

Middle White River

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

Hydrologic Unit Code 11010004

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

Introduction

The Middle White River Watershed is located in north central Arkansas and includes portions of Baxter, Fulton, Izard, Stone, Sharp, Cleburne, Independence, and Jackson counties. The Middle White River watershed includes a 127-mile reach of the White River, from the mouth of the Black River to the mouth of the Buffalo River. The major tributaries of the White River within the Middle White River Watershed include Poke Bayou, Sylamore Creek, Salado Creek, Hicks Creek, Piney Creek, and Mill Creek. The Middle White 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. Around 20 percent of the watershed is pasture and two-thirds are forest, which includes a portion of the Ozark-St. Francis National Forest. In 2020, this watershed was home to 67,484 Arkansans (U.S. Census Bureau 2021).

Nonpoint Source Pollutants in Middle White River Watershed

Several waterbodies of the Middle White River Watershed are listed as water quality impaired in the Arkansas 2018 303(d) List (Figure 1). A total of 26.4 stream miles is listed as impaired, representing 7.6 percent of the total assessed stream miles within the Middle White River Watershed (347 miles). The aquatic life designated use is not supported in 13.1 stream miles. The primary contact designated use is not supported in 13.3 stream miles. Impairments due to nitrogen and pathogens in Hicks Creek are being addressed through a point source and a municipal stormwater (Small Municipal Separate Storm Sewer Systems) permit. Elsewhere in the watershed, NPS pollutants of concern are oxygen-demanding materials, sediment, and nutrients. Nonpoint sources of these pollutants in this watershed that are of concern include runoff from pastures and poultry operations, livestock, fertilizer (including poultry litter), and streambank erosion. Climate change is causing an increase in storm intensity in Arkansas, which can result in more runoff and erosion, leading to increased pollutant loads to surface waters.

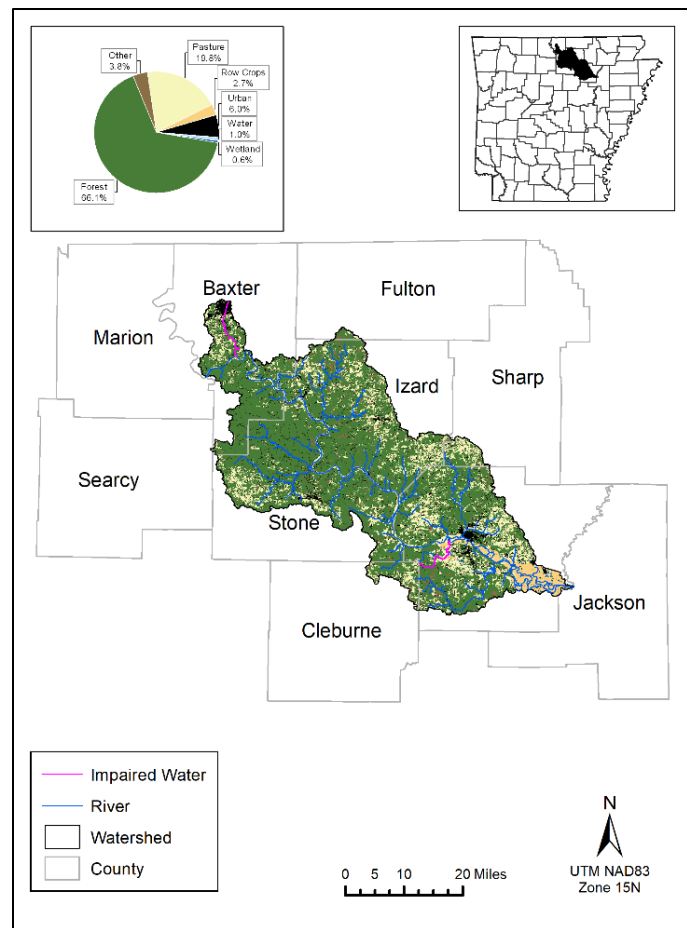


Figure 1. Middle White River Watershed Map

Nonpoint Source Pollution Goals

The ultimate long-term goal of the Arkansas NPS Program is for all waterbodies within the Middle White River Watershed to meet their designated uses. Table 1 lists Arkansas NPS Program short-term (2024-2029) objectives for the Middle White River Watershed. 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 agriculture.arkansas.gov/natural-resources/divisions/water-management/nonpoint-source-management/.

Table 1. Arkansas NPS Program short-term objectives for Middle White River Watershed

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

Nonpoint Source Pollution Strategy

The Middle White River watershed management plan (WMP) was accepted by EPA in 2019 and can be found at agriculture.arkansas.gov/wp-content/uploads/2022/05/Middle-White-River-WMP-Final-Accepted-2019.pdf. 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 implementation of the WMP to address NPS pollution and load reduction goals of the WMP.

Administration of Nonpoint Source Pollution Management

Currently no partner in the Middle White River Watershed has taken primary 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 active in this watershed include the U.S. Army Corps of Engineers, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Farm Service Agency, and Forest 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); University of Arkansas System Division of Agriculture (UADA) Cooperative Extension Service, Friends of the North Fork and White Rivers, Trout Unlimited, The Nature

Conservancy, city and county governments, local schools, Arkansas Master Naturalists, and county conservation districts.

Nonpoint Source Pollution Management 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. Many of the organizations active in this watershed track and report their education and outreach activities, including those related to NPS pollution. In some cases, these activities are reported in annual reports (e.g., Arkansas NPS Program), newsletters, and on websites and social media.

Behavioral changes can be tracked by implementation of BMPs and opinion polls. Many of the organizations active in this watershed track implementation of BMPs through their programs, including NRD and NRCS. This information is listed in their annual reports and on their websites.

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

Nonpoint Source Pollution Management Support and Funding

Technical information and assistance with implementing BMPs to reduce NPS pollution is available from a number of sources, including local county conservation districts, NRD, NRCS, UADA Cooperative Extension Service, AGFC, and other interest groups active in this watershed. There are several programs available in the Middle White 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 are available in the watershed management plan. Technical and financial assistance can also be obtained by contacting AGFC, county conservation districts, and county extension offices.

References

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

DEQ. 2020. "Final 2018 303(d) List." *Arkansas Department of Energy and Environment Division of Environmental Quality*. Accessed September 2020.
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US Census Bureau. 2021. "Block Groups - 2020 Census." *Arkansas GIS Office*. August 21. Accessed June 2023. <https://gis.arkansas.gov/product/block-groups-2020-census/>.