



Arkansas Department of Agriculture



2024 Nonpoint Source Management Program Annual Report
October 1, 2023 - September 30, 2024

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Executive Summary

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

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

The NPS Management Program's success has been evaluated primarily on the 303(d) list. When impaired waterbodies are restored, they are removed from the list. The level of effort needed to remove a waterbody is enormous and cannot be accomplished by a single agency, program, project, or activity. It is essential that the Natural Resources Division, 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 Management Program.

This report focuses on the accomplishments that were made in meeting milestones of the NPS Management Program for federal fiscal year (FFY) 2024, or October 1, 2023, through September 30, 2024. 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 Management Program.

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

- State and federal agencies continue to provide technical and financial assistance
- Stakeholders continue their involvement and activity in restoring waterbodies
- Low impact development and green infrastructure 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 to evaluate the status of those watersheds

Education and Outreach

Educating the public about nonpoint source (NPS) pollution and strategies for its control and reduction is a priority for the Arkansas NPS Management Program. While measuring direct water quality benefits of educational initiatives can be challenging, efforts to demonstrate projects and provide educational materials have proven effective. These efforts aim to increase awareness and promote the adoption of best management practices (BMPs) across the state. The Arkansas 319(h) program continues to prioritize education and outreach, aiming to equip communities with the knowledge and tools to protect and improve water quality.

Lake Leatherwood Goals

One significant initiative that illustrates these objectives is the ongoing Lake Leatherwood Watershed Assessment and Restoration project (Figure 1). This project was funded in FFY 2022 but is currently being implemented. The Lake Leatherwood Watershed project focuses on assessing and restoring the West Leatherwood Creek Watershed, addressing issues like streambank erosion, sediment transport, and the removal of invasive plant species. These factors are crucial in managing water quality and preserving the lake's recreational value. The Watershed Conservation Resource Center (WCRC), in collaboration with the Eureka Springs Parks and Recreation Commission (ESPRC), have organized community volunteer events at the lake aimed at improving habitat and water quality (Figure 2-3).



Figure 1. Lake Leatherwood in Eureka Springs, Arkansas.

A significant component of this project is community engagement. This project has had over 100 attendees and participants for events and outreach meetings. Multiple events were held to involve local high school students and community volunteers. For instance, students from Clear Spring School participated in hands-on activities to manage the spread of *Nelumbo lutea* (American Lotus), an invasive aquatic plant that had expanded due to silt buildup. This expansion was affecting recreational access in parts of Lake Leatherwood. By participating in these events, students gained valuable knowledge about the ecological impact of invasive species and effective methods for their control. Such educational experiences encourage a deeper understanding of aquatic health and the importance of maintaining balanced ecosystems.



Figure 2. Collage of outreach events by the Watershed Conservation Resource Center and City of Eureka Springs, Arkansas to remove nuisance species at Lake Leatherwood.

In addition to student involvement, the WCRC organized an educational hike and invasive species removal along the Leatherwood Trail. These sessions provided opportunities for community members to learn about riparian ecosystems, the effects of invasive species, and practical approaches to managing these challenges. The events underscored the importance of community action in maintaining the health of local water bodies. The project has also benefited from successful collaboration among key stakeholders. A watershed planning meeting was held in 2024 that fostered collaboration, allowing participants to exchange data, generate insights, and build relationships essential to the project's success.

Long-Term Impact

The long-term significance of the Lake Leatherwood project lies in its commitment to sustaining ecological health and promoting community stewardship. Through ongoing volunteer participation and educational activities, the project highlights watershed and lake health to guests and local residents. Scientific research and collaborative planning ensure that the Eureka Springs Parks and Recreation Commission can implement and secure funding for long-term, ecologically sound recreational and educational spaces at Lake Leatherwood City Park.



Figure 3. Arkansas Game and Fish Commission and local students installing fish habitat at Lake Leatherwood.

The project's educational and outreach components serve to present vibrant, healthy ecosystems, interpretive signage, and quality facilities. These efforts help to bring communities closer to their natural surroundings, fostering a culture of environmental stewardship. Participants are encouraged to see themselves as active contributors rather than mere observers, with the park representing a legacy that can be passed down through future generations.

Ultimately, the Lake Leatherwood Watershed project exemplifies how targeted educational initiatives, and hands-on involvement can promote the adoption of BMPs, enhance water quality, and create sustainable recreational opportunities. By integrating public education, volunteerism, and scientific research, the project provides a model for addressing regional water quality issues while building a stronger, more informed community.

Arkansas Unpaved Roads Program Fiscal Year 2024 Update

The Arkansas Unpaved Roads Program (AURP) was created by Act 898 of the 90th General Assembly. The purpose of the AURP is to create a better unpaved county road system with a reduced negative environmental impact on priority water resources in Arkansas. It focuses on best management practices 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 Arkansas Legislature has appropriated \$300,000 for the program to date. The Arkansas Department of Agriculture's Natural Resources Division has also supplemented the AURP the last few years with federal 319(h) dollars from FY 2019-2021 and FY24.

In FFY 2024, a record seventeen entities submitted applications. Fifteen of the applications were deemed eligible and made \$837,158 in requests for funding. Nine project applications were selected for funding (\$558,756) (Table 1). There was not enough funding this past year to fund all eligible projects. This increased demand for AURP funds is a result of increased marketing of the program by Natural Resources Division staff. Three of the projects have been completed to date (see pictures on pages 11-12). During the year, 46 people also participated in one of two environmentally sensitive maintenance (ESM) trainings that were held through the AURP. One training was held in South-Central Arkansas at Sheridan, while the other was held in Morrilton. Applicants must have someone on staff who has received ESM training to be eligible to apply for AURP funds.

Table 1. Summary of FFY 2024 AURP projects, funding, and project description.

County	AURP Funding	319(h) Funding	Description
Sevier	\$75,000	\$0	This project replaced a failing low water stream crossing that had undersized round culverts with a 10'x45' bottomless arch culvert crossing. It also installed five round relief culverts, raised the road profile around 12 inches over 1,000 feet, and installed wing ditches.
Independence	\$59,153	\$0	This project on Big Creek Road reformed the road base, reformed ditches from a V-shape to a U-shape, installed ditch checks, and installed cross pipes to convey water.
Pope	\$27,901	\$0	This project raised the road profile by two feet, installed four (24"X48') cross pipes, and re-established ditches, armored head, and tail walls of pipes.
Arkansas	\$0	\$65,196	This project will raise the roadbed by one foot over a length of 400 linear feet. This project will also remove failing and undersized round culverts and replace with a 44' free span and re-establish ditches.
Lincoln	\$69,588	\$0	This project will raise the road by three to four feet for a length of over 500 feet. An existing wooden bridge that habitually washes out will be replaced by three 96"X55' steel culverts and two 20"X40' relief pipes. This project will also re-establish ditches.
Scott	\$0	\$41,918	This project will replace a failing single bridge with a longer double lane bridge, install reinforced headwalls and wingwalls, grade and stabilize roadsides, and repair ditches and added rock to add scour to ditch bottom to slow flows.
Sharp	\$32,280	\$42,720	This project will replace a failing low water crossing with a 30' free span bridge. Six cross pipes will be installed to convey roadside water and grade break and wing ditches will be established.
Van Buren	\$0	\$70,000	This project will replace a failing low water vented ford crossing with two bottomless arch culverts as well as raise and crown approaches to crossing.
Yell	\$36,078	\$38,922	This project will replace an undersized round culvert with a large 20'X60' bottomless arch culvert, build up 200 yards of roadway by three feet, and crown roadway.



Figure 4. Pre-implementation and post-implementation of Sevier County project.



Figure 5. Pre-implementation and post-implementation of Independence County project.



Figure 6. Pre-implementation and post-implementation of Pope County project.

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 (NPS) pollution. For FFY 2024, the Arkansas 319(h) program worked with several partners implementing various BMP-focused projects around the state.

BMPs are a way for physical implementation to reduce NPS pollution while garnishing a pathway for education and outreach. One way conservation districts help get BMPs on the ground is by taking advantage of the state’s Title X Cost-Share Program. Title X is an avenue for conservation districts to access cost-share funds for their landowners. Many landowners have learned how they can impact and improve their watersheds through this program. Several conservation districts have incorporated field days, county fairs, and small conferences to educate the public on the importance of healthy watersheds and NPS pollution. The NPS Management Program also helps landowners implement BMPs who would not have been able to otherwise. Each participating conservation district is in a rural community. The most common BMPs include fencing, ponds, and brush management. In FFY 2024, over \$77,000 was distributed to landowners through six projects that installed 11 different types of practices (Tables 2 & 3).

Table 2. List of partners and projects during FFY 2024 that have or are currently implementing BMPs throughout various watersheds in the state.

Project #	Project Title	County/Watershed	FFY 2024 Total Federal Spent
20-300	Bull Shoals/White River Project	Baxter/White River	\$23,675.08
20-400	Buffalo Watershed Project	Marion/Buffalo River	\$7,995.60
21-600	Southfork Spring River Watershed Project	Fulton/South Fork Spring River	\$17,110.00
21-700	Buffalo River Tributary Project	Searcy/Buffalo River	\$14,776.88
22-200	L'Anguille River Watershed Project	St. Francis/L'Anguille River	\$13,834.80

Table 3. Summary of BMPs that have been implemented during FFY 2024 and the quantity of each practice.

BMPs	NRCS #	Demonstration Projects						Total
		19-600	20-300	20-400	21-600	21-700	22-200	
Brush Management (ac)	314		146	175	247.80			568.8
Cover Crop (ac)	340						268	268
Fencing (ft)	382		1,300	3,594	8,089	3,546		16,529
Heavy Use Area (ind. units)	561		1		1			2
Herbaceous Weed Treatment (ac)	315				234.75			234.75
Irrigation Pipeline (ft)	430						1,130	1,130
Livestock Pipeline (ft)	516		50		785			835
Pasture Planting (ac)	512		110.50	40	5.60			156.10
Pond (cu. yds)	378					6,000		6,000
Structure for Water Control (ind. units)	587						1	1
Watering Facility (ind. Units)	614		1		1			2

Arkansas Nutrient Reduction Strategy

The Arkansas Nutrient Reduction Strategy (ANRS) addresses nutrient pollution in Arkansas waters and its impact on the hypoxic zone in the Gulf of Mexico. The ANRS employs two methods for tracking nutrient reduction progress: water quality monitoring and best management practice (BMP) nutrient reduction estimates. These methods provide a comprehensive view, as water quality analysis alone may not capture the full impact of BMPs or land-use changes. The Arkansas BMP tracker assesses nutrient reductions across watersheds by estimating nutrient loads both with and without BMPs, factoring in land-use changes. It tracks reductions in both total nitrogen (TN) and total phosphorus (TP) within Arkansas watersheds.

In 2021, Arkansas completed a comprehensive analysis of its 58 hydrologic unit code (HUC)-8 watersheds, leveraging 30 years of monitoring data to prioritize watersheds for nutrient reduction. Watersheds were categorized into four priority tiers:

- Tier 1 – Maximum focus on nutrient reduction; based on sufficient data

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

The analysis revealed that most nutrient trends have remained stable or declined across the state, with the Spring River Watershed (HUC 11010010) being the only watershed showing an increase in TN. Arkansas’s Tier 1 efforts target seven high-priority watersheds, including Lake Conway-Point Remove, Illinois River, and Bayou Meto, which benefit from additional nonpoint source (NPS) funding and support from the U.S. Department of Agriculture Natural Resources Conservation Service Mississippi River Healthy Watersheds Initiative.

To maximize nutrient reduction, Arkansas is focusing on BMP implementation in Tier 1 watersheds, while efforts in Tier 2 aim to enhance water quality monitoring and nutrient control. Additionally, through the Bipartisan Infrastructure Law, Arkansas has secured \$4.2 million over five years from the Gulf Hypoxia Program (GHP) to support nutrient reduction projects.

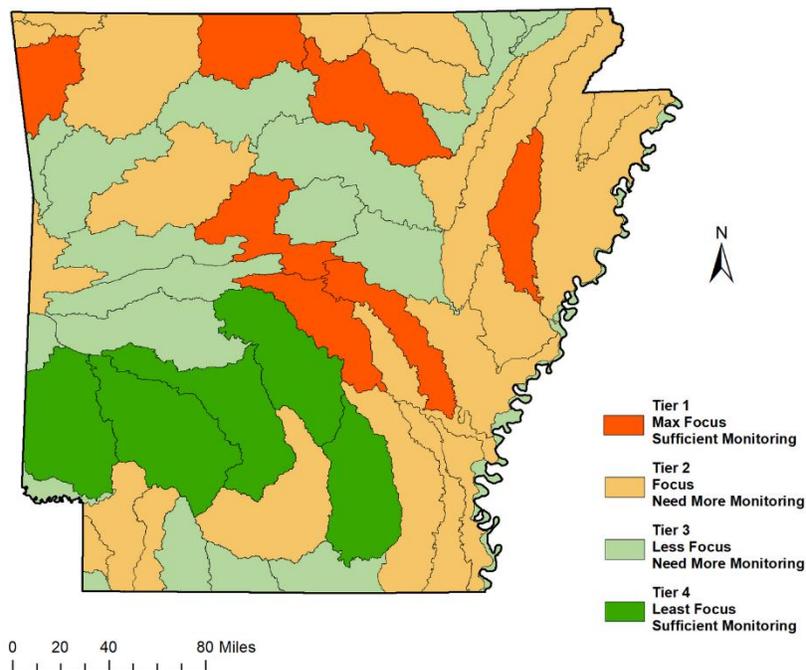


Figure 7. ANRS focus watersheds based on evaluation of water quality trends and availability of monitoring data.

ANRS Goals and Progress

Goal 1: Maintain and Increase Downward Nutrient Trends in Tier 1 Watersheds

- The ANRS prioritizes BMPs in Tier 1 watersheds, using the BMP tracker to calculate nutrient load reductions. This tool tracks ten common agricultural BMPs, estimating TN and TP reductions with data from the National Land Cover Database, Cropland Data Layer, and septic system information. Modeling has demonstrated that BMPs implemented in 2019 reduced nitrogen and phosphorus levels across most watersheds.
- The Septic Tank Removal Pilot Program expanded and is currently underway in the Illinois River, Buffalo River, and Beaver Lake watersheds.

Goal 2: Enhance Water Quality Monitoring in Tier 2 Watersheds

- Arkansas identified 23 watersheds as Tier 2, indicating the need for more monitoring data. The Upper Cache River Watershed, a Tier 2c focus area, faces significant nutrient runoff challenges, and the Gulf Hypoxia Program funds support both monitoring and two-stage ditch implementation in this watershed, aiming to reduce nutrient pollution by up to 50% by mimicking natural floodplains.

Goal 3: Continue Nutrient Reduction Efforts Statewide

- Arkansas documented a 2.22% nitrogen reduction and a 3.85% phosphorus reduction statewide due to BMPs, with conservation practices increasing from approximately 15,000 in 2019 to over 16,000 in 2023. The state has consistently expanded practices like cover crops and conservation tillage.

Innovative Tools and Education

Arkansas Nutrient Reduction Viewer: Launched in 2024, this interactive geographic information system tool displays nutrient reduction information and estimates nutrient reductions at the state and watershed levels. The viewer enables the public and stakeholders to view BMP nutrient reduction data and progress toward ANRS goals, based on a 1990s baseline.

Education and Outreach: Programs like the Arkansas Watershed Stewardship Program (AWS) and the Arkansas Discovery Farms Program promote BMPs by engaging local communities and farmers. With over 800 participants in 2024 alone, the AWS fosters watershed leadership, while discovery farms demonstrate practical conservation, showing nutrient losses averaging less than 5% of applied fertilizers.

Despite these advancements, challenges remain, including land-use changes, weather variability, and the need for more long-term water quality monitoring data. However, with continued funding and strategic planning, Arkansas is well-positioned to make further progress in reducing nutrient pollution and protecting its waterways. Next steps involve leveraging GHP funds and implementing actionable workgroup recommendations to further advance the nutrient reduction strategies and goals outlined in the ANRS.

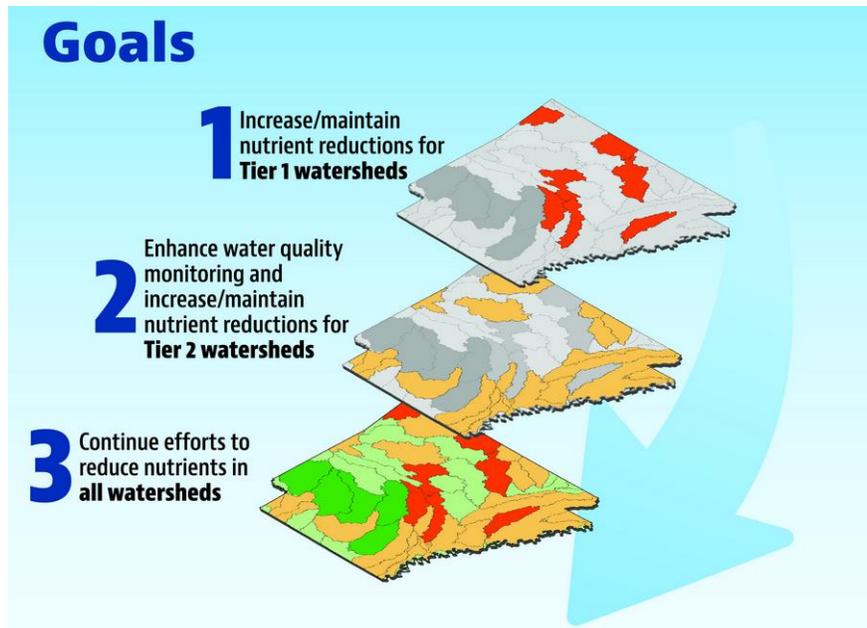


Figure 8. ANRS goals for Tier 1, Tier 2 and all other watersheds to address nutrient loss.

Watershed Management Plans (WMPs)

Nine-element watershed management plans (WMP) were developed in a cooperative effort between the Natural Resources Division and local watershed stakeholders. The goal of developing WMPs is to preserve, protect, and enhance resources and surface waters throughout the state. A watershed approach considers the entire geographic area in which a watercourse drains on an 8-digit hydrologic unit code (HUC) scale to address a broad range of issues. In FFY 2024, Arkansas had four plans reviewed and accepted by the U.S. Environmental Protection Agency (EPA) and has another expected in FFY 2025.

Little Red River Watershed Management Plan

This project consisted of two main parts. Phase 1 included development and application of a soil and water assessment tool (SWAT) model for the Little Red River Watershed for sub-watersheds on a 12-digit HUC scale to be prioritized to assist in developing nonpoint source (NPS) investment strategies that will have the greatest impact on water quality objectives. The objective of Phase 2 of this project was to prepare a nine-element watershed-based plan for the Little Red River Watershed, while cultivating local support for the plan and its implementation. The objectives are planned steps toward the goals of prioritizing potential projects and reducing pollutants to levels that will maintain the designated uses of the waterbodies within the Little Red River Watershed. The Little Red River WMP was accepted by EPA in May 2024.

Lake Conway-Point Remove Watershed Management Plan

With this project, a nine-element WMP for the Lake Conway Point-Remove Watershed 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 was completed in December 2023 and accepted by EPA in spring 2024.

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 nine-element WMP. 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 nine-element WMP. The WMP was accepted by EPA in June 2024.

Lower Ouachita – Smackover Watershed Management Plan

The objective of the project is the development of a nine-element WMP for the Lower Ouachita – Smackover Watershed. A key component of the assessment in this project will be the development and use of a SWAT model. NPS assessment efforts will focus on identification of critical HUC-12 nonpoint sources, and the load contribution and their impact in the watershed. The watershed will be evaluated to determine where effective BMPs and storm water treatment could be implemented to reduce pollutants from stormwater and erosion to the system. Data collected during this project will be used in development of a SWAT model and a nine-element WMP for the overall HUC-8 and priority HUC-12s. The WMP was completed in September 2024 and accepted by EPA.

Lower Arkansas-Maumelle Watershed Management Plan

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

Upper Illinois River Watershed Management Plan

This project involved the development of an updated SWAT model and a revised nine-element WMP for the Upper Illinois River Watershed, located in rapidly urbanizing Northwest Arkansas. A multi-year study monitored streambank degradation at 15 sites within the Illinois River Watershed in Arkansas, and based on these findings, the Illinois River Watershed Partnership estimates that streambank erosion contributes over 100,000 tons of sediment annually, accounting for approximately 54% of the annual phosphorus load within the Arkansas portion of the watershed (Illinois River Watershed Partnership 2022). Designated as a priority watershed, the Upper Illinois River Watershed includes over 30 miles of

impaired streams that are not meeting water quality standards, as listed in the 2018 Arkansas 303(d) report. The SWAT model, calibrated in 2022, was finalized in 2024.

The initial stakeholder meeting to draft the management plan was held jointly with the Oklahoma Conservation Commission in Siloam Springs in October 2022. Although a second meeting was scheduled for January 2023, it was postponed to May 2023 due to a snowstorm. Subsequent stakeholder meetings were held in August 2023 and June 2024. The updated WMP was recently accepted by EPA (in FFY 2025).

Upper White River Watershed Management Plan

The objective of this project is to prepare an EPA-accepted nine-element WMP for the Upper White River Watershed, while developing local support for the plan and its implementation. This project is intended to follow the SWAT model development for this watershed. These are planned steps toward the goals of prioritizing potential projects and reducing pollutants to levels that will maintain the designated uses of the waterbodies within the Upper White River Watershed. The WMP will ultimately be used to direct watershed protection and restoration activities with the goal being reduction of pollutant loading and protection of the watershed. This project is expected to be completed in March 2025.

Federal Resource Allocation and Best Management Practices

Program Expenditures for Fiscal Year 2024

The Arkansas Nonpoint Source (NPS) Management Program allocates most of its Clean Water Act 319(h) funds to its partners who plan to implement projects in priority watersheds that best meet the goals and milestones of the program. These partners must be capable of carrying out projects and are typically required to provide a minimum of 43% match in non-federal funds. In FFY 2024, the Natural Resources Division sub-awarded partner funding of over \$3.5 million in federal 319(h) funds to address water quality resource concerns and to reduce or prevent NPS pollution.

Table 4. Summary of FFY 2024 projects and total federal 319(h) sub-award.

FFY 2024 Projects - Total Federal Dollars Sub-Awarded		
Project Number	Project Title	Total Federal Dollars Sub-Awarded
24-100	Water Quality Monitoring and Data Organization for Springs in the Northwest Arkansas Karst Region: Blowing Springs, Cave Springs, Logan Cave, and Withrow Springs	\$133,416.00
24-200	Hicks Creek-White River Watershed Protection Program	\$303,800.00
24-300	Beaver Lake Watershed Streambank Erosion & Barrier Assessment, Stream Restoration Design, Implementation and Outreach for Watershed Planning	\$299,267.00
24-400	L'Anguille River Watershed- Water Quality Project	\$174,550.00

24-500	Water Quality Monitoring in Four Priority Watersheds; Bayou Bartholomew, Cadron, Little Red, and Lower White - Bayou Des Arc Workplan	\$306,683.00
24-600	Myatt Creek Sub-Watershed of the Spring River Watershed Basin	\$255,244.00
24-700	Mill Creek (a.k.a., Flatrock Creek) Conservation Practice Implementation	\$80,676.00
24-800	White/Kings River Watershed Project	\$215,000.00
24-900	Streambank Restoration and Riparian Buffer Enhancement in the Upper Illinois River Watershed	\$295,000.00
24-1000	Education on Regional Approaches to NWA Stormwater and Flood Management	\$30,000.00
24-1100	Preserving Water Quality in the Illinois River Watershed	\$375,560.00
24-1200	Monitoring Sediment Transport from Unpaved Roads in Brush Creek	\$69,436.00
24-1300	Upper Cadron Creek Watershed Stream Barrier Remediation and Unpaved Road Erosion and Sediment Reduction	\$302,226.00
24-1400	Using the Arkansas Watershed Stewardship Program to increase watershed management plan implementation in Arkansas	\$233,521.00
24-1500	Natural Resource Information for Potential Development Sites	\$100,000.00
24-1600	Arkansas Unpaved Road Supplemental	\$365,174.00
Total		\$3,539,553.00

The chart below shows how federal funds disbursed for projects were allocated among monitoring, planning, outreach, and implementation projects. Best management practice implementation for projects awarded during FFY 2024 was at a five-year high. Please note that FFY 2023 was an administrative year (Figure 9).

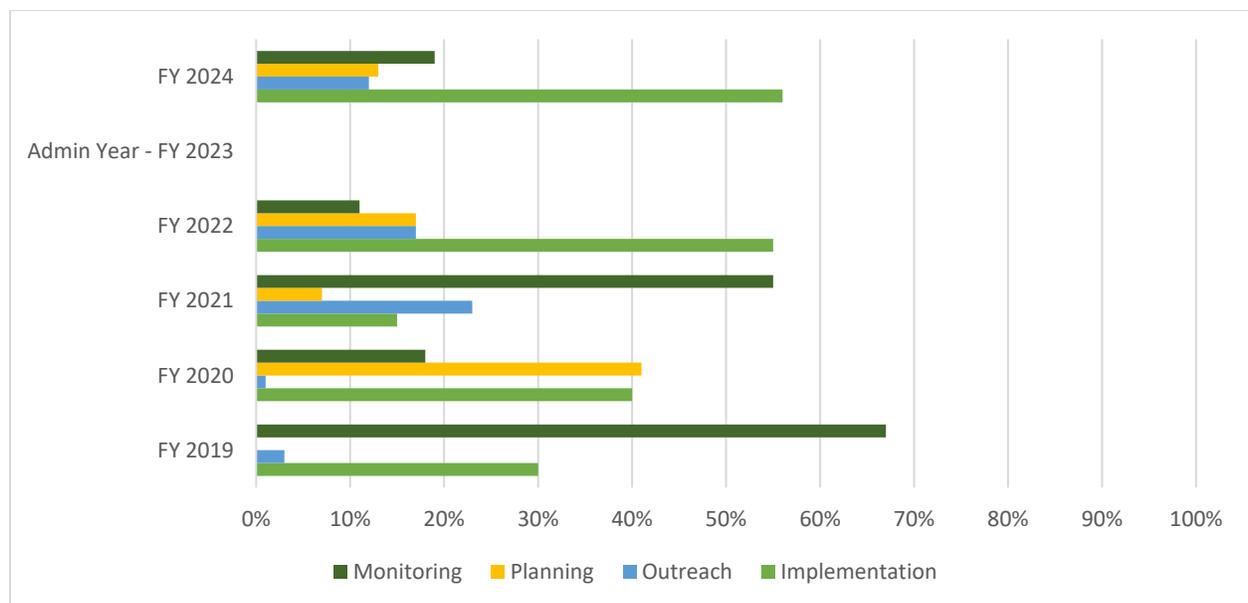


Figure 9. Distribution of federal funds between monitoring, planning, outreach, and implementation projects.

Nonpoint Source Assistance through State Revolving Loan Assistance

Agricultural Water Quality Loan Program

Supported through Arkansas's State Revolving Loan Program, the Agricultural Water Quality Loan Program was established with a maximum cap of \$25 million of loans to implement nonpoint source (NPS) related practices. In conjunction with local conservation districts and participating lending institutions, agricultural producers and landowners may apply for a low-interest loan for installation of conservation practices. Individual loans are capped at \$250,000 with eligible practices including, but not limited to: construction of tailwater recovery systems, irrigation reservoirs, purchase of no-till drills, construction of stacking sheds, construction of livestock watering ponds or fencing, bank stabilization, and land-leveling. For FFY 2024, a total of 15 loans were originated totaling \$1,762,401 and covering over 25,796 acres. The primary NPS practice includes the purchase of no-till drills to implement U.S. Department of Agriculture Natural Resources Conservation Service Standard Practice 329 (no till) and 345 (minimal till).

U.S. Environmental Protection Agency NPS-CWSRF Pilot Project

The Arkansas NPS Management Program and Clean Water State Revolving Fund (CWSRF) Program partnered together last fiscal year to submit a proposal to the U.S. Environmental Protection Agency (EPA) for technical assistance to advance NPS priorities in Arkansas. The proposal was to evaluate the NPS project sponsorship of a non-profit entity evaluating dam removal for aquatic organism passage and stream restoration as well as upgrading a dated wastewater treatment facility. Unique components of the technical assistance will evaluate the ability of the non-profit conference center to secure debt service through CWSRF without a technical ratepayer system of a traditional municipality. EPA's technical and contractual support is set to expire late calendar year 2024.

Sewer Overflow and Stormwater Reuse Municipal Grant (OSG) Program

Due to a high-level of interest in the traditional NPS 319(h) program, Arkansas has begun to utilize the Sewer Overflow and Stormwater Reuse Municipal Grant (OSG) Program to fund NPS-related projects as project merit and eligibility requirements allow. Last fiscal year, three projects were funded through the OSG program to support NPS efforts. These include Benton County updating stormwater drainage manual with OSG support of \$137,000, Illinois River Watershed Partnership implanting low impact development through a grant of \$400,000, and the City of Springdale and the Watershed Conservation Resource Center completing stream restoration of Little Sandy Creek with a \$400,000 grant.

Program Success Stories in Fiscal Year 2024

The Natural Resources Division submitted for U.S. Environmental Protection Agency (EPA) review a Type 2 success story for a FFY 2019 project with the City of Conway to install green infrastructure at Markham Square Martin Luther King, Jr. Park. EPA staff notified the Natural Resources Division that the draft success story is still under EPA review and would be considered for FFY 2025. However, EPA notified Arkansas in FFY 2024 to resubmit following the updated success story guidelines.

Problem

The Stone Dam Creek Tributary (SDCT) originates in the City of Conway in Faulkner County. Conway is the seventh largest city in Arkansas and is part of the fast-growing central Arkansas metropolitan area. The SDCT is within the Lake Conway-Point Remove Watershed and is currently a priority watershed in the Natural Resources Division's 2018-2024 Nonpoint Source (NPS) Management Plan. A FFY 2017 319(h) sub-award (17-500) between the Natural Resources Division and the Lake Conway-Point Remove Watershed Alliance collected and analyzed water quality data that identified possible NPS causes in the watershed. Land-use and land cover data analyzed in the 17-500 project indicates 83% of SDCT is developed and is one of the most developed tributaries in the Lake Conway-Point Remove Watershed. Industrial pollutants and runoff from residential fertilizers and pesticides are causing SDCT to show signs of eutrophication. Some of the greatest pollutants of concern were found to be sediment, pathogens, and nutrients, which are exacerbated by increased stormwater flood events. The SDCT had highest total phosphorus (mg/L) in sediment samples than any other tributary, finding that there was a 105% increase from SDCT sample to the next highest tributary. Biggest impacts on SDCT were stormwater outfalls, low water bridge crossings, and bank erosion. Once problems were identified in the stream, three goals were established for this project: (1) use green infrastructure and low impact development to reduce nutrients and sedimentation, (2) implement nature-based landscape via wetland creation in an environmentally deficient area to reduce the flow of stormwater, and (3) incorporate environmental justice through a unique public education and recreation space for the community.

Project Highlights

Before this project began, Conway recognized that this was a historic brownfield site, which was acquired by the city in 2014 and remediated in June 2021 under the Arkansas Division of Environmental Quality (ADEQ) Brownfield Program. There were several site remediation activities that were performed, such as site assessment, soil removal (up to four feet in certain areas), identification of chemicals of potential concern, and disposal of excavated materials. The site was then backfilled with clean soils to stabilize the site and prepare for future projects, such as this one. There were several activities that led to the success of this 319(h) grant project (19-700). Green infrastructure and low impact development are practices that use soft engineering to create an ecologically based stormwater management approach that also works to reduce urban NPS pollution. One of these activities was permeable paving that was installed to allow water to pass through hardscapes and infiltrate the ground while removing sediment and trapping pollutants. Another activity was vegetated walls that utilize vertical water harvesting to treat water and reduce stormwater runoff loads. Lastly, infiltration basins were installed to create shallow areas with permeable soils that temporarily detain and infiltrate stormwater. The wetland-based landscape activities included multiple rain gardens and bioswales that are vegetated depressions that slow stormwater and trap pollutants through root infiltration. Educational signage was placed at each type of green infrastructure or low impact development to provide information on how they work and the importance of the project design. Conway also created several graphics, social media posts, and educational videos to help promote the park and provide more intricate details of stormwater, NPS pollution, and how the park is remediating these problems. Construction for implementation began in June 2021 and was completed in July 2022.

Partners and Funding

Conway helped bring this project to life and made it successful with the following partners: the Lake Conway-Point Remove Watershed Alliance, the University of Arkansas Community Design Center and Office for Sustainability, and community stakeholders. Conway, and the partners listed above, put in \$880,553 of in-kind match for this project to be completed. Prior to 19-700 beginning, Conway completed a superfund site that remediated this brownfield site and were awarded a grant for \$200,000. The 17-500 project that indirectly helped identify problems for this project to create goals around was completed by the Lake Conway-Point Remove Watershed Alliance with assistance from the University of Central Arkansas and GBMc & Associates. There were \$599,995 federal 319(h) dollars spent on this project (19-700) to construct most of the green infrastructure.

Results

This project was successful in demonstrating how green infrastructure could be used in an urban setting to reduce NPS pollution and mitigate stormwater. Estimated active load reductions were calculated using the Pollutant Load Estimation Tool for the SDCT and found there was a reduction in nitrogen by 41%, phosphorus by 44%, and sediment by 48%. With the constructed infrastructure and native vegetation, the project provided increased water storage and infiltration, erosion control, nutrient cycling, and recreation as well as ecosystem services. Conway has seen a decrease in flooding in this area due to the successful implementation of the stormwater management practices. Education and outreach components were also very successful in promoting green infrastructure, as demonstrated by results of a survey completed by citizens who have visited the park. An estimated 73% of those surveyed wanted to see more green infrastructure implemented in Conway. Another 63% said they were now more likely to plant native plants after visiting and learning the importance of native vegetation. Finally, this project was a success as it remediated a brownfield site into a unique public education and recreation area within a historically underserved community.



Figure 10. Martin Luther King, Jr. Park in Conway, Arkansas before implementation of green infrastructure.



Figure 11. Martin Luther King, Jr. Park after implementation of green infrastructure.

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

The Arkansas Nonpoint Source (NPS) Management Program has several partners that work to reduce NPS pollution. Partners consist of, but are not limited to, the U.S. Department of Agriculture Natural Resources Conservation Service, Arkansas Natural Heritage Commission, Arkansas Division of Environmental Quality, the University of Arkansas System Division of Agriculture Cooperative Extension Service, The Nature Conservancy, Beaver Watershed Alliance, Illinois River Watershed Partnership, and various other entities. Listed below are a few partners and the implemented projects and programs that have enhanced the mission of the Arkansas NPS Management Program in FFY 2024.

Natural Resources Conservation Service

The Natural Resources Conservation Service (NRCS) reported on 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 FFY 2023, Arkansas NRCS worked with more than 200 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

The Environmental Quality Incentives Program (EQIP) promotes agricultural production and environmental quality as compatible goals, providing technical and financial assistance to install or implement structural and management conservation practices on agricultural lands. More than \$76.5 million in financial assistance was obligated in FFY 2023. There were 1,559 contracts on 232,609 acres under this program. Funded partners included sub-account types like: Beginning Farmer/Rancher, Certified Organic, Limited Resource, Locally Led, Planning, Wildlife, and Socially Disadvantaged.

Conservation Stewardship Program

The goal of the Conservation Stewardship Program (CSP) is to encourage agricultural and forestry producers to undertake additional conservation activities to improve and maintain existing conservation on their land. By providing financial and technical assistance, this program conserves and enhances soil, water, air, and related natural resources. There were 1,469 new contracts developed on 397,033 acres in FFY 2023. The program accounts for more than \$56.2 million in obligations.

Regional Conservation Partnership Program

The Regional Conservation Partnership Program (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 113 contracts funded and 11,425 acres treated with \$6.1 million obligated in FFY 2023.

The Nature Conservancy

The Nature Conservancy (TNC) in Arkansas has been working cooperatively with private landowners, businesses, public agencies, and other organizations to conserve and restore the lands and waters of the Natural State for people to enjoy since 1982. Their mission is to conserve the lands and waters on which all life depends. TNC has many areas around the state where they are improving water quality. In the Mississippi Delta Region, innovative techniques like the use of two-stage ditches are helping to reduce erosion and are improving drainage for farmers. TNC's irrigation well-timer program is now on about 40,000 acres and is annually saving 10 billion gallons of water. In Ozark and Ouachita Interior Highlands, conservation work is focused on restoring streams, reforesting floodplains, and improving unpaved roads to reduce sediment. This year, six unpaved roads and stream crossings projects were completed in Ouachita, Saline, and Newton counties, including 750 feet of new road built using unpaved roads best management practices and construction of a new 100 ft. span bridge over Cave Creek to restore aquatic organism passage and reconnect nearly six miles of stream back to the Buffalo River.



The Beaver Watershed Alliance

The Beaver Watershed Alliance (BWA) works to proactively protect, enhance, and sustain the high-water quality of Beaver Lake and its tributaries through voluntary best management practice implementation, outreach and education, and planning and analysis activities. The BWA focuses on efforts for source water protection to protect Beaver Lake, the regional drinking water supply for over 500,000 people in Northwest Arkansas, or 1 in 5 Arkansans. Beaver Lake and its tributaries also serve local industries, farms, and support recreational activities such as boating, fishing, birding, and swimming.



Over the past year, the BWA worked with partners, volunteers, and landowners to further advance the Beaver Lake Watershed Protection Strategy.

Additional Partnerships



Beaver **Water** District



Nonpoint Source Pollution Management Program Milestones

The 2024-2029 Nonpoint Source (NPS) Pollution Management Plan lists short-term and long-term programmatic goals, objectives, and strategies. Program goals, objectives, and strategies, as well as larger statewide efforts focused on agriculture, forestry, surface erosion, and urban runoff, are listed throughout the NPS Management Plan. In 2024, the Natural Resources Division made progress towards these new goals.

Examples of program goals for statewide efforts to reduce surface erosion within 15 to 20 years are: maintain or increase the use of voluntary best management practices (BMP), increase stream stability in priority watersheds, and increase protection of high-quality waters. Specific objectives and measurable milestones for reducing surface erosion are included below. A full summary of program goals, objectives, strategies, and milestones can be found in [Arkansas's Nonpoint Source Management Plan](#).

2024-2029 Objective	Milestones
Unpaved road maintenance training in all NPS priority watersheds	Counties with NPS priority watersheds with training
Initiate unpaved road BMP survey (similar to forestry BMP survey)	Survey initiated or determined infeasible
Survey 100 potential stream barrier project locations identified by Southeastern Aquatic Resources Partnership	Number of stream barrier project locations surveyed NPS Program funding for stream barrier surveys, removal projects
Unpaved roads erosion survey in at least one new priority watershed	Unpaved roads survey NPS watershed-based project(s) NPS Program funding for unpaved roads survey
Streambank erosion inventory in at least one new priority watershed	Streambank erosion inventory NPS watershed-based project NPS Program funding for erosion inventory
Stream restoration project in at least one new priority watershed	Stream restoration NPS watershed-based project NPS Program funding for stream restoration
Tracking of protected or forested riparian buffer	Tracking strategy in place Riparian buffer inventories completed
Protection of high-quality waters	Watershed-based projects focused on land acquisition, bank stabilization, or maintaining or improving conditions of high-quality waters

The 2024-2029 NPS Management Plan also includes a summary of progress towards 2018-2023 milestones in Appendix D. Major program highlights between 2018 and 2023 include the Arkansas NPS Management Program awarding \$18,893,952 in 319(h) program grants, the acceptance of five new watershed management plans (WMPs) by the U.S. Environmental Protection Agency (EPA), and the

initiation of three updated WMPs. In addition, the Arkansas Watershed Steward Handbook was updated, and two NPS success stories were identified, submitted, and accepted by EPA.

The Natural Resources Division and the EPA recognize the achievement of goals and objectives 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 objectives can be influenced by revisions to national EPA guidance, which was also updated during the last fiscal year. Because of these possible changing factors, Arkansas will re-evaluate and update applicable goals and objectives 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.

Fiscal Year 2024 Nonpoint Source Pollution Management Program Accomplishments

- **Watershed Management Plans (WMP)** – The Natural Resources Division had four accepted WMPs for FFY 2024 and there were five active WMP projects that focused on revisions or development during FFY 2024.
- **Arkansas Nutrient Reduction Strategy (ANRS)** – The ANRS has advanced nutrient reduction efforts through the Arkansas Nutrient Reduction Viewer, which offers an interactive tool to track best management practice implementation and estimate nutrient reductions across watersheds, enhancing transparency and data accessibility. Additionally, ANRS outreach initiatives reached over 800 people in 2024 through programs like the Arkansas Watershed Stewardship Program, empowering communities with practical knowledge to reduce nutrient pollution and protect water quality statewide.
- **Arkansas Unpaved Roads Program (AURP)** – This program was very active during FFY 2024. In FFY 2024, a record 17 entities submitted applications requesting funding in the amount of \$837,158. Fifteen of the applications were deemed eligible and nine were selected for funding (\$558,756). This increased demand for AURP funds is a result of increased marketing of the program by Natural Resources Division staff. Three of the projects have been completed to date. During the year, 46 people also participated in one of two environmentally sensitive management (ESM) trainings that were held through the AURP. One training was held in central Arkansas at Sheridan, while the other was held in Morrilton at the community college. Applicants must have someone on staff who has received ESM training to be eligible to apply for AURP funds.
- **Education and Outreach-** The Arkansas Nonpoint Source (NPS) Management Program has effectively increased public awareness through targeted projects and community involvement. In 2024, over 100 community members, students, and volunteers participated in the Lake Leatherwood Watershed Assessment and Restoration Project, where they engaged in hands-on activities to manage invasive species and learn about riparian ecosystems. These events, along with educational hikes and invasive species removal efforts, have empowered participants with practical knowledge on protecting local water bodies and ecosystems. This project not only highlights the ecological importance of watershed management, but also fosters community stewardship, ensuring lasting conservation impacts at Lake Leatherwood.

- **Enhancing Partnerships-** Without partnerships, many of the successes that have been made this past fiscal year would not have been possible. In FFY 2024, through the help of partners including the U.S. Department of Agriculture Natural Resources Conservation Service, The Nature Conservancy, Illinois River Watershed Partnership, University of Arkansas System Division of Agriculture Cooperative Extension Service, Beaver Watershed Alliance, Olsson (formerly FTN Associates), conservation districts, and various others, several initiatives and programs reducing NPS pollution have been initiated and/or completed.
- **Grants Reporting and Tracking System (GRTS) Database Reporting-** For FFY 2024, there were load reductions that directly related to 319(h) funded projects. Load reductions were found in many of the priority watersheds around the state. Total load reductions for FFY 2024 were 7,892 tons per year for sediment, 7,729 pounds per year for phosphorus, and 14,448 pounds per year for nitrogen. All load reductions were entered into the GRTS database.

Support of National Nonpoint Source Priorities

Updated nonpoint source (NPS) program guidance was released by the U.S. Environmental Protection Agency (EPA) for implementation to states and territories on May 4, 2024. The updated guidance highlighted 15 significant programmatic changes. Of these changes, states and territories are afforded additional flexibility in implementing NPS programs, specifically in regard to use of watershed project funds for protective projects and support of watershed planning for disadvantaged communities. Additionally, EPA included new language emphasizing NPS projects document climate resiliency co-benefits from best management practices.

In meeting new guidance, Arkansas in the last fiscal year funded four of 15 (27%) projects that were protective of high-quality waters, two of 15 (13%) projects focused on advancing water quality improvements in underserved communities, and 10 (67%) projects that included conservation practice implementation with associated co-benefits beyond sediment and nutrient abatement.

Nonpoint Source Program Quality Assurance

In FFY 2024, there were a total of 20 projects that required a quality assurance project plan (QAPP), one project was approved, and one was extended. A total of four projects were finalized during FFY 2024.

Private Wetland and Riparian Tax Credit Program

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

During FFY 2024, a total of nine applications were received and approved. Overall, during FFY 2024, 14 projects were completed. Applications were distributed across the state, but highest densities occurred in the Little Red River Basin. Approved applications culminated in a total of \$821,000 in tax credits.



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