

## Mahoney Lake (a.k.a. Unionville)

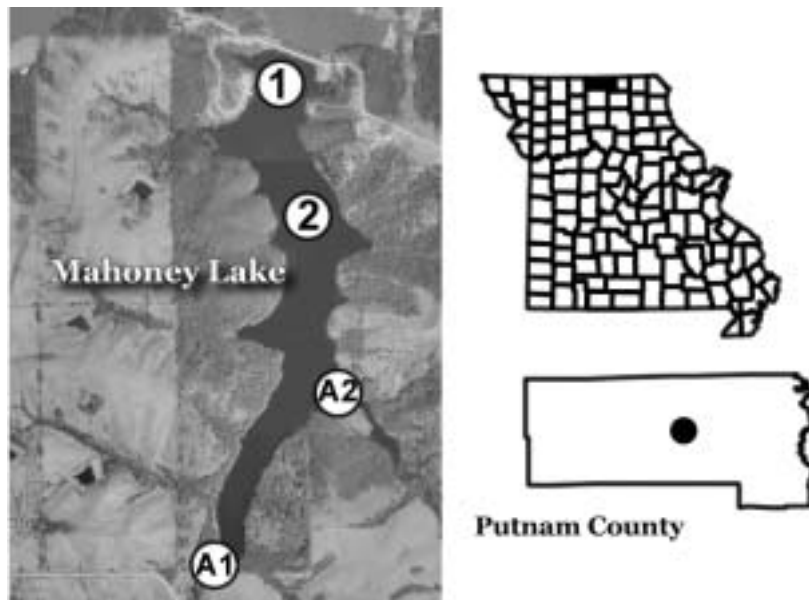


Figure 67. Location of Mahoney Lake.

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

### 2004 Results

Figure 68 shows how the parameters nitrogen, phosphorus, algal chlorophyll, inorganic suspended solids and Secchi transparency varied in Mahoney Lake (Site 1) during 2004. The descriptive statistics for all sites appear in Tables 22-24.

A brief description of the results:

- Several samples had to be discarded due to insufficient labeling. As there was a small number of usable samples, few inferences can be made.
- Secchi never exceeded 3 feet at any site in 2004.
- Phosphorus varies nearly ten-fold at the dam. Other parameters did not show nearly so much variability in 2004.
- On August 23, a single sample was collected in each of 2 arms of the lake (see Table 24). The samples were nearly identical, save for ISS. Site A2 had almost twice as much ISS as Site A1.

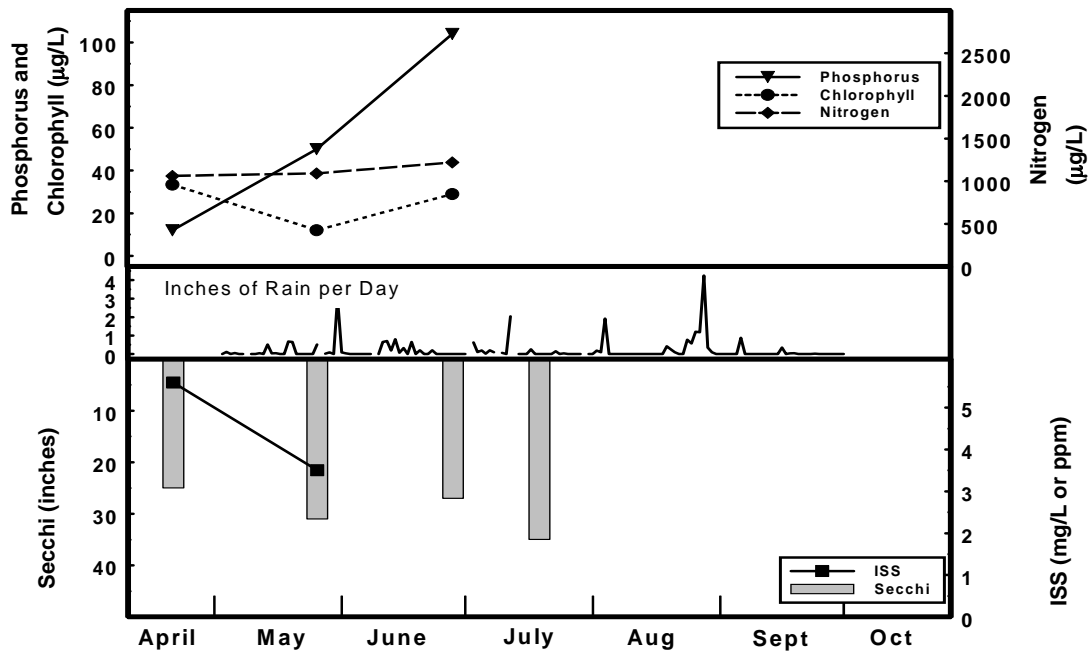


Figure 68. Seasonal fluctuations of parameters for Mahoney Lake, site 1 – 2004

Table 22. Descriptive statistics for Mahoney Lake, site 1 – 2004

	Secchi (inches)	TP (ug/L)	TN (ug/L)	CHL (ug/L)	ISS (mg/L)
<b>Geometric Mean</b>	29	40	1121	22.6	4.4
<b>Minimum</b>	25	12	1060	12.0	5.6
<b>Maximum</b>	35	104	1220	33.3	3.5
<b>Number of Samples</b>	4	3	3	3	2

Table 23. Descriptive statistics for Mahoney Lake, site 2 – 2004

	Secchi (inches)	TP (ug/L)	TN (ug/L)	CHL (ug/L)	ISS (mg/L)
<b>Geometric Mean</b>	26	50	1080	22.4	8.1
<b>Minimum</b>	20			14.2	4.0
<b>Maximum</b>	32			28.4	16.4
<b>Number of Samples</b>	3	1	1	3	2

Table 24. Single samples collected in 2 lake arms (8/23/04)

	Secchi (inches)	TP (ug/L)	TN (ug/L)	CHL (ug/L)	ISS (mg/L)
<b>A1</b>	27	47	890	36.7	4.2
<b>A2</b>	28	51	910	36.1	8.2