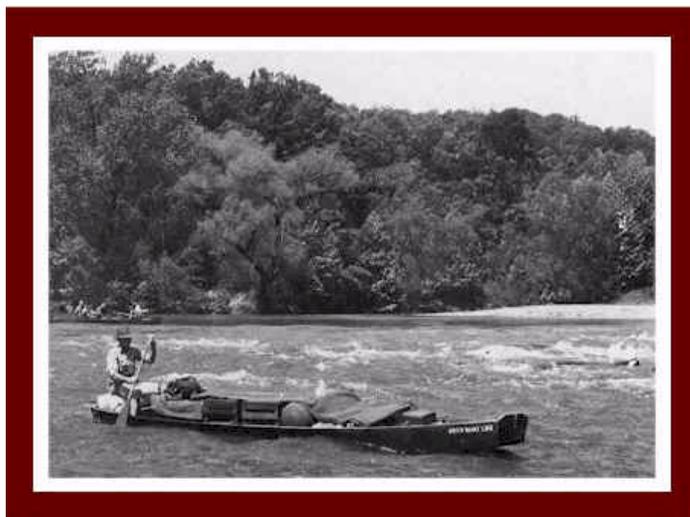


WHITE RIVER
WATERSHED
INVENTORY AND ASSESSMENT



This information is based on the

**White River Watershed Inventory and
Assessment**

prepared by
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ACKNOWLEDGMENTS

Lisa Kiner initiated this project and conducted much of the fish sampling. Matthew Winston assisted with the fish collections and identification. Personnel from the Missouri Department of Conservation's Southwest Region Fisheries Office assisted in many stages of this effort. Information was also provided from other state agencies in both Arkansas and Missouri, and several federal agencies. The Branson Jr. High Stream Team and Dr. William Roston contributed photos. Thanks also to the editors who's corrections and additions served to make this a better document. Thanks goes out to all mentioned and any who may have been overlooked.

EXECUTIVE SUMMARY

The White River originates in northwest Arkansas, southeast of Fayetteville, in the Boston Mountains. The White River is impounded as Lake Sequoyah and by Beaver Dam before entering Missouri near Eagle Rock in Barry County. From that point it flows eastward along the Missouri-Arkansas border, where it is impounded by Table Rock Dam and Powersite Dam, in Missouri, and Bull Shoals Dam, in Arkansas. The White River then flows southeast from Bull Shoals Dam, where it exits the Ozark Plateau, turns south into the delta region of Arkansas, and continues to its confluence with the Mississippi River, some 720 miles from its origin.

The portion of the White River basin covered by this document is termed the White River watershed. This watershed encompasses 5,184 square miles and includes parts or all of eight Missouri counties (Barry, Christian, Douglas, Ozark, Stone, Taney, Webster, and Wright) and twelve Arkansas counties (Baxter, Benton, Boone, Carroll, Crawford, Franklin, Johnson, Madison, Marion, Newton, Searcy, and Washington). The watershed lies primarily within the Salem Plateau region, with a small portion of its northwest edge in the Springfield Plateau region. Major tributaries include War Eagle Creek, Kings River, Long Creek, and Crooked River, originating in Arkansas, and Roaring River, Bull Creek, Swan Creek, Beaver Creek, and Little North Fork White River, originating in Missouri. The total length of Missouri streams with permanent flow is 298.5 miles. Intermittent streams with permanent pools add another 210.5 miles. Several losing streams and springs are located in the watershed.

The White River watershed is primarily rural. Forest land comprises the greatest percentage of land use/cover types, followed, in descending order of coverage, by pasture land, range land, noncultivated cropland, urban, water, roads, miscellaneous, and cultivated cropland. The watershed lies within one of the primary cattle producing areas in Missouri. Barry, Webster, and Wright counties were among the top ten counties in the state for beef cattle production in 1997, though only minimal percentages of the later two lie within the watershed. Major cities and towns in the watershed include Branson, Kimberling City, Forsyth, Ava, in Missouri, and Berryville, Eureka Springs, Harrison, and West Fork, in Arkansas.

Dam and hydropower influences are pronounced. The mainstem White River and the lower reaches of many tributaries have been inundated by the construction of Beaver Dam (AR), Table

Rock Dam (MO), Powersite Dam (MO), and Bull Shoals Dam (AR). Overall, these dams impound approximately 225 miles of the mainstem White River. In addition to the effects of the inundation of large reaches of streams in the watershed, cold water releases from Beaver Dam, Table Rock Dam, and Bull Shoals Dam have drastically altered aquatic communities downstream on the White River. Much of the historic, warmwater fisheries in these areas has been lost and replaced by a coldwater fishery that includes rainbow and brown trout. Large-scale stocking is required to maintain and support these coldwater fisheries.

Low dissolved oxygen concentrations in waters released from the major, mainstem dams affects downstream aquatic communities. Fish kills have been documented, and chronic impacts on fish and invertebrate species are suspected. Efforts are underway to alleviate the problems caused by seasonal, low dissolved oxygen levels.

Potential sources of nonpoint source pollution in the watershed include: runoff from mine tailings and active mining sites, cattle grazing and dairy operations, poultry husbandry, sedimentation from erosion in disturbed watersheds, sludge application from sewage treatment facilities, seepage from septic tanks, and runoff from urban areas. Point source pollution sources include municipal sewage treatment plants, limestone quarry settling ponds, and concentrated animal feeding operations.

The White River watershed is included in the Ozark-White aquatic community division. Streams in this division are located in narrow, steep-sided valleys with high bluffs, and are typically characterized by high gradients and well-defined riffles and pools.

Stream habitat quality is fair to good throughout most of the watershed. Some areas, including portions of Dry Hollow and Little North Fork of the White River, suffer from a lack of riparian vegetation. The lack of adequate riparian corridors, excessive nutrient loading, streambank erosion, excessive runoff and erosion, and the effects of instream activities such as gravel removal are among the problems observed in the watershed. Grazing practices along many streams contribute to streambank instability, nutrient loading, and poor riparian conditions. Increased timber clearing and higher runoff associated with urbanization in the watershed also impact stream habitat quality.

Eighty-one fish species and thirty-eight mussel species have been collected throughout the watershed. A diverse aquatic insect and crayfish fauna is also found in the watershed. Common sportfish in streams and reservoirs include smallmouth bass, largemouth bass, spotted bass, white and black crappie, Ozark bass, channel catfish, and rainbow trout. There are several state or federally listed species of concern, including Ozark cavefish, checkered madtom, Ozark shiner, longnose darter, eastern slim minnow, highfin carpsucker, crystal darter, bluntface shiner, American brook lamprey, Salem cave crayfish, Meek's crayfish, and purple lilliput.

Major goals for the watershed are improved water quality, better riparian and aquatic habitat conditions, the maintenance of diverse and abundant populations of native aquatic organisms and sportfish, increased recreational use, and increased public appreciation for the stream resources.

Additional fish population samples will be collected and appropriate habitat surveys will be conducted. Fishing regulations will be revised, as needed, and selected stocking will be used to maintain and improve sportfishing. Access will be improved, where needed. Cooperative efforts with other resource agencies on water quality and quantity, habitat, and watershed management issues will be critical. Enforcement of existing water quality and other stream related regulations and necessary revisions and additions to these regulations will help reduce violations and lead to further water quality improvements. Working with related agencies to promote public awareness and incentive programs and cooperating with citizen groups and landowners will result in improved watershed conditions and better stream quality.

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