

Grindstone Reservoir

Dekalb County

2007 DATA

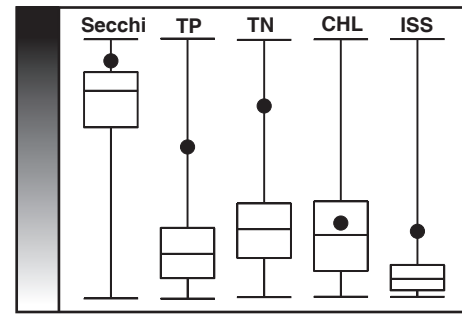


Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
5/31	9	283	2180	3.4	17.0
6/12	10	227	3070	5.7	16.4
6/29	31	108	2120	30.1	7.2
7/16	38	54	1690	26.5	4.4
8/8	23	92	1120	21.3	16.7
8/31	23	82	850	69.0	5.2
Mean	20	119	1680	16.8	9.6

2007 SUMMARY

All water quality parameters displayed notable variability during the sample season, with data from the individual samples underlining the influence that inorganic suspended solids can play in lake water quality. The first two samples of 2007 had extremely high nutrient concentrations, but low chlorophyll values due to light limitation caused by high inorganic suspended solids levels. Chlorophyll concentrations increased as inorganic suspended solids decreased later in the sample season. This increase in algal chlorophyll occurred even as nutrient levels were decreasing.

Comparison of 2007 values to statewide ranking indicates that all parameters are in the upper quartile of the rankings, with the exception of chlorophyll which is near the statewide median. Grindstone Reservoir is a perfect example of the dictum “it would be green if it weren’t brown.” Any decreases in inorganic suspended solids would lead to a predictable increase in algal chlorophyll.



Relative Rank Graph
See page 11 for details

TRENDS

Long-term mean phosphorus in Grindstone Reservoir is about twice the proposed phosphorus criteria value of 65 µg/L. The wide range of values measured in three of the four years the reservoir has been monitored indicates a very dynamic system that is greatly influenced by watershed activities and climate. This high level of variability indicates that a fair number of samples are required to truly gauge “average” conditions in this reservoir. Long-term mean chlorophyll is slightly over the proposed criterion. While measured chlorophyll values will surely change if phosphorus (and nitrogen) reductions were to take place, the response of algal chlorophyll to nutrient reductions will hinge on how sediment concentrations change due to watershed management.

