

Spring Fork Lake



Site 1

2009 DATA

Pettis County
Latitude: 38.5678 Longitude: -93.2429

Date	4/21	5/14	6/1	6/22	7/15	8/8	8/26	9/17	Mean
Secchi (inches)	10	20	19	12	24	17	16	16	16
TP (µg/L)	193	180	255	265	202	135	107	112	172
TN (µg/L)	1920	1530	1730	1730	1040	1340	1200	1160	1426
CHL (µg/L)	87.8	36.8	14.2	104.7	46.9	65.8	93.3	58.4	54.8
ISS (mg/L)	18.7	4.0	4.5	8.4	3.4	3.7	2.7	6.2	5.3

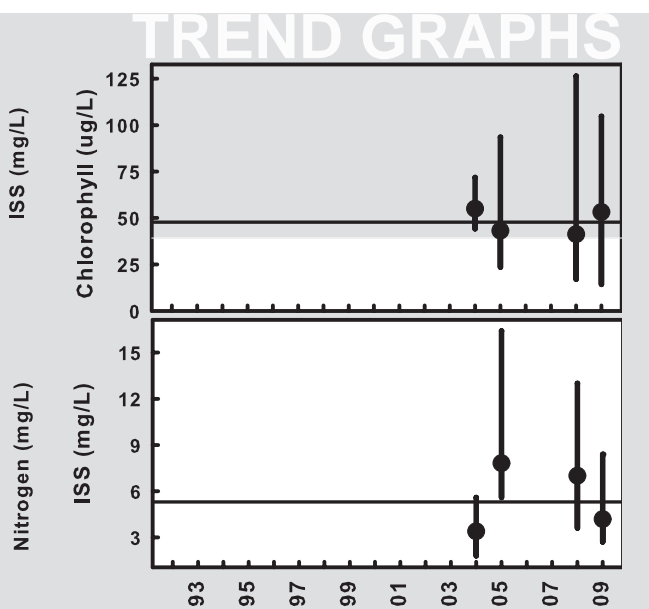
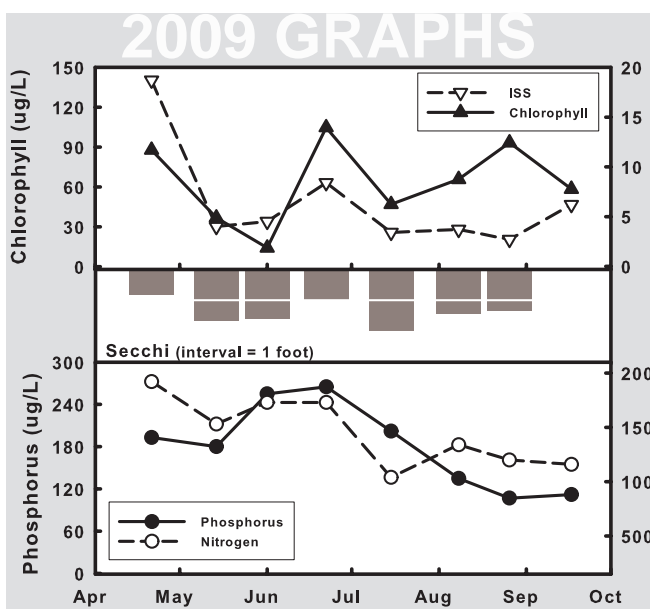
Spring Fork Lake Sites



Both Spring Fork sites were sampled 8 times in 2009. Water clarity was consistently low at Site 1, never reaching 2 feet. The statewide average Secchi depth is just over 3 feet. The phosphorus concentration at Site 1 is 5 times higher than the statewide average value, while the nitrogen concentration is just double the statewide average. Both nutrients trended downward as the season progressed. The 2009 mean concentration of chlorophyll at the Spring Fork dam is 4 times greater than the statewide mean value. Suspended sediment concentrations in 2009 were double the statewide average.

Comparable to their respective long-term means, indicating that 2009 was typical of Spring Fork. Chlorophyll concentrations are higher than predicted at the dam, and thus the lake exceeds the chlorophyll value stipulated in the reservoir nutrient criteria. The mean 2009 ISS concentration was somewhat lower than the long-term mean. Nitrogen concentrations (not shown) were somewhat higher than the long-term mean value. No trend is apparent.

The 2009 mean chlorophyll and phosphorus (graph not shown) concentrations were com-



See pages 10-11 for help interpreting graphs

Spring Fork Lake



Site 2

2009 DATA

Pettis County
 Latitude: 38.5605 Longitude: -93.2440

Date	4/21	5/14	6/1	6/22	7/15	8/8	8/26	9/17	Mean
Secchi (inches)	11	19	29	17	22	15	18	17	18
TP (µg/L)	195	184	269	214	200	135	152	126	179
TN (µg/L)	1910	1590	1690	1420	1030	1240	1310	1290	1411
CHL (µg/L)	81.3	48.2	6.4	46.4	52.4	62.0	75.6	71.6	46.1
ISS (mg/L)	14.6	4.6	5.1	6.6	3.3	3.4	4.5	6.7	5.4

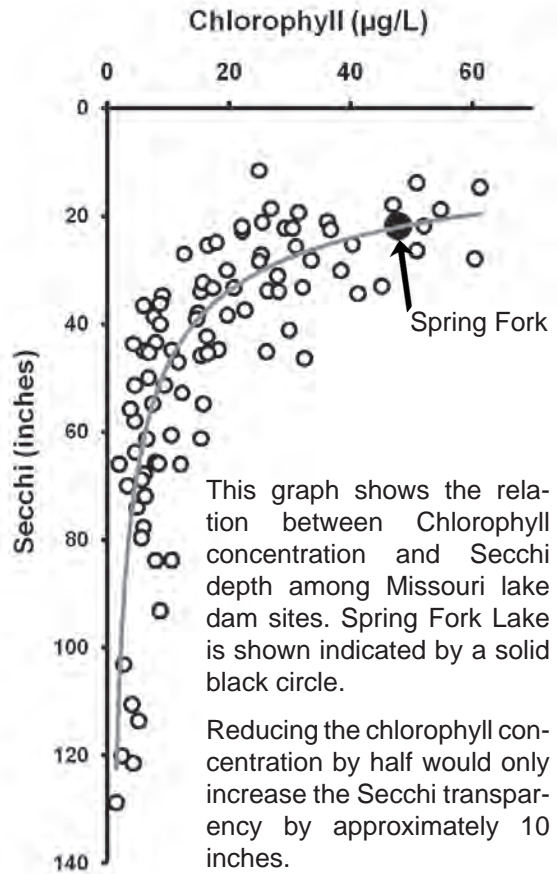
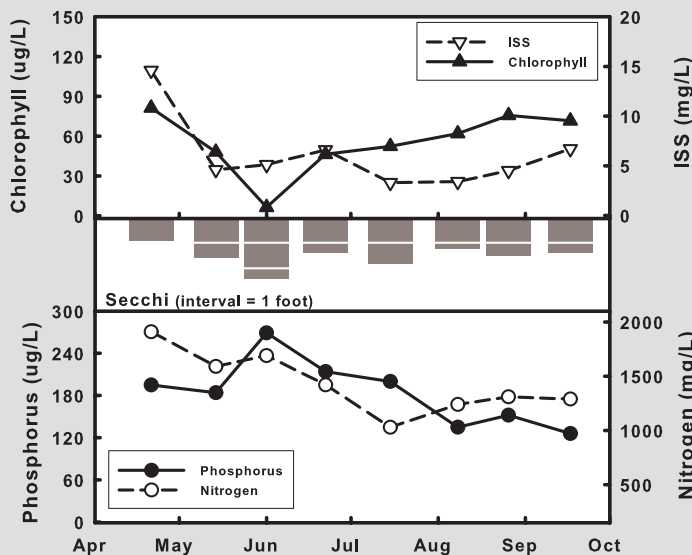
Spring Fork Lake Sites



Secchi at Site 2 was similar to Site 1 on all sample dates except June 1, when there was 50% more water clarity at Site 2 than the dam. On the same date, there was more than twice as much chlorophyll at the dam compared to Site 2. This condition continued through the next sample (June 22) when chlorophyll concentration at the dam was again double that found at Site 2. Secchi on June 22 was comparable between sites, likely due to higher suspended sediment levels at Site 2 contributing to turbidity. Nutrients concentrations were quite high at both sites, with both sites having comparable concentrations of both nitrogen and phosphorus.

Not enough data yet exist at Site 2 to generate a meaningful trend graph.

2009 GRAPHS



This graph shows the relation between Chlorophyll concentration and Secchi depth among Missouri lake dam sites. Spring Fork Lake is shown indicated by a solid black circle.

Reducing the chlorophyll concentration by half would only increase the Secchi transparency by approximately 10 inches.

*(only data from May 15 to Sept. 15 are shown)

See pages 10-11 for help interpreting graphs