# CUIVRE RIVER WATERSHED INVENTORY AND ASSESSMENT

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Devona Weirich

#### **EXECUTIVE SUMMARY**

The Cuivre River is a low gradient, seventh order river located in northeast Missouri. It originates in Audrain and Pike counties and flows south-eastward through Pike, Montgomery, Lincoln, Warren and St. Charles counties to its confluence with the Mississippi River near Winfield, Missouri. Its major tributaries are the West Fork Cuivre River and the North Fork Cuivre River. The entire watershed is 1,235 square miles. The average annual discharge of Cuivre River at the Troy gage station for its 61-year period of record is 650 cubic feet per second.

One percent of the watershed is in public ownership. There is one state park, five Missouri Department of Conservation (MDC) lake or wildlife areas and three MDC stream fishing accesses. Approximately 23% of the watershed is forested and 77% is cultivated, pastured or otherwise developed.

Water-quality problems in the Cuivre River drainage are related to soil erosion and animal waste. The sediment yield reaching waterways was estimated at 2.5 tons per acre per year (Anderson 1980). Pollution from point sources is minimal. There are no chronic fish kill areas.

Sixteen plant and animal species listed on Missouri's rare and endangered 1991 checklist are found in the Cuivre River Basin. Ten of these species live in water or require very damp environments for their survival. Seventy-one different fish species have been identified in fish

collections, fish kills or creel surveys conducted between 1941 and 1992; sport fish present include largemouth bass, smallmouth bass, channel catfish, flathead catfish, black crappie, white crappie, walleye, white bass, common carp, freshwater drum, buffalo, bluegill and green sunfish. The ghost shiner, a species on the Missouri River watch list, is found in the Cuivre River Basin. In fish samples collected after 1970 at 40 sites, the most widespread fish were the green sunfish (present at 98% of the sites), orangethroat darter (88%), bluntnose minnow (88%), red shiner (85%) and redfin shiner (85%). The most abundant fish among 37,177 fish collected were the red shiner (25% of all fish sampled), redfin shiner (12%), bluntnose minnow (11%), bigeye shiner (9%) and orangethroat darter (6%).

Overall, most streams appear to be in fair condition. Some problems encountered include 1) insufficiently forested riparian corridors; 2) soil and streambank erosion; 3) sedimentation and deterioration of aquatic habitat 4) limited public access to streams; 5) deterioration of natural features and; 6) low public involvement in stream-related programs. Improvements in the quality of riparian and stream habitat will depend upon the cooperation of private landowners who have control of 99% of the watershed. The Missouri Department of Conservation can help educate the public about stream resources and their care; publicize stream assistance programs and assist landowners by providing technical advice for correcting stream erosion problems; protect native fish assemblages from the introduction of exotic species and the destruction of critical habitat; increase management of game fish populations; increase number of public stream access; and assist other public entities in creating similar opportunities.

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