

The 2020 Arkansas Annual Report

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

The Arkansas Department of Agriculture Division of Natural Resources

January 2021



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1 SUMMARIES

Notes from the Director:

The year 2020 has certainly been unique in many ways. We started the year with unusual weather events; flooding in the southeastern part of Arkansas in February, March and May, then hurricanes from the Gulf influencing Arkansas weather in June, September and October.

In March, the Coronavirus Pandemic created government shutdowns and began remote work access for the Arkansas Department of Agriculture Division of Natural Resources (ADADNR). We quickly transitioned to the virtual world.

As with many of our partners, in-person meetings and interaction was prohibited due to health and safety concerns. We worked remotely for approximately twelve weeks.

Gradually, cautiously and apprehensively we began returning to the office. However, other partners remained working remotely and virtual meetings became the norm. Unfortunately, the spread of the pandemic has not lessened. In all probability another agency shutdown may occur. We and the nation may be dealing with the Coronavirus well into 2021.

Although physical working locations and situations changed the work of ADANR and the Nonpoint Source Management Program staff continued. Technical assistance, project workplan development, project financial support and coordination continued with minimal interruption.

Workplans were developed and approved to:

- Continue monitoring in the Upper Saline watershed, an NPS Priority watershed
- Develop watershed management plans for Bayou Meto, Lake Conway-Point Remove, White Oak and the Poteau River watersheds
- Develop a SWAT model and a watershed management plan for the Little Red River
- LID/GI conference and implementation
- Unpaved roads 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 and active participation continue to be the backbone for environmental conservation in our state. We continually look for opportunities to develop and grow new partnerships and value 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 Arkansas Department of Agriculture Division of Natural Resources is proud to provide this 2020 Annual Report for the Arkansas Nonpoint Source Management Program.

Bruce Holland,



Executive Director
Arkansas Department of Agriculture
Natural Resources Division

Executive Summary:

The Arkansas Department of Agriculture Division of Natural Resources (ADA) is the lead agency responsible for the Arkansas Nonpoint Source (NPS) Management Program. The ADA and its many partners and stakeholders collaboratively work together to develop the NPS Pollution Management 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 Environmental Quality (ADEQ) is the primacy 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 acceptance and 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 Division of Natural Resources, 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 FY 2020. 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

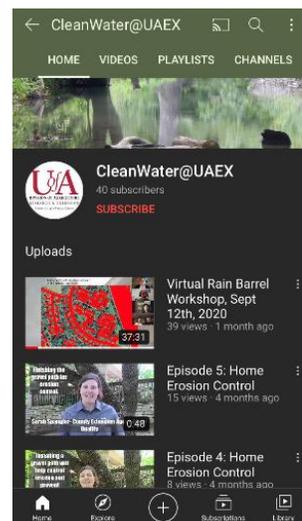
Educating landowners and the citizens of Arkansas about NPS pollution and the methods of control, reduction or abatement is challenging. Assessing the water quality benefits of education is almost impossible. Continuing to demonstrate projects and repackaging education materials is the most effective 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 20 that is a continuation of several education and outreach projects. This project is highlighted below:

NPA Pollution Prevention through Direct Outreach and Digital Media

The intent of this project is building upon the successful elements of previous grant projects that were managed and executed by the University of Arkansas Cooperative Extension service. The three previous projects that this project hopes to continue success were 09-1700 NPS Pollution Prevention BMP E-Education, 14-1200 Improving NPS Pollution Prevention in a Small Urban Community Watershed through Education and Demonstration, and 15-900 Connecting NPS Management to Receiving Streams through BMP Education and Demonstration. All these previous projects were conducted in the Illinois River and Beaver Lake Watersheds and this current project is also located in these watersheds. Through these combinations of projects, there have been techniques demonstrated for targeted watershed outreach and education. They have created strong collaboration with various community partners and BMP adoption has been more accepted through direct stakeholder interaction.

The goals of this project are to develop new video podcasts, conduct direct stakeholder outreach, provide technical assistance on BMP installation, and demonstrate successful LID/BMP techniques to increase NPS pollution awareness. Previous projects emphasized the use of video podcasting and showed delivering educational content through video to be an effective method for today's ever-connected society. Social media served as the most popular distribution channel. This project is once again using the video podcasting and social media methods in getting educational materials out to the watershed stakeholders. There were lessons learned in the previous projects that are being utilized in this project. One example is the video lengths that are produced. It is more likely that viewers will watch a shorter video (30 seconds – 1 minute) compared to a longer video (over 2 minutes). One of the goals of this project is to produce 15 short videos emphasizing the tangible actions to prevent NPS pollution with a series of calls-to-action (joining a stream cleanup, installing a rain barrel, commenting on what actions were taken by stakeholders, etc). Success will be measured by viewing analytics, engagement (shares, likes, reach), user feedback, and technology transfer. Along with the video podcasts and social media engagement, BMP outreach events are being facilitated, property assessments conducted, and BMP Demonstrations installed. The University of Arkansas



Cooperative Extension service is working with cities to install highly visible BMP demonstration sites for education and reduction of pollutants entering the two watersheds.

See some of the videos that have been produced through these projects on the YouTube channel Clean Water @ UAEX.

3 The Arkansas Unpaved Roads Program

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. 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 county road maintenance costs. The Program 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 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.

Projects eligible for funding must focus on both unpaved road improvements and sediment reduction that is negatively impacting, or could negatively impact a named, priority water body.

Here is a list of priorities in order of importance:

- A water body containing an aquatic species listed as threatened, endangered or a candidate species by the Federal Government or a water body that has been determined to be impaired as a result of turbidity or sediment;
- A water body used as a drinking source for people
- A water body used as an interstate waterway
- A water body the Arkansas Game and Fish Commission had determined contains a species of greatest conservation need
- A water body important to agricultural or pastureland use; or
- A water body important to forestry land use.



An Environmentally Sensitive Maintenance (ESM) certified person must oversee the work plan development and project implementation. ESM training is a one-day course that covers the road maintenance practices. ESM training is made available at no-cost to potential grant applicants – such as county judges, county roads personnel, and other interested parties. Some examples of ESM practices include broad based dips, French mattress, underdrain, road profile design, stream crossing design and a host of other BMPs.



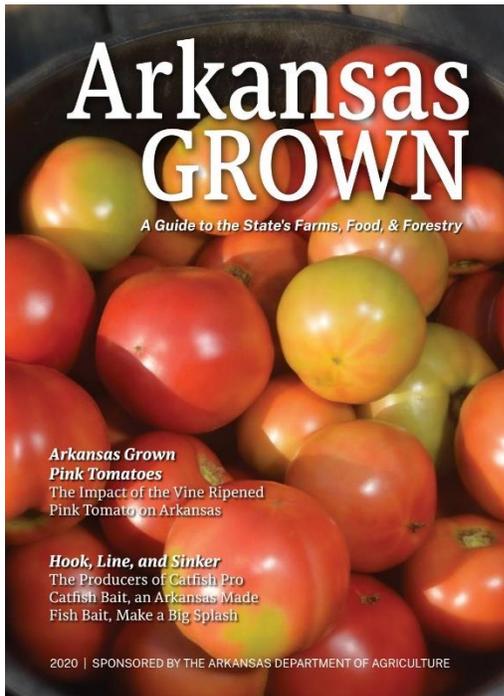
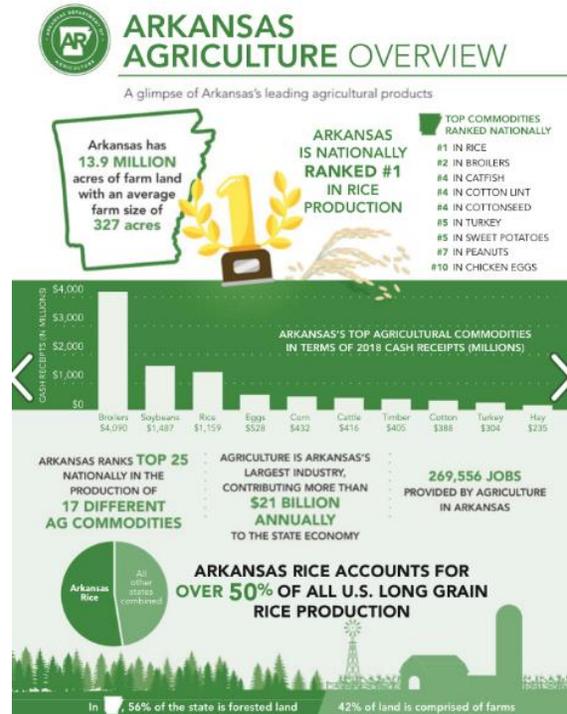
Applicants can apply for up to \$75,000 in state matching funds, the applicant must provide and match in the amount of 1:1. Match can be in the form of equipment usage, labor, material and services.

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 Division of Natural Resources 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 vital in getting conservation on the ground and having an immediate impact on the reduction of nonpoint source pollution. For FY 2020, 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
16-200	Hicks Creek – White River Watershed Project	Baxter / Middle White	\$190,000.00
16-300	Big Creek – White River Watershed Project	Marion / Bull Shoals	\$215,000.00
17-700	Lower St. Francis River Watershed Cost-Share Project	St. Francis / St. Francis River	\$55,000.00
17-800	Poteau River Sub Watershed Project	Scott / Poteau River	\$62,284.67
19-600	Boone County Crooked Creek Project	Boone / Crooked Creek	\$60,000
19-1000	North Fork White Sub Watershed Project	Fulton / North Fork White River	\$75,000



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.

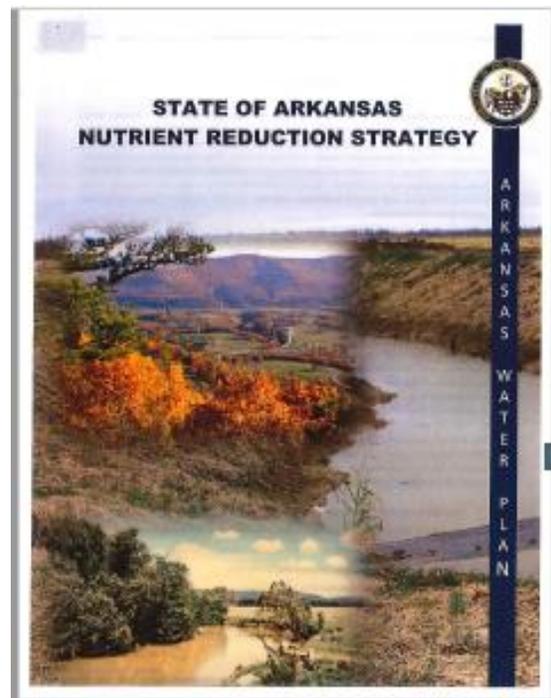
6 Nutrient Reduction Strategy

Gulf of Mexico Hypoxia Task Force & The Nutrient Reduction Strategy

Arkansas, along with 11 other states within the Mississippi River Basin, voluntarily participates in the Gulf of Mexico Hypoxia 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 addressing critical needs and how to move forward at the federal and state level. As a result of the updated Action Plan, Arkansas developed a Nutrient Reduction Strategy (NRS). The NRS 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 NRS 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 NRS. The updated NRS will build on the successes of the current strategy and will focus on establishing a new method of measuring overall progress, targeting watersheds, and reporting nutrient reductions from nonpoint sources.

Arkansas was awarded funds from the USEPA to help implement the NRS. A portion of this funding is being used to categorize and target watersheds in collaboration with the Arkansas Water Resources Center in Fayetteville, Arkansas. This effort will help measure water quality improvements realized from reduction activities in targeted watersheds. The other portion of this funding will be used to further develop a nutrient reduction measurement framework to quantify reductions from adopted best management practices across the state. These future achievements in reduction associated with these efforts will help us meet the overall Task Force goal of reducing nutrient exports to the Gulf via the Mississippi River.



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 proposing unpaved roads projects within the watershed. On April 29, 2020 and May 5-6, 2020, the Arkansas Department of Agriculture Division of Natural Resources, the Arkansas Unpaved Roads Program, and the Nature Conservancy staff assessed various roads within the Buffalo River Watershed. The goal was to identify high priority sites that had a direct impact on the watershed. The Unpaved Roads Team and the BRCC Subcommittee met on two separate occasions discussing their findings and reviewing 4 proposals for funding. Out of those proposals, 4 unpaved road sites and the City of Jasper wastewater treatment facility were recommended for funding. Secretary Ward provided an update of the BRCC efforts to the Arkansas Legislature's Public Health, Welfare, and Labor Committee on June 9th. A virtual meeting was then held on how to move forward with the proposed site on Cave Mountain Road in Newton County. The National Park Service recommended doing an environmental assessment and assessment of bat habitat before moving forward. It was later determined to allow all interested parties to submit any proposed unpaved road sites to the subcommittee no later than July 15, 2020. The intent

was decided to complete assessments of proposed sites no later than August 15th. The Unpaved Roads subcommittee decided to put forth two sites to the BRCC for funding consideration. Those sites were in Searcy (Cane Branch Road) and Newton County (Cave Mountain Road). After some discussion, the BRCC moved forward and approved the two sites. The next step was then to seek Legislative approval and develop agreements. Legislators approved the recommended two sites and agreements were developed for Searcy and Newton County. The agreements were signed, and work was approved to begin. For the Newton County site, an Environmental Assessment must be completed before work can begin because the majority of the road traverses through the National Park Service. Once the assessment is complete the Newton County Project will be allowed to begin. The Searcy County Project is on target to start just as soon as the weather allows.



8 Watershed Management Plans (WMPs)

Nine Element Watershed Management plans are developed in a cooperative effort between ADA Division of Natural Resources 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 FY 2020, there were no developed or submitted Watershed Management Plans. The 2019 Annual Report detailed the approved Middle White River Watershed Management Plan. For FY 2021, the ADA Division of Natural Resources 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 non-point 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 NPS's, 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

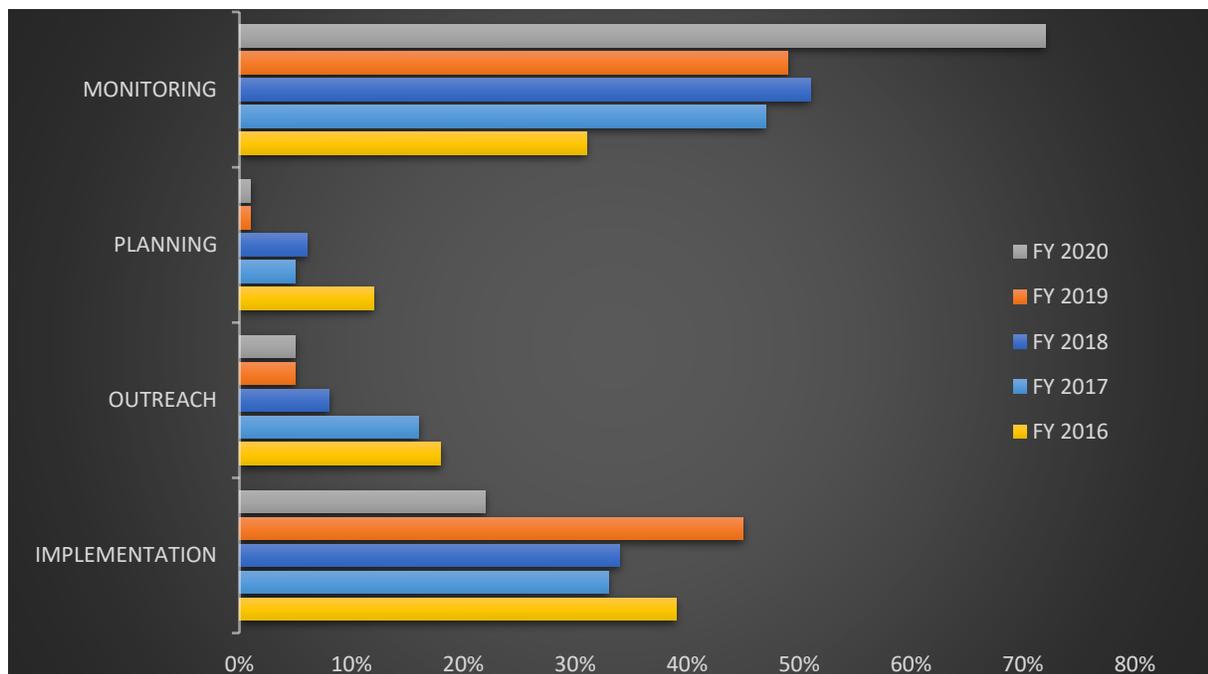
This project aims to prepare an EPA-accepted nine element watershed-based plan for the Bayou Meto watershed, while developing local support for the plan and its implementation. These objectives are planned steps toward the goal of reducing pollutants to levels that will restore the designated uses of 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 ADA 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 FY 2020:

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 FY 2019, ADA Division of Natural Resources and its project partners spent approximately 2 Million in federal 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 increase 23% of federal expenditures from FY2019 to 2020. Planning and outreach expenditures remained at 5% while implementation expenditures decreased 23% in FY2020.



Best Management Practices Implemented in FY 2020

The table below contains BMPs that have been implemented during FY 2020 and the quantity of each practice.

Best Management Practices	NRCS #	Demonstration Projects						Total
		16-200	16-300	17-700	17-800	19-600	19-1000	
Fencing (feet)	382	5,775	3,306		8,071	7,872	13,563	38,587
Forage and Biomass Planting (acres)	512	24	5		55		346	430
Structure for Water Control (feet)	587			1,269				1,269
Watering Facility (units)	614					6	1	7
Heavy Use Area (units)	561					6	3	9
Livestock Pipeline (feet)	516					2,197	510	2,707
Brush Management (acres)	314	50	290		763		448.5	1,551.5
Cover Crop (acres)	340			230				230
Prescribed Grazing (acres)	528					69.1		69.1
Herbaceous Weed Management (acres)	315						67	67

10 Program Success Stories in FY 2020

For FY 2020, ADA Division of Natural Resources did not have any success stories that were eligible in meeting EPA’s criteria. There were no waterbodies that were either fully restored or partially restored in the state. However, ADA Division of Natural Resources does believe that there were improvements to waterbodies and watersheds through the work that was accomplished in FY 2020. ADA Division of Natural Resources will continue to strive for success stories and looks forward to the review of the upcoming draft 2020 303(d) Impaired Waterbodies List.

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

The Arkansas NPS program has several partners that work to reduce non-point source pollution. Partners consist of, but are not limited to, the Natural Resources Conservation Service (NRCS), Arkansas Natural Heritage Commission (ANHC), Arkansas Department 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 FY 2020.

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 2019 Arkansas Annual Report noted more than \$119 million in financial assistance obligated through Farm Bill conservation efforts and over 437K 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 FY 2019, 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 \$47 million in financial assistance for FY 19. There were 3,438 active contracts on 633,389 acres under this program. There were 1,311 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 20 easements that Arkansas NRCS enrolled under the ACEP program. More than \$8 million in funds were obligated under this program and over \$2.5 million put towards restoration. 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 408 new contracts developed on 163,559 acres in FY 2019. CSP had 2,714 active contracts on

2,444,158 acres in Arkansas for FY 2019. The program accounts for more than \$22 million in obligations and made payments in the amount of \$30 million for 2019.

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.

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 projects' 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. Our work illustrates that achieving individual objectives; leads to completing greater goals. For example, the development of project plans and 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 our final goal; the estimation of pollutant loadings.

Although our projects have different schedules, throughout this annual period, we have achieved these objectives. We 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, we maintained strict sampling schedules, collected samples as planned and delivered to the laboratory for analysis within specific holding times. In total, we 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. We 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. We completed discharge surveys at the monitoring stations to identify stream flows at given stages. Reports were provided to the 319 staff and were accompanied by deliverables that detailed accomplishments during each quarter of the year. We also finalized three projects by providing final reports for each; the L'Angeuille 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 Staff and EPA.

Equilibrium accomplished these objectives through its dedicated staff and project partners, without their commitments these projects could not have been implemented. We sincerely appreciate all of those involved.

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.

The Corps of Engineers estimates that introducing Arkansas River water into the bayou systems in the project area will improve water quality. Maintaining a higher water table may also benefit wetlands and streams, which are "losing" water as the alluvial aquifer is depleted. Water from the project will also be used to flood over 30,000 acres for winter duck habitat.

The original Corps of Engineers plan for the project includes approximately 92 drop structures along existing ditches to reduce sediment inflow from adjacent agricultural lands. With better overall water management individual farmers will be encouraged to reduce runoff. Preventing sediment buildup in the bayous and ditches will save maintenance costs as well as improving water quality, so nonpoint source pollution management will have multiple benefits.

At the lower end of the system, improvements to bring natural bayou systems back will not only improve habitat but will lessen the effects of scouring at manmade structures that causes massive sediment runoff to the Arkansas River.

Ongoing development of a Watershed Management Plan for the project area will involve landowners in a planning process to identify methods of addressing water quality issues. A SWAT model is nearly complete and will show where and how nonpoint source problems exist in the project footprint.

As the project moves toward water delivery, landowners will adopt more on-farm water management, including implementation of nonpoint source practices, that will ensure sustainable commodity agriculture well into the future. With assistance from the State of Arkansas and federal agencies, the project hopes to deliver water in the next three to five years. Before water delivery, though, much conservation and nonpoint source pollution management work is already being done.

Just a few of our many Partnerships:



Snapshot Reporting for FY 2020 (July 2018 – August 2019)

Snapshot reporting was developed in 2014 as a method to share Arkansas water quality projects or activities with ADA Division of Natural Resources. 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 ADA Division of Natural Resources 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 ADA Division of Natural Resources for FY 2020. There were 35 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 ADA Division of Natural Resources 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, 2019 – Sep. 30, 2020	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 (CES), Arkansas Grazing Lands Coalition, Farm Credit, Faulkner County Conservation District, and Conway County Conservation District
Lower St. Francis MRBI	NRCS	Oct. 1, 2019 – Sep. 30, 2020	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, 2019 – Sep. 30, 2020	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
Upper St. Francis MRBI	NRCS	Oct. 1, 2019 – Sep. 30, 2020	080202030601, 080202030602, 080202030603, 080202030605, Clay County, Greene County	BMP Implementation and Education/Outreach	Farm Source Ag, Helena Chemical, SMART Farm Systems, Legacy John Deere, Baker Implement, University of Arkansas Extension Service, and Clay County Conservation District

Title	Management	Timeframe	Location (HUC/County)	Project Type	Partners
Cache River MRBI	NRCS	Oct. 1, 2019 – Sep. 30, 2020	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, 2019 – Sep. 30, 2020	110100120201 Fulton County	BMP Implementation and Education/ Outreach	NRCS, ADA Division of Forestry, AGFC, U of A CES, and Fulton County CD
Buffalo Slough- Cache River NWQI	NRCS	Oct. 1, 2019 – Sep. 30, 2020	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, 2019 – Sep. 30, 2020	110100130401, 110100130402, 110100130403, 110100130404, 110100130302 Independence, White, and Jackson	BMP Implementation and Education/ Outreach	NRCS, ADA Division of Forestry, ADA Division of Natural Resources, 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, 2019 – Sep. 30, 2020	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, AACD, and Faulkner County CD
West Fork White River Watershed Project	NRCS	Oct. 1, 2019 – Sep. 30, 2020	110100010404, 110100010404, 110100010402, 110100010401, Washington County	BMP Implementation and Education/ Outreach	NRCS, ADA Division of Forestry, AGFC, ADA Division of Natural Resources, 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, 2019 – Sep. 30, 2020	080204020105, 080204020106, 080204020107, 080204010102, 080204020303, Pulaski, Lonoke Counties	BMP Implementation and Education/ Outreach	NRCS, ADA Natural Resources Division, Bayou Meto Management District, White River Irrigation District, University of Arkansas at Pine Bluff Aquaculture Center of Excellence, AACD, Diesel Motors, Inc, Lonoke County Farm Bureau, Lonoke County Co-op, Ducks Unlimited, City of Lonoke, and Grand Prairie-Bayou Two Public Water Authority
Carroll County White River Project (RCPP)	NRCS	Oct. 1, 2019 – Sep. 30, 2020	11010001, Carroll County	BMP Implementation and Education/ Outreach	AACD, Ecodrum, Powell Milling, Carroll County Cooperative Extension Service, Cornerstone Bank, Anstaff Bank, and Carroll County Conservation District

Title	Management	Timeframe	Location (HUC/County)	Project Type	Partners
Little Red River Water Improvement Project (RCPP)	NRCS	Oct. 1, 2019 – Sep. 30, 2020	Portions of 08020302, 11010014, 11010013, 1110205, White County	BMP Implementation and Education/Outreach	BASF Chemical Cooperation, Little Red River Irrigation District, ADA Division of Natural Resources, and White County Conservation District
North Arkansas Quail Focal Landscape Project (RCPP)	NRCS	Oct. 1, 2019 – Sep. 30, 2020	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 Partnership Project	NRCS	Oct. 1, 2019 – Sep. 30, 2020	11110103, 11110201, 11010001, 11110202, 11010005, 11010004, 11110203, 11110204, 08040101, 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	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 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, 2019 – Sep. 30, 2020	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

Title	Management	Timeframe	Location (HUC/County)	Project Type	Partners
Edge of Field Monitoring	NRCS	Oct. 1, 2019 – Sep. 30, 2020	080203020502, 080202040803 Craighead County, 080202050203, 080202050204 Cross County, 080402050202 Jefferson County, 080204010103 Lonoke County, 080202040804 Mississippi County, 080203030402 Phillips County, 111102030304 Pope County, and 080202050502 St Francis County	Water Quality Monitoring	Arkansas Discovery Farms, University of Arkansas Extension Service, Agricultural Research, University of Arkansas at Pine Bluff Service
Arkansas Groundwater Initiative (AGWI)	NRCS	Oct. 1, 2019 – Sep. 30, 2020	Craighead, Poinsett, Cross, St Francis, Lee, Monroe, Prairie, Arkansas, and Lonoke Counties- Portions of 08020302, 08020205, 08020304, 08020303, 08020301, 08020302	BMP Implementation and Education/ Outreach	NRCS, ARS, USGS, and ADA Natural Resources Division
Conservation Technical Assistance (CTA)	NRCS	Oct. 1, 2019 – Sep. 30, 2020	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, 2019 – Sep. 30, 2020	Statewide	BMP Implementation	Many various partners
Conservation Stewardship Program (CStP)	NRCS	Oct. 1, 2019 – Sep. 30, 2020	Statewide	BMP Implementation	Many various partners
Wetland Reserve Easements (WRE)	NRCS	Oct. 1, 2019 – Sep. 30, 2020	Statewide	BMP Implementation	Many various partners
23-PL-566	NRCS	Oct. 1, 2019 – Sep. 30, 2020	Statewide	BMP Implementation	Many various partners
Irrigation Water Management Activities	NRCS	Oct. 1, 2019 – Sep. 30, 2020	Statewide	BMP Implementation	Many various partners
NRCS Soil Health Activities	NRCS	Oct. 1, 2019 – Sep. 30, 2020	Statewide	BMP Implementation	Many various partners
NRCS Feral Swine Eradication Activities	NRCS	Oct. 1, 2019 – Sep. 30, 2020	Statewide	BMP Implementation	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

Title	Management	Timeframe	Location (HUC/County)	Project Type	Partners
Low Impact Development and LID Mini Grant Program and Management	Beaver Watershed Alliance	Oct. 2019 – Sep. 2020	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. 2019 – Sep. 2020	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. 2019 – Sep. 2021	11010001 Beaver Lake Watershed Washington County	BMP Implementation and Education/Outreach	USDA NRCS (Conservation Innovation Grant) and 15 landowners in the watershed
Mill Creek Low Water Crossing Removal and Riparian Planting	Beaver Watershed Alliance	Mar. 2019 – Feb. 2020	11010001 Beaver Lake Watershed Washington County	BMP Implementation and Education/Outreach	AGFC Stream Team and Madison County
Water Quality Monitoring in the West Fork of the White River	Beaver Watershed Alliance	Apr. 2019 – Apr. 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. 2019 – Sep. 2020	Beaver Lake Watershed: 11010001; West Fork - White River: 1101000104	BMP Implementation and Education/Outreach	USDA NRCS and West Fork – White River Landowners

12 NPS Pollution Management Program Milestones

Milestones for the NPS Pollution Management Program for FY 2020

In FY 2014, the Arkansas NPS program staff incorporated a section in the Annual Report outlining the specific milestones that the ADA Division of Natural Resources NPS program staff, cooperating partners, and stakeholders were making progress toward. In FY 2020, there were funded projects that directly addressed specific milestones.

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 better assess 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 and trends. The data from these baseline monitoring projects are submitted to ADEQ and are used in the development of the 303(d) List of Impaired Waterbodies.

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

The ADA Division of Natural Resources 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 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 Division of Natural Resources will continue to work with various partners in addressing this issue.

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 Division of Natural Resources anticipates three to four priority watersheds will have baseline monitoring over the life of the plan.

15-200 Water Quality Monitoring for the L'Anguille River Watershed- This project is a continuation of baseline monitoring and is in a priority watershed. There are ten monitoring locations in selected 12-digit HUCs of the L'Anguille watershed. The accomplishments that have been made for FY 2020 are as follows: Sampling was completed in September of 2019 and data was then compiled and analyzed, Data was prepared, imported, and validated in the STORET (WQX) data warehouse, statistical analysis and rating curves were completed comparing results at each monitoring station, and the final report was submitted, reviewed, and sent to EPA. The final report was approved by EPA on February 7, 2020.

15-300 Water Quality Monitoring for the Lake Conway Point Remove Watershed - This project is a continuation of the baseline monitoring from 2014 (11-600) and is located within a priority watershed. There are ten monitoring locations in selected 12-digit HUCs of this watershed. The accomplishments that have been made for FY 2020 are as follows: Sampling was completed in September of 2019 and data was then compiled and analyzed, Data was prepared, imported, and validated in the STORET (WQX) data warehouse, statistical analysis and rating curves were completed comparing results at each monitoring station, and the final report was submitted, reviewed, and sent to EPA. The final report was approved by EPA on February 7, 2020.

15-1800 Water Quality Monitoring for the Upper Saline River Watershed- This project was a short (8 month) water quality monitoring project that sought to establish and obtain information necessary to determine the effectiveness of implemented management practices through evaluations of water quality parameters within the Upper Saline Watershed. Five monitoring stations were established within this watershed. The accomplishments that were made for FY 2020 are as follows: A QAPP was developed and finalized, the monitoring stations were established, 155 grab samples were collected along with 62 QAQC samples, in-situ data were collected, deviations were recorded, 245 samples were analyzed, stage height data and hydrographs were collected and developed, data was imported into STORET (WQX), statistical analysis were performed, and all reporting requirements were met.

16-1000 Water Quality Monitoring in the Lower Ouachita Smackover Watershed - The Lower Ouachita Smackover watershed was designated as a priority by the ADA Division of Natural Resources in the 2011-2016 NPS Pollution Management Plan and remained a priority for the 2018-2023 NPS Pollution Management Plan. This project aims for monitoring water quality in the Lower Ouachita Smackover Hydrologic Unit to better understand the possible deficiencies in this watershed. The accomplishments that have been made for FY 2020 are as follows: A fiscal review was performed for all project activities, 514 grab and 104 QAQC samples were collected, 546 samples were analyzed, discharge measurements were collected, data was imported into STORET (WQX), and all reporting requirements were met. This project is scheduled to conclude in December 2020.

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 program and other partners and will hopefully help glean data that will help delist impaired stream segments in the watershed. A total of 600 samples were taken and analyzed during FY 2020 for a project total of 2,190.

17-300 Water Quality Monitoring in the Upper Poteau River Watershed – The Poteau River Watershed is designated in the 2018-2023 NPS Pollution Management Plan as a priority watershed. In late 2017, the Arkansas Water Resources Center began a baseline monitoring project in this watershed. The accomplishments that have been made for FY 2020 are as follows: A financial review was conducted and completed, discharge monitoring equipment was installed in HUC 12 sites, stage and discharge data was collected, 8-11 samples were collected at all 3 USGS sites during base and storm-flow conditions, 3-4 samples were collected at each HUC 12 sites, 3-7 samples were collected at the roving discharge stations, data was analyzed, and all reporting requirements were met.

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 Program for many years. The accomplishments that have been made for FY 2020 are as follows: 494 routine samples and 102 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 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 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 FY 2020 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 FY 2020 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.

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

The ADA Division of Natural Resources has employed a review process with several projects in FY 2020. Demonstration projects continue to be a focus of inspections, but there are other projects that are still validated and reviewed. Projects 16-200, 16-300, 16-400 and 19-600 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 all five 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 June 24th (Boone County CD, 19-600), August 5 (Baxter County CD, 16-200), August 20th (Crooked Creek Co. CD, 16-300), and September 24th (Izard County CD, 16-400). 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 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 safely removed over 580,062 pounds of chemicals from the environment over the last fiscal year.

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

The 2019 Arkansas Annual Report was submitted December 19, 2019 to EPA Region VI. The report was submitted earlier than typical to allow for extra review time in case formatting edits needed to be made by the Department of Agriculture. The ADA Division of Natural Resources received correspondence dated February 24, 2020 from the Region related to receipt, review, acceptance and suggestions to the report. Overall, the comments on the report were encouraging and detailed the successes that were made during the FY 2019 timeframe. The letter mentioned how the report was well organized and how several milestones were met. EPA was pleased with the load reductions that were made, the success stories that were documented, and the watershed management plan that was approved. Difficulties that the program faced for FY 2019 were acknowledged and confirmed. EPA also talked about how the return of the NPS Stakeholder Meeting was a success. The ADA Division of Natural Resources is appreciative of EPA's timely and helpful review of the 2018 NPS Annual Report. The 2020 Annual Report will be submitted by January 20, 2021.

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.

16-200 Hicks Creek – White River Watershed Project- Baxter County Conservation District has assisted 200 applicants by developing farm plans and in helping maintain water quality in the Hicks Creek-White River Watershed in Baxter County. There were 60 applicants who received cost share funding and implemented BMPs. The BMPs implemented include: Brush Management, Fencing, Forage and Biomass Planting, Livestock pipeline, Heavy Use Areas and Watering Facilities.

16-300 Big Creek – White River Watershed Project- Crooked Creek Conservation District has assisted 200 landowners by developing farm plans and in helping maintain water quality in the Big Creek-White River Watershed in Marion County. There were 94 applications that were developed and most of those applications were funded with cost share funds. The BMPs implemented include: Brush Management, Fencing, Forage and Biomass Planting, Livestock pipeline, Heavy Use Areas, and Watering Facilities.

17-700 Lower St. Francis River Watershed- This project with the St. Francis County Conservation District is addressing water quality concerns in the Lower St. Francis River Watershed. The project offers eligible landowners technical and financial assistance to implements BMPs on their property. BMPs such as cover crops, mulch till, and water control structures are a few of the ones being implemented. At the time of this report, 9 landowners have received assistance and 10 conservation plans were written. Load reductions have been calculated and entered into the GRTS database.

17-800 Poteau River Sub-watershed Cost Share Project- The Poteau River Conservation District assisted 82 landowners by developing farm plans and in helping maintain water quality in the Big Creek-White River Watershed in Marion County. There were 36 applications developed and most of those applications were funded with cost share funds. The BMPs implemented include: Brush Management, Fencing, Forage and Biomass Planting, Livestock pipeline, Heavy Use Areas, and Watering Facilities.

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 Ween Management, Livestock pipeline, Heavy Use Areas and Watering Facilities.

The table below reflects load reductions that have been accomplished during FY 2020. 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 FY 2020.

FY 2020 ACTIVE PROJECT LOAD REDUCTIONS

Project #	Nitrogen Reduced (lbs./year)		Phosphorus Reduced (lbs./year)		Sediment Reduced (tons/year)	
	FY 20	Project Life	FY 20	Project Life	FY 20	Project Life
16-200	65	37,491	33	18,739	50	14,758
16-300	188	31,291	94	15,554	144	12,575
17-700	84	8,741	42	4,368	52	3,506
17-800	242	8,899	120	4,446	142	3,596
19-600	76	76	38	38	62	62
19-1000	356	356	178	178	227	227
Totals	1,011	86,854	505	43,323	677	34,724

*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 Division of Natural Resources also will participate in the State Technical Committee and its Water Quality sub-committee annually or as it convenes. The ADA Division of Natural Resources 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 Division of Natural Resources continues to participate in the State Technical Committee (STC). Meetings (WQ subcommittee and the general STC) were attended for FY 2020. Staff attended meetings on October 10, 2019 and May 7, 2020.

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 Program for many years. The accomplishments that have been made for FY 2020 are as follows: 494 routine samples and 102 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 WQX data warehouse, and reporting requirements were met.

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 program and other partners and will hopefully help glean data that will help delist impaired stream segments in the watershed. A total of 600 samples were taken and analyzed during FY 2020 for a project total of 2,190.

19-500 Bayou DeView Watershed Monitoring- Phase II- The main goal of this project is to continue monitoring the effectiveness of BMP's associated 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 Division of Natural Resources 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 ADA 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 FY 2020: 15-200, 15-300, 16-700, 16-800, 16-1000, 17-200, 17-300, 17-400, 17-1200, 19-300, 19-400, 19-500, 19-900, and 19-1100.

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 Division of Natural Resources used the 2018 303(d) list for determining waterbodies that were eligible for success stories. From that list, the ADA Division of Natural Resources 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 Division of Natural Resources will continue to evaluate the 305(b) report and 303(d) list for possible success and areas of interest for 319 projects. As soon as ADEQ publishes the draft 2020 305(b) and 303(d) list, the ADA Division of Natural Resources 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 FY 2020, the ADA Division of Natural Resources 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 Division of Natural Resources 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 FY 2020 Non-point Source Program Accomplishments

- **Watershed Management Plans-** While the ADA Division of Natural Resources did not have any approved WMPs for FY 2020, there were four WMP projects that were proposed and selected to be funded for FY 2021.
- **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 Division of Natural Resources 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 2020. The NPS Section continued serving our partners through this new way of business and have managed the workload efficiently.
- **Unpaved Roads Program-** The Unpaved Roads Program has been very active during FY 2020. There were 12 site visits with counties which produced 9 applications. Of the 9 applications which were 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 Arkansas Unpaved Roads Program, only 6 applications were funded. One county was only partially funded through the program, the remaining balance was funded from the FY 2020 NPS program. One county was added to the total with funds that were available from deobligated NPS funding. Of the 6 total projects that were funded, 3 of them have been completed. The remaining 3 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 3 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 BMP installations) from the education and outreach that is taking place.
- **Enhancing Partnerships-**Without partnerships many of the successes, that have been made this past fiscal year, would not have been made. In FY 2020, 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 FY 2020, 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 FY 2020 were 34,724 tons/acre for sediment, 43,323 lbs./acre for phosphorus, and 86,854 lbs./acre for nitrogen. All load reductions were entered into the GRTS database.

Program Staff

The Arkansas Department of Agriculture Division of Natural Resources, Nonpoint Source Management Program staff would like to thank EPA for the financial and technical assistance provided and the diverse partners and stakeholders that assisted in the endeavor to improve water quality in Arkansas.



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- Program Administration
- NPS Management Plan Update
- Project Development and Management
- Partnership Coordination and Development
- LID/GI, BMP Implementation and Education/Outreach



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