

Eureka Lake

Eureka Lake is a very small public lake in southwestern St. Louis County. It was constructed as a sediment retention basin, so developed land in the watershed is expected to have an impact on the water quality. This lake is also used for fishing.



Figure 37. Location of Eureka Lake.

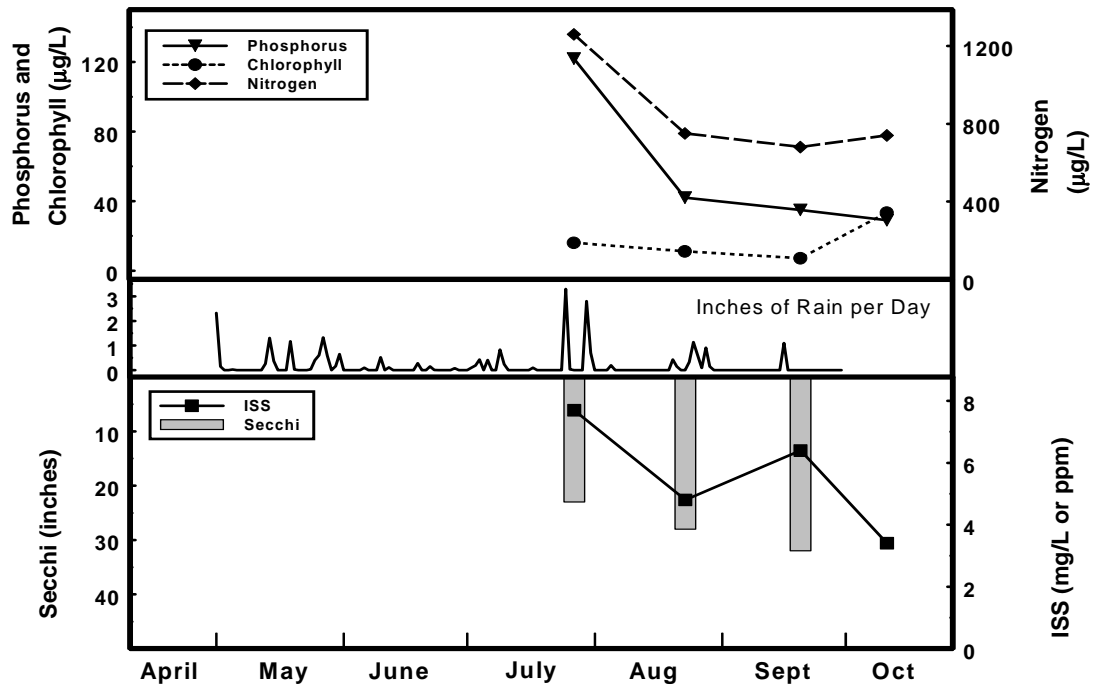


Figure 38. Seasonal fluctuations of parameters for Eureka Lake – 2004

Table 10. Descriptive statistics for Eureka Lake – 2004

	Secchi (inches)	TP (ug/L)	TN (ug/L)	CHL (ug/L)	ISS (mg/L)
Geometric Mean	27	48	830	14.3	5.3
Minimum	23	29	680	7.1	3.4
Maximum	32	122	1260	33.3	7.7
Number of Samples	3	4	4	4	4

2004 Results

Figure 38 shows how the parameters nitrogen, phosphorus, algal chlorophyll, inorganic suspended solids and Secchi transparency varied in Eureka Lake during 2004. The descriptive statistics appear in Table 10.

A brief description of the results:

- This shallow lake is designed as a retention basin, so high concentrations of suspended sediments could be expected.
- Sampling started mid-season, so the early season values, which typically have higher nutrient and ISS concentrations, aren't represented.
- Nutrient concentrations varied considerably in 2004, with TP ranging 4-fold and TN ranging 2-fold.
- High nutrient concentrations coincide with peak rainfall in late July.