



The 2021 Arkansas Annual Report

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

The Arkansas Department of Agriculture's Division of Natural Resources

January 2022



CONTENTS

1	SUMMARIES	3
	Notes from the Director	3
	Executive Summary	4
2	Education and Outreach	5
3	The Arkansas Unpaved Roads Program (AURP)	6
4	Agriculture in Arkansas	9
5	Best Management Practice Demonstration Projects	10
6	Nutrient Reduction Strategy	11
7	Update on the Buffalo River	13
8	Watershed Management Plans (WMPs)	15
9	Federal Resource Allocation and Best Management Practices	16
10	Program Success Stories in FY2021	18
11	Other Entities That Augment Section 319(h) Programs and Initiatives	19
12	Nonpoint Source Pollution (NPS) Management Program Milestones	31
13	FY2021 Nonpoint Source Program Accomplishments	37

1 SUMMARIES

NOTES FROM THE DIRECTOR:

Reflecting on 2021, we all faced considerable change that was beyond the norm. Due to the pandemic, we all had to adjust to remote work and isolation in 2020, just to step outside of our new comfort zone to return to in-person work and activities, all the while maintaining safety and productivity. For me personally, I made a transition to the Arkansas Department of Agriculture Natural Resources Division (ADA-NRD) in September to lead the agency as it strives to conserve the natural resources in our state. It is my privilege to highlight accomplishments over the past year.

One major highlight is the organizational re-structuring and combining of programs to create the newly formed ADA-NRD Water Quality Section consisting of state's Nonpoint Source Program, Unpaved Roads Program, Nutrient Reduction Strategy, and Wetland and Riparian Tax Credit Program. This new section is led by Mr. Tate Wentz. I expect great things from his team under his leadership. In addition to this, specific nonpoint source funded projects included:



- Water quality monitoring in the Upper Saline watershed, an NPS Priority watershed
- Watershed management plan development for Bayou Meto, Lake Conway-Point Remove, White Oak and the Poteau River watersheds
- Development of a Soil and Water Assessment Tool (SWAT) model and a watershed management plan for the Little Red River
- Low impact development (LID)/ green infrastructure (GI) conference and implementation
- Unpaved roads best management practice (BMP) implementation
- 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 and maintain 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 ADA-NRD is proud to provide this 2021 Annual Report for the Arkansas Nonpoint Source Management Program.

Chris Colclasure,

A handwritten signature in dark ink, appearing to read "Chris Colclasure". The signature is fluid and cursive, written on a light-colored background.

Director
Arkansas Department of Agriculture
Natural Resources Division

EXECUTIVE SUMMARY:

The Arkansas Department of Agriculture Natural Resources Division (ADA-NRD) is the lead agency responsible for the Arkansas Nonpoint Source (NPS) Management Program. The ADA-NRD and its many partners and stakeholders collaboratively work together to develop the NPS Pollution Management Plan (herein The Plan). The Plan provides a broad framework and 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 EPA Region VI and covers the 2018-2023 timeframe.

The Arkansas Department of Energy and Environment's Division of Environmental Quality (ADEQ) is the responsible agency 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 provides the initial and foremost basis to direct efforts to restore water quality within the state.

The NPS 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 ADA-NRD, its 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 Program.

This Annual Report focuses on the accomplishments that were made in meeting milestones of the NPS Program for FY2021. 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 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 Education and Outreach

Educating landowners and the citizens of Arkansas about 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 NPS Program. Education and outreach projects continue to be a focus of the Arkansas 319(h) program.

There was one project from FY 2020 that is a continuation of several education and outreach projects. This project is highlighted below:

Green Infrastructure and Low Impact Development (LID) Conference

With the overall theme of "In 20 years, what will we wish we had done to protect the Illinois River?", the purpose of this 2-day conference was to further education efforts in Northwest Arkansas specific to precipitation runoff impacts and provide tools for its responsible management. The conference was intended to provide a national perspective on water quality challenges resulting from urban growth and solutions that could encourage sustainable management with a goal of overall water quality benefit. This national perspective was also placed in the context of a rapidly urbanizing Northwest Arkansas to encourage proactive water resource management and protection. Not only did this conference drive awareness of the watershed and current nonpoint source water quality challenges, it also addressed a range of solutions from active measures, such as site planning for green infrastructure practices, to passive measures such as conservation of undeveloped floodplains, wetlands, and riparian forests and flood mitigation.

The conference was hosted by the Illinois River Watershed Partnership (IRWP) and they established water quality focused curriculum for development professionals on five topics:

- (1) Comprehensive review of the water quality status and sources of water quality impact in the Illinois River Watershed.
- (2) Solutions for low impact precipitation management for new developments, retrofits, and areas with aging infrastructure.
- (3) Methods of passive stormwater management through conservation of floodplains, existing green space, and wetlands.
- (4) How to fund and appropriately design and construct ecological restoration projects.
- (5) The role of LID and GI in mitigating flood hazard resulting from urban expansion and extreme weather events.



Leveraging expertise from across the country, the resulting curriculum is accessible to conference attendees through educational materials that include, but not limited to, educational brochures/books, presentations, and fact sheets. This event featured national, regional, and local experts in LID and GI to advance the concepts behind leveraging ecosystem services to mitigate nonpoint source pollution. This project improved educational access for those target audiences with the long-term goal of identifying cost-effective methods for water quality improvement on both large and small scales. The long-term goal for conference attendees was to influence some facet of their professional work to assist in mitigating surface runoff from precipitation flows.



3 The Arkansas Unpaved Roads Program (AURP)

The Arkansas Unpaved Roads Program (AURP) was created by Act 898 of the 90th General Assembly. The purpose of the Program is to create a better unpaved county road system with a reduced negative environmental impact on priority water resources in Arkansas. The AURP 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 at least eight (8) 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 FY2021, six counties applied for and were awarded grants to implement unpaved road projects in their respective counties. Four were funded with state dollars and the remaining two were funded with supplemental federal 319(h) dollars. Two of the six projects have been completed so far (Calhoun and Lincoln Counties).

Calhoun County

- The project repaired County Road 10 by installing a double 4X8 20 feet box culvert, elevated 2,112 feet of roadbed by 2 feet ., stabilized slopes by placing fabric and rip-rap, and installed (3) 36" culverts



Calhoun Co. Pre-Implementation



Calhoun Co. Post Implementation

Lincoln County

- This project on Burling Road raised the road profile by 4 feet over 1750 feet of road. Installed (10) 40 feet metal cross pipes varying from 16 inch to 36 inch in width to convey water.



Lincoln Co. Pre-Implementation



Lincoln Co. Post Implementation

Izard County

- Project will install (2) 4 feet tall X 8 feet wide X 30 feet long bottomless arch culverts and (2) 24 inch X 30 feet culverts at Croker Road to convey water under road instead of across

Independence County

- 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
- Install (7) 24 inch metal corrugated cross pipes and armor them with large rock
- Install wing ditches and head walls on current 9 feet pipes
-

Van Buren County

- Project will elevate 0.4 miles of Silver Rock Road by 3 feet, Install a 14 feet bottomless arch culvert, and stabilize the head walls of the arch culvert with concrete and shot rock

Washington County

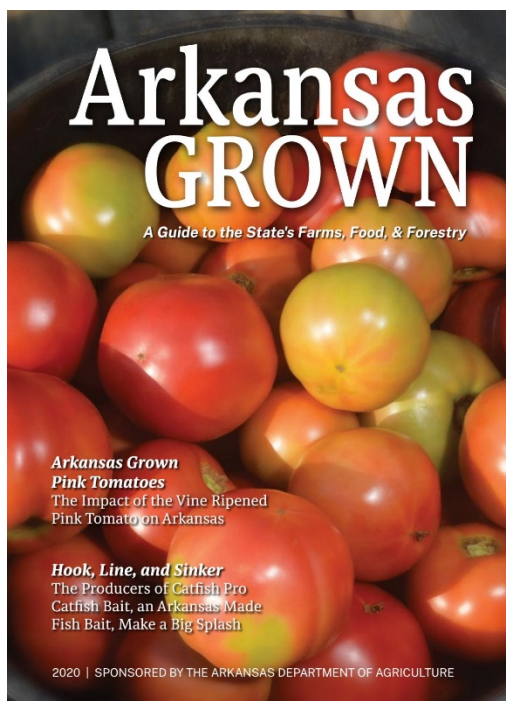
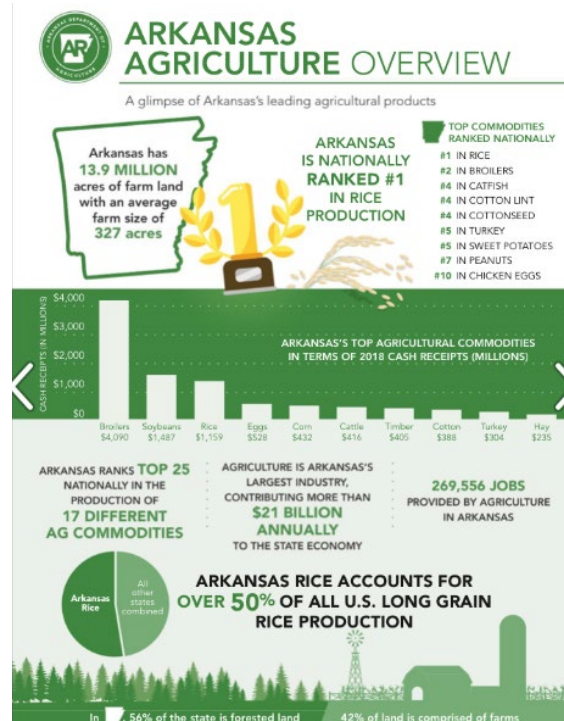
- Project will elevate approximately 0.7 miles of Hamestring Road, install (10) 18 inch X 40 foot culverts to correct drainage issues and prevent sediment from entering the creek

4 Agriculture in Arkansas

Agriculture is the #1 industry in Arkansas and is a way of life for many Arkansans. 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 #1 in rice production and provides over 50% of all U.S. long grain rice production. The agricultural industry is very important to the state and contributes more than \$21 billion annually to the economy of Arkansas and providing nearly 270k jobs.

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

For more information visit arkansasgrown.org



5 Best Management Practice 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 pollution. For FY2021, 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	\$15,275.48
19-1000	North Fork White Sub Watershed Project	Fulton / North Fork White River	\$12,177.00
20-300	Bull Shoals/ White River Watershed Project	Baxter / Bull Shoals White River	\$14,871.16
20-400	Buffalo Watershed Project	Marion / Buffalo River	\$25,734.24



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 in having an immediate impact on water quality.

6 Nutrient Reduction Strategy

Background

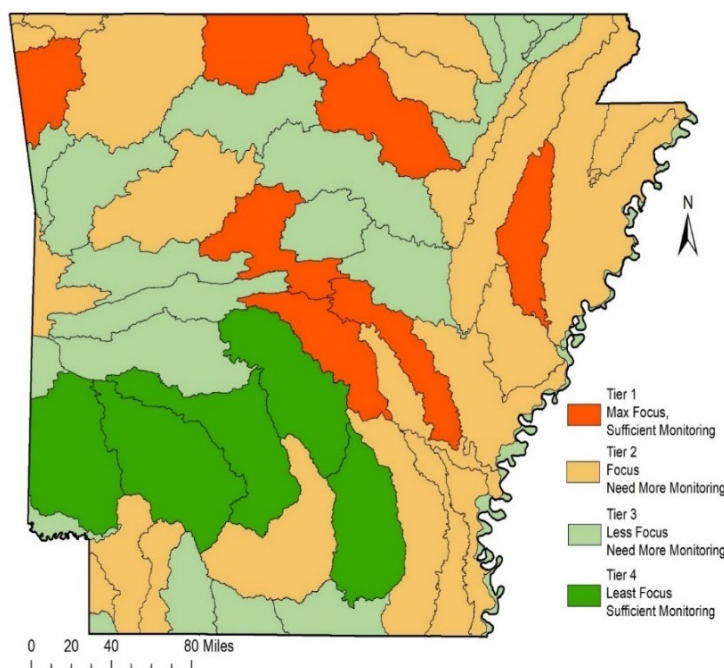
Arkansas, along with 11 other states within the Mississippi River Basin, voluntarily participates in the Mississippi River/ Gulf of Mexico Hypoxia Task Force (Task Force). The Task Force was established in 1997 by the United States Environmental Protection Agency (USEPA) to understand the causes and 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 Arkansas Department of Agriculture's Natural Resource Division, has been involved in the Task Force since 1999.

The USEPA, 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 Arkansas Nutrient Reduction Strategy

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 2020 and 2021, Arkansas used awarded Task Force funds from the USEPA to conduct a water quality analysis of all subbasin level watersheds within the Arkansas Water Resource Center. The goal was to prioritize watersheds based on extensive, statewide water quality monitoring data to guide the ANRS. All watersheds were classified into four Tiers. Tier 1 had the greatest potential for both nitrogen and phosphorus reduction based on sufficient data. Tier 2 had the greatest need for future monitoring investments due to demonstrated nutrient reduction needs, data



limitations, or both. Tier 3 and Tier 4 did not have high demonstrated nutrient reduction needs. Tier 3 needed to expand on gathering more data, and Tier 4 focused on continuing statewide efforts (Figure 1). A final report from Arkansas Water Resource Center was accepted, and the project was closed.

Current Ongoing Work

Another portion of the Task Force funds from USEPA is being used to develop a nutrient measurement tracking/reporting framework with FTN Associates, Ltd. This project will develop a spreadsheet tool to track the implementation of conservation practices. This will help to quantify nutrient reduction from conservation practices in Arkansas to inform the ANRS.

In 2021, Arkansas was awarded a multipurpose grant from USEPA to continue to support the ANRS with the completion and organization of a water quality database as well as water quality trend analysis for the 319(h) nonpoint source program where possible.

In 2021, the ANRS coordination team approved goals and a draft of the updated ANRS that is scheduled to be released in 2022. The three main goals of the Arkansas Nutrient Reduction Strategy (ANRS) are:

- Goal 1: Increase or Maintain Downward Trends for Tier 1 watersheds
- Goal 2: Enhance Water Quality Monitoring to Inform Nutrient Trends for Tier 2 watersheds
- Goal 3: Continue Efforts in all watersheds

Arkansas was awarded an USEPA Task Order that will make the information in the ANRS more easily understood and more widely distributed. Some of the graphics and content will be displayed on the Arkansas Department of Agriculture's Natural Resource Division's webpage. The project will begin in 2022.

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 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 km) long. The lower 135 miles (217 km) 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 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 Buffalo River Conservation Committee (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, 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 to the BRCC 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 was completed prior to construction as the majority of the road traverses through the National Park Service and to address concerns for the protection of the federally endangered Gray Bat. Once the assessment is complete the Newton County Project will be allowed to begin. The Searcy County Project was completed October 2021 and the Newton County Project is on track for completion for 2022.



Searcy Co. – Cane Branch Road – Before



Searcy Co. – Cane Branch Road – After

8 Watershed Management Plans (WMPs)

Nine element Watershed Management Plans were developed in a cooperative effort between Arkansas Department of Agriculture's Natural Resources Division and local watershed stakeholders. The goal with 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 HUC scale) that a watercourse drains to address a broad range of issues.

For FY2021, there were no developed or submitted Watershed Management Plans. The 2019 Annual Report detailed the approved Middle White River Watershed Management Plan. For FY2021, the Natural Resources Division have four projects that will be initiating Watershed Management Plans. These projects are detailed below:

Lake Conway Point Remove Watershed Management Plan

With this project, a 9-element watershed management plan (WMP) for the Lake Conway Pointe Remove Watershed (LCPRW) in central Arkansas is to be developed. The plan will include ranked management measures and identification of critical sub-watersheds for 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 2022.

Poteau River Watershed Management Plan

The goal of this project is to develop a 9-element watershed management plan (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 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 and 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 ultimate goal being reduction of pollutant loading and protection of the watershed into the future. It is expected that this project will conclude in December 2022.

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 SWAT model and a 9-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 its partners to identify the main nonpoint sources, develop an approach to address them, and prepare a 9-element watershed management plan. The goal will be to complete this project by September 2023.

Watershed Based Plan for the Bayou Meto Watershed

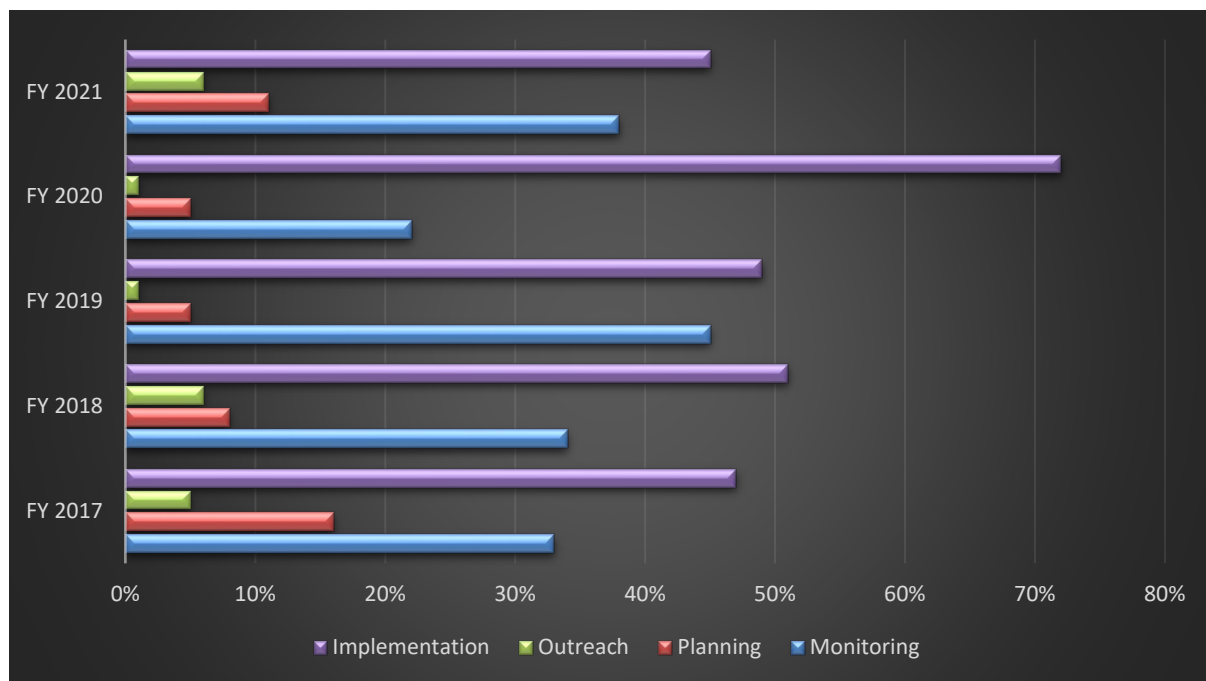
This project aims to prepare an EPA-accepted nine element watershed-based plan for the Bayou Meto watershed, while developing local support for the plan and its implementation. These objectives are planned steps toward the goal of reducing pollutants to levels that will restore the designated uses of 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 Natural Resources Division and EPA as the basis for implementing management actions to attain designated stream uses. The expected end date of the project will be March 2022.

9 Federal Resource Allocation and Best Management Practices

Program Expenditures for FY2021:

The Arkansas Nonpoint Source 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 FY2021, Arkansas Department of Agriculture's Natural Resources Division and its project partners spent approximately \$2.25 million in federal 319(h) funds to address water quality resource concerns and to reduce or prevent nonpoint source pollution.

The chart below shows how federal funds disbursed for projects were allocated among monitoring, planning, outreach, and implementation projects. Monitoring expenditures had a 16% increase from the previous fiscal year. Planning and outreach expenditures remained fairly steady while implementation expenditures decreased from 72% of the total in FY2020 to 45% in FY2021.



Best Management Practices Implemented in FY2021

The table below contains BMPs that have been implemented during FY2021 and the quantity of each practice.

Best Management Practices	NRCS #	Demonstration Projects				Total
		19-600	19-1000	20-300	20-400	
Brush Management (acres)	314			61	528	589
Fencing (feet)	382	8,308			6,450	14,758
Forage and Biomass Planting (acres)	512			67	12	79
Heavy Use Area (units)	561	3	2	1		6
Livestock Pipeline (feet)	516	1,029	2,508			3,537
Pumping Plant (units)	533		1			1
Watering Facility (units)	614	3	4			7
Watering Well (feet)	642		452			452

10 Program Success Stories in FY2021

For FY2021, Natural Resources Division submitted one success story for the West Fork White River. The Arkansas Department of Agriculture's Natural Resources Division's Nonpoint Source Pollution (NPS) Program first identified the West Fork White River watershed as a priority for reducing nonpoint source 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, 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.

Collaborative partnership efforts over the last 25 years from ANRD, Watershed Conservation Resource Center (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, Natural Resources Division has funded 18 projects addressing water quality monitoring and streambank stabilization in the watershed. Additional funds were secured by WCRC when they received a USDA-NRCS Conservation Partnership Initiative grant to restore streambanks. In 2016, 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 of 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 Other Entities That Augment Section 319(h) Programs and Initiatives

The Arkansas Nonpoint Source (NPS) program has several partners that work to reduce nonpoint source pollution. Partners consist of, but are not limited to, the Natural Resources Conservation Service (NRCS), Arkansas Natural Heritage Commission (ANHC), Arkansas Division of Environmental Quality (ADEQ), the University of Arkansas Cooperative Extension Service (UACES), The Nature Conservancy (TNC), Beaver Watershed Alliance (BWA), Illinois River Watershed Partnership (IRWP), and various other entities. Listed below are several partners and the implemented projects and programs that have enhanced the mission of the Arkansas NPS program in FY2021.

Natural Resources Conservation Service (NRCS)

The Natural Resources Conservation Service (NRCS) Arkansas Annual Report is usually available in January or February of each year. The NRCS 2020 Arkansas Annual Report noted more than \$285.7 million in financial assistance obligated through Farm Bill conservation efforts and over 406K in conservation acres. NRCS has several programs that help producers implement conservation practices and address resource concerns. 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 FY2021, Arkansas NRCS worked with more than 250 partners to help put conservation on the ground.

The goal of the NRCS is to help Arkansas producers get conservation on the ground through technical and financial assistance and direct relationships with farmers, ranchers, and foresters.



Environmental Quality Incentives Program (EQIP)

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. Farmers received more than \$45 million in financial assistance for FY 20. There were 3,642 active contracts on 652,390 acres under this program. There were 1,226 new contracts added to the EQIP program. Funded partners included sub-account types like: Beginning Farmer/Rancher, Certified Organic, Limited Resource, Locally Led, Planning, Wildlife, and Socially Disadvantaged.

Agricultural Conservation Easement Program (ACEP)

There were 18 easements that Arkansas NRCS enrolled under the ACEP program. More than \$27 million in funds were obligated under this program. This program offers landowners opportunities to protect, restore, and enhance wetlands on their properties.

Conservation Stewardship Program (CSP)

The goal of 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 293 new contracts developed on 208,747 acres in FY2021. CSP had 2,328 active contracts on 2,020,223 acres in Arkansas for FY2021. The program accounts for more than \$28 million in obligations.

Regional Conservation Partnership Program (RCPP)

RCPP is a program that promotes coordination between 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 43 contracts funded, 51,270 acres treated, and over \$7.32 million in obligations.

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

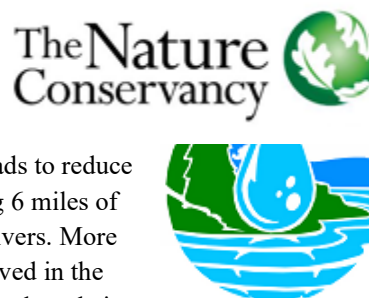
The USDA's Natural Resources Conservation Service is investing in one existing and three new multi-year projects in Arkansas that will build vital infrastructure and conserve natural resources. The Watershed Protection and Flood Prevention Act of 1954 (Public Law 83-566 [PL – 566]) Watershed Program 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. 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.
- **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. 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.
- **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 \$375,000 funded will be utilized to develop the designs and construction plans for 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 quality, greatly reduced flooding, improved wildlife habitat, and reduced nutrient loss will be some of the many benefits of the project. PL – 566 watershed projects take place in smaller watersheds that cover 250,000 acres or less.

The Nature Conservancy (TNC)

The Nature Conservancy 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. The Nature Conservancy 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 6 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.



Equilibrium

Equilibrium has managed and implemented four water quality monitoring projects between October 2019 and September 2020. Foremost, Equilibrium acknowledges its efforts could not be possible without contributions from key partnerships, primarily Arkansas Department of Agriculture's Natural Resource Division and the Ouachita Baptist University's Water Laboratory. The water laboratory staff has been extremely dedicated to accomplishing the project goals. During the pandemic, laboratory staff took measures that allowed the continuation of chemical analysis without obstructing scheduled sampling frequencies. The level of communication between laboratory staff and Equilibrium assured key deadlines were accomplished. Equilibrium recognizes the support from both partners as enabling the success of these projects.

Numerous activities have been accomplished during this annual period. The work illustrates that achieving individual objectives; leads to completing greater goals. For example, the development of project plans and Quality Assurance Project Plans (QAPPs); daily persistence for sample collection and analysis; stream stage measurements and discharge recordings; computations and reporting of data allow for the estimations of pollutant loadings. Each individual objective is vital to accomplishing the final goal; the estimation of pollutant loadings.

Although the projects have different schedules, throughout this annual period, they have achieved these objectives. Equilibrium initiated and developed projects in the Lake Conway Point Remove and Upper Saline River Watersheds, including final project design and approval of QAPPs. In four 8-digit HUC, they maintained strict sampling schedules, collected samples as planned and delivered to the laboratory for analysis within specific holding times. In total, Equilibrium collected and analyzed more than 1,660 routine samples. Additionally, each sample set was accompanied with quality assurance samples, chain of custodies, and field notes. They were able to record and obtain daily stage data at the monitoring stations at hourly intervals which will be used to produce hydrographs throughout the period. There were completed discharge surveys at the monitoring stations to identify stream flows at given stages. Reports were provided to the 319(h) staff and were accompanied by deliverables that detailed accomplishments during each quarter of the year. They also finalized three projects by providing final reports for each; the L'Anguille River Watershed (PJT 15-200), the Lake Conway Point Remove Watershed (PJT 15-300), and the Upper Saline River Watershed (PJT 15-800). Each report was delivered to 319(h) Staff and EPA.

Equilibrium accomplished these objectives through its dedicated staff and project partners, without their commitments these projects could not have been implemented.

Bayou Meto Water Management District

The Bayou Meto Water Management District was formed in 1991 to address ground water problems, wildlife habitat issues, and to help with flood control issues. Irrigated, row-crop farming of soybeans, rice, cotton, corn, and sorghum is the primary driver of the economy of the Mississippi Alluvial Plain of East Arkansas. Irrigation water availability and good drainage are essential. About 85 percent of the water used for irrigation in Arkansas comes from the ground. Although Arkansas has abundant surface water, groundwater has been the preferred source. Not all farmland has access to surface water and moving it long distances is often more expensive than pumping from shallow wells. Beginning around 1920, rice farmers in Arkansas County noted that the level of the shallow and prolific alluvial aquifer declined from year-to-year. The United States Geological Survey began studying groundwater in the state and continues an extensive monitoring program one hundred years later.

The Bayou Meto Water Management Project was conceived in the 1930s as a way to improve drainage in sluggish Delta streams, thus reducing flood damage and to put a fraction of the volume of the Arkansas River to work to irrigate nearby farms. In 1950, the Congress authorized the project, but did not provide money for construction. Continuing resource problems reinvigorated interest, and the project was reauthorized in 1996. Planning and design culminated in construction of the Marion Berry Pump Station at Scott, Arkansas, and the Little Bayou Meto Pump Station at Reydell, Arkansas, 49 straight-line miles from the Marion Berry Pump Station. Both stations were completed by 2015, and construction continues on the network of canals and pipelines to distribute the water to approximately 268,000 square miles of farmland. Water will not be pumped for several more years.

The Little Bayou Meto Pump Station will remove water from the lower project area, including the 33,000-acre Bayou Meto Wildlife Management Area, the premier winter Mallard habitat, which attracts thousands of hunters every winter. Preventing retention of water during the growing season on high-quality bottomland hardwood trees will preserve this world-class wildlife habitat.

To distribute the Arkansas River water to farms, 105 miles of canal are being built. One hundred and sixteen miles of existing bayous and ditches will also convey water. The right-of-way for canals and the work on bayous and ditches provide many opportunities to improve wildlife habitat. Canals will be planted in mixtures of native grasses and grasses recommended by the Arkansas Game and Fish Commission. As many as 56 weirs will be placed in bayous and ditches to create pools for irrigation pumping. Since these watercourses are historically dry in the summer, the project will enhance aquatic habitat by ensuring year-round water availability. Increased spring and summer flows are estimated to provide up to a 90% increase in Habitat Units.

Just a few of our many Partnerships:



Snapshot Reporting for FY2021 (October 2020 – September 2021)

Snapshot reporting was developed in 2014 as a method to share Arkansas water quality projects or activities with Natural Resources Division. The goal of Snapshot Reports is to capture water project efforts around the state that are contributing to the benefit of the Nonpoint Source Management Program. Snapshot reports have helped the Natural Resources Division 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 Natural Resources Division for FY2021. 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 the Natural Resources Division at (Allen.Brown@arkansas.gov or Kevin.Mcgaughey@arkansas.gov).

Title	Management	Timeframe	Location (HUC/County)	Project Type	Partners
Cadron Creek-Brewer Lake MRBI	NRCS	Oct. 1, 2020–Sep. 30, 2021	111102050301, 111102050106, 111102050103, 111102050107, 111102050302, 111102050304, Conway and Faulkner Counties	BMP Implementation and Education/ Outreach	Farm Service Agency (FSA), Arkansas Department of Environmental Quality (ADEQ), Arkansas Game and Fish Commission (AGFC), University of Arkansas Cooperative Extension Service (U of A CES), Arkansas Grazing Lands Coalition, Farm Credit, Faulkner County Conservation District, and Conway County Conservation District (CD)
Lower St. Francis MRBI	NRCS	Oct. 1, 2020–Sep. 30, 2021	080202031212, 080202031401, 080202031501	BMP Implementation and Education/ Outreach	Greenway Equipment, 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, U of A CES, and Crittenden County Conservation District
Middle Cache MRBI	NRCS	Oct. 1, 2020–Sep. 30, 2021	080203020401, 080203020402, 080203020403, 080203020404, 080203020406 Jackson, Woodruff, and Poinsett Counties	BMP Implementation and Education/ Outreach	Greenway Equipment, Farm Bureau, Farmers Supply Association, Helena Chemical, AgHeritage, Crop Consultants, and U of A CES

Title	Management	Timeframe	Location (HUC/County)	Project Type	Partners
Cache River MRBI	NRCS	Oct. 1, 2020–Sep. 30, 2021	080203020606, 080203020607, 080203020407, 080203020701, Jackson, Woodruff, Cross Counties	BMP Implementation and Education/Outreach	Greenway Equipment, Farm Bureau, Hefty, U of A CES, Jackson County CD, and Woodruff County CD
Greasy Creek-Strawberry River NWQI	NRCS	Oct. 1, 2020–Sep. 30, 2021	110100120201 Fulton County	BMP Implementation and Education/Outreach	NRCS, ADA Forestry Division (ADA FD), AGFC, U of A CES, and Fulton County CD
Buffalo Slough-Cache River NWQI	NRCS	Oct. 1, 2020–Sep. 30, 2021	80203020209 Lawrence County, Greene County	BMP Implementation and Education/Outreach	U of A CES, Greene and Lawrence County Conservation Districts
Departee Creek NWQI	NRCS	Oct. 1, 2020–Sep. 30, 2021	110100130401, 110100130402, 110100130403, 110100130404, 110100130302 Independence, White, and Jackson	BMP Implementation and Education/Outreach	NRCS, ADA FD, ADA Natural Resources Division (ADA NRD), AGFC, U of A CES, White County CD, Independence County CD, and Jackson County CD
East Fork Cadron Creek Watershed Project (RCPP)	NRCS	Oct. 1, 2020–Sep. 30, 2021	111102050302, 111102050305, 111102050303, 111102050301, 111102050304, 111102050306, Faulkner County	BMP Implementation and Education/Outreach	Faulkner County Farm Bureau, Faulkner County Extension Service, Farm Credit Services of Western Arkansas, Antioch Baptist Church, Faulkner County Cattleman's Association, Arkansas Association of Conservation Districts (AACD), and Faulkner County CD
West Fork White River Watershed Project	NRCS	Oct. 1, 2020–Sep. 30, 2021	110100010404, 110100010404, 110100010402, 110100010401, Washington County	BMP Implementation and Education/Outreach	NRCS, ADA FD, AGFC, ADA NRD, Watershed Conservation Resource Center, Beaver Watershed Alliance, Beaver Water District, Walton Family Foundation, Northwest

					Arkansas Land Trust, Arkansas Farm Bureau, Washington County Cooperative Extension Service, Ozark Water Watch, Washington County CD, City of Fayetteville and City of West Fork
Bayou Meto-Lower Arkansas (RCPP)	NRCS	Oct. 1, 2020–Sep. 30, 2021	080204020105, 080204020106, 080204020107, 080204010102, 080204020303, Pulaski, Lonoke Counties	BMP Implementation and Education/Outreach	NRCS, ADA NRD, Bayou Meto Management District, White River Irrigation District, University of Arkansas at Pine Bluff Aquaculture Center of Excellence
Little Red River Water Improvement Project (RCPP)	NRCS	Oct. 1, 2020–Sep. 30, 2021	Portions of 08020302, 11010014, 11010013, 110205, White County	BMP Implementation and Education/Outreach	BASF Chemical Cooperation, Little Red River Irrigation District, ADA NRD, and White County Conservation District
North Arkansas Quail Focal Landscape Project (RCPP)	NRCS	Oct. 1, 2020–Sep. 30, 2021	11110103, 11070209, 11070208, 11010001, 11010003, 11010005, 11110202, 11010004, 11010006, 11010010, 11010012, 11010011, 11010009, Searcy, Fulton, Sharp, Randolph, Baxter, Stone, Izard, Marion, Benton, Carroll, Washington, Newton, Madison, and Boone Counties	BMP Implementation and Education/Outreach	Arkansas Wildlife Federation, Quail and Upland Wildlife Federation, Quail Forever, National Wild Turkey Federation, Searcy, Fulton, Sharp, Randolph, Baxter, Stone, Izard, Marion, Benton, Carroll, Washington, Newton, Madison, and Boone Conservation Districts
Western Arkansas/SE Oklahoma Woodland Restoration a Joint Chiefs' Landscape Restoration	NRCS	Oct. 1, 2020–Sep. 30, 2021	11110103, 11110201, 11010001, 11110202, 11010005, 11010004, 11110203, 11110204, 08040101,	BMP Implementation and Education/Outreach	Oklahoma Forestry Services (OFS) (TA), USFS – Ouachita (CASH), USFS – Ouachita (TA), USFS – Ozark (CASH), USFS – Ozark (TA), USFWS, Tulsa, OK, USFWS – Conway, AR OK Dept. of Wildlife Cons., AR Game

Partnership Project			08040102, 11140109, 11140108, 08040203, 11010006, 11110105 Benton, Carroll, Boone, Baxter, Izard, Stone, Searcy, Newton, Washington, Madison, Crawford, Franklin, Johnson, Pope, Conway, Van Buren, Sebastian, Logan, Scott, Yell, Perry, Saline, Garland, Montgomery, Polk, Pike, Clark, Howard, Sevier, Little River Counties		and Fish Commission (AGFC), Arkansas Association of Conservation Districts, Oklahoma Conservation Districts, Arkansas Forestry Association, The Nature Conservancy – AR (TNC), Native Expeditions, National Wild Turkey Federation, Benton, Carroll, Boone, Baxter, Izard, Stone, Searcy, Newton, Washington, Madison, Crawford, Franklin, Johnson, Pope, Conway, Van Buren, Sebastian, Logan, Scott, Yell, Perry, Saline, Garland, Montgomery, Polk, Pike, Clark, Howard, Sevier, Little River Counties
Building Resilient Watersheds to Improve Drinking Water Quality in the Ozark & Ouachita Highlands 2020-2022	NRCS	Oct. 1, 2020– Sep. 30, 2021	11010004, 11010005, 11110201, 11110105, 11140108, 08040101, Independence, Izard, Stone, Marion, Searcy, Newton, Boone, Pope, Van Buren, Baxter, Fulton, Cleburne, Madison, Johnson, Washington, Crawford, Franklin, Booth, Sebastian, Polk, Garland, Montgomery, Yell, Scott, Hot Springs	BMP Implementation and Education/Outreach	NRCS, USFS, USFWS, Oklahoma Department of Wildlife Conservation, Arkansas Game and Fish Commission, Arkansas Forestry Division, Choctaw Nation, Arkansas Association of Conservation Districts, Arkansas Forestry Association, The Nature Conservancy, National Wild Turkey Federation, Quail Forever
Edge of Field Monitoring	NRCS	Oct. 1, 2020– Sep. 30, 2021	080203020502, 080202040803 Craighead County, 080202050203, 080202050204	Water Quality Monitoring	Arkansas Discovery Farms, University of Arkansas Extension Service, Agricultural Research, University of Arkansas at Pine Bluff Service

			Cross County, 080402050202 Jefferson County, 080204010103 Lonoke County, 080202040804 Mississippi County, 080203030402 Phillips County, 111102030304 Pope County, and 080202050502 St Francis County		
Arkansas Groundwater Initiative (AGWI)	NRCS	Oct. 1, 2020– Sep. 30, 2021	Craighead, Poinsett, Cross, St Francis, Lee, Monroe, Prairie, Arkansas, and Lonoke Counties- Portions of 08020302, 08020205, 08020304, 08020303, 08020301, 08020302	BMP Implementatio n and Education/ Outreach	NRCS, ARS, USGS, and ADA NRD
Conservation Technical Assistance (CTA)	NRCS	Oct. 1, 2020– Sep. 30, 2021	Statewide	Technical Assistance	ADA NRD, AGFC, ADA FD, NWTF, Quail Forever, AACD, UACES, and All Conservation Districts
Environmental Quality Assistance Program (EQIP)	NRCS	Oct. 1, 2020– Sep. 30, 2021	Statewide	BMP Implementatio n	Many various partners
Wetland Reserve Easements (WRE)	NRCS	Oct. 1, 2020– Sep. 30, 2021	Statewide	BMP Implementatio n	Many various partners
23-PL-566	NRCS	Oct. 1, 2020– Sep. 30, 2021	Statewide	BMP Implementatio n	Many various partners
Irrigation Water Management Activities	NRCS	Oct. 1, 2020– Sep. 30, 2021	Statewide	BMP Implementatio n	Many various partners
NRCS Soil Health Activities	NRCS	Oct. 1, 2020– Sep. 30, 2021	Statewide	BMP Implementatio n	Many various partners
NRCS Feral Swine Eradication Activities	NRCS	Oct. 1, 2020– Sep. 30, 2021	Statewide	BMP Implementatio n	Many various partners

Landowner Services Program	IRWP	Jan 1, 2018 – Ongoing	Illinois River Watershed (11110103) in Washington and Benton Counties	Education and Outreach	NRCS, Walton Family Foundation, TNC, WCRC, NW Arkansas Land Trust, Benton County CD, Washington County CD, Ecological Design Group, Ozark Green Roofs, and Natural State Streams
Low Impact Development and LID Mini Grant Program and Management	Beaver Watershed Alliance	Oct. 1, 2020– Sep. 30, 2021	11010001 Beaver Lake Watershed Washington County	BMP Implementation and Education/ Outreach	City of Fayetteville, City of Huntsville, Army Corps of Engineers, City of Lowell, Madison County Master Gardeners, City of West Fork Public Library, City of Goshen, and six residential LID installations
Pond Optimization Project- Rock Creek	Beaver Watershed Alliance	Oct. 1, 2017 – Aug. 30, 2021	11010001 Beaver Lake Watershed Washington County	BMP Implementation and Education/ Outreach	Walton Family Foundation, Baylor University, University of Arkansas, Poultry and Cattle Producers in the watershed
Beaver Lake Watershed Litter Cleanups	Beaver Watershed Alliance	Oct. 1, 2020– Sep. 30, 2021	11010001 Beaver Lake Watershed Washington County	4 Litter Cleanups	Benton County Environmental Services, Beaver Water District, UAEX Washington/Benton County, Boston Mountain Solid Waste District, local cities, and Keep Arkansas Beautiful
Using Seasonal High Tunnels to Grow Native Plant Material as High Value Crops the Beaver Lake Watershed	Beaver Watershed Alliance	Oct. 1, 2020– Sep. 30, 2021	11010001 Beaver Lake Watershed Washington County	BMP Implementation and Education/ Outreach	USDA NRCS (Conservation Innovation Grant) and 15 landowners in the watershed
Water Quality Monitoring in the West Fork of the White River	Beaver Watershed Alliance	Oct. 1, 2020– Sep. 30, 2021	11010001 Beaver Lake Watershed Washington County	Water Quality Monitoring	Arkansas Water Resources Center
Pasture Aerator (Renovator) Program	Beaver Watershed Alliance	2017 – present	11010001 Beaver Lake Watershed Washington County	BMP Implementation and Education/ Outreach	Washington, Benton, Madison, and Carroll County Conservation Districts and six landowners in the watershed
West Fork – White River Initiative – Regional Conservation Partnership Program	Beaver Watershed Alliance	Oct. 1, 2020– Sep. 30, 2021	Beaver Lake Watershed: 11010001; West Fork - White River: 1101000104	BMP Implementation and Education/ Outreach	USDA NRCS and West Fork – White River Landowners

BMP Implementation/ Riparian planting	Central Arkansas Water	Oct. 1, 2020– Sep. 30, 2021	Bringle Creek- Maumelle River (111102070102): Reece Creek- Maumelle River (111102070106)	BMP Implementatio n and Education/ Outreach	Ark. Game and Fish Commission, Arkansas Natural Heritage Commission, Little Rock Garden Club. Quail Forever, Audubon Arkansas
---	------------------------------	--------------------------------	---	---	--

12 Nonpoint Source Pollution (NPS) Management Program Milestones

Milestones for the NPS Pollution Management Program for FY2021

In FY 2014, the Arkansas NPS program staff incorporated a section in the Annual Report outlining the specific milestones that the ADA Natural Resources Division NPS program staff, cooperating partners, and stakeholders were making progress toward. In FY2021, there were funded projects that directly addressed specific 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 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 Arkansas Division of Environmental Quality (ADEQ) and are used for Clean Water Act 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 ADA Natural Resources Division will continue to review milestones, track progress toward meeting milestones, and discuss possible additions, deletions and/or revisions, as appropriate.

The ADA Natural Resources Division and the U.S. 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 NPS 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.

The NPS Pollution Management Program's priority watersheds (8-digit HUC level) were finalized at the NPS Annual Stakeholder and Project Review meeting in September 2016. These watersheds are the current focus for the 2018-2023 Arkansas NPS Management Plan. Further assessment beyond initial 8-digit SWAT modeling has not been conducted. The ADA Natural Resources Division has funded grants 18-102 NPS Watershed Risk Matrix Update and 18-105 NPS Management Plan update. The process of updating the risk matrix will inform priority watersheds for and development of the 2024-2029 Nonpoint Source Management Plan. Five previously established monitoring stations were selected for the continued monitoring project. Weekly base flows and large storm events samples will be targeted resulting in 1,425 individual samples being generated during the grant.

2. Continue to conduct strategic baseline monitoring in selected high priority 12-digit hydrologic units to assist in the development of Watershed Based Plans. The ADA Natural Resources Division anticipates three to four priority watersheds will have baseline monitoring over the life of the plan.

17-400 Water Quality Monitoring for the Bayou Bartholomew Watershed- The primary goal of this project is to collect, analyze, and report water quality and discharge data at selected monitoring stations and provide monthly and annual parameter loadings in the Bayou Bartholomew Watershed for a four-year period. The Bayou Bartholomew River Watershed has been a priority watershed for the Arkansas 319(h) Program for many years. The accomplishments that have been made for FY2021 are as follows: 494 routine samples and 102 quality assurance-quality control (QAQC) samples were collected, in-situ data was recorded at each monitoring station, 552 samples were analyzed, stage rating discharge curves were developed, data was prepared, imported, and validated into the EPA's Water Quality Portal (WQX) data warehouse, and reporting requirements were met.

19-300 Buffalo River Watershed Monitoring- The primary goal of this project is to collect baseline data to help implement the Buffalo River Watershed Based Plan. This project will collect needed data in four sub-watersheds that are identified in the Buffalo River Watershed Management Plan. In the first year of the project (FY2020), 296 samples were collected and analyzed. Sampling did not occur during the spring months because federal lands on the river were closed to all access due to the COVID pandemic.

19-400 Middle White River Watershed Monitoring- This project is an extension of the Middle White River Watershed Management Plan. It seeks to fill data gaps in four transitional sub-watersheds between the Boston Mountains and the White River Delta. In the first year of the project (FY2020), partners collected and analyzed 208 samples.

19-500 Bayou DeView Watershed Monitoring- Phase II- The main goal of this project is to continue monitoring the effectiveness of BMP's associated with the Mississippi River Basin Initiative (MRBI) and other water quality programs. This is a continuance of monitoring that has shown improvements in water quality in this watershed due to conservation practices being implemented. In the projects first year (FY2020), 350 samples have been collected and analyzed.

19-900 Water Quality Monitoring for the Lake Conway Point Remove Watershed- This project aims to collect, analyze, and report water quality and discharge data to provide parameter loadings and unit area loadings in assorted 12-digit HUC in the greater Lake Conway Point Remove HUC. The accomplishments for FY2021 are as follows: A QAPP was developed, edited, and finalized, monitoring equipment was installed at 10 sites, 500 grab samples and 100 QAQC samples were collected, 540 samples were analyzed, and all reporting requirements were met.

19-1100 Water Quality Monitoring for the Upper Illinois River Watershed and Upper White River Basin- This project's goal is to collect and analyze 30 water samples on average at 13 sites annually in the Upper Illinois Watershed and Upper White River Basin, northwest Arkansas and to estimate annual constituent loads and trends. The accomplishments for FY2021 are as follows: A QAPP was developed and finalized, 6-9 samples were collected at each of the 13 sample sites, water samples were analyzed, and all reporting requirements were met.

20-1000 Water Quality Monitoring for Upper Saline Watershed- This project will allow for the continuation of water monitoring at recently established monitoring stations in the Upper Saline Watershed. The goal of this project is to identify trends in water quality parameter concentrations, monthly loading estimations, and unit area loading estimations within the monitored watersheds. This goal will be accomplished through the development and implementation of a monitoring program that focuses on the collection of water quality and discharge data, the analysis of water samples with a verifiable level of accuracy and precision, the estimation of daily discharge throughout the project period, statistical evaluations and models derived from the collected and analyzed data, and finally, the reporting of monitoring results as constituent loadings.

21-1000 Water Quality Monitoring for the Lower Ouachita Smackover Watershed- The goal of this project is collecting, analyzing, and reporting water quality and discharge data, provide parameter concentration trend analysis, monthly parameter loadings, annual parameter loadings, and unit area loadings in numerous 12-digit HUCs of the greater Lower Ouachita Smackover 8-digit HUC. This goal will be accomplished through the development and implementation of a monitoring scheme that focuses on the collection of water quality and discharge data, the analysis of water quality samples with a verifiable level of accuracy and precision, the estimation of daily discharge throughout the project period, statistical evaluations and models derived from the collected and analyzed data, and finally, the reporting of monitoring results as parameter loadings. Total of ten monitoring stations were established and are to be sampled weekly. A total of 2,241 samples will be generated over the grant cycle.

21-1200 North Fork White River Watershed Monitoring- Monitoring efforts are focused on six sites across six separate 12-digit subwatersheds. Nine water quality analytes are to be collected weekly for the three-year grant period resulting in a total of 156 sampling events. A QAPP was developed, approved, and sampling has been initiated.

21-1300 Eleven Point River Monitoring- Four 12-digit subwatersheds were selected for this monitoring project. The goal of this project is to evaluate impacts of land use changes and effects to water quality. The project is scheduled to collect weekly water samples for nine analytes resulting in 156 sampling events over a three year period.

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

The ADA Natural Resources Division has employed a review process with several projects in FY2021. Demonstration projects continue to be a focus of inspections, but there are other projects that are still validated and reviewed. Projects 19-600 and 19-1000 were just some of the projects that were chosen for review. The inspections that were conducted aimed at verifying specific BMPs that were installed through both 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 August 24th (Boone County CD, 19-600) and August 26th (Fulton County CD, 19-1000). 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 State Plant Board 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 has been conducted in all 75 counties in the state, successfully recovering over 4.8 million pounds of left-over agricultural pesticides. Over the past year, NPS staff has participated in quarterly meetings of the Abandoned Pesticide Collection Advisory Committee, giving input as to where and when collection events should be held. Collection events from 2020, ten counties safely removed 694, 387 pounds of chemicals from the environment. In the 2021 fiscal year, only 85, 974 pounds were collected from 13 counties.

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

The 2020 Arkansas Annual Report was submitted January 6, 2020 to EPA Region VI and the 2021 report submission is on time. Arkansas NPS staff work diligently to compile necessary components capture programmatic efforts over the past year. Arkansas 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. These results will be included in the NPS Annual Report.

19-600 Boone County Crooked Creek Project- This project with the Boone County Conservation District is trying to address water quality concerns in the Crooked Creek Watershed. The project offers landowners technical and financial assistance to implement BMPs in the watershed. BMPs such as fencing, spring development, filter strips, prescribed grazing, and others are being implemented. Eleven contracts were signed during the first year (FY2020) for cost share assistance and ten farm plans were developed.

19-1000 Fulton County North Fork White Sub Watershed Project- The Fulton County Conservation District has assisted 72 landowners by developing farm plans and in helping maintain water quality in the Hicks Creek-White River Watershed in Baxter County. There were 17 applicants who applied for cost share funding and 14 of the applicants implemented BMPs. The BMPs implemented include: brush management, fencing, forage and biomass planting, herbaceous weed management, livestock pipeline, heavy use areas, and watering facilities.

20-300 Bull Shoals-White River Watershed Project – The Baxter County Conservation District's goal is to develop 50 conservation plans per year or 200 total plans. In the last year, 26 conservation plans were developed. The district has received four applications and subsequently assisted landowners for implementation of best management practices covering 8,205 acres. The BMPS included brush management, heavy use area, and biomass forage planting.

20-400 Buffalo River Watershed Project – The Crooked Creek Conservation District has eight 12-digit subwatersheds within their jurisdiction. The objective of the grant cycle is to develop a program to implement voluntary landowner participation in best management practice installation. In doing so a goal of 200 conservation plans covering 61,000 acres and 7.25 miles of stream bank protection has been established. Over the last year, 23 conservation plans were written and 91 BMP's installed covering 2,942 acres and 62,142 linear feet of exclusion fencing and livestock watering pipeline.

21-600 South Fork Spring River Watershed Project – Fulton County Conservation District established the goal of implanting conservation plans covering 42,300 acres of pastureland and 4.1 miles of streambank protection. The area encompasses six 12-digit subwatersheds. Fulton County Conservation District plans to implement several best management practices to reduce livestock traffic in and around the Southfork of the Spring River and its subwatersheds with priority assistance to all farms that are located within a quarter of a mile from a stream or tributary of the South Fork of the Spring River. In the first three months of the project, Fulton County Conservation District has implemented three BMPs covering 44 acres and 4,885 linear feet of exclusion fencing.

21-700 Buffalo River Tributary Project – Buffalo Conservation District's primary objective is to implement voluntary BMPs on 70, 731 acres of pastureland that will reduce nutrients, sediment, and bacteria. Their goal is to reduce sediment runoff by 3.59 tons/acre/year. The District will also develop nutrient management plans, prescribed grazing plans, and develop two field day demonstrations promoting the project.

The table below reflects load reductions that have been accomplished during FY2021. Every quarter these load reductions, and other information such as BMP amounts, are entered into the EPA 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. This table depicts active projects that had a quantifiable reported load reduction during the period of FY2021.

FY2021 ACTIVE PROJECT LOAD REDUCTIONS

Project #	Nitrogen Reduced (lbs./year)		Phosphorus Reduced (lbs./year)		Sediment Reduced (tons/year)	
	FY2021	Project Life	FY2021	Project Life	FY2021	Project Life
19-600	-	76	-	38	-	62
19-1000	4,621	4,977	2,472	2,650	2,224	2,580
20-300	521	521	279	279	259	259
20-400	2,372	2,372	1,269	1,269	1,157	1,157
21-600	878	878	470	470	517	517
21-700	-	-	-	-	-	-
Totals	8,392	8,824	4,490	4,706	4,157	4,575

*Load Reductions taken from project's final report using (STEPL) model, other projects used Region 5 Model

7. Continue to partner and assist the Natural Resources Conservation Service (NRCS) in the review, selection or development of 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 ADA Natural Resources Division also will participate in the State Technical Committee and its Water Quality sub-committee annually or as it convenes. The ADA Natural Resources Division will monitor (in-stream WQ monitoring) a minimum of 2-4 NRCS Program Initiatives (MRBI, RCPP or NWQI) 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.

The ADA Natural Resources Division continues to participate in the State Technical Committee (STC). Meetings (WQ subcommittee and the general STC) were attended for FY2021.

17-400 Water Quality Monitoring for the Bayou Bartholomew Watershed- The primary goal of this project was to collect, analyze, and report water quality and discharge data at the selected monitoring stations, to provide monthly and annual parameter loadings, as well as unit area loadings in numerous 12-digit HUCs of the Bayou Bartholomew Watershed for a four-year period. This goal was accomplished through the development and implementation of a monitoring scheme by collecting water quality and discharge data, analysis of water quality samples with a verifiable level of accuracy and precision, estimation of daily average discharge throughout the project period, evaluation of data by way of statistical analysis and models, and finally, the reporting of the monitoring results as constituent loadings.

The final report was submitted December 2021 and highlights water quality collections totaling 1,862 grab samples, 386 field QA samples for 2,248 total samples. Results indicate certain quality conditions are improving (e.g. turbidity) while others, including sulfates, chlorides, and ammonia, indicate negative relationships.

17-200 Upper Cache River Watershed Monitoring - The Cache River Watershed is designated as a priority watershed in the 2018-2023 NPS Pollution Management Plan. The main objective of this project is to measure the effectiveness of BMP's implemented over time by the 319(h) program and other partners and will hopefully help glean data that will help delist impaired stream segments in the watershed.

The final report for 17-200 was submitted in 2021. Project highlights include collection of 156 sampling dates that resulted in 2,028 individual samples. Data indicated elevated nutrient concentrations at Big Creek Ditch, which is the receiving stream for City of Jonesboro-Westside WWTP (ARR000629). Highest turbidity and total suspended sediment measurements were observed at East Slough. Future monitoring work is being considered with additional best management practice development projects in the Upper Cache Watershed for FY23-28.

19-500 Bayou DeView Watershed Monitoring- Phase II- The main goal of this project is to continue monitoring the effectiveness of BMP's associated with the Mississippi River Basin Initiative (MRBI) and other water quality programs. This is a continuance of monitoring that has shown improvements in water quality in this watershed due to conservation practices being implemented. In the projects first year (FY2020), 350 samples have been collected and analyzed.

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.

The ADA Natural Resources Division continues to send baseline monitoring data to ADEQ annually and at the conclusion of monitoring projects. The data is sent by October 1 of every year but can be sent at other times of the year depending on when projects are completed. The Arkansas Department of Agriculture also requires all monitoring projects to upload their data to the WQX database and in turn ADEQ can access the data there as well. The following projects have had data submitted to ADEQ during FY2021: 17-200, 17-300, 17-400, 17-1200, 19-300, 19-400, 19-500, 19-900, 19-1100, and 20-1000. Additional FY2021 monitoring project 21-1200 and 21-1300 were just initiated and will be actively collecting samples over the next two years.

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 this management plan.

The ADA Natural Resources Division used the 2018 303(d) list for determining waterbodies that were eligible for success stories. From that list, the ADA Natural Resources Division developed a success story for the West Fork and East Fork Point Remove Watersheds. This success story had three separate stream segments that had been delisted. The success story was approved on September 17, 2019. The ADA Natural Resources Division will continue to evaluate the 305(b) report and 303(d) list for possible success and areas of interest for 319(h) projects. As soon as ADEQ publishes the draft 2020 305(b) and 303(d) list, the ADA Natural Resources Division will review and determine if there are any eligible success stories.

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 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.

For FY2021, the ADA Natural Resources Division did not have any approved Watershed Management Plans. However, during this same time period there were 4 project proposals submitted to develop watershed management plans. ADA Natural Resources Division have initiated four watershed management projects as of October 1, 2020. These plans will be developed for the Lake Conway Point Remove, Upper Poteau, White Oak Bayou, and Bayou Meto Watersheds.

13 FY2021 Nonpoint Source Program Accomplishments

- **Watershed Management Plans-** While the ADA Natural Resources Division did not have any approved WMPs for FY2021, there were six WMP projects that began in FY2021. These plans include the following watersheds: Lake Conway Pointe Remove, Poteau River, White Oak Bayou, Bayou Meto, Lower Ouachita-Smackover, and Upper Illinois River.
- **COVID 19 Challenges and Successes-** In March of 2020, the COVID 19 Pandemic created shutdowns and remote working situations for much of the state of Arkansas. The Arkansas Department of Agriculture Natural Resources Division took on the unique challenge of working from home until the month of June. This pandemic created some challenges through working from remote locations, but it also created opportunities for new ways in doing business. Many meetings were forced to go virtual and are still doing so even at the end of 2021. The NPS Section continued serving our partners through this new way of business and have managed the workload efficiently.

Unpaved Roads Program- The Arkansas Unpaved Roads Program has been very active during FY2021. There were 7 site visits with counties which produced 6 applications. Of the 6 applications which were submitted, there was a total of \$396,475 requested with an anticipated match of \$425,289. With only \$300,000 available in funding from the Arkansas Unpaved Roads Program, only 4 of the applications could be funded with state dollars. The other two applications were funded through FY20 NPS funds specifically allocated for unpaved road work. Of the 6 total projects that were funded, 2 of them have been completed. The remaining 4 are awaiting favorable weather conditions for completion.

- **Education and Outreach-** Project 19-1200 follows up on the Arkansas Watershed Steward Program (project number 12-500), the project included a review of the first edition manual to identify areas that needed updates or enhancements and developed a plan to deliver watershed stewardship information and education. The project included formation of a steering committee of 10-12 individuals from the Arkansas Association of Conservation Districts, University of Arkansas Division of Agriculture Research and Extension, a drinking water utility, Arkansas Game and Fish, U.S. Fish and Wildlife, Arkansas Department of Environmental Quality, Arkansas Department of Health, nonprofit watershed organizations, Natural Resources Division, and Arkansas Forestry Division. The committee reviewed existing content and results from the Arkansas Watershed Steward Program over the course of 6 meetings and developed an updated Arkansas Watershed Steward Handbook and plan for expanding the Arkansas Watershed Steward Program. The updated handbook can be found at [Arkansas Watershed Steward Handbook AG1290 \(uada.edu\)](https://uada.edu/Arkansas-Watershed-Steward-Handbook-AG1290)

- **Enhancing Partnerships**-Without partnerships many of the successes, that have been made this past fiscal year, would not have been made. In FY2021, through the help of partners such as: NRCS, TNC, IRWP, U of A Cooperative Extension Service, universities, BWA, FTN, several conservation districts, and various others, several initiatives and programs reducing nonpoint source pollution have been initiated and/or completed.
- **GRTS Reporting**- For FY2021, there were load reductions made 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 FY2021 were 3,916 tons/acre for sediment, 3,744 lbs./acre for phosphorus, and 7,514 lbs./acre for nitrogen. All load reductions were entered into the GRTS database.