Unionville Lake (a.k.a. Mahoney) Glacial Plains Region

Unionville Lake, built in 1941, has an area of about 75 acres and provides drinking water for the city of Unionville in Putnam County. The watershed is 46% pasture/grassland, 21% row crop and about 16% forest.

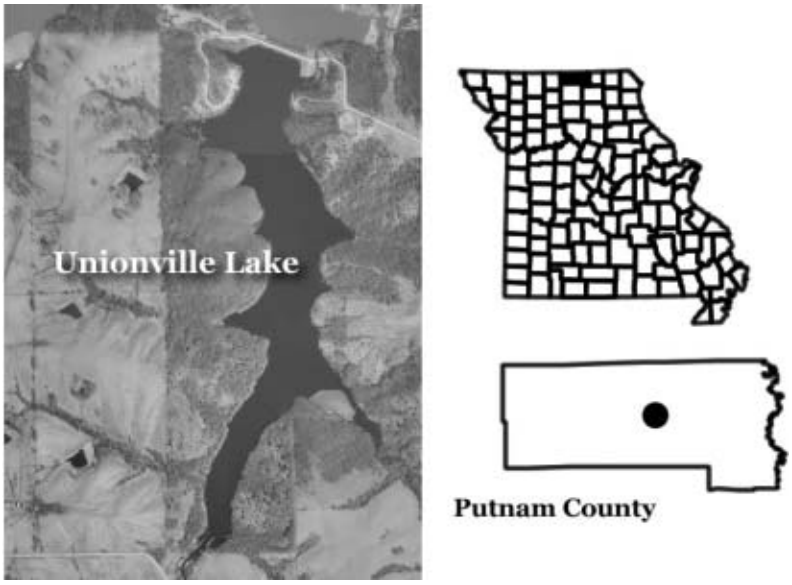

Figure 62. Location of Unionville Lake.

- Four samples were collected between May 14 and August 3.
- Nutrients were high in spring and decreased with time through the summer.
- Chlorophyll starts low and increases throughout the summer.
- Secchi transparency values reflect the ISS values.
- High ISS values are likely responsible for the lower than expected chlorophyll values in May. High concentrations of suspended sediments can inhibit algal growth by blocking sunlight.
- Unionville Lake is eutrophic based on the geometric mean chlorophyll value and nitrogen value, and hypereutrophic based on the geometric mean phosphorus value.

Table 32. Descriptive statistics for Unionville Lake – 2002.

Parameters	# of Samples	Geometric Mean	Minimum	Maximum	Median
Secchi Transparency (inches)	4	20	12	32	22
Phosphorus (μg/L)	4	110	58	262	103
Nitrogen (μg/L)	4	1163	840	1560	1200
Chlorophyll (μg/L)	4	20.0	10.5	31.4	22.0
ISS (mg/L)	4	5.6	2.6	9.2	6.6

ISS=Inorganic Suspended Solids
Samples were collected between May 14 and August 23

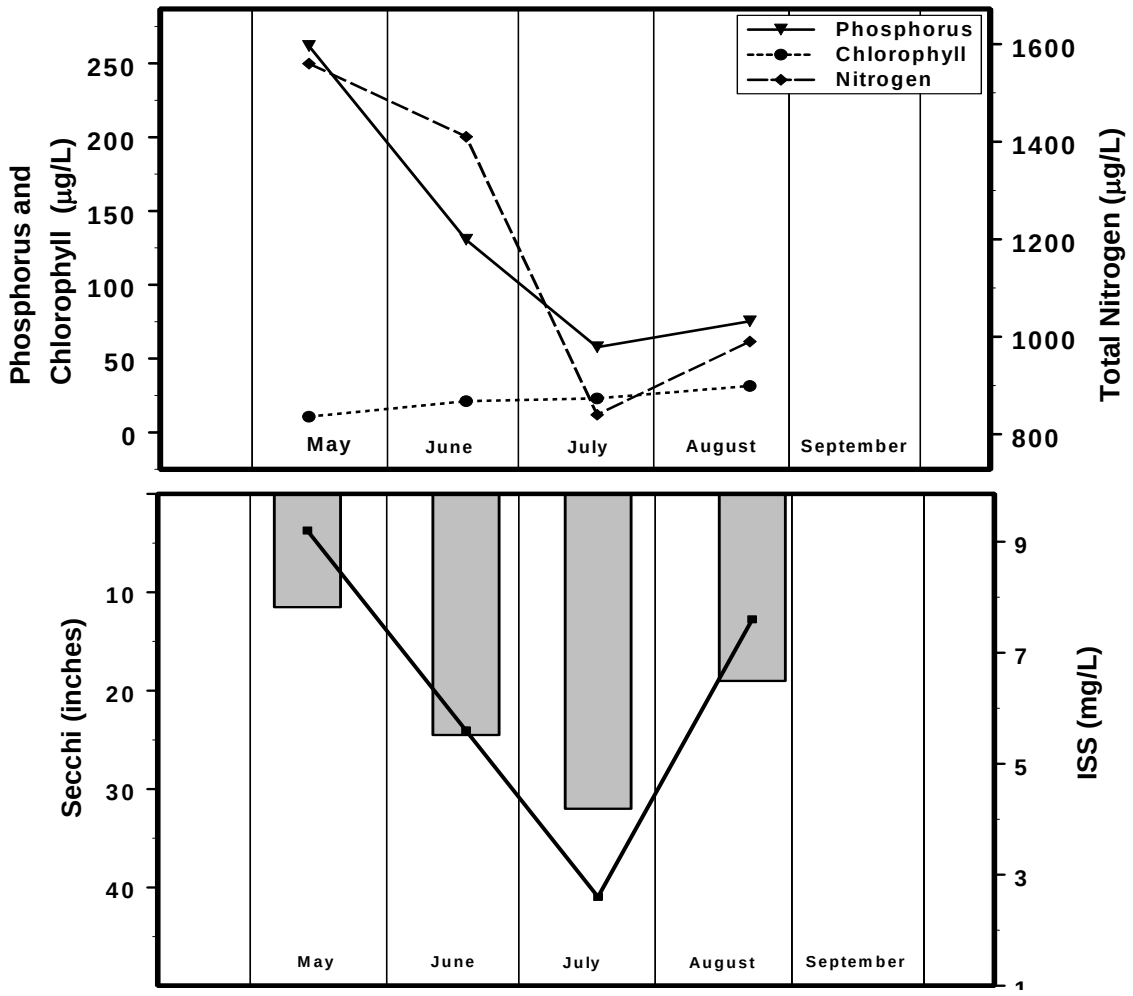

Figure 63. Seasonal fluctuations of parameters for Unionville Lake – 2002. Bars represent Secchi, line represents ISS.