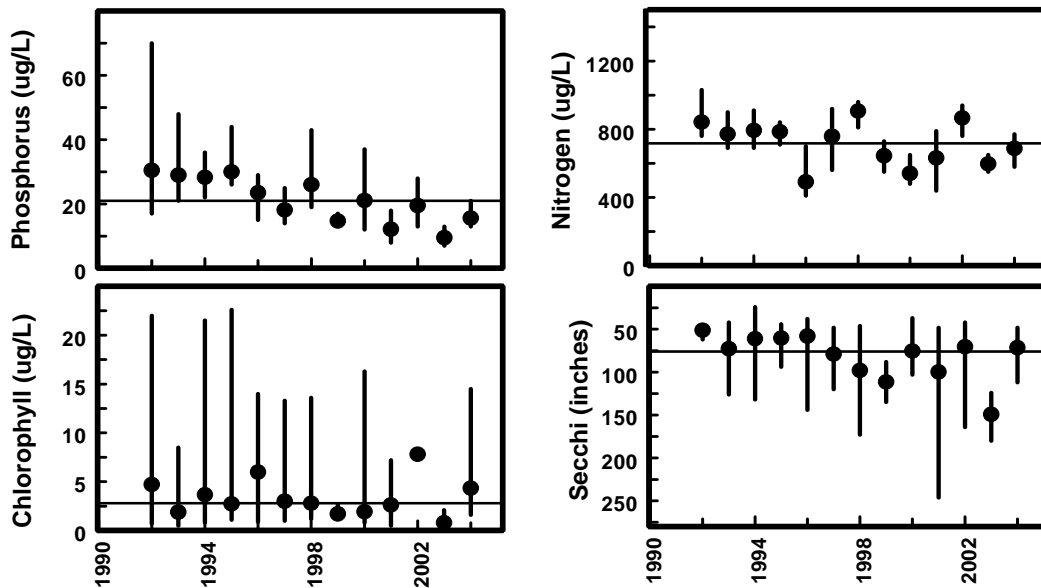
Table 51. Descriptive statistics for Lake Taneycomo, 2004.

Lake Taneycomo phosphorus concentrations were lower at Site 10 than at any other site monitored in 2004. Lake Taneycomo's Site 10 represents water coming from the lower layers of Table Rock Lake, as the dam draws water from the hypolimnion of Table Rock. Phosphorus concentrations were highest at Site 3.2 (Bull Creek) where water quality is affected by Rockaway Beach. Phosphorus concentrations for all other Taneycomo sites were similar. Nitrogen values were highest at Site 10. Chlorophyll concentrations were normal throughout the lake, with maximum values in the lower portion of the lake reaching 14 ug/L. ISS concentrations at Site 3.2 suggest the presence of some soil material in the water, but are not high enough to cause alarm.



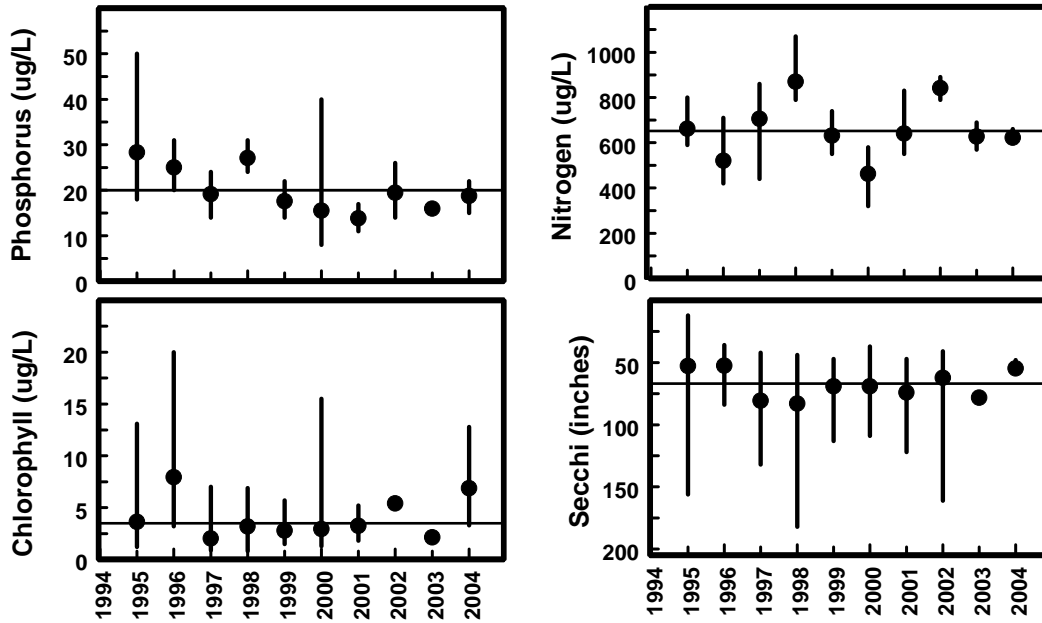
**Figure 135. Multi year trends at Lake Taneycomo Site 1**

All annual mean phosphorus concentrations since 1999 have been below the overall mean for that site. These reductions are likely benefits of the reduction of phosphorus in the effluent from the Branson Sewage Treatment Plant. The dropping phosphorus concentrations over time have resulted in lower chlorophyll concentrations, and we have not seen extreme peaks (like those of 1994 and 1995) in several years.



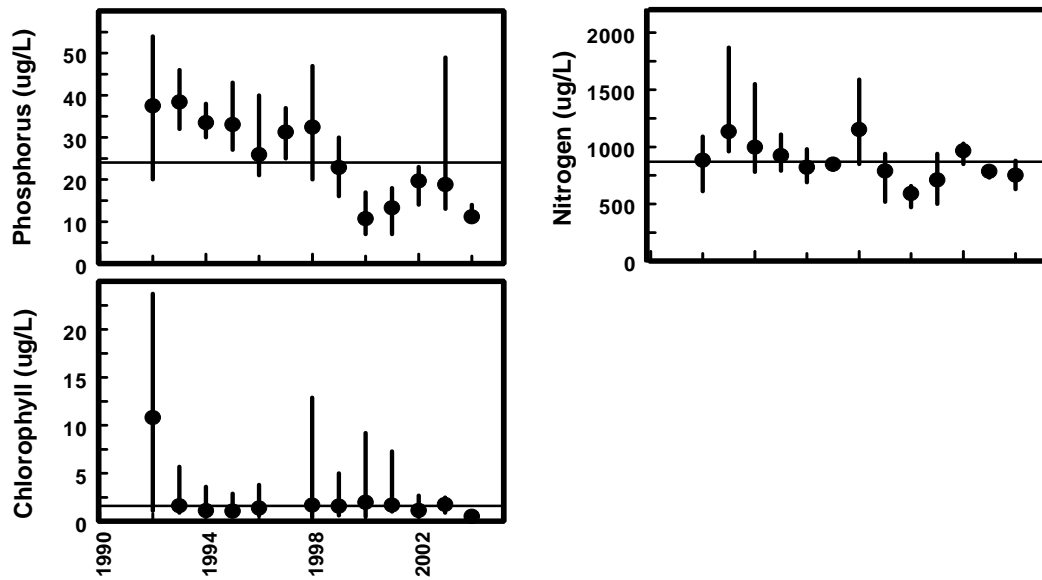
**Figure 136. Multi year trends at Lake Taneycomo Site 2**

Note that the vertical axes for the Site 2 graphs are different than the Site 1 graphs. The Site 2 nutrient graphs only extend about half the range of the Site 1 graphs. Otherwise, the patterns are roughly the same as for Site 1.



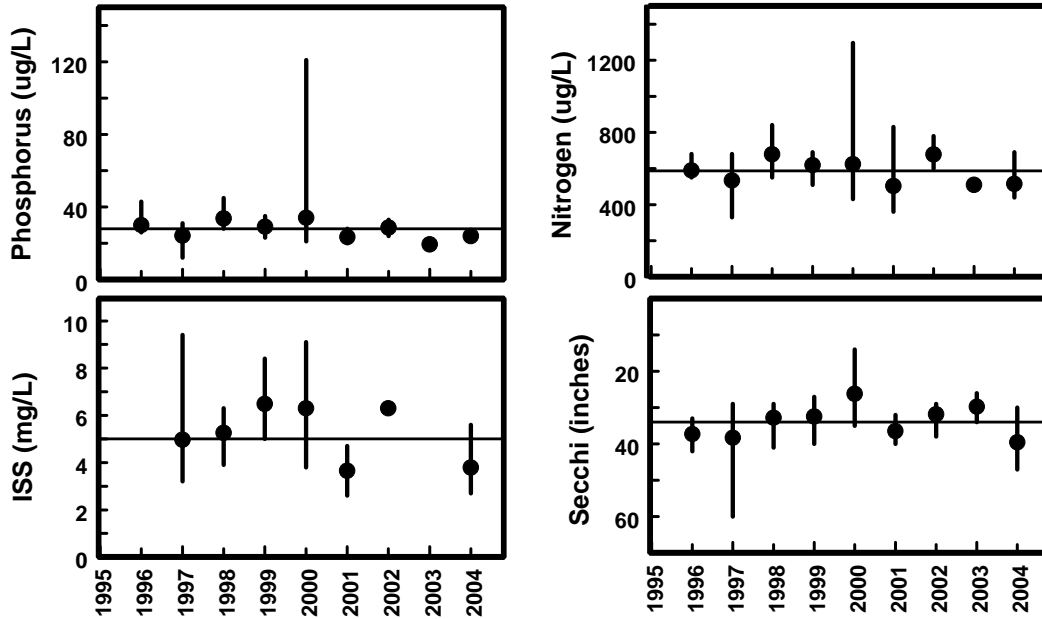
**Figure 137. Multi year trends at Lake Taneycomo Site 3.5**

The vertical axes of the Site 3.5 graphs show a slightly smaller range than the Site 2 graphs. The patterns observed across the years are very similar to those observed at the dam. Note that Site 3.5 wasn't sampled by the LMVP until 1995.



**Figure 138. Multi year trends at Lake Taneycomo Site 10**

Site 10 has shown decreases in measured phosphorus and, to a lesser extent, nitrogen. These lower concentrations may reflect lower phosphorus concentrations in the sub-surface waters of Table Rock Lake, which is the source of water for Lake Taneycomo. Changes at this site may also reflect a change in sample location that occurred when one volunteer retired and another took over.



**Figure 139. Multi year trends at Lake Taneycomo Site 3.2**

Aside from the high value in 2000, phosphorus concentrations at Site 3.2 have been relatively stable. Notice the scale of the phosphorus graph. There is no trend of decreasing phosphorus concentrations at site 3.2. Nitrogen concentrations are more stable at Site 3.2 than at other sites on Lake Taneycomo.