

Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Creve Coeur Lake

Waterbody Segment at a Glance:

County: St. Louis
Nearby Cities: Maryland Heights
Area of impairment: 300 Acres
Pollutant: Chlordane
Source: Urban nonpoint runoff



State map showing location of watershed

Note: Deleted from the 2002 303(d) list.

TMDL Priority Ranking: TMDL completed 2001

Description of the Problem

Beneficial uses of Creve Coeur Lake

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health associated with Fish Consumption
- Boating and Canoeing

Use that is impaired

- Protection of Human Health associated with Fish Consumption

Standards that apply

- The action level for chlordane in fish tissue, established by the U.S. Food and Drug Administration (FDA), is 0.3 milligrams per kilogram (mg/kg) or parts per million (ppm).

Background Information and Water Quality Data

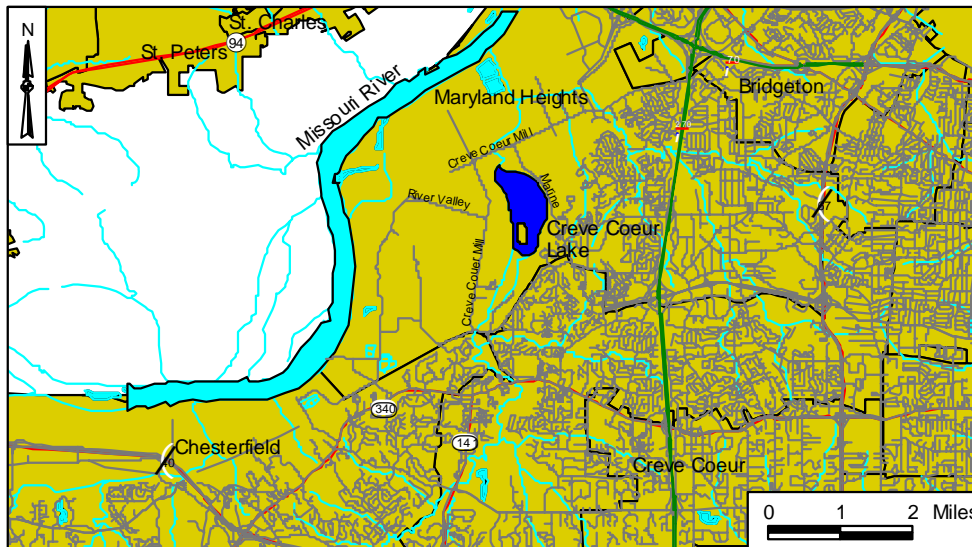
Creve Coeur Lake is a natural oxbow lake formed by the Missouri River. It is reportedly the largest natural lake in Missouri and sits in the middle of a thousand-acre county park. The lake was used as a source of ice in the 1800s and has historically been used for recreation. Today it is used for boating (non-gasoline boats only) and fishing. No swimming is allowed.

Chlordane is a pesticide that was commonly used in the past for termite control. It was also used at nurseries, on golf courses and in agriculture. Chlordane was banned for agricultural use in 1975 and for all uses in 1988, but it degrades very slowly and bio-accumulates in fish tissue, particularly in bottom-dwelling/feeding fish. This pesticide is not soluble in water, but binds to the soil. The highest levels found in Creve Coeur Lake occur in channel catfish and carp. Human exposure to chlordane has been associated with liver cancer and nervous system disorders. In the years since chlordane was banned, chlordane levels in fish tissue from carp in Creve Coeur Lake have declined.

Since chlordane is banned and degrades slowly, there is little (besides dredging, which brings up disposal problems) that can be done to improve the situation other than let nature take its course.

In 1985, the Missouri Department of Health and Senior Services issued a fish consumption advisory for bottom-feeding fish in Creve Coeur Lake. This advisory was discontinued July 9, 2001 because chlordane levels in these fish had fallen below the FDA action level of 0.3 mg/kg. The TMDL recommends continued monitoring of chlordane levels in Creve Coeur Lake. The U.S. Environmental Protection Agency approved this TMDL November 19, 2001. Fish tissue data and a map of the area are below.

Creve Coeur Lake in St. Louis County, Missouri



Chlordane Concentration in Fish Fillets in Creve Coeur Lake (mg/kg)

Year	Bluegill	Carp	Channel Catfish	Largemouth Bass	White Crappie
1985	0.056	0.710	0.485	0.017	0.037
1987	0.005	0.518	0.750	0.217	
1988		0.610	1.229		
1992		0.350			
1994		0.869			
1997		0.416			
1998		0.081			
2000		0.028			
2001		0.046		0.086	

Sources: U.S. Environmental Protection Agency, Missouri Department of Natural Resources, Missouri Department of Conservation (**bold** entries exceed WQS; blanks indicate no data for that species)

For more information call or write:

Missouri Department of Natural Resources, Water Protection Program
P.O. Box 176, Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 751-1300 office
(573) 522-9920 fax

Program Home Page: www.dnr.mo.gov/env/wpp/index.html