

Arkansas' Nonpoint Source Pollution Management Program

Annual Report 2004

Prepared pursuant to Section 319 of the
Federal Clean Water Act



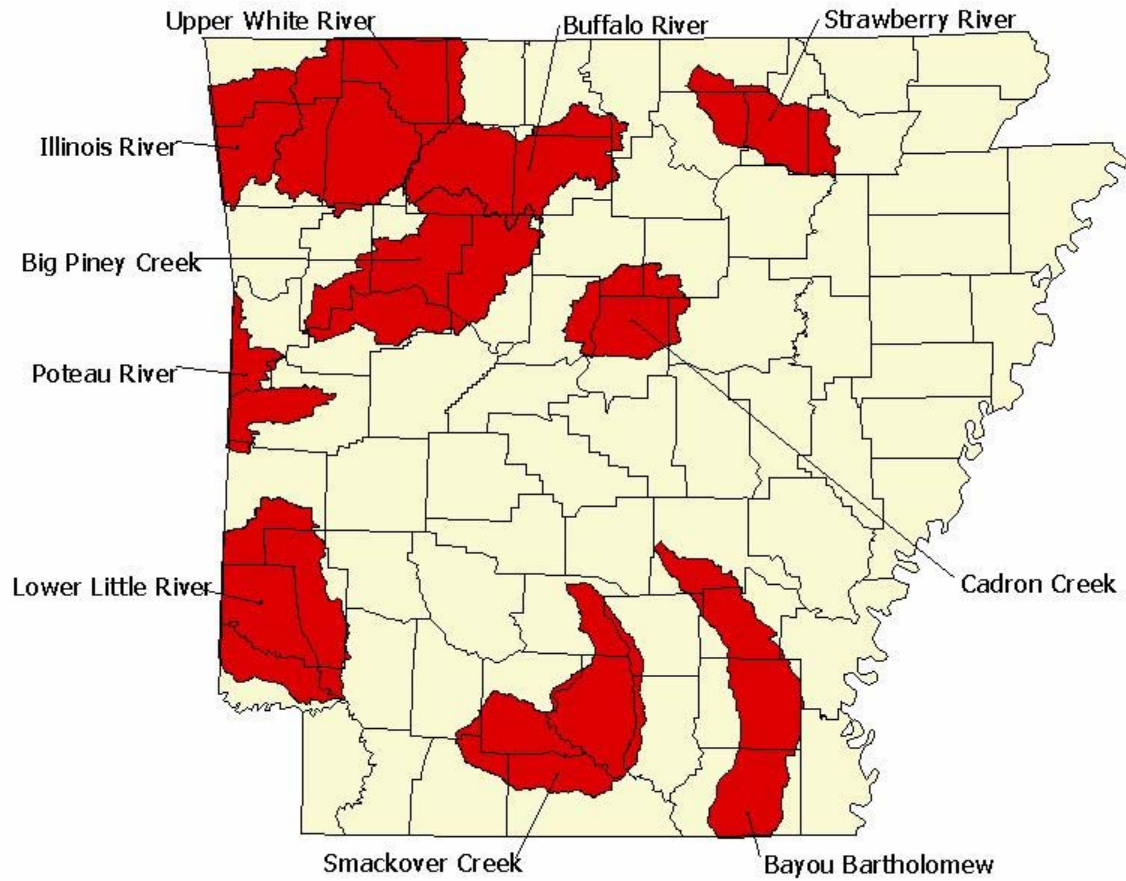
**Arkansas Soil and Water
Conservation Commission
January 2005**

**Arkansas' Nonpoint Source Pollution
Management Program
2004 Annual Report**

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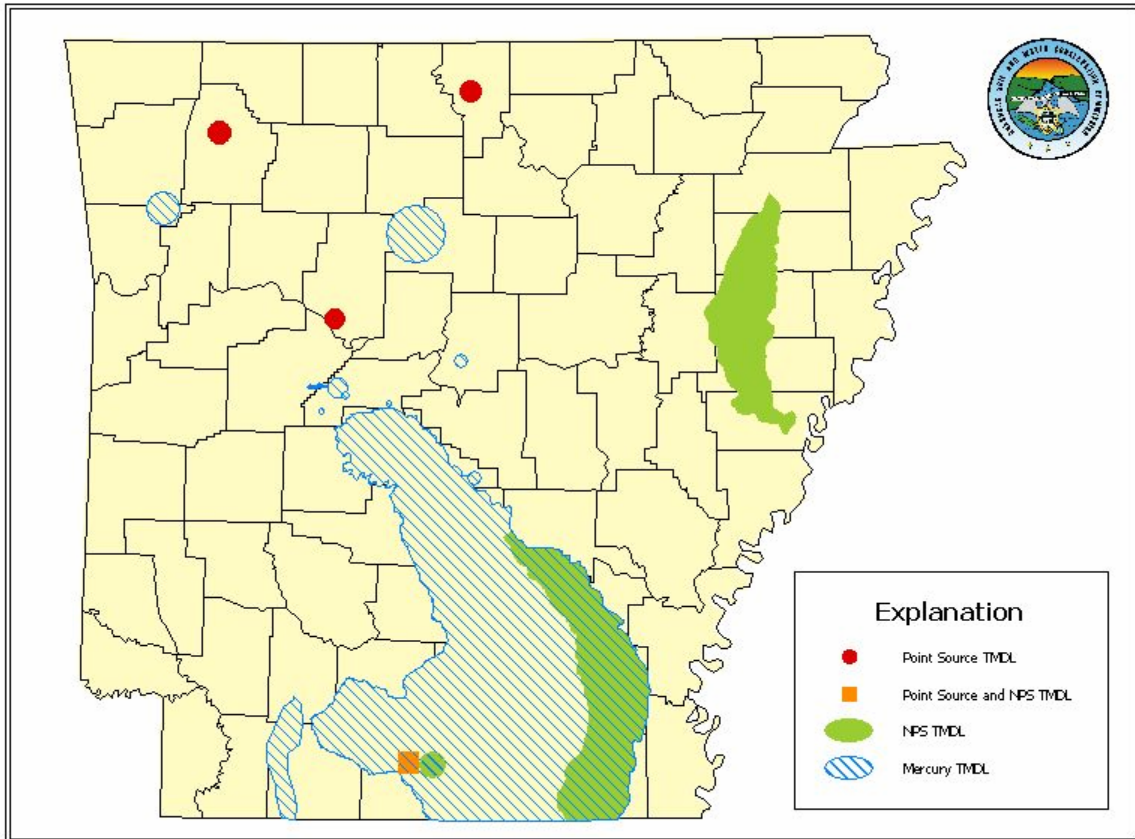
Executive Summary
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Priority Watersheds



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TMDL Watersheds



Executive Summary

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The Clean Water Act details the requirements for the Annual Report. Specifically:

Section 319(h)(11) Reporting and Other Requirements. Each State shall report to the Administrator on an annual basis concerning

- (A) its progress in meeting the schedule of milestones submitted pursuant to subsection (b)(2)(C) of this section, and
- (B) to the extent that appropriate information is available, reductions in nonpoint source pollutant loading and improvements in water quality for those navigable waters or watersheds within the State which were identified pursuant to subsection (a)(1)(A) of this section resulting from the implementation of the management program.

To meet "(A) its progress in meeting the schedule of milestones", ASWCC has included the **Arkansas Nonpoint Source Pollution Program Milestones** section on page 12. ASWCC is responsible for the implementation of all state Nonpoint Source Pollution activities.

To meet "(B) to the extent that appropriate information is available", ADEQ is responsible for monitoring and assessing the waters of the state. This is reported on a biennium basis. The major reports are the "Water Quality Inventory Report (305b)" and the 303(d) List of Impaired Waters. In addition to ADEQ's activities, ASWCC has instituted limited long term base line monitoring that is reported in **Arkansas Nonpoint Source Pollution Baseline Monitoring Program** section on page 91. On the project level, ASWCC does load reduction calculations utilizing the Region 5 and STEPL models. This information is entered into the Grants Reporting and Tracking System (GRTS). These calculations are too voluminous to include in this report but may be accessed within GRTS.

Further details on how "(A) its progress in meeting the schedule of milestones" is accomplished is given in the sections following the **Arkansas Nonpoint Source Pollution Program Milestones**.

ASWCC has prioritized its Nonpoint Source Pollution implementation activities by:

- 1) **Priority Watershed Program,**
- 2) **Nonpoint Source Pollution TMDL Watersheds,** and
- 3) **Other Waters of the State by Category / Statewide Activities.**

ASWCC annually receives a multiyear grant from EPA to implement Nonpoint Source Pollution activities. Each multiyear grant is divided into separate projects.

The ASWCC has completed eighteen projects this year, leaving a total of fifty five projects still active. The FFY 1999 grant was completed this reporting period, leaving FFY 2000, 2001, 2002, and 2003 active. The ASWCC received from EPA the new FFY 2004 grant in which 8 partner projects were funded in addition to mini-grants, monitoring, and administrative activities.

Management Program Overview 2004 Annual Nonpoint Source Pollution Management Report

Management Program Status

The Arkansas Nonpoint Source Pollution Management Program (NPSMP) is the overarching guidance document for the State's nonpoint source pollution (NPS) management efforts. The NPSMP is in effect, a road map for Local, State and Federal agencies to use in development of individual projects and programs to address water quality problems caused by pollution from diffuse sources. Arkansas' current NPSMP was developed in 1997 and covers the period of 1998 through 2002. An amendment was prepared in 2002 that provided interim guidance for the years of 2003 and 2004. Since the development of the current NPSMP, several developments have occurred including:

- implementation of new CAFO/AFO rules by the US EPA,
- implementation of new phase II Stormwater regulations by the EPA for municipalities and construction sites,
- acceleration of the TMDL program nationwide,
- the passing of new regulations concerning application of nutrients and utilization of poultry litter in Arkansas.

In addition to these specific developments, Arkansas' NPS priorities are constantly changing because of changes in the landscape and continued improvement of NPS management measures and Best Management Practices (BMPs).

Update of Arkansas Nonpoint Source Pollution Management Program

The goal of ASWCC is to develop, in cooperation with all applicable Local, State, and Federal agencies, an updated State Nonpoint Source Pollution Management Program for the years 2005 through 2010.

Development of the revised NPSMP is an iterative process whereby data is being compiled pertinent to the various NPS issues and components of the NPSMP, consulting with an interagency work group and individual agencies or parties, and then compiling all the relevant information into the NPSMP. A total of three meetings of an interagency work group will be conducted. GIS data will be compiled on the State identifying all 8 digit HUAs where water quality impairment(s) is attributed to NPS and the identified cause of the impairment. The interagency work group is working through a qualitative risk assessment exercise to identify the highest priority 8 digit watersheds for further study.

With the information from the interagency work group additional data is being compiled on each targeted 8 digit watershed (non supported uses, cause of non support, review of watershed specific studies, LULC, existing watershed management plans, and existing management coalitions). SWAT models of the target watersheds are being developed and analyzed. In these models, sub-watersheds roughly corresponding to 14 digit HUAs are being identified and ranked as high, moderate or low potential sources of the impairing pollutant. In addition, for each identified categorical source of NPS pollution, draft management measures and Best Management Practices are being developed / suggested. Individual agencies and interest groups have / are being consulted in the development of management measures.

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Additionally individual agencies and interest groups have been consulted to develop specific programmatic and watershed milestones and schedules. All of the data will be used to prepare a draft NPSMP which will be submitted to the interagency work group for review and comment. A final meeting of the working group will be held to provide for a final overview of the draft and address any additional comments. The NPSMP will be revised as per the interagency work group review and a final NPSMP will be submitted to the ASWCC certification by the agencies attorney, required public comment, and submittal to EPA.

The outline of the revised NPSMP will be similar to Arkansas Nonpoint Source Management Program for 1998 through 2002. The document will be developed to meet all statutory requirements of the Clean Water Act and the nine elements of successful NPS management programs as defined by the 1997 guidance.

Staffing

Within the past 18 months numerous changes have occurred in the NPS Management Program staff. A new supervisor Tony Ramick was named. Two new Environmental Program Manager positions were filled. With the addition of these two positions and the two Land Resource Specialist positions, workloads are more evenly distributed making the Program more efficient and productive. The NPS Management Program has a staff of nine. This is the first time since 2000 the NPS Program has not had vacant Program Manager or Land Resource Specialist positions. Three of the nine have been employed less than a year. Of the remaining six, two are in new positions for less than a year. Staff turn over is not an excuse but a reality.

Arkansas Nonpoint Source Pollution Program Milestones

Arkansas' current NPSMP was developed in 1997 and covers the period of 1998 through 2002. An amendment was prepared in 2002 that provided interim guidance for the years of 2003 and 2004. The Milestones are reported in the **Arkansas Nonpoint Source Pollution Program Milestones** section. The milestones are presented in a tabular form as shown below.

Watershed Category	/	Action Items Action Items	Status	Activity
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The milestones are grouped by Watershed or Category. Each listing within the two groupings includes one or more Action Items.

The Status for each Action Item is defined as:

- In progress Active work using 319 funds
- Working On Active work using non-319 funds and other programs
- Complete Milestone has been met
- None No activities have taken place

Complete Milestones might have been done in a previous year.

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The Activity for each Action Item is either a 319 project number, i.e. 02-200, or the name of a group or organization whose specific actions are addressing that Action Item.

Utilization of funds

Report of Grant years expenditures

During FY 2004, ASWCC spent funds from seven separate 319 grants. A total of \$4,132,368.56 (49.92%) 319 funds was expended. These monies were matched by a total \$4,145,547.57 (50.02%) of nonfederal funds.

Cost share

Nineteen 319 Projects include a cost share element. Cost share consists of funds being paid to land owners/users to implement and maintain specific BMPs on their property. The BMPs to be cost shared were selected and approved on a project by project basis. ASWCC works with each of its partners to identify appropriate and economical BMPs that each landowner is willing and able to implement. Each of these projects is targeted at a single watershed.

USDA EQIP may have been teamed with 319 cost share in some cases. The difficulty with EQIP cost share as far as 319 is concerned is that EQIP is / has not targeted by watershed.

The **Cost Share Expenditures** table below shows 319 funds paid to landowners and the match money spent by the landowners.

Cost Share Expenditures Federal Fiscal Year 2004		
	319 Funds	Landowner Match
Beaver Lake Project (99-1100)	\$116,249.07	\$181,673.67
Strawberry River 1 Project (00-600)	\$47,281.00	\$59,500.00
Brewer Lake Project (00-1000)	\$5,695.20	\$8,742.80
L'Anguille Project (01-500)	\$8,616.28	\$12,964.42
Lower L'Anguille Cost-Share (01-510)	\$41,444.25	\$65,657.54
Strawberry River 2 Project (01-800)	\$89,482.00	\$115,661.00
Buffalo River Cost Share Project (01-1800)	\$16,830.31	\$21,819.01
Alternative Livestock Water Project (01-1900)	\$130,121.00	\$193,897.00
Spavinaw Creek Project (01-2000)	\$83,479.65	\$132,381.96
Lower Spring River Project (01-2400)	\$16,682.00	\$23,564.00
Big Creek Tail Water Project (02-200)	\$22,500.00	\$61,557.53
Poteau River Project (02-300)	\$0	\$0
Upper Little Red River Project (02-400)	\$43,729.00	\$65,596.00
Ballard Creek Project (02-500)	\$5,858.42	\$16,901.03
Table Rock Project (02-600)	\$169,035.50	\$316,392.50
Bayou Bart Project (02-1100)	\$10,838.08	\$16,257.12

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Upper White River Cost-Share (04-200)	\$13,439.52	\$20,159.28
Benton Co Illinois River Watershed (04-300)	\$0	\$0
Spring River Watershed Project (04-500)	\$0	\$0
Total	\$821,281.28	\$1,312,724.86

Project Status

The following tables list all the projects that were active during all or part of FFY 2004. The **Projects Completed During FFY 2004** table and the **On going Projects for FFY 2004** table list the project number and project title. The project number and titles are used throughout this report as identifiers. The tables also tell in which Priority Watershed (or TMDL) the project is located.

Eighteen projects were completed and fifty five projects remained active.

Projects Completed During FFY 2004		
Project Number	Project Title	Priority Watershed
99-600	Demonstration of Pasture Renovation to Reduce Phosphorus and Nitrogen Runoff from Fields Fertilized with Animal Manure	Big Piney
99-700	State-Wide Nutrient Management Education for Confined Poultry and Livestock Producers	No
99-1100	Beaver Lake Watershed	Upper White
99-1200	Little Red River Landowner Education Project	No
00-500	Upper Little Red River Watershed Project	No
00-600	Strawberry River Agricultural Watershed Project	No
00-1200	Physical, Chemical, and Biological Assessment of the Strawberry River Watershed	Strawberry
00-1500	St. Francis & Lee County No-Till Incentive Project	L'Anguille
01-800	Strawberry River Agricultural Watershed Project – Reach 2 (Piney Fork)	Strawberry
01-950	St. Francis County No-Till Incentive Project	L'Anguille
01-1400	Proper Cattle Heavy Use Area Design And Management	No
01-1700	Lower Little Red River Watershed Project	No
01-1900	Alternative Livestock Water Demonstration Project	Strawberry
01-2200	The Johnson, Newton & Pope Counties Roadside Erosion Project	Big Piney
01-2300	Enhancement of Smackover Creek Remediation	Smackover
01-2400	Lower Spring River Watershed Pasture Improvement	No
02-800	Fourche Creek Watershed Recovery and Restoration	No
03-1xx	Mini Grant Program	No

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On going Projects for FFY 2004		
Project Number	Project Title	Priority Watershed
00-400	Expansion and Implementation of the Mud Creek Urban Project	No
00-600	Strawberry River Agricultural Watershed Project	Strawberry
00-700	Water Quality Education and Environmental Training in the Lower Little River Watershed	No
00-1000	Lake Brewer Watershed Nonpoint Source Pollution Control	Cadron
00-1100	Rock Creek Watershed Assessment	No
00-1300	Bayou Bartholomew Watershed	No
00-1400	Lower Little River Watershed Project	Lower Little
00-1600	Strawberry River Model Farm	No
01-200	Guidance and Options for Private Landowners With Regard to Stream Side Timber Harvest and Management in the Bayou Bartholomew Watershed	No
01-300	Silvicultural Best Management Practices Effectiveness Monitoring	No
01-410	L'Anguille Watershed Partners Project and DU Phase II	L'Anguille
01-510	Lower L'Anguille River Cost Share Project	L'Anguille
01-610	Cache River Assessment	No
01-1000	ASWCC Statewide Public Awareness Project	No
01-1100	Optimizing BMPs, Water Quality and Sustained Agriculture in the Lincoln Lake Watershed	Illinois
01-1200	Beaver Lake Watershed Public Awareness and Education Project	Upper White
01-1500	Prairie Creek Restoration Project	No
01-1800	Newton County Buffalo River Watershed Cost Share Project	Buffalo
01-2000	Benton County Spavinaw Creek CNMP Cost-Share Program	No
01-2100	Izard County Strawberry River Watershed Hydromulcher Demonstration	No
02-200	Big Creek Watershed Tailwater Demonstration	No
02-300	Poteau River Agricultural Watershed Project	Poteau
02-400	Upper Little Red River Watershed Project	No
02-500	Ballard Creek BMP Implementation	Illinois
02-600	Carroll County Table Rock Tributaries Watershed Cost Share Project	Upper White
02-700	Local Watershed Dairy Assistance Program	No
02-810	Fourche Creek II	No
02-900	Demonstration of Greenway Development To Protect Ecological Services in Urban Streams	Illinois
02-1000	Buffalo Island Drainage District #9 Sediment Prevention Project	No
02-1100	Bayou Bartholomew Watershed Nonpoint Source	Bartholomew

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	Pollution Abatement Project	
02-1200	Development of a Decision Support System and Data Needs for the Beaver Lake Watershed	Upper White
02-1300	Comprehensive Nutrient Management Planning (WQT Program)	No
03-100	Core Program	No
03-120	GIS Database Development and Watershed Modeling in Arkansas Priority Watersheds	No
03-130	Watershed Restoration Plans for Priority Watershed	No
03-140	Watershed Restoration Plan for the L'Anguille Watershed	L'Anguille
03-200	Clay County Sediment Prevention Project	No
03-300	Upper Little Red River Watershed BMP Implementation Project	No
03-400	Urban Nutrient Management in the Illinois River Landscape Project	Illinois
03-500	West Fork of the White River Project	Upper White
03-600	Comprehensive Nutrient Management Planning (WQT Program)	No
03-700	Arkansas Excess Nutrient Management Project	
03-800	Demonstration of On-Farm Litter Combustion	Illinois
03-900	Feasibility Assessment of Establishing the Ozark Poultry Litter Bank	Illinois
03-1000	Demonstration of Process Technology for Converting Poultry Waste to Energy and Chemical Products	Illinois
03-1100	Poultry Litter Transport from Nutrient Surplus Watersheds in Northwest Arkansas	Illinois
04-100	Core Program	No
04-1xx	Mini Grants	No
04-200	Upper White River Watershed Cost Share Project	Upper White
04-300	Benton County Illinois River Watershed Costshare Program	Illinois
04-400	Demonstrating the Impact on Water Use and Runoff Water Quality of BMP Implementation for a Rice Rotation in the L'Anguille River Watershed	L'Anguille
04-500	Spring River Watershed Project	No
04-600	Sebastian County Conservation Education Program multi-Counties in Arkansas	No
04-700	Developing Resource Management Systems for Golf Courses in Washington County, Arkansas: Phase I	Illinois
04-800	Lee Creek Watershed Water Quality Monitoring Project	No

All of the above projects are covered in one of the following sections:

- **Priority Watershed Program**
- **Nonpoint Source Pollution TMDL Watersheds**
- **Other Waters of the State by Category / Statewide Activities**

The format used for all projects' annual reporting lists activities for the one year October 1 to September 30 period and all activities for the entire project length. These reports

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are used to generate the project tables that appear through out this report. Since some activities are completed early in a project, the project tables may show activities in the project total columns but none in the past 12 months columns.

BMPs will be planned before being implemented. Therefore, there will always be more total planned than total implemented BMPs. The planning of BMPs does not contract the landowner to implement the BMPs. Very often changing circumstances cause landowners not to implement all BMPs as planned.

Typically landowners prioritize implementation of planned BMPs. This prioritization varies and may be based on cost, time to implement or importance of need therefore there is no way to predict when implementation will occur. ASWCC and its partners stress to landowners to implement BMPs as soon as possible (typically within one year of being approved) but extenuating circumstances do occur.

Priority Watershed Program

The Priority Watershed Program was implemented to target 319 efforts at the most important waters of the state not just at the worst problems. A variety of information was used to develop the list most notably the Unified Watershed Assessment (UWA). In addition to the UWA, ASWCC developed a working group which encompassed state agencies and partners to set priorities. Based upon their input and the UWA a priority watershed list was developed and incorporated into the 1998 – 2002 NPS Management Plan. The list has been left intact from year to year. Foremost this allowed targeting to improve water quality but it also avoided the possibility of watersheds dropping off the list when minor improvements were made and thus returning to the list in later years.

Nonpoint Source Pollution TMDL Watersheds

The Total Maximum Daily Load (TMDL) watersheds identification and plan development is a program headed at the state level by ADEQ. According to ADEQ, ninety seven watersheds have been identified as needing TMDL plans, fifty four TMDL plans have been finalized, and seventeen TMDL plans have been approved. A TMDL is prepared for each impaired reach of a stream and the pollutant. If a stream is impaired by two different pollutants, there would be two TMDLs.

FINALIZED TMDLs			
Stream Name	#of Reaches w/ TMDL	Pollutant	Source
Bayou Bartholomew	6	Siltation	Nonpoint
L'Anguille River	5	Siltation	Nonpoint
L'Anguille River	2	Pathogens	Nonpoint
Deep Bayou	1	Siltation	Nonpoint
Hicks Creek	1	Nitrates	Point
Holman Creek	1	Nitrates	Point
Whig Creek	1	Nitrates	Point

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Elecc Tributary	1	Ammonia	Point & Nonpoint
Elecc Tributary	1	Chlorides	Point & Nonpoint
Elecc Tributary	1	Sulfates	Point & Nonpoint
Elecc Tributary	1	TDS	Point & Nonpoint
Various watersheds	33	Mercury	

ASWCC is involved with the facilitating the implementation of developed plans to address Nonpoint TMDLs. Point sources in TMDLs tended to overwhelm the effects of Nonpoint source contributions. ASWCC treats the Nonpoint Source TMDL watersheds as priority waters for 319 funding. TMDL watersheds were grouped separately so that when the priority watersheds were eventually reevaluated, the TMDL watersheds could not be dropped from being listed.

Other Waters of the State by Category / Statewide Activities

All statewide projects and all non-priority watershed projects are included in this section.

Arkansas Nonpoint Source Pollution Minigrant Program

The Minigrant Program provides small grants (\$20,000 and <) to conservation districts for nonpoint activities (primarily equipment) in a ten month grant period. This program is aimed at reducing NPS pollution but also to develop partnerships with those Districts and landowners that have not been active (proactive) in addressing NPS pollution. Results must be reported for five years after the completion of the project. This insures the Districts and its cooperators continue to address NPS pollution concerns.

Completed 03 Mini-grant summary		
County	Equipment/ Practice	Result
03-150 Boone Co.	Pasture Renovation (Aerator)	397 acres
03-151 Lawrence Co.	No-till	590 acres
03-153 Little River Co.	Public Awareness	4,150 students
03-154 Logan Co.	Litter Spreader	2,286 acres
03-155 Lonoke Co.	Land Leveling (GPS unit)	1,242 acres
03-156 Phillips Co.	Land Leveling (GPS unit)	2,539 acres
03-157 Polk Co.	No-till	301 acres
03-158 Randolph Co.	Roadside cover (Mulcher)	21,398 feet
03-159 Fulton Co.	No-till	549 acres
03-160 Newton Co.	Rotowiper (Pasture Establishment)	607 acres
03-161 Prairie Co.	No-till	83 acres

Arkansas Nonpoint Source Pollution Baseline Monitoring Program

ADEQ is responsible for monitoring and assessing the waters of the state. This is reported on a biennium basis. The major reports are the "Water Quality Inventory Report (305b)" and the 303(d) List of Impaired Waters. The latest published reports

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were issued in the spring of 2002. The reports due out in the spring of 2004 have been delayed.

ASWCC has instituted limited long term base line monitoring. This monitoring is to supplement ADEQ's work not replace it or disprove it.

Monitoring stations have been established in two priority watersheds (Illinois River and Upper White River) and one TMDL watershed (L'Anguille River). These stations are reported in the Arkansas Nonpoint Source Pollution Baseline Monitoring Program section.

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Grant ID	Fiscal Year		Total FY 2004
C9996103-06	1998	Federal	\$99,573.91
		State	\$22,356.87
C9996103-07	1999	Federal	\$336,854.46
		State	\$578,922.76
C9996103-08	2000	Federal	\$309,225.51
		State	\$233,570.24
C9996103-09	2001	Federal	\$909,009.73
		State	\$1,254,379.50
C9996103-10	2002	Federal	\$928,980.19
		State	\$898,258.62
C9996103-11	2003	Federal	\$1,360,872.08
		State	\$1,061,913.46
C9996103-12	2004	Federal	\$187,852.68
		State	\$96,146.12
Grand Total		Federal	\$4,132,368.56
		State	\$4,145,547.57

**Arkansas Nonpoint Source Pollution Program Milestones
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Priority Watershed Program

	Watershed / Action Items	Status	Activity
1	Beaver Lake:		
a	Develop interactive models of watershed, in stream and intake processes. Phase I is to develop the watershed model using SWAT	Complete	03-100
b	Secure SSURGO soils data for the watershed to reduce the uncertainty of the existing SWAT model	In progress	03-100 04-100 NRCS Partnership
c	Implement additional rain gages within the watershed also to reduce the uncertainty of the existing SWAT model	None	
d	Complete CNMPs for all animal waste producers/users within the watershed using the new Phosphorus Index for nutrient management planning	Working On	02-1300 03-600 04-200
e	Continue monitoring storm event loads at the West Fork of White River, Kings River and relocate the Wyman bridge monitoring station to the new Highway 45 bridge location	In progress	03-100
f	Expand water quality education programs started in Fayetteville to all urban areas in the Beaver Lake watershed	Working On	99-1100 01-1200 03-500 Wash Co CES
2	Millwood:		
a	Hire a watershed keeper to oversee implementation of the NPS program in the Millwood Watershed. Duties will include monitoring water quality in streams within the watershed, tracking changes in land uses that may stress the water quality, implement water quality education programs and secure funding to implement water quality projects that will maintain the current support status of water in the watershed	In progress	00-1400.
b	Use the CTIC watershed business plan program to develop additional watershed action items either basin wide, or for sub-watersheds within the basin	Complete	02-100 Mckinney Bayou L'Anguille R. Poteau R. Brewer Lake

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3	Illinois River:		
a	Secure SSURGO soils data for the watershed to reduce the uncertainty of the existing SWAT model	In progress	03-100 04-100 NRCS Partnership
b	Implement additional rain gages within the watershed also to reduce the uncertainty of the existing SWAT model	None	
c	Review the data from the Moores Creek project to determine which agricultural BMPs have had an impact on water quality in the area	In progress	01-1100
d	Complete CNMPs for all animal waste producers/users within the watershed using the new Phosphorus Index for nutrient management planning	In progress	02-500 02-1300 03-600
e	Demonstrate alum as an additive to poultry litter on a watershed scale	In progress	Tyson
f	Develop a waste to energy/fertilizer facility within the watershed	In progress	03-800 03-1000
g	Develop a cooperative animal waste system to assure a steady stream of waste to the energy/fertilizer facility	In progress	03-900
h	Expand water quality education programs started in Fayetteville to all urban areas in the watershed	In progress	Wash Co CES
i	Demonstrate greenways as an urban BMP to protect stream health and reduce sediment attached phosphorus loading	In progress	02-900 03-400
j	Demonstrate Construction and Land Development BMPs	Complete	01-700
k	Conduct Construction BMP workshops for city inspectors, developers, consulting engineers and construction companies	Complete	01-700
l	Continue to monitor storm event loading at the Hwy 59 bridge and in the Ballard Creek	In progress	02-1600
4	Buffalo River:		
a	Continue to develop cooperative waste management systems for swine and dairy farms in the watershed	In progress	98-900 02-700
b	Conduct training programs for landowners and foresters on the value of professional forestry services and water quality BMPs	None	98-1100
c	Support the National Park Service in its program to improve the awareness of recreational users of the watershed on their potential impact to the stream and what BMPs to use to reduce that impact	None	

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d	Assess the impact of rural roads on water quality in the watershed. Quantify and prioritize problem areas for future treatment	None	
5	Little Red River:		
a	Implement the recommendations of the Upper and Lower Little Red River watershed business plans	In progress	02-100 03-300
6	Piney Creek:		
a	Our efforts in Piney Creek are shifting to maintenance. We need to continue to work to implement CNMPs on all AFOs and CAFOs in the watershed, improve the BMP implementation rate for forest harvests on private lands within the watershed and to implement stream bank restoration projects	In progress	01-2200 02-1300 03-600
7	Cadron Creek:		
a	In this watershed, we need to continue to support the implementation of CNMPs on AFOs and CAFOs and to support the cooperative Dairy waste management program. In addition, we should continue with our forester and landowner training programs concerning forest harvests	In progress	00-1000 02-1300 03-600
8	Bayou Bartholomew:		
a	Develop SWAT model for Sub-watersheds of the Bayou	In progress	03-100 04-100
b	Continue to implement the recommendations of the Bayou Bartholomew Watershed Restoration Action Strategy	In progress	02-1100 04-151
9	Smackover Creek:		
a	Continue to support the efforts of the CARSAS project	Complete	01-2300 CARSAS
10	L'Anguille River:		
a	Develop a SWAT model or models of the watershed. Determine BMP scenarios that will help to reduce the sediment load	In progress	03-100 04-100
b	Conduct an assessment of the watershed to determine potential sources of sediment. Incorporate the assessment into the SWAT model	Working On	03-100
c	Use the newly developed watershed steering committee to prepare a watershed management plan concentrating on sediment reduction	Working On	01-950 00-1500 04-400 L'Anguille R. Coalition

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d	Use provisions of the new Farm Bill to increase implementation of BMPs within the watershed	Working On	01-510 01-950 00-1500
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11	Strawberry River	Status	Activity
a	Develop SWAT model for each reach of the watershed	In progress	03-100 04-100
b	Review BMP scenarios with Steering Committee	None	
c	Develop future action items based on Steering Committee recommendations	None	

Categorical Implementation Program

	Categories / Action Items	Status	Activity
	Category 10, Agriculture:		
1	Develop criteria for certification of third party vendors for Comprehensive Nutrient Management Planning	Working On	03-700 NRCS ASWCC
2	Develop and implement third party vendor training and certification program	In progress	03-700 ASWCC CES
3	Implement Comprehensive Nutrient Management Plans on all AFOs/CAFOs	In progress	03-700 04-200 04-300 ASWCC ADEQ
4	Develop and implement poultry grower registration program	In progress	03-700
5	Implement provisions of the CAFO NPDES permit	In progress	ASWCC
6	Assist Conservation Districts in acquisition of equipment for implementation of Conservation Practices through an NPS mini-grant program	In progress	03-100 04-100
7	Provide technical and/or financial assistance for the development of alternative animal waste/biosolids disposal facilities	In progress	03-800 03-900 03-1000
	Category 20, Silviculture:		
1	Evaluate the effectiveness of the Forestry BMPs in protecting water quality in Arkansas	In progress	98-1100
2	Continue BMP implementation surveys	Complete	99-1000
3	Continue BMP training programs emphasizing training of forest consultant, industrial "Landowner assistance foresters", and Arkansas Forestry Commission Foresters	Complete	98-1100 01-200

**Arkansas Nonpoint Source Pollution Program Milestones
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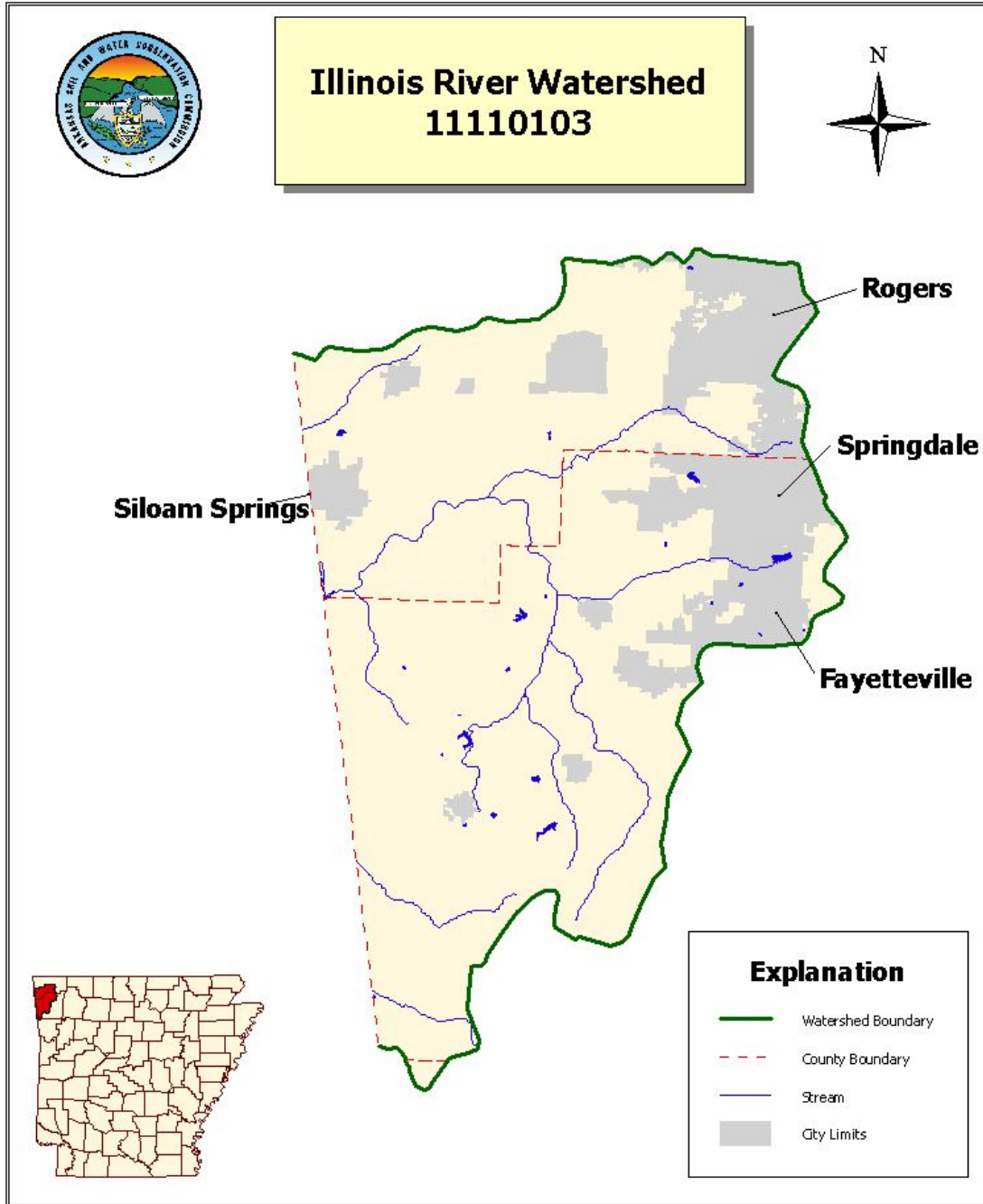
4	Continue programs to encourage the use of professional foresters by private land owners	In progress	01-200
5	Work with the State Technical Committee and County Committees to include forestry BMPs, emphasizing stream crossings and stewardship plans as cost sharable items under EQIP	In progress	98-1000 99-1000 01-200 01-300
Category 30, Construction:			
1	Publish Erosion and Sediment Control Manual for areas of Arkansas not included in NPDES Stormwater Phase I or II program	None	
2	Conduct workshops for Conservationists, Engineers, Inspectors, Developers and Construction Managers on Erosion and Sediment Control BMPs	Complete	01-700
Category 40, Urban:			
1	Develop a fact sheet on sources of and impact of urban NPS pollutants. Distribute to local public officials.	None	
2	Provide technology transfer for development of urban public awareness and education programs	None	
3	Conduct workshops on urban nutrient management planning for lawn maintenance	Complete	03-400 04-700
4	Conduct demonstration projects of Urban BMPs	In progress	02-800 02-810 02-900
5	Provide technology transfer, technical assistance and financial assistance for development of Greenway programs in urban areas	In progress	02-800 02-810 02-900
6	Assist cities with implementation of Phase II NPDES Urban Stormwater Regulations of the Clean Water Act	Working on	CES
7	Use the Nonpoint Source Pollution Support Group to identify priority areas for the AFC Urban Forestry program	Working on	AFC
Category 50, Resource Extraction:			
1	The existing action items and milestones adequately cover the resource extraction program	Working On	ADEQ
Category 60, Land Disposal:			
1	Develop model bylaws for Water Associations and Districts to provide On-site Waste Disposal management programs	None	
2	Conduct workshops demonstrating new and innovative On-site Waste Disposal technology	Complete	01-1300
3	Demonstrate regional on-site wastewater disposal management	Complete	01-1300

**Arkansas Nonpoint Source Pollution Program Milestones
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	Category 70, Hydrologic Modification:		
1	Complete Geomorphological Survey of Ouachita Mountain Eco-region	In progress	
2	Initiate Geomorphological Survey of Ozark Highlands Eco-region	In progress	
3	Provide technical and financial assistance for stream bank stabilization and restoration projects	In progress	98-400 99-800 00-800 01-700 02-900 03-500
4	Provide technical assistance for analysis and design of greenways along urban streams	In progress	01-700 02-900
	Category 80, Other:		
1	Public Awareness		
a	Assist local governments and nonprofits to distribute NPS Education materials through implementation of a mini-grant program	None	
b	Continue to expand the CES urban NPS training program	Working on	Wash Co CES
c	Make presentations on NPS pollution at festivals and fairs throughout the state	Complete	01-1000
2	Recreation		
a	Develop signage program illustrating proper marine waste disposal for public and private marinas and launching ramps	None	
b	Produce and deliver to outdoor shops and canoe liveries recyclable litter bags printed with information on proper wilderness waste disposal practices	None	
3	Rural Roads		
a	Complete watershed wide road assessments in priority watersheds	None	
b	Provide technical assistance and financial assistance to County Judges to identify severe erosion problems on rural roads	Complete	99-1100 Madison Co.
c	Provide technical or financial assistance to County Judges for stabilizing identified severe erosion problems on rural roads	In progress	01-800

In progress Active work using 319 funds
Working On Active work using non-319 funds and other programs
Complete Milestone has been met
None No activities have taken place

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Summary of Management Activities

Continuing Projects

Optimizing BMPs, Water Quality and Sustained Agriculture in the Lincoln Lake Watershed (01-1100):

This is a project to develop an

integrated watershed management plan by incorporating a process of public participation, issue identification, and consensus building. The project will collect chemical and biological stream and Lincoln Lake water quality data to determine any improvement in water quality as a result of previously

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implemented BMPs and to indicate problems that should be the focus of future BMP implementation. The project will perform a GIS based integrated assessment of resource allocation, BMP effectiveness and BMP needs that can sustain long-term agricultural production in the watershed while maintaining environmental quality. The project will organize field trips/demonstration for stakeholders, farmers, and state agencies to educate them on the integrated watershed management process and linkages between farm-level production and water quality.

The highpoints of this year were completing all monitoring activities and starting modeling efforts.

Ballard Creek BMP Implementation (02-500): This is the fourth phase of a five-phase project. During this phase the project objective is to provide cost-share to implement BMPs such as stream bank stabilization, alternative water supplies, cross fencing and warm season grass establishment.

The Ballard Creek project is progressing well, and is on track to finish all required elements except stream bank stabilization. CNMPs have been developed for all known poultry waste producers and most known poultry waste users in the Watershed. Numerous information and education programs have been held and the Western Washington County Watershed Group was developed.

Results of the project are given in the "Illinois River Watershed Project Data" at the end of this watershed report.

Demonstration of Greenway Development to Protect Ecological Services in Urban Streams (02-900): This is a project to demonstrate methods and technologies for protecting critical ecological services in urban streams.

Construction of the Blossom Way section of the Rogers Greenway began in July 2003. The trail design was determined by the project team in cooperation with the Rogers Greenways & Trails Committee. Rogers Parks and Recreation department completed the base work and bridge approaches. Between July and September five sections (a total of 3,400 ft) of concrete trail, 10 foot wide, were poured. Three steel railroad car beds were purchased and placed on site to be used as trail bridges. The cost of the trail construction has been considerably less than the cost of a contracted trail but also under the anticipated budget for the project. Work on this section of trail prompted the initiation of the Master Trail Plan for the City of Rogers and an increase in trail system support by the community.

The implemented stream stabilization design has been subjected to a 10 – 50 year storm and suffered only minor damage. In September, the first mayflies seen in the stream since the start of the project were found in the new stream section.

There were a total of 325 samples collected and analyzed from the USGS gauging station (OC-112) on Osage Creek and a total of 276 samples collected from the USGS gauging station (PC-LA) during the two-year monitoring period (January 2001 through December 2002). The critical parameters identified in this study were total phosphorus (T-

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P), ortho-phosphate (PO₄-P), total Kjeldahl nitrogen (TKN), nitrate-nitrogen (NO₃-N), ammonia (NH₃-N) and total suspended solids (TSS).

Results of the project are given in the "Illinois River Watershed Project Data" at the end of this watershed report.

New Projects

Urban Nutrient Management in the Illinois River Landscape Project

(03-400): The objective of this project is to implement BMPs in the urban areas of the Illinois River, Washington County, Arkansas (Fayetteville and Springdale areas) to control the amount, timing, and placement of soil nutrients for the purpose of reducing nonpoint source of soil nutrients particularly phosphorus.

Results of the project are given below in the "Illinois River Watershed Project Data" at the end of this watershed report.

Demonstration of On-Farm Litter Combustion

(03-800): The project goal is to accelerate implementation of on-farm litter combustion as an alternative to land application of litter, with the intent to reduce non-point pollution of surface water and groundwater in Northwest Arkansas and other areas of intense poultry production. The objectives are to operate, monitor and optimize litter combustion furnaces designed to incinerate litter and heat broiler houses, and to perform technology transfer to the poultry industry, state/federal agency personnel and poultry growers that demonstrates the technical performance and operational requirements of on-farm poultry litter combustion.

Results of the project are given below in the "Illinois River Watershed Project Data" at the end of this watershed report.

Feasibility Assessment of Establishing the Ozark Poultry Litter Bank

(03-900): The objective of the project is to determine the feasibility of establishing and operating the Ozark Poultry Litter Bank (OPLB) to coordinate one or more of a set of prescribed conditions to include: (1) raw poultry litter export; (2) pelletizing; (3) on-farm energy production and (4) centralized facility energy production.

No Annual Report was submitted.

A Demonstration of Process Technology for Converting Poultry Waste to Energy and Chemical Products

(03-1000): The project will demonstrate the effectiveness of proprietary, advanced thermal/chemical/biochemical process technology for cost-effective conversion of poultry waste (poultry litter and caged layer manure) into commercially viable energy and chemical products (on a commercial scale). The objective of the demonstration is to establish the technology as a Best Management Practice (BMP) for control of nonpoint source pollutants that emanate from the poultry industry. The project will also demonstrate the cost effectiveness of the technology on a commercial scale.

No Annual Report was submitted.

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Poultry Litter Transport from Nutrient Surplus Watersheds in Northwest Arkansas (03-1100):

The project will provide the method(s) for the export of litter from contract grower operations within the Eucha/Spavinaw and Illinois River (ES/IR) watershed in Northwest Arkansas (NWA) to row crop, pasture, forage, grass and forest lands of Arkansas outside the surplus nutrient watersheds as defined by ASWCC. The proposed project will reduce the potential for water quality impacts resulting from continued litter application within the NWA area.

No Annual Report was submitted.

Newly Awarded Projects

Benton County Illinois River Watershed Costshare Program (04-300):

The project is intended to improve water quality in the Illinois River Priority Watershed by implementing best management practices, therefore reducing nutrients and sediment loss in the basin. Cost

share will be used to help with the implementation of BMPs.

Results of the project are given in the "Illinois River Watershed Project Data" at the end of this watershed report.

Developing Resource Management Systems for Golf Courses in Washington County, Arkansas:

Phase I (04-700): The objective of the project is to perform a Resource Inventory and provide comprehensive nutrient management plans (CNMPs) for up to thirteen golf courses and five driving ranges that are located in the Illinois and White River Watersheds in Washington County, Arkansas (Fayetteville and Springdale areas). The purpose of Phase I of the project is to perform resource inventory and nutrient management for every golf course in the county. The information gathered from the Phase I inventory will be used to plan needed BMPs and to design future monitoring regimes that will demonstrate a reduction in nonpoint source pollution.

Illinois River Watershed Project Data

Ballard Creek BMP Implementation Project (02-500)

Ballard Creek BMP Implementation Project (02-500)					
BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
312	Waste Mgt Systems	19		22	
313	Waste Storage Facility	28		30	
316	Animal Mortality Facility	2		2	
317	Compost Facility	12		12	
342	Critical Area Planting	2	10 ac	2	10 ac

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351	Well	1		1	
362	Diversion	2	1,450 ft	2	1,450 ft
378	Pond	7		7	.
382	Fencing	21	55,300 ft	26	144,200 ft
393	Filter Strip	38	1,143 ac	77	2,266 ft
410	Grade Stabilization	1	6 ac	1	6 ac
412	Grassed Waterway	1	5 ac	1	5 ac
511	Forage Harvest Mgt	38	4,009 ac	77	9,576 ac
512	Pasture/Hayland Planting	13	416 ac	13	416 ac
516	Pipeline	12	14,050 ft	14	16,850 ft
528	Prescribed Grazing	38	4,935 ac	77	9,277 ac
561	Heavy Use Area	2	2.1 ac	2	2.1 ac
580	Stream bank & Shoreline Protection	0	0	1	
590	Nutrient Management	38	5,459 ac	77	11,026 ft
595	Pest Management	38	5,448 ac	77	11,015 ft
614	Trough/Tank	0	0	2	
633	Waste Utilization	26	4,101 ac	57	8,547 ac
642	Water Facility	6		6	
786	Alum Treatment	25	463 T	25	463 T

Ballard Creek BMP Implementation Project (02-500)					
BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
313	Waste Storage Facility	1		1	
382	Fencing	2	4,400 ft	2	4,400 ft
393	Filter Strip	15	353 ac	22	533 ac
511	Forage Harvest Mgt	15	250 ac	22	746 ac
512	Pasture/Hayland Planting	2	35 ac	2	35 ac
528	Prescribed Grazing	8	1,468 ac	15	1,964 ac
590	Nutrient Management	15	250 ac	22	2,579 ac
595	Pest Management	10	250 ac	17	746 ac
633	Waste Utilization	8	1,969 ac	15	2,430 ac
642	Water Facility	1		1	

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Ballard Creek BMP Implementation Project (02-500) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Field Days	3	5
Number of Attendees	34	83
Ballard Creek W. Shed Group	1	1
Number of Attendees	16	16
Symposia	2	2
Posters/Booth	2	2
Project Information Events	8	14
Number of Attendees	319	442
Hydromulcher Demonstration/Training	1	1
Number of Attendees	19	19

**Demonstration of Greenway Development to Protect Ecological
Services in Urban Streams (02-900)**

Demonstration of Greenway Development to Protect Ecological Services in Urban Streams (02-900) BMPs Planned		
BMP #	Past 12 months Total Amount (ac / ft)	Project Total Total Amount (ac / ft)
Bank Stabilization	1430 ft	1800 ft
Riparian Zone Planting	3 acres	3 acres

Demonstration of Greenway Development to Protect Ecological Services in Urban Streams (02-900) BMPs Implemented		
BMP #	Past 12 months Total Amount (ac / ft)	Project Total Total Amount (ac / ft)
Bank Stabilization	1430 ft	1800 ft
Riparian Zone Planting	3 acres	3 acres

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Demonstration of Greenway Development to Protect Ecological Services in Urban Streams (02-900) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Training Sessions	4	5
Total Number of Attendees	110	170
1. Rogers High School In-service		1
Number of Attendees		60
2. UA Ecological Eng. Class	1	1
Number of Attendees	8	8
3. Local Workshop – Hanley	1	1
Number of Attendees	12	12
4. Regional Workshop – Hanley	1	1
Number of Attendees	15	15
5. National Conference – AEES	1	1
Number of Attendees	75	75
Events	8	9
Total Number of Attendees	550	570
1. Kickoff meeting	1	1
Number of Attendees		20
2. National Conference Presentations	6	6
Number of attendees	350	350
3. Poster sessions at Natl. Conference	2	2
Number of attendees	200	200

Demonstration of Greenway Development to Protect Ecological Services in Urban Streams (02-900) Osage Creek concentration results 2001-2002					
		Baseflow Results		Rain Event Results	
		2001	2002	2001	2002
TSS	Mean	16.9	33.5	223	155
	mg/L				
	Maximum	106	96.0	2480	1234
	Minimum	2.0	3.8	1.00	16
T-P	Mean	0.24	0.13	0.41	0.30
	mg/L				
	Maximum	0.57	0.35	2.28	1.30
	Minimum	<0.01	<0.01	<0.01	0.03
PO4-P	Mean	0.18	0.08	0.12	0.12
	mg/L				
	Maximum	0.49	0.13	0.57	0.29
	Minimum	<0.01	0.02	<0.01	<0.01
TKN	Mean	0.52	0.61	1.66	1.11
	mg/L				
	Maximum	1.33	1.64	10.3	4.21
	Minimum	<0.05	<0.05	<0.05	<0.05
NH3	Mean	0.03	0.06	0.10	0.07

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mg/L	Maximum	0.09	0.30	1.19	0.73
	Minimum	<0.02	<0.02	<0.02	<0.02

Demonstration of Greenway Development to Protect Ecological Services in Urban Streams (02-900)					
Prairie Creek concentration results 2001-2002					
		Baseflow Results		Rain Event Results	
		2001	2002	2001	2002
TSS	Mean	9.2	10.7	9.6	10.7
mg/L	Maximum	30.0	20.4	44	42
	Minimum	2.2	02.6	1.2	4.0
T-P	Mean	0.07	0.02	0.08	0.04
mg/L	Maximum	0.15	0.06	0.64	0.12
	Minimum	<0.01	<0.01	<0.01	<0.01
PO4-P	Mean	0.01	<0.01	0.01	0.01
mg/L	Maximum	0.03	<0.01	0.14	0.05
TKN	Mean	0.61	0.32	0.41	0.40
mg/L	Maximum	1.28	0.59	1.04	1.29
	Minimum	<0.05	<0.05	0.06	<0.05
NH3	Mean	0.05	0.05	0.02	0.03
mg/L	Maximum	0.45	0.13	0.06	0.10
	Minimum	<0.02	<0.02	<0.02	<0.02

Urban Nutrient Management in the Illinois River Landscape Project (03-400)

Urban Nutrient Management in the Illinois River Landscape Project (03-400)				
BMPs Planned (Homeowners)				
BMP	Past 12 months		Project Total	
	Total number of homes with this BMP	Total Amount of Lawn Area (ft²)	Total number of homes with this BMP	Total Amount of Lawn Area (ft²)
Nutrient Management	75	769,271	75	769,271
Proper Vegetative Planting Practices	75	769,271	75	769,271
Improved Grass Cutting Practice	75	769,271	75	769,271
Proper Watering Practice	75	769,271	75	769,271
Integrated Pest Management	75	769,271	75	769,271

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Urban Nutrient Management in the Illinois River Landscape Project (03-400) BMPs Planned (Businesses)				
BMP	Past 12 months		Project Total	
	Total number of businesses with this BMP	Total Amount (ft²)	Total number of businesses with this BMP	Total Amount (ft²)
Nutrient Management	15	644,106	15	644,106
Proper Vegetative Planting Practices	15	644,106	15	644,106
Improved Grass Cutting Practice	15	644,106	15	644,106
Proper Watering Practice	15	644,106	15	644,106

Urban Nutrient Management in the Illinois River Landscape Project (03-400) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Meetings with CES and Urban Landowners	3	3
Number of Attendees	4	4
Newsletter Articles	1	1
Poster Sessions	8	8
Business Fact Sheet	1	1
Homeowner Fact Sheet	1	1
Presentations: TV, Radio, Newspapers, etc	9	9
Public Presentations	7	7
Number of Attendees	339	339

Demonstration of On-Farm Litter Combustion (03-800)

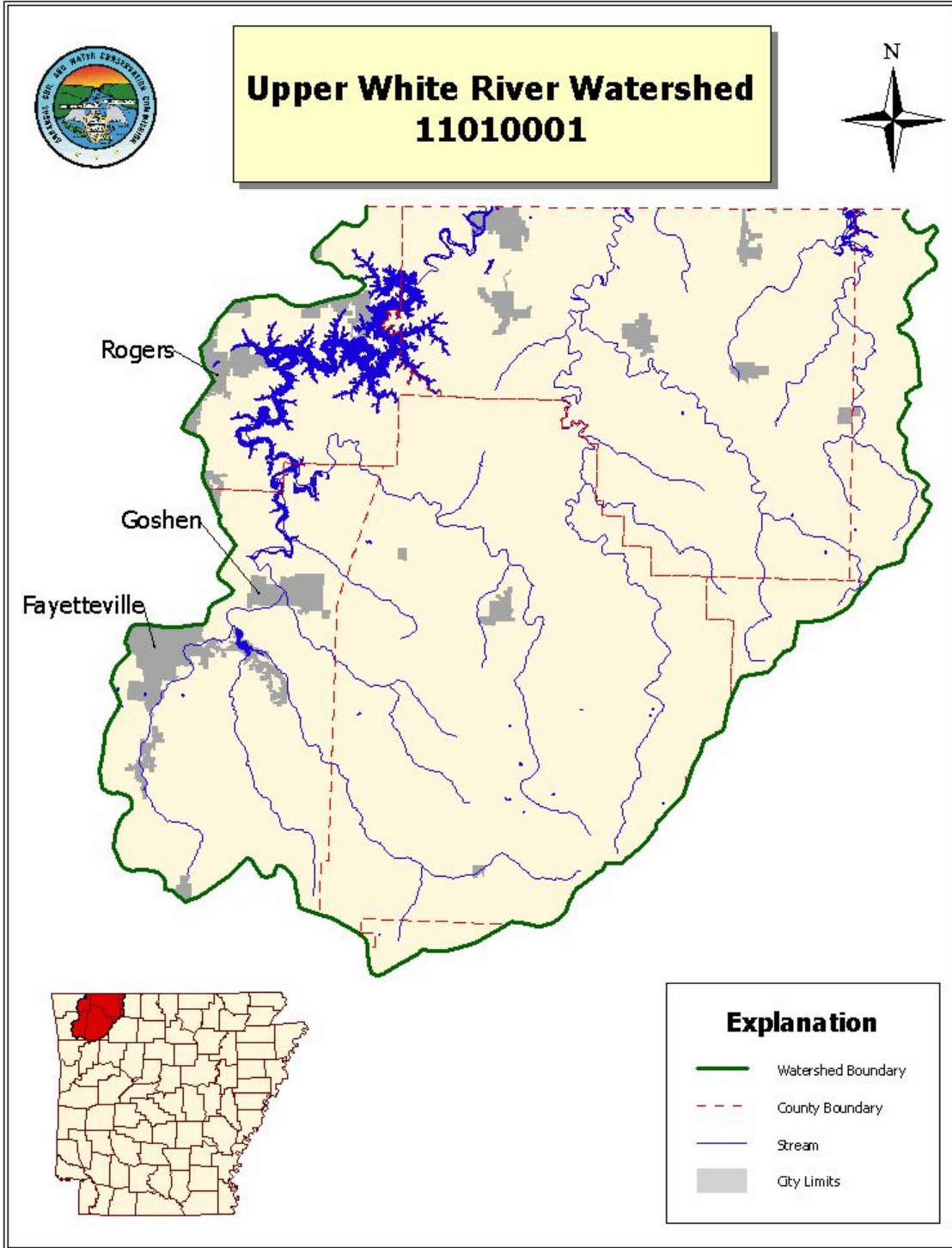
Demonstration of On-Farm Litter Combustion (03-800) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Field Days Lincoln Lake, March 30, 2004	1	1
Number of Attendees	30	30
AWRC Conference, April 20, 2004		
Number of Attendees	75	75
EPA Litter Symposium, May 5, 2004		
Number of Attendees	100	100

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Benton County Illinois River Watershed Cost Share Project (04-300)

Benton County Illinois River Watershed Cost Share Project (04-300) Cost Share		
	Federal	Non-Federal
Project Budget	\$250,545	\$249,455
Federal Fiscal Year 2004	\$0	\$0
Project Total Paid	\$0	\$0
Project Total Allocated	\$49,034.86	\$73,682.39

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Summary of Management Activities

Projects Completed This Year

Beaver Lake Project (99-1100): This project consisted of a number of different tasks lumped together because they all addressed various problems in the Beaver Lake watershed. In all other grant years, these tasks would have been individual projects.

All tasks were completed this year.

Financial Assistance for BMP Implementation (99-1100 Task 6):

This task was to provide cost share to landusers in the Beaver Lake portion of Madison and Washington Counties.

Results of this task are given in the "Upper White River Watershed Project Data" at the end of this watershed report.

Monitoring and Evaluation (99-1100 Task 8): This task was to compute the annual TSS Nitrogen and Phosphorus flux past Wyman Bridge on the White River.

Results of this task are given in the "Arkansas Nonpoint Source Pollution Monitoring Program / Water Quality Trends" section.

Continuing Projects

Beaver Lake Watershed Public Awareness and Education Project (01-1200): This project will generate community awareness of nonpoint source pollution potential impacts

through public education programs throughout the Beaver Lake Watershed.

Results of the project are given in the "Upper White River Watershed Project Data" at the end of this watershed report.

Carroll County Table Rock Tributaries Watershed Cost Share Project (02-600): This project provides for the proper and efficient use of nutrients from all sources and reduction of soil loss to help reduce nutrient and sediment loads to Table Rock Lake by providing technical and financial assistance. All technical assistance has been completed.

Results of the project are given in the "Upper White River Watershed Project Data" at the end of this watershed report.

Development of a Decision Support System and Data Needs for the Beaver Lake Watershed (02-1200): The goal of this project is to improve the water quality in Beaver Lake Watershed streams and lakes by providing a viable method to evaluate and develop watershed management strategies. This project involves compiling all the watershed water quality data collected by various agencies in a common database, linking the database with GIS watershed information, publishing the GIS-linked database on a website created for this project, and developing, implementing, and evaluating an adaptive management decision support system (DSS) for developing comprehensive watershed management plans.

Activities completed this year include:

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1. The internal P loading estimation from the lake.
2. SWAT modeling including calibration.
3. PDF database for earlier available reports
4. Interactive GIS (Arc-IMS) system.
5. Web design (HTTP documents).
6. The Beaver Lake Watershed Management Scenario Analysis program.
7. Presentation of the BLWDSS work before international, national, and local audiences.

a watershed group and plan that will develop and implement strategies for reducing non-point source pollutants in the West Fork of the White River, while raising awareness and education for healthy watersheds.

Newly Awarded Projects

Upper White River Watershed Cost Share Project (04-200): This project will encourage the proper and efficient use of nutrients from all sources and reduction of soil loss to help reduce nutrient and sediment loads to the Upper White River. This will be accomplished by providing technical assistance and cost share assistance.

New Projects

West Fork of the White River Watershed Coordination Project (03-500): This project will coordinate

Upper White River Watershed Project Data

Beaver Lake Project (99-1100 Task 6)

Beaver Lake Project (99-1100 Task 6) Cost Share		
	Federal	Non-Federal
Project Budget	\$565,000.00	\$200,000.00
Federal Fiscal Year 2004	\$116,249.07	\$181,673.67
Project Total Paid	\$364,055.43	\$522,037.75

Beaver Lake Watershed Public Awareness and Education Project (01-1200)

Beaver Lake Watershed Public Awareness and Education Project (01-1200) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Steering Committee meetings	2	9
Number of committee participants	15	71
Newspaper feature articles and columns	26	66
Displays set up at festivals, conferences, trainings, and meetings	11	26
Fact sheets developed	3	5
Educational presentations (local government, civic groups,	13	45

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conferences)		
Number of attendees	559	1,490
Hands-on programs for youth	20	41
Number of youth participating	3,172	8,571

Carroll County Table Rock Tributaries Watershed Cost Share Project (02-600)

Carroll County Table Rock Tributaries Watershed Cost Share Project (02-600) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
313	Waste Storage Facility	6	900	29	7356
317	Animal Mortality Disposal	2	200	6	467
378	Pond	1	40	1	40
382	Fencing	4	15906	7	21350
512	Pasture Planting	8	469	15	749
528	Prescribe Grazing	52	5858	103	12314
590	Nutrient Management	52	5858	103	12314
614	Tanks	2	140	9	420
633	Waste Utilization	43	6072	90	8200
786	Alum Treatment	46	5518	68	7400

Carroll County Table Rock Tributaries Watershed Cost Share Project (02-600) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
313	Waste Storage Facility	9	800	25	6756
317	Animal Mortality Disposal	2	200	6	467
378	Pond	1	40	1	40
382	Fencing	7	21350	7	21350
512	Pasture Planting	8	476	14	739
528	Prescribe Grazing	74	9581	99	11714
590	Nutrient Management	74	9581	99	11714
614	Tanks	6	300	9	420
633	Waste Utilization	66	6098	90	7600
786	Alum Treatment	68	5473	68	5473

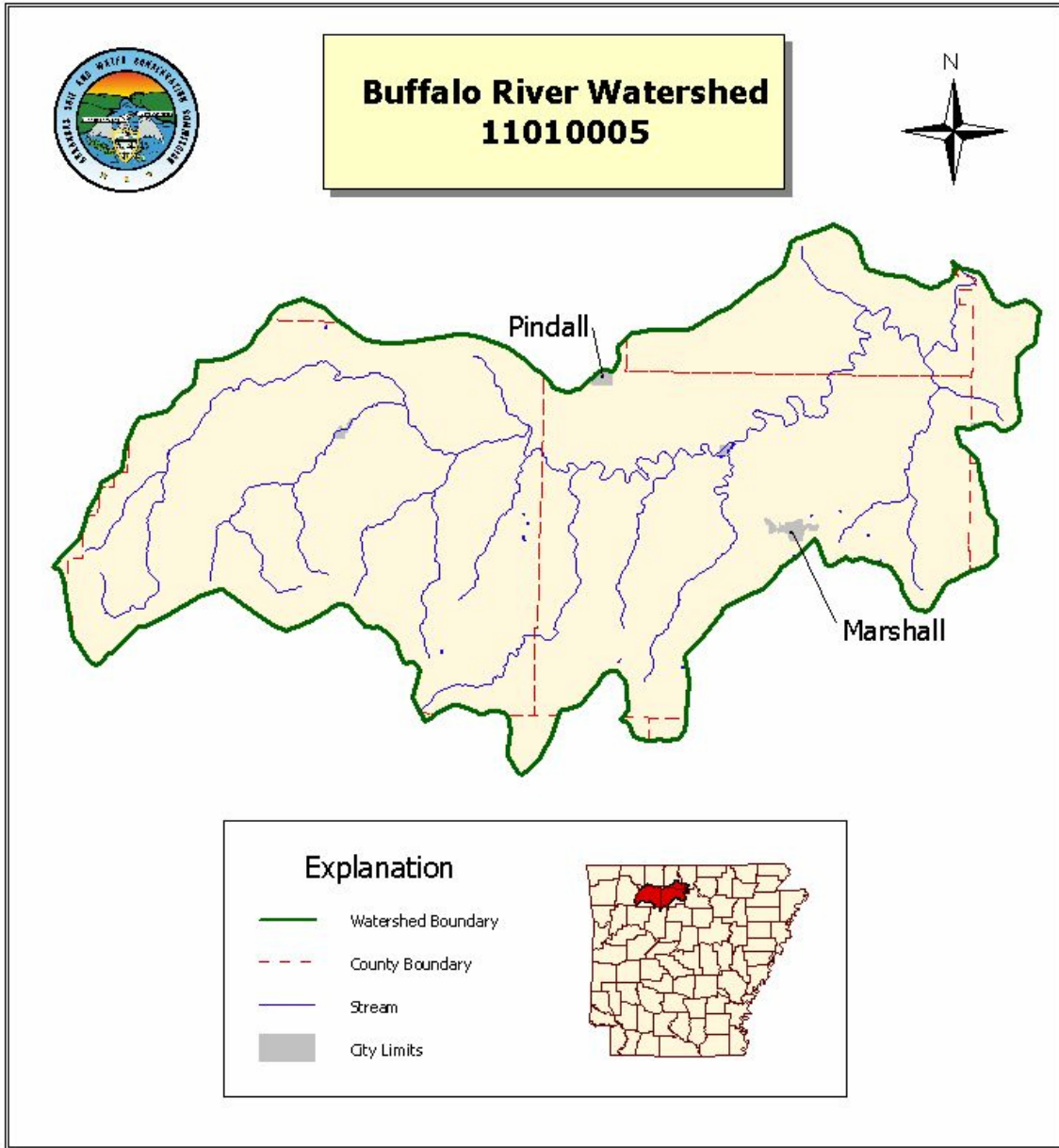
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Table Rock Project (02-600) Cost Share		
	Federal	Non-Federal
Project Budget	\$300,000.00	\$100,000.00
Federal Fiscal Year 2004	\$169,035.50	\$316,392.50
Project Total Paid	\$247,639.25	\$405,671.58
Project Total Allocated	\$292,793.75	\$492,416.08

West Fork of the White River Watershed Coordination (03-500)

West Fork of the White River Watershed Coordination (03-500) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Field Days	8	8
Number of Attendees	196	196
Training Sessions	4	4
Number of Attendees	200	200
Presentations	15	15
Number of Attendees	298	298
Outreach Total	694	694

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Summary of Management Activities

Continuing Projects

Newton County Buffalo River Cost Share Project (01-1800): The project was designed to address the NPS problem of nutrient concentrations by controlling runoff of sediment, bacteria, and nutrients into the Buffalo River by implementing Best Management

Practices (BMPs). In order to help landowners in the Newton County portion of the Buffalo River Watershed, cost share was provided to implement BMPs such as cross fencing, alternative water sources, pasture establishment and intensive grazing systems. The project has been completed except for the final cost share payments.

**Buffalo River Watershed
2004 Annual Nonpoint Source Pollution Management Report**

Results of the project are given in the _____ at the end of this watershed report.
"Buffalo River Watershed Project Data"

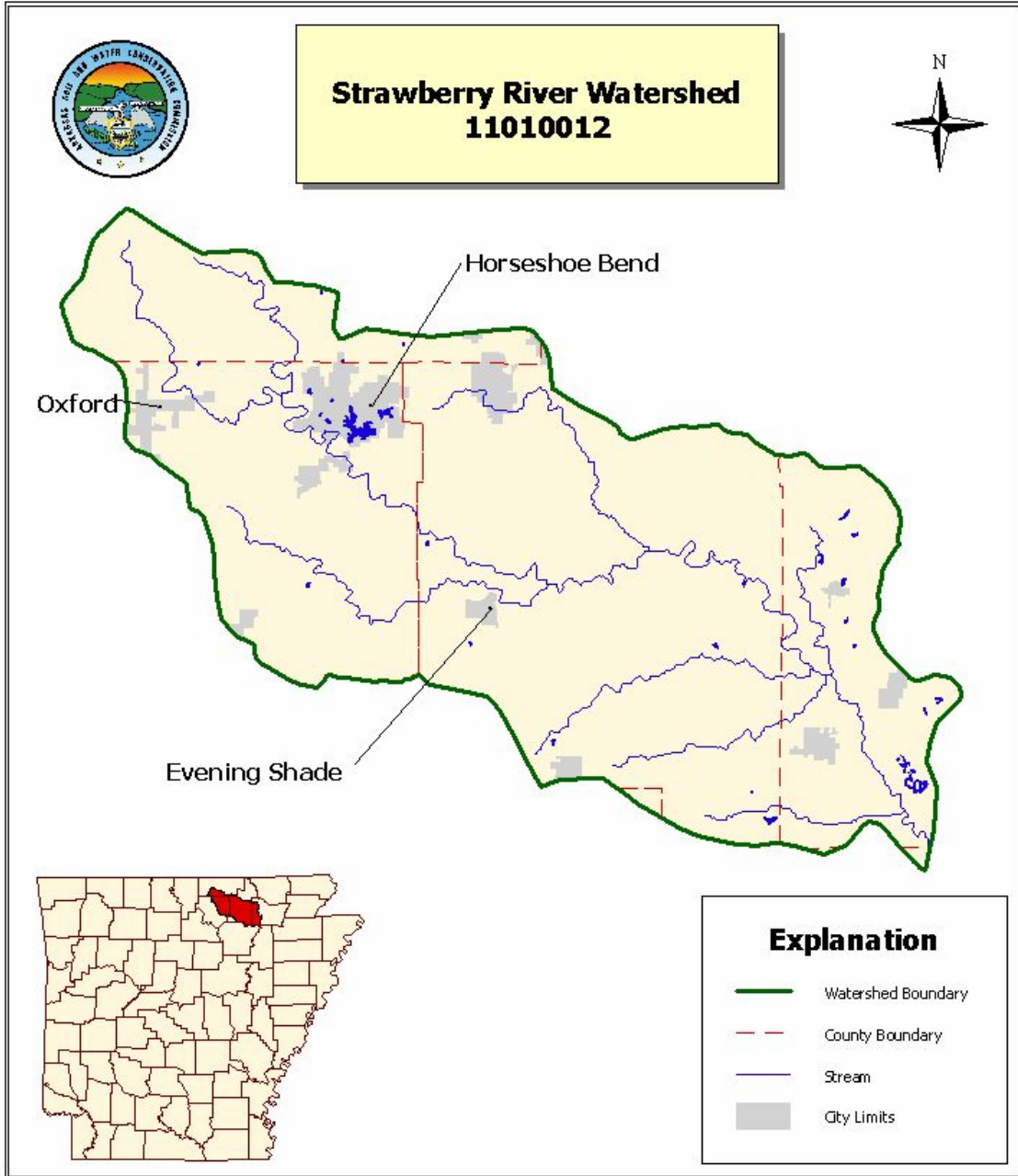
Buffalo River Watershed Project Data

Newton County Buffalo River Cost Share Project (01-1800)					
BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total # of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
313	Waste Storage Structure	0	0	1	263ac
382	Fencing	3	5427ft	28	70837ft
442	Swine Irrigation	0	0	2	54.1ac
490	Site Prep/Seedlings planted	0	0	3	87.8ac
512	Pasture/hayland establish	2	36.8ac	12	925.2ac
614	Watering facilities	1	30	12	236.2ac

Newton County Buffalo River Cost Share Project (01-1800)					
BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total # of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
313	Waste Storage	0	0	0	0
382	Fencing	9	18656ft	20	45516ft
442	Swine Irrigation	0	0	2	54.1
490	Site Prep/Seedling Planting	0	0	3	87.8
512	Pasture Establishment	5	146.8ac	8	464.8ac
614	Watering facilities	2	47ac	5	109ac

Newton County Buffalo River Cost Share Project (01-1800)		
Cost Share		
	Federal	Non-Federal
Project Budget	\$100,000.00	\$0
Federal Fiscal Year 2004	\$16,830.31	\$21,819.01
Project Total Paid	\$63,230.63	\$79,473.31
Project Total Allocated	\$101,092.19	\$118,063.43

**Strawberry River Watershed
2004 Annual Nonpoint Source Pollution Management Report**



Summary of Management Activities

Projects Completed This Year

Strawberry River Agricultural Watershed Project (00-600): The project goal was to maintain or restore all designated uses of the Upper Strawberry River watershed. The project objective was to implement

conservation plans on 21,000 acres in priority areas of the Upper Strawberry River Watershed and thereby improve the majority of pasture and grazing land in the watershed to "Good to Excellent" condition. A total of 188 farm plans were developed.

This project has been completed.

Strawberry River Watershed 2004 Annual Nonpoint Source Pollution Management Report

Results of the project are given in the "Strawberry River Watershed Project Data" at the end of this watershed report.

Physical, Chemical, and Biological Assessment of the Strawberry River Watershed (00-1200): This project assessment consisted of: 1) an overall land use survey; 2) a synoptic water quality, macro invertebrate and fish community survey; 3) an intensive, source-specific water quality, and macro invertebrate survey; 4) a stream bank erosion survey; and 5) a ground water survey.

The land use survey consisted of locating different nonpoint source pollution activities such as confined animal operations including poultry, swine, and dairy, silviculture activities, road construction/maintenance/runoff areas, and row crop agriculture. These areas will be mapped using GIS and GPS equipment.

The synoptic survey sample stations were located at the base of the major sub basins with additional stations located in least-disturbed reference streams, along the main stem of the river, and at other strategic points to determine background conditions and loadings from nonpoint pollution sources. Macroinvertebrates, fish communities and diurnal dissolved oxygen samples were taken at selected synoptic stations to obtain a representative data base throughout the watershed. Additional water quality storm flow samples were collected in the tributary streams upstream of those main-stem sample sites indicating some sort of water quality impairments.

The intensive survey consisted of sample stations above and below nonpoint source pollution inputs to determine the effects of the pollutants on the water quality and aquatic life. Water samples were collected at base flow conditions and during storm events to quantify pollutant loadings. Diurnal dissolved oxygen fluctuation samples were collected during the low-flow, warmest water temperature time frame. Macroinvertebrate samples were collected on two occasions, once during low-flow summer conditions and once again during the spring to determine impairments to the macroinvertebrate community.

The stream bank stabilization survey consisted of selecting on stream bank in need or stabilization and surveying annually to determine the extent of the erosion on an annual basis. The survey consisted of a developing a full documentation of the site using pictures and habitat analysis of fish and macroinvertebrate communities and establishing transects across the channel to characterize the stream.

This project has been completed.

ADEQ has published a bound report, but has not compiled electronic copy of the information.

Strawberry River Agricultural Watershed Project – Reach 2 (Piney Fork) (01-800): The purpose of the project was to maintain and improve all uses of the land area in the Piney Fork Watershed of the Strawberry River. The project objective was to implement conservation plans on 27,000 acres of pastureland and woodland/wildlife in the Piney Fork Watershed. Technicians wrote 30

**Strawberry River Watershed
2004 Annual Nonpoint Source Pollution Management Report**

conservation plans for a total of 5,137.2 acres.

This project has been completed.

Results of the project are given in the "Strawberry River Watershed Project Data" at the end of this watershed report.

This project was designed to demonstrate alternative methods for watering livestock in order to protect stream banks.

This project has been completed.

Results of the project are given below in the "Strawberry River Watershed Project Data" at the end of this watershed report.

Alternative Livestock Water Demonstration Project (01-1900):

Strawberry River Watershed Project Data

Strawberry River Agricultural Watershed Project (00-600)

Strawberry River Agricultural Watershed Project (00-600)					
BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total # of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
314	Brush Mgt.	35	3,062.7 ac	185	20,460.5 ac
378	Pond	3	3 ea	31	37 ea
382	Fence	22	70,708 ft	136	444,113 ft
512	Past/Hay.Plant	5	141 ac	36	957.3 ac
516	Pipeline	14	4,152 ft	105	35,843 ft
528	Pres. Grazing	35	3,062.7 ac	186	20,317.5 ac
590	Nutrient Mgt.	35	3,062.7 ac	186	20,318.5 ac
595a	Pest Mgt.	35	3,062.7 ac	186	20,155.5 ac
614	Tank	10		100	

**Strawberry River Watershed
2004 Annual Nonpoint Source Pollution Management Report**

Strawberry River Agricultural Watershed Project (00-600) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total # of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
314	Brush Mgt.	74	7,546.4 ac	126	15,445.9 ac
378	Pond	15		18	
382	Fence	64	229,861 ft	104	353,493 ft
512	Past/Hayland Planting	8	202 ac	28	637.3 ac
516	Pipeline	51	23,598 ft	79	31,939 ft
528	Pres. Grazing	75	7,763.4 ac	127	15,302.9 ac
590	Nut. Mgt.	76	7,920.1 ac	127	15,303.9 ac
595a	Pest Mgt.	75	7,763.4 ac	127	15,140.9 ac
614	Tank	47		75	

Strawberry River Agricultural Watershed Project (00-600) Information / Education / Awareness		
Activity	Past 12 months	Project Total
Field Days	1	3
Number of Attendees	65	153
Training Sessions		1
Number of Attendees		42
Events	1	3
Number of Attendees	47	157

Strawberry River 1 Project (00-600) Cost Share		
	Federal	Non-Federal
Project Budget	\$142,696.00	\$44,266.00
Federal Fiscal Year 2004	\$47,281.00	\$59,500.00
Project Total Paid	\$142,696.00	\$169,530.00

**Strawberry River Watershed
2004 Annual Nonpoint Source Pollution Management Report**

Strawberry River Agricultural Watershed Project (Piney Fork) (01-800)

Strawberry River Agricultural Watershed Project (Piney Fork) (01-800) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
314	Brush Management				607.4 ac.
329	No till			34	530.8 ac.
342	Critical Area Treatment				5 ac.
412	Grassed Waterway				2 ac.
512	Permanent Pasture				79.2 ac.
580	Stream bank Stabilization				25 ft.
595	Pest Management				146.1 ac.
614	Freeze Proof Tanks			17	
	Drystack (feeding operation)			1	
	Weed Control /Sprayer			57	684 ac.

Strawberry River Agricultural Watershed Project (Piney Fork) (01-800) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
314	Brush Management				607.4 ac.
329	No till			34	530.8 ac.
342	Critical Area Treatment				5 ac.
412	Grassed Waterway				2 ac.
512	Permanent Pasture				79.2 ac.
580	Stream bank Stabilization				25 ft.
595	Pest Management				146.1 ac.
614	Freeze Proof Tanks				17 each
	Drystack (feeding operation)				1 each
	Weed Control /Sprayer			57	684 ac.

**Strawberry River Watershed
2004 Annual Nonpoint Source Pollution Management Report**

Strawberry River Agricultural Watershed Project (Piney Fork) (01-800) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Newsletter		4
Number of Recipients		112

Strawberry River 2 Project (01-800) Cost Share		
	Federal	Non-Federal
Project Budget	\$215,085.00	\$71,543.00
Federal Fiscal Year 2004	\$89,482.00	\$115,661.00
Project Total Paid	\$185,962.00	\$226,943.00

Alternative Livestock Water Demonstration Project (01-1900)

Alternative Livestock Water Demonstration Project (01-1900) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
314	Brush Management	6	632 ac.	47	4817 ac.
378	Pond	0	0	15	
382	Fence	18	158,579 ft.	109	650,327 ft.
392	Riparian Forrest Buffer	18	247.11 ft.	109	528.56 ft.
472	Use Exclusion	18	249.09 ac.	109	528.05 ac.
516	Pipeline	10	11,161 ft.	71	60,061 ft.
528	Prescribed Grazing	9	976 ac.	73	8,048 ac.
561	Heavy Use Area Protection	3	2 ac.	9	9 ac.
574	Spring Development	3		7	
580	Stream bank and shoreline protection	19	133,752 ft.	110	589,656 ft.
590	Nutrient Management	9	976 ac.	71	7,994 ac.
595	Pest Management	9	976 ac.	70	7,671 ac.
614	Tank	10		71	
642	Well	5		13	
680	Forrest Stand Improvement	4	110 ac.	51	3,815 ac.

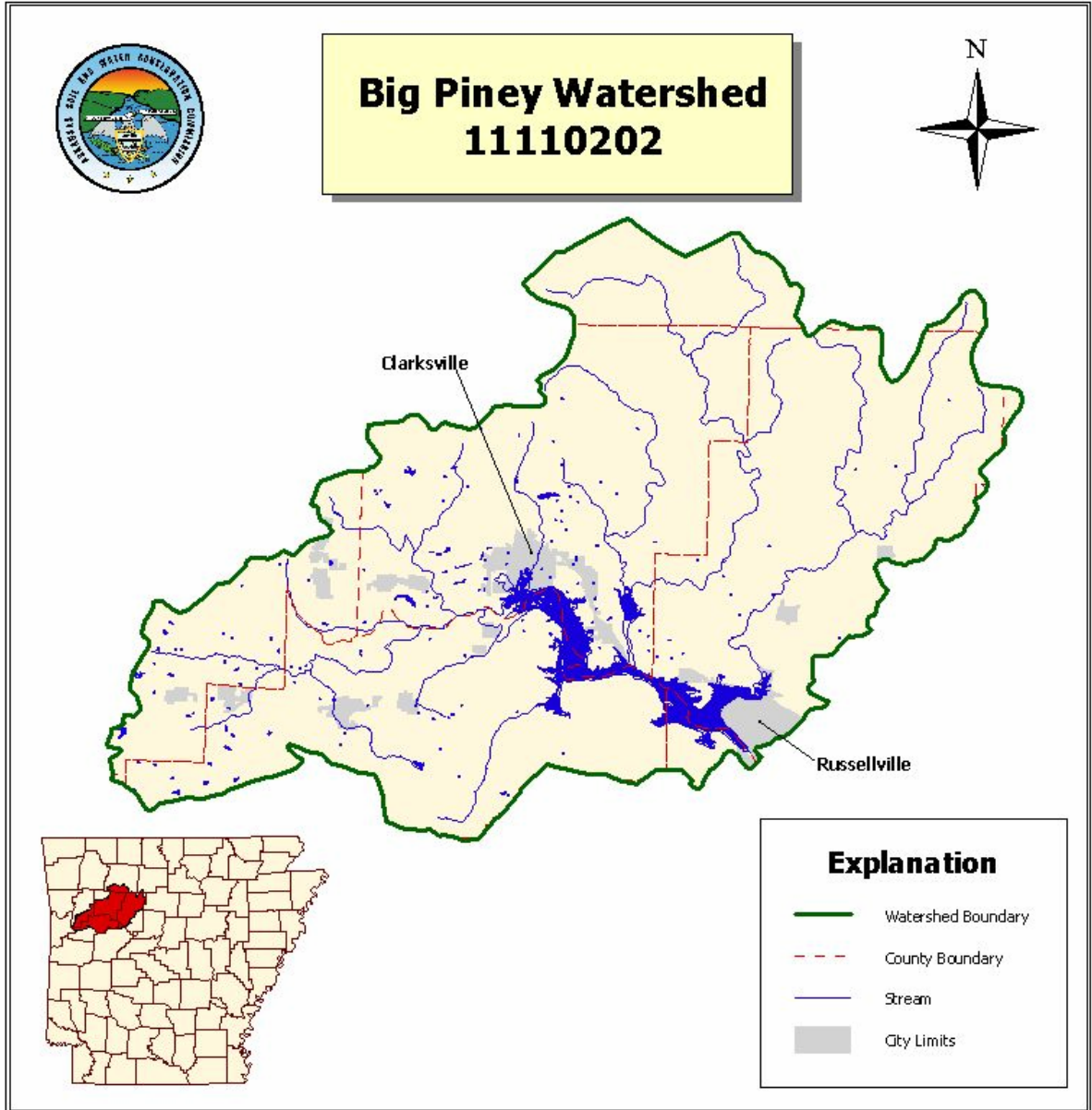
**Strawberry River Watershed
2004 Annual Nonpoint Source Pollution Management Report**

Alternative Livestock Water Demonstration Project (01-1900) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
314	Brush Management	6	632 ac.	43	4,204 ac.
378	Pond	0	0	17	
382	Fence	17	170,391 ft.	85	533,867 ft.
392	Riparian Forrest Buffer	17	261 ft.	85	474 ft.
472	Use Exclusion	17	263.32 ac	85	473.75 ac.
516	Pipeline	11	11,461 ft.	57	49,841 ft.
528	Prescribed Grazing	9	976 ac.	60	6,527 ac.
561	Heavy Use Area Protection	2	3 ac.	6	6 ac.
574	Spring Development	3		7	
580	Stream bank and shoreline protection	17	158,554 ft.	85	501,961 ft.
590	Nutrient Management	9	976 ac.	58	6,472 ac.
595	Pest Management	9	976 ac.	57	6,150 ac.
614	Tank	11	.	57	
642	Well	5		10	
680	Forrest Stand Improvement	4	110 ac.	41	2,967 ac.

Alternative Livestock Water Demonstration Project (01-1900) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Field Days		7
Number of Attendees		154

Alternative Livestock Water Project (01-1900) Cost Share		
	Federal	Non-Federal
Project Budget	\$200,000.00	\$64,700.00
Federal Fiscal Year 2004	\$130,121.00	\$193,897.00
Project Total Paid	\$200,000.00	\$296,200.00

**Big Piney Creek Watershed
2004 Annual Nonpoint Source Pollution Management Report**



Summary of Management Activities

Projects Completed This Year

Demonstration of Pasture Renovation (99-600): ADEQ demonstrated the use of a pasture renovator to reduce runoff of phosphorus and nitrogen from fields fertilized with animal manure by collecting edge of field water quality data. The University of Arkansas is

cooperating on the project to demonstrate the efficacy of pasture renovation at the plot level. The project provided a pasture renovator to the local conservation district and cost sharing assistance to farmers in the watershed wishing to try the practice.

The project has been completed.

**Big Piney Creek Watershed
2004 Annual Nonpoint Source Pollution Management Report**

Results of the project are given below in the "Big Piney Watershed Project Data" at the end of this watershed report.

The Johnson, Newton, and Pope counties Roadside Erosion Project (01-2200): The Johnson County Conservation District spearheaded this project. The conservation district utilized composted chicken litter in combination with a hydro-mulching process to promote vegetation growth on unprotected roadsides throughout the Big Piney Creek Watershed. The

Johnson, Newton, and Pope county governments participated along with the conservation district and the US Forest Service (the Ozark National Forest contains a large portion of the watershed).

The project has been completed.

Results of the project are given below in the "Big Piney Watershed Project Data" at the end of this watershed report.

"Big Piney Watershed Project Data"

Demonstration of Pasture Renovation (99-600)

Demonstration of Pasture Renovation (99-600)					
BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
	Pasture renovation/aerator				5,422 ac.

Demonstration of Pasture Renovation (99-600)					
BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
	Pasture renovation/aerator				5,422 ac.

**Big Piney Creek Watershed
2004 Annual Nonpoint Source Pollution Management Report**

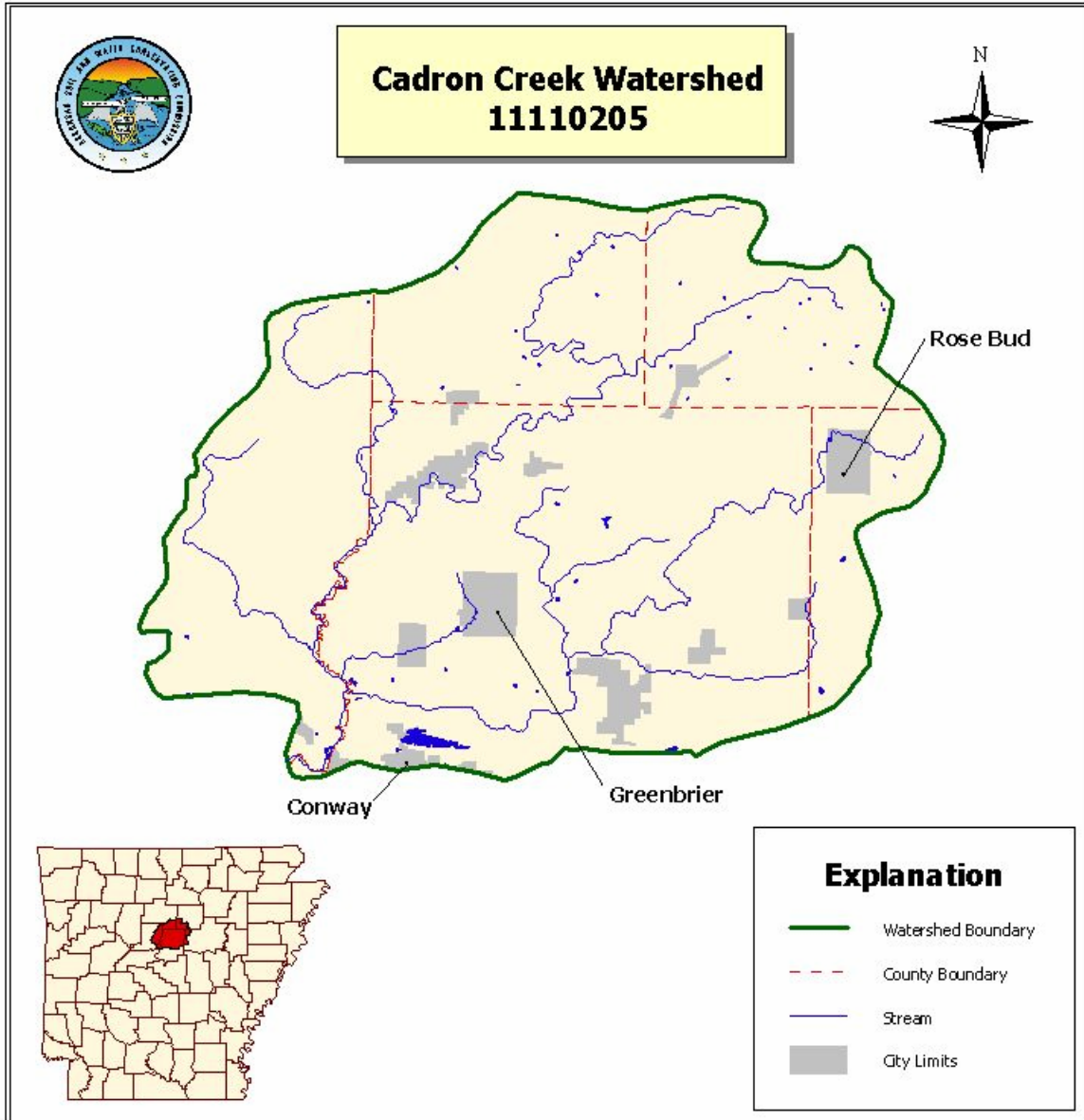
Demonstration of Pasture Renovation (99-600) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Initial presentation of project		4
Number of Attendees		150
Tour of project farms		2
Number of Attendees		9
Poster Presentations		3
Number of Attendees		280
Presentation of preliminary project results		5
Number of Attendees		750

The Johnson, Newton, and Pope counties Roadside Erosion Project (01-2200)

The Johnson, Newton, and Pope counties Roadside Erosion Project (01-2200) BMPs Implemented		
BMP Name	Project Total	
	County	Total Area Impacted
Roadside erosion control	Pope County	6 ac
Roadside erosion control	Johnson County	9 ac
Creek bank Treatment	Johnson County	2 ac

The Johnson, Newton, and Pope counties Roadside Erosion Project (01-2200) Information / Education /Awareness	
Activity	Project Total
Field Days	2
Number of Attendees	5
Training Sessions	3
Number of Attendees	28
Event; Greenbrier Creek 4-1-2004	4
Number of Attendees	60
Event: Education awareness Rental possibilities of the hydro seeder and the straw blower.	1
Number in Attendance	9

**Cadron Creek Watershed
2004 Annual Nonpoint Source Pollution Management Report**



Summary of Management Activities

Continuing Projects

Lake Brewer Watershed Nonpoint Source Pollution Control (00-1000): The project is to implement BMPs in the watershed by providing technical assistance and cost share.

Results of the project are given in the "Cadron Creek Watershed Data" at the end of this watershed report.

**Cadron Creek Watershed
2004 Annual Nonpoint Source Pollution Management Report**

Cadron Creek Watershed Data

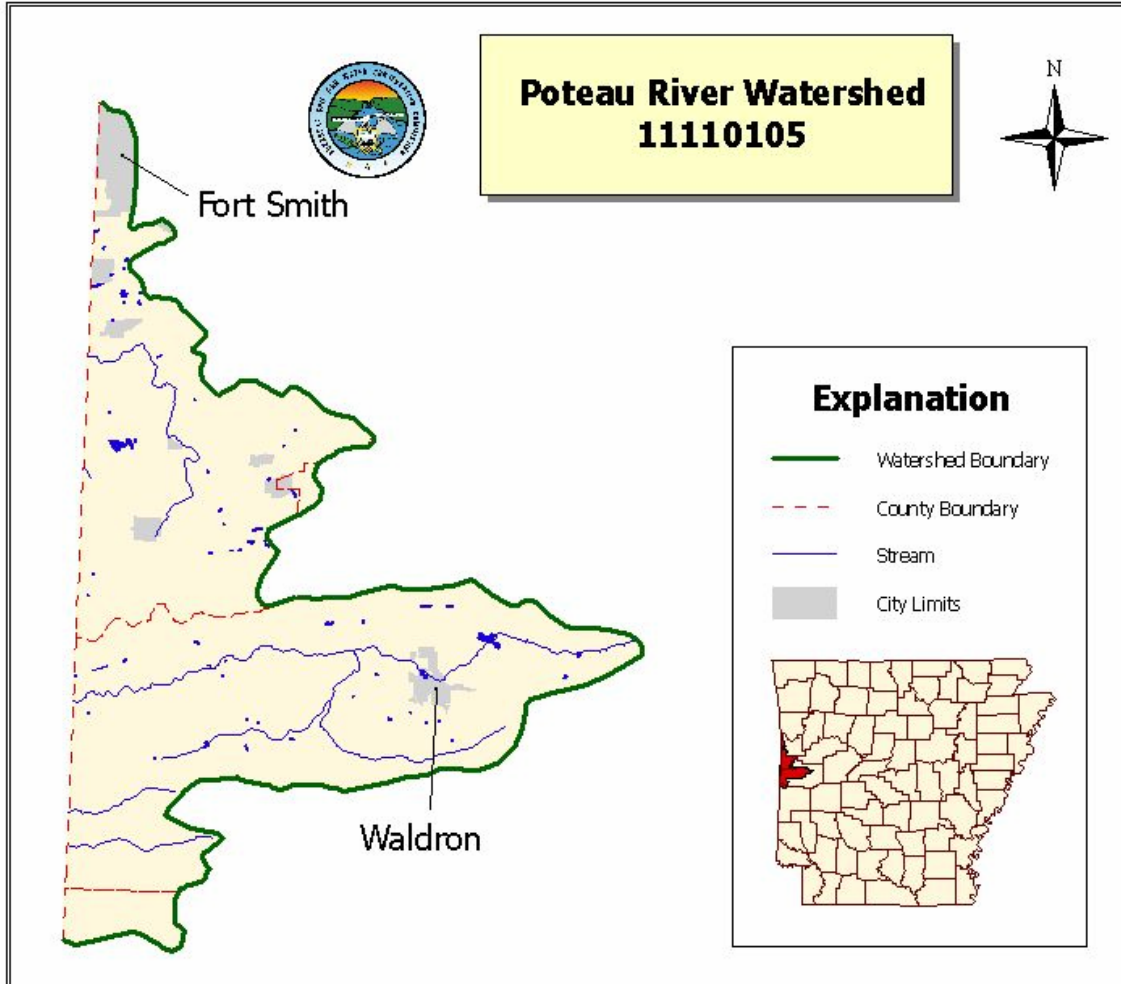
Lake Brewer Watershed Nonpoint Source Pollution Control Project (00-1000)					
BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
313	Waste Storage Facility	1	49	3	49
316	Waste Storage Facility	2	122.6	2	122.6
442	Irrigation System	1	179.1	1	179.1
512	Pasture Planting	2	180	7	270.1
558	Roof Runoff Structure	1	179.1	1	179.1
561	Heavy Use Protection	1	179.1	1	179.1
587	Water Control Structure	1	179.1	1	179.1
614	Water Facility	1	179.1	1	179.1

Lake Brewer Watershed Nonpoint Source Pollution Control Project (00-1000)					
BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
316	Waste Storage Facility	2	122.6	2	122.6
512	Pasture Planting	2	180	4	220

Lake Brewer Watershed Nonpoint Source Pollution Control Project (00-1000)		
Information / Education / Awareness		
Activity	Past 12 months	Project Total
Brewer Lake Watershed Alliance Mtgs	3	5
Number of Attendees	60	100

Lake Brewer Watershed Nonpoint Source Pollution Control Project (00-1000)		
Cost Share		
	Federal	Non-Federal
Project Budget	\$159,722.00	\$0
Federal Fiscal Year 2004	\$5,695.20	\$8,742.80
Project Total Paid	\$12,058.67	\$18,288.18

Poteau River Watershed
2004 Annual Nonpoint Source Pollution Management Report



Summary of Management Activities

Poteau River Agricultural Watershed Project (02-300): The Poteau River Conservation District received a 319 grant to provide technical and cost share assistance to the watershed land users. Forty two

nutrient management plans were developed.

Results of the project are given in the "Poteau River Watershed Project Data" at the end of this watershed report.

**Poteau River Watershed
2004 Annual Nonpoint Source Pollution Management Report**

Poteau River Watershed Project Data

Poteau River Agricultural Watershed Project (02-300) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total # of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
313	Waste Storage Facility	1	N/A	6	6
313A	Animal Mortality Facility	22	N/A	N/A	N/A
317	Composter	1	N/A	9	9
460	Land Clearing	1	30 ac	N/A	N/A
484	Mulching	1	3 ac	N/A	N/A
512	Pasture & Hay Planting	2	130 ac	N/A	N/A
528A	Prescribed Grazing	2	71 ac	2	N/A
590	Nutrient Management	42	2678 ac	105	3750 ac
595	Pest Management	41	2675 ac	N/A	N/A
633	Waste Management Syst	17	1443.5 ac	46	3750 ac

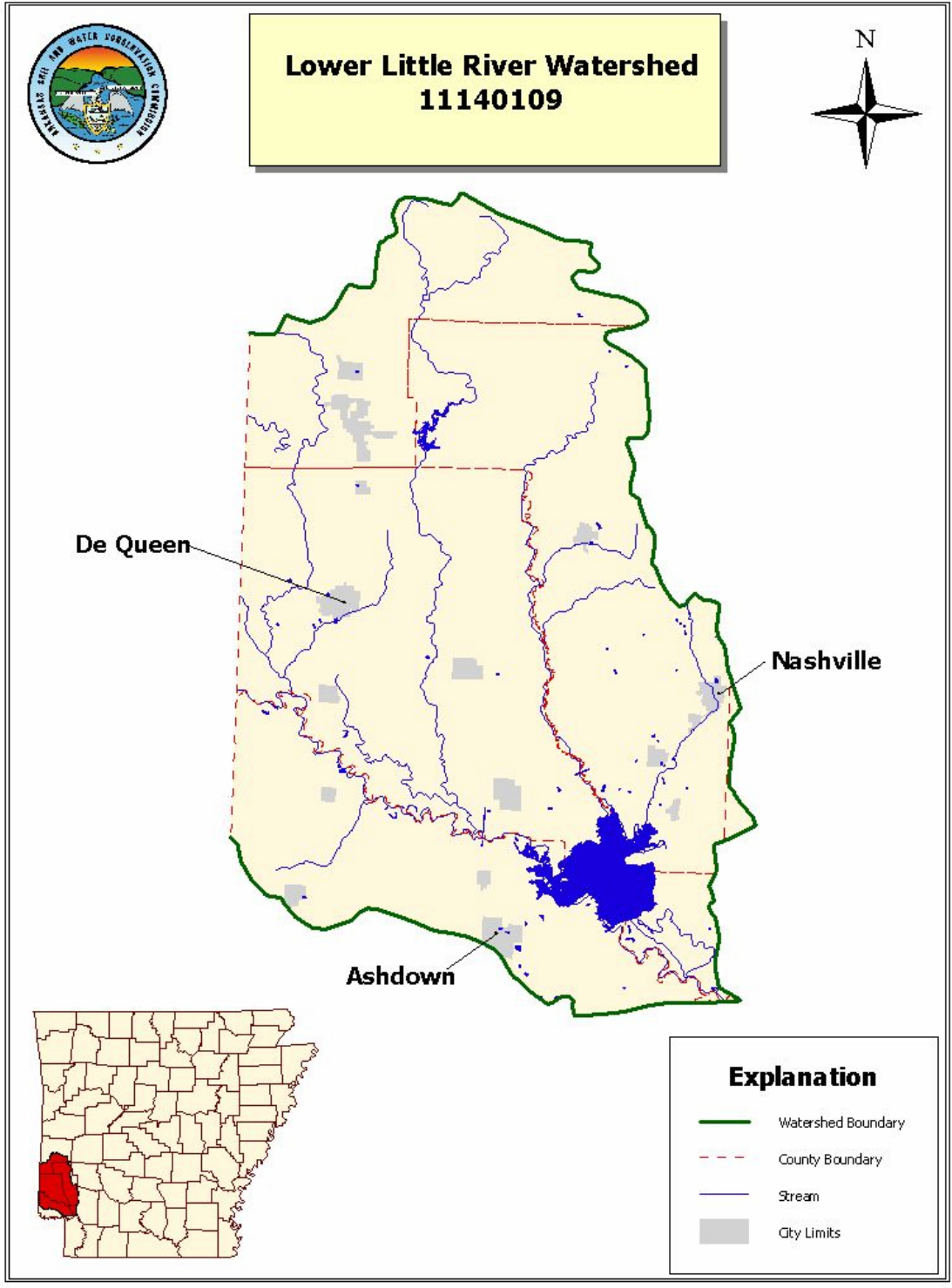
Poteau River Agricultural Watershed Project (02-300) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total # of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
313A	Animal Mortality Facility	22	1557 ac	N/A	N/A
512	Pasture & Hay Planting	2	67 ac	N/A	N/A
528A	Prescribed Grazing	2	71	N/A	N/A
590	Nutrient Management	17	1534 ac	105	3750 ac
595	Pest Management	15	1455 ac	N/A	N/A
633	Waste Management Syst	14	1288 ac	N/A	N/A

Poteau River Agricultural Watershed Project (02-300) Information / Education / Awareness		
Activity	Past 12 months	Project Total
Field Days	1	1
Number of Attendees	15	15
Training Sessions	0	1
Events	1	1
Number of Attendees	65	65

**Poteau River Watershed
2004 Annual Nonpoint Source Pollution Management Report**

Poteau River Project (02-300) Cost Share		
	Federal	Non-Federal
Project Budget	\$117,850.00	\$74,000.00
Federal Fiscal Year 2004	\$0	\$0
Project Total Paid	\$0	\$0
Project Total Allocated	\$0	\$0

**Lower Little River Watershed
2004 Annual Nonpoint Source Pollution Management Report**



Summary of Management Activities

Continuing Projects

Lower Little River Watershed Project (00-1400): Six Arkansas Conservation Districts (Cossatot, Hempstead, Little River, Miller, Mine

**Lower Little River Watershed
2004 Annual Nonpoint Source Pollution Management Report**

Creek, and Rich Mountain) have formed the Lower Little River Watershed Coalition to advance the cause of conserving the natural resources of the Lower Little River and Millwood Lake. These six districts have received funding to develop a complete WRAS for the watershed.

The Coalition currently employs a coordinator/watershed keeper to

provide the necessary coordination, leadership and to implement a public awareness program aimed at the urban nonfarm water users.

Results of the project are given in the "Lower Little River Watershed Project Data" at the end of this watershed report.

Lower Little River Watershed Project Data

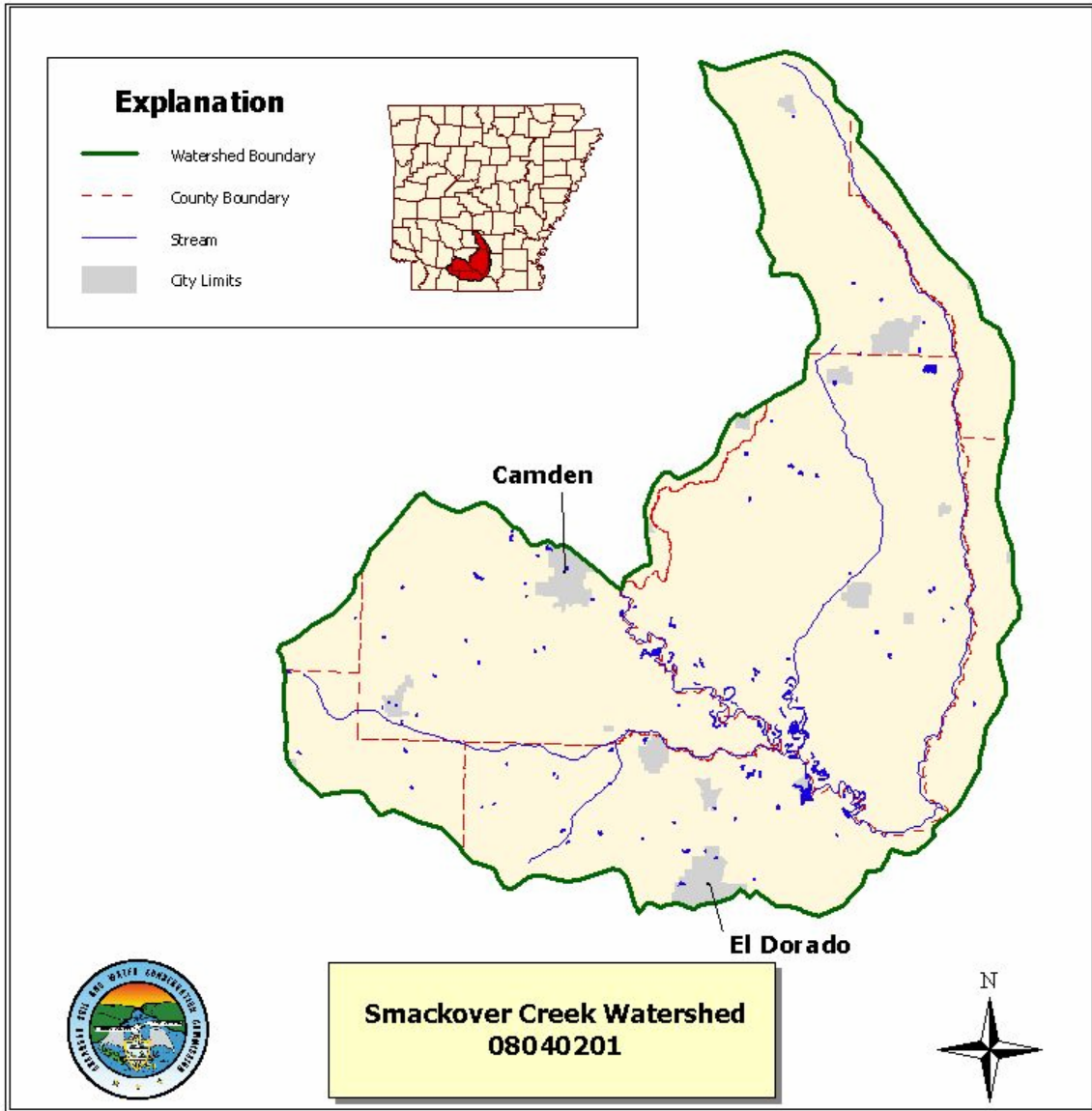
Lower Little River Watershed Project (00-1400)					
BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
317 f	Animal Mortality Disposal	14		34	NA
317 i	Animal Morality Disposal	3		23	NA
386	Field Border	13	49,900 ft	13	49,900ft
393	Filter Strip	55	843.7	159	1742.7
511	Forage Harvest Management	16	399	79	6181
528	Prescribed Grazing	48	3492.9	85	5450.9
561	Headquarters Management	133	6530.9	256	12356.9
561	Heavy Protection Area	13	96.1	96	674.1
590	Nutrient Management	100	6591.4	207	15239.4
595	Pest Management	78	5647.5	117	8434.5
633	Waste Utilization	101	6530.9	185	12356.9
645	Upland Wildlife Habitat	23	729.2	23	729.2

**Lower Little River Watershed
2004 Annual Nonpoint Source Pollution Management Report**

Lower Little River Watershed Project (00-1400) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
317 f	Animal Waste Disposal	20		43	NA
317 i	Animal Waste Disposal	2		2	NA
393	Filter Strips	19	38	54	434
528	Prescribed Grazing	4	493	14	2640
561	Headquarters Management	20	70	55	NA
590	Nutrient Management	30	1802	85	10269
595	Pest Management	21	1440	42	2951
633	Waste Utilization	30	1577	37	5523

Lower Little River Watershed Project (00-1400) Information / Education / Awareness		
Activity	Past 12 months	Project Total
Field Days	7	39
Number of Attendees	852	916
Training Sessions	6	9
Number of Attendees	1,153	1,553
Events	8	35
Number of Attendees	2,145	4,348

**Smackover Creek and Ouachita River Watershed
2004 Annual Nonpoint Source Pollution Management Report**



Summary of Management Activities

Projects Completed This Year

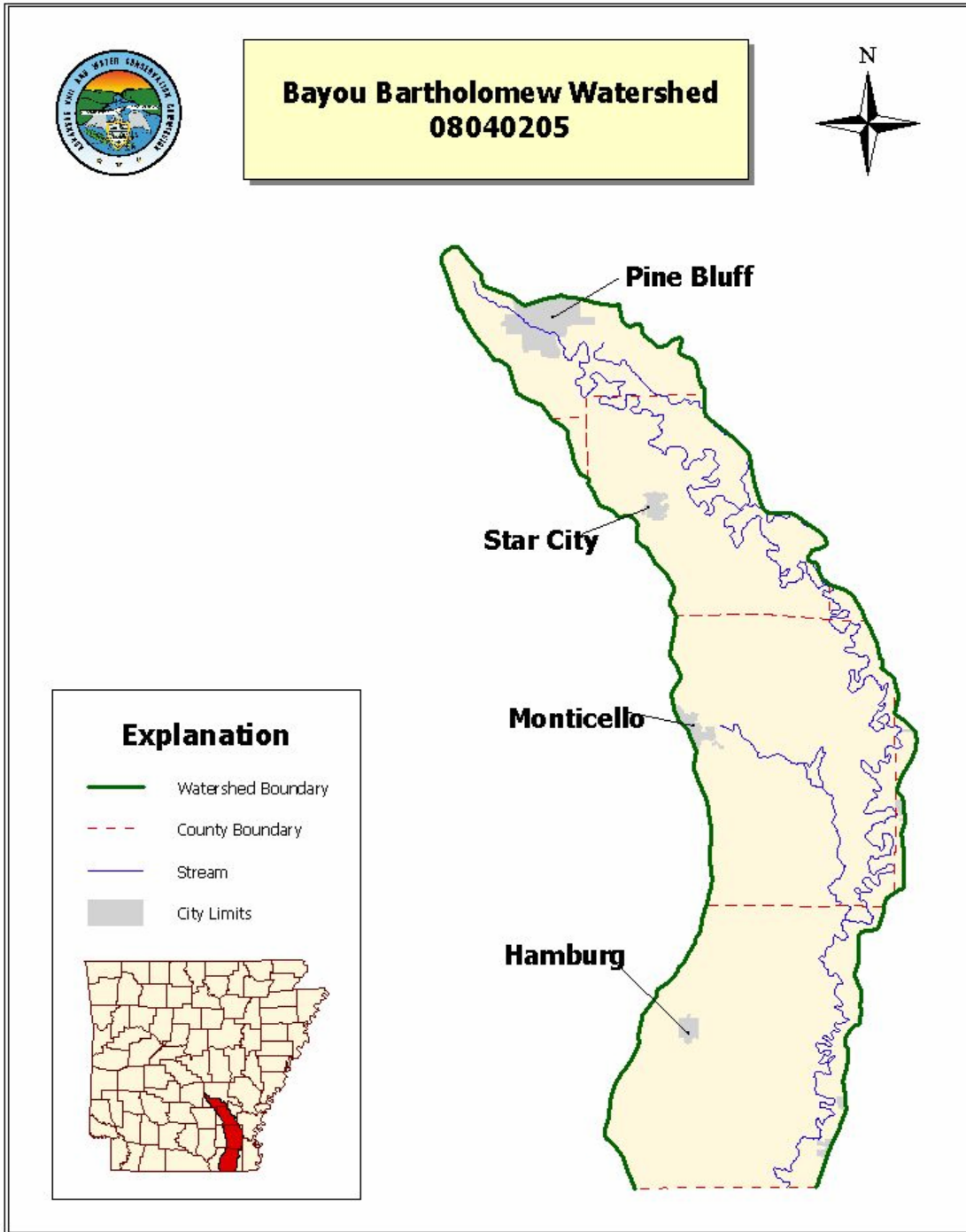
01-2300 (Smackover Creek Watershed Restoration Demonstration): This project was to demonstrate the use of salt tolerant vegetation as a Best Management Practice for remediating salt affected soils in drainage ways. This grant was

to extend the effort started under FY 98-1000. It was made by EPA late in FY 01 based on the continued financial support of the Phillips Petroleum Company.

The project ended December 31, 2003.

No final report was submitted.

**Bayou Bartholomew Watershed
2004 Annual Nonpoint Source Pollution Management Report**



Summary of Management Activities

Continuing Projects

***Bayou Bartholomew Watershed
Nonpoint Source Pollution
Abatement Project (Project 02-***

1100): This project has been coordinated by the Bayou Bartholomew Alliance (BBA). The alliance has partnered with the U of A Cooperative Extension Service, Ducks Unlimited, Conservation Districts, as well as many other agencies, concerned citizens and

**Bayou Bartholomew Watershed
2004 Annual Nonpoint Source Pollution Management Report**

groups to develop, initiate, and complete projects.

easement and establishment component.

The project focuses on reducing sediment through conservation planning and BMP implementation. The project also incorporates a conservation riparian

Results of the project are given in the "Bayou Bartholomew Watershed Project Data" at the end of this watershed report.

Bayou Bartholomew Watershed Project Data

**Bayou Bartholomew Watershed Nonpoint Source Pollution
Abatement Project 02-1100**

Bayou Bartholomew Watershed Nonpoint Source Pollution Abatement Project 02-1100 BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
	Jefferson County				
391	Riparian Forest Buffer	14	680 ac.	21	1132.9 ac.
329a	No-Till	0	0 ac.	6	1733.4 ac.
329c	Ridge Till	0	0 ac.	13	1436.4 ac.
	Lincoln County				
313	Waste Storage Facility	0	0	1	1 ea.
344	Seasonal Residue Mgmt.	5	210 ac.	15	1792 ac.
391	Riparian Forest Buffer	28	182740 ft.	49	269,908 ft.
587	Structure for Water Control	3	4	4	5
590	Nutrient Mgmt.	5	286 ac.	8	500 ac.
612	Tree Planting	27	1,849	27	1,849

**Bayou Bartholomew Watershed
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Bayou Bartholomew Watershed Nonpoint Source Pollution Abatement Project 02-1100 BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
	Jefferson County				
329a	No-Till			6	1733.4 ac.
329c	Ridge Till			13	1436.4 ac.
391	Riparian Forest Buffer	29	877 ac.	55	2265.9 ac.
393	CP-21	3	66.3 ac.	8	151.6 ac.
	Lincoln County				
328	Conservation Crop Rotation	5	500.4 ac.	9	732
391	Riparian Forest Buffer	5	19,383 ft.	33	202,123
344	Seasonal Residue Mgmt.	5	500.4 ac.	10	710.4
512	Pasture & Hay Planting			2	32
560	Access Rd.			1	1
587	Structure for Water Control	3	12	6	24
590	Nutrient Mgmt.	5	500.4 ac.	8	786.4
612	Tree Establishment	1	22.7 ac.	28	1,871.7
	Grassland Reserve Program	3	657.9	3	657.9

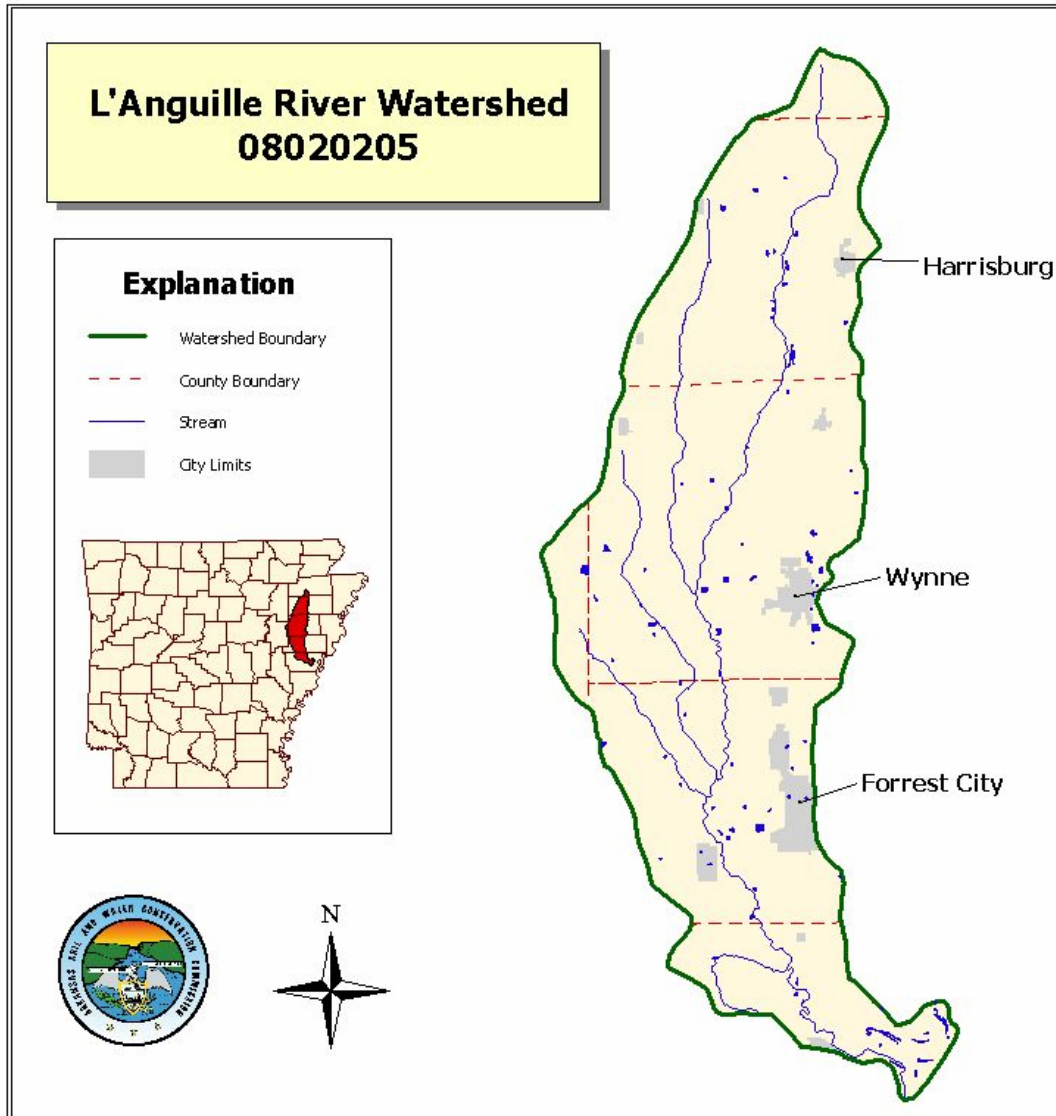
Bayou Bartholomew Watershed Nonpoint Source Pollution Abatement Project 02-1100 Information / Education / Awareness		
Activity	Past 12 months	Project Total
Field Days	1	3
Number of Attendees	159	342
Training Sessions	2	3
Number of Attendees	91	123
Events		
Attendees		
Clean-up Days	2	12
Attendees	150	681
Presentations	5	25
Attendees	222	1,070

**Bayou Bartholomew Watershed
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Public Program/Lecture	0	1
Attendees	0	34
Clubs	0	4
Attendees	0	90
Government, local 7	1	7
Attendees	12	142
Conference (1)	1	2
Attendees	20	320
Hunter Education/conservation	1	4
Attendees	40	232
Non-profit Group	0	1
Attendees	0	5
Watershed Group	0	1
Attendees	0	35
Retired Teachers	0	1
Attendees	0	40
Display Booth Days at public events	17	30
Attendees	6,000	10,421
Schools	3	3
Attendees	190	190

Bayou Bartholomew Watershed Nonpoint Source Pollution Abatement Project 02-1100 Cost Share		
	Federal	Non-Federal
Project Budget	\$55,000.00	\$82,500.00
Federal Fiscal Year 2004	\$10,838.08	\$16,257.12
Project Total Paid	\$23,308.48	\$69,530.32
Project Total Allocated	\$40,103.08	\$93,786.22

**L'Anguille River Watershed
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Summary of Management Activities

Projects Completed This Year

St. Francis & Lee County No-Till Incentive Project (00-1500): The goal of the project is to reduce sediment levels entering streams in the L'Anguille River Watershed from agricultural lands. The objective is to introduce no-till to land users and educate them on the benefits thus resulting in their adopting no-till as a way of life.

This project has been completed.

Results of the project are given in the "L'Anguille River Watershed Project Data" at the end of this watershed report.

St. Francis County No-Till Incentive Project (01-950): Although No-Till agriculture is not new to the watershed, this project focused on small farmers that have lands directly adjacent to streams and tributaries of the L'Anguille

L'Anguille River Watershed 2004 Annual Nonpoint Source Pollution Management Report

River to help them utilize no-till technology. It is calculated that as much as 72,000 tons of topsoil was retained in fields over the 2-year term of the project.

This project has been completed.

Results of the project are given in the "L'Anguille River Watershed Project Data" at the end of this watershed report.

Continuing Projects

L'Anguille Watershed Partners Project and DU Phase II (01-410): This projects focuses on reducing sediment loss from row crop agriculture through the use of water control structures. These structures control the release of water (velocity and volume) from agricultural fields. This controlled release will reduce the TSS loads reaching receiving streams. The *L'Anguille Watershed Partners Project* is complete. *DU Phase II* is a continuation of the successful *L'Anguille Watershed Partners Project*.

It is calculated that as much as 200,310 tons of topsoil could be retained in fields over a 15-year time period.

From October 2003-September 2004, 128 water control structures (\$54,912 value) were administered on 28 private farms in the L'Anguille Watershed. DU biologists delivered 2 seminars that discussed beneficial practices and effective management of structures to area landowners. Seven contracts with landowners were signed. DU also conducted 33 compliance visits to farms to ensure that program goals were being met and discussed management strategies with landowners.

Lower L'Anguille River Cost Share Project (01-510): This project is encouraging the use of Best Management Practices (BMPs) to address the problem of sedimentation from agricultural lands and to educate producers on the importance of improving water quality and conserving groundwater by implementing BMPs that will improve water quality and protect groundwater in the Lower L'Anguille River Watershed in St. Francis and Lee Counties.

Results of the project are given in the "L'Anguille River Watershed Project Data" at the end of this watershed report.

Watershed Restoration Plan for the L'Anguille Watershed (03-140): ASWCC contracted with Audubon Arkansas to produce a 9 Element Plan for the L'Anguille River. Through collaboration with the Conservation Districts, Audubon will develop a detailed Watershed Plan for the L'Anguille River. This plan will first include stake-holder identification and participation to ensure plan success.

Newly Awarded Projects

Demonstrating the Impact on Water Use and Runoff Water Quality of BMP Implementation for a Rice Rotation in the L'Anguille River Watershed (04-400): The goal of this project is to educate eastern Arkansas crop producers, particularly those in the L'Anguille River watershed, to the value and importance of protecting and improving water quality and conserving groundwater by

**L'Anguille River Watershed
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demonstrating the environmental and economic effects of including in their production decisions, BMPs (Best Management Practices) and similar beneficial practices that protect and

improve water quality and conserve groundwater.

L'Anguille Watershed Project Data

St. Francis & Lee County No-Till Incentive Project (00-1500)

St. Francis & Lee County No-Till Incentive Project (00-1500) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
329A	No-till			15	5,000 ac

St. Francis & Lee County No-Till Incentive Project (00-1500) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
329A	No-till			15	2,752 acres

St. Francis & Lee County No-Till Incentive Project (00-1500) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Events (info. Meetings)		2

**L'Anguille River Watershed
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Lower L'Anguille River Cost Share Project (01-510)

Lower L'Anguille River Cost Share Project (01-510) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
329A	No-Till	14	5,759	14	5,759
378	Pond	1		1	
410	Grade Stabilization	12	71	12	71
430DD	Pipe	8	9,370	8	9,370
512	Pasture/Hayland Planting	3	23	3	23
587	Structure for Water Control	1		1	

Lower L'Anguille River Cost Share Project (01-510) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
329A	No-Till	14	5,759	14	5,759
378	Pond				
410	Grade Stabilization	12	53	12	53
430DD	Pipe	8	8,310	8	8,310
512	Pasture/Hayland Planting	3	18.5	3	18.5
587	Structure for Water Control	1		1	

Lower L'Anguille River Cost Share Project (01-510) Information / Education / Awareness		
Activity	Past 12 months	Project Total
Outreach Meetings	2	2
Number of Attendees	50	50

**L'Anguille River Watershed
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Lower L'Anguille Watershed Cost-Share (01-510) Cost Share		
	Federal	Non-Federal
Project Budget	\$80,000	\$102,796
Federal Fiscal Year 2004	\$41,444.25	\$65,657.54
Project Total Paid	\$41,444.25	\$65,657.54
Project Total Allocated	\$67,773.56	\$106,607.42

St. Francis County No-Till Incentive Project (01-950)

St. Francis County No-Till Incentive Project (01-950) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
329A	No-Till			11	1,598

St. Francis County No-Till Incentive Project (01-950) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
329A	No-Till			11	1,598

St. Francis County No-Till Incentive Project (01-950) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Events (info. Meetings)		2
Number of Attendees		77

**Other Waters of the State by Category / Statewide Activities - Agriculture
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ROW CROP

Summary of Management Activity

Continuing Projects

Big Creek Watershed Tailwater Demonstration (02-200): This is a project to reduce the amount of sediment runoff from cropland by the reuse of on farm and adjacent surface water. This is being done through a demonstration of the feasibility tailwater systems, cost share, and technology transfer.

Results of the project are given in the "Row Crop Agriculture Project Data" at the end of the Row Crop Agriculture section.

Buffalo Island Drainage District #9 Sediment Prevention Project (02-1000): This is a project to a) reduce sediment loading of the Buffalo Island Drainage District ditches, b) manage cropland so that the average annual soil loss is within "T", c) implement additional BMPs to effectively control gully erosion, protect wetlands and d) riparian areas and to trap sediment before it enters the stream. To achieve the goal of reducing sedimentation from field runoff, 500 pipe drops are being installed in the St. Francis River Drainage within Craighead County.

Results of the project are given in the "Row Crop Agriculture Project Data" at the end of the Row Crop Agriculture section.

New Projects

Clay County Sediment Prevention Project (03-200): This project is to reduce sediment loading of the Mayo Ditch and its tributaries as it flows to the St. Francis River. The project promotes better management of the adjacent croplands so that the average annual soil loss is within the allowable tolerance. Best Management Practices are being implemented to effectively control "head cutting" of the stream bank, gully erosion, as well as protect wetlands and riparian areas within the watershed.

Results of the project are given in the "Row Crop Agriculture Project Data" at the end of the Row Crop Agriculture section.

Other Row Crop Agriculture projects

Projects that are located in Priority Watersheds or TMDL Watersheds are reported in those specific watershed sections.

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Row Crop Agriculture Project Data

Big Creek Watershed Tailwater Demonstration (02-200)

Big Creek Watershed Tailwater Demonstration (02-200)					
BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
430EE	PVC pipe	0		7	10496
447	tailwater	0		11	1512.2
449	water Mgt	0		11	1632

Big Creek Watershed Tailwater Demonstration (02-200)					
BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
430EE	PVC pipe	1	1600	1	1600
447	tailwater	4	2206	4	2206
449	water Mgt	4	674	4	674

Big Creek Watershed Tailwater Demonstration (02-200)		
Information / Education /Awareness		
Activity	Past 12 months	Project Total
Field Days	1	2
Number of Attendees	20	

Big Creek Watershed Tailwater Demonstration (02-200)		
Cost Share		
	Federal	Non-Federal
Project Budget	\$90,000.00	\$78,750.00
Federal Fiscal Year 2004	\$22,500.00	\$61,557.53
Project Total Paid	\$66,930.70	\$169,093.84
Project Total Allocated	\$89,052.46	\$304,729.80

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Buffalo Island Drainage District #9 Sediment Prevention Project (02-1000)

Buffalo Island Drainage District #9 Sediment Prevention Project (02-1000) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
	Drop Pipe	100	4,000	294	15,640

Buffalo Island Drainage District #9 Sediment Prevention Project (02-1000) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
	Drop Pipe	106	4,240	280	14,680

Clay County Sediment Prevention Project (03-200)

Clay County Sediment Prevention Project (03-200) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
	59 pipe drops	18	3400	18	3400
	1 weir	4	470	4	470

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Clay County Sediment Prevention Project (03-200) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
	59 pipe drops	18	3400	18	3400
	1 weir	4	470	4	470

Clay County Sediment Prevention Project (03-200) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Training Sessions	3	3
Number of Attendees	10	10
Events	2	2
* Meeting with Land Owners	1	1
Number of Attendees	9	9
* Meeting with Drainage District	3	3
Number of Attendees to each mtg	6	6

PASTURE

Summary of Management Activity

Projects Completed This Year

Upper Little Red River Watershed Project (00-500): The project was to minimize the impact of non-point source pollution in the watershed. This was to be accomplished by nutrient management of pasture, pasture establishment, and animal waste utilization plans. The technician wrote 120 CMPs throughout this project.

The project has been completed.

Results of the project are given in the "Pasture Project Data" at the end of the Pasture section.

Proper Cattle Heavy Use Area Design and Management (01-1400): This was a demonstration of a properly designed and managed Cattle Heavy Use Area serving as a model application of available technologies and practices.

A fact sheet, electronic copies of the scripted slide set, and additional HUA guidelines and design aids were

Other Waters of the State by Category / Statewide Activities - Agriculture 2004 Annual Nonpoint Source Pollution Management Report

produced and distributed to CES offices for use.

Field day attendance included 53 individuals of which about 20 were NRCS personnel, 4 were ASWCC personnel, 8 were Extension personnel, and 21 were producers.

The project has been completed.

Lower Spring River Watershed Pasture Improvement (01-2400): This was a project to implement conservation planning and cost sharing of BMPs resulting in the establishment of vegetative cover on the pastureland, and the maintenance and protection of riparian areas on the watershed.

BMPs installed (ponds, freeze proof tanks, fencing, brush management, pest management and pasture establishment) affect 4,758.9 acres, thus calculated soil savings of 23,794.5 tons per year (Average soil loss per year in LSR is 5.00 t/ac/yr.).

153 plans were prepared for a total of 20,657 acres. Of the 153 plans, 111 were plans only and 42 were plans with cost-share assistance. Of the 42 plans, 24 landowners completed BMPs on their farms.

The project has been completed.

Results of the project are given in the "Pasture Project Data" at the end of the Pasture section.

Newly Awarded Projects

Spring River Watershed Project (04-500): The project goal is to maintain or restore all designated uses of the Spring River Watershed. The secondary objective is to begin addressing the problem of sedimentation by: 1) implement conservation plans on 52,300 acres of pastureland utilizing alternative watering sources and 6.5 miles of stream bank protection in the Spring River Watershed. 2) implement a program that will bring about voluntary participation of landowners and land users in the application of the necessary BMPs required bringing pollution of the watershed to acceptable levels.

Upper Little Red River Watershed BMP Implementation Project (03-300): The project will minimize the impact of non-point source pollution in the watershed. This will be accomplished by providing pasture and nutrient management, pasture establishment, animal waste utilization plans, and demonstrations.

Other Pasture projects

Projects that are located in Priority Watersheds or TMDL Watersheds are reported in those specific watershed sections.

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Pasture Project Data

Upper Little Red River Watershed Project (00-500)

Upper Little Red River Watershed Project (00-500) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
393	Buffer and filler strips			15	85 ac
512	Pasture establishment			60	4,200 ac
528A	Prescribed grazing			95	3,846 ac
590	Nutrient management			120	5,132 ac
595	Pest Management			60	2,117

Upper Little Red River Watershed Project (00-500) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
393	Buffer and filter strips			10	68 ac
528A	Prescribed grazing			89	3,008 ac
512	Pasture establishment			105	3,703 ac
590	Nutrient management			82	4,363 ac
595	Pest Management			45	1,311 ac

Upper Little Red River Watershed Project (00-500) Information / Education / Awareness		
Activity	Past 12 months	Project Total
Field Days		4
Number of Attendees		16
# Tours		3
Number of Attendees		90
# Newsletters		6
# News articles		2
# Radio spots		3

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Lower Spring River Watershed Pasture Improvement (01-2400)

Lower Spring River Watershed Pasture Improvement (01-2400) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
382	Fence				46,458 ft.
512	Pasture & hayland planting				361 ac.
595	Pest management				162.5 ac.
614	Tanks				15
	Brush control				148.7 ac.

Lower Spring River Watershed Pasture Improvement (01-2400) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
382	Fence				46,458 ft.
512	Pasture and hayland planting				361 ac.
595	Pest management				162.5 ac.
614	Tanks				15
	Brush control				148.7 ac.

Lower Spring River Watershed Pasture Improvement (01-2400) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Field Days		2
Number of Attendees		59
Training Sessions		3
Number of Attendees		55
Newsletters		8
Number of Recipients		800

**Other Waters of the State by Category / Statewide Activities - Agriculture
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Lower Spring River Watershed Pasture Improvement (01-2400) Cost Share		
	Federal	Non-Federal
Project Budget	\$64,500.00	\$40,000.00
Federal Fiscal Year 2004	\$16,682.00	\$23,564.00
Project Total Paid	\$49,610.00	\$62,700.05
Project Total Allocated	\$62,262.00	\$79,866.69

CONFINED ANIMAL MANAGEMENT

Summary of Management Activity

Projects Completed This Year

State-Wide Nutrient Management Education for Confined Poultry and Livestock Producers (99-700):

This project was to provide education to poultry and livestock producers on the importance of nutrient (especially phosphorus) management and the BMPs needed to manage the nutrients. The project failed to complete task 1 and 2 because of the Tulsa Lawsuit.

This project has been completed.

Results of the project are given in the "Confined Animal Management Project Data" at the end of the Confined Animal Management Agriculture section.

Benton County Spavinaw Creek CNMP Cost-Share Program (01-2000):

The project is improving water quality in the Spavinaw Creek Watershed by utilizing 319(h) cost-share fund to implement best management practices, therefore reducing nutrients in the basin.

This project has been completed.

Results of the project are given in the "Confined Animal Management Project Data" at the end of the Confined Animal Management Agriculture section.

Continuing Projects

Upper Little Red River Watershed Project (02-400): The goal of the project is to maintain or restore all designated uses of the Upper Little Red River watershed. The secondary objective is to begin addressing the problem of sedimentation by implementing conservation plans on pastureland in the Upper Little Red River.

Results of the project are given in the "Confined Animal Management Project Data" at the end of the Confined Animal Management Agriculture section.

Arkansas Excess Nutrient Management Project (03-700):

This project will 1) develop and implement a statewide registration program for poultry operations for targeting of other grant activities. 2) develop and implement a training and certification program for nutrient management planners to ensure those planners have the knowledge, skills, and

**Other Waters of the State by Category / Statewide Activities - Agriculture
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abilities necessary to properly plan the use of nutrients on the land. 3) develop and implement a training and certification program for nutrient applicators to ensure that they have the knowledge, skills, and abilities necessary to properly apply nutrients to the land.

and regulations and with our training sessions.

Results of the project are given in the "Confined Animal Management Project Data" at the end of the Confined Animal Management Agriculture section.

The rules and regulations are not approved by legislation and are under review with the Arkansas AG Committee. Our Poultry Registration has been voluntary and we have registered approximately 3662 farms this past year. We have had approximately 43 field meetings between our staff, Oklahoma's Department of Agriculture, and the public. We have met with over 2000 people, state wide, on our rules

Other Confined Animal Management projects

Projects that are located in Priority Watersheds or TMDL Watersheds are reported in those specific watershed sections.

Confined Animal Management Project Data

State-Wide Nutrient Management Education for Confined Poultry and Livestock Producers (99-700)

State-Wide Nutrient Management Education for Confined Poultry and Livestock Producers (99-700) Information / Education /Awareness	
Activity	Project Total
Nutrient Management Planning Workshops for Poultry Producers	2
Number of Attendees	11
Litter Calibration Workshops	4
Number of Attendees	140
Training for Producers with Liquid Manure Systems	42
Number of Attendees	1800
Riparian Area Management In-Service Training	1
Number of Attendees	44
Animal Manure Management In-Service Training	1
Number of Attendees	44
Dairy Nutrient Management Demonstration and Training	2
Number of Attendees	30

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Benton County Spavinaw Creek CNMP Cost-Share Program (01-2000)

Benton County Spavinaw Creek CNMP Cost-Share Program (01-2000)					
BMPs Planned					
BMP #	BMP Name	Past 8 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
312	Litter Moved	0	0	4	319,881 lbs. of P
313	poultry	2	4,400 sq. ft.	21	29,400 sq. ft.
313	dairy	2	76 cu. Yd	3	88 cu. Yd,
317	Composter	1	350 sq. ft.	10	2,725 sq. ft
378	Pond	1	3,000 cu. Yd.	13	22,000 cu. Yd.
382	Fence	2	2,300 ft.	23	48,600 ft.
472	Exclusion	0	0	1	5 ac.
510	Pasture Management	0	0 ac.	3	897.7 ac.
511	Forage Harvest	0	0	3	60 ac.
512	Planting	2	36.3 ac.	27	799.3 ac.
516	Pipeline	4	2,660 ft.	24	23,214 ft.
528a	Prescribed Grazing	3	434.1 ac.	16	1326.1 ac.
558	Roof Runoff	1	400 sq. ft.	1	400 sq. ft.
561	Heavy Use Area	4	7 ea.	40	43 ea.
590	Nutrient Management	0	0	28	20,505 ac.
595	Pest Management	0	0 ac.	16	1,689.9 ac. Corrected
614	Tanks	3	6 ea.	37	68 ea
633	Waste Utilization	0	0	22	1,136 ac.
642	Well	0	0 ft.	8	2,500 ft.
991	Recordkeeping	0	0	4	87 ac.

**Other Waters of the State by Category / Statewide Activities - Agriculture
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Benton County Spavinaw Creek CNMP Cost-Share Program (01-2000) BMPs Implemented					
BMP #	BMP Name	Past 8 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
312	Litter Moved	5	56,029.3 # P	9 ea.	139,609.3 lbs. of P
313	poultry	4	7,200 sq ft	13 ea.	23,200 sq ft
313	dairy	2	75 cu. Yd.	3 ea.	87 cu. Yd.
317	Composter	2	734 sq. ft.	7 ea.	2,334 sq. ft.
378	Pond	3	6,555 cu. Yd.	9 ea.	16,215 cu. Yd.
382	Fence	9	20,341 ft.	12 ea.	24,261 ft.
472	Exclusion	0	0	0	0
510	Pasture Management	0	0 ac.	3 (corrected)	897.7 ac.
511	Forage Harvest	0	0 ac.	3 (corrected)	60 ac.
512	Planting	14	567 ac.	27	989.4 ac.
516	Pipeline	3	8,774 ft.	17	11,834 ft.
528a	Prescribed Grazing	3	434.1 ac.	16	1326.1 ac.
558	Roof Runoff	1	400 sq. ft.	1	400 sq. ft.
561	Heavy Use Area	13	18 ea.	18	30 ea.
590	Nutrient Management	0	0	28	20,505
595	Pest Management	2	107.5 ac.	9	1,480.8 ac.
614	Tanks	16	22 ea.	20	34 ea.
633	Waste Utilization	0	0 ac.	22	1,136 ac.
642	Well	4	800 ft.	4	800 ft.
991	Recordkeeping	0	0 ac.	4	87 ac.

Benton County Spavinaw Creek CNMP Cost-Share Program (01-2000) Information / Education / Awareness		
Activity	Past 8 months	Project Total
Field Days	0	1
Events Study Day Program	1	2
Number of Attendees	85	85
Newsletters/Articles	2	15

**Other Waters of the State by Category / Statewide Activities - Agriculture
2004 Annual Nonpoint Source Pollution Management Report**

Benton County Spavinaw Creek CNMP Cost-Share Program (01-2000) Cost Share		
	Federal	Non-Federal
Project Budget	\$250,000.00	\$100,000.00
Federal Fiscal Year 2004	\$83,479.65	\$132,381.96
Project Total Paid	\$168,458.69	236,364.39\$

Upper Little Red River Watershed Project (02-400)

Upper Little Red River Watershed Project (02-400) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
314	Brush Mgmt	9	134 ac	10	152 ac
378	Pond	0	0	5	353 ac
382	Fence	20	31,812 ft	16	91,309 ft
512	Pasture Plant	20	1,757 ac	32	2392 ac
516	Pipeline	0	0	2	109 ac
574	Spring Dvlp.	0	0	1	34 ac
595	Pest Mgmt.	8	681 ac	10	729 ac
614	Tank	4	79 ac	6	188 ac
614	Water Fac.	0	0	2	234 ac

Upper Little Red River Watershed Project (02-400) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
378	Pond	0	0	5	70 ac
382	Fence	0	0	16	12,850 ft
512	Pasture Plant	7	1092 ac	22	1,120 ac
516	Pipeline	4	20 ac	6	90 ac
614	Tank	1	20 ac	3	90 ac

**Other Waters of the State by Category / Statewide Activities - Agriculture
2004 Annual Nonpoint Source Pollution Management Report**

Upper Little Red River Watershed Project (02-400) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Field Days	1	2
Number of Attendees	61	124
Training Sessions	0	0
Number of Attendees	0	0
Events	1	2
Number of Attendees	3	678

Upper Little Red River Project (02-400) Cost Share		
	Federal	Non-Federal
Project Budget	\$180,000.00	\$112,500.00
Federal Fiscal Year 2004	\$43,729.00	\$65,596.00
Project Total Paid	\$49,967.00	\$71,200.00
Project Total Allocated	\$147,537.00	\$217,566.00

Arkansas Excess Nutrient Management Project (03-700)

Arkansas Excess Nutrient Management Project (03-700) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Nutrient Mang. Information Meetings	20	20
Number of Attendees	650	650
Training Sessions	4	4
Number of Attendees	395	395
Training Events (staff training)	8	8
Public Hearings (1 st round)	6	6
Number of Attendees	610+	610+
Public Hearings (2 nd round)	5	5
Number of Attendees	478+	478+

Other Waters of the State by Category / Statewide Activities -Silviculture
2004 Annual Nonpoint Source Pollution Management Report

SILVICULTURE

Summary of Management Activity

Projects Completed This Year

Little Red River Forest Landowner Education Project (99-1200): The project improved the water quality of the Little Red River by reducing non-point source pollution from privately owned forestland. The objectives were 1) Educate landowners on the value of forestland for all uses, 2) Educate landowners on best management practices (BMPs), 3) Encourage landowners to seek professional assistance and develop forest stewardship plans, 4) Make available technical assistance to aid the landowner in making sound conservation decisions.

This project has been completed.

Results of the project are given in the "Silviculture Project Data" at the end of the Silviculture section.

Continuing Projects

Silvicultural Best Management Practices Effectiveness Monitoring (01-300): The goal of this project is to determine if current BMPs associated with silviculture sites in Arkansas are sufficient to preserve natural assemblages of benthic macroinvertebrates in streams adjacent to these sites. The objectives of this project are to 1) determine the differences in natural assemblages of benthic macroinvertebrates upstream and downstream of proposed silviculture sites, 2) determine such differences in assemblages after silviculture activities have occurred and standard BMPs have been implemented, 3) compare pre-silviculture/BMP differences in upstream and downstream benthic macroinvertebrate assemblages with post-silviculture/BMP differences to determine if changes in assemblages have occurred, and 4) provide recommendations concerning current BMPs for silviculture activities.

Results of the project are given in the "Silviculture Project Data" at the end of the Silviculture section.

**Other Waters of the State by Category / Statewide Activities -Silviculture
2004 Annual Nonpoint Source Pollution Management Report**

Silviculture Project Data

Little Red River Forest Landowner Education Project (99-1200)

Little Red River Forest Landowner Education Project (99-1200)					
BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
	Soil sampling practices			49	3400 ac.
	Manure sampling			5	
	Water sampling			3	
	Soil sampling training			23	
	Weed identification and control training			47	
	Forage variety selection and rotational grazing training			87	
	Pond management and nutrient runoff training			23	

Little Red River Forest Landowner Education Project (99-1200)					
BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
	Soil sampling practices			49	3400 ac.
	Manure sampling			5	
	Water sampling			3	
	Soil sampling training			23	
	Weed identification and control training			47	
	Forage variety selection and rotational grazing training			87	
	Pond management and nutrient runoff training			23	

**Other Waters of the State by Category / Statewide Activities -Silviculture
2004 Annual Nonpoint Source Pollution Management Report**

Little Red River Forest Landowner Education Project (99-1200) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Field Days		1
Number of Attendees		23
Youth education events		26
Number of Attendees		2,807
Public education events		19
Number of Attendees		1,595
Pre Survey		1
Number of Recipients		639
Newsletter		2
Number of Recipients		1,043
Follow up survey		1
Number of Recipients		185

Silvicultural Best Management Practices Effectiveness Monitoring (01-300)

Silvicultural Best Management Practices Effectiveness Monitoring (01-300) BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
	Physico-chemical and biological sampling				
	# of samples	0		144	

Silvicultural Best Management Practices Effectiveness Monitoring (01-300) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
	Physico-chemical and biological sampling				
	# of samples taken	48		96	

**Other Waters of the State by Category / Statewide Activities -Silviculture
2004 Annual Nonpoint Source Pollution Management Report**

Silvicultural Best Management Practices Effectiveness Monitoring (01-300) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Field Days	1	1
Number of Attendees		
Presentation to the North American Benthological Society	1	1
Taxonomic certification workshop	1	1

**Other Waters of the State by Category / Statewide Activities - Construction
2004 Annual Nonpoint Source Pollution Management Report**

CONSTRUCTION

Summary of Management Activity

All construction related projects were completed last year.

Other Waters of the State by Category / Statewide Activities - Urban 2004 Annual Nonpoint Source Pollution Management Report

URBAN

Summary of Management Activity

Projects Completed This Year

Fourche Creek Watershed Recovery and Restoration (02-800): This project is to restore and enhance the natural functions of the Fourche Creek Watershed, while reducing the pollutant levels through a number of strategic actions.

This project was completed this year.

Continuing Projects

ASWCC Statewide Public Awareness Project (01-1000): ASWCC has developed a statewide nonpoint source awareness program that targets the urban population of Arkansas.

Results of the project are given in the "Urban Project Data" at the end of the Urban section.

Fourche Creek Watershed Recovery and Restoration (02-810): This project is to continue and build the current efforts (02-800) to restore and enhance the natural functions of the Fourche Creek Watershed, while reducing the pollutant levels through a number of strategic actions.

Audubon believes the Fourche Creek Watershed Recovery and Restoration project prevailed during the 2003-04 fiscal year. Many successful achievements were made through the opportunity to work under the 319 program administered by the ASWCC that otherwise would not have been possible. The Fourche Creek Project has

quickly turned into a model restoration project, one in which its principles, structure, and design are being replicated by numerous organizations and watershed groups. Many goals and objectives, which focus on the reduction of NPS, were accomplished this past year.

Components of the restoration project in which higher levels of success were achieved can be categorically separated into stream corridor enhancements, stream bank stabilizations, partnership formation, and outreach.

This past year, Audubon was very successful at changing Little Rock Parks and Recreation's traditional riparian management techniques by creating a management program that allows vegetative buffers along the creek and its tributaries. Vegetative buffers are successful at reducing erosion; they contribute to onsite storage of stormwater, sediment fallout, and an increase of wildlife habitat. Audubon will continue to incorporate these management practices due to their high levels of success.

The implementation of stream bank stabilizations will not only reduce the amount of erosion and sediment from entering the stream, but also allow demonstrations for numerous techniques utilized in stabilizations practices. Audubon feels it was very successful at meeting its objectives with this component of the project.

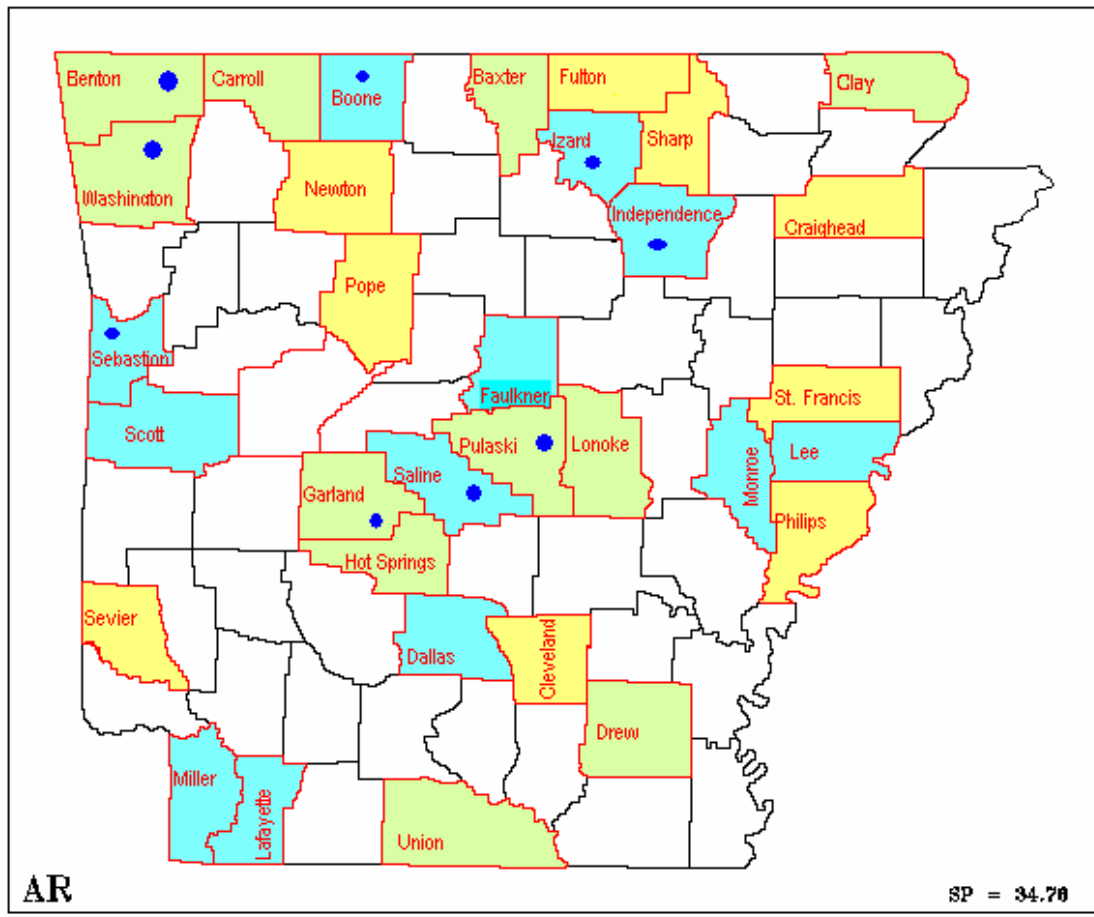
Results of the project are given in the "Urban Project Data" at the end of the Urban section.

**Other Waters of the State by Category / Statewide Activities - Urban
2004 Annual Nonpoint Source Pollution Management Report**

Urban Project Data

ASWCC Statewide Public Awareness Project (01-1000)

ASWCC Statewide Public Awareness Project (01-1000) Information / Education / Awareness		
Activity	Past 12 months	Project Total
Festivals Attended	16 fairs etc.	39
Number of Contacts Made	6,292 citizens	10,596 citizens
Presentations Given	11	31
Number of Attendees	1,485 citizens	3,681 citizens
Counties Participating	16	32



Map of Counties where program has brought Nonpoint Pollution Awareness.



**Other Waters of the State by Category / Statewide Activities - Urban
2004 Annual Nonpoint Source Pollution Management Report**

Fourche Creek Watershed Recovery and Restoration (02-810)

Fourche Creek Watershed Recovery and Restoration (02-810) BMPs Implemented				
	Past 12 months		Project Total	
	Total number	Total Amount	Total number	Total Amount
	of farms with	(ac / ft)	of farms with	(ac / ft)
BMP #	this BMP		this BMP	
Erosion Control Devises	Used during construction of stream bank stabilization projects	5 acres		5 acres

Fourche Creek Watershed Recovery and Restoration (02-810) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Field Days	3	4
Number of Attendees	85	115
Training Sessions	14	14
Number of Attendees	370	370
Events	9	11
Number of Attendees	112	157
Total Number of Activities	26	29
Total Number of Attendees	537	642

**Other Waters of the State by Category / Statewide Activities –
Resource Extraction
2004 Annual Nonpoint Source Pollution Management Report**

RESOURCE EXTRACTION

Summary of Management Activity

The Arkansas Department of
Environmental Quality's (ADEQ)
Regulation # 15, "The Arkansas Open-

Cut Mining and Land Reclamation Code,
effective May 30, 2000" covers surface
mining in Arkansas.

**Other Waters of the State by Category / Statewide Activities – Land Disposal
2004 Annual Nonpoint Source Pollution Management Report**

LAND DISPOSAL

Summary of Management Activity

In accordance with the rules and regulations pertaining to sewage disposal systems, designated representatives and installers, all on-site wastewater disposal system installation

or modifications in Arkansas must be designed by a designated representative of the Arkansas Department of Health and installed by a licensed installer.

**Other Waters of the State by Category / Statewide Activities –
Hydrologic Modification
2004 Annual Nonpoint Source Pollution Management Report**

HYDROLOGIC MODIFICATION

Summary of Management Activity

Projects Completed This Year

Alternative Livestock Water Demonstration Project (01-1900):
The project objective is to demonstrate alternative watering methods for cattle other than direct access to streams. This will allow for establishment of riparian buffers and fencing along stream corridors. Data for this project is given in the "Strawberry River Priority Watershed" section.

This project has been completed.

Lower Litter Red River Watershed Project (01-1700): One phase of this project was installing a variety of stream bank restoration techniques for demonstration purposes to determine the best and most cost effective alternatives for landowners.

This project has been completed.

New Projects

The Cache River Watershed — Water Quality Assessment and Source Identification Project (01-610): This project is to identify, quantify, and prioritize the sources of sediment and nutrient loading from agricultural (row crop and range land), silvicultural, and civil (gravel roads), non point source inputs to the Cache River main-stem channel, its tributaries, and the associated bottomland hardwood/riverine wetland habitats. The product will be maps, reports, and GIS database identifying the tributaries to the Cache River ranked by severity of contributions of sediments and nutrients to the Cache River main-stem channel and wetlands. The product will be used for ongoing and future efforts to determine/prioritize how much and what types of Best Management Practices (BMP) to employ to get the best benefit to cost ratios from watershed planning efforts and BMP implementation.

Hydrologic Modification Project Data

Lower Litter Red River Watershed Project (01-1700)

Lower Litter Red River Watershed Project (01-1700)					
BMPs Planned					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
329	No till				2200 ac.
580	Stream bank stabilization			28	1600 ft.

**Categorical Implementation - Other
2004 Annual Nonpoint Source Pollution Management Report**

Lower Litter Red River Watershed Project (01-1700) BMPs Implemented					
BMP #	BMP Name	Past 12 months		Project Total	
		Total number of farms with this BMP	Total Area Impacted (ac / ft)	Total number of farms with this BMP	Total Area Impacted (ac / ft)
329	No till				2200 ac.
580	Stream bank stabilization			28	1600 ft.

Lower Litter Red River Watershed Project (01-1700) Information / Education /Awareness		
Activity	Past 12 months	Project Total
Field Days		3
Demonstration sites		28
Newspaper ads		12
District Newsletters		3
Number of Recipients		1500 each

Categorical Implementation - Other
2004 Annual Nonpoint Source Pollution Management Report

OTHER

GIS Database Development and Watershed Modeling in Arkansas Priority Watersheds (03-120): In order to develop watershed management plans and TMDLs for priority watersheds, GIS data need to be developed. Also there is a need to calibrate and apply a watershed water quality model in the priority watersheds so that effectiveness of alternative management practices on water quality improvement can be predicted.

Arkansas' Nonpoint Source Pollution Management Program Annual Report for 2001 includes the following priority watersheds:

1. Illinois River,
2. Upper White River,
3. Buffalo River,
4. Strawberry River,
5. Big Piney Creek,
6. Cadron Creek,
7. Poteau River,
8. Lower Little River,
9. Smackover Creek,
10. Bayou Bartholomew,
11. Spring River,
12. Lake Eucha/Spavinaw Creek,
13. L'Anguille River

The objectives of the project are: 1) Prepare basic GIS data needed for the 9 priority watersheds to model watershed response, 2) Calibrate SWAT model for hydrology and apply SWAT model to make watershed response predictions, 3) Train ASWCC personnel on use of GIS data and model, 4) Develop and publish user manual to use GIS data and SWAT model, and 5) Host GIS data base, and models in the Biological and Agricultural Engineering Watershed Modeling Laboratory.

Watershed Restoration Plans for Priority Watershed (03-130): The project objective is to establish watershed restoration plans for the following priority watersheds within the state:

1. Illinois,
2. Upper White,
3. Strawberry,
4. Cadron,
5. Poteau,
6. Lower Little,
7. Bayou Bartholomew,
8. Spring,
9. L'Anguille,
10. Big Piney

Sebastian County Conservation Education Program multi-Counties in Arkansas (04-600): The purpose of a Conservation Education Program (CEP) is to provide training to teachers and Conservation District Employees in order that they will encourage students to actively participate in a conservation education program that will foster an awareness and appreciation of our natural resources creating life-long awareness and knowledge passed on to the next generation. Conservation Education is vital to the protection of our natural resources - being so significantly related to public welfare. Simple or elementary scientific experiments such as: water and soil sampling and testing, habitat development, vegetation enhancement and erosion control will insure student participation in environmental education. Education reform, teaching skills and education improvement are priorities of the project. All areas of studies may be taught utilizing natural resources.

Categorical Implementation - Other
2004 Annual Nonpoint Source Pollution Management Report

Lee Creek Watershed Water Quality Monitoring Project (04-800): The project objective is to establish remote

sampling sites on Lee Creek and major tributaries to monitor non-point nutrient levels during hydrologic events.

**Arkansas Nonpoint Source Pollution Mini-grant Program
2004 Annual Nonpoint Source Pollution Management Report**

MINI GRANT PROGRAM

The mini-grant program was created to make mini-grants available to eligible Conservation Districts. These mini-grants are limited to a nine month time frame. Conservation Districts are required to report usage for a five year period.

the NPS management section. Equipment purchased by these funds is to be made available for use by individual farmers/landowners. Equipment purchased by mini-grants may not be utilized by individuals or groups for business or "for profit" gain.

Mini-grant funds are to be used by the Conservation Districts to purchase equipment for BMP implementation or other items subject to the approval of

Mini-grants were first awarded in FFY 2003.

2003 Mini-grant summary		
County	Equipment/ Practice	Result
03-150 Boone Co.	Pasture Renovation (Aerator)	397 acres
03-151 Lawrence Co.	No-till	590 acres
03-153 Little River Co.	Public Awareness	4,150 students
03-154 Logan Co.	Litter Spreader	2,286 acres
03-155 Lonoke Co.	Land Leveling (GPS unit)	1,242 acres
03-156 Phillips Co.	Land Leveling (GPS unit)	2,539 acres
03-157 Polk Co.	No-till	301 acres
03-158 Randolph Co.	Roadside cover (Mulcher)	21,398 feet
03-159 Fulton Co.	No-till	549 acres
03-160 Newton Co.	Rotowiper (Pasture Establishment)	607 acres
03-161 Prairie Co.	No-till	83 acres

2004 Mini-grant summary		
County	Equipment/ Practice	Result
04-101 Benton Co	No till grass	N/A
04-102 Conway Co	Out door classroom	N/A
04-103 Cross Co	No till	N/A
04-104 Faulkner Co	No till & sprayer	N/A
04-105 Lonoke Co	Chicken Litter Spreader	N/A
04-106 Marion Co	No till	N/A
04-107 Miller Co	No till	N/A
04-109 Perry Co	Litter Spreader	N/A
04-110 Pulaski Co	NPS education	N/A
04-111 St Francis Co	NPS education	N/A
04-112 Woodruff Co	Litter Spreader	N/A
04-113 Yell Co	No till	N/A
04-160 Carroll Co	Stream bank Stabilization	N/A

Arkansas Nonpoint Source Pollution Baseline Monitoring Program 2004 Annual Nonpoint Source Pollution Management Report

Baseline Monitoring Program

The Arkansas Nonpoint Source Baseline Monitoring Program consists of long term monitoring stations located at various places in the state that supplement, but not duplicate ADEQ monitoring.

Long term monitoring will be able to provide data over a number of years that will be able to show any change in water quality in a watershed.

Project monitoring usually is for the demonstration of BMPs. This data is only useful and available at the completion of the project. The results of project monitoring are reported in the section that contains the project.

Long Term Monitoring

Upper White River Watershed (HUC 11010001):

Water Quality Sampling at the Arkansas Highway 143 Bridge on the Kings River: Automatic water samplers and a USGS gauging station were established in 1999 on the main stem of the Kings River at the Highway 143 Bridge. Since that time, continuous stage and discharge measurements and water quality sampling have been used to determine pollutant concentrations and loads in the Arkansas portion of the Kings River.

A summary of the year's monitoring data is listed in the '**Kings River@143**' column of the "Comparison of Results of Stations in the Upper White River Watershed" table at the end of the **Upper White River Watershed** section.

The table shows the number of years of data collected, total suspended solid (TSS) load values, phosphorus load values and discharge values. Total annual loads per watershed acre, storm loads per watershed acre and base-flow concentrations are included.

Water Quality Sampling at the Washington County Road 195 Bridge on the West Fork of the White River: A water quality sampling station was installed at the Washington County road 195 bridge on the West Fork of the White River just above the confluence of the three main forks of the Upper White River in 2002. This station is coordinated with a USGS gauging station at the same location. This station is instrumented to collect samples at sufficient intervals across the hydrograph to accurately estimate the flux of total suspended solids, nitrogen and phosphorus into the upper end of Beaver Lake from the West Fork of the White River.

A summary of the year's monitoring data is listed in the '**West Fork**' column of the "Comparison of Results of Stations in the Upper White River Watershed" table at the end of the **Upper White River Watershed** section.

The table shows the number of years of data collected, total suspended solid (TSS) load values, phosphorus load values and discharge values. Total annual loads per watershed acre, storm loads per watershed acre and base-flow concentrations are included.

Arkansas Nonpoint Source Pollution Baseline Monitoring Program 2004 Annual Nonpoint Source Pollution Management Report

Monitoring and Evaluation (99-1100 Task 8): This task was to compute the annual TSS Nitrogen and Phosphorus flux past Wyman Bridge on the White River.

A summary of the year's monitoring data is listed in the '**White River@ Wyman**' column of the "Comparison of Results of Stations in the Upper White River Watershed" table at the end of the **Upper White River Watershed** section.

Water Quality Sampling at the Arkansas Highway 45 Bridge on the White River just above Beaver Lake 03-115): A water quality sampling station was installed at the Arkansas Highway 45 bridge on the White River just above Beaver Lake in 2002. This station is coordinated with a USGS gauging station at the same location. This station is instrumented to collect samples at sufficient intervals across the hydrograph to accurately estimate the flux of total suspended solids, nitrogen and phosphorus into the upper end of Beaver Lake from the White River. The West Fork of the White River is listed on Arkansas' 1998 303d list as impaired from sediment. The Upper White was designated as the states highest priority watershed in the 1999 Unified Watershed Assessment. Accurate determination of stream nutrients and sediment is critical for future determinations of TMDLs, effectiveness of best management practices and trends in water quality.

There were a total of 190 individual samples collected and analyzed for this project during the year. They include 26 grab samples, 156 discrete storm samples, 4 duplicate samples and 4

blank samples. The USGS measured and recorded stage during the year of the project. However, at the time of this report, no rating curve had been developed. Discharge is therefore not available. Calculated loads and mean concentrations cannot be determined.

Comparison of Results of Stations in the Upper White River

Watershed Table: The watersheds have been monitored using the same monitoring and load calculation protocols. The only differences between the protocols are that trigger levels and storm composite sample volumes are different for each site. This means that the distinction between storm and base flows (defined here as the trigger level) may be relatively different at each site.

The table shows TSS and phosphorous as total annual loads per watershed acre, as storm loads per watershed acre and as base-flow concentrations. Normalizing total and storm loads to a per acre basis allows comparison between watersheds of differing sizes. The total loads indicate the mass of TSS or P that are being transported to a receiving water body. Storm loads per acre may be used to represent relative impacts from non-point sources.

The base-flow concentrations show relative levels of TSS and P that are impacting in-stream biological activity during most of the year. These are the values that are of greatest interest for determining impacts to in-stream macro invertebrate habitat and nuisance algae production. The base-flow concentration of T-P is consistent with the other watersheds that have point-source discharges by them.

**Arkansas Nonpoint Source Pollution Baseline Monitoring Program
2004 Annual Nonpoint Source Pollution Management Report**

Comparison of Results of Stations in the Upper White River Watershed				
	Kings River@143	West Fork	White River@ Wyman	White River@45
Hectares	153,309	29,964	116,364	N-A
YEARS of data	5	2	2	1
TSS load (kg/ha)	299	450	586	N-A
TSS load storm (kg/ha)	273	430	528	N-A
TSS conc. Base (mg/l)	19	18	40	N-A
P load (kg/ha)	0.76	0.94	1.66	N-A
P storm load (kg/ha)	0.53	0.92	1.26	N-A
P base conc. (mg/l)	0.18	0.02	0.27	N-A
DISCHARGE (m³)	378,398,602	106,081,072	243,428,688	N-A
DISCHARGE/AC (m³/ha)	2,468	3,540	3,540	N-A
N-A = not available at this time.				

**Illinois River Watershed
(HUC 11110103):**

Water Quality Sampling at the Illinois River at Highway 59 Bridge:

A water quality sampling station was installed in 1995 at the Arkansas Highway 59 Bridge on the main stem of the Illinois River.

A summary of the year's monitoring data is listed in the 'Illinois River@59' column of the "Comparison of Results of Stations in the Upper White River Watershed" table at the end of the **Illinois River Watershed** section.

The table shows the number of years of data collected, total suspended solid (TSS) load values, phosphorus load values and discharge values. Total annual loads per watershed acre, storm loads per watershed acre and base-flow concentrations are included.

Water Quality Sampling at the Moores Creek above Lincoln Lake:

A water quality sampling station was re-established at Upper Moores Creek site in 1999.

A summary of the year's monitoring data is listed in the 'Moores Creek' column of the "Comparison of Results of Stations in the Upper White River

**Arkansas Nonpoint Source Pollution Baseline Monitoring Program
2004 Annual Nonpoint Source Pollution Management Report**

Watershed” table at the end of the **Illinois River Watershed** section.

here as the trigger level) may be relatively different at each site.

Water Quality Sampling at the Washington County Road 76 Bridge on Ballard Creek (03-113): A water quality sampling station was installed at the Washington County Road 76 Bridge over Ballard Creek just before the creek leaves the state of Arkansas and enters into Oklahoma. This was the first year of monitoring at this site.

The table shows TSS and phosphorous as total annual loads per watershed acre, as storm loads per watershed acre and as base-flow concentrations. Normalizing total and storm loads to a per acre basis allows comparison between watersheds of differing sizes. The total loads indicate the mass of TSS or P that are being transported to a receiving water body. Storm loads per acre may be used to represent relative impacts from non-point sources.

A summary of the year’s monitoring data is listed in the ‘**Ballard Creek**’ column of the “Comparison of Results of Stations in the Upper White River Watershed” table at the end of the **Illinois River Watershed** section.

The base-flow concentrations show relative levels of TSS and P that are impacting in-stream biological activity during most of the year. These are the values that are of greatest interest for determining impacts to in-stream macro invertebrate habitat and nuisance algae production. The base-flow concentration of T-P is consistent with the other watersheds that have point-source discharges by WWTPs (all except Moores Creek).

Comparison of Results of Stations in the Illinois River Watershed

Table: The watersheds have been monitored using the same monitoring and load calculation protocols. The only differences between the protocols are that trigger levels and storm composite sample volumes are different for each site. This means that the distinction between storm and base flows (defined

Comparison of Results of Stations in the Illinois River Watershed			
	Illinois River@59	Moores Creek	Ballard Creek
Hectares	167,273	1,000	6,742
YEARS of data	7	4	1
TSS load (kg/ha)	302	381	265
TSS load storm (kg/ha)	274	355	141
TSS conc. Base (mg/l)	20	18	28.03
P load (kg/ha)	1.24	1.27	1.50

**Arkansas Nonpoint Source Pollution Baseline Monitoring Program
2004 Annual Nonpoint Source Pollution Management Report**

P storm load (kg/ha)	0.86	1.01	0.58
P base conc. (mg/l)	0.25	0.17	0.21
DISCHARGE (m³)	545,516,682	3,011,285	36,251,012
DISCHARGE/AC (m³/ha)	3,261	3,011	5,377

**L'Anguille River Watershed
(HUC 08020205):**

Water Quality Sampling at the L'Anguille River near Palestine (03-111): A water quality sampling station has been installed at the L'Anguille River near Palestine. This station is coordinated with a USGS gauging station at the same location. This station is instrumented to collect samples at sufficient intervals across the hydrograph to accurately estimate the flux of total suspended solids, nitrogen and phosphorus in the River. The L' Anguilles River was listed on Arkansas'

1998 303d list as impaired from sediment (turbidity). The L'Anguille River was the second TMDL determined in Arkansas. Accurate determination of stream nutrients and sediment is critical for future determinations of TMDLs, effectiveness of best management practices and trends in water quality.

Annual loads, mean concentrations and stage/ concentration rating curves are to be calculated. The results from biomonitoring are to be reported.

**ARKANSAS SOIL & WATER CONSERVATION COMMISSION
FISCAL YEAR 2004
ANNUAL 319 NONPOINT SOURCE PROGRAM REPORT
AUTHORIZING SIGNATURE OF STATE LEAD AGENCY**

A handwritten signature in black ink, appearing to read "J. Randy Young". The signature is stylized with a large initial "J" and a long horizontal stroke.

**J. Randy Young, P.E.
Executive Director**

1/26/05

Date