



The 2022 Arkansas Annual Report

Prepare Pursuant to Section 319(h) of the Federal Clean Water Act

Arkansas Department of Agriculture Natural Resources Division

February 2023



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1.0 Summaries

1.1 Notes from the Director:

Reflecting on 2022, I was reminded at just how important water is to our state. Arkansas has beautiful rivers, streams, and lakes that are important for fish and wildlife, drinking water, tourism, agriculture, and multitude of other uses. You don't have to look far to find state, regional, or national issues revolving around water quantity or water quality, and we should feel blessed that in the Natural State we can work together to balance our economic needs with natural resources conservation.



Our programs here at the Arkansas Department of Agriculture's Natural Resources Division (NRD) play an important role in conservation. We strive to implement quality projects that produce favorable results for all. In 2022, we took several steps forward in developing our strategies, promoting our programs, and implanting real work on the ground. Highlights for the year include:

- New programmatic funding under the Bipartisan Infrastructure Law for a new Gulf Hypoxia Program to reduce nutrients to the Gulf of Mexico.
- Finalization of Arkansas's Nutrient Reduction Strategy.
- Promotion of nutrient reduction programs through print ads, articles, and presentations.
- Finalization of watershed management plan development for the Bayou Meto, Lake Conway-Point Remove, White Oak, and Poteau River watersheds.
- Development of a Soil and Water Assessment Tool (SWAT) model and a watershed management plan for the Illinois River Watershed through a collaboration with Oklahoma.
- Continued efforts to reduce sediment from unpaved roads through implementation of best management practices (BMP).
- Access and removal of fish passage barriers associated with unpaved roads.

Through these workplans, and others not specifically noted, we see the potential for success in future years.

Partnerships continue to be the foundation of conservation efforts in our state. We continually look for opportunities to develop and grow new partnerships and value maintaining our existing ones. It truly takes the cooperation and commitment of all government

agencies/divisions, conservation districts, organizations, groups, and citizens to promote conservation and influence water quality. Change is inevitable and we never know what will occur in the future, but we will continue our dedication to enhance or maintain water quality in our state. We work daily to meet or exceed that commitment.

The NRD is proud to provide this 2022 Annual Report for the Arkansas Nonpoint Source Management Program.

Chris Colclasure,

Director
Arkansas Department of Agriculture
Natural Resources Division

1.2 Executive Summary:

The Arkansas Department of Agriculture’s Natural Resources Division (NRD) is the lead agency responsible for the Arkansas Nonpoint Source (NPS) Management Program. The NRD and its many partners and stakeholders collaboratively work together to develop the NPS Pollution Management Plan (The Plan). The Plan provides a broad framework with aspirational objectives and milestones for implementation of the NPS Management Program. Watersheds are prioritized for resource allocation using a risk matrix assessment tool that is contained within the Plan. The Plan is updated every five years based upon an adaptive approach. The current Plan was updated and approved by the United States Environmental Protection Agency (EPA) Region VI and covers the 2018-2023 timeframe. Efforts are currently underway to update priority watersheds and draft the 2024-2029 NPS Pollution Management Plan.

The Arkansas Department of Energy and Environment’s Division of Environmental Quality (ADEQ) is the agency responsible for overseeing water quality in Arkansas. ADEQ is required to develop and provide an Integrated Water Quality Assessment Report and listing, commonly referred to as the 305(b) report and the 303(d) list, every two years for EPA approval. The assessment and report define if waterbodies (streams, lakes, and impoundments) are meeting and supporting their designated uses. The 305(b) report and subsequent 303(d) list provide the initial and foremost basis to direct efforts to restore water quality within the state.

The NPS Management Program’s success has been evaluated primarily on the 303(d) list. When impaired waterbodies are restored, they are removed from the list. The level of effort needed to remove a waterbody is enormous and cannot be accomplished by a single agency, program, project, or activity. It is essential that the NRD, partners, and stakeholders work together in a collaborative effort to improve water quality. Throughout this report you will see the many partners and projects that contribute to the success of the NPS Pollution Management Program.

This report focuses on the accomplishments that were made in meeting milestones of the NPS Management Program for fiscal year (FY) 2022. It details projects, efforts, and activities initiated, implemented, or completed by partners and stakeholders over the past year. This report also contains calculated load reductions of sediment, nitrogen, and phosphorus; installed best management practices (BMPs); and how federal dollars were allocated within the NPS Pollution Management Program.

Efforts continue to be made in improving water quality in select areas and watersheds. For this progress to continue, certain achievements will have to be accomplished, such as:

- State and federal agencies continue to provide technical and financial assistance.
- Stakeholders continue their involvement and activity in restoring waterbodies.

- Low Impact Development (LID) and Green Infrastructure (GI) techniques are demonstrated in urban areas and demonstrations are implemented for educational purposes for students, developers, municipalities, and citizens of the community.
- Water quality goals are identified and addressed by watershed stakeholders and groups.
- Watershed plans, conservation plans, and comprehensive nutrient plans are developed, utilized, and implemented.
- Water quality monitoring is installed in priority watersheds evaluating the status of those watersheds.

2.0 Education and Outreach



Educating landowners and the citizens of Arkansas about nonpoint source (NPS) pollution and the methods of control, reduction, or abatement is challenging. Assessing the water quality benefits of education is almost impossible. Continuing to demonstrate projects and repackaging education materials is the most effective means we have found to promote the Arkansas NPS Pollution Management Program. Education and outreach projects continue to be a focus of the Arkansas 319(h) program.

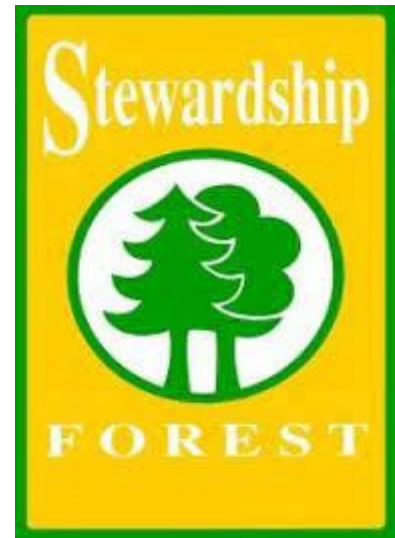
One project from fiscal year (FY) 2021 stood out as an example of targeting a need identified through past projects. This project is highlighted below:

Arkansas Silviculture Best Management Practices Outreach Project

The goal of the project is to improve forestry best management practice (BMP) implementation on Arkansas's privately owned forested land by increasing general knowledge of BMPs and their crucial importance. The NPS priority watersheds known as the Lower Ouachita-Smackover, Lower Little, and Upper Saline are in an area with many timber-harvest operations. Silviculture has been identified as a source of major impact to water quality and is primarily associated with sedimentation, but can also lead to excess nutrients and pesticides, organic debris, and altered temperature and stream flow regimes. Statewide BMP implementation surveys have been conducted periodically since the 1990s, most recently in 2011 and 2018, as well as a current FY 2022 survey project. Results from the 2011 and 2018 surveys revealed lower BMP implementation rates among private individual and family forest landowners. The surveys also indicated that improving familiarity with BMPs appears to improve the rate of BMPs

implemented. In addition, the 2018 survey indicated logging contractors often struggle to identify ephemeral vs. non-ephemeral streams.

To address these problems, the Arkansas Department of Agriculture’s Forestry Division (Forestry Division) partnered with the Arkansas Timber Producers Association, the Arkansas Forestry Association, and others to identify educational needs, develop educational materials, including a BMP handbook and brochures, and hold multiple outreach and training programs. In 2022, the Forestry Division conducted three contractor workshops, reaching 94 attendees, and one private landowner workshop, reaching eight landowners. In addition to formal workshops, 23 one-on-one landowner visits and tailgate trainings reached 18 landowners and 26 forestry professionals across 17 counties. The project also involves writing and implementing Forest Stewardship Management Plans (FSMP) to address recommendations for silviculture BMP implementation, soil, and water, and BMPs for any planned timber harvesting activity. To date, 38 FSMPs have been approved and provided to landowners.



3.0 Arkansas Unpaved Roads Program Fiscal Year 2022 Update

The Arkansas Unpaved Roads Program (AURP) was created by Act 898 of the 90th Arkansas General Assembly. The purpose of the AURP is to create a better unpaved county road system with a reduced negative environmental impact on priority water resources in Arkansas. It focuses on best management practices (BMPs) that reduce the impact of sediment and road runoff to streams, rivers, and drinking water supplies while reducing long term unpaved road maintenance costs. The AURP is designed to fund work on public roads with unbound road surfaces. Public entities that own and maintain public roads in Arkansas that are open to public vehicle travel for at least eight consecutive weeks a year are eligible to apply for the grants. Counties are the primary applicants for funding, but other unincorporated areas with public unpaved roads can also apply for funding if the entity has capacity to implement and manage a grant. Each year, the legislature has appropriated \$300,000 for the AURP to date.

In fiscal year (FY) 2022, seven counties applied for and were awarded grants to implement unpaved road projects in their respective counties. Four counties (Calhoun, Independence, Jefferson, and Lincoln) were funded with state AURP dollars, two (Johnson and Newton) were funded with supplemental federal 319(h) dollars, and one (Perry) with both AURP and 319(h) funds. Two of the FY 2022 projects have been completed to date (Calhoun and Johnson counties).

Calhoun County (\$75,000 AURP)

The project repaired County Road 288 by replacing failing culverts with a triple 4 by 8 20-foot box culvert, elevated .25 mile of roadbed by 2 feet, and stabilized slopes by placing fabric and riprap.



Calhoun Co. Pre-Implementation



Calhoun Co. Post Implementation

Johnson County (\$87,849 319{h})

This project on County Road 3271 replaced a low water crossing that routinely flooded and was eroding the road base with a free span crossing.



Johnson Co. Pre-Implementation



Johnson Co. Post Implementation

Independence County (\$52,905 AURP)

- This project will reshape the ditches from a V shape to a U shape and install ditch checks.
- Create a new road surface using 6 inches of limestone aggregate on 2,908 feet of road.
- Install seven 24-inch metal corrugated cross pipes and armor them with large rock.
- Install wing ditches and armor head walls on current pipes.

Jefferson County (\$75,000 AURP)

- Project will replace existing culverts, which are too small and failing with larger 60 X 40-foot bottomless arch culverts which will convey more water.
- Resurface .6 miles of road.

Lincoln County (\$36,371 AURP)

- This project will alleviate road base erosion caused by overtopping by raising 400 feet of roadway by 4 feet in elevation.
- Install four new 36 by 50-inch cross pipes to convey water and armor both inlet and outlets.

Newton County (\$140,346 319{h})

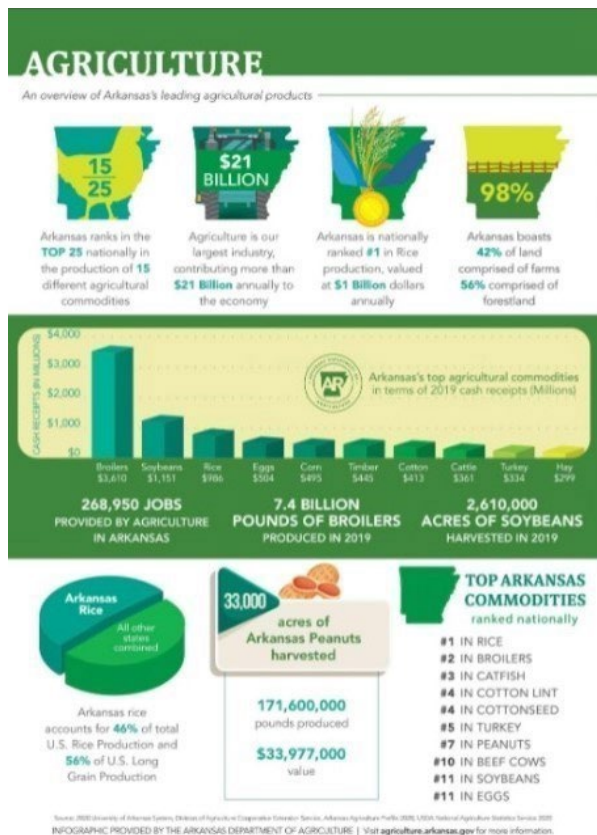
- This project aims to replace a low water slab crossing on Cave Creek Road with a 100-foot-long by 28-foot-wide span bridge to alleviate erosion that is taking place around the original structure.

Perry County (\$59,276 319{h}, \$60,724 AURP)

- This project will reduce erosion by widening, re-sloping, and resurfacing Stoney Point Road.
- Ditches will be widened and reshaped.
- 18-inch cross pipes will be installed to convey water under the road.

4.0 Agriculture in Arkansas

Agriculture is the top industry in Arkansas. The largest agricultural commodities in Arkansas include broilers, soybeans, rice, eggs, corn, cattle, timber, cotton, turkey, hay, catfish, sweet potatoes, and peanuts. Nationally, the state ranks first in rice production and provides over 50% of all long grain rice production in the United States. Arkansas’s economy relies heavily on the agricultural industry as it contributes more than \$21 billion annually to the state and providing nearly 270,000 jobs.



“The Arkansas Department of Agriculture is committed to being the strong partner and resource that agriculture, our state’s largest industry, deserves and expects,” said Arkansas Secretary of Agriculture Wes Ward. The Arkansas Department of Agriculture’s Division of Natural Resources (NRD) will strive to protect this industry and protect the water quality associated with agriculture.

For more information, visit agriculture.arkansas.gov/.

5.0 Best Management Practice (BMP) Demonstration Projects

Best management practice (BMP) demonstration projects are an integral part of getting conservation on the ground and having an immediate impact on the reduction of nonpoint source (NPS) pollution. For fiscal year (FY) 2022, the Arkansas 319(h) program worked with several partners implementing various BMP-focused projects around the state.

Below are some of the partners and projects that have or are currently implementing BMPs throughout various watersheds in the state:

Project #	Project Title	County/Watershed	Total Federal \$s
19-600	Boone County Crooked Creek Project	Boone / Crooked Creek	\$16,952.32
19-1000	North Fork White Sub Watershed Project	Fulton / North Fork White River	\$3,386.00
20-300	Bull Shoals/ White River Watershed Project	Baxter / Bull Shoals White River	\$18,012.22
20-400	Buffalo Watershed Project	Marion / Buffalo River	\$21,858.20
21-600	Southfork Spring River Watershed Project	Fulton / South Fork Spring River	\$6,382.00
21-700	Buffalo River Tributary Project	Searcy / Buffalo River	\$25,004.80



Brush Management - Baxter Co.

Fencing – Marion Co.

Heavy Use Area – Baxter Co.

BMP demonstration projects primarily focus on the implementation of several different types of BMPs; however, projects also include outreach and educational components. Typical BMPs that are utilized through these projects are: fencing, forage and biomass planting, alternative watering systems, irrigation pipeline, water control structures, brush management, heavy use area protection, and cover crops. BMP demonstration projects are one of the more effective ways to have an immediate impact on water quality.

6.0 Arkansas Nutrient Reduction Strategy

Background

Arkansas, along with 11 other states within the Mississippi River Basin, voluntarily participates in the Mississippi River/Gulf of Mexico Hypoxia Task Force (Task Force). The Task Force was established in 1997 by the United States Environmental Protection Agency (EPA) to understand the causes and effects of eutrophication in the Gulf of Mexico; coordinate activities to reduce the size, severity, and duration; and mitigate the effects of hypoxia. Arkansas, represented by the Arkansas Department of Agriculture's Natural Resources Division (NRD), has been involved in the Task Force since 1999.

The EPA, in conjunction with the Task Force, released an updated Gulf Hypoxia Action Plan in 2008 that set a goal to reduce nutrients to the Gulf of Mexico by 45% of baseline levels (1980-1996) by 2035 with an interim goal of 20% by 2025. As a result of the Action Plan, Arkansas developed an Arkansas Nutrient Reduction Strategy (ANRS) to help meet those goals.

The ANRS was released in 2014 and guides the state in reducing excess nutrients in waters so that in-state and downstream water quality goals are ultimately met. The ANRS specifically guides activities that support nitrogen and phosphorus reductions from point and nonpoint sources of pollution. In 2018, a stakeholder process was initiated to update and revise the ANRS. The updated ANRS focuses on establishing a new method of measuring overall progress, targeting watersheds, and reporting nutrient reductions from nonpoint sources.

In 2021, with assistance from a Hypoxia Task Force grant, the Arkansas Water Resource Center (AWRC) used nearly 30 years of available water quality monitoring data to analyze watershed and site-specific trends statewide and assign nutrient reduction priorities using a four-tiered framework:

- Tier 1 – Maximum focus on nutrient reduction; based on sufficient data.
- Tier 2 – Focus on nutrient reduction activities; needs more monitoring.
- Tier 3 – Less focus for nutrient reduction activities; needs more monitoring.
- Tier 4 – Least focus for nutrient reduction activities; sufficient monitoring in place.

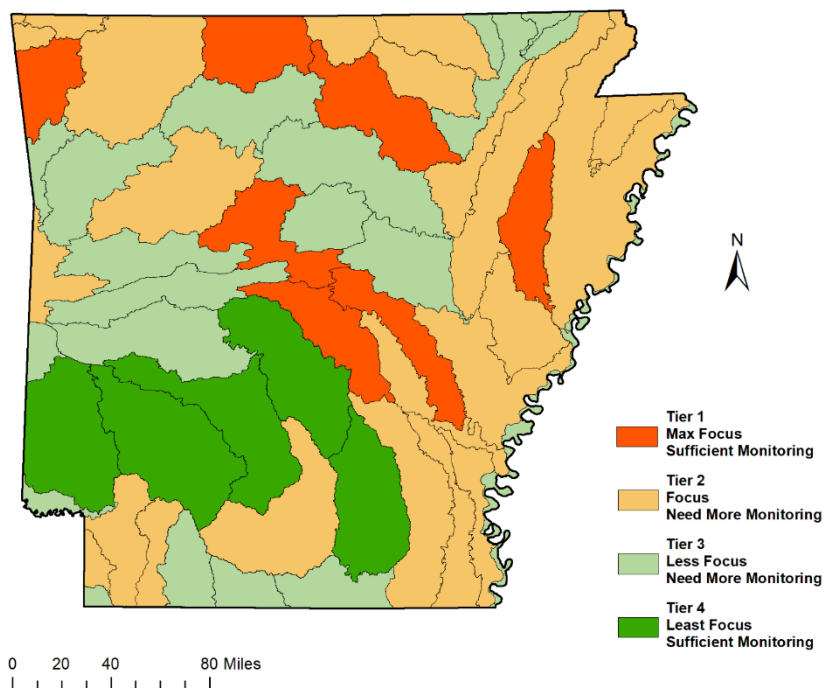


Figure 1: 2022 ANRS Four Tiers of HUC-8

2022 ANRS Update

In early 2022, Arkansas was awarded an EPA Task Order that made the ANRS more visually appealing and developed a fact sheet. In 2022, a draft of the ANRS went out for stakeholder and public comment. A few changes were made, and now the 2022 ANRS update is finalized and available on the NRD website. To view the full update, visit agriculture.arkansas.gov/natural-resources/divisions/water-management/arkansas-nutrient-reduction-strategy/.

Septic Remediation Pilot Program

In many rural areas throughout Arkansas, residential wastewater is treated using septic systems. Inadequate or poorly maintained septic systems are often ineffective and can leak nutrients such as nitrogen and phosphorus. Arkansas has a Septic Remediation Pilot Program to help homeowners replace old, failing septic systems. The program started in 2021 with two watersheds: the Beaver Reservoir Watershed and the Illinois River Watershed. In 2022, the Buffalo River Watershed was added. These watersheds in Northwest Arkansas are a priority for the state. The Illinois River and Beaver Reservoir are both in Arkansas’s Nutrient Surplus Area, included as priority watersheds for the 2018-2023 Nonpoint Source Pollution Management Plan, and are Tier 1 and Tier 2 nutrient reduction watersheds, respectively.

The Septic Remediation Pilot Program offers financial assistance in the form of a grant and/or loan to qualifying homeowners in the targeted watersheds. Funding is only for repair or replacement of an existing septic system as determined by the Arkansas Department of Health. Grant assistance is based on a sliding income scale of the homeowner. Grants are paired with a no interest loan up to a ten-year term. For instance, an income level less than \$20,828 receives 90% grant funding and a 10% loan, and an income level between \$62,486 – \$83,314 receives 10% grant funding and a 90% loan. There is also a 0% interest loan for all income levels above \$83,315 that is available. Financial assistance to homeowners does not exceed \$30,000 with funding usually between \$5,000 and \$10,000 per failing septic tank. Local watershed managing organizations oversee applicant eligibility, review applications, and ensure proper installation of septic systems. The Septic Remediation Pilot Program will run for two more years, after which time, it will be evaluated.

Tracking Best Management Practice (BMP) Implementation

The Arkansas Nutrient Reduction Tracking Framework (Arkansas Framework) tracks reductions in nutrient losses from the implementation of best management practices (BMPs) on agricultural lands. The Arkansas Framework consists of three elements:

- Collecting information on BMP implementation on agricultural lands in Arkansas.
- Estimating nutrient loads from Arkansas hydrologic unit code (HUC)-8 watersheds.
- Reporting BMP implementation and nutrient load changes for Arkansas HUC-8 watersheds.

The Arkansas Framework is based on the Spreadsheet Tool for Estimation of Pollutant Load (STEPL) model. Current work creating a dashboard for the public is underway and is set to be finalized by February 2023.

Great Lakes to Gulf

Arkansas has been working with the Great Lakes to Gulf Virtual Observatory (GLTG) for an Arkansas Data Portal within the GLTG. The GLTG is an interactive application that provides user-friendly access to water quality information about the Mississippi River and its tributaries. GLTG helps people visualize and better understand nutrient pollution and its potential causes. The Arkansas Data Portal is based on water quality data compiled by the AWRC that was analyzed for the 2022 ANRS update.

The Arkansas Data Portal went live in late 2022 and has three layers available:

- Site-Level Trends Analysis
- Aggregated HUC-8 Trend Analysis
- Water Quality Stations & Data Availability

For more information on the GLTG, visit greatlakestogulf.org/.

Workgroups

ANRS stakeholders were asked to participate in workgroups. The workgroups formed in late 2022, and they will begin meeting in the spring of 2023 to work on specific needs of the ANRS. These workgroups and their main objectives are:

- Communication (Outreach & Education)
 - Objectives:
 1. Enhance communication, specifically to engage partners and stakeholders in watersheds.
 2. Review outreach and education strategies.
 3. Make recommendations for communication strategies.
 4. Other objectives and strategies as developed by the workgroup that enhance or advance the ANRS.

- Innovation (Science & Research)
 - Objectives:
 1. Provide insight on effectiveness of nutrient reduction activities and programs.
 2. Develop monitoring priorities in Tier 2.
 3. Make recommendations for new studies and/or practices.
 4. Other objectives and strategies as developed by the workgroup that enhance or advance the ANRS.

Gulf Hypoxia Program

Arkansas's Gulf Hypoxia Program (GHP) workplan focuses on implementation of the goals of the ANRS. The three main goals of the ANRS are:

- Increase or maintain downward trends for Tier 1 watersheds.
- Enhance water quality monitoring to inform nutrient trends for Tier 2 watersheds.
- Continue efforts in all watersheds.

Arkansas's GHP projects focus on water quality monitoring and conservation practices of Tier 1 and Tier 2 watersheds. The Upper Cache River Watershed is a focus for nutrient reduction and increased monitoring. The watershed is highly channelized and is dominated by row crop agriculture. It has few remaining wetlands which creates a challenge to control sediment and nutrients. During a previous monitoring project, sites were identified as 'hot spots' with consistently high nutrient and sediment concentrations. The first year GHP funding will support water quality monitoring efforts in the Upper Cache River Watershed by gathering preliminary data prior to two-stage ditch construction proposed for nutrient reduction. The second year

GHP funding will be used to support implementation of two-stage ditches in the Upper Cache River Watershed. Two-stage ditches are drainage ditches that have been modified by adding benches that serve as floodplains within the overall channel. The benches function as wetlands during certain times of the year which reduces ditch nutrient loads and have been documented to reduce nutrient and sediment loads upwards of 50%. The restoration of this beneficial natural process within the Upper Cache River Watershed will provide the drainage capacity necessary for agricultural production, as well as the water quality benefits in reducing nutrients and sediments.

The ANRS will need to continually be improved and refined based on new information and input from stakeholders, scientists, and key partners. The ANRS will be evaluated and periodically updated using the process of adaptive management. The ANRS efforts will help us meet the overall Task Force goal of reducing nutrients to the Gulf of Mexico.

7.0 Update on the Buffalo River



Background

The Buffalo River, located in Northern Arkansas, was the first National River to be designated in the United States. The Buffalo River is 153 miles (246 kilometers) long. The lower 135 miles (217 kilometers) flow within the boundaries of an area managed by the National Park Service, where the stream is designated the Buffalo National River. The river flows through

Newton, Searcy, Marion, and Baxter Counties, from west to east. On September 30, 2016, Governor Asa Hutchinson announced the Beautiful Buffalo River Action Committee (BBRAC). The committee was to address water quality concerns throughout the watershed and ensure the Buffalo National River maintains all designated uses by “establishing measurable objectives, setting achievable action items, establishing durable partnerships, and sharing agency resources, and informing policymakers and the general public of relevant progress.” One of the action items set forth was for the state to develop a holistic management plan for the watershed. In June of 2019, Governor Asa Hutchinson announced a deal had been struck to remove the C & H hog farm from the watershed. He also announced a permanent moratorium on large scale concentrated animal feeding operations (CAFOs) being permitted to operate in the Buffalo River Watershed. In the fall of 2019, Governor Hutchinson signed an executive

order creating the Buffalo River Conservation Committee (BRCC). He also announced that a total of \$2 million in state and private funding will be allocated for conservation projects within the Buffalo River Watershed. The BRCC committee is tasked with implementing the management plan. The committee members are responsible for creating subcommittees to lead the Buffalo River management plan process. The BRCC is engaging with local landowners, conservation organizations, tourism officials, environmental experts, and regional and federal officials during this process. Each year, the state will be reviewing the Buffalo River Watershed Management Plan. A report, including a list of recommendations and updates on the process, will be submitted to the Governor's office.

Update

The BRCC has been actively meeting, assessing, and discussing issues within the Buffalo River Watershed, including unpaved roads. The Arkansas Department of Agriculture's Natural Resources Division (NRD), the Arkansas Unpaved Roads Program, and The Nature Conservancy staff held two meetings with BRCC representatives in early 2020 to assess and select unpaved road projects in the watershed. The Unpaved Roads subcommittee selected two sites for funding consideration. Those sites were in Searcy County (Cane Branch Road) and Newton County (Cave Mountain Road). The BRCC moved forward and approved the two sites. For the Newton County site, an Environmental Assessment (EA) was completed prior to construction as the majority of the road traverses through the National Park Service as well as concerns for the protection of the federally endangered gray bat. The completed EA resulted in Finding of No Significant Impact (FONSI). The Searcy County project was completed in October 2021 and the Newton County project is on track for completion in 2023. Additional efforts on unpaved roads in the watershed extends to current separate projects with Searcy County and Newton County to reduce sediment and improve aquatic connectivity.

8.0 Watershed Management Plans (WMPs)

Nine element watershed management plans were developed in a cooperative effort between the Arkansas Department of Agriculture's Natural Resources Division (NRD) and local watershed stakeholders. The goal of developing watershed management plans is to preserve, protect, and enhance resources and surface waters throughout the state. A watershed approach considers the entire geographic area on an 8-digit hydrologic unit code (HUC) scale that a watercourse drains to address a broad range of issues.

Lake Conway Point Remove Watershed Management Plan

With this project, a nine-element watershed management plan (WMP) for the Lake Conway Point Remove Watershed (LCPRW) in Central Arkansas is to be developed. The plan will include

ranked management measures and identification of critical sub-watersheds for best management practice (BMP) implementation. The Lake Conway Point Remove Watershed Alliance will coordinate and complete the activities of the project. There will be educational and outreach components to this project for watershed stakeholders. This project is expected to be completed in June 2023.

Poteau River Watershed Management Plan

The goal of this project is to develop a nine-element WMP on the Poteau River and its major tributaries in Arkansas. The WMP will include identification of critical sub-watersheds at a small scale (12-digit HUC and smaller) and ranked implementation measures to reduce nonpoint source (NPS) pollution loading from key areas. The Poteau River is a priority watershed in Arkansas and is listed on the Arkansas 303(d) list for nutrients and metals. The project will also include a community involvement task that will be used to educate the community, acquire watershed information, and gain support for WMP implementation, and a task designed to address funding for WMP implementation. The WMP will ultimately be used by the City of Waldron and its partners to direct watershed protection activities and watershed restoration activities with the goal being reduction of pollutant loading and protection of the watershed into the future. A final plan will be submitted to United States Environmental Protection Agency (EPA) in January 2023.

White Oak Bayou Watershed Assessment and Management Planning

Monitoring, assessment, and management planning on the White Oak Bayou system in Central Arkansas will be completed and used to develop a Soil and Water Assessment Test (SWAT) model and a nine-element watershed management plan. The White Oak Bayou is listed on the Arkansas 303(d) list for dissolved oxygen, pH, copper, and lead. Data collected during this project will be used by the City of Maumelle, the White Oak Bayou Wetlands Conservancy, and partners to identify the main NPSs, develop an approach to address them, and prepare a nine-element watershed management plan. The goal is to complete this project by September 2023.

Watershed-Based Plan for the Bayou Meto Watershed

This project aims to prepare an EPA accepted nine-element watershed-based plan for the Bayou Meto Watershed while developing local support for the plan and its implementation. These objectives are planned steps toward the goal of reducing pollutants to levels that will restore the designated uses of the waterbodies within the Bayou Meto Watershed. This project will be considered successful if stakeholders are engaged and support the watershed-based management plan accepted by the NRD and EPA as the basis for implementing management actions to attain designated stream uses. The project ended March 2022 and is under EPA review.

Little Red River Watershed Management Plan

This project will consist of two main parts. Phase 1 of this project is to develop and apply a SWAT model for the Little Red River Watershed so that sub-watersheds on a HUC-12 scale can be prioritized to assist in developing NPS investment strategies that will have the greatest impact on water quality objectives. The objective of Phase 2 of this project is to prepare a nine-element watershed-based plan for the Little Red River Watershed while developing local support for the plan and its implementation. These objectives are planned steps toward the goals of prioritizing potential projects and reducing pollutants to levels that will maintain the designated uses of the waterbodies within the Little Red River Watershed. It is anticipated that a draft plan will be produced by March 2023.

Lower Ouachita-Smackover Watershed Management Plan

The objective of this project is to develop a nine-element WMP for the Lower Ouachita-Smackover Watershed. A key component of the assessment in this project will be the development and use of a SWAT model. NPS assessment efforts will focus on identification of critical HUC-12 NPS, the load contribution, and their impact in the watershed. The watershed will be evaluated to determine where effective BMPs and storm water treatment could be implemented to reduce pollutants from stormwater and erosion to the system. Data collected during this project will be used in the development of a SWAT model and a nine-element WMP for the overall HUC-8 and priority HUC-12s. The estimated completion date is December 2023.

Lower Arkansas-Maumelle Watershed Management Plan

The goal of this project is to collect sufficient data over a three-year period that can be used to develop a SWAT model for the development of a nine-element WMP for the Lower Arkansas-Maumelle HUC-8 Watershed. Collection of physio-chemical data from the major HUC-12 drainages in the watershed will be completed bi-monthly for three years in an effort to quantify loading of key pollutants (those affecting oxygen such as nutrients and turbidity and metals) in the HUC-8 watershed and delineate possible sources of the pollutants. This data will be used along with historical data collected by various entities and agencies from various locations in the HUC-8 watershed. The WMP will ultimately be used to direct watershed protection and restoration activities with the goal being reduction of pollutant loading and protection of the watershed. This project is expected to be completed in April 2025.

Upper Illinois River Watershed Management Plan

This project is developing an updated SWAT model and an updated 9-element watershed management plan in the Upper Illinois River Watershed. This watershed is in Northwest Arkansas, which is currently undergoing rapid urbanization and growth. Based on a study involving multi-year monitoring of streambank degradation at 15 sites in the Illinois River Watershed in Arkansas, the Illinois River Watershed Partnership (IRWP) estimates that streambank erosion contributes over 100,000 tons of sediment per year and approximately

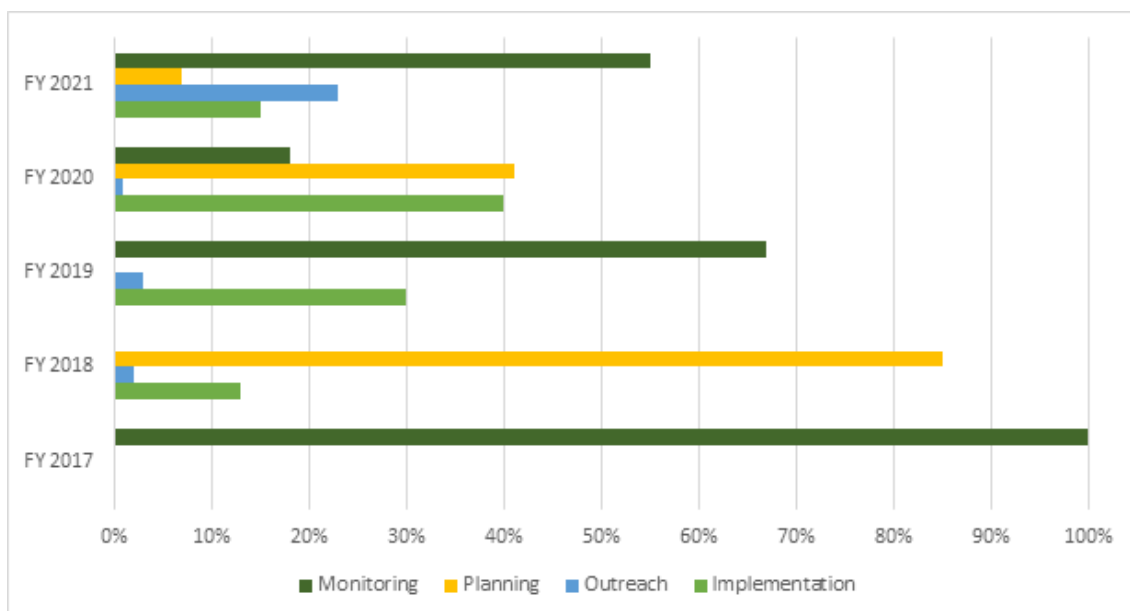
54% of the annual phosphorus load of the Illinois River Watershed within Arkansas (Illinois River Watershed Partnership 2022). The Upper Illinois River Watershed is a priority watershed in Arkansas and according to the 2018 Arkansas 303(d) listing, has over 30 miles of streams that are not meeting water quality standards. The SWAT model was calibrated in 2022 and will be finalized in 2023. The first stakeholder meeting to develop a watershed management plan for the Illinois River Watershed was held jointly with the Oklahoma Conservation Commission in Siloam Springs in October 2022. At least three more stakeholder meetings are planned for 2023, and the project is on track to be finished by the end of 2023.

9.0 Federal Resource Allocation and Best Management Practices (BMPs)

Program Expenditures for Fiscal Year 2021

The Arkansas Nonpoint Source (NPS) Pollution Management Program allocates most of its Clean Water Act 319(h) funds to its partners who plan to implement projects in priority watersheds that best meet the goals and milestones of the program. These partners must be capable of carrying out projects and are typically required to provide a minimum of 43% match in non-federal funds. In fiscal year (FY) 2022, the Arkansas Department of Agriculture’s Natural Resources Division (NRD) and its project partners spent approximately \$1.87 million in federal 319(h) funds to address water quality resource concerns and to reduce or prevent NPS pollution.

The chart below shows how federal funds disbursed for projects were allocated among monitoring, planning, outreach, and implementation projects. Monitoring expenditures had a 43% increase from the previous fiscal year. Planning and outreach expenditures increased by 72% while implementation expenditures decreased from 53% of the total in FY 2021 to 25% in FY 2022.



Best Management Practices Implemented in FY 2022

The table below contains best management practices (BMPs) that have been implemented during FY 2022 and the quantity of each practice.

BMPs	NRCS #	Demonstration Projects						Total
		19-600	19-1000	20-300	20-400	21-600	21-700	
Brush Management (acres)	314		10	370	366			746
Fencing (feet)	382	12845	4615		3240	5557		26257
Forage and Biomass Planting (acres)	512			40	13			53
Heavy Use Area (individual units)	561	2		2		1	1	6
Livestock Pipeline (feet)	516	917		35		120		1072
Pond (cubic yards)	378						5793	5793
Watering Facility (individual units)	614	2		1		1		4

Agricultural Water Quality Loan Program

Supported through Arkansas’s State Revolving Loan Program, the Agricultural Water Quality Loan Program was established with a maximum cap of \$25 million of loans to implement nonpoint source related practices. In conjunction with local conservation districts and participating lending institutions, agricultural producers and landowners may apply for a low-interest loan for installation of conservation practices. Individual loans are capped at \$250,000 with eligible practices including, but not limited to: construction of tailwater recovery systems, irrigation reservoirs, purchase of no-till drills, construction of stacking sheds, construction of livestock watering ponds or fencing, bank stabilization, and land-leveling. For FY22, a total of six loans were originated totaling \$193, 541 and covering over 5,300 acres. Primary non-point source practice including purchase of no-till drills implementing NRCS Standard Practice 329 (no till) and 345 (minimal till). Utilizing US EPA Region 5 Spreadsheet Tool for Estimating Pollutant Loads (STEPL) is estimated that FY22 loans implementing no till or minimal till reduced sediment, phosphorus, and nitrogen loads by an average of 3,724 tons/year, 5,697 lbs/year, and 10,726 lbs/year, respectively. Over the course of FY22, there remains 98 active loans totaling \$4,105,487 with \$974,580 being repaid.

10.0 Program Success Stories in Fiscal Year 2022

The Arkansas Department of Agriculture's Natural Resources Division (NRD) submitted and received approval from the United States Environmental Protection Agency (EPA) for the success story of the West Fork White River. The NRD Nonpoint Source Pollution (NPS) program first identified the West Fork White River Watershed as a priority for reducing NPS pollution in 1991. Early water quality monitoring efforts indicated that the entire West Fork White River (27.2 miles) was exceeding the state's turbidity criterion and it was subsequently placed on Arkansas's 1998 303(d) list. In 1999, the NPS program funded the first watershed assessment of sediment sources. This has served as a foundational piece for subsequent restoration projects. The 2006 West Fork White River total maximum daily load (TMDL) prescribed a 53% and 58% reduction of base flow and storm flow turbidity, respectively.

Since 1998, the NRD has funded 18 NPS projects addressing water quality monitoring and streambank stabilization in the watershed. In 2003, Audubon Arkansas started an outreach and demonstration project with the NRD, helping to create the White River Watershed Group to continue the conservation and demonstration work in the watershed. Audubon Arkansas also posted watershed signs and worked with local landowners to create conservation easements for a little over three acres. Another monitoring project with the Ecological Conservation Organization (ECO) was started in 2006 to establish two water quality monitoring stations on the West Fork White River to provide a continuous sample collection frequency that emphasized both base flow and storm flows.

In 2007, partners conducted a restoration project with the Watershed Conservation Resource Center (WCRC) to plan and implement a natural channel design that would reduce lateral meander formation and associated erosion of streambanks. Approximately 800 linear feet of new channel and the river plug were constructed, and a total of six large structures were built, including one low-water crossing rock structure, one log/rock combination J-hook vane, and four rock J-hook vanes. Several small rock vanes and habitat rock were also installed. A one-acre wetland area with four ponds was created where the old channel previously existed. The WCRC hosted or assisted with a series of outreach events during the project's construction phase through its completion in September 2010.

Collaborative partnership efforts over the last 25 years from the NRD, WCRC, Beaver Watershed Alliance, Beaver Watershed District, and the University of Arkansas have resulted in miles of restored streambanks and riparian corridors within the watershed. Since 1998, the NRD has funded 18 projects addressing water quality monitoring and streambank stabilization in the watershed. Additional funds were secured by the WCRC when they received a Conservation Partnership Initiative grant from the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) to restore streambanks. In 2016, the WCRC was awarded an \$4.3 million USDA-NRCS Regional Conservation Partnership Program grant with an additional \$4.4 million of match provided by local partners to improve conditions in the watershed. All these partnership efforts have paid dividends. In the EPA-approved 2018

303(d) list, the upper 16.5 miles of the West Fork White River demonstrated attainment of the turbidity criterion for the first time since being impaired in 1998.

11.0 Other Entities That Augment Section 319(h) Programs and Initiatives

The Arkansas Department of Agriculture's Natural Resources Division (NRD) Arkansas Nonpoint Source (NPS) program has several partners that work to reduce NPS pollution. Partners consist of but are not limited to; the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS), Arkansas Natural Heritage Commission (ANHC), Arkansas Department of Energy and Environment's Division of Environmental Quality (ADEQ), the University of Arkansas System Division of Agriculture (UADA) Cooperative Extension Service, The Nature Conservancy (TNC), Beaver Watershed Alliance (BWA), Illinois River Watershed Partnership (IRWP), and various other entities. Listed below are a few partners and the implemented projects and programs that have enhanced the mission of the Arkansas NPS program in fiscal year (FY) 2021.



United States Department of Agriculture Natural Resources Conservation Service (NRCS)

The United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) reported on several programs that help producers implement conservation practices and address resource concerns. USDA-NRCS delivered conservation technical assistance through the voluntary Conservation Technical Assistance Program (CTA) and helped farmers, ranchers, and foresters with their conservation planning process. In FY 2022, Arkansas USDA-NRCS worked with more than 250 partners to help put conservation on the ground. The goal of the USDA-NRCS is to help producers through technical and financial assistance and direct relationships with farmers, ranchers, and foresters. USDA-NRCS oversees the following programs to help accomplish this goal.

Environmental Quality Incentives Program (EQIP)

The Environmental Quality Incentives Program (EQIP) promotes agricultural production and environmental quality as compatible goals, providing technical and financial assistance to install or implement structural and management conservation practices on agricultural lands. More than \$51 million in financial assistance was obligated in FY 2021. There were 1,358 contracts on 200,000 acres under this program. Funded partners included sub-account types such as beginning farmer/rancher, certified organic, limited resource, locally led, planning, wildlife, and socially disadvantaged.

Conservation Stewardship Program (CSP)

The goal of the Conservation Stewardship Program (CSP) is to encourage agricultural and forestry producers to undertake additional conservation activities to improve and maintain existing conservation on their land. By providing financial and technical assistance, this program conserves and enhances soil, water, air, and related natural resources. There were 197 new contracts developed on 149,000 acres in FY 2021. The program accounts for more than \$28 million in obligations.

Regional Conservation Partnership Program (RCPP)

The Regional Conservation Partnership Program (RCPP) is a program that promotes coordination between USDA-NRCS and partners to deliver assistance to producers and landowners. RCPP encourages partners to increase the restoration and sustainable use of soil, water, wildlife, and related natural resources on regional or watershed scales. This program had 16 contracts funded and 2,000 acres treated.

USDA-NRCS Investing \$66.9 Million in Four Projects to Address Ag Water Management, Water Quality, Flood Control in Arkansas Watersheds

The USDA-NRCS is investing in one existing and three new multi-year projects in Arkansas that will build vital infrastructure and conserve natural resources. The Watershed Protection and Flood Prevention Act of 1954 (Public Law 83-566 [PL – 566]) Watershed Program allows NRCS to work with local groups to reduce damages from flooding, protect watersheds, improve municipal and agricultural water management, and enhance wildlife habitat.

The projects are:

Grand Prairie Irrigation Project – The project, in portions of Arkansas, Lonoke, Monroe and Prairie counties, will allow continuation of intensive irrigated crop production on 245,400 acres utilizing surface water from the White River once all measures are constructed. Project benefits include energy savings, water savings, and groundwater protection. Agricultural water management will increase irrigation efficiencies and reduce groundwater withdrawals to help achieve sustainable yields from aquifers. The White River Irrigation District and the Arkansas Department of Agriculture are the project sponsors. The \$35.6 million in federal funding includes \$28.3 million for construction that requires a local match of \$9.4 million. An additional \$7.3 million is available for technical services. This funding will construct Phase I of the project and build approximately 12 miles of irrigation water distribution canal over the next three years.

Bayou Meto Irrigation Project – This project, in portions of Lonoke, Prairie, Jefferson, Arkansas, and Pulaski counties, is designed to move much of the agricultural water demand to surface water sources and create a long-term sustainable use of the aquifers for municipal users and remaining industrial and agricultural users. Agricultural water management will increase irrigation efficiencies, provide supplemental water for agricultural crops utilizing the Arkansas River as the surface water source and reduce groundwater withdrawals to sustainable yields. The Bayou Meto Water Management District and the Arkansas Department of Agriculture are the project sponsors. The \$28.1 million in federal funding includes \$22 million for construction that requires a local match of \$7.3 million. An additional \$6.1 million is available for technical services. This funding will construct over 25 pumping stations and water delivery pipelines and improve the water flow on eight miles of Indian Bayou for irrigation water distribution. This, along with the United States Army Corps of Engineers construction of the main canal, will allow irrigation water to be delivered to producers in the Indian Bayou Watershed.

The West Fork of the White River Watershed Project is a joint project between the Watershed Conservation Resource Center, the Beaver Water District, Walton Family Foundation, Beaver Watershed Alliance and NRCS. The watershed project builds upon 15 years of planning and design by the partnership to reduce sediment and improve water quality for the West Fork of the White River and Beaver Lake. The project received funds in 2017 through the Regional Conservation Partnership Program to develop a watershed plan and stabilize three miles of streambank through natural channel design methods. The \$375,000 funded will be utilized to develop the designs and construction plans for the streambank restoration projects.

A long-term project, Departee Creek Watershed received \$2.5 million in federal construction funding and \$250,000 for technical services to protect frequently flooded lands along Departee Creek. The overall project will provide flood control benefits and water quality improvements in the watershed. NRCS and the Departee Creek Watershed Board completed the selective snagging and debris removal along Departee Creek and construction of a weir at Lake Whitstine in 2019. The next major feature of construction is the flood water retarding structure at the headwaters of Departee Creek. The project also includes compensating landowners for permanent flowage easements along the creek to protect existing wetlands.

The Nature Conservancy (TNC)

The Nature Conservancy (TNC) in Arkansas has been working cooperatively with private



landowners, businesses, public agencies, and other organizations to conserve and restore the lands and waters of the Natural State for people to enjoy since 1982. Their mission is to conserve the lands and waters on which all life depends. TNC has several areas around the state where they are improving water quality. Conservation work is being done in the Ozark and Ouachita Rivers by restoring streams, reforesting floodplains, and improving unpaved roads to reduce sediment. There have been 10 in-channel restoration projects completed totaling six miles of river. This work has resulted in 15,000 tons of sediment entering streams and rivers. More than 8,500 acres along 25 miles of river corridor have been acquired and conserved in the Kings River, Saline River, and Greers Ferry Lake watersheds. TNC is still focused on their initiatives which include: the Buffalo River, Inspiring People for Nature, Restoring the Delta, Reducing Wildfire Risks, and Protecting Water. The 2019 Impact Report details how there were 26 miles of trails established, 66 prescribed fires, and over 500,000 trees planted.

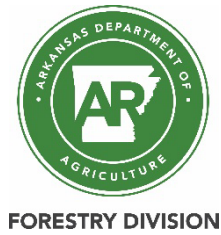
The Beaver Watershed Alliance

The Beaver Watershed Alliance (Alliance) works to proactively protect, enhance, and sustain the high-water quality of Beaver Lake and its tributaries through voluntary best management practice implementation, outreach and education, and planning and analysis activities. Tributaries of Beaver Lake, including the West Fork, Middle Fork, and East Fork of the White River, Richland Creek, Headwaters, and War Eagle Creek, offer a diverse and stunning variety of aesthetic beauty, wildlife, and cultural heritage as they flow along their course to Beaver Lake. From Harrison, Arkansas to Westville, Oklahoma, over 500,000 people rely on Beaver Lake for drinking water, industry, and recreational activities such as boating, fishing, birding, and swimming.

In addition to working with stakeholders on innovative solutions to the region's water quality issues, the Alliance also plans fun and informational volunteer and educational events to keep the lake and rivers healthy. Everyone can make a difference in the water quality in Northwest Arkansas, and the Alliance equips people with the tools needed to achieve just that.

In 2021, Beaver Water Association worked with partners, volunteers, and landowners to further advance the Beaver Lake Watershed Protection Strategy. The Beaver Water Association achieved goals through several activities and focused on development of metrics and key indicators of success in education and outreach, technical assistance and best management practices, and planning/analysis work. The Beaver Water Association discovered innovative solutions through research and development, developed an internal comprehensive geodatabase to better measure and manage activities, gained ground with implementing best management practices and developing prioritization tools, and made progress towards better understanding the value of watershed protection services.

Additional Partnerships:



Snapshot Reporting for FY 2021 (October 2020 – September 2021)

Snapshot reporting was developed in 2014 as a method to share Arkansas water quality projects or activities with the NRD. The goal of snapshot reports is to capture water project efforts around the state that are contributing to the benefit of the NPS Pollution Management Program. Snapshot reports have helped the NRD better understand the work that is being accomplished around the state. These reports demonstrate the commitment partners have in enhancing or improving water quality.

The table below represents projects that were reported to the NRD for FY 2021. There were 32 projects reported from various groups managing them with assistance from various partners. If you would like more information on any of these projects, please contact Allen Brown at allen.brown@agriculture.arkansas.gov.

Title	Management	Timeframe	Location (HUC/County)	Project Type	Partners
Jackie Pense Project	City of Fort Smith	December 2021	11110201 Crawford	Streambank stabilization, planting 250 sycamore trees	
Jackie Pense Project repairs	City of Fort Smith	September 2022	11110201 Crawford	120 ft of longitudinal peaked stone toe protection (LPSTP) installed, repaired road crossing, repaired and reinforced bend way weirs	
Brush Creek-Roberts Creek	USDA-NRCS	October 1, 2020 - September 30, 2023	11010001 Madison, Washington	National Water Quality Initiative	UADA Cooperative Extension Service, Beaver Watershed Alliance, Beaver Water District, Washington

					County Conservation District (CD), Madison County CD
Departee Creek	USDA-NRCS	October 1, 2019 – September 30, 2023	11010013 Independence, White, Jackson	National Water Quality Initiative	Arkansas Department of Agriculture (ADA) Forestry Division, NRD, Arkansas Game and Fish Commission (AGFC), UADA Cooperative Extension Service, White County CD, Independence County CD, Jackson County CD
Greasy Creek-Strawberry River NWQI	USDA-NRCS	October 1, 2019 – September 30, 2022	11010012 Fulton	National Water Quality Initiative	ADA Forestry Division, AGFC, UADA Cooperative Extension Service, Fulton County CD
Cadron Creek-Brewer Lake	USDA-NRCS	October 1, 2019 – September 30, 2023	11110205 Conway, Faulkner	Mississippi River Basin Initiative	USDA Farm Service Agency (USDA-FSA), ADEQ, AGFC, UADA Cooperative Extension Service, Arkansas Grazing Lands Coalition, Farm Credit of Western Arkansas, Faulkner County CD, Conway County CD

Lower St. Francis	USDA-NRCS	October 1, 2019 – September 30, 2023	08020303 Crittenden, Cross	Mississippi River Basin Initiative	Greenway Equipment, Arkansas Farm Bureau, Farmers Supply Association, Helena Chemical, AgHeritage, KRJ Productions, Precision King, SMART Farm Systems, Applied Digital, AMX Irrigation, Jones Irrigation, Farm Credit Mid-South, Danmar Propane, Inc., Mid-South Ag Consultants, UADA Cooperative Extension Service, Crittenden County CD
Middle Cache	USDA-NRCS	October 1, 2019 – September 30, 2023	08020302 Jackson, Woodruff, Poinsett	Mississippi River Basin Initiative	Greenway Equipment, Arkansas Farm Bureau, Farmers Supply Association, Helena Chemical, AgHeritage, Crop Consultants, UADA Cooperative Extension Service, Jackson County CD
Cache	USDA-NRCS	October 1, 2019 – September 30, 2023	08020302 Jackson, Woodruff, Cross	Mississippi River Basin Initiative	Greenway Equipment, Arkansas Farm Bureau, Hefty,

					UADA Cooperative Extension Service, Jackson County CD, Woodruff County CD
Upper Lower St Francis	USDA-NRCS	October 1, 2019 – September 30, 2023	08020203 Clay, Greene	Mississippi River Basin Initiative	Farm Source Ag, Helena Chemical, SMART Farm Systems, Legacy John Deere, Baker Implement, UADA Cooperative Extension Service, Clay County CD
Candy Creek	USDA-NRCS	October 1, 2020 – September 30, 2024	08020205 St. Francis, Lee	Mississippi River Basin Initiative	UADA Cooperative Extension Service, St. Francis County CD, Lee County CD
Canal 43	USDA-NRCS	October 1, 2020 – September 30, 2024	08050001 Chicot, Desha, Drew	Mississippi River Basin Initiative	UADA Cooperative Extension Service, Chicot County CD, Desha County CD, Drew County CD
Twin Creek	USDA-NRCS	October 1, 2020 – September 30, 2024	08020205 Cross	Mississippi River Basin Initiative	UADA Cooperative Extension Service, Greenway Equipment, Sanders, Helena Chemical, Arkansas Farm

					Bureau, Eldridge Equipment
Izard Lower Strawberry	USDA-NRCS	October 1, 2020 – September 30, 2024	11010012 Izard, Sharp	Mississippi River Basin Initiative	UADA Cooperative Extension Service, Cave City Middle School, Cave City High School, Izard County CD, Sharp County CD, Ozarka College of Melbourne and Ash Flat, Tri-County Cattlemen’s Association, Izard and Sharp County Farm Bureau, Tri-County Feed and Farm, Taylor Feed, John Deere, First National Banks of Izard and Sharp counties, Burns Poultry Equipment, American Burger Center, Arkansas Grazing Lands Coalition, Batesville Poultry Equipment, D&L Discount, Fulton and Sharp County Fair Board, North Arkansas Electric Cooperative
County Line Strawberry	USDA-NRCS	October 1, 2021 – September 30, 2025	11010012 Lawrence, Sharp	Mississippi River Basin Initiative	Sharp County CD, Lawrence County CD, Arkansas Forestry

					<p>Commission, UADA Cooperative Extension Service, Ozark Foothills Resource Conservation Development, Lawrence County Road Department, Sharp County Road Department, USDA-FSA, Tri- County Feed and Farm, Taylor Feed, John Deere, First National Bank of Sharp County, Bank of Cave City, Burns Poultry Equipment, American Burger Center, Arkansas Grazing Lands Coalition, Batesville Poultry Equipment, North Arkansas Electric, Hirsch Feed and Farm Supply , Lynn CO-OP, Tri- County Cattlemen’s Association, Cave City Schools, Ozark College of Ash Flat, Earth Team Volunteers, Quail Forever</p>
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<p>Flat Hills</p>	<p>USDA-NRCS</p>	<p>October 1, 2021 – September 30, 20</p>	<p>08020205 Cross, Poinsett</p>	<p>Mississippi River Basin Initiative</p>	<p>Cross County CD, Poinsett County CD, UADA Cooperative Extension Service, Progeny, Greenway, Fidelity Bank, Simplot, Nutrien Ag, Hamlin Tractor/Auto, County Line Irrigation, Pop’s Grill</p>
<p>Glade-Raft-White Oak Creek</p>	<p>USDA-NRCS</p>	<p>October 1, 2021 – September 30, 2025</p>	<p>08020301 Prairie, White</p>	<p>Mississippi River Basin Initiative</p>	<p>White County CD, Prairie County CD, Little Red River Irrigation District, E&K Irrigation Supply, City of West Point, UADA Cooperative Extension Service, Irrigation Fittings, Inc., Searcy Farm Supply, Ag Heritage, Greenway Equipment, Farmers & Merchants Bank, Merchants & Planters Bank, Tri-County Co-Op, Nutrien Ag, GreenPoint AG, NRD</p>
<p>Lee County</p>	<p>USDA-NRCS</p>	<p>October 1, 2021 – September 30, 2025</p>	<p>08020304 Lee, Phillips, St. Francis</p>	<p>Mississippi River Basin Initiative</p>	<p>Lee County CD, St. Francis County CD, Phillips County CD, UADA Cooperative</p>

					Extension Service, Tri County Farmers Association, Greenway Equipment, Nutrien Ag, Stine Seed Company, County Line Irrigation
Lower White-Bayou Des Arc	USDA-NRCS	October 1, 2021 – September 30, 2025	08020301 Prairie	Mississippi River Basin Initiative	Prairie County CD, Ag Heritage, Delta Plastic, Greenway Equipment, Farmers & Merchants Bank, Tri-County Farmers, Nutrien Ag, GreenPoint AG, Prairie County Farm Bureau, Strohl Aviation, Merchant & Planters Bank, Bancorp South
AR-LA CDN Open Pine Landscape Restoration	USDA-NRCS	October 1, 2021 – September 30, 2025	08040102, 08040103, 08040201, 08040202, 08040204, 08040205, 08050001, 11140203, 1114020 Ashley, Bradley, Calhoun, Clark, Drew, Lincoln, Nevada, Ouachita	Regional Conservation Partnership Program	Regional Conservation Partnership Program
Buffalo River Watershed Partnership	USDA-NRCS	October 1, 2021 – September 30, 2025	11010001 Washington	Regional Conservation Partnership Program	NRCS, ADA Forestry Division, AGFC, NRD, University of Arkansas Center for Training

					Transportation Professionals, UADA Cooperative Extension Service, Buffalo River Foundation, Searcy County Agriculture Conservation Cooperative, Buffalo CD
Mid-South Graduated Water Stewardship	USDA-NRCS	October 1, 2021 – September 30, 2022	Arkansas Ashley Chicot Clay Conway Craighead Crittenden Cross Desha Drew Faulkner Greene Independence Jackson Jefferson Lawrence, Lee, Lincoln, Lonoke, Mississippi, Monroe, Phillips, Poinsett, Pope, Prairie, Pulaski, Randolph, St. Francis, White, Woodruff	Regional Conservation Partnership Program	USDA-NRCS, USA Rice, Ducks Unlimited
Conservation Technical Assistance	USDA-NRCS	October 1, 2021 – September 30, 2022	Statewide	Technical Assistance	N/A
Source Water Protection	USDA-NRCS	October 1, 2021 – September 30, 2022	08040203, 11010001, 11110202, 11110203, 11110204, 11110205, 11110206, 11110207	Landscape Initiative in Watersheds surrounding source water reservoirs	Beaver Water, CAW, Conway Corp, NRD, Clarksville

			Washington, Benton, Madison, Johnson, Pope, Yell, Perry, Faulkner, Pulaski, Saline, Garland, White		
Demonstrating Cool Season Forage Cover Crops and a Vegetation Barrier to Reduce Sediment and Nutrient Loss from Grazing Lands	NRCS-UAEX	October 1, 2021 – September 30, 2022	11110103 Washington	Nutrient Management	
Demonstrating On Farm and Locally made bio-inoculated compost to improve soil health of land leveled soils in AR Delta	NRCS-UAEX	October 1, 2021 – September 30, 2022	08020302 Woodruff	Soil Health	
Using Seasonal High Tunnels (Practice 325) to Grow Native Plant Material as a High Value Crop in Support of Environmental Restoration Programs in the Beaver Lake Watershed	NRCS-Beaver Watershed Alliance	October 1, 2021 – September 30, 2022	Benton, Carroll, Washington, Madison	Urban Ag	

PL-566: Grand Prairie Irrigation Project - North Subwatershed	USDA-NRCS	October 1, 2021 – Ongoing	Prairie, Arkansas, Lonoke, Monroe	Agricultural Water Management - irrigation project for these counties	
Agricultural Water Management - irrigation	USDA-NRCS	Ongoing	Washington	Watershed Protection, Public Recreation, Public Fish and Wildlife, Water Quality Management	
Beaver Lake Watershed - Stewardship: Invasive Species Removal	Beaver Watershed Alliance	October 1, 2021 – Ongoing	11010001 Benton, Washington	Invasive Species Removal	City of Fayetteville, City of Rogers
Beaver Lake Watershed - LID	Beaver Watershed Alliance	October 1, 2021 – Ongoing	11010001 Benton, Washington, Madison	LID features installed at 3 parcels, 5 LID BMPs, over 3.3 acres (private lands)	Beaver Water District
Beaver Lake Watershed - Riparian Plantings	Beaver Watershed Alliance	October 1, 2021 – Ongoing	11010001 Benton, Washington, Madison	Riparian plantings: 8 parcels, 9 plantings, over 37 acres planted	Beaver Watershed Alliance, Beaver Water District, Bass Pro, AGFC, Rufus War Eagle Fund, NWA Master Naturalist, Cargill, Reservoir Fisheries Habitat Partnership
Beaver Lake Watershed - Agricultural BMPs	Beaver Watershed Alliance	October 1, 2021 – Ongoing	11010001 Benton, Washington, Madison	Ag BMPs (non-EQIP): 6 parcels, 12 BMPs on 475 acres	Beaver Watershed Alliance, NRSC, Soil and Water Districts, Cargill,

					Beaver Water District
Beaver Lake Watershed - Educational Signage	Beaver Watershed Alliance	October 1, 2021 – Ongoing	11010001 Benton, Washington, Madison	Educational signage installed - 6 signs installed in watershed	Beaver Watershed Alliance, Beaver Water District, NRD, County Judges, City Staff
Beaver Lake Watershed - Forestry BMPs	Beaver Watershed Alliance	October 1, 2021 – Ongoing	11010001 Benton, Washington, Madison	Forestry BMPs: 11 parcels, 41 forestry BMPs over 493 acres	Beaver Watershed Alliance, Beaver Water District, ADA Forestry Division, AFA, County Foresters, AGFC, USFWS, Quail Forever
Beaver Lake Watershed - Low Tech Erosion Control	Beaver Watershed Alliance	October 1, 2021 – Ongoing	11010001 Washington	Low tech erosion control: 5 structures installed on over 5 acres	Beaver Watershed Alliance, Beaver Water District, City Fayetteville, African Heritage Association
Beaver Lake Watershed - Low Water Crossing Improvements	Beaver Watershed Alliance	October 1, 2021 – Ongoing	11010001 Washington	Low water crossing improvement installed at Goshen - Mill Branch Park	Beaver Watershed Alliance, Beaver Water District, City of Goshen, Congressman Womack office
Beaver Lake Watershed - Streambank Restoration	Beaver Watershed Alliance	October 1, 2021 – Ongoing	11010001 Benton	Streambank restoration along 300 linear feet of Clifty Creek - tributary to War Eagle Creek	Beaver Watershed Alliance, Beaver Water District, Bass Pro, AGFC, UADA Cooperative Extension Service, Rufus War Eagle Fund, Cargill, Reservoir

					Fisheries Habitat Partnership
Beaver Lake Watershed - Unpaved Road Improvements	Beaver Watershed Alliance	October 1, 2021 – Ongoing	11010001 Washington	Unpaved road improvement along 500 linear feet	Beaver Water District, City of Goshen
Beaver Lake Watershed - Landowners Assisted	Beaver Watershed Alliance	October 1, 2021 – Ongoing	11010001 Benton, Washington, Madison	153 landowners assisted in the watershed area	

12.0 Nonpoint Source (NPS) Pollution Management Program Milestones

The 2018-2023 Nonpoint Source (NPS) Pollution Management Plan lists short-term programmatic NPS pollution management program milestones in Appendix D. The milestones listed are applicable to the timeframe of the plan. The goal is to have those applicable milestones achieved or completed by September 30, 2023. In 2022, the Arkansas Department of Agriculture’s Natural Resources Division (NRD) made progress towards all eleven milestones.

Best management practice (BMP) implementation projects continue to be vital in meeting several milestones including Milestone 6 and those milestones dealing with load reductions and the Grants Reporting and Tracking System (GRTS) database. These implementation projects produce tangible loads that can be measured and entered into the GRTS database. Implementation projects are a priority to the Arkansas NPS Pollution Management Program because they have the opportunity of getting the quickest results and load reductions.

Water quality monitoring projects in priority watersheds are still conducted to inform the status of priority watersheds and the impact that BMP implementation is making around the state. Many of these projects are continuations of previous projects that have several years of data that can inform trend analysis. Data from these baseline monitoring projects are submitted to the Arkansas Department of Environment and Energy’s Division of Environmental Quality (ADEQ) and are used for Clean Water Act (CWA) assessments and development of the integrated water quality report and impaired waterbodies list.

The adaptive management process will continue to be used to adjust objectives and to measure progress toward identified short-term milestones. Project partners meet, as applicable, and review progress toward project objectives and established program milestones. The NRD will

continue to review milestones, track progress toward meeting milestones, and discuss possible additions, deletions and/or revisions, as appropriate.

The NRD and the United States Environmental Protection Agency (EPA) recognize the achievement of goals and milestones are subject to potential changes in national funding levels, environmental and weather-related factors, the national economic climate, and other variables beyond the control of the state. EPA and the state must also recognize that changes to the goals and milestones can be influenced by revisions to national EPA guidance. Because of these possible changing factors, Arkansas will re-evaluate and update applicable goals and milestones of the plan. This adaptive management approach enables the state to make appropriate modifications to the management program for the continuation of attaining satisfactory progress.

1. Update the qualitative risk assessment matrix after ADEQ releases the impaired waters list and it is accepted by EPA. Priority watersheds will be evaluated and updated after the qualitative risk assessment matrix is updated.

FTN & Associates, Ltd. completed the update of the Arkansas NPS Pollution Watershed Risk Matrix on July 18, 2022, using information from the final 2018 303(d) List of Impaired Waterbodies (List). The results of the updated risk matrix will be incorporated in the 2024-2029 Arkansas NPS Pollution Management Plan.

The following table compares the watersheds in the top quintile for the 2010 and current risk matrices:

Percentile ranking	2010 risk matrix		2022 risk matrix	
	HUC-8 name and ID	Score	HUC-8 name and ID	Score
100.0	Beaver Reservoir (11010001)	839.0	Beaver Reservoir (11010001)	876.5
98.3	Poteau (1110105)	725.0	Lower Little AR, OK (11140109)	811.2
96.6	Bayou Bartholomew (08040205)	707.2	Little Red (11010014)	810.1
94.8	Illinois (11110103)	650.3	Lake Conway-Point Remove (11110203)	798.6
93.1	Ouachita Headwaters (08040101)	640.7	Illinois (11110103)	777.3
91.4	Lake Conway-Point Remove (11110203)	620.7	Ouachita Headwaters (08040101)	770.4
89.7	Upper Ouachita (08040102)	616.6	Bayou Bartholomew (08040205)	752.7
87.9	Upper Saline (08040203)	566.1	Middle White (11010004)	750.8

86.2	Cache (08020302)	564.3	Poteau (1110105)	749.5
84.5	L'Anguille (08020205)	564.3	Cadron (11110205)	741.3
82.8	Strawberry (11010012)	555.3	Lower White-Bayou Des Arc (08020301)	724.5
81.0	Lower Ouachita-Smackover (08040201)	546.9	Lower Saline (08040204)	724.2

*Note: Watersheds listed in orange text dropped out of the top quintile from 2010 to 2022, while watersheds listed in green text moved into the top quintile.

2. Continue to conduct strategic baseline monitoring in selected high priority 12-digit hydrologic unit codes (HUCs) to assist in the development of watershed-based plans. The NRD anticipates three to four priority watersheds will have baseline monitoring over the life of the plan.

The following water quality monitoring projects took place in 2022:

19-300: Named the first National River in the United States and designated as an Extraordinary Resource Waterway by ADEQ in 2008, the Buffalo River offers year-round recreation opportunity, supports local economies through tourism, and provides quality habitat for wildlife. However, parts of the watershed have been impaired due to total dissolved solids, dissolved oxygen, and temperature. The Arkansas State University (ASU) Ecotoxicology Research Facility is monitoring multiple physical and chemical water quality parameters in eight sites across four sub-watersheds (12-digit HUCs). The four monitored sub-watersheds are Calf Creek, Brush Creek, Tomahawk Creek, and Bears Outlet Creek.

19-400: The Middle White River spans multiple ecoregions, transitioning from the Ozark Highlands down to the Delta. The watershed sees transitional land uses, moving from majority pastureland to row crop agriculture. The ASU Ecotoxicology Research Facility is monitoring four sub-watersheds (12-digit HUCs) in this transitional zone of the Middle White Watershed, including Greenbriar Creek, Spring/Sprint Creek, Lower Salado Creek, and Miller Creek.

19-900: Water Quality Monitoring for the Lake Conway Point Remove Watershed- Spanning seven counties including Conway, Faulkner, Perry, Pope, Pulaski, Van Buren, and Yell, the Lake Conway Point Remove Watershed includes several streams listed as impaired on ADEQ's 2016 303(d) List. Categories of impairments vary, ranging from pH and dissolved oxygen to ammonia-nitrogen and turbidity. Equilibrium Inc. collects, analyzes, and reports water quality and discharge data within seven streams at 10 sites across the watershed.

20-1000: Water Quality Monitoring for Upper Saline Watershed- Comprised of the South Fork, North Fork, Middle Fork, and Alum Fork, the Upper Saline River Watershed has seen significant urban growth in the last several years. Three streams and two lakes have been

listed as impaired on the 2016 303(d) List. Additionally, the watershed provides habitat for 33 federally endangered and/or species of greatest conservation concern (SGCNs). Several sites are being monitored by Equilibrium Inc.

21-400: Lower Arkansas-Maumelle HUC-8 Monitoring and Assessment- In cooperation with multiple partners, Audubon Arkansas is collecting monitoring data on the Lower Arkansas-Maumelle HUC-8 Watershed. This project will represent Phase I of II of a larger effort to develop a Soil and Water Assessment Tool (SWAT) model and EPA 9-Element Watershed Management Plan for the watershed. The watershed drains into the Arkansas River and encompasses most of Pulaski County and portions of Saline, Perry, and Jefferson Counties. The two HUC-12 sub-watersheds of interest are Fourche Creek and the Maumelle River, which feeds into Lake Maumelle. Fourche Creek, dominated by urban land use, is listed on the ADEQ 2018 303(d) List for metals, fecal coliform, sediment, and dissolved oxygen. Other significant land uses within the watershed are agriculture (row crops) and forest.

21-1000: Water Quality Monitoring for the Lower Ouachita-Smackover Watershed- Primarily rural and forested, the Lower Ouachita-Smackover Watershed has 21 segments listed in the ADEQ 2018 303(d) List. Contaminants include chloride, copper, lead, mercury, nitrates, sulfates, and total dissolved solids, with inadequate levels of pH, dissolved oxygen, and turbidity. The sources of pollution are unknown. Equilibrium Inc. is monitoring water quality in 10 sub-watersheds (12-digit HUCs), including, but not limited to, Mill Creek-Smackover Creek, Sloan Creek, Gum Creek, Black Lake, and Dry Branch-Champagnolle Creek. A total of 2,241 samples will be generated over the grant cycle.

21-1200: North Fork White River Watershed Monitoring- According to ADEQ's 303(d) List, several major tributaries of the North Fork White River Watershed are not adequate for supporting aquatic life or primary contact. Impairments in the watershed include total dissolved solids, nitrate levels, and low dissolved oxygen. The ASU Ecotoxicology Research Facility is monitoring for multiple water quality parameters in 6 sub-watersheds (12-digit HUCs) including Outlet Big Creek, Outlet Big Creek tributary, South Brushy Creek-Norfolk Lake, Outlet Bennetts River, Little Creek, and Bennetts Bayou.

21-1300: Eleven Point River Watershed Monitoring- Thirty-three miles of the Eleven Point River are classified as impaired due to low dissolved oxygen and therefore not supportive of aquatic life, according to ADEQ's 303(d) List. Agricultural activities in the area have been identified as the source of pollution. Similar to the monitoring project described above, ASU is monitoring for multiple water quality parameters in four sub-watersheds (12-digit HUCs), including Dry Creek, Eassis Creek, Thompson Creek, and Hubble Creek.

22-800: Water Quality Monitoring in the Upper Illinois River Watershed and Upper White River Basin- 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 is conducting water quality monitoring and data analysis across a total of 15 sites across both watersheds.

- 3. Continue to employ a review process of select (a minimum of three) NPS projects funded with Clean Water Act 319 grants aimed at improving project effectiveness. The review results will be reported annually in the NPS annual report.**

The NRD has employed a review process with several projects in 2022. Demonstration projects continue to be a focus of inspections, but there are other projects that are still validated and reviewed. The inspections that were conducted aimed at verifying specific BMPs that were installed through several projects. A minimum of 10% of practices are inspected each year for every demonstration project. There are field visits conducted and in-office reviews as well. The in-office reviews consist of verification of farm plans, review of proper documentation, and discussion with project management regarding the status and success of the project. Inspection visits were made on July 27 and July 28 to Fulton County (projects 19-1000 and 21-600, respectively), October 4 to Baxter County (project 20-300), and October 27 to Marion County (project 20-400). Results from the visits were all positive. All projects were able to validate the inspected BMPs and display the needed in-office paperwork. These inspections have been a great benefit in improving project effectiveness.

- 4. As resources allow, continue cooperation with the Arkansas Department of Agriculture's Plant Industries Division and the Abandoned Pesticide Program in the collection of data associated with the environmental risk reductions related to farmer participation in abandoned pesticide collection. Any developments in this area will be reported annually in the NPS annual report.**

Since 2005, the Abandoned Pesticide Program (Program) has conducted collection events in all 75 counties in the state, successfully recovering over 4.8 million pounds of left-over agricultural pesticides. Due to the increasing popularity of the program and the increased cost to dispose of waste, the program's operating costs have increased. The Abandoned Pesticide Advisory Board approved the addition of satellite collection events to service counties in high agricultural-use areas. 319 funding provided support to allow additional collection events in high agricultural-use areas and assist with increasing operational costs through project 21-800. Between October 2021 and December 2022, the Arkansas Department of Agriculture's Plant Industries Division hosted pesticide collection events in 27

counties across the state, accumulating 405,205 pounds of hazardous, unwanted pesticides which were then responsibly disposed of according to state and federal regulations.

5. Continue to produce and submit the NPS annual report by the end of January each year.

The 2021 Arkansas Annual Report was submitted January of 2022 to EPA Region VI and the 2022 report submission is on time. Arkansas NPS staff work diligently to compile the necessary components to capture programmatic efforts over the past year. The NRD NPS program greatly appreciates EPA Region VI’s review and guidance on development of future annual reports.

6. Continue to report load reductions (sediment and nutrients) and BMPs in the Grants Reporting and Tracking System (GRTS) database each year.

The table below reflects load reductions that have been accomplished during fiscal year (FY) 2021. Every quarter these load reductions, and other information such as BMP amounts, are entered into the GRTS database. Projects that have information entered in for load reductions consist of demonstration, BMP implementation, and streambank restoration projects. Most of these projects submit information quarterly or at the conclusion of the project. There are various models that are used in calculating load reductions and they can vary between projects.

The table below depicts active projects that have or will have quantifiable reported load reduction:

<i>Project #</i>	<i>Nitrogen Reduced (lbs./year)</i>	<i>Phosphorus Reduced (lbs./year)</i>	<i>Sediment Reduced (tons/year)</i>
<i>19-600</i>	<i>76</i>	<i>38</i>	<i>62</i>
<i>19-1000</i>	<i>473</i>	<i>239</i>	<i>295</i>
<i>20-300</i>	<i>2,305</i>	<i>1,235</i>	<i>1,218</i>
<i>20-400</i>	<i>11,555</i>	<i>6,196</i>	<i>6,294</i>
<i>21-500</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>21-600</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>21-700</i>	<i>39</i>	<i>21</i>	<i>23</i>
<i>21-900</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>22-200</i>	<i>-</i>	<i>-</i>	<i>-</i>

For information on total load reductions for 2022, see *Section 13*.

7. Continue to partner with and assist the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) in the review, selection, or development of

the National Water Quality Initiative (NWQI), Mississippi River Basin Initiative (MRBI), Regional Conservation Partnership Program (RCPP), Environmental Quality Incentive Program (EQIP), or other conservation programs that will improve or enhance water quality in watersheds on an annual basis. The NRD will also participate in the State Technical Committee and its Water Quality sub-committee annually or as it convenes. The NRD will monitor (in-stream water quality monitoring) a minimum of two to four USDA-NRCS program initiatives (MRBI, RCPP, or NWQI) in 12-digit watersheds yearly through the life of this plan. Monitoring results will be assessed and reported in the NPS annual report as they become available.

19-300: See Milestone 2.

19-400: See Milestone 2.

19-500: To measure effectiveness of BMPs associated with the Mississippi River Basin Initiative (MRBI) and other water quality programs, the ASU Ecotoxicology Research Facility is monitoring several physical and chemical water quality parameters in Bayou DeView. The MRBI project has identified the nutrients and suspended solids in the Cache River Watershed as contributing factors to the Gulf of Mexico Hypoxia Zone. Bayou DeView, a tributary to the Cache River, has been noted to contribute contaminants.

- 8. Continue to evaluate and support in-stream water quality monitoring to assess the effectiveness of implemented 319(h) grant-funded projects or other projects (MRBI, NWQI etc.), and report monitoring data to ADEQ annually or as appropriate.**

Partners submitted data to the water quality exchange (WQX) and/or storage and retrieval (STORET) database. See the Milestone 7 for more information.

- 9. Review ADEQ's 305(b) report and subsequent 303(d) List approved by EPA for delisted streams or stream segments and determine if 319(h) funded projects assisted in the delisting or improvement of water quality. Review of the 303(d) List will occur every two years, and draft success stories will be developed for delisted segments as appropriate. The goal is to develop and submit two to three success stories within the time frame of the 2018-2023 NPS Pollution Management Plan.**

The NRD used the 2018 303(d) List for determining waterbodies that were eligible for success stories. The NRD submitted one EPA approved success story in 2022 on the delisting of 16.5 miles of the West Fork of the White River (refer to *Section 10.0: Program Success Stories in FY22*). The NRD has submitted two EPA approved success stories in the timeframe of the 2018-2023 NPS Pollution Management Plan.

- 10. Work with partners or other stakeholders to initiate or to have two to three watershed management plans accepted as meeting EPA’s nine key elements within the time frame of this NPS Pollution Management Plan. Progress on working with watershed groups and/or submittal or acceptance of watershed plans could also be reported on an annual basis in the NPS annual report.**

See *Section 8.0*.

- 11. Snapshot reporting forms will be sent to nonprofit organizations, state and federal agencies, academic institutions, and other entities. This form will be used to gather information from around the state on efforts to reduce nonpoint source pollution and to improve water quality. The NRD will utilize this information to better understand what activities are occurring within the state.**

See *Section 11.0*.

13.0 Fiscal Year 2022 Nonpoint Source Pollution Management Program Accomplishments

- **Watershed Management Plans-** While the Arkansas Department of Agriculture’s Natural Resources Division (NRD) did not have any accepted water management programs (WMPs) for fiscal year (FY) 2021, there were four WMP projects that were proposed and selected to be funded for FY 2022.
- **Arkansas Nutrient Reduction Strategy (ANRS)-** The 2022 Arkansas Nutrient Reduction Strategy (ANRS) update was finalized. The Septic Remediation Pilot Program expanded. The Arkansas Nutrient Reduction Tracking Framework is being reviewed and is set to finalize in February 2023. Great Lakes to Gulf made an Arkansas Data Portal. ANRS workgroups formed in 2022 and will begin meeting in 2023. Arkansas was awarded funds for the Gulf of Mexico Hypoxia Program which will begin to fund water quality monitoring and improvements.
- **Arkansas Unpaved Roads Program-** The Arkansas Unpaved Roads Program (AURP) has been very active during FY 2022. There were 12 site visits which produced nine applications. Of the nine applications submitted, there was a total of \$551,031 requested grant funds with anticipated match of \$605,420. With only \$300,000 available in funding from the AURP, only six applications were funded. One county was only partially funded through the program, the remaining balance was funded from the FY 2020 Arkansas Nonpoint Source (NPS) Pollution Management Program. One county was added to the total with funds that were available from deobligated NPS funding. Of the six total projects that were funded, three of them have been completed. The remaining three are awaiting favorable weather conditions for completion.

- **Education and Outreach-** Project 19-1400 NPS Pollution and Prevention through Direct Outreach and Digital Media is continuing the success that has been built from three previous projects. This project is taking place in the Illinois River and Beaver Lake Watersheds where urbanization and sprawl is rapidly occurring. This project is garnering tangible results (analytics, engagement, feedback, and adoption of best management practice [BMP] installations) from the education and outreach that is taking place. Project 21-200 Arkansas Watershed Stewardship Phase II is continuing the development and update of the Arkansas Watershed Stewardship Program from two previous projects. This project updated educational modules and created online training to provide participants with increased understanding of water quality, water quality issues, and approaches to watershed management in Arkansas. Project 20-300 Bull Shoals/White River Cost Share project implemented a rain garden in the community park of Mountain Home, Arkansas. This rain garden is surrounded by walking paths and an open amphitheater with signage to explain the importance of stormwater drainage through vegetation and green infrastructure.
- **Enhancing Partnerships-** Without partnerships, many of the successes that have been made this past fiscal year would not have been possible. In FY 2022, through the help of partners such as: the United States Department of Agriculture Natural Resources Conservation Service, The Nature Conservancy, Illinois River Watershed Partnership, University of Arkansas System Division of Agriculture Cooperative Extension Service, Beaver Watershed Alliance, FTN Associates, conservation districts, and various others, several initiatives and programs reducing NPS pollution have been initiated and/or completed.
- **Grants Reporting and Tracking System (GRTS) Database Reporting-** For FY 2022, there were load reductions that directly related to 319(h) funded projects. Load reductions were found in many of the priority watersheds around the state. Total load reductions for FY 2022 were 2,199 tons per year for sediment, 2,124 pounds per year for phosphorus, and 3,960 pounds per year for nitrogen. All load reductions were entered into the Grants Reporting and Tracking System (GRTS) database.

14.0 Quality Assurance/Wetland and Riparian Tax Credit

Quality Assurance Project Plan (QAPP) Fiscal Year (FY) 2022 Summary

In fiscal year (FY) 2022, quality assurance managers completed laboratory audits for the Arkansas State University (ASU) Ecotoxicology Laboratory, Arkansas Department of Energy and Environment's Division of Environmental Quality (ADEQ), and Arkansas Water Resources Center (AWRC). Additionally, eight field audits were completed for the Illinois River Watershed Partnership, ASU, and AWRC. There are a total of 25 projects that require quality assurance

project plans (QAPP) and four projects were finalized during FY 2022. All Arkansas Department of Agriculture's Natural Resources Division (NRD) Water Quality Section staff completed the United States Environmental Protection Agency (EPA) required quality assurance training during the last fiscal year.

Wetland and Riparian Zone Tax Credit Program FY22 Summary

Wetlands and riparian zones provide significant benefits to Arkansans, including flood control, water quality enhancement, fish and wildlife habitat, recreational opportunities, and groundwater recharge. [Arkansas Code Annotated §26-51-1501](#) et seq, the "Arkansas Wetland and Riparian Zone Creation, Restoration, and Conservation Tax Credits Act," allows a state income tax credit to be taken by taxpayers who engage in the development, restoration, or conservation of wetland and riparian zones through projects approved by the Private Lands Restoration Committee. The program promotes an increase in biological and ecological integrity through voluntary restoration or conservation of Arkansas's important environmental landscapes.

During FY 2022, a total of 21 applications were received with 18 approved. Three applications are still pending review from the Private Lands Restoration Committee. One application was denied due to non-compliance with program rules. Overall, during FY 2022, six projects were completed. Applications were distributed across the state, but highest densities occurred in the White and Little Red River Basin. Approved applications culminated in a total of \$747,790 in tax credits.