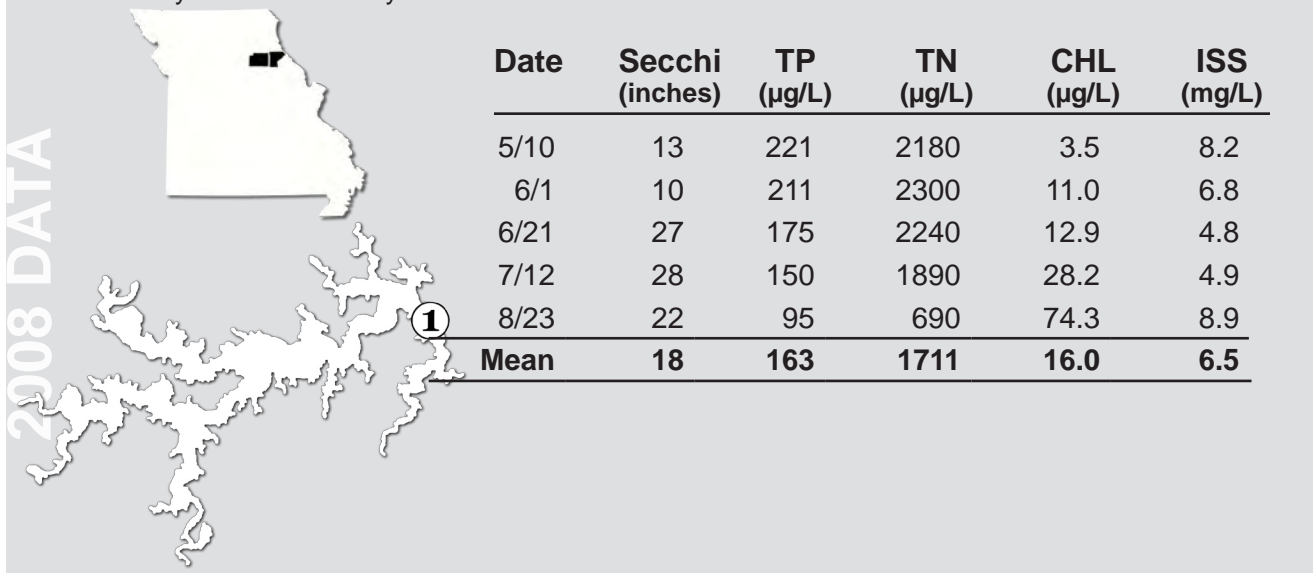


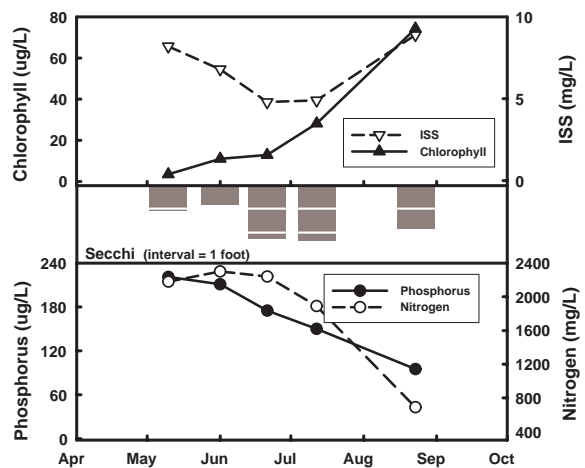
Mark Twain Lake, Site 1

Monroe County and Ralls County



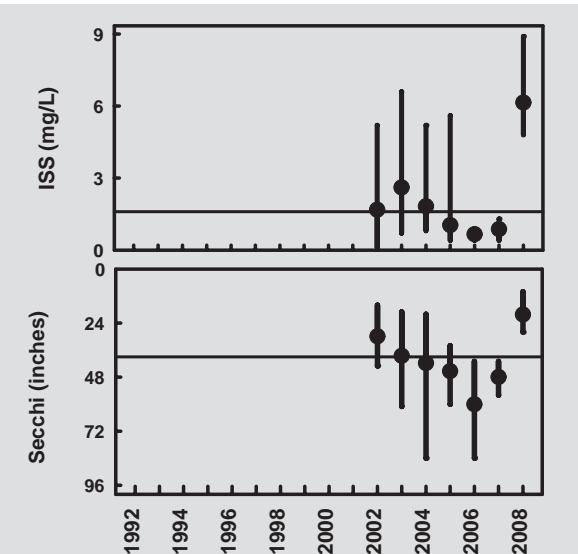
2008 SUMMARY

Nutrient concentrations were extremely high during the majority of the sample season, with minimal values being measured in late August. Minimum nitrogen in 2008 was lower than the long-term nitrogen average, while the 2008 minimum phosphorus was double the long-term average. Algal chlorophyll, which often tracks nutrient concentrations in Missouri reservoirs, started the season with low levels and increased to a maximum value in August; an atypical response. Inorganic suspended solids values were moderate to high throughout the sample season. It is quite likely that smaller clay particles were present in the lake during this early period, which would limit light and cause algal chlorophyll levels to be lower than expected, given the nutrients. If these clay particles were small enough to pass through the suspended solids filters, the ISS values would be an underestimate of true values.



TRENDS

While the inorganic suspended solid measurements from 2008 may be underestimates, these values were still considerably higher than previous measured values, with the average value in 2008 being almost 4 times higher than the long-term average value. The higher levels of inorganic suspended solids led to much lower water clarity in 2008 relative to previous summers (2008 average was half of the long-term value).



Mark Twain Lake, Site 2

Monroe County and Ralls County

2008 DATA

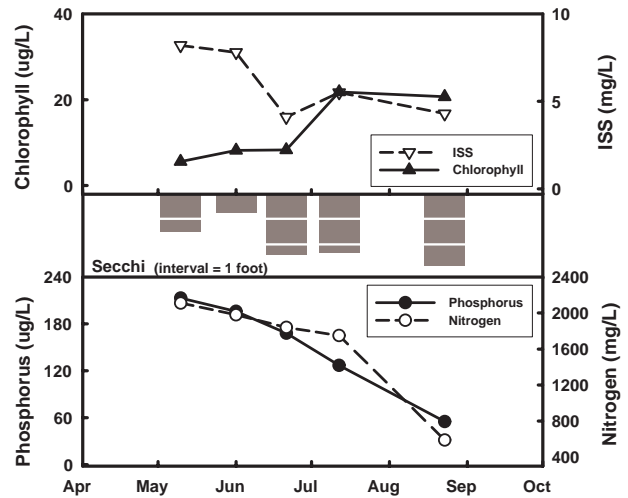


Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
5/10	18	213	2110	5.6	8.2
6/1	9	196	1980	8.2	7.8
6/21	29	168	1840	8.3	4.1
7/12	28	127	1750	21.8	5.5
8/23	34	55	590	20.7	4.3
Mean	21	137	1513	11.1	5.7

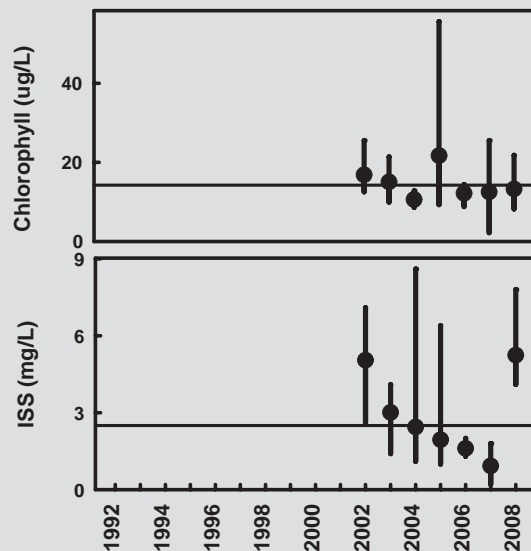
2008 SUMMARY

The seasonal patterns of water quality at Site 2 were similar to those observed at Site 1; highest nutrients in spring, with maximum chlorophyll at the end of the season. Nutrient, chlorophyll and Secchi readings all varied by about a factor of four during the 2008 season.

High inorganic suspended solids in 2008 ended a six year trend for lower solids values at this site. The summer average in 2008 was more than twice the long-term average (5.2 vs. 2.5 mg/L). In contrast, summertime chlorophyll averages have been stable during the last seven years. The 2008 average of 13.2 µg/L is very similar to the long-term average of 14.2 µg/L.



TRENDS



Mark Twain Lake, Site 5

Monroe County and Ralls County

2008 DATA

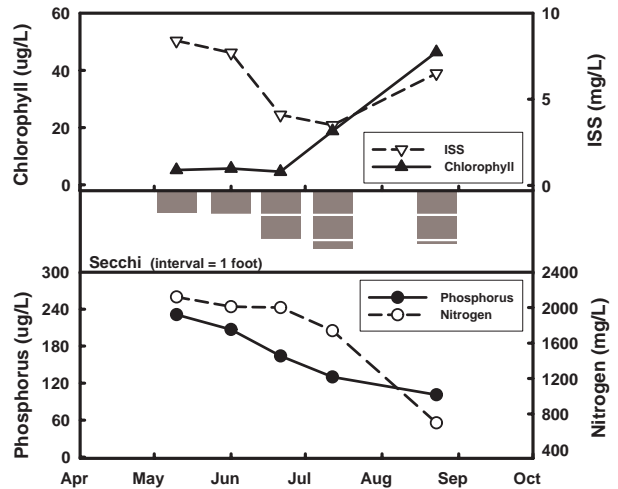


Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
5/10	11	231	2120	5.2	8.4
6/1	12	207	2010	5.7	7.7
6/21	24	164	2000	4.6	4.1
7/12	28	130	1740	18.8	3.5
8/23	26	101	700	46.4	6.5
Mean	19	159	1597	10.4	5.7

2008 SUMMARY

Site 5 displayed the same general patterns of water quality observed at the other two Mark Twain Lake sites. All three sites also had very comparable water quality in 2008, with the variations among sites being much lower than the variability observed at individual sites over the course of the 2008 sample season.

Phosphorus concentrations in 2008 were much higher than previous years (for Site 5, as well as the other sites). Nitrogen values were high in 2008, but not notably higher than some of the previous measured values.



TRENDS

