

Ashland Lake

Ashland Lake is located in the University of Missouri’s Baskett Wildlife Research Area, east of Ashland. It is approximately 12 acres in size and has a watershed of 2,475 acres. This represents a large ratio of watershed size to lake volume, which reduces the lakes ability to dilute inflows and settle out particulate matter. The lake’s fishery is managed by the Missouri Department of Conservation and public fishing is allowed.

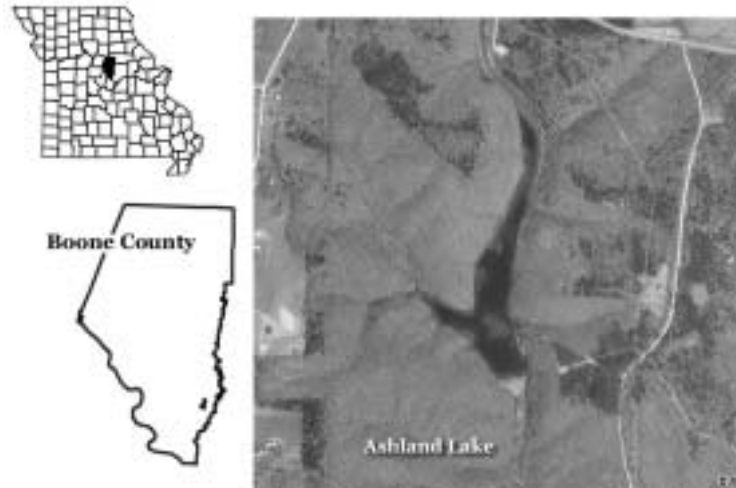


Figure 11. Location of Ashland Lake

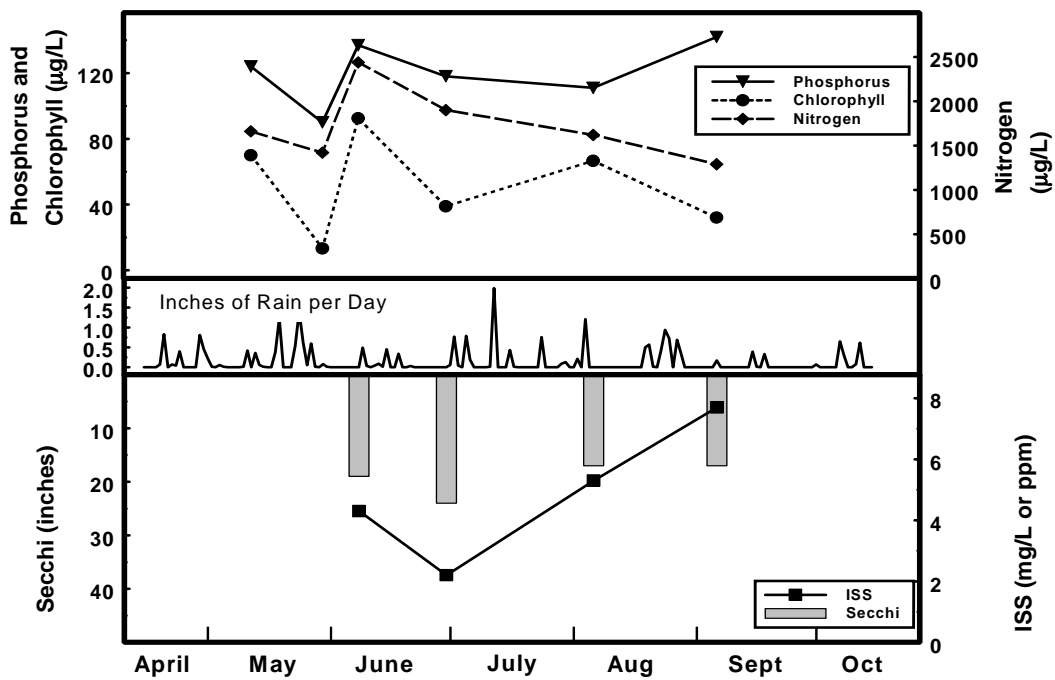


Figure 12. Seasonal fluctuations of parameters for Ashland Lake – 2004

Table 1. Descriptive statistics for Ashland Lake – 2004

	Secchi (inches)	TP (ug/L)	TN (ug/L)	CHL (ug/L)	ISS (mg/L)
Geometric Mean	19	119	1684	43.9	4.4
Minimum	17	90	1290	13.3	2.2
Maximum	24	142	2440	92.4	7.7
Number of Samples	4	6	6	6	4

2004 Results

Figure 12 shows how the parameters nitrogen, phosphorus, algal chlorophyll, inorganic suspended solids and Secchi transparency varied in Ashland Lake during 2004. The descriptive statistics appear in Table 1.

A brief description of the results:

- Ashland Lake has a low volume of water relative to its watershed area. Therefore, high amounts of inputs are coupled with a low residence time of water in the lake. This results in elevated nutrient concentrations and algae biomass.
- Secchi transparency varied less than 7 inches through the season, with a maximum of 2 feet. The low transparency is likely due to algal biomass.
- Nutrients and chlorophyll concentrations follow the same general pattern through the season.
- Chlorophyll concentrations varied 7-fold, and nitrogen ranged 2-fold.

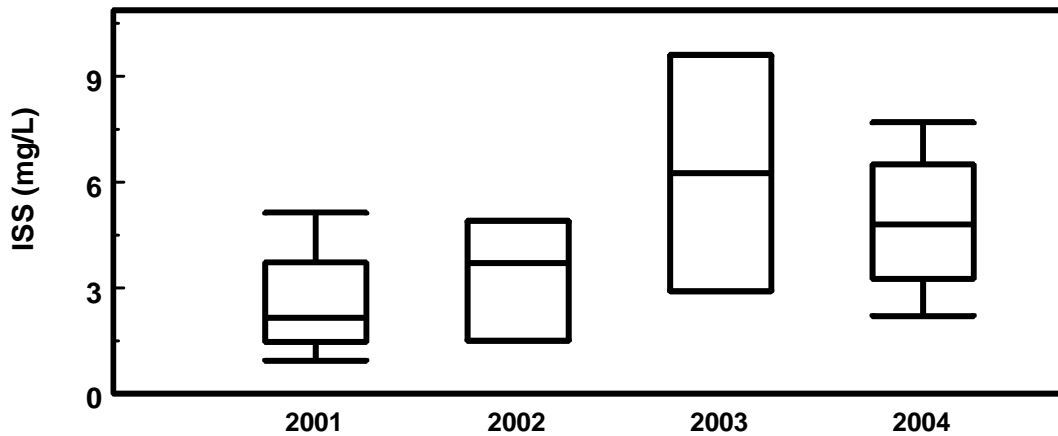


Figure 13. ISS trends in Ashland Lake. There are no apparent trends for any parameter in Ashland Lake.