

Waterworks Lake



2010 DATA

Randolph County

Latitude: 39.4162

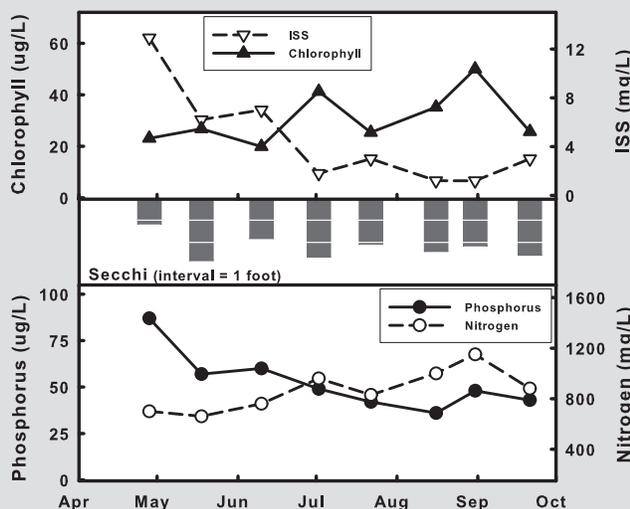
Longitude: -92.4646

Date	4/28	5/18	6/10	7/2	7/22	8/16	8/31	9/21	Mean
Secchi (inches)	14	34	22	32	25	29	26	31	26
TP (µg/L)	87	57	60	49	42	36	48	43	51
TN (µg/L)	700	660	760	960	830	1000	1150	880	854
CHL (µg/L)	23.1	26.8	19.9	41.3	25.4	35.2	50.0	25.7	29.6
ISS (mg/L)	12.9	6.2	7.0	1.8	3.0	1.2	1.2	3.0	3.3

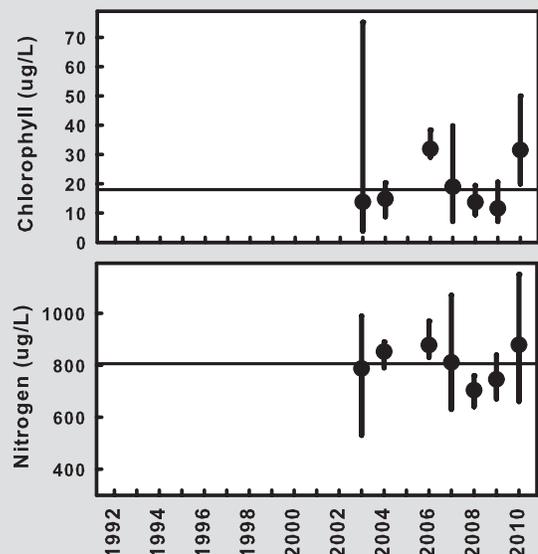
The nutrients displayed different patterns across the sample season. Phosphorus was 87µg/L on the first sample date and declined to values that hovered near 40µg/L during the last four sample dates. In contrast, nitrogen concentrations were near 700µg/L at the beginning of the season and increased to a maximum value of 1150µg/L on the second to last sample day. This difference in seasonal patterns had not been observed in Waterworks Lake during previous monitoring. Inorganic suspended sediment tracked the same seasonal pattern as phosphorus, which is common as sediment particles often have phosphorus bond to them. Algal chlorophyll values fluctuated during the season in unison with nitrogen. When chlorophyll concentrations were >30µg/L the nitrogen values always approached 1000µg/L.

The average chlorophyll value during the summer of 2010 was the highest recorded in seven years of monitoring (31.9µg/L compared to 2006's 31.5µg/L), and was substantially higher than the long-term average of 17.6µg/L. Both 2006 and 2010 also had the highest nitrogen concentrations out of the seven summers, though their values of 877 and 878µg/L were not substantially higher than the long-term average of 800µg/L. Both of these years also had the highest ratio of chlorophyll to phosphorus, which is one way of gauging how efficient algae within the lake are using the nutrients. Ratios during the other five summers ranged from 0.33 - 0.46, while the ratios for 2006 and 2010 were .71 and .58 respectively.

2010 GRAPHS



TREND GRAPHS



See pages 10-11 for help interpreting graphs