

Lake Taneycomo

Ozark Highlands Region

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** of the water in the lake, which can be very short (Knowlton and Jones 1990).

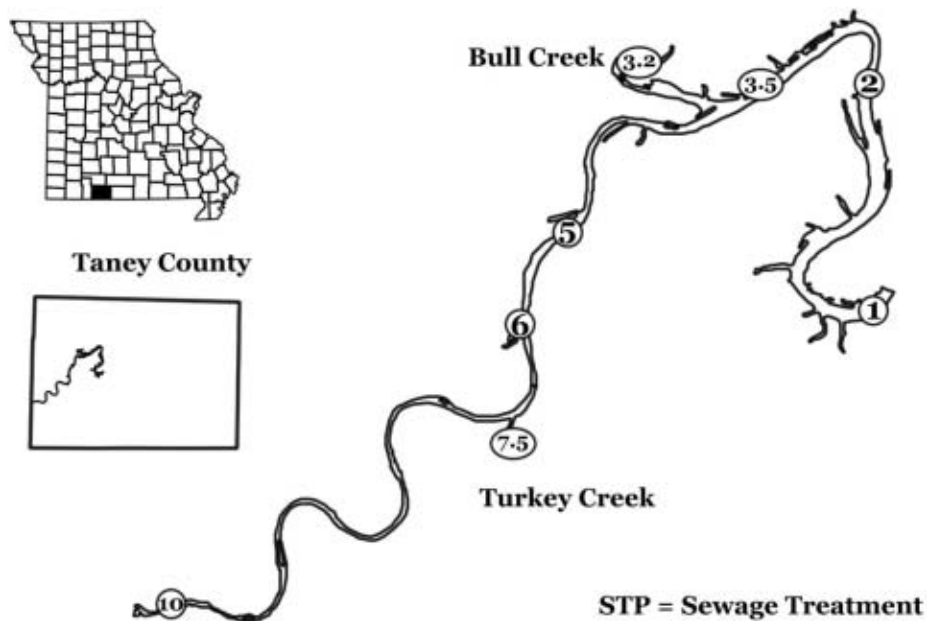


Figure 57. Location of Lake Taneycomo and sample sites.

- Nine sites were sampled in 2002. Six sites were in the main lake channel, one in Turkey Creek, one in Bull Creek, and one at the Branson sewage treatment plant outflow.
- See the *Trends* section (page 90) for long-term analyses of Lake Taneycomo data.

Table 30. Descriptive statistics for sample sites on Lake Taneycomo – 2002.

Parameters		Site 10	Site 6	Site 5	Site 3.5	Site 2	Site 1
Secchi Transparency (inches)	# samples	*	7	7	7	7	7
	geomean	*	110	96	52	63	50
	median	*	178	148	51	57	59
	minimum	*	5	6	12	22	10
	maximum	*	225	194	161	164	116
Phosphorus (µg/L)	# samples	7	8	7	7	7	7
	geomean	17	18	19	17	19	21
	median	20	15	20	20	20	17
	minimum	10	9	10	4	13	12
	maximum	23	84	46	42	28	54
Nitrogen (µg/L)	# samples	7	8	8	7	7	7
	geomean	875	841	932	738	807	796
	median	970	890	975	820	830	800
	minimum	570	570	610	450	610	580
	maximum	1030	930	1060	890	940	960
Chlorophyll (µg/L)	# samples	7	8	8	3	3	3
	geomean	1.1	1.7	1.5	2.0	2.9	2.0
	median	0.9	2.1	1.4	1.5	2.2	1.5
	minimum	0.4	0.7	0.7	1.0	1.4	1.0
	maximum	3.0	3.2	3.4	5.4	7.8	5.5
ISS (mg/L)	# samples	7					
	geomean	0.7					
	median	0.8					
	minimum	0.1					
	maximum	2.2					

* Secchi hit bottom each sample (about 3 feet deep)

- Secchi transparency values were greater at the up-lake sites, and decreased toward Powersite dam.
- Phosphorus values were comparable across all main lake sites, with geometric means varying from 17 – 21 µg/L.
- Nitrogen values were comparable across all main lake sites, with only a slight decrease near the dam.
- Geometric mean chlorophyll values at Taneycomo varied by less than 1µg/L among the main lake sites.

Table 31. Descriptive statistics for Supplemental sample sites on Lake Taneycomo – 2002.

Parameters		Site 3.2	Site 7.5	Site STP
Secchi Transparency (inches)	# samples	7	6	
	geomean	31	67	
	median	31	80	
	minimum	11	18	
	maximum	83	128	
Phosphorus (µg/L)	# samples	7	8	8
	geomean	25	20	46
	median	29	21	50
	minimum	9	9	6
	maximum	38	35	614
Nitrogen (µg/L)	# samples	7	8	8
	geomean	595	705	2012
	median	660	705	2055
	minimum	350	340	1000
	maximum	780	1720	5880
ISS (mg/L)	# samples	3	8	
	geomean	9.0	2.2	
	median	6.3	2.6	
	minimum	3.2	0.7	
	maximum	35.9	12.9	

- Secchi values at site 7.5 (Turkey Creek) were comparable to values from main lake sites, while Secchi values from site 3.2 (Bull Creek) were notably lower.
- Phosphorus in both stream sites was comparable to main lake concentrations. STP displayed its normal range, with very acceptable values.
- Nitrogen in the streams was generally lower than the main lake values.
- Nitrogen values at STP were high, though they were 33% less than in 2001.
- The geometric mean ISS value at site 3.2 was 4 times higher than at 7.5.

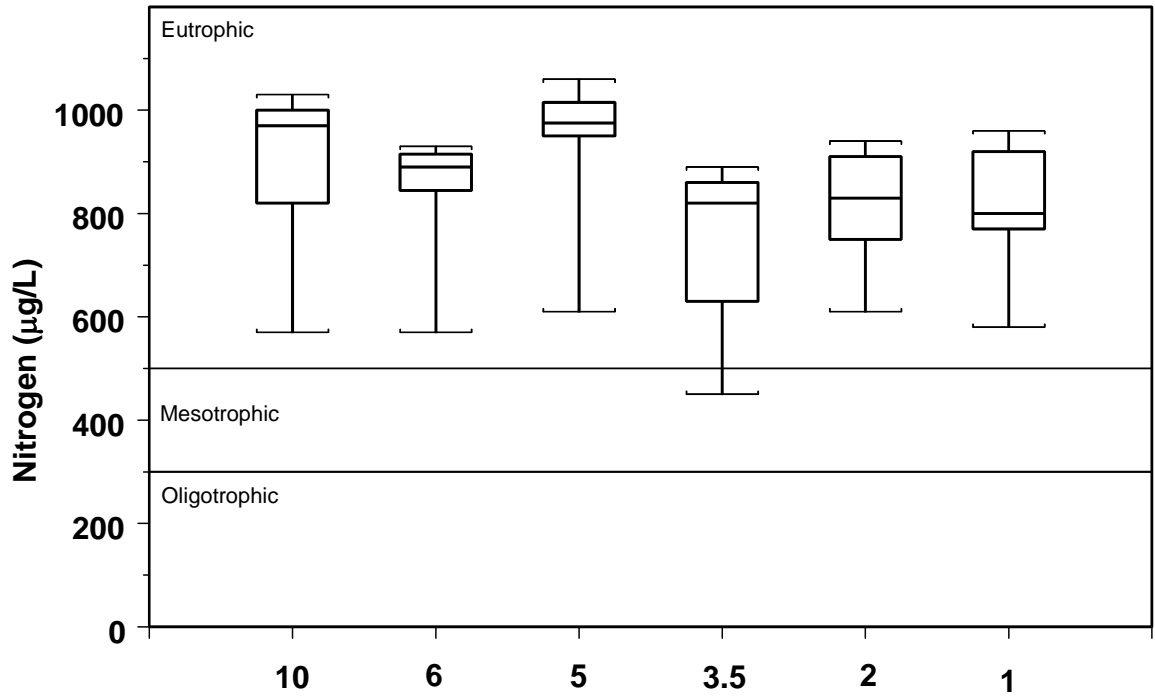


Figure 58. Nitrogen values for Lake Taneycomo – 2002.

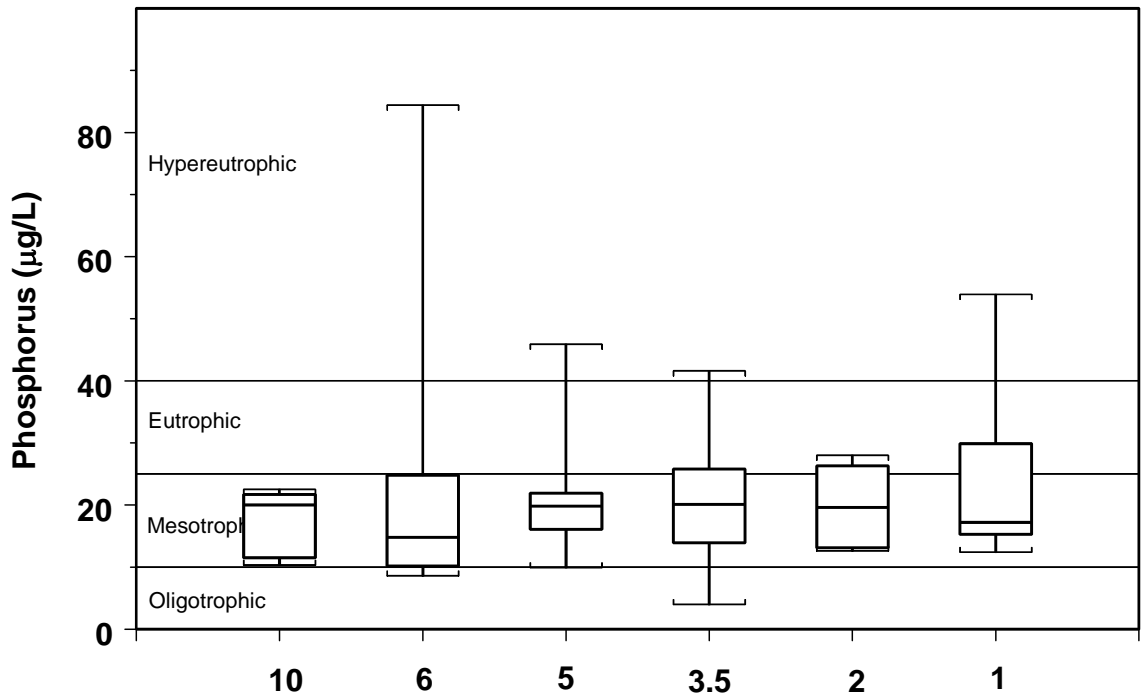


Figure 59. Phosphorus values for Lake Taneycomo – 2002.

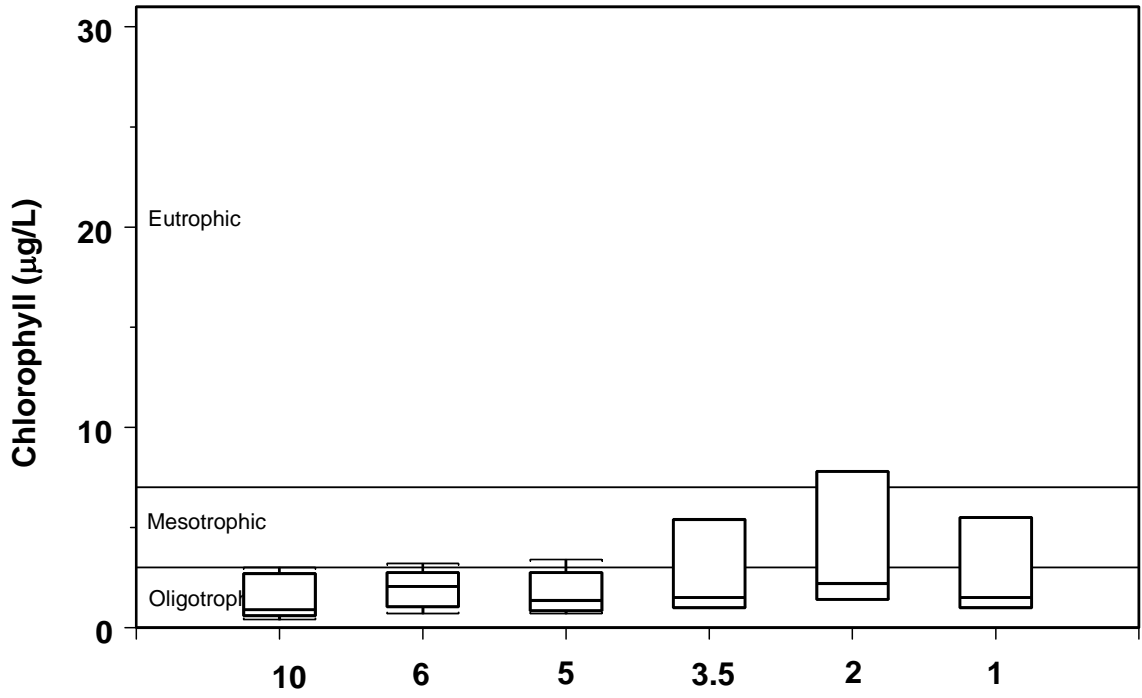


Figure 60. Chlorophyll values for Lake Taneycomo – 2002.
 (3 chlorophyll samples were processed from sites 1, 2 and 3.5, all from spring and early summer)

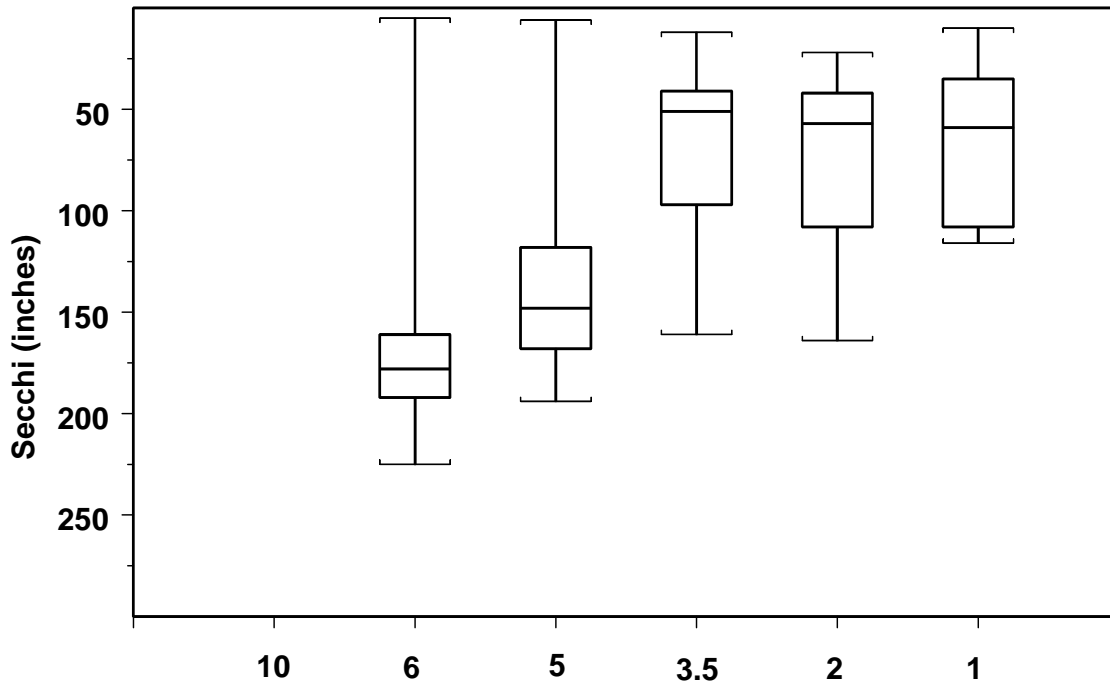


Figure 61. Secchi values for Lake Taneycomo – 2002