CONSERVATION INNOVATIVE GRANT

FINAL REPORT

January 24, 2014

Grantee Name: East Arkansas Enterprise Community, Inc.

Project Title: Outreach Strategies for beginning Farmers, Socially Disadvantaged Farmers and Limited Resource Farmers to Implement Best Management Practices (BMP) for Nutrient Control in the Mississippi River Basin

Principal Investigator: Dr. Robert L. Cole, Consulting Director; Phone Number: 870-630-2005; E-Mail: eaec@sbcglobal.net

Timeframe Covered by Report: October 1, 2010 – September 30, 2013

Agreement Number: 69-3A75-10-171

Deliverables Identified on the Grant Agreement:

1. Number of Outreach meetings conducted
2. Documented Justification request for payment
3. Number of beginning farmers(10) successfully adopting conservation practices
4. Semi – Annual Reports on progress of project (3)
5. Final Report (1)
6. Create a step by step conservation practices guide in more laymen's terminology to simplify implementation of conservation practices
7. Performance Element that shows the adoption of NRCS program practices by beginning farmer, socially disadvantage and limited resource farmer in the 12 HUC watersheds within the 8 HUC L'Anguille River Watershed in Lee and St. Francis Counties.

January 23, 2014

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Executive Summary

The EAEC and its collaborators has facilitated the development of core and supporting conservation practices that will provide targeted groups (beginning farmers & ranchers, socially disadvantage farmer and limited resource farmers) with training and assistance on implementing best management practices(BMP) that will provide avoidance, controlling and trapping effect on the land that they farm. This will ultimately address the critical concern related to excessive nutrient loading such as nitrogen and phosphorus which is the primary environmental concern of this watershed.

Outreach efforts have been made to increase the targeted farmer's technical skills, while development the beginning farmer's ability to produce and market their products at a greater net return and in an environmentally sensitive manner. EAEC/UAPB staff has developed innovative production and management strategies to enhance land stewardship by the targeted group of farmers. The grant will also provide business management training which will enhance the financial viability of the targeted group beginning farmers.

Resources made available through this grant have allowed the EAEC to use its expertise to continue to work with beginning farmers in the area of conservation. In addition the EAEC will be providing marketing, asset building, technical assistance (in the area of crop cultural practices), agricultural credit, entrepreneurship, and business training and outreach activities.

A continuous dialog with local sponsor and NRCS District Conservationist has been maintained to assure that all producers are aware of the MRBI Projects. We keep them informed of the outreach performed by EAEC and coordinate future communication and application processes with targeted groups.

Introduction: At the beginning of the project key personnel to carry out the activities of the project were identified. The following staff positions were established: Project Director – Dr. Robert Cole; Assistant Project Director - Willard C. Ryland; Staff - Dr. Mildred Griggs, Alex Cole, Nina Dixon.

A database was also established for the targeted groups in the designated watershed boundary. The initial outreach meeting was held on May 7, 2011. Notices to targeted group have been prepared. Assistant Project Director met with NRCS District Conservationist and MRBI Project Manager to inform them of the outreach effort being made by EAEC and to coordinate future communication and application processes with targeted groups.

Background: The database developed as part of the project has created an opportunity to work with local officials such as the County Assessor. This has allowed the EAEC staff and consultants to put together a very good database from a very reliable source. Additional names are being added as we identify other landowners in the watershed. We have worked with The Assessor's office in Lee and St. Francis County to obtain information that will assist this project in identifying all potential beneficiaries of this project.

The first outreach meeting was conducted on June 25, 2011 at the EAEC Headquarters in Forrest City. Notices to targeted groups were prepared and sent out via US. Postal Service. Assistant Project Director has met with NRCS District Conservationist and MRBI Project Manager to inform them of the outreach effort being made by EAEC and to coordinate future communication and application processes with targeted groups.

Review of Methods: The primary resource concern is water quality (Nutrients – Nitrogen and Phosphorus). The conservation objectives to be achieved are to manage and optimize nutrients and reduce downstream nutrient loads (phosphorus and nitrogen), sediment loss, water conservation and address the environmental and economic effects of farm management. Priority efforts will focus on nutrient management, vegetative practices, and water management. Expected level of participation by producers is 70%. This proposal builds upon existing programs of Farm Service Agency, Rural Development, Natural Resources Conservation Service and Arkansas Natural Resources Commission 319 grants.

It will also be integrated with a MRBI Conservation Innovation Grant (CIG) proposal for an interactive Outreach Program for the MRBI in Arkansas; a MRBI CIG proposal assessing the impact of the MRBI program in Arkansas watersheds using a conjunctive approach of three-tiered monitoring and SWAT modeling.

The partners are working together to support implementation of the strategy through collaborative activities and the leveraging of resources to support implementation of a system of on farm practices to improve management of water, nitrogen and phosphorus uptakes of the crops and improve water quality in order to maximize the efficient use of available resources. This proposal will address water quality resource concerns by reducing the downstream effects of nutrient loading of phosphorous and nitrogen. This voluntary effort will work through existing NRCS programs including Cooperative Conservation Partnership Initiative (CCPI) EQIP programs. The management practices proposed for implementing the nutrient reduction strategy are comprehensive in scope and include nutrient management, water management, input management, established and innovative best management practices.

Non point source implementation practices will follow USDA NRCS Conservation Systems Approach – **A**voiding, **C**ontrolling and **T**rapping – and will implement appropriate core and supporting practices. Special emphasis will be on those management practices that can achieve the mutual benefits of nutrient reduction and enhanced storage and reuse of surface water. An additional feature is the design, implementation and assessment of innovative nutrient reduction practices.

A three tiered monitoring and evaluation approach is being formulated with the University of Arkansas Pine Bluff conducting edge of field evaluation while the Arkansas Department of Environmental Quality and US Geological Survey evaluate downstream monitoring at the 12 digit and 8 digit watershed scales.

All partners will assist in the execution of this project through performance of their traditional roles in support of the area agricultural producers' needs. All partners will promote the existence and details of the program through their respective newsletters, meetings, and presentations to agricultural producer associations.

Project duration is 4 years starting in July 1, 2012 and ending in September 30, 2015. Plan of Action is to enter into agreements with partners in July and to install edge of field monitoring equipment as soon as possible and monitor for 4 years to substantiate effects of BMP's. From July 1 thru August 1, 2012 conduct a signup period for landowners and producers. Obligate FY2013 funds by October 1 and begin conservation practice implementation.

Implementation schedule is as follows:

Discussion of Quality Assurance:

EAEC staff and consultants are now working with NRCS and the St. Francis and Cross Counties Conservation District in assisting socially disadvantaged, limited resource and new and beginning farmers in applying for technical and financial assistance through the EAEC L'Anguille River MRBI Project.

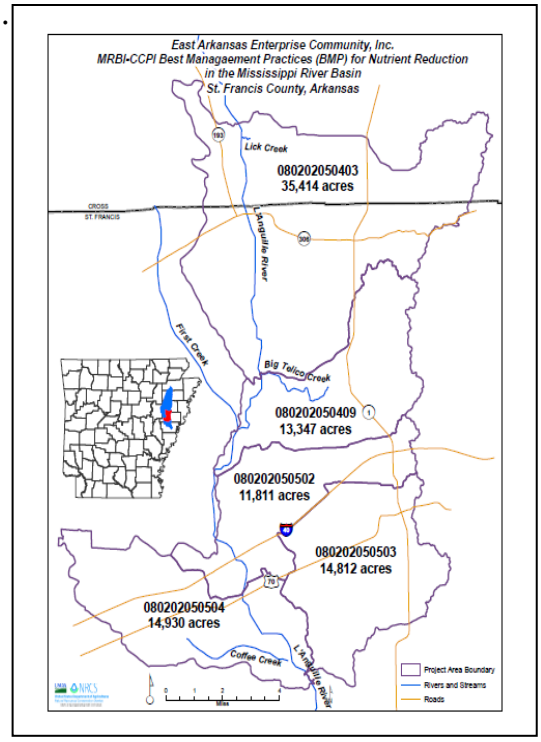
During this reporting period EAEC staff and Consultants met with NRCS District Conservationist and Dr. Yushen Chen (UAPB staff) and Mr. Ellis Bell (producer) on farm to begin phase two of the project. Specific fields have been identified by Mr. Bell and Dr. Chen that will be monitored for various nutrients loading over the next 10 years.

Findings: Early in the Outreach project we learned that only one MRBI-CCPI project was funded. The project funded was Larkin Creek Watershed which encompasses a small portion of

the overall area that we conducted outreach in. According to the St. Francis and Lee County Conservation District they have a mailing list with 38 producers. These producers are contacted regularly with mail out concerning the programs. This mailing list contains the names of both land owners and producer. There are 19 producers on the list and 17 of those are participating in the project – 89%. They have 65% participation of the total number of producers on the list. Approximately 5% of the producer in the Larkin Creek Watershed is socially disadvantaged, limited resource, or new and beginning farmers. As a result of the outreach conducted by EAEC we feel that the outreach effort has made a significant difference in the overall participation. EAEC staff and Consultants will continue to seek out new potential customers and conduct outreach on the benefits of this project and other USDA Programs.

There are not very many people for whom this project was intended to provide outreach (socially disadvantaged, limited resource, and new and beginning farmers) within the boundary of the Larkin Creek Watershed. As a result of these findings, the outreach effort originally planned did not achieve the kind of results that we originally anticipated. These results cause the EAEC to look at a different approach. Outreach efforts in the unfunded areas of the L'Anguille Watershed will not yield the kind of results desired by the EAEC. Therefore EAEC staff and consultants continued to seek out new potential customers and conducted outreach on the benefits of this project and other USDA Programs, but it also submitted an application to NRCS for sponsorship of a MRBI- CCPI project for the area of the watershed that was not previously funded. This project was funded in FY-2012.

EAEC MRBI L'Anguille River CCPI Project Watershed encompasses an area in St. Francis and Cross Counties consisting of a total of 90,301acres. The project will establish on-farm water quality demonstrations, innovative pilot projects, and provide outreach efforts with underserved communities. The program will improve producer adoption of conservation practices/resource management systems and approaches to manage nutrients. This will reduce nutrient loadings while maintaining agricultural productivity. Also, the program will provide informational and educational efforts to help prepare traditionally underserved communities, associated partners, and others who respond to MRBI Request for Proposals.



Conclusions and Recommendations:

Over the duration of the project UAPB has given approximately six workshops/meetings per year. Personnel from the local USDA NRCS or USDA National Water Management Center (NWMC) were on the agenda as keynote speaker.

During the duration of the project, many workshops were held on small scale limited resource farmers alternative crop sites to better train local USDA-NRCS and UAPB personnel on the proper installation of small submergible wells and drip irrigation. Through these efforts some policies were change to better assist these targeted farmers with irrigation practices.

EAEC hosted outreach meetings in targeted area to inform socially disadvantaged, limited resource, and new and beginning farmers about the purpose of the MRBI Project. EAEC staff and consultants also provided one-on-one technical assistance to socially disadvantaged, limited resource and new and beginning farmers in applying for technical and financial assistance through the Larkin Creek MRBI Project.

There are no specific regulatory compliance issues mandated for the EAEC L'Anguille River MRBI but the project sponsors expect to see reduced nutrient and sediment loads in the EAEC L'Anguille River as a result of the installation of core and supporting conservation practices.

East Arkansas Enterprise Community (EAEC) continues working with local producers and NRCS in implementing conservation plans that will includes a combination of avoiding, controlling, and trapping practices to manage nutrients and reduce nutrient loads. EAEC staff and consultant will continue hosting outreach meeting as part of its normal operations which will provide outreach to the targeted socially disadvantaged, limited resource, and new and beginning farmers about the purpose of the MRBI Project and other programs.

EAEC staff and consultants will continue providing one-on-one technical assistance to socially disadvantaged, limited resource, and new and beginning farmers in the targeted area to stress upon them the importance of their participation in this project. EAEC staff and consultants also anticipate over the next three years that we will be working with more local producers in implementing conservation practice approved through the EAEC L'Anguille River MRBI.

As a result of this project an extensive MRBI –CCPI project was submitted and approved for funding by NRCS National office resulting in 2.5 million dollar project with three tiered monitoring component as part of the project.

Appendices: See attachments

EAEC MRBI Fact Sheet (Appendix 1)
MRBI-CCPI Application Packet (Appendix 2)
Outreach Flyer (Appendix 3)
EAEC MRBI Success Story (Appendix 4)
Conservation Practice Guide Tool (Appendix 5)

Technology Review Criteria:

Conservation Practice Guide Tool – As a result of this project EAEC staff and consultant developed a conservation practice guide. This guide will be used as a marketing tool to assist Socially Disadvantage Farmer and Limited Resource Farmer to better understand what conservation practices are and to know more about the conservation planning process. This is a simple basic planning tool to be used by technical assistance staff and or consultant to assist the producers in developing a basic conservation plan prior to going into the NRCS office. It is a worksheet that contains conservation practices that will identify practices that will achieve core and supporting results if selected by the participant. This will help the customer understand the intent of what is to be achieved by developing this conservation plan. This will also assist the NRCS staff in facilitating the completion of a EQIP application as expeditiously as possible.

The East Arkansas Enterprise Community (EAEC), Inc

Mississippi River Basin Initiative (MRBI)

2011 Informational Forum

When: Saturday, June 25, 2011 from 9:00 a.m. – 1:00 p.m.

Where: East Arkansas Enterprise Community
Conference Center
1000 Airport Road, Forrest City, Arkansas

Who Should Attend: Beginning Farmers, Socially Disadvantage Farmers and Limited Resource Farmer in Lee and St. Francis Counties within the Mississippi River Basin.

Why attend: To Learn more about implementing Best Management Practices (BMP)for nutrient control in the Mississippi River Basin.

Sponsored by: The East Arkansas Enterprise Community (EAEC), Inc.

Cost: Free of Charge. Refreshments and lunch will be provided.

To register, please contact Moses Dawson at 870-630-2005 or by email eaec@sbcglobal.net.

Forms needed for completion of an EQIP Application

- 1199 Direct Deposit Form
- EAEC MRBI EQIP Application Checklist
- Ad1026 Form
- AR-LTP4 Start Waiver
- CCC-501A Form
- CCC-526 AGI Form
- EQIP Conservation Activity Plan (CAP)
- Irrigation Certification Form
- NRCS-CPA-1200 Form (Blank)
- NRCS-CPA- 1200 Form (Example)
- NRCS-09 Form Power of Attorney
- Tax Credit Letter GSWC
- Utility Notification Form

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Arkansas Fact Sheet

2012 East Arkansas Enterprise Community, L'Anguille River - Mississippi River Basin Healthy Watersheds Initiative (MRBI) - Cooperative Conservation Partnership Initiative (CCPI)

Overview

The East Arkansas Enterprise Community, L'Anguille River Mississippi River Basin Healthy Watersheds Initiative (MRBI) Project is a voluntary program that provides financial and technical assistance to agricultural producers for addressing water quality concerns in the L'Anguille River that includes Lick Creek, Big Tellico Creek, Spybuck Creek, Unnamed Creek, and Coffee Creek.

The USDA Natural Resources Conservation Service (NRCS), in partnership with East Arkansas Enterprise Community, Inc., has received funding for the initiative. This funding is available for landowners in portions of Cross and St. Francis counties. The project area covers 90,301 acres.

Lead Partner

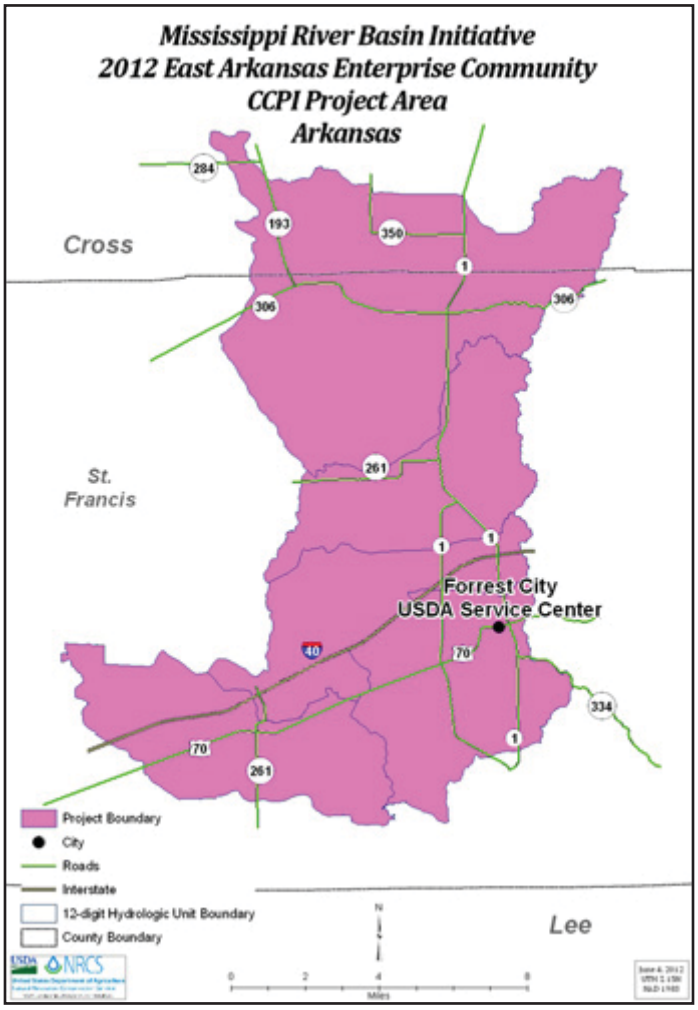
- East Arkansas Enterprise Community, Inc.

Collaborating Partners

- Cross County Conservation District
- St. Francis County Conservation District
- Arkansas Natural Resources Commission
- Audubon Arkansas
- University of Arkansas at Pine Bluff Center of Aquaculture & Fisheries

Project Goals

The goals of the project are to improve water quality by managing and optimizing nutrient management, reduce downstream nutrient loads, reduce sediment entering the watershed, enhance wetlands, and improve fish and wildlife habitat benefits. Water quality and water quantity will be enhanced through a combination of conservation practices in the project area.



Conservation Practice Funding

Funding will be available to eligible landowners through the Environmental Quality Incentives Program (EQIP). NRCS will provide financial assistance for a variety of conservation practices for the purpose of reducing the amount of nutrient runoff and soil erosion associated with agricultural production. Land and producer eligibility, adjusted gross income, and all other program criteria for partici-

pation must be met to participate in this initiative. Agricultural lands are eligible for enrollment in the initiative.

How to Apply for MRBI

NRCS and associated conservation partners will deliver this program collaboratively. Applications may be obtained and filed with the Natural Resources Conservation Service at:

Cross County

Wynne Field Service Center
810 Highway 64E, Suite 13
Wynne, AR 72396
(870) 238-3285, ext. 3

St. Francis County

Forrest City Field Service Center
4401 N. Washington Suite A
Forrest City, AR 72335
(870) 633-3055, ext. 3

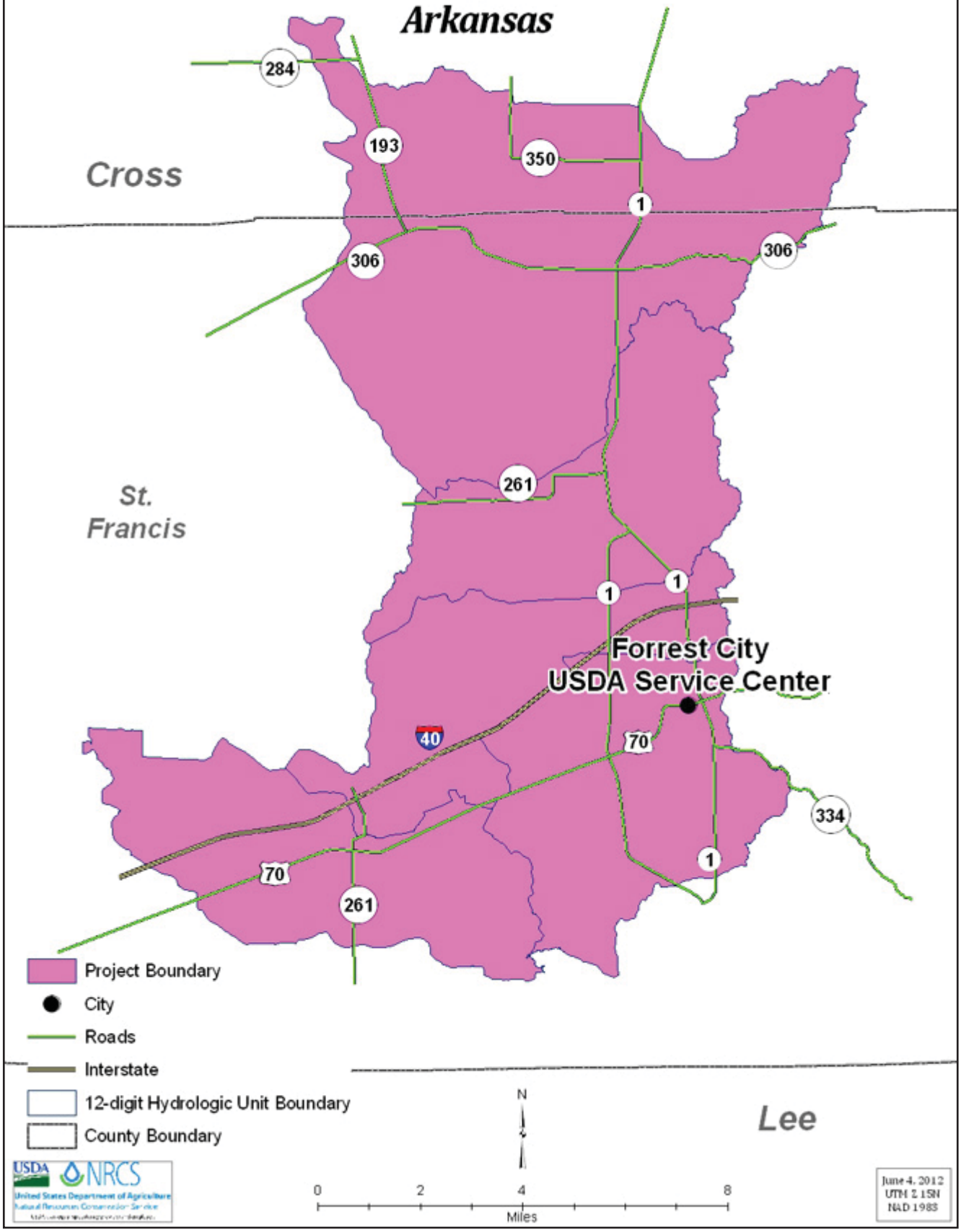
Approved Conservation Practices

328 – Conservation Crop Rotation
340 – Cover Crop
342 – Critical Area Planting
345 – Residue and Tillage Management/Mulch Till
382 – Fence
386 – Field Borders
391 – Riparian Forest Buffer
393 – Filter Strip
410 – Grade Stabilization Structure
430 – Irrigation Water Conveyance
441 – Irrigation System, Micro Irrigation
449 – Irrigation Water Management
464 – Irrigation Land Leveling
490 – Forest Site Preparation
512 – Forage and Biomass Planting
528 – Prescribed Grazing
533 – Pumping Plant
554 – Drainage Water Management
587 – Structure for Water Control
590 – Nutrient Management
607 – Surface Drain Field Ditch
608 – Surface Drain, Main or Lateral
612 – Tree and Shrub Establishment
614 – Watering Facility
642 – Water Well
638 – Water and Sediment Control Basin
645 – Upland Wildlife Habitat Management
657 – Wetland Restoration
799 – Monitoring

Conservation Activity Plans

104 – Nutrient Management CAP
114 – Integrated Pest Management CAP
118 – Irrigation Water Management CAP

Mississippi River Basin Initiative
2012 East Arkansas Enterprise Community
CCPI Project Area
Arkansas



EAEC/MRBI 2012 Success Story

East Arkansas Enterprise Community Secured MRBI Project in 2012

Agriculture Secretary Tom Vilsack announced that financial assistance is available to support a new partnership project in portions of Cross and St. Francis counties under USDA's Mississippi River Basin Healthy Water-sheds Initiative (MRBI). The 2012 East Arkansas Enterprise Community, L'Anguille River Mississippi River Basin Healthy Watersheds Initiative (MRBI) Project is a voluntary program that provides financial and technical assistance to agricultural producers for addressing water quality concerns in the L'Anguille River that includes Lick Creek, Big Tellico Creek, Spybuck Creek, Unnamed Creek, and Coffee Creek.

The East Arkansas Enterprise Community, Inc. (EAEC), in partnership with the USDA Natural Resources Conservation Service (NRCS), received funding for MRBI. The project is funded through NRCS Cooperative Conservation Partnership Initiative (CCPI), which engages local partners to help provide outreach and technical assistance to agricultural producers. During Fiscal Year 2012, this project was funded in the amount of $64,190. These funds were available for landowners in portions of Cross and St. Francis counties to improve water quality by managing and optimizing nutrient management, reduce downstream nutrient loads, reduce sediment enter-ing the watershed, enhance wetlands, and improve fish and wildlife habitat benefits. Water quality and water quantity will be enhanced through a combination of conservation practices in the project area. The project will last four years and cover 90,301 acres.

St. Francis County is in one of Arkansas 25 designated StrikeForce Initiative counties. The USDA's StrikeForce Initiative is Secretary Vilsack's vision to cut through barriers, seamlessly coordinate programs and deliver funds and technical support to accelerate assistance to Historically Underserved groups, including African-Americans, Hispanics, Asian Americans and Native Americans. NRCS, along with Farm Service Agency and Rural Development, is working in partnership with Community Based Organizations, like EAEC, and other USDA agencies to improve outreach methods and provide assistance to persistent poverty communities and farmers.

EAEC's primary mission is to strengthen the economic viability of socially disadvantaged farmers by eliminating barriers to program participation and creating financially sound cooperatives, to increase marketing opportunities and to identify short and long term funding sources to assist socially disadvantaged farmers in eastern Arkansas.

EAEC is the lead partner on this MRBI project along with collaborating partners; Cross County Conservation District, St. Francis County Conservation District, Arkansas Natural Resources Commission, Audubon Arkansas, and University of Arkansas at Pine Bluff Center of Aquaculture and Fisheries. Since 2010, Arkansas has had 24 active MRBI projects chosen for funding. The EAEC - L'Anguille River MRBI Project is the first project chosen to have a community based non-profit to serve as the lead sponsor.

Non-profit organizations like EAEC have been working with Historically Underserved and Limited Resource Farmers for a long period of time. They have been a vital partner in assisting

and encouraging producers to come into USDA Service Centers. Their assistance adds a level of credibility for producers and they feel more comfortable working with UDSA agencies.

As a testament to these efforts, 4 contracts in the EAEC/MRBI L'Anguille River Project area were approved for fy-2012 in an amount of $162,677.00. This was the first time in the history of the MRBI Program that a significant amount of contracts were issued to Socially Disadvantaged Farmers in the East Arkansas Delta. The EAEC expects to have a much greater impact in 2013.

EAEC - MRBI L'ANGUILLE RIVER WATERSHED
CONSERVATION PRACTICE GUIDE

Name: _____ **Farm No.** _____
Date: _____ **Tract No.** _____
Assisted By: _____

Practice Overview: The following selected Best Management Practices (BMPs) will be implemented to control sedimentation, soil erosion and water conservation and reduce nutrient loading. All practices will be designed and installed according to NRCS standards and specifications and Conservation plans will be approved by the NRCS Designated Conservationist and EAEC MRBI Project Coordinator. At least one approved practices must be installed within 1 year of approval. **APPLICANTS WILL BE REQUIRED TO MAINTAIN ALL APPROVED PRACTICES FOR THE LIFE OF THE PRACTICE.**

Practices	Check all that apply	Tract	Field/No.	Acres	Planned Date	Applied Date
Conservation Crop Rotation(328)						
Critical Area Planting (342)						
Grade Stabilization Structure (410) Pipe Drops						
Irrigation Water Conveyance (430DD)						
Nutrient Management(590)						
Pasture and Hayland Planting (512)						
Pest Management(595)						
Pond (378)						
Residue Management No-Till (329A)						
Streambank and Shoreline Protection (580)						
Structure For Water Control (587) Flash Board Risers						
Tree & Shrub Establishment (612)						
Water & Sediment Control Basin (638)						

Name	**County**	**State**

By signing, the participant acknowledges receipt of this Conservation Plan Guide, and agrees that he/she has a basic understanding of what is required.

CERTIFICATION OF PARTICIPANTS:			
SIGNATURE	DATE		
CERTIFICATION OF:			
NRCS STAFF/EAEC CONSULTANT	DATE	CONSERVATION DISTRICT	DATE

Structure For Water Control
Flash Board Risers
(No)
CODE 587

DEFINITION
A structure in an irrigation, drainage, or other water management systems that conveys water, controls the direction or rate of flow, or maintains a desired water surface elevation.

SCOPE
This standard applies to the structures normally installed in a well-planned irrigation or drainage system, wildlife facility or other water management systems for the conveyance, flow control, or level of water. It covers the planning and functional design of such water-control structures but not the detailed design criteria or construction specifications for specific structures. It does not apply to structural components of irrigations pipelines or to subsurface drains or grade-stabilization structure (410).

PURPOSE
To controls the stage, discharge, distribution, delivery, or direction of flow of water in open channels or water use areas. Also used for water quality control, such as sediment reduction or temperature regulation. These struct7ures are also used to protect fish and wildlife and other natural resources.

CONDITIONS WHERE PRACTICE APPLIES
This practice applies wherever a permanent structure is needed as an integral part of an irrigation, drainage, or other water-control systems to serve one or more of the following functions:

LIFE SPAN: 10 Yrs.

Irrigation Water Conveyance (Ft.) CODE 430DD

DEFINITION
A pipeline and appurtenances installed in an irrigation system.

SCOPE
This standard applies to underground thermoplastic pipelines ranging from ½ in. to 27 in. in diameter that are closed to the atmosphere and that are subject to internal pressured of 80 lb/in.^{2} or greater.

The standard includes the design criteria and minimum installation requirements for high-pressure, plastic irrigation pipelines and specifications for the thermoplastic pipe.

PURPOSE
To prevent erosion or loss of water quality or damage to the land, to make possible proper management of irrigation water, and to reduce water conveyance losses.

CONDITIONS WHERE PRACTICE APPLIES
All pipelines shall be planned and located to serve as an integral part of an irrigation water distribution of conveyance system designed to facilitate the conservation use and management of the soil and water resourced on a farm or group of farms.

Water supplies, water quality, and rates of irrigation delivery for the area served by the pipelines shall be sufficient to make irrigation practical for the crops to be grown and the irrigation water application method to be used. Plastic pipelines installed according to this standard shall be placed only in suitable soils where bedding and backfill requirements can be fully met.

LIFE SPAN: 25 Yrs.

Pasture and Hay Planting
(Acres)
CODE 512

DEFINITION
Establishing native or introduced forage species.

PURPOSES
This practice may be applied as part of a conservation management system to accomplish one or more of the following purposed:
- Establish adapted and compatible species, varieties, or cultivars.
- Improve or maintain livestock nutrition and/or health.
- Extend the length of the grazing season.
- Provide emergency forage production.
- Reduce soil erosion by wi8nd and/or water.

CONDITIONS WHERE PRACTICE APPLIES
This practice may be applied on cropland, hayland, pastureland, and other agricultural lands where forage production is feasible and desired.

LIFE SPAN: 10 Yrs.

Critical Area Planting
(Acres)
CODE 342

DEFINITION

Establishing permanent vegetation on sites that have or are expected to have high erosion rates, and on sited that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices.

PURPOSE

- Stabilize areas with existing or expected high rates of soil erosion by water.
- Restore degraded sites that can not be stabilized through normal methods.

CONDITIONS WHERE PRACTICE APPLIES

On areas with existing or expected high rated of erosion or degraded sites that usually cannot be stabilized by ordinary conservation treatment and/or management, and if left untreated, could be severely damaged by erosion or sedimentation or could cause significant off-site damage.

LIFE SPAN: 10 Yrs.

Residue Management
No-Till
(Acres)
CODE 329A

DEFINITION
Managing the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops in narrow slots, or tilled or residue free strips in soil previously untilled by full-width inversion implements.

PURPOSE
This practice may be applied as part of a conservation management system to support one or more of the following:
- Reduce sheet and rill erosion.
- Reduce wind erosion.
- Maintain or improve soil organic matter content.
- Conserve soil moisture.
- Provide food and escape cover for wildlife.

CONDITIONS WHERE PRACTICES APPLIES
This practice applies to all cropland and other land where crops are grown.

This standard includes tillage and planting methods commonly referred to as no till, zero till, slot plant, row till, zone till, or strip till.

LIFE SPAN: 1 Yr.

Water and Sediment Control Basin
(No)
CODE 638

DEFINITION
An earth embankment or a combination ridge and channel generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin.

SCOPE
This standard applies to planning, designing, and constructing water and sediment control basins. It does not apply to diversions (362), grade stabilization structures (410), or sediment basin (350).

PURPOSE
To improve farmability of sloping land, reduce watercourse and gully erosion, trap sediment, reduce and manage onsite and downstream runoff, and improve downstream water quality.

CONDITIONS WHERE PRACTICES APPLIES
This practice applies to sites where:

1. The topography is generally irregular.
2. Watercourse and gully erosion are a problem.
3. Sheet and rill erosion are controlled by other conservation practices.
4. Runoff and sediment damage land and improvements.
5. Soil and site conditions are suitable.
6. Adequate outlets are available or can be provided.

LIFE SPAN: 10 Yrs.

Grade Stabilization Structure
Pipe Drops
(No)
CODE 410

DEFINITION
A structure used to control the grade and head cutting in natural or artificial channels.

SCOPE
This standard applies to all types of graded stabilization structures, including a combination of earth embankments and mechanical spillways and full flow or detention-type structures. This standard also applies to channels side-inlet structures installed to lower the water from a field elevation, a surface drain, or a waterway to a deeper outlet channel. It does not apply to structures designed to control the rate of flow or to regulate the water level in channels (587).

PURPOSE
To stabilize the graded and control erosion in natural or artificial channels, to prevent the formation or advance of gullies, and to enhance environmental; quality and reduce pollution hazards.

CONDITIONS WHERE PRACTICE APPLIES
In areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. Special attention shall be given to maintaining or improving habitat for fish and wildlife where applicable.

LIFE SPAN: 15 Yrs.

Streambank and Shoreline Protection
(Ft)
CODE 580

DEFINITION
Treatment(s) used to stabilize and protect banks of streams or constructed channels, and shorelines of lakes, reservoirs, estuaries.

PURPOSE
. To prevent the loss of land or damage to land uses, or other facilities adjacent to the banks, including the protection of known historical, archeological, and traditional cultural properties.
. To maintain the flow or storage capacity of the water body or to reduce the offsite or downstream effects of sediment resulting from bank erosion.
. To improve or enhance the stream corridor for fish and wildlife habitat, aesthetics, recreation.

CONDITION WHERE PRACTICE APPLIES
This practice applies to streambanks of natural or constructed channels and shorelines of lakes, reservoirs, or estuaries where they are susceptible to erosion. It applies to controlling erosion where the problem can be solved with relatively simple structural measures, vegetation, or upland erosion control practices. It does not apply to erosion problems on main oceanfronts and similar areas of complexity not normally within the scope of NRCS aut6hority or expertise.

LIFE SPAN: 20 Yrs.

Tree and Shrub Establishment
(Acres)
CODE 612

GENERAL SPECIFICATIONS

Procedures, technical details, and other information listed below provide additional guidance for carrying out selected components of the named practice. This material is referenced from the conservation practice standard for the named practice and supplements the requirements and considerations listed therein.

The mechanical tree planting components of this practice may adversely impact significant cultural resources and should be submitted to a cultural resource specialist for a determination of impacts before the practice commences.

PLANTING MATERIALS

Tree and shrub establishment may be accomplished through planting seedlings, cuttings and seeds or through natural regeneration techniques.

LIFE SPAN: 15 Yrs.

POND
(No)
CODE 378

DEFINITION
Construct a farm pond for erosion control purposes. Build according to NRCS design and specifications. Establish a permanent vegetative cover on the dam and spillway of a newly constructed pond.

SCOPE
Work shall consist of constructing the pond and include all clearing, excavation, fill placement, installation for pipe spillway, drains, and other features to lines, grades, and elevations as specified on the drawings and staked in the field.

SITE PREPARTAION
The pool area shall be cleared to the extent desired and as shown on the plans. If trees exist they shall be cut as flush with the ground as practical and burned, buried at designated locations, or anchored to the pond bottom.

Clearing of the staked foundation, spillway, and borrow area(s) shall include removal of logs, stumps, roots, sod, and other trash that would prevent a good bond between the foundation and fill material.

LIFESPAN: 20 Yrs.

CONSERVATION CROP ROTATION
(Acre)
CODE 328

DEFINITION
Growing crops in a recurring sequence on the same field.

SCOPE
This practice may be applied as part of a conservation management system to support one or more of the following:
. Reduce sheet and rill erosion
. Reduce irrigation induced erosion
. Maintain or improve soil organic matter content.
. Manage deficient or excess plant nutrients.
. Improve water use efficiency.
. Manage saline seeps.
. Manage plant pests (weeds, insects, diseases).

SITE PREPARTAION
This practice does not apply to pastureland, hayland, or other land uses where annual row or close growing crops are grown occasionally only to facilitate renovation or re-established of perennial vegetation. It does not apply to land devoted to orchards, vineyards, or nurseries.

Clearing of the staked foundation, spillway, and borrow area(s) shall include removal of logs, stumps, roots, sod, and other trash that would prevent a good bond between the foundation and fill material.

LIFESPAN: 1 Yr.

NUTRIENT MANAGEMENT
(Acre)
CODE 590

DEFINITION
Managing the amount, source, placement, form and timing of the application of the nutrients and soil amendments.

SCOPE
. To budget and supply nutrients for plant production.
. To properly utilize manure or organic by products such as a plant nutrient source.
. To minimize agricultural nonpoint source pollution of surface and ground water resources.
. To maintain or improve the physical, chemical and biological condition of soil.

SITE PREPARTAION
This practice is applies to all lands where plant nutrients and soil amendments are applied.

LIFESPAN: 1 Yr.

PEST MANAGEMENT
(Acre)
CODE 595

DEFINITION
Utilizing environmentally sensitive prevention, avoidance, monitoring and suppression strategies, to manage weeds, insects, diseases, animals and other organisms (including invasive and non invasive species), that directly or indirectly cause damage or annoyance.

SCOPE
This practice is applied as part of a resource management system to support one or more of the following purposes:
. Enhance quantity and quality of commodities. Minimize negative impacts of pest control on soil resources, water resources, air resources, plant resources, animal resources and/or humans.

SITE PREPARTAION
Where pests will be managed.

LIFESPAN: 1 Yr.