Little Red River

Arkansas Department of Energy and Environment Division of Environmental Quality Planning Segment 4E

Hydrologic Unit Code 11010014

U.S. Environmental Protection Agency-Approved Watershed Management Plan

Introduction

The Little Red River Watershed encompasses the entire Little Red River and its tributaries, including Greers Ferry Lake. The watershed encompasses 1,802 square miles in seven counties of north central Arkansas, including parts of Searcy, Pope, Van Buren, Stone, Cleburne, White, and Independence counties. The main tributaries of Greers Ferry Lake are Middle Fork, South Fork, North Fork, Archey Fork,

and Devil's Fork. The main tributaries of Little Red River downstream of Greers Ferry Lake are Ten-mile Creek, Fourteen-mile Creek, and Big Creeks (there are two). Greers Ferry Lake and the Little Red River serve as water supplies for six water utilities. The Mid-Arkansas Water Alliance, an alliance of nine water utilities in Central Arkansas, has also secured rights to water from Greers Ferry Lake (Oman 2020). Tributaries to Greers Ferry Lake are designated critical habitat for endangered aquatic species and the Little Red River downstream of the reservoir is a designated trout fishery. The Little Red River Watershed was identified as an Arkansas Nonpoint Source Pollution Management Program (Arkansas NPS Program) priority watershed in 2022. Figure 1 shows a map of 2019 land cover in the watershed. Two-thirds of the watershed is forested, and 18 percent is pasture. In 2020, this watershed was home to 81,978 Arkansans (U.S. Census Bureau 2021).

Nonpoint Source Pollutants in Little Red River Watershed

Several waterbodies in the Little Red River



Watershed are included in the Arkansas 2018 303(d) List (Figure 1). A total of 131.6 stream miles are listed as impaired, representing 41.0 percent of the total assessed stream miles within the watershed

(321.3 miles). Impaired waterbody uses include support of aquatic life and primary contact recreation. A small section of the

Figure 1. Little Red River Watershed Map

South Fork Little Red River is under a fish consumption advisory for mercury. NPS pollutants of concern in this watershed are oxygen-demanding materials, nutrients, pH, pathogens (*E. coli*), turbidity and sediment, and mercury. Nonpoint sources of these pollutants that are of concern in the watershed are cropland runoff, urban runoff, livestock, runoff from pastures and poultry operations, poor quality riparian buffers, stream bank erosion, fertilizer (including poultry litter), failing septic systems, wildlife,

pet waste, illicit discharges, resource extraction, and unpaved roads. Climate change is causing an increase in storm intensity in Arkansas, which can result in more runoff, flooding, and erosion, leading to increased pollutant loads to surface waters.

Nonpoint Source Pollution Goals

The long-term goal of the Arkansas NPS Program for the Little Red River Watershed is that all waterbodies support their designated uses. Table 1 lists short-term (2024-2029) Arkansas NPS Program objectives for the Little Red River Watershed. The program also supports the load reduction goals identified in Total Maximum Daily Load (TMDL) studies that have been prepared for waterbodies in this watershed and in the watershed management plan (WMP). TMDLs in the Little Red River Watershed established load reduction goals for mercury in fish tissue, turbidity, and target loads for pathogens (E. coli). The WMP also establishes load reduction goals for nutrients and pathogens. Progress toward achieving the objectives is summarized in Table 1 and will be reported in Arkansas NPS Program annual reports which can be found at <u>agriculture.arkansas.gov/natural-resources/divisions/water-management/nonpoint-source-management/</u>.

| 2024-2029 Objective | Tracking Strategy |
|---|---|
| Measurably reduce concentrations or loads of | Routine water quality monitoring with load |
| pollutants causing water quality impairments | calculations |
| Social equity in water quality protection and | Number or percent of activities in low income |
| improvement | or minority dominated areas |
| | |
| | Water quality in low income or minority |
| | dominated areas |
| Increased resilience of natural systems and | Routine water quality monitoring and Clean |
| society | Water Act biennial water quality assessment |
| No new impaired stream reaches, or water | Routine water quality monitoring and Clean |
| quality criteria not being met | Water Act biennial water quality assessment |
| 2018 impaired stream reaches attain water | Routine water quality monitoring and Clean |
| quality standards (achieve load reduction | Water Act biennial water quality assessment, |
| goals) | or special water quality studies |

Table 1. Arkansas NPS Program short-term objectives for the Little Red River Watershed

Nonpoint Source Pollution Strategy

The Little Red River WMP was accepted by EPA in 2023 and can be found at <u>agriculture.arkansas.gov/</u> <u>wp-content/uploads/2023-05-23-Little-Red-River-WMP-EPA-Accepted.pdf</u>. The WMP identifies focus areas for water quality improvement and protection, as well as best management practices (BMPs) for reducing NPS pollutants of concern. The state NPS pollution management strategy for this watershed is to support cooperating entities in activities that work toward the goals of the WMP and the TMDLs.

Administration of Nonpoint Source Pollution Management

There is currently no single entity in the Little Red River Watershed that has claimed primary responsibility for implementing the WMP. However, there are several interest groups active in the watershed who may take responsibility for implementing the WMP. The Arkansas NPS Program will work with cooperating entities in the watershed to promote voluntary coordination and incorporate conditions requiring cooperation in grant agreements, as appropriate. Cooperating entities who

participated in the WMP development process, and who have worked together on past natural resources projects in the watershed, include the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA), University of Arkansas System Division of Agriculture (UADA) Cooperative Extension Service, Arkansas Game and Fish Commission (AGFC), Arkansas Department of Agriculture's Natural Resources Division (NRD), Arkansas Department of Energy and Environment Division of Environmental Quality (DEQ), U.S. Army Corps of Engineers, Little Red River Foundation, Friends of the Little Red River, Save Greers Ferry Lake Inc., The Nature Conservancy, and city and county governments.

Nonpoint Source Pollution Management Program Tracking and Monitoring

NPS pollution management is tracked and evaluated at three levels: education and outreach activities, behavioral and/or opinion changes, and water quality. NRCS and UADA Cooperative Extension Service track education and outreach activities. Activities related to NPS pollution reduction may be reported in their annual reports.

Behavioral changes can be tracked by implementation of BMPs and opinion polls. Organizations active in this watershed that track implementation of BMPs through their programs are NRD, NRCS, and FSA. This information is listed in their annual reports.

Water quality monitoring data will be used to evaluate the effectiveness of NPS pollution management activities in the Little Red River Watershed. DEQ and the U.S. Geological Survey maintain water quality monitoring stations within the watershed. DEQ uses this data in their biennial evaluation of water quality.

Nonpoint Source Pollution Management Support and Funding

Local county conservation districts, NRCS, NRD, and the UADA Cooperative Extension Service are available to provide technical information and assistance on reducing NPS pollution. Potential funding sources for implementation of NPS pollution reduction BMPs include programs of NRD and NRCS. There are a number of programs available in the Little Red River Watershed that can provide funding assistance for BMPs that reduce NPS pollution. Listings of sources of technical and financial assistance with NPS pollution BMPs will be available in the watershed management plan. Technical and financial assistance can be obtained by contacting AGFC, county conservation districts, and county extension offices.

References

Arkansas NPS Program: https://www.agriculture.arkansas.gov/natural-resources/divisions/watermanagement/nonpoint-source-management/.

DEQ. 2020. "Final 2018 303(d) List." Arkansas Department of Energy and Environment Division of Environmental Quality. Accessed September 2020. https://www.adeq.state.ar.us/water/planning/integrated/303d/pdfs/2018/2018 303(d) list.pdf.

Oman, Noel. 2020. Deal struck for water allocation in Central Arkansas region. Arkansas Democrat Gazette. June 8, 2020. https://www.arkansasonline.com/news/2020/jun/08/deal-struck-waterallocation-region/.

Pathogen TMDLs for Selected Reaches in Planning Segment 4E:

https://www.adeq.state.ar.us/downloads/WebDatabases/Water/TMDL/pdfs/4E Pathogen TMDL updated 2020.pdf.

TMDLs for Segments Listed for Mercury in Fish Tissue for Selected Arkansas Watersheds: https://www.adeq.state.ar.us/downloads/WebDatabases/Water/TMDL/pdfs/Selected_AR_Watersheds_Hg_2002_12_10_Final.pdf.

TMDL for Turbidity for Ten Mile Creek, AR:

https://www.adeq.state.ar.us/downloads/WebDatabases/Water/TMDL/pdfs/Ten_Mile_Creek_ 2005_12_22.pdf.

US Census Bureau. 2021. "Block Groups - 2020 Census." *Arkanasas GIS Office.* August 21. Accessed June 2023. https://gis.arkansas.gov/product/block-groups-2020-census/.