

Lamar City Lake, Site 1

Barton County

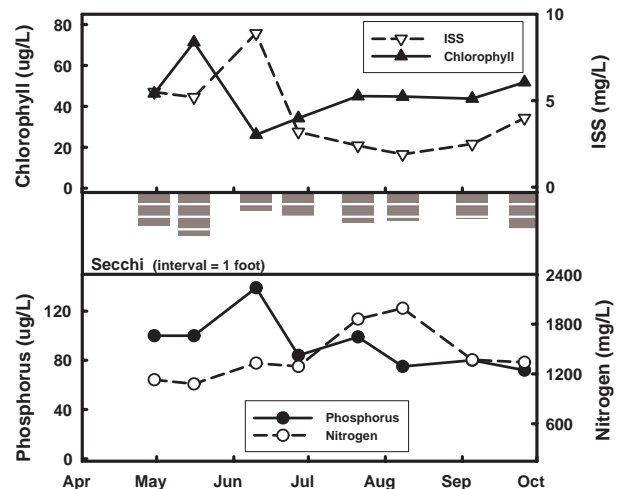
2008 DATA



Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
4/30	33	100	1130	46.3	5.5
5/16	42	100	1080	71.3	5.2
6/10	18	139	1330	26.2	8.9
6/27	24	84	1290	34.2	3.2
7/21	30	99	1860	45.0	2.4
8/8	28	75	1990	44.8	1.9
9/5	26	80	1370	43.8	2.5
9/26	36	72	1340	51.8	4.0
Mean	29	92	1394	43.8	3.7

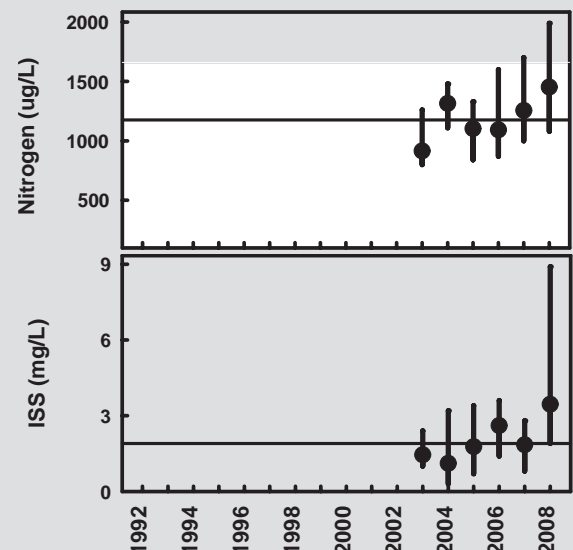
2008 SUMMARY

Lamar City Lake was sampled 8 times at two locations in 2008. Site 1 is located at the dam. The mean Secchi transparency at Site 1 was roughly two and a half feet, slightly less than the statewide average of three feet. Phosphorus and nitrogen concentrations are considerably higher than found in the “average” Missouri lake. The abundance of nutrients and low levels of suspended solids (which block sunlight) allow the algae in Lamar City Lake to thrive. The chlorophyll concentration was high through the entire sampling season, peaking in May at 71 µg/L.



TRENDS

Nitrogen concentrations were higher in 2008 than in any other year to date at the dam, with a mean 2008 concentration considerably higher than the long-term mean. Nitrogen concentrations at the dam were higher than those observed at Site 2 in 2008. Nutrient concentrations are typically lower at the dam than at uplake sites. That Lamar City Lake behaved differently in 2008 implies a possible source of nitrogen somewhere between Site 1 and Site 2. Chlorophyll concentrations, while high, were slightly lower than the long-term mean value. Suspended sediments concentrations were higher in 2008 than observed to date, with a maximum value nearly three times the previously observed maximum “summer” value.



Lamar City Lake, Site 2

Barton County

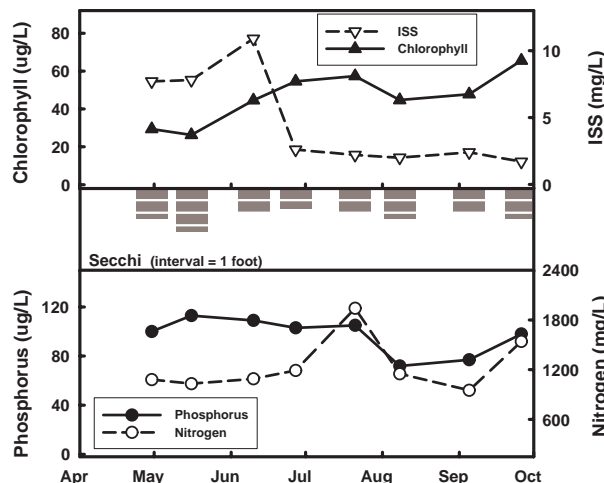
2008 DATA



Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
4/30	30	100	1080	29.4	7.7
5/16	42	113	1030	26.3	7.8
6/10	24	109	1090	44.6	10.9
6/27	20	103	1190	54.6	2.6
7/21	24	105	1940	57.4	2.2
8/8	30	72	1150	44.7	2.0
9/5	24	77	950	47.8	2.4
9/26	30	98	1540	65.6	1.7
Mean	27	96	1214	44.4	3.6

2008 SUMMARY

Site 2 is located up-lake, just west of the road that crosses the upper end of the lake. Water clarity was quite similar among the two sites, with Site 2 having slightly less clarity (2 inches) than Site 1 at the dam. Phosphorus and chlorophyll concentrations were similar as well, though slightly higher at Site 2 than at Site 1. Suspended sediment concentrations were nearly identical among the two sites, a surprising observation given that particles typically settle out of the water column as water moves from the inflowing end of a reservoir toward the dam.



TRENDS

Though the mean 2008 nitrogen concentration at Site 1 was almost 300 µg/L greater than the long-term mean, the 2008 mean at Site 2 was roughly 100 µg/L less than the long-term mean. The mean 2008 chlorophyll concentration was marginally less than the long-term mean but considerably lower than last year. The mean Secchi transparency value was comparable to the long-term mean, but the maximum observed clarity in 2008 (42 inches) was the highest clarity observed to date at Lamar City Lake Site 2.

