

Rothwell Lake

Rothwell Lake is located in Rothwell Park in the City of Moberly. This 25 acre lake has a watershed size of 458 acres and was built in 1902. Though the lake is surrounded by park, there is enough urban land cover in the watershed to have an impact on water quality.

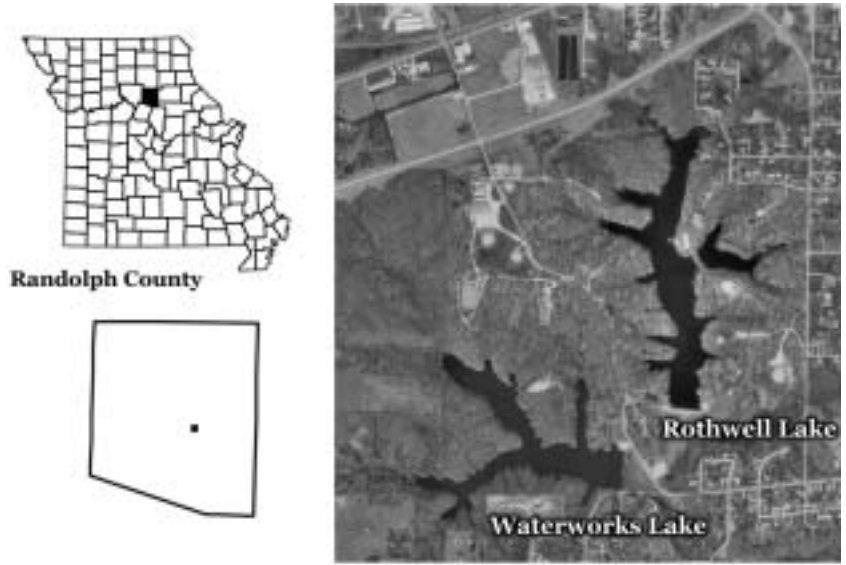


Figure 81. Location of Rothwell Lake.

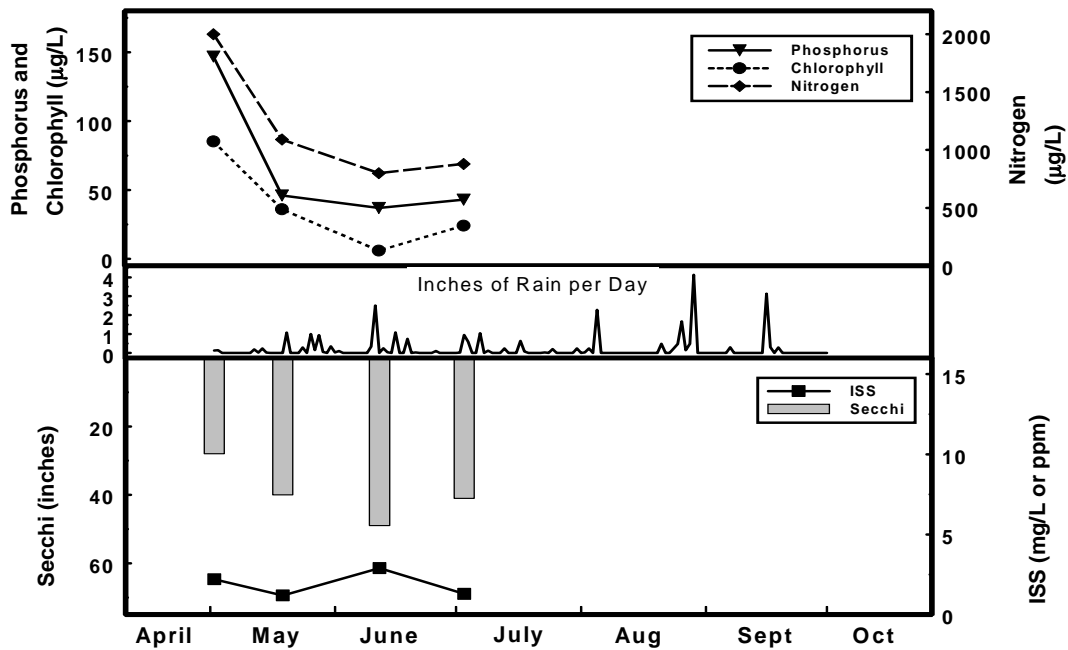


Figure 82. Seasonal fluctuations of parameters for Rothwell Lake – 2004

Table 31. Descriptive statistics for Rothwell Lake – 2004

	Secchi (inches)	TP (ug/L)	TN (ug/L)	CHL (ug/L)	ISS (mg/L)
Geometric Mean	39	57	1113	25.8	1.8
Minimum	28	37	800	6.0	1.2
Maximum	49	147	2000	85.2	2.9
Number of Samples	4	4	4	4	4

2004 Results

Figure 82 shows how the parameters nitrogen, phosphorus, algal chlorophyll, inorganic suspended solids and Secchi transparency varied in Rothwell Lake during 2004. The descriptive statistics appear in Table 31.

A brief description of the results:

- Samples were only collected for the first half of the season.
- Nutrients and chlorophyll show a very large range in values for the relatively narrow time frame. The maximum phosphorus value was 4 times greater than the minimum. The maximum nitrogen value was 2.5 times greater than the minimum. The maximum chlorophyll was 14 times greater than the minimum.
- Secchi transparency values track chlorophyll, indicating water clarity was determined by the amount of algae rather than suspended sediments. ISS concentrations were low in 2004.

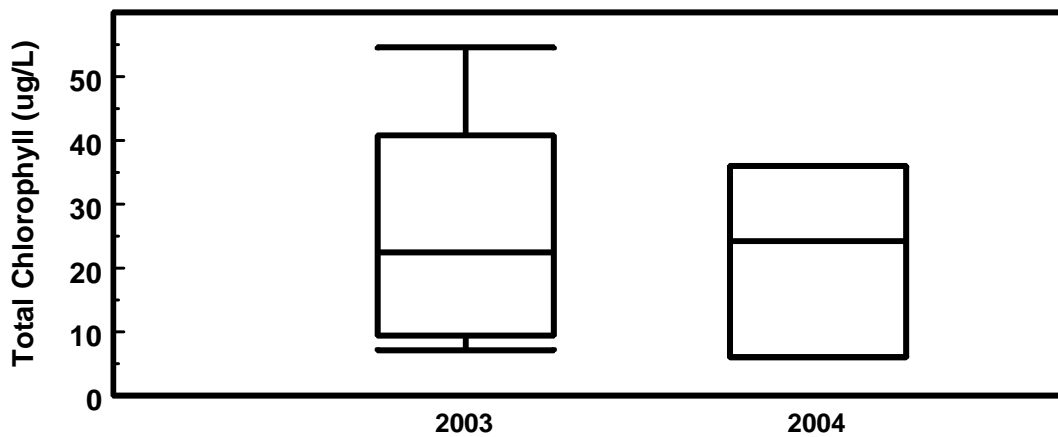


Figure 83. Chlorophyll trends in Rothwell Lake. With only 2 years of data, it is too early to speculate on trends. 2004 was quite similar to 2003.