

# Butler City Lake

Butler City Lake is a 55 acre lake that provides drinking water for the City of Butler. There is very little forest cover in the large, 2,000 acre watershed. Agriculture and pasture/grass are the dominant land uses. Lake construction was completed in 1930.



Location of Butler City Lake

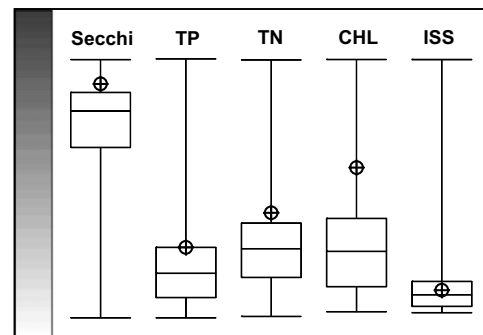
## Descriptive statistics for Butler City Lake – 2005

	Secchi (inches)	TP (ug/L)	TN (ug/L)	CHL (ug/L)	ISS (mg/L)
<b>Geometric Mean</b>	21	62	1006	32.5	3.7
<b>Minimum</b>	18	50	820	20.1	2.0
<b>Maximum</b>	26	106	1440	54.3	6.9
<b>Number of Samples</b>	14	14	14	14	14

Nutrient and chlorophyll values were high in Butler City for 2005, with means near the top 25<sup>th</sup> percentile of the statewide rankings.

ISS values were near the statewide median, and are lower than expected given the lakes location in the Osage Plains Region and land use within the lake's watershed.

## Relative Rank for Butler City Lake



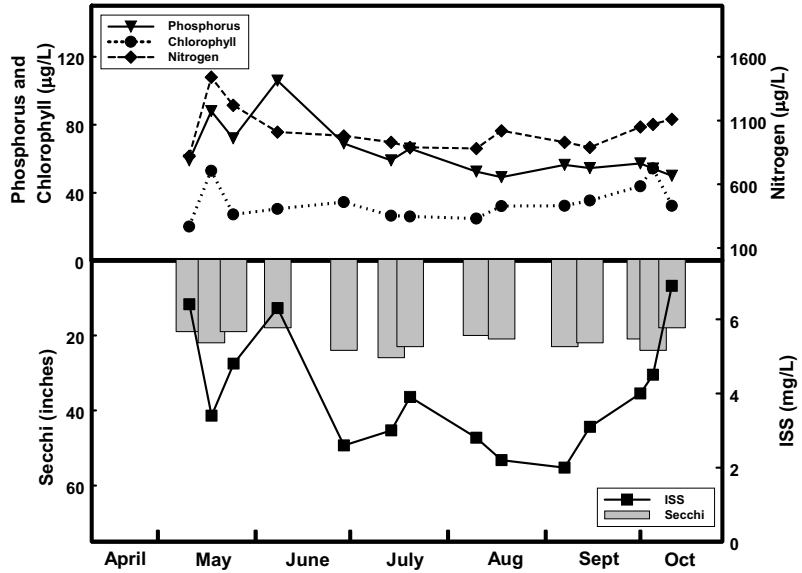
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## Seasonal fluctuations of parameters for Butler City Lake – 2005

The highest phosphorus and nitrogen values were measured early in the sample season, when spring rains have the greatest affect on surface water quality.

Nutrients and chlorophyll do not seem to fluctuate much during the sample season due to the large range of values used to scale the graph.

Secchi transparency values were very stable during the sample season, varying by only 8 inches. Chlorophyll levels were high enough in Butler City Lake to keep transparency below 30 inches throughout the season.



## TP trends in Butler City Lake

Phosphorus values in 2005 were comparable to 2003. There is no apparent trend. The volunteer collected samples in 2004, but all were outside the “summer” period, defined as May 15 through September 15.

