

# Lamar City Lake, Site 1

Barton County

2007 DATA



Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
4/27	36	78	1130	12.4	5.1
5/18	26	106	1080	64.6	2.4
6/8	28	112	1000	52.9	2.7
6/28	18	123	1700	180.2	1.3
7/16	30	94	1110	56.2	0.8
8/10	20	108	1190	67.7	2.8
8/28	28	82	1620	57.2	2.1
9/17	28	68	1370	32.8	4.8
<b>Mean</b>	<b>26</b>	<b>95</b>	<b>1250</b>	<b>52.1</b>	<b>2.4</b>

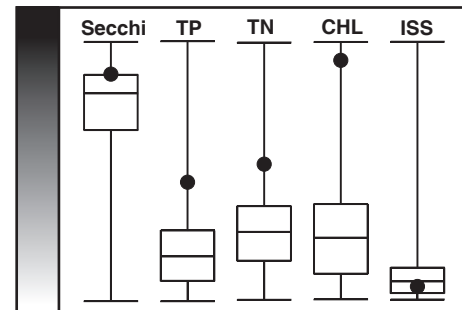
2007 SUMMARY

Lamar City Lake was sampled eight times between April 27 and September 17, 2007. This lake is listed by the Missouri Department of Natural Resources as having excessive nutrients.

Nutrient concentrations were quite high in Lamar City Lake in 2007, higher than found in more than 75% of Missouri lakes. Chlorophyll concentrations were very high as well, among the highest in the state. Sediment (ISS) concentrations were below the statewide median, however.

There is a high amount of phosphorus relative to nitrogen, resulting in low nitrogen to phosphorus ratios. Low ratios of nitrogen to phosphorus indicate that the algae in Lamar City Lake might occasionally be limited by the nutrient nitrogen. Typically, Missouri lakes are phosphorus limited.

The June 28 chlorophyll maximum of 180 µg/L is extremely high and indicates a major algae bloom.

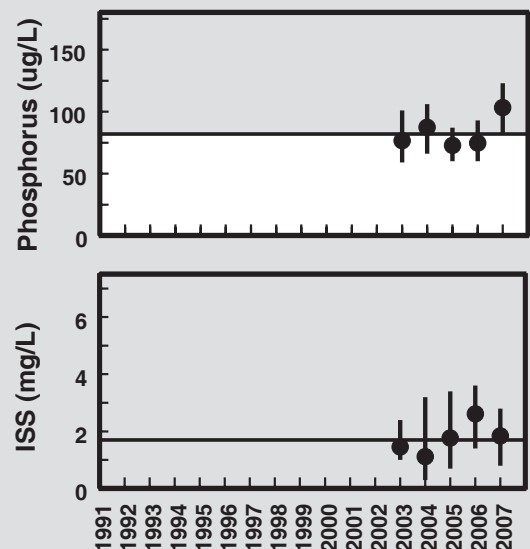


Relative Rank Graph  
See page 11 for details

TRENDS

2007 Phosphorus concentrations were higher than the long-term mean, and the highest observed to date at Lamar City Lake. The long-term mean phosphorus concentration is only 1 µg/L below the proposed nutrient criteria value. Chlorophyll (not shown) was also higher this year than previously observed, and exceeds proposed criteria by 13 µg/L.

The mean 2007 ISS concentration was very near the long-term mean. 'Summer' (defined here as May 15 - Sept. 15) ISS values have not been greater than 4 mg/L since monitoring began.



# Lamar City Lake, Site 2

Barton County

2007 DATA



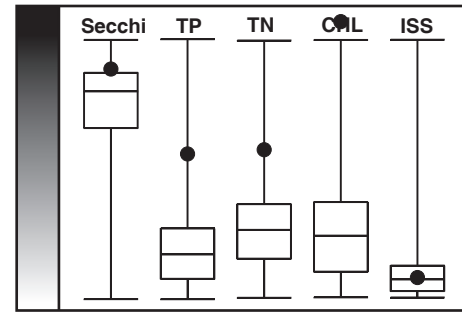
Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
4/27	32	159	1670	16.7	6.4
5/18	24	125	1480	83.8	3.3
6/8	30	119	1250	76.6	3.8
6/28	18	130	1220	99.1	4.0
7/16	18	166	1980	74.9	2.8
8/10	24	101	1180	71.6	1.6
8/28	26	76	1190	52.7	3.0
9/17	26	74	1050	55.6	3.4
<b>Mean</b>	<b>26</b>	<b>114</b>	<b>1350</b>	<b>60.0</b>	<b>3.3</b>

2007 SUMMARY

Eight samples were collected at Lamar City Lake, Site 2 between April 27 and September 17, 2007.

The geometric mean Secchi transparency value at Site 2 was identical to that of the dam. Nitrogen and sediment (ISS) values were quite similar as well. Phosphorus was 20% higher at Site 2 than at the dam, and chlorophyll was 15% higher.

Lamar City Lake, Site 2 had a higher 2007 mean chlorophyll concentration than the long-term mean of any Missouri lake. Nutrient concentrations were higher at Site 2 than found in more than 75% of Missouri's lakes.



Relative Rank Graph  
See page 11 for details

TRENDS

Nitrogen concentrations were near the long-term mean for Site 2. Chlorophyll concentrations were higher than usual, with 2007 having the highest mean annual value.

While concentrations of both nutrients meet the proposed nutrient criteria values, chlorophyll concentrations are well above the criteria value. Nutrient criteria values are shown here for reference, as nutrient criteria would only apply at the dam and not to this up-lake site.

