Lake Wappapello, Site 1

Butler County and Wayne County

2006 DATA

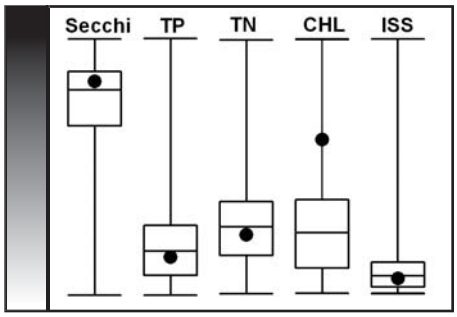
Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
5/31	64	19	290	10.4	2.2
6/22	42	26	500	21.8	1.7
8/1	26	44	1020	58.9	3.1
8/24	16	72	1330	103.1	4.4
Mean	**33**	**35**	**666**	**34.3**	**2.7**

2006 SUMMARY

Only 4 samples were collected during 2006. The nutrient and chlorophyll concentrations increased dramatically as the summer progressed, with the maximum values for each observed on the August 24 sample date. The same pattern was observed at site 2, but not at site 3.

Chlorophyll concentrations are very high relative to the amount of phosphorus available, especially in the two August samples. This implies a prolonged bloom.

Concentrations of both nutrients and chlorophyll are rather high for a reservoir of this size. Despite this, the nutrient concentrations averaged lower than most Missouri lakes. Chlorophyll concentrations were higher than found in 75% of Missouri lakes. Because of the abundance of algae, the Secchi transparency values were lower than seen in most Missouri lakes.

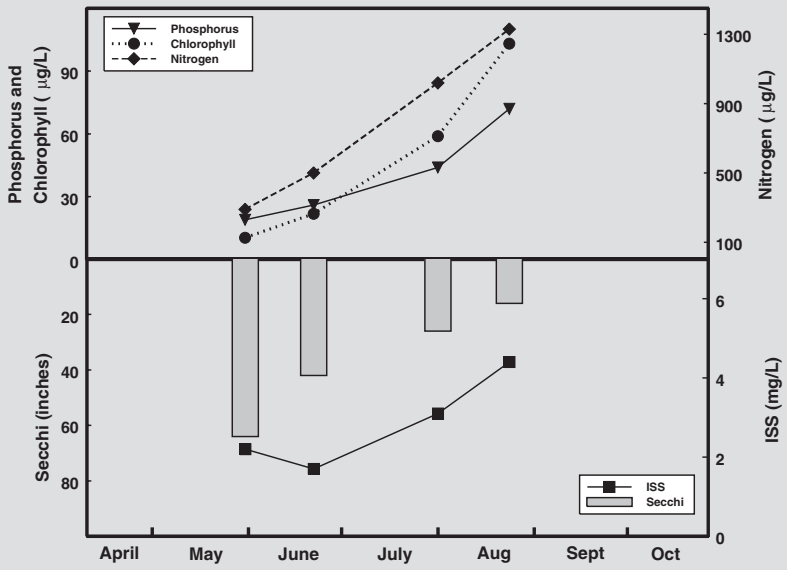


Relative Rank Graph
See page 11 for details

TRENDS

The 2006 trend of increasing nutrients and algae is apparent in the seasonal graph. Secchi transparency values decreased as a response to the increase in algae and sediments.

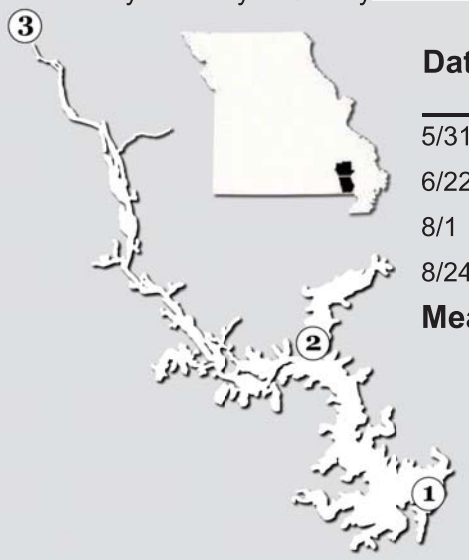
Also of note is that the chlorophyll concentrations exceeded the phosphorus concentrations during August.



Lake Wappapello, Site 2

Butler County and Wayne County

2006 DATA

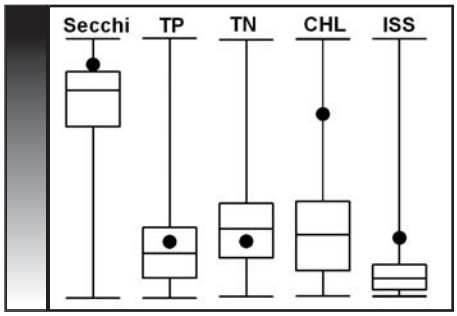


Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
5/31	32	26	320	17.4	6.7
6/22	22	44	550	28.3	12.3
8/1	22	56	920	63.8	6.2
8/24	16	85	980	81.3	10.8
Mean	**22**	**48**	**631**	**40.0**	**8.6**

2006 SUMMARY

Only four samples were collected at each Lake Wappapello site in 2006. As observed at site 1, the concentrations of nutrients and algae increased as the season progressed. Secchi transparency values decreased throughout the season, but not a dramatically as at site 1. The Secchi at site 2 started at about half the depth as at site 1 and by the end of the season the two sites had identical clarity measurements. Higher phosphorus concentrations, probably associated with sediment inputs distinguish site 2 from the dam site.

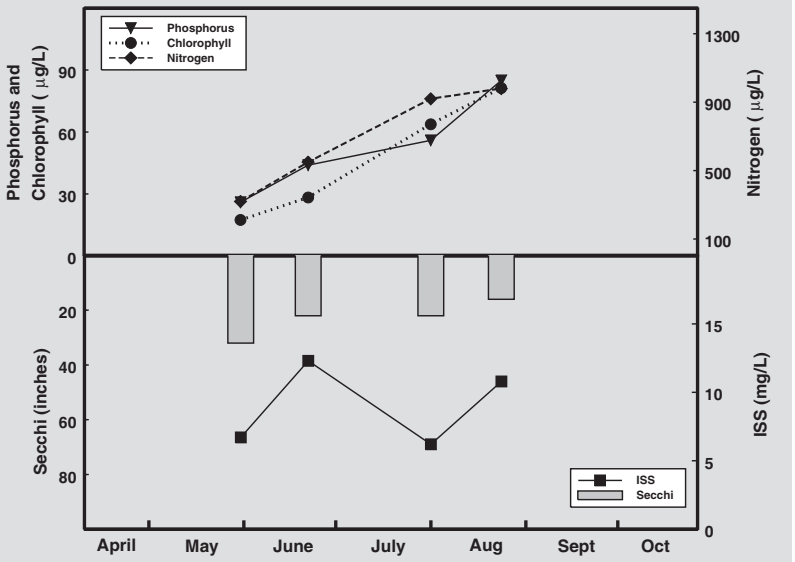
ISS concentrations were about three times higher than at the dam (site 1). Chlorophyll concentrations were still quite high relative to the amount of phosphorus available.



Relative Rank Graph
See page 11 for details

TRENDS

Nutrients and chlorophyll concentrations increased as the season progressed. Secchi transparency values remained low throughout the season, due to the consistently high concentrations of suspended sediments.



Lake Wappapello, Site 3

Butler County and Wayne County

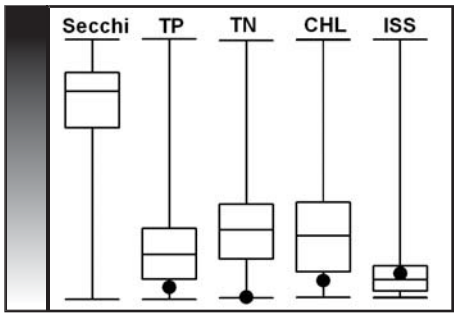
2006 DATA

Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
5/31		16	280	5.8	4.6
6/22		18	210	6.8	6.6
8/1		15	170	5.0	3.7
8/24		12	180	2.5	2.0
Mean		**15**	**206**	**4.7**	**3.9**

2006 SUMMARY

As with the other Wappapello sites, only 4 samples were collected at this site in 2006. Site 3 is essentially a stream site. The depth was not great enough to allow for a Secchi measurement. Analysis of the nutrient concentrations at this site implies that the Black River above site 3 is not responsible for the high concentrations of nutrients observed at the dam.

This site had chlorophyll and nutrient concentrations among the lowest 25% of Missouri lakes. ISS concentrations were still higher than seen in most lakes, but this is likely due to flow at this stream site.



Relative Rank Graph
See page 11 for details

TRENDS

The seasonal trend graph for site 3 differs markedly from the other two sites in that nutrient and chlorophyll concentrations decreased as the season progressed.