

# Arkansas Nonpoint Source Pollution Program



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# FY2022 Projects

## Implementation of Green Infrastructure Practices to Improve Water Quality in the Illinois River Watershed

Project #: 22-100

Lead Project Partner: Illinois River Watershed Partnership

Low Impact Development (LID) and Green Infrastructure (GI) practices are cost-effective ways to address NPS pollution challenges, and their implementation in Northwest Arkansas is of increasing importance. The frequency and duration of heavy-to-severe rain events has been increasing in recent years and urban development in the region continues to grow. The Illinois River Watershed, particularly, has seen a quarter of the watershed developed in the last 30 years, with 74% of soils considered moderately to extremely erodible. Over the next 3 years, IRWP and partners will construct, maintain, and demonstrate a number of BMPs in priority cities, including Rogers, Fayetteville, Siloam Springs, Bentonville, and Springdale. The project's BMPs include detention basin retrofits, rain gardens, bioswales, permeable pavement, vegetated roofs, and green-designed streets.

## Sediment & Nutrient Reduction in the L'Anguille River Watershed Cost Share

Project #: 22-200

Lead Project Partner: St. Francis County Conservation District

The L'Anguille River is listed as an impaired waterway on ADEQ's 2018 303(d) List with concerns regarding sedimentation, turbidity, pesticides, and nutrient levels cited. Farmers in the area can help reduce these concerns by implementing BMPs on their properties. Row crop agriculture makes up the majority of land use within the watershed in St. Francis County, including Crowley's Ridge. This project seeks to implement BMPs on at least 10 farms or around 8,050 acres. Targeted farms for the program are ones not funded by EQUIP or other cost share programs.

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## Enhancement and Establishment of River, Riparian, and Wetland Restoration in Northwest Arkansas

Project #: 22-300

Lead Project Partner: **Watershed Conservation Resource Center**

The Watershed Conservation Resource Center (WCRC) has successfully conducted 21 river and stream restoration projects in the Beaver Lake, Illinois River, Little Sugar, and Elk River Watersheds since 2008. However, once the initial stages of a restoration project are completed, maintenance and establishment of vegetation continue to be ongoing processes. To protect initial investments and ensure long-term success of sediment and nutrient reductions in the fast-growing region of Northwest Arkansas, WCRC will enhance 5,000 feet of river and riparian areas and 3 acres of wetlands at existing restoration sites.

## Preserving Water Quality in the Beaver Lake Watershed

Project #: 22-400

Lead Project Partner: **Northwest Arkansas Land Trust**

Situated in the Ozark Highlands, Beaver Lake supplies over 350,000 residents with drinking water and provides ample recreational, tourism-related, and aesthetic value to the area. However, the urban centers of Northwest Arkansas continue to grow, and development is expanding into rural areas with few planning codes and ordinances concerning water quality. While the Beaver Lake Watershed has over 60% forest cover, which protects water quality, development is expected to accelerate forest conversion, jeopardizing water quality. The Northwest Arkansas Land Trust aims to protect high-quality forest land in the watershed through promoting the use of conservation easements and BMPs. Their goal is to complete 3 conservation easements or permanently protect 500 acres using conservation easements (whichever is greater) by the end of their 3-year project.

# Arkansas Nonpoint Source Pollution Program



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## Smart Growth for Source Water Protection in the Beaver Lake Watershed

Project #: 22-500

Lead Project Partner: **Beaver Watershed Alliance**

The Beaver Lake Watershed Protection Strategy recommends the use of Low Impact Development (LID) projects to reduce nonpoint source pollutants. The term “Smart Growth” refers to a variety of development and conservation techniques that aim to protect human health and the natural environment. Rapid urbanization and the subsequent increase of impervious surfaces result in higher volumes of rainwater runoff, to which communities will have to adapt stormwater management strategies. LID and Smart Growth are complementary strategies that the Beaver Watershed Alliance intends to implement in order to address this issue. Three projects, including one with the City of Fayetteville, one with the City of West Fork, and one TBD, will utilize practices such as rain gardens, bioswales, and pervious pavers to improve infrastructure that better addresses the stormwater management needs of the people and of the environment. Since Smart Growth is not yet commonly heard of or practiced, these sites will also serve as educational sites to be toured by targeted stakeholders. Additionally, multiple forums on LID and Smart Growth will be held along with the development of resources such as brochures and signage. The project is expected to be completed October of 2025.

## Implementation of Mullins Creek Restoration – Phase III

Project #: 22-600

Lead Project Partner: **Watershed Conservation Resource Center**

Mullins Creek is a headwater stream in the West Fork White River watershed and flows through the University of Arkansas campus in Fayetteville. Phase III of the Mullins Creek Restoration Project will build on Phases I and II, in which upstream areas and tributary Bulldog Branch were successfully restored. In addition to stream restoration, Phase III will include implementation of LID to retrofit an impervious parking lot adjacent to the stream.

# Arkansas Nonpoint Source Pollution Program



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## Lake Leatherwood Watershed Assessment

Project #: 22-700

Lead Project Partner: Eureka Springs Parks and Recreation

For over 80 years, Lake Leatherwood has been enjoyed and cherished by Eureka Springs tourists and residents alike. Originally created by impounding Leatherwood Creek, a major tributary in the White River Watershed in order to collect sediment and provide recreation opportunity, Lake Leatherwood has since lately become inundated with high levels of bacteria, accumulated sediment, and invasive aquatic vegetation. Lake Leatherwood City Park is managed by Eureka Springs Parks and Recreation, who, in cooperation with the Watershed Conservation Resource Center, will be conducting a watershed assessment of the lake and West Leatherwood Creek. The project will assess the source of sediment, form a planning team, and develop rehabilitation solutions to address problems with the Lake. The planning project is expected to be completed by January 2026.

## Water Quality Monitoring in the Upper Illinois River Watershed and Upper White River Basin

Project #: 22-800

Lead Project Partner: Arkansas Water Resources Center

Land use in both the Illinois River and Upper White River Basin (also known as Beaver Reservoir) Watersheds have drastically changed in the past couple of decades. Much of what once was pasture and forest is being converted into an urban landscape. Both watersheds also flow into neighboring states of Oklahoma and Missouri, respectively, and are therefore the subject of trans-boundary water quality issues. Therefore, monitoring in these two watersheds is critical to understanding how land use changes are affecting water quality and identifying issues early on. The Arkansas Water Resource Center will be conducting water quality monitoring and data analysis across a total of 15 sites across both watersheds. Parameters measured include but are not limited to nitrate-nitrogen, chloride, sulfate, total phosphorus, total nitrogen, turbidity, and conductivity. The project is set to conclude December 2025.

# Arkansas Nonpoint Source Pollution Program



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## Little River Watershed Outreach Education and WMP Implementation

Project #: 22-900

Lead Project Partner: UA Cooperative Extension Service

The Little River Watershed Management Plan and the 2018-2023 NPS Pollution Management Plan call for education and outreach as strategies to reduce nonpoint source pollution in the watershed. The Lower Little River Watershed was identified for the first time in the 2018-2023 NPS Pollution Management Plan as a priority watershed based on a qualified risk assessment. The watershed spans parts of the Ouachita Mountains and the Gulf Coastal Plain and includes four major reservoirs, including DeQueen, Gillham, Dierks, and Millwood Lakes. Segments of the watershed are impaired due to metals, pH, dissolved oxygen, bacteria, turbidity, and nutrients. The majority of watershed is rural, with potential sources of pollution including livestock, poultry operations, cropland, unpaved roads, septic systems, and streambank erosion. Education about BMPs to reduce NPS pollution could be viable solution. The Sevier County Extension Service will conduct educational programs for municipal leaders, home and business owners, landowners, and agricultural producers in hopes to curtail the issue and increase awareness of BMPs in the watershed.

## Lower Little River Watershed Unpaved Road Sediment Reduction and Fish Passage Assessment and Improvement

Project #: 22-1000

Lead Project Partner: Arkansas Game & Fish Commission Stream Habitat Program

The vast majority of roads in Arkansas are unpaved, many of which include low water roads crossings that serve as sources of sedimentation and barriers to fish passage. In cooperation with the Arkansas Stream Heritage Partnership and the Southeast Aquatic Resources Partnership, AGFC's Stream Habitat Program has been surveying such low water crossings to evaluate the quality of structures and extent to which it prohibits animal stream crossing. This project will allow AGFC to prioritize barriers and remove them, along with restoring riparian corridors. This project will be completed by September 2025.

# Arkansas Nonpoint Source Pollution Program



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## Watershed Management Plan for the Upper White River Watershed

Project #: 22-1100

Lead Project Partner: Ozarks Water Watch

Although the Upper White River Watershed has been an NPS Program priority watershed since 1998, there has yet to be an EPA 9 Element Plan that addresses the entire 8-digit HUC. The 9 Element Plan will include all 12-digit HUC sub-watersheds within or partially within Arkansas. The completion of a 9 Element Plan would allow stakeholders to apply for future NPS Program projects within the entire watershed. This project is expected to be completed by March 2024.

## Frog Bayou / R. Pense Stream Bank Stabilization

Project #: 22-1200

Lead Project Partner: City of Fort Smith

Eroding banks of Frog Bayou Creek, located in the Boston Mountains of Crawford County, has annually contributed approximately 226,660 cubic feet of sediment to the stream for three years. The City of Fort Smith will install Bend-way weirs and stone toe protection and will re-slope eroding vertical banks in order to mitigate the issue. Expected sediment reduction totals approximately 225,000 cubic feet per year. The projected will be completed by December 2023.

## Arkansas Silvicultural Nonpoint Source Project

Project #: 22-1400

Lead Project Partner: Arkansas Department of Agriculture, Forestry Division

This project addresses statewide silvicultural BMPs. Sediment is a major cause of impact to streams resulting from silvicultural activities. The Arkansas Forestry Division has provided training and education programs to industry and private landowner stakeholders on BMPs to address NPS mitigation. This project will continue that education, as well as track and evaluate voluntary BMPs implemented across the state.

## Upper Saline Watershed Modeling and Management Planning

Project #: 22-1500

# Arkansas Nonpoint Source Pollution Program

Lead Project Partner: The Nature Conservancy



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Approximately two thirds of the Upper Saline Watershed is located in the Upper West Gulf Coastal Plain, with the other third in the Ouachita Mountains. There are a number of waterbodies, including the Alum Fork, Cedar Creek, and Big Creek, among others, that have been identified as impaired in ADEQ's 2020 303(d) List. Impairments include pH, dissolved oxygen, turbidity, and biological integrity. The EPA 9 Element Plan for the Upper Saline Watershed has not been updated since 2006. Because Arkansas Natural Resource Division uses an adaptive management approach, periodic evaluation of progress is required. This project will update the watershed model to reflect land use changes and a new 9 Element Plan will be developed using the new model. The project will be completed by The Nature Conservancy in cooperation with the Arkansas Water Resource Center and the Saline River Watershed Alliance by December 2024.