

# Binder Lake

Binder Lake is a 155-acre lake located within a 650-acre park. The lake is jointly managed by the Missouri Department of Conservation and the city of Jefferson City. Overall, 26% of Binder Lake’s 3900-acre watershed is cropland and 18% is urban.



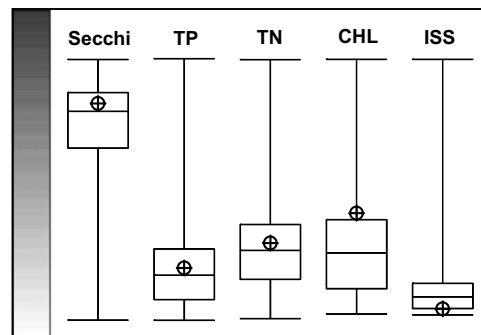
Location of Binder Lake

## Descriptive statistics for Binder Lake – 2005

	Secchi (inches)	TP (ug/L)	TN (ug/L)	CHL (ug/L)	ISS (mg/L)
<b>Geometric Mean</b>	33	45	783	22.9	1.4
<b>Minimum</b>	27	38	630	11.3	0.7
<b>Maximum</b>	51	52	960	49.3	4.1
<b>Number of Samples</b>	5	5	5	5	5

- Phosphorus and nitrogen levels during 2005 were slightly above the statewide median, indicating that water quality in Binder Lake is similar to that of many Missouri lakes.
- ISS in Binder Lake was generally low, falling near the 25<sup>th</sup> percentile of the Missouri ranking. This low level of ISS allowed for more sunlight to penetrate the lake water, resulting in an increase in photosynthesis and explaining why chlorophyll was a little higher than we might expect given the nutrient levels.
- Variations in the parameters during the sample season were normal for Missouri lakes.

### Relative Rank for Binder Lake



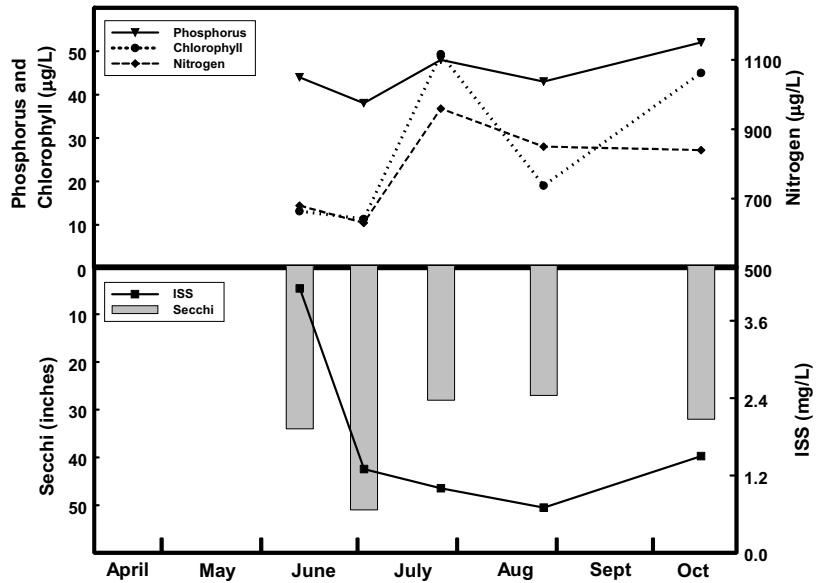
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## Seasonal fluctuations of parameters for Binder Lake – 2005

Phosphorus and nitrogen show the same general fluctuations during the sample season, with moderate variation.

Chlorophyll also follows the same pattern, but with more variation among the individual values.

The maximum Secchi transparency reading was taken on a day when ISS and chlorophyll concentrations were both relatively low.



## Total Phosphorus and Secchi trends in Binder Lake

A lack of early season samples might be responsible for the apparent decrease in TP concentrations in 2005. Dry conditions in 2005 may also be responsible. Without rainfall, sediments and nutrients in the watershed won't wash into the lake from the landscape.

Secchi transparency values have been consistently under 40 inches for the last five years, with only a few exceptions.

