

Creve Coeur Lake

Creve Coeur is a 320-acre lake located in the Missouri River floodplain, where the nutrient-rich soil is easily eroded. Even though the lake is part of a 1,141-acre park, the area adjacent to the lake is urban. Creve Coeur Lake differs from all of the other lakes in the program in that it is not a reservoir, but an oxbow lake. Having once been part of the Missouri River, this lake is now about two miles from the present channel, separated over time by the natural meandering of the river.



Location of Creve Coeur Lake

Descriptive statistics for Creve Coeur Lake – 2005

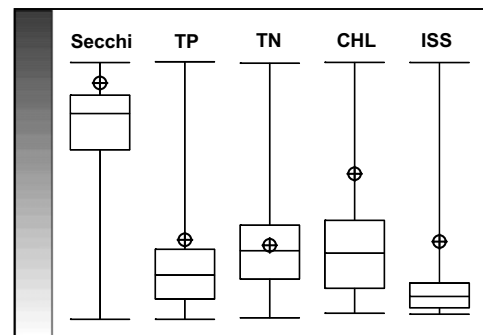
	Secchi (inches)	TP (ug/L)	TN (ug/L)	CHL (ug/L)	ISS (mg/L)
Geometric Mean	19	66	769	31.6	10.8
Minimum	18	62	660	21.9	7.6
Maximum	22	72	850	55.7	13.0
Number of Samples	4	3	4	4	4

Phosphorus, chlorophyll and ISS levels are high, with 2005 means ranking in the top 25th percentile of Missouri lakes. Because of the high levels of both algal chlorophyll and ISS, the Secchi transparency in Creve Coeur Lake is lower than that found in most Missouri lakes.

Both the chlorophyll and ISS mean values were high relative to other lakes in Missouri. Usually when ISS values are high, the algae are light-limited due to sediment blocking and absorbing sunlight. Even though Creve Coeur is turbid with ISS, the shallow depth, along with wind mixing, may allow for algal growth (mixing would cycle the algae near the surface of the lake where light is available).

High nutrient concentrations are typical for oxbow lakes.

Relative Rank for Creve Coeur Lake

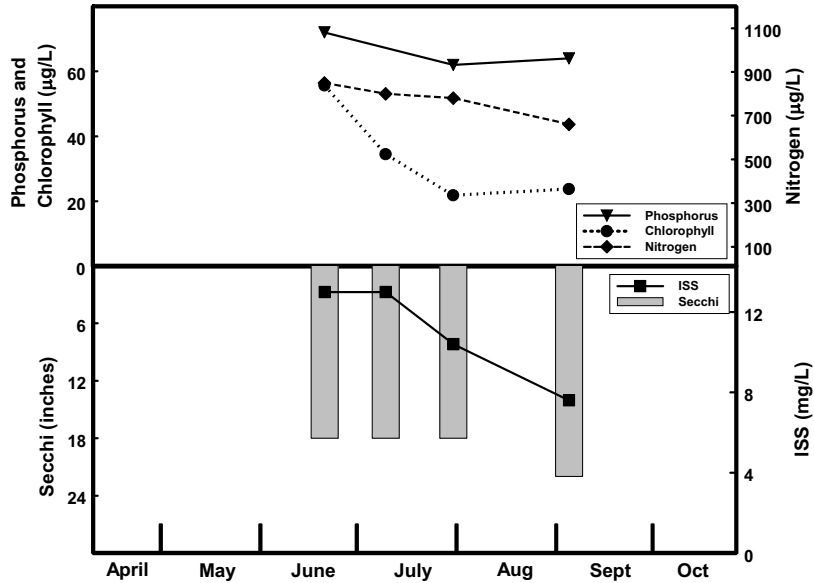


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Seasonal fluctuations of parameters for Creve Coeur Lake – 2005

Nutrient levels did not fluctuate much during the 2005 sample season, while chlorophyll and ISS showed normal amounts of variation.

Relatively high levels of both chlorophyll and ISS limited water clarity, resulting in very stable Secchi readings during the sample season.



Phosphorus and Secchi trends in Creve Coeur Lake

Creve Coeur Lake may be poised to enjoy a period of improved water quality. In 2003, the Missouri Department of Transportation spent \$10 million to dredge the lake to a depth of 10 feet. This action could reduce the amount of internal loading of nutrients. Internal loading occurs as nutrients and sediments from the bottom of the lake are resuspended due to mixing. Further sampling will determine if the water quality continues to improve.

