Cadron Creek

Arkansas Department of Energy and Environment Division of Environmental Quality Planning Segment 3D

Hydrologic Unit Code 11110205

Introduction

Cadron Creek begins northeast of Quitman, Arkansas, and flows generally southwestward towards its confluence with the Arkansas River at Conway, Arkansas. The watershed encompasses 754 square miles in five counties of central Arkansas, including parts of Cleburne, Conway, Faulkner, Van Buren, and White counties. The main tributaries of Cadron Creek are East Fork Cadron Creek, Cypress Creek, Cove

Creek, Greenbrier Creek, and North Fork Cadron Creek. Beaverfork Lake and Brewer Lake are also located in this watershed. The Cadron Creek watershed was identified as an **Arkansas Nonpoint Source Pollution** Management Program (Arkansas NPS Program) priority watershed in 2022. Cadron Creek is a canoeing, whitewater kayaking, and floating stream. Beaverfork Lake is home to Conway's largest city park and is an important recreation resource. Brewer Lake is a drinking water supply for Conway. Figure 1 shows a map of 2019 land cover in the watershed. Forty-three percent of the watershed is forested, and 42 percent is pasture.

Conway, part of which is located in this watershed, has been identified as one of the fastest growing cities in Arkansas. With a 2023 population of 67,882, Conway is the 7th largest city in Arkansas. Conway is currently growing at a rate of 2.1 percent annually and its population has increased by 6.43 percent since the most recent census, which recorded a population of 63,783 in 2020 (World Population Review 2023). In



2020, this watershed was home to 41,059 Arkansans (U.S. Census Bureau 2021).

Nonpoint Source Pollutants in Cadron Creek Watershed

Figure 1. Cadron Creek Watershed Map

Several waterbodies in the Cadron Creek Watershed are included in the Arkansas 2018 303(d) List (Figure 1). A total of 85.5 stream miles are listed as impaired, representing 34.2 percent of the total assessed stream miles within the watershed (250.2 miles). Impaired waterbody uses are not specified. NPS pollutants of concern in this watershed are oxygen-demanding materials, sediment, and trash/litter. Nonpoint sources of these pollutants that are of concern in the watershed are surface erosion, urban runoff, pasture runoff, riparian disturbance, stream bank erosion, construction, silviculture, 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 Cadron Creek Watershed is that all waterbodies support their designated uses. Table 1 lists short-term (2024-2029) Arkansas NPS Program objectives for the Cadron Creek Watershed. The program also supports the turbidity load reduction goals identified in Total Maximum Daily Load (TMDL) studies that have been prepared for waterbodies in this 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 <u>agriculture.arkansas.gov/ natural-resources/divisions/water-management/nonpoint-source-management/</u>.

2024-2029 Objective	Tracking Strategy
Measurably reduce concentrations or	Routine water quality monitoring with load
loads of pollutants causing water quality	calculations
impairments	
Social equity in water quality protection	Number or percent of activities in low income
and improvement	or minority dominated areas
	Water quality in low income or minority
	dominated areas
Increased resilience of natural systems	Routine water quality monitoring and Clean
and society	Water Act biennial water quality assessment
No new impaired stream reaches, or	Routine water quality monitoring and Clean
water quality criteria not being met	Water Act biennial water quality assessment
2018 impaired stream reaches attain	Routine water quality monitoring and Clean
water quality standards (achieve TMDL	Water Act biennial water quality assessment
load reductions)	
Soil and Water Assessment Tool model of	Modeling project initiated
watershed developed and calibrated	
	Project completed
Watershed management plan initiated	Planning project initiated

Table 1. Arkansas NPS Program short-term objectives for Cadron Creek Watershed

Nonpoint Source Pollution Strategy

A watershed management plan (WMP) is being developed for the Cadron Creek Watershed. Once developed, the WMP will identify 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 work toward WMP development and then support cooperating entities in activities that work toward the goals of the WMP and the TMDL.

Administration of Nonpoint Source Pollution Management

The Arkansas NPS Program works with cooperating entities in the watershed to promote voluntary coordination and BMP implementation. Cooperating entities 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), Arkansas Farm Bureau, Farm Credit Associations of Arkansas, Arkansas Cattlemen's Association, Cadron Creek Outfitters, Keep Arkansas Beautiful, county conservation districts, and county judges. Some partnerships have developed through recent activities such as the 2020 Regional Conservation Partnership Project (NRCS 2020) and a large-scale stream clean up in 2021 (Jaeger 2021).

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 the 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 Cadron Creek Watershed. DEQ maintains 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. Technical and financial assistance can be obtained by contacting AGFC, county conservation districts, or county extension offices.

References

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