

# Engagement Plan / Pre-Discovery Report

*Bayou Bartholomew Watershed, HUC - 08040205*

*Ashley, Chicot, Cleveland, Desha, Drew, Jefferson, and Lincoln Counties, Arkansas and  
Morehouse Parish, Louisiana*

*04/22/2016*



# Project Area Community List

i. Community Name	ii. CID
<i>Ashley County Communities (AR)</i>	
Ashley County Unincorporated Areas <sup>1</sup>	050003
Hamburg, City of	050005
Parkdale, Town of <sup>1</sup>	050007
Portland, City of <sup>1</sup>	050008
Wilmot, City of <sup>1</sup>	050009
<i>Chicot County Communities (AR)</i>	
Chicot County Unincorporated Areas <sup>1</sup>	050025
Dermott, City of <sup>1</sup>	050026
<i>Cleveland County Communities (AR)</i>	
Cleveland County Unincorporated Areas <sup>1</sup>	050038
<i>Desha County Communities (AR)</i>	
Desha County Unincorporated Areas <sup>1</sup>	050065
Tillar, City of <sup>1,2</sup>	050075
<i>Drew County Communities (AR)</i>	
Drew County Unincorporated Areas <sup>1</sup>	050430
Monticello, City of <sup>1</sup>	050074
Tillar, City of <sup>1,2</sup>	050075
Winchester, City of <sup>1</sup>	050077
<i>Jefferson County Communities (AR)</i>	
Jefferson County Unincorporated Areas <sup>1</sup>	050440
Pine Bluff, City of <sup>1</sup>	050109
White Hall, City of <sup>1</sup>	050375
<i>Lincoln County Communities (AR)</i>	
Lincoln County Unincorporated Areas <sup>1</sup>	050445
Star City, City of	050368
<i>Morehouse Parish, LA Communities (LA)</i>	
Bastrop, City of <sup>1</sup>	220127
Morehouse Parish Unincorporated Areas <sup>1</sup>	220367

<sup>1</sup> Community is located within more than one HUC8 watershed.

<sup>2</sup> Community is located within more than one County.

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## Acronyms and Abbreviations

AAL	Average Annualized Loss
ADEM	Arkansas Department of Emergency Management
AGFC	Arkansas Game and Fish Commission
AGISO	Arkansas Geographic Information Systems Office
AHTD	Arkansas Highway and Transportation Department
ANRC	Arkansas Natural Resources Commission
AOMI	Area of Mitigation Interest
BFE	base (1-percent-annual-chance) flood elevation
CDBG	Community Development Block Grant
CFR	Code of Federal Regulations
cfs	cubic feet per second
CID	Community Identification number
CLOMR	Conditional Letter of Map Revision
CNMS	Coordinated Needs Management Strategy
CRS	Community Rating System
CTP	Cooperating Technical Partners
DEM	Digital Elevation Model
DFIRM	Digital Flood Insurance Rate Map
EAP	Emergency Action Plan
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FTN	FTN Associates, Ltd. (State Contractor)
GIS	geographic information system
HEC-1	Hydrologic Engineering Center – Hydrologic Model Program
HEC-2	Hydrologic Engineering Center – Hydraulic Model Program
HEC-HMS	Hydrologic Engineering Center – Hydrologic Modeling System
HEC-RAS	Hydrologic Engineering Center – River Analysis System
H&H	hydrologic and hydraulic
HMP	Hazard Mitigation Plan
HUC	Hydrologic Unit Code
HUC- 8	HUC for watershed unit with average size of 700 square miles

HUC-12	HUC for watershed unit with average size of 40 square miles
HWM	high water mark
LiDAR	Light Detection and Ranging System
LOMA	Letter of Map Amendment
LOMC	Letter of Map Change
LOMR	Letter of Map Revision
Map Mod	Map Modernization
MAS	Mapping Activity Statement
MAT	Mitigation Assessment Team
MDP	Master Drainage Plan
MXD	Map Exchange Document
NFIP	National Flood Insurance Program
NHD	National Hydrologic Dataset
NRCS	Natural Resources Conservation Service
NVUE	New, Validated, or Updated Engineering
OEM	Office of Emergency Management
PMR	Physical Map Revision
Risk MAP	Risk Mapping, Assessment, and Planning
RL	Repetitive Loss
RSC	Regional Service Center
SFHA	Special Flood Hazard Area
SHMO	State Hazard Mitigation Officer
SHP	ESRI Shape File
SRL	Severe Repetitive Loss
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey

## I. Discovery Overview

The Federal Emergency Management Agency (FEMA) is currently implementing the Risk Mapping, Assessment, and Planning (Risk MAP) Program across the Nation. The purpose of Risk MAP is continued improvement of flood hazard information for the National Flood Insurance Program (NFIP), the promotion of increased national awareness and understanding of flood risk and the support of Federal, State, and local mitigation actions to reduce risk.

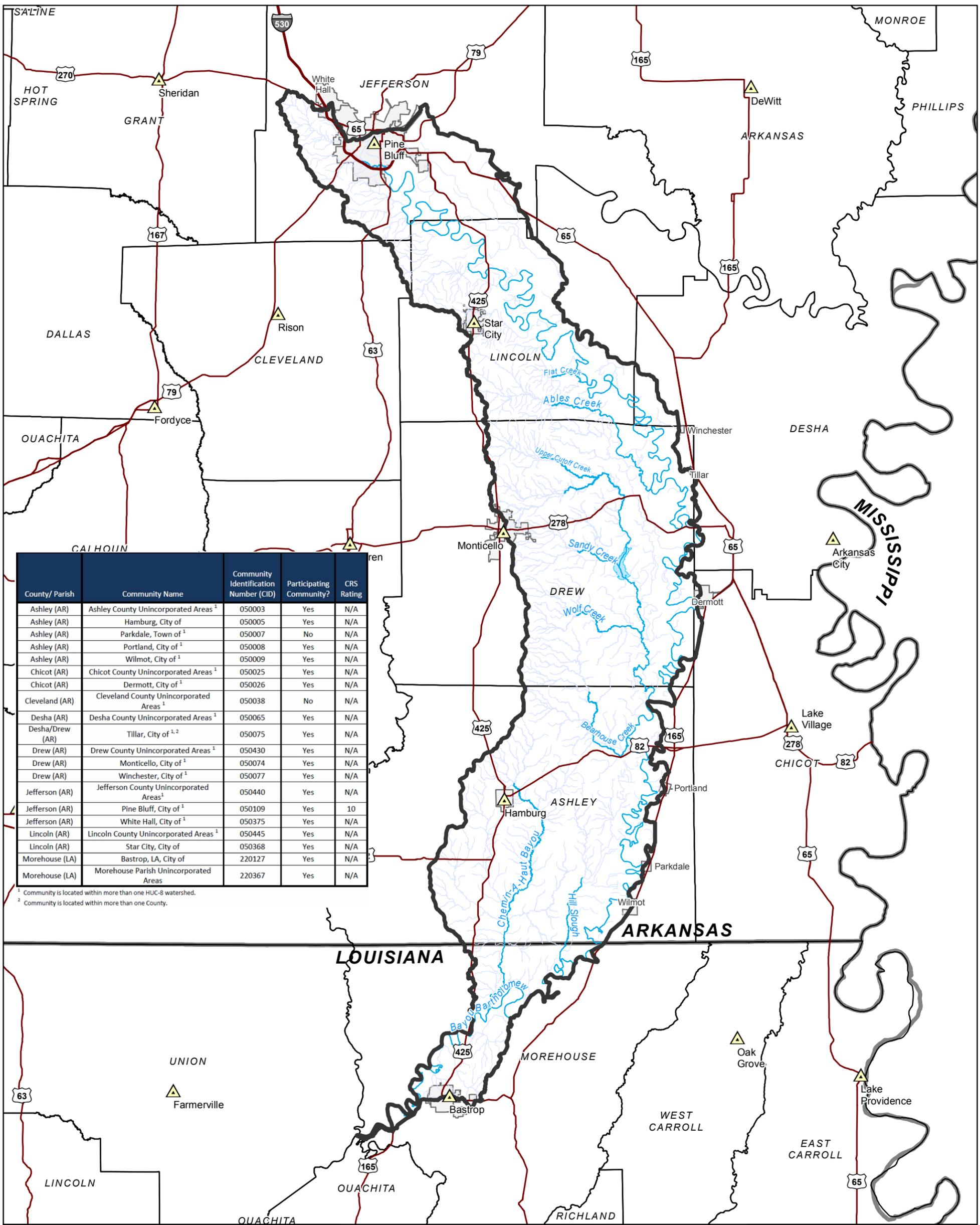
The vision and intent of the Risk MAP program is to, through collaboration with State and Local entities, deliver quality data that increases public awareness and leads to mitigation actions that reduce risk to life and property. To achieve this vision, FEMA has transformed its traditional flood identification and mapping efforts into a more integrated process of more accurately identifying, assessing, communicating, planning and mitigating flood risks. Risk MAP attempts to address gaps in flood hazard data and form a solid foundation for risk assessment, floodplain management, and provide State and Local entities with information needed to mitigate flood related risks.

The FEMA Region 6 office and the Arkansas Natural Resources Commission (ANRC) entered into a Cooperating Technical Partners (CTP) partnership agreement for implementation of Risk MAP in the State of Arkansas. As part of this partnership, the ANRC and its contractor, FTN Associates, Ltd. (FTN), began the Discovery process in the Bayou Bartholomew Watershed in October 2015 to gather local information and readily available data to determine project viability and the need for Risk MAP products to assist in the movement of communities towards resilience. The watershed location can be seen on Figure 1, Watershed and Communities Map.

Through the Discovery process, FEMA and the State CTP can determine which areas of the Hydrologic Unit Code (HUC) 8 watersheds may be examined for further flood risk identification and assessment in a collaborative manner, taking into consideration the information collected from local communities during this process. Discovery initiates open lines of communication and relies on local involvement for productive discussions about flood risk. The process provides a forum for a watershed-wide effort to understand how the included watershed community's flood risks are related to flood risk throughout the watershed. In Risk MAP, projects are analyzed on a watershed basis, so Discovery Meetings target numerous stakeholders from throughout the watershed on local, regional, State, and Federal levels.

In May 2016, ANRC, as the State CTP, will hold Discovery Meetings in this watershed. During Discovery, ANRC and FEMA will reach out to local communities to:

- Gather information about local flood risk and flood hazards;
- Obtain and ultimately review current and historic mitigation plans to understand local mitigation capabilities, hazard risk assessments, and current or future mitigation activities; and
- Include multi-disciplinary staff from within each community to participate and assist in the development of a watershed vision.



County/ Parish	Community Name	Community Identification Number (CID)	Participating Community?	CRS Rating
Ashley (AR)	Ashley County Unincorporated Areas <sup>1</sup>	050003	Yes	N/A
Ashley (AR)	Hamburg, City of	050005	Yes	N/A
Ashley (AR)	Parkdale, Town of <sup>1</sup>	050007	No	N/A
Ashley (AR)	Portland, City of <sup>1</sup>	050008	Yes	N/A
Ashley (AR)	Wilmot, City of <sup>1</sup>	050009	Yes	N/A
Chicot (AR)	Chicot County Unincorporated Areas <sup>1</sup>	050025	Yes	N/A
Chicot (AR)	Dermott, City of <sup>1</sup>	050026	Yes	N/A
Cleveland (AR)	Cleveland County Unincorporated Areas <sup>1</sup>	050038	No	N/A
Desha (AR)	Desha County Unincorporated Areas <sup>1</sup>	050065	Yes	N/A
Desha/Drew (AR)	Tillar, City of <sup>1,2</sup>	050075	Yes	N/A
Drew (AR)	Drew County Unincorporated Areas <sup>1</sup>	050430	Yes	N/A
Drew (AR)	Monticello, City of <sup>1</sup>	050074	Yes	N/A
Drew (AR)	Winchester, City of <sup>1</sup>	050077	Yes	N/A
Jefferson (AR)	Jefferson County Unincorporated Areas <sup>1</sup>	050440	Yes	N/A
Jefferson (AR)	Pine Bluff, City of <sup>1</sup>	050109	Yes	10
Jefferson (AR)	White Hall, City of <sup>1</sup>	050375	Yes	N/A
Lincoln (AR)	Lincoln County Unincorporated Areas <sup>1</sup>	050445	Yes	N/A
Lincoln (AR)	Star City, City of	050368	Yes	N/A
Morehouse (LA)	Bastrop, LA, City of	220127	Yes	N/A
Morehouse (LA)	Morehouse Parish Unincorporated Areas	220367	Yes	N/A

<sup>1</sup> Community is located within more than one HUC-8 watershed.  
<sup>2</sup> Community is located within more than one County.

# WATERSHED AND COMMUNITIES MAP

## BAYOU BARTHOLOMEW (HUC 08040205)



- County/Parish Seat
- Interstate
- U.S. Highway
- City Limits
- County/Parish Boundary
- Major Reaches of Watershed
- Other Waters
- Large Waterbody
- Watershed

**Project Location**

**FIGURE 1**

DATE: 4/22/2016

The results of the Discovery process will be presented in the Final Discovery Report, a watershed scale Discovery Map and the digital data gathered or developed under the fiscal year 2015 CTP Agreement, EMW-2015-CA-00144, Mapping Activity Statement (MAS) 11, between FEMA and ANRC.

This document contains the Engagement Plan / Pre-Discovery Report. The digital data submitted with this report contains correspondence, exhibits to be used at the Discovery meetings, GIS data, mapping documents (PDF, shapefiles, personal geodatabases and ESRI ArcGIS 10.x Map Exchange Documents [MXDs]), or other supplemental information. Graphics in this Pre-Discovery report are available as larger format graphics files for printing and as GIS data that may be printed and used at any map scale.

## **i. Watershed Selection**

For the Discovery process, watersheds are selected and analyzed at the HUC-8 level and evaluated using three major factors (or trifecta factors): population, topographic data availability, and risk decile. Risk decile is calculated from nine parameters including total population density, historical population growth, predicted population growth, housing units, flood policies, single claims, repetitive losses, repetitive loss properties, and declared disasters.

The Bayou Bartholomew Watershed (HUC 08040205) encompasses an area of approximately 1,534 square miles and extends across two states (Arkansas and Louisiana) and seven counties/parishes (Ashley, Chicot, Cleveland, Desha, Drew, Jefferson, and Lincoln Counties in Arkansas and Morehouse Parish in Louisiana) in the southeast portion of Arkansas and northeast portion of Louisiana. The major community in the watershed is a portion of Pine Bluff. Smaller communities include Hamburg and Star City, and a portion of Dermott, Monticello, Parkdale, Portland, Tillar, White Hall, Wilmot, and Winchester. As this watershed extends across two states and the populated land area is located in Arkansas, a single Discovery project has been planned with the ANRC taking the lead. Due to the rural nature of the land area in Louisiana, limited information has been provided for that extent of the project area.

The Bayou Bartholomew Watershed was selected by the ANRC, the State's CTP with FEMA Region 6, for the reasons summarized below.

- Topographic data developed from a Light Detection and Ranging System (LiDAR) is available throughout the watershed aiding in providing quality data.
- Losses in Chicot, Desha, and Jefferson counties have exceeded \$7.8 million from 1978 through 2015, and there are over 1,100 policies. These reported values include entire counties which may or may not be wholly located in the watershed.
- Five of the seven counties in the Arkansas portion of the watershed have Hazard Mitigation Plans in progress: Ashley, Chicot, Cleveland, Jefferson, and Lincoln. The Hazard Mitigation Plans for Desha and Drew Counties have expired.
- The communities of Desha County, Monticello, and Pine Bluff have multiple claims listed as BCX Claims, which are claims that occur outside the mapped floodplain. This indicates the need for additional review to determine if the effective maps are in need of update.
- The Bayou Bartholomew Alliance is a non-profit organization that was designed to help protect and preserve Bayou Bartholomew and its tributaries. Additionally, they perform outreach in the watershed and aid in some overall improvement projects. Any large scale projects in the watershed could lead to a local teaming opportunity.

FEMA looks to promote mitigation action within the watershed. After internal and partner review of the communities within the watershed, the following are overarching opportunities identified to promote community action within the watershed:

- The Bayou Bartholomew Watershed has elevation data for the watershed, which could be used by communities to pursue updated hydrologic and hydraulic studies and result in improved mapping of the Special Flood Hazard Areas (SFHAs), and
- Mitigation activities to reduce risk to life and property are being evaluated and may be underway in the watershed.

Table 1 provides the current status for each community's NFIP participation, Community Rating System (CRS) rating, and FIRMs. All seven of the counties and the eleven communities are participating in the NFIP. Additionally, no communities are participating in CRS. The City of Monticello and Lincoln County have expressed an interest in learning more about CRS and the requirements to implement the program locally.

**Table 1: NFIP Status of Project Area Communities.**

County/ Parish	Community Name	Community Identification Number (CID)	Participating Community?	CRS Rating
Ashley (AR)	Ashley County Unincorporated Areas <sup>1</sup>	050003	Yes	N/A
Ashley (AR)	Hamburg, City of	050005	Yes	N/A
Ashley (AR)	Parkdale, Town of <sup>1</sup>	050007	No	N/A
Ashley (AR)	Portland, City of <sup>1</sup>	050008	Yes	N/A
Ashley (AR)	Wilmot, City of <sup>1</sup>	050009	Yes	N/A
Chicot (AR)	Chicot County Unincorporated Areas <sup>1</sup>	050025	Yes	N/A
Chicot (AR)	Dermott, City of <sup>1</sup>	050026	Yes	N/A
Cleveland (AR)	Cleveland County Unincorporated Areas <sup>1</sup>	050038	No	N/A
Desha (AR)	Desha County Unincorporated Areas <sup>1</sup>	050065	Yes	N/A
Desha/Drew (AR)	Tillar, City of <sup>1,2</sup>	050075	Yes	N/A
Drew (AR)	Drew County Unincorporated Areas <sup>1</sup>	050430	Yes	N/A
Drew (AR)	Monticello, City of <sup>1</sup>	050074	Yes	N/A
Drew (AR)	Winchester, City of <sup>1</sup>	050077	Yes	N/A
Jefferson (AR)	Jefferson County Unincorporated Areas <sup>1</sup>	050440	Yes	N/A
Jefferson (AR)	Pine Bluff, City of <sup>1</sup>	050109	Yes	10
Jefferson (AR)	White Hall, City of <sup>1</sup>	050375	Yes	N/A
Lincoln (AR)	Lincoln County Unincorporated Areas <sup>1</sup>	050445	Yes	N/A
Lincoln (AR)	Star City, City of	050368	Yes	N/A
Morehouse (LA)	Bastrop, LA, City of	220127	Yes	N/A
Morehouse (LA)	Morehouse Parish Unincorporated Areas	220367	Yes	N/A

<sup>1</sup> Community is located within more than one HUC-8 watershed.

<sup>2</sup> Community is located within more than one County.

***Drainage and Flooding***

The Bayou Bartholomew Watershed lies within the Ouachita River Basin and is located in southeast Arkansas and northeast Louisiana. The Bayou Bartholomew Watershed acts as the border between the Arkansas Delta and the Arkansas timberlands. Flood problems continue to be present throughout the communities and have persisted for some time due to the nature of the watershed and localized development.

The primary river in the watershed within the state of Arkansas is Bayou Bartholomew. The bayou starts in Jefferson County and flows through all counties listed for the watershed before flowing into the state of Louisiana. The Bayou claims to be the longest in the United States. Other streams in the watershed include Ables Creek, Chemin-A-Haut Bayou, Flat Creek, Hill Slough, Upper Cutoff Creek, and Wolf Creek.

Additionally, as part of FEMA's Map Modernization (Map Mod) Program, Ashley County, Chicot County, Cleveland County, Desha County, Drew County, Jefferson County, and Lincoln County received countywide FIRMs on April 8, 2011 and October 2, 2012, February 2, 2012, June 19, 2012, January 6, 2011, March 16, 2009, and June 5, 2012 respectively. Morehouse Parish is scheduled to receive its parishwide FIRMs in July 2016.

There are multiple levees in the Watershed (Tensas – Bayou Bartholomew Levees, Arkansas River Levee) and some that are outside of the watershed (Ouachita River levees) that show some protection from the base flood on the current effective FIRMs. Jefferson County has multiple FIRMs that identify an area as a shaded Zone X, with a provisionally accredited levee note that indicates compliance is required by April 5, 2009 (Jefferson County Panels 05069C0175D, 05069C0200D, 05069C0285D 05069C0305D, 05069C0325D). To date, no levee certification documentation has been submitted to FEMA for review. For Morehouse Parish, the soon to be effective FIRMs show that the parish is protected by existing Ouachita Parish levees that are located outside of the parish boundaries.

All seven counties within the watershed in Arkansas have had their FIRMs updated to a countywide and digital format through FEMA's Map Modernization Program and Morehouse Parish is scheduled to reach this status later in 2016, which is referred to as "modernized". A summary of the community FIRM dates is included in Table 2.

### ***Population***

The population in this watershed totals 69,019 people, based on the 2010 U.S. Census. The cities of Pine Bluff, Monticello, and Hamburg are the highest population centers (population: 37,032; 4,584; and 2,870 respectively) located within the watershed. The population numbers are based on the 2010 Census Block estimates which were used to approximate the population within the watershed. There are portions of 12 populated areas inside this watershed. Figure 2 shows the population densities (number of persons per square mile) within the Bayou Bartholomew Watershed based on 2010 U.S. Census' Census Block Data.

### ***Coordinated Needs Management Strategy***

Included on Figure 2, and subsequent figures, is the Coordinated Needs Management Strategy (CNMS) Inventory. CNMS provides a snapshot of the status and attributes of currently studied streams existing within FEMA's floodplain study inventory. In general, the stream mileage shown in CNMS reflects streams with an approximately 1-square mile drainage area and that currently have effective SFHAs designated for them. CNMS does not reflect the total potential of stream miles to be studied within a watershed.

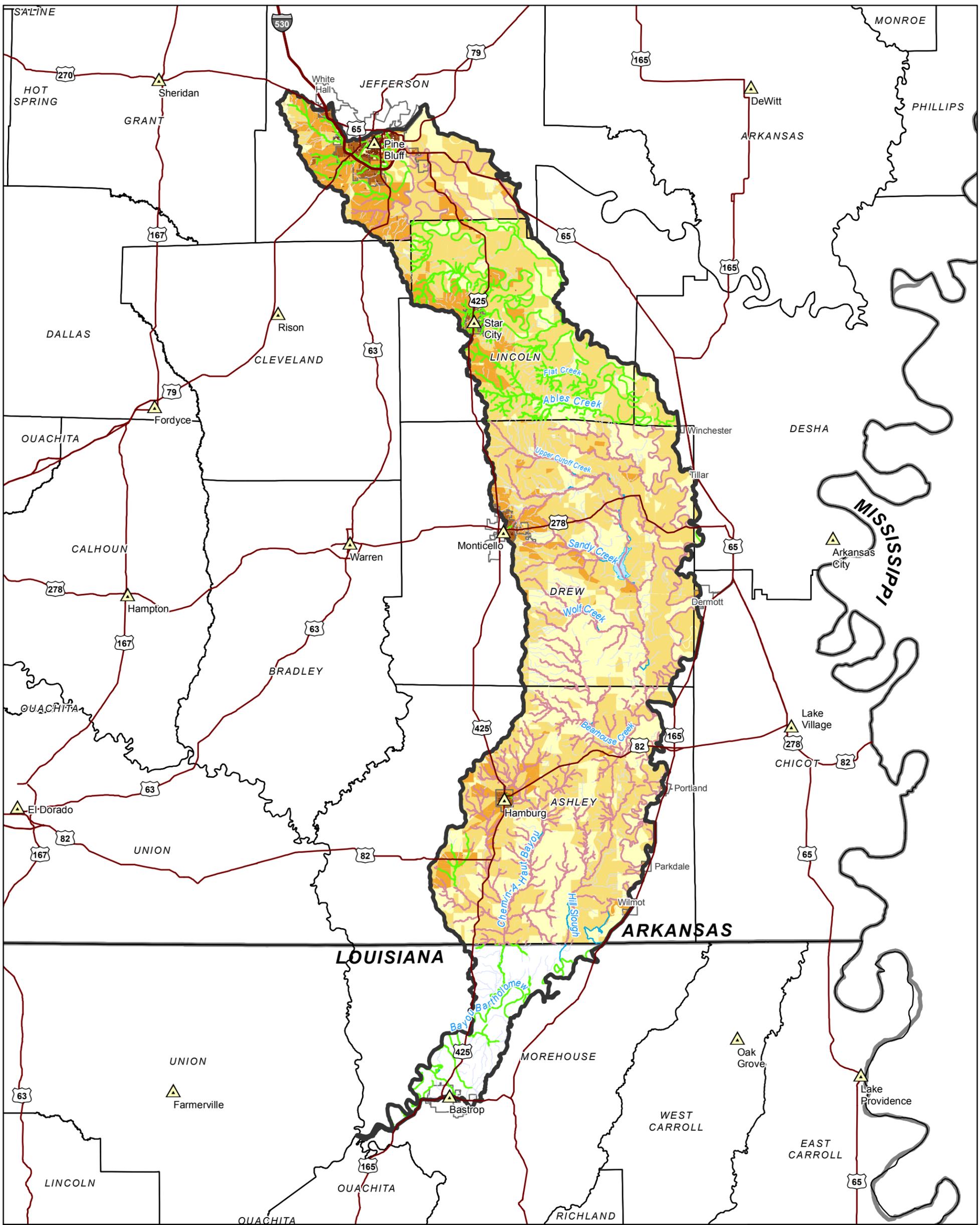
**Table 2: Community FIRM Status.**

County/ Parish	Community Name	Community Identification Number (CID)	FIRM Date	FIRM Status
Ashley (AR)	Ashley County Unincorporated Areas <sup>1</sup>	050003	4/18/2011	REVISED; Modernized Countywide
Ashley (AR)	Hamburg, City of	050005	4/18/2011	REVISED; Modernized Countywide
Ashley (AR)	Parkdale, Town of <sup>1</sup>	050007	4/18/2011	REVISED; Modernized Countywide
Ashley (AR)	Portland, City of <sup>1</sup>	050008	4/18/2011	REVISED; Modernized Countywide
Ashley (AR)	Wilmot, City of <sup>1</sup>	050009	4/18/2011	REVISED; Modernized Countywide
Chicot (AR)	Chicot County Unincorporated Areas <sup>1</sup>	050025	10/2/2012	REVISED; Modernized Countywide
Chicot (AR)	Dermott, City of <sup>1</sup>	050026	10/2/2012	REVISED; Modernized Countywide
Cleveland (AR)	Cleveland County Unincorporated Areas <sup>1</sup>	050038	2/2/2012	REVISED; Modernized Countywide
Desha (AR)	Desha County Unincorporated Areas <sup>1</sup>	050065	6/19/2012	REVISED; Modernized Countywide
Desha/Drew (AR)	Tillar, City of <sup>1,2</sup>	050075	6/19/2012 1/6/2011	REVISED; Modernized Countywide
Drew (AR)	Drew County Unincorporated Areas <sup>1</sup>	050430	1/6/2011	REVISED; Modernized Countywide
Drew (AR)	Monticello, City of <sup>1</sup>	050074	1/6/2011	REVISED; Modernized Countywide
Drew (AR)	Winchester, City of <sup>1</sup>	050077	1/6/2011	REVISED; Modernized Countywide
Jefferson (AR)	Pine Bluff, City of <sup>1</sup>	050109	3/16/2009	REVISED; Modernized Countywide
Jefferson (AR)	White Hall, City of <sup>1</sup>	050375	3/16/2009	REVISED; Modernized Countywide
Jefferson (AR)	Jefferson County Unincorporated Areas <sup>1</sup>	050440	3/16/2009	REVISED; Modernized Countywide
Lincoln (AR)	Lincoln County Unincorporated Areas <sup>1</sup>	050445	6/5/2012	REVISED; Modernized Countywide
Lincoln (AR)	Star City, City of	050368	6/5/2012	REVISED; Modernized Countywide
Morehouse (LA)	Bastrop, City of	220127	7/6/2016 <sup>3</sup>	REVISED; Modernized Countywide
Morehouse (LA)	Morehouse Parish Unincorporated Areas	220367	7/6/2016 <sup>3</sup>	REVISED; Modernized Countywide

<sup>1</sup> Community is located within more than one HUC-8 watershed.

<sup>2</sup> Community is located within more than one County.

<sup>3</sup> Community will receive new maps in July 2016. As maps are listed as a pending product, new map date has been supplied.



**POPULATION DENSITY (2010)**  
**BAYOU BARTHOLOMEW**  
 (HUC 08040205)



**FEMA**



- County/Parish Seat
- Interstate
- U.S. Highway
- City Limits
- County/Parish Boundary

- Major Reaches of Watershed
- Other Waters
- Large Waterbody
- Watershed

- CNMS Needs**
- Not Valid
  - Requires Assessment
  - Validated

- Population / SqMile**
- 0
  - 1 - 31
  - 32 - 372
  - 373 - 2,141
  - 2,142 - 240,159

\* Population includes all of unincorporated county

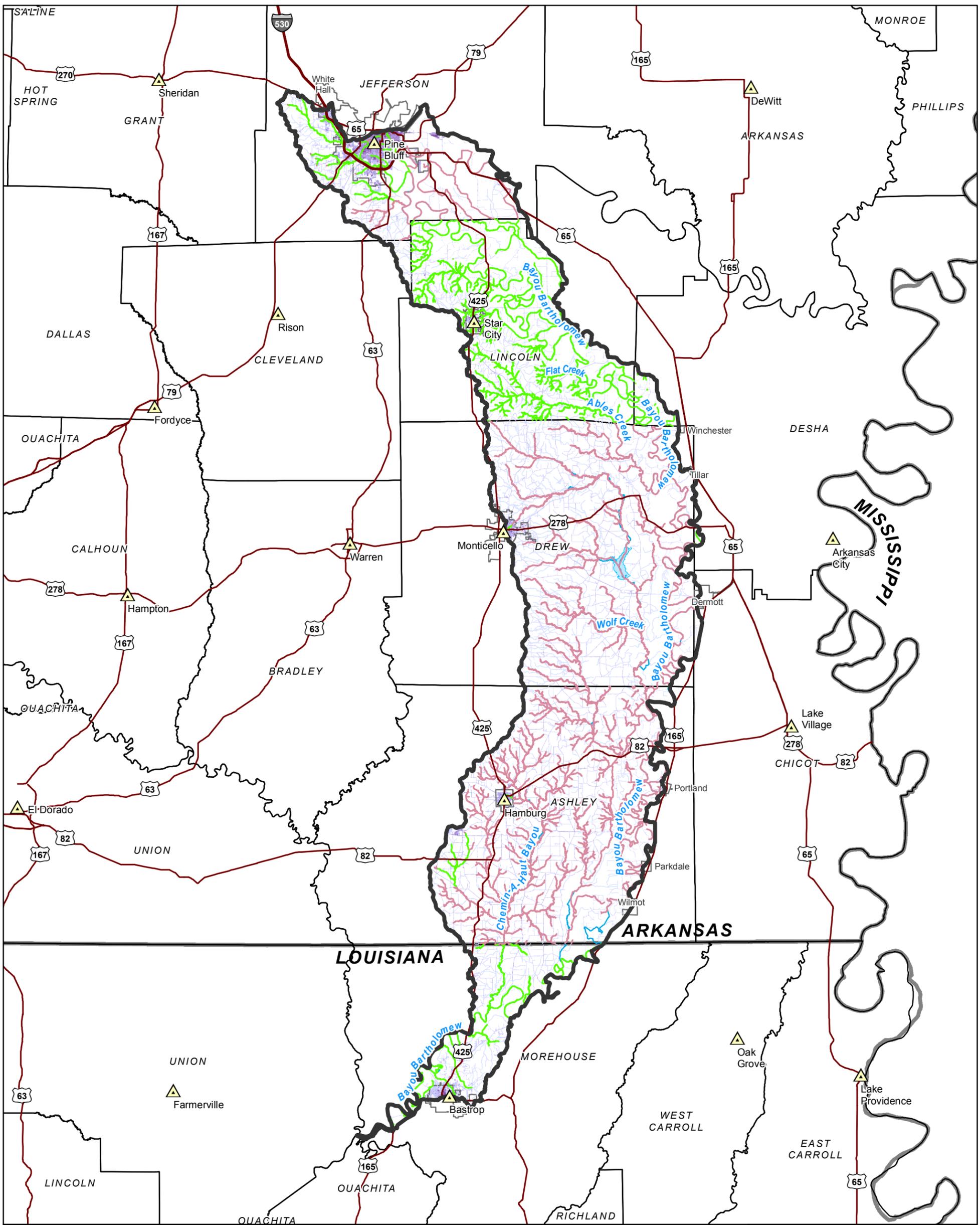
**FIGURE 2**

DATE: 4/22/2016

### ***Land Use***

The land use of the Bayou Bartholomew Watershed is predominantly rural land that is either forested or cropland. The primary population centers within the watershed are Pine Bluff, Monticello, Hamburg, and Star City in Arkansas and Bastrop in Louisiana. All of which are located along US Highway 425. Along this highway and other state and local highways are smaller population centers in the communities of White Hall, Winchester, Tillar, and Dermott. The terrain ranges from the rolling woodlands of the West Gulf Coastal Plain to the large, flat areas of the Mississippi Delta.

Figure 3 identifies the relative percent urban cover for areas within the watershed from 2011, while Figure 4 shows the changes in the land use that have occurred in the watershed from 2006 – 2011. The landuse changes represented include a change from pasture to forest, from forest to pasture, or from pasture to residential, etc., and are displayed by HUC-12 subbasins. Therefore, Figure 4 demonstrates where changes in the watershed hydrology could be seen, either in increased or decreased run-off potential, based on the changes in landuse reflected over the past 5 years.



**PERCENT IMPERVIOUS COVER (2011)**  
**BAYOU BARTHOLOMEW**  
 (HUC 08040205)



**FEMA**



0 5 10 Miles

- County/Parish Seat
- Interstate
- U.S. Highway
- City Limits
- County/Parish Boundary

- Major Reaches of Watershed
- Other Waters
- Large Waterbody
- Watershed

- CNMS Needs**
- Not Valid
  - Requires Assessment
  - Validated

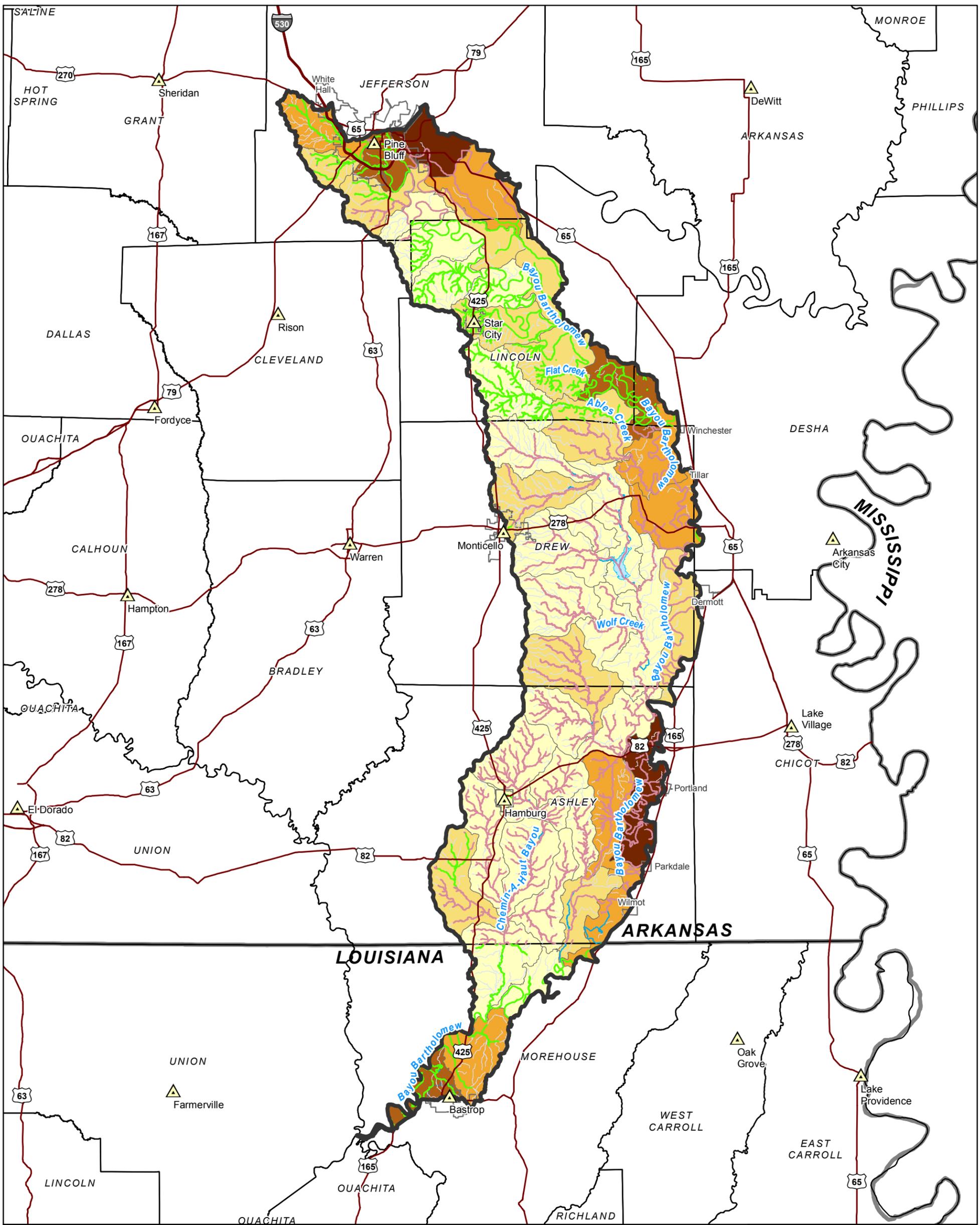
- Impervious Cover**
- 1% - 25%
  - 26% - 50%
  - 51% - 75%
  - 76% - 100%



**Project Location**

**FIGURE 3**

DATE: 4/22/2016



# LAND USE CHANGES (2006-2011)

BAYOU BARTHOLOMEW  
(HUC 08040205)



- County/Parish Seat
- Interstate
- U.S. Highway
- City Limits
- County/Parish Boundary

- Major Reaches of Watershed
- Other Waters
- Large Waterbody
- Watershed

- CNMS Needs**
- Not Valid
  - Requires Assessment
  - Validated

- Land Use Change (2006-2011)**
- Least
  - 
  - 
  - 
  - Most

**FIGURE 4**

DATE: 4/22/2016

C:\BayouBart\08040205\template\Discovery\_Figure\_4.mxd

### ***Insurance Claims***

Table 3 lists the number of NFIP insurance claims for the communities that touch the Watershed. This information is taken from the FEMA Community Information System (CIS) Reports. Due to limitations on the physical locations of the claims data, the graphical locations were developed using census block groups to approximate the locations of claims and/or loss data that can be determined. Of the insurance claims easily identified within the watershed, the majority occurred in and around the City of Pine Bluff. The NFIP claims reported are identified either as those within the SFHA or those outside of the SFHA. Claims outside of the SFHA are identified specifically as BCX Claims, which refers to an older Zone naming convention that included Zones B, C, or X, all of which are considered outside of the SFHA. Figure 5 provides a graphical representation of the NFIP insurance claims activity within the Bayou Bartholomew Watershed.

In addition to NFIP claims activity, there are several Repetitive Loss (RL) or Severe Repetitive Loss (SRL) properties within the Bayou Bartholomew Watershed. The main concentration of these properties is in or around the City of Pine Bluff, as shown on Figure 6.

Table 4, Repetitive Loss (RL) and Severe Repetitive Loss (SRL), summarizes RL and SRL claims by county and community within the Watershed. As noted, these losses are also displayed on Figure 6 and on the Discovery Map, which will be made available at the Discovery meetings and is included in the supplemental digital data to be provided at the conclusion of the Discovery process.

It is important to note that the flood damages that occurred during the recent flooding events (2013 – 2016) may not be documented as claims if the majority of the damage occurred to uninsured properties.

**Table 3: Total NFIP Insurance Claims.**

<b>Total NFIP Insurance Claims by Community *</b>	
<b>Community</b>	<b>Claims</b>
Dermott, City of <sup>1</sup>	8
Hamburg, City of	2
Monticello, City of <sup>1</sup>	1
Parkdale, Town of <sup>1</sup>	0
Pine Bluff, City of <sup>1</sup>	164
Portland, City of <sup>1</sup>	5
Star City, City of	0
Tillar, City of <sup>1,2</sup>	0
White Hall, City of <sup>1</sup>	8
Wilmot, City of <sup>1</sup>	0
Winchester, City of <sup>1</sup>	0
Ashley County Unincorporated Areas <sup>1</sup>	18
Chicot County Unincorporated Areas <sup>1</sup>	88
Cleveland County Unincorporated Areas <sup>1</sup>	0
Desha County Unincorporated Areas <sup>1</sup>	54
Drew County Unincorporated Areas <sup>1</sup>	19
Jefferson County Unincorporated Areas <sup>1</sup>	138
Lincoln County Unincorporated Areas <sup>1</sup>	1
Bastrop, City of <sup>1</sup> (LA)	23
Morehouse Parish Unincorporated Areas <sup>1</sup> (LA)	78

\*Claims reported are based on community totals and do not reflect watershed specific numbers.

<sup>1</sup> Community is located within more than one HUC-8 watershed.

<sup>2</sup> Community is located within more than one County.

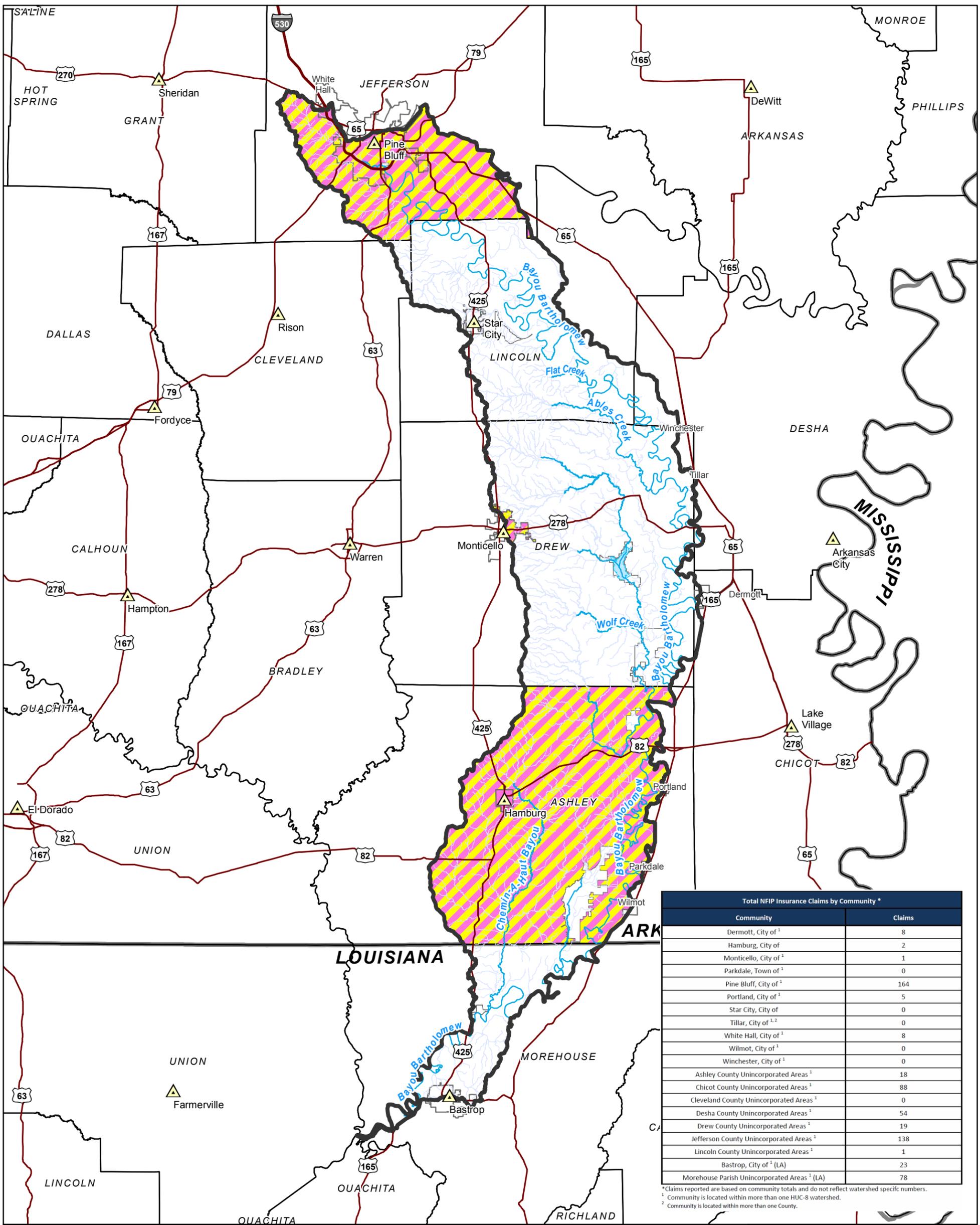
**Table 4: Repetitive and Severe Repetitive Loss.**

<b>Repetitive Losses/Severe Repetitive Losses By Community *</b>			
<b>Community</b>	<b>Number of Properties</b>	<b>Total Claims</b>	<b>Average Number of Claims Per Property</b>
Dermott, City of <sup>1</sup>	1	3	3.0
Hamburg, City of	1	2	2.0
Monticello, City of <sup>1</sup>	0	0	0.0
Parkdale, Town of <sup>1</sup>	0	0	0.0
Pine Bluff, City of <sup>1</sup>	27	98	3.6
Portland, City of <sup>1</sup>	0	0	0.0
Star City, City of	0	0	0.0
Tillar, City of <sup>1,2</sup>	0	0	0.0
White Hall, City of <sup>1</sup>	0	0	0.0
Wilmot, City of <sup>1</sup>	0	0	0.0
Winchester, City of <sup>1</sup>	0	0	0.0
Ashley County (Unincorporated Areas) <sup>1</sup>	4	8	2.0
Chicot County (Unincorporated Areas) <sup>1</sup>	10	33	3.3
Cleveland County (Unincorporated Areas) <sup>1</sup>	0	0	0.0
Desha County (Unincorporated Areas) <sup>1</sup>	5	10	2.0
Drew County (Unincorporated Areas) <sup>1</sup>	1	7	7.0
Jefferson County (Unincorporated Areas) <sup>1</sup>	19	83	4.4
Lincoln County (Unincorporated Areas) <sup>1</sup>	0	0	0.0
Bastrop, City of <sup>1</sup> (LA)	5	10	2.0
Morehouse Parish (Unincorporated Areas) <sup>1</sup> (LA)	7	24	3.4

\*Claims reported are based on community totals and do not reflect watershed specific numbers.

<sup>1</sup> Community is located within more than one HUC8 watershed.

<sup>2</sup> Community is located within more than one County.



# CLAIMS ACTIVITY

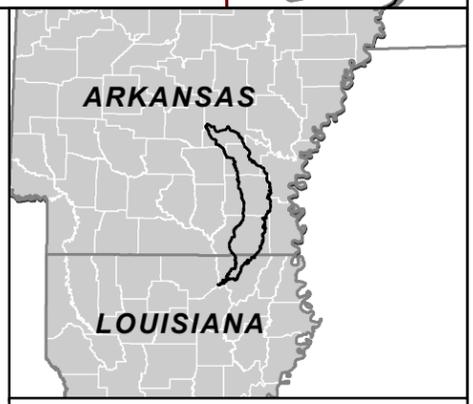
BAYOU BARTHOLOMEW  
(HUC 08040205)

- County/Parish Seat
- Interstate
- U.S. Highway
- City Limits
- County/Parish Boundary
- Major Reaches of Watershed
- Other Waters
- Large Waterbody
- Watershed
- NFIP Insurance Claims
- No Claims in Community
- Claims inside SFHA
- Claims in and out of SFHA

\*Claims reported are approximate, based on limited location information and watershed extents.



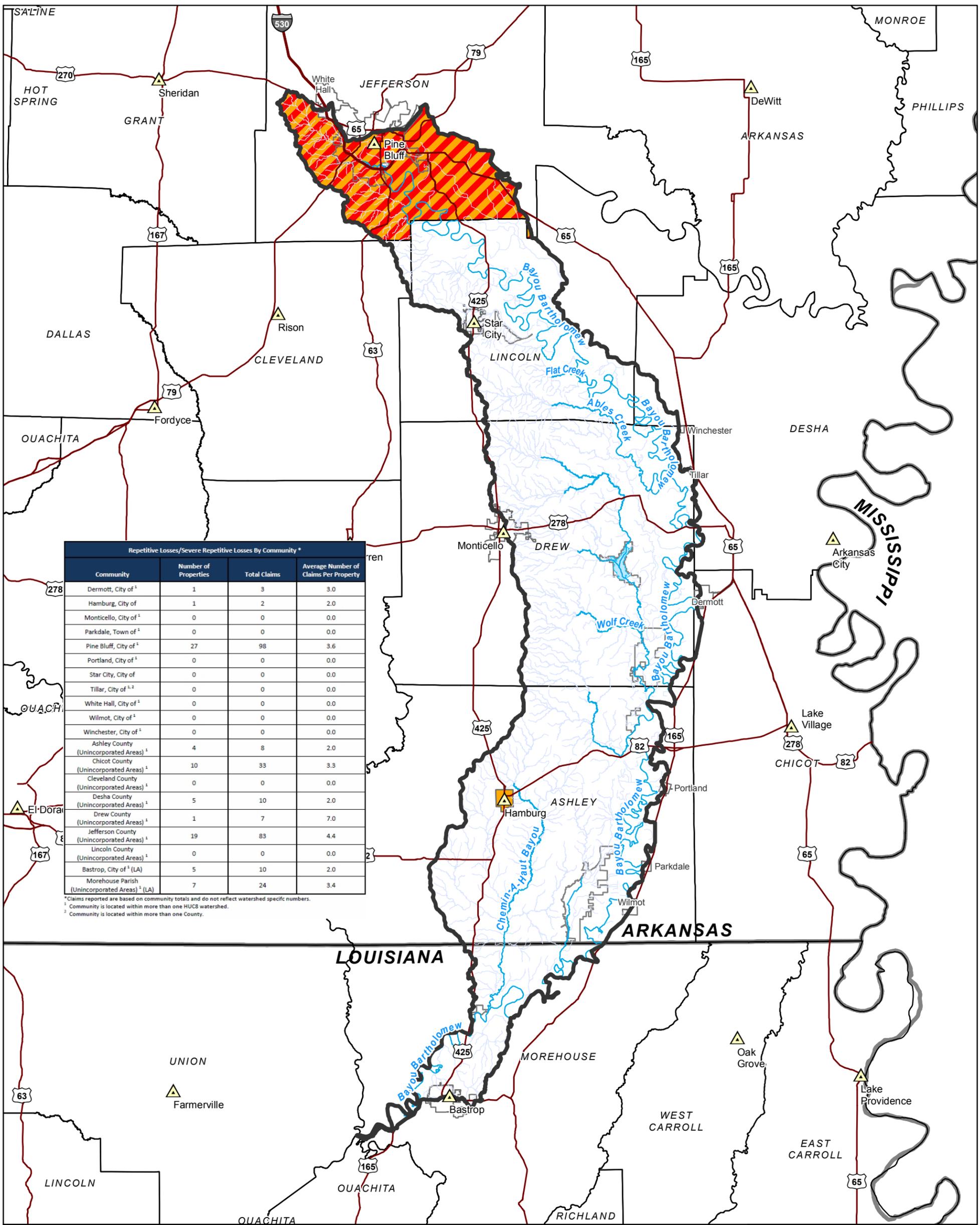
0 5 10 Miles



**Project Location**

**FIGURE 5**

DATE: 4/22/2016



**REPETITIVE AND SEVERE REPETITIVE LOSS CLAIMS**  
 BAYOU BARTHOLOMEW  
 (HUC 08040205)

- County/Parish Seat
- Interstate
- U.S. Highway
- City Limits
- County/Parish Boundary
- Major Reaches of Watershed
- Other Waters
- Large Waterbody
- Watershed
- No Claims in Community
- Repetitive Loss
- Repetitive and Severe Repetitive Loss



\*Claims reported are approximate, based on limited location information and watershed extents.

**FIGURE 6**

DATE: 4/22/2016

**Disaster Declarations**

The Bayou Bartholomew Watershed has had a history of flooding as demonstrated by numerous presidential disaster declarations issued in the past. Table 5, Disaster Declarations in the Watershed, lists disaster declarations for multiple hazards within the watershed.

**Table 5: Disaster Declarations in the Watershed.**

Watershed Counties Declared	Number of Disaster Declarations per Hazard *				
	Flood	Hurricane	Winter Storm (Ice/Snow)	Tornado	Severe Storm
Ashley County (AR)	2	2	1	3	1
Chicot County (AR)	2	2	1	1	4
Cleveland County (AR)	3	2	3	0	5
Desha County (AR)	3	1	3	0	3
Drew County (AR)	2	2	3	0	6
Jefferson County (AR)	5	1	2	0	8
Lincoln County (AR)	2	2	3	0	7
Morehouse Parish (LA)	3	8	1	0	3

\*Time period of 1967 – February 2016.

**Risk Decile**

The Risk Decile is calculated from nine parameters: total population density, historical population growth, predicted population growth, housing units, flood policies, single claims, repetitive losses, repetitive loss properties, and declared disasters. The scale of Risk Decile ranking is 1-10 with 1 being the highest and 10 being the lowest ranking for a portion of the watershed.

**Watershed Rankings**

For the Discovery process, watersheds are selected and analyzed at the HUC-8 level and evaluated using three major factors (or trifecta factors): population, topographic data availability, and risk decile. Table 6 lists the overall rankings of the Bayou Bartholomew Watershed when compared nationally and regionally to other HUC-8 watersheds. Nationally, this HUC’s risk decile rating ranks between 26% and 50% of HUC-8s in the United States. This information, along with rankings of smaller HUC-12 subbasins, helps identify stream segments or locations where risk evaluation can be targeted. The combination of factors is important in the selection of a watershed for a Discovery Project.

**Table 6: Watershed Risk Factor Rankings.**

Bayou Bartholomew Watershed Risk Factor Rankings	
National Risk Factor Rank: 688	Region 6 Risk Factor Rank: 180
National Risk Decile: 4	Region 6 Risk Decile: 4
Average Annualized Loss: \$ 6,221,000	Average Annualized Loss: \$ 6,221,000
National Average Annualized Loss Rank: N/A	Region 6 Average Annualized Loss Rank: 235
National Overall Rank: 688	Region 6 Overall Rank: 77

### ***Topographic Data***

Recent acquisitions of topographic data have been made for the Bayou Bartholomew Watershed. This data was obtained by FEMA and the USGS as part of ongoing LiDAR projects, and it covers 90% of the watershed. The only area not covered by LiDAR is in northeastern Cleveland County. This area is rural in nature; therefore, there is suitable topography for the areas where detailed study modeling and floodplain mapping may be pursued.

### ***Coordinated Needs Management Strategy***

Significant streams in this watershed include Bayou Bartholomew, Ables Creek, Chemin-A-Haut Bayou, Flat Creek, Hill Sough, Upper Cutoff Creek, and Wolf Creek (shown on Figure 1). The USGS provides a National Hydrologic Dataset (NHD) that can be used to identify stream miles that reflect drainage areas of 1 square mile or greater from available topographic data. The NHD stream mileage may be used to gain a sense of the total potential stream miles for a watershed. Using the NHD, there are approximately 3,955 miles of streams in the Bayou Bartholomew Watershed.

The CNMS Inventory provides a snapshot of the status and attributes of currently studied streams existing within FEMA's floodplain study inventory. In general, the stream mileage shown in CNMS reflects streams that currently have effective SFHAs designated for them. CNMS does not reflect the total potential of stream miles to be studied within a watershed.

In addition to listing the miles of studied streams within a watershed, CNMS documents certain other factors, such as physiological, climate, or engineering methods that may have changed since the date of the effective study. The stream miles shown in CNMS are attributed with an evaluation of a Validation Status and Status Type that allows an examination of the condition of a given study or group of studies. Studies which are considered Valid in CNMS are studies which contribute to the New, Validated, or Updated Engineering (NVUE) metric.

The NVUE metric is used as an indicator of the status of studies for FEMA's mapped SFHA Inventory. Those studies categorized as "Unverified" typically indicate that there are some factor(s) of change since the SFHA became effective or may have a deficiency warranting restudy; studies categorized as "Unknown" indicate streams for which an evaluation is planned, in queue, or deferred; and studies categorized as "Assessed" indicates for new or updated studies. Presently, the CNMS streams are undergoing assessment as part of the Discovery activities. CNMS aids in identifying areas to consider for study during the Discovery process by highlighting needs on a map, quantifying them (mileage), and providing further categorization of these needs in order to differentiate factors that identify the needs.

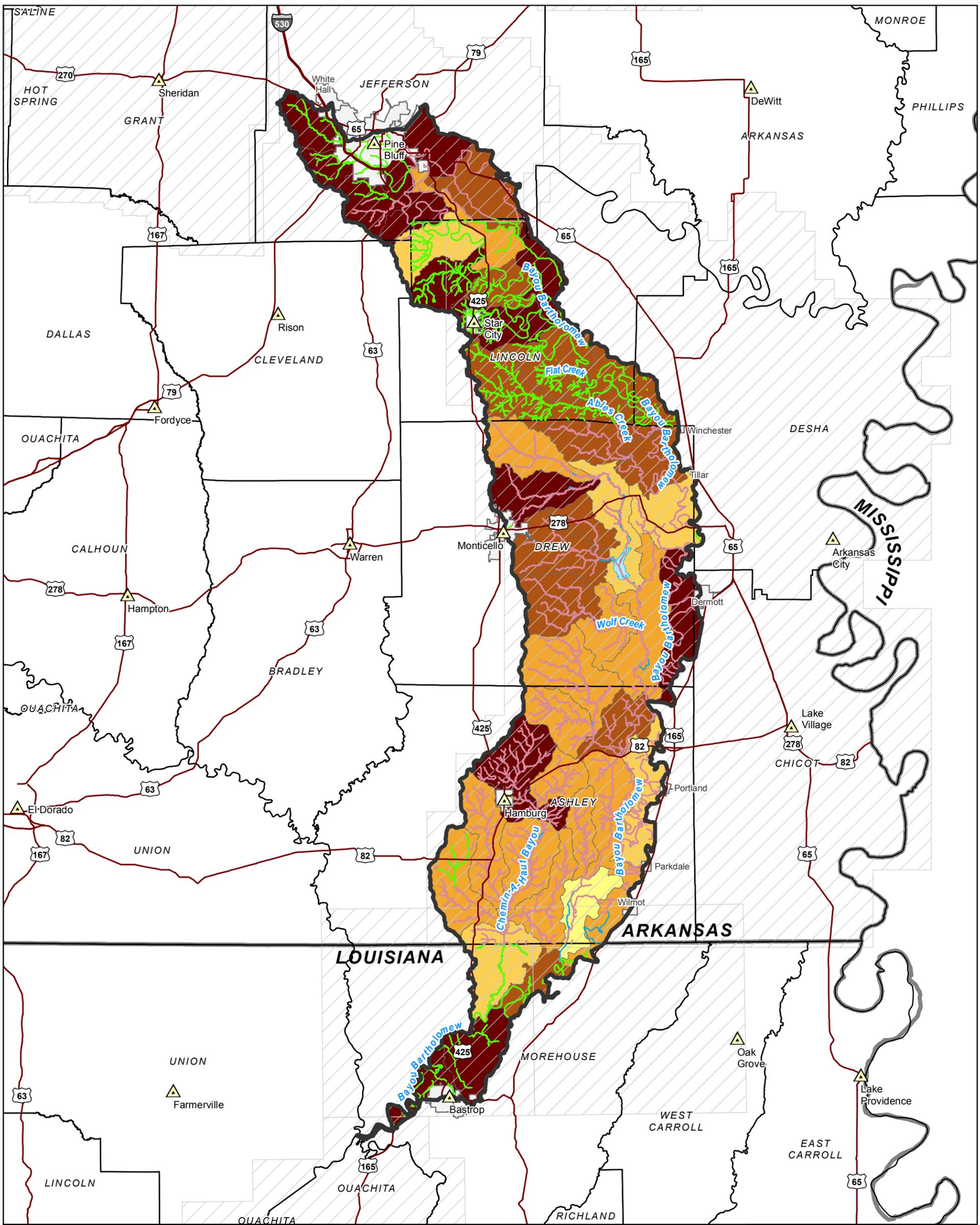
Table 7 compares the NHD data to the CNMS data and summarizes the Validated NVUE stream mileage from CNMS for the watershed.

**Table 7: NVUE Approximate Stream Mileage in the Watershed.**

NVUE Validation	Stream Miles
NHD Streams (streams with a drainage area of greater than 1 square mile)	3,955
CNMS Streams (streams with effective SFHA)	1,630
Stream Miles not accounted for in CNMS	2,325
CNMS Valid Zone AE / AH Stream Miles	100.0
CNMS Valid Zone A Stream Miles	451.5
CNMS Unverified Zone AE / AH Stream Miles	0
CNMS Unverified Zone A Stream Miles	0
CNMS Unknown Zone AE / AH Stream Miles (Requiring Further Assessment)	0
CNMS Unknown Zone A Stream Miles (Requiring Further Assessment)	1,078.5
All Stream Miles not accounted for in CNMS as there are no effective SFHAs (sum of the below)	2,325
Stream Miles not accounted for in CNMS that would fall in land that <i>could be</i> developed	2,325
Stream Miles not accounted for in CNMS that would fall in land that <i>could</i> <i>not be</i> developed	0

Within the Bayou Bartholomew Watershed, and using these criteria from CNMS, approximately 1,078.5 miles of Zone A streams were identified as being “Unknown”, which will require additional review of the data to determine if these streams should be considered valid. Additionally, 451.5 miles of Zone A stream miles and 100.0 miles of Zone AE streams in the watershed were characterized as being Valid and included in the NVUE metrics.

Figure 7, Risk, Needs, and Topographic Data, provides a snapshot of CNMS factors or needs for each stream segment, the HUC-12 risk decile, and the availability of topographic data. The combination of these three factors aided in the selection of the Bayou Bartholomew Watershed for a Discovery Project.



# RISK, NEEDS, AND TOPOGRAPHIC DATA

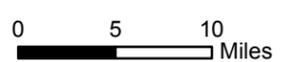
## BAYOU BARTHOLOMEW (HUC 08040205)

- County/Parish Seat
- Interstate
- U.S. Highway
- City Limits
- County/Parish Boundary

- Major Reaches of Watershed
- Large Waterbody
- Watershed
- LiDAR Extents

- CNMS Validation Status**
- Not Valid
  - Requires Assessment
  - Validated

- Density Risk Decile**
- High
  - 
  - 
  - 
  - Low



**FIGURE 7**

DATE: 4/22/2016

### ***Congressional Representation***

In order to achieve success with any Region 6 Risk MAP project, members of Congress and their staff members, as well as the media must be aware and understand the study process. Not only will their understanding enable them to communicate effectively about the study details and process, it allows for greater collaboration and coordination. Within the Bayou Bartholomew Watershed, there are two U.S. Senators, two members from the U.S. House of Representatives, three State Senators, and eight members of the State House of Representatives.

Table 8 and Table 9 provide a tabular summary of the U.S. and State Congressionals for the Bayou Bartholomew Watershed as of February 2015, while Figures 8 - 10 provide a graphical summary of the U.S. and State Congressional district boundaries across the watershed.

In the past, U.S. Congressionals from Arkansas have either co-sponsored legislation to suspend FIRMs for Levee Maintenance or been a vocal opposition to FEMA's levee policies.

Currently, Senator Boozman serves on the Committee on Appropriations and the Committee on Environment and Public Works in the U.S. Senate. These committees influence funding and project priorities within FEMA.

The U.S. Congressionals will be provided the opportunity to participate in a Pre-Discovery Webinar that includes a high level briefing on the Discovery process and activities in Arkansas hosted by the AR CTP Team. This briefing will take place at a later date, after the initial Discovery meetings in the watershed have been conducted.

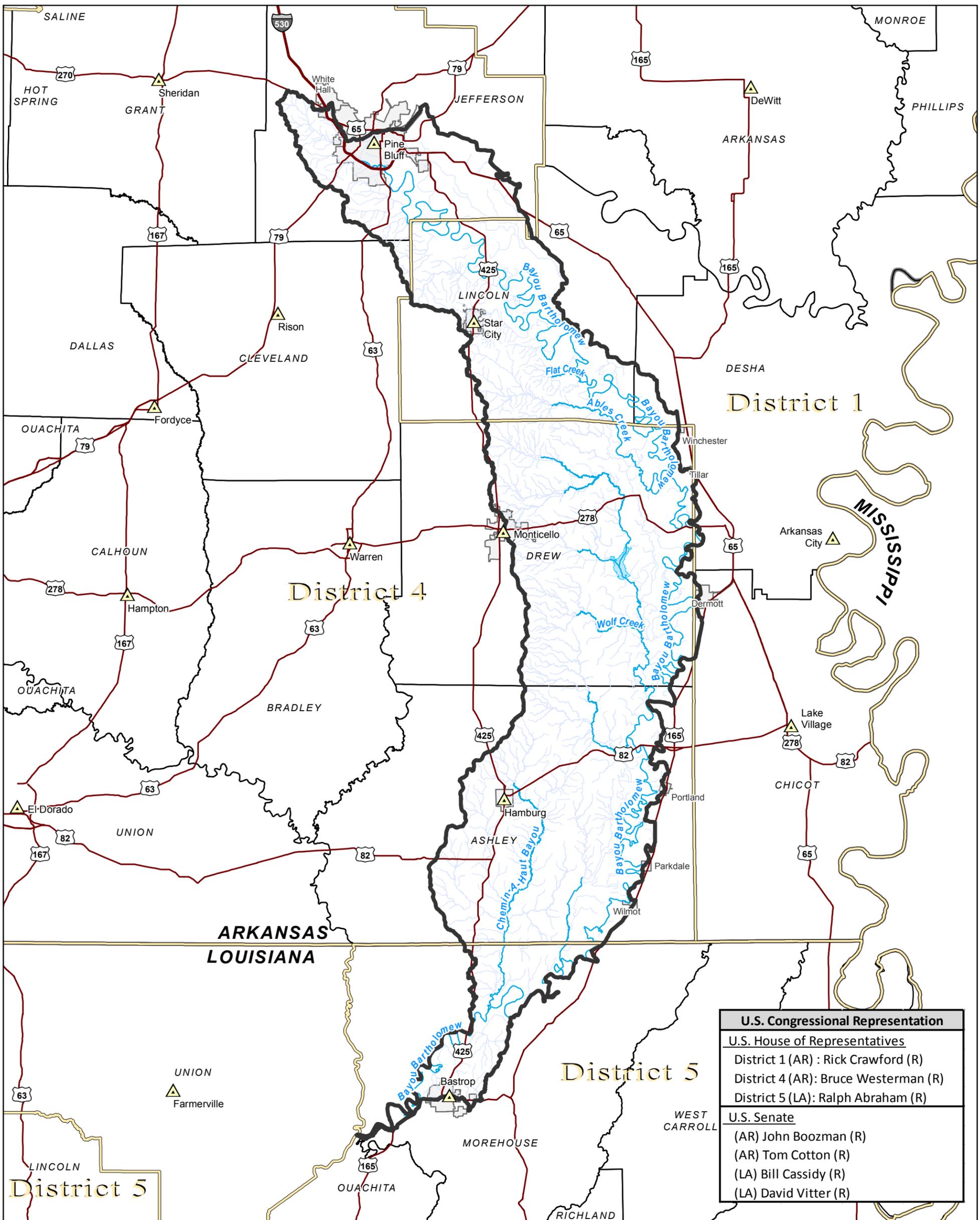
**Table 8: U.S. Congressionals (as of March 2016).**

U.S. Senators			
Name	Address	Phone	Email
John Boozman (R)	1401 W. Capitol Avenue Plaza F Little Rock, AR 72201	(501) 372-7153	<a href="http://www.boozman.senate.gov/public/index.cfm/e-mail-me">www.boozman.senate.gov/public/index.cfm/e-mail-me</a>
Tom Cotton (R)	11809 Hinson Road Suite 100 Little Rock, AR 72212	(870) 864-8582	<a href="http://www.cotton.senate.gov/content/contact-tom">www.cotton.senate.gov/content/contact-tom</a>
Bill Cassidy (R)	1651 Louisville Avenue Suite 123 Monroe, LA 70201	(318) 324-2111	<a href="http://www.cassidy.senate.gov/contact">www.cassidy.senate.gov/contact</a>
David Vitter (R)	1651 Louisville Avenue Suite 148 Monroe, LA 71201	(318) 325-8120	<a href="http://www.vitter.senate.gov/contact">www.vitter.senate.gov/contact</a>
U.S. Representatives			
Name	Address	Phone	Email
Rick Crawford (R) District 1	2400 Highland Drive, Suite 300 Jonesboro, AR 72401	(870) 203-0540	<a href="https://crawford.house.gov/contact/email">https://crawford.house.gov/contact/email</a>
Bruce Westerman (R) District 4	101 Reserve St., Suite 200 Hot Springs, AR 71901	(501) 609-9796	<a href="https://westerman.house.gov/contact">https://westerman.house.gov/contact</a>
Ralph Abraham (R) District 5	426 DeSiard St. Monroe, LA 71201	(318) 322-3500	<a href="https://abraham.house.gov/contact/email">https://abraham.house.gov/contact/email</a>

**Table 9: State Congressionals (as of March 2016).**

State Senators <sup>1</sup>				
District	Name	Address	Phone	Email
25 (AR)	Stephanie Flowers (D)	217 South Main Street Pine Bluff, AR 71601	(870) 535-1032	<a href="mailto:Stephanie.Flowers@senate.ar.gov">Stephanie.Flowers@senate.ar.gov</a>
26 (AR)	Eddie Cheatham (D)	2814 Ashley 239 Crossett, AR 71635	(870) 364-5659	<a href="mailto:Eddie.cheatham@senate.ar.gov">Eddie.cheatham@senate.ar.gov</a>
27 (AR)	Bobbie J. Pierce (D)	587 Grant 758 Sheridan, AR 72150	(870) 942-1031	<a href="mailto:bobbie.pierce@senate.ar.gov">bobbie.pierce@senate.ar.gov</a>
33 (LA)	Michael A. Walsworth (R)	4007 White's Ferry Road, Suite A West Monroe, LA 71291	(318) 340-6453	walsworthm@legis.la.gov
34 (LA)	Francis C. Thompson (D)	Box 68 Delhi, LA 71232	(318) 878-9408	<a href="mailto:thompsof@legis.la.gov">thompsof@legis.la.gov</a>
State Representatives <sup>1</sup>				
District	Name	Address	Phone	Email
8 (AR)	Jeff Wardlaw (D)	3418 Highway 160 E Hermitage, AR 71647	(870) 226-9501	<a href="mailto:jeff@jeffwardlaw.com">jeff@jeffwardlaw.com</a>
9 (AR)	Sheilla Lampkin (D)	350 Rabb Road Monticello, AR 71655	(870) 723-6449	<a href="mailto:Sheilla.Lampkin@arkansashouse.org">Sheilla.Lampkin@arkansashouse.org</a>
10 (AR)	Mike Holcomb (R)	9108 Sulphur Springs Road Pine Bluff, AR 71603	(870) 489-7177	<a href="mailto:mike.holcomb@arkansashouse.org">mike.holcomb@arkansashouse.org</a>
11 (AR)	Mark D. McElroy (D)	2645 Highway 138 East Tillar, AR 71670	(870) 644-3822	<a href="mailto:mdmcelroy1@yahoo.com">mdmcelroy1@yahoo.com</a>
12 (AR)	Chris Richey (D)	P.O. Box 2356 West Helena, AR 72390	(870) 995-2499	<a href="mailto:chris.richey@arkansashouse.org">chris.richey@arkansashouse.org</a>
15 (AR)	Ken Bragg (R)	63 Pinecrest Circle Sheridan, AR 72150	(870) 942-5269	<a href="mailto:kenwbragg@gmail.com">kenwbragg@gmail.com</a>
16 (AR)	Kenneth B. Ferguson (D)	P.O. Box 5661 Pine Bluff, AR 71611	(870) 413-8942	<a href="mailto:kenneth.ferguson@arkansashouse.org">kenneth.ferguson@arkansashouse.org</a>
17 (AR)	Vivian Flowers (D)	P.O. Box 3156 Pine Bluff, AR 71611	(870) 329-8356	<a href="mailto:Vivian.Flowers@arkansashouse.org">Vivian.Flowers@arkansashouse.org</a>
14 (LA)	John C. "Jay" Morris, III (R)	2309 Oliver Road Rm 1 & 2 Monroe, LA 71201	(318) 362-4270	<a href="mailto:morrisjc@legis.la.gov">morrisjc@legis.la.gov</a>
16 (LA)	Katrina R. Jackson (D)	517 N. Washington Street, Suite A, Bastrop, LA 71220	(318) 283-0884	<a href="mailto:jacksonk@legis.la.gov">jacksonk@legis.la.gov</a>
19 (LA)	Charles R. Chaney (R)	P.O. Box 8 Rayville, LA 71269	(318) 728-5875	<a href="mailto:chaneyb@legis.la.gov">chaneyb@legis.la.gov</a>

<sup>1</sup> State Congressionals listed in numerical order by District Served.



U.S. Congressional Representation	
<b>U.S. House of Representatives</b>	
District 1 (AR)	: Rick Crawford (R)
District 4 (AR)	: Bruce Westerman (R)
District 5 (LA)	: Ralph Abraham (R)
<b>U.S. Senate</b>	
(AR)	John Boozman (R)
(AR)	Tom Cotton (R)
(LA)	Bill Cassidy (R)
(LA)	David Vitter (R)

**U.S. CONGRESSIONAL DISTRICTS**  
**BAYOU BARTHOLOMEW**  
 (HUC 08040205)

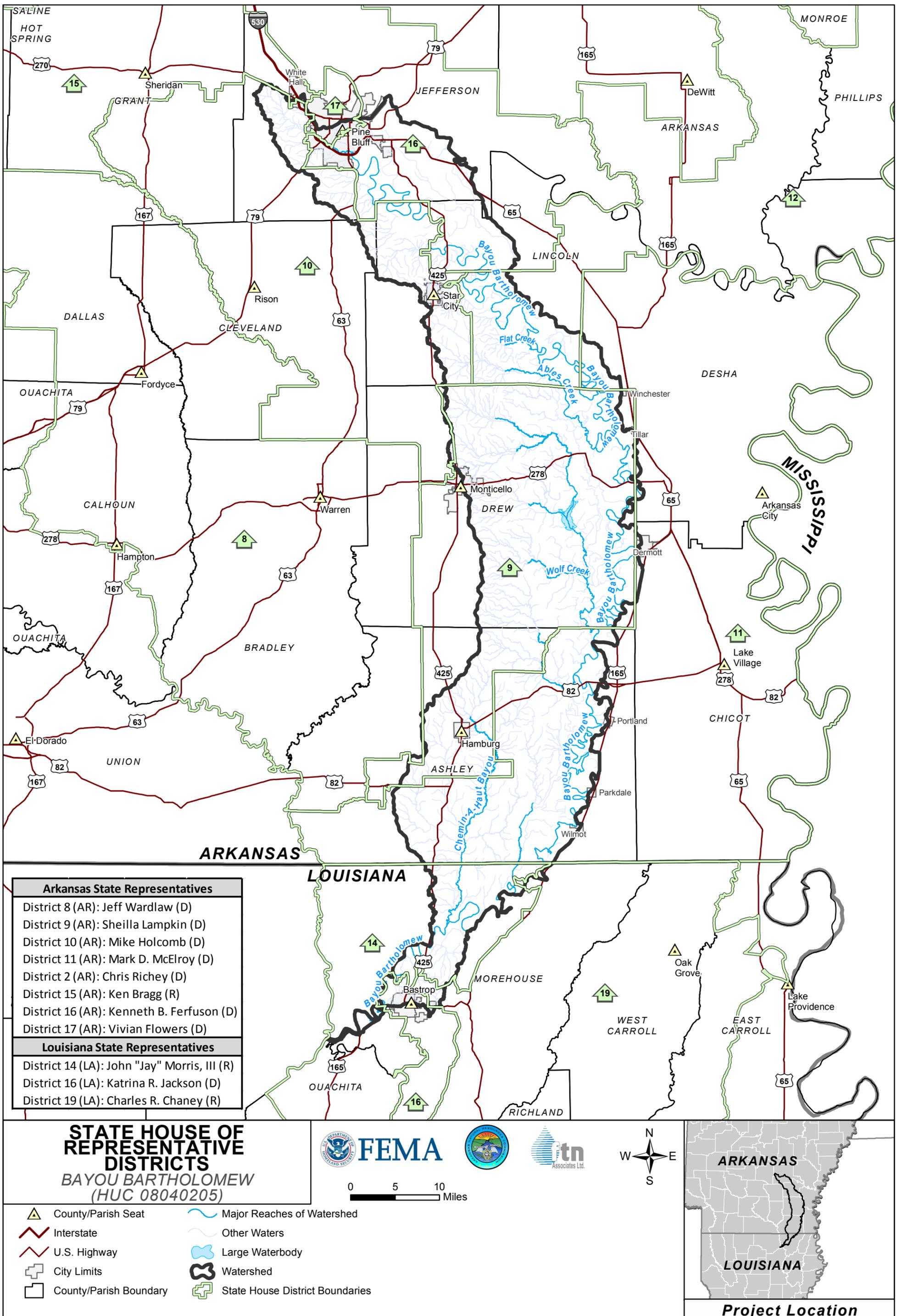
- County/Parish Seat
- Interstate
- U.S. Highway
- City Limits
- County/Parish Boundary
- Major Reaches of Watershed
- Other Waters
- Large Waterbody
- Watershed
- Congressional District Boundaries



**FIGURE 8**

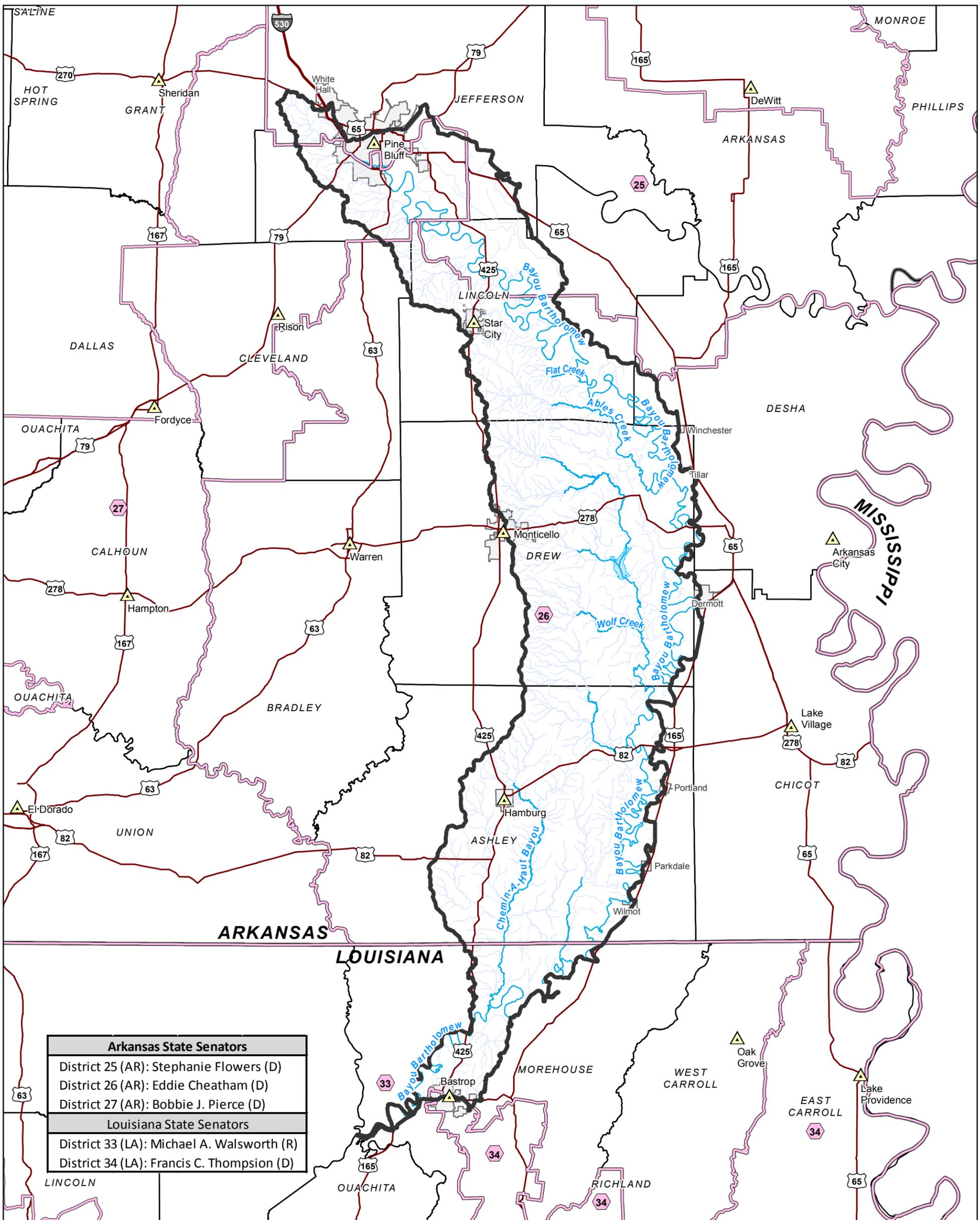
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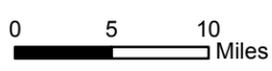
**FIGURE 9**

DATE: 4/24/2016



# STATE SENATE DISTRICTS

BAYOU BARTHOLOMEW  
(HUC 08040205)



- County/Parish Seat
- Interstate
- U.S. Highway
- City Limits
- County/Parish Boundary
- Major Reaches of Watershed
- Other Waters
- Large Waterbody
- Watershed
- State Senate District Boundaries

**FIGURE 10**

DATE: 4/24/2016

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## II. Discovery Efforts

### i. Engagement / Pre-Discovery Report

#### *Pre-Discovery Community Engagement*

The CTP Project Team identified in Table 10 below, was in contact with watershed stakeholders via letters, email, and phone calls before the Discovery meetings to request local participation. In addition to assisting in scheduling the meetings, locals were asked to help identify additional key people who should be included in the Discovery process and acquire any data that will assist in the risk identification and assessment for the Bayou Bartholomew Watershed. A detailed list of Communities, local officials, federal, state and regional agencies that will be invited to participate in the Discovery Process is included with the supplemental digital data accompanying this report.

**Table 10: CTP Bayou Bartholomew Watershed Project Team.**

Name	Organization	Project Role
Michael Borengasser	ANRC	CTP Coordinator / Project Manager / State NFIP Coordinator
John Bourdeau	FEMA Region 6	Project Monitor – FEMA Region 6
Lacye Blake	Arkansas Department of Emergency Management (ADEM)	State Hazard Mitigation Officer
Linda Johnson	FTN	CTP Contractor / Program Manager
Lee Beshoner	FTN	CTP Contractor / Technical Manager

In preparation for the Discovery meeting, the CTP Project Team:

- Gathered information about local flood risk and flood hazards,
- Mapped known and available Grant Activity in the Watershed,
- Mapped known and available Claims Activity in the Watershed,
- Mapped Percent Urban Cover in the Watershed,
- Mapped Density of Parcels Potentially at Risk in the Watershed,
- Mapped Urban Change from 2006 – 2011, and
- Mapped Population Density in the Watershed.

The information gathered before, during and after the Discovery meeting will be used to determine which areas of the watershed may require further study through a Risk MAP project. Discovery will also include discussions with other state and federal agencies about potential partnership opportunities, as well as enlisting their help in identifying flood risk throughout the watershed.

The State CTP’s and FEMA’s activity with the communities in the Bayou Bartholomew Watershed is summarized in Table 11, History of Engagement and Table 12, Hazard Mitigation Plan Status.

**Table 11: History of Engagement.**

<b>Community Name</b>	<b>Type of Engagement</b>	<b>Date</b>	<b>Agency</b>	<b>Comments</b>
Ashley County (AR) and Incorporated Areas	Map Modernization	April 2011	FEMA	REVISED; Modernized Countywide
Chicot County (AR) and Incorporated Areas	Map Modernization	October 2012	FEMA	REVISED; Modernized Countywide
Cleveland County (AR) and Incorporated Areas	Map Modernization	February 2012	FEMA	REVISED; Modernized Countywide
Desha County (AR) and Incorporated Areas	Map Modernization	June 2012	FEMA	REVISED; Modernized Countywide
Drew County (AR) and Incorporated Areas	Map Modernization	June 2012	FEMA	REVISED; Modernized Countywide
Jefferson County (AR) and Incorporated Areas	Map Modernization	March 2009	FEMA	REVISED; Modernized Countywide
Lincoln County (AR) and Incorporated Areas	Map Modernization	June 2012	FEMA	REVISED; Modernized Countywide
Morehouse Parish (LA) and Incorporated Areas	Map Modernization	June 2016	FEMA	REVISED; Modernized Parishwide
Ashley County, Chicot County, Desha County, Drew County, Lincoln County, (AR)	LiDAR	2011	FEMA/USGS	Topography newer than effective FIRM; LiDAR collection included Chicot and Desha Counties and portions of Lincoln, Drew and Ashley Counties
Jefferson County (AR)	LiDAR	2015	FEMA/USGS	Topography newer than effective FIRM; LiDAR collection included Jefferson County
Morehouse Parish (LA)	LiDAR	2008	FEMA	Louisiana LiDAR project
Ashley County (AR) Unincorporated Areas	CAC/CAV	2007 / 2012	ANRC	Findings: None
Hamburg, City of (AR)	CAC/CAV	2003 / 2007 / 2012	ANRC	Findings: Minor
Parkdale, Town of (AR)	CAC/CAV	2008	ANRC	Findings: None
Portland, City of (AR)	CAC/CAV	2007 / 2012	ANRC	Findings: Minor / Serious
Wilmot, City of (AR)	CAC/CAV	2011	ANRC	Findings: Minor
Chicot County (AR) Unincorporated Areas	CAC/CAV	2003 / 2008 / 2012	ANRC/FEMA	Findings: Minor
Dermott, City of (AR)	CAC/CAV	2008 / 2012	ANRC	Findings: Minor
Desha County (AR) Unincorporated Areas	CAC/CAV	2004 / 2008 / 2011	ANRC/FEMA	Findings: Minor

**Table 11. History of Engagement (Continued).**

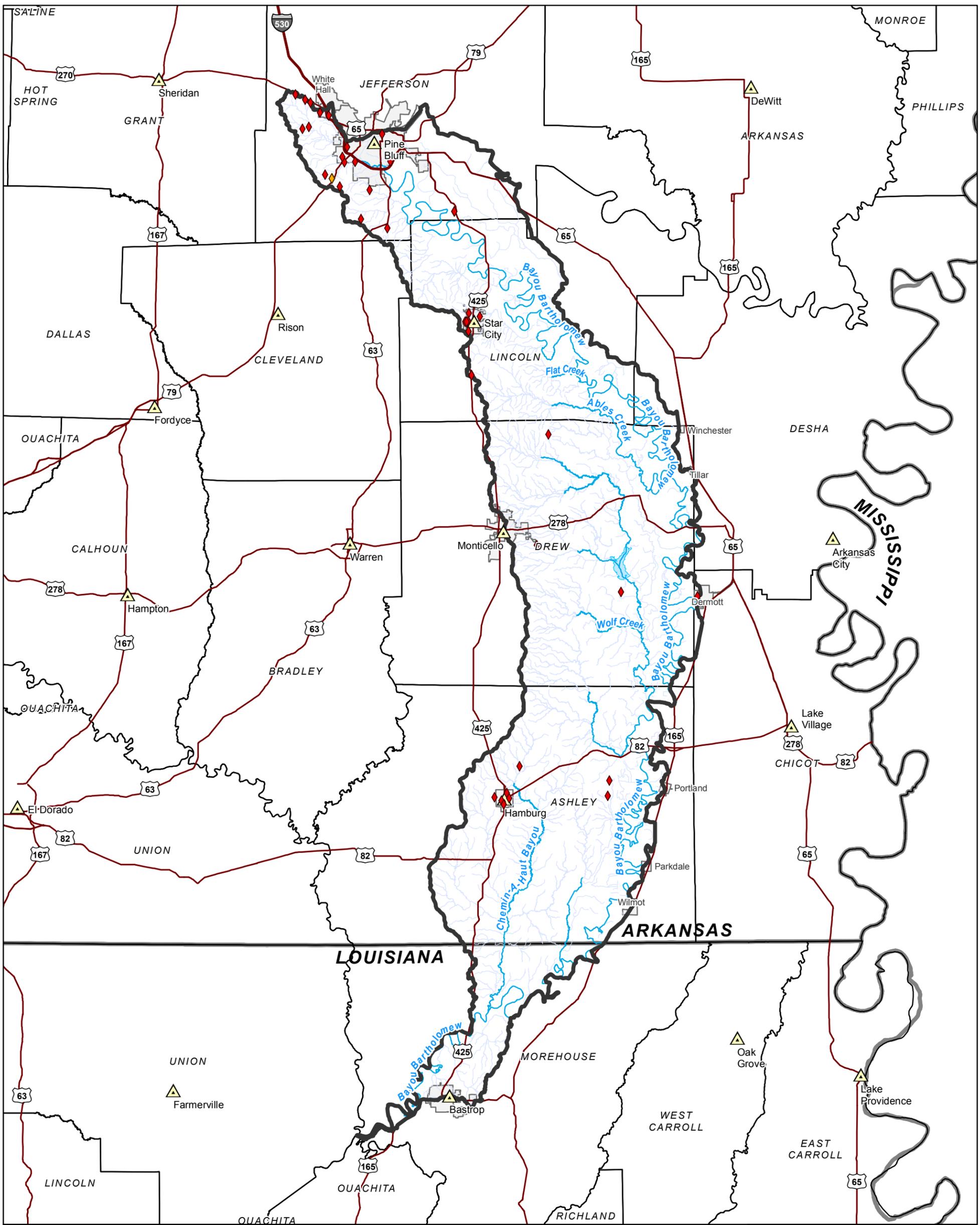
Community Name	Type of Engagement	Date	Agency	Comments
Tillar, City of (AR)	CAC/CAV	2008 / 2011 2012	ANRC/FEMA	Findings: Minor
Drew County (AR) Unincorporated Areas	CAC/CAV	2000 / 2007	ANRC	Findings: Minor
Monticello, City of (AR)	CAC/CAV	2000 / 2007 2013	ANRC	Findings: None
Winchester, City of (AR)	CAC/CAV	2007 / 2012	ANRC	Findings: Minor
Jefferson County (AR) Unincorporated Areas	CAC/CAV	2006 / 2008 2009 / 2011 2014	ANRC/FEMA	Findings: None
Pine Bluff, City of (AR)	CAC/CAV	2009 / 2011 2014	ANRC/FEMA	Findings: None
White Hall, City of (AR)	CAC/CAV	2008 / 2009 2011	ANRC/FEMA	Findings: None
Lincoln County (AR) Unincorporated Areas	CAC/CAV	2007 / 2011 2013	ANRC/FEMA	Findings: Minor
Star City, City of (AR)	CAC/CAV	2000 / 2007 2011 / 2012	ANRC/FEMA	Findings: Serious

**Table 12: Hazard Mitigation Plan Status (as of February 2016).**

Community Name	Hazard Mitigation Plan Name	Plan Status	Plan Expires
Ashley County (AR)	Ashley County	Plan in Progress	N/A
Chicot County (AR)	Chicot County	Plan in Progress	N/A
Cleveland County (AR)	Cleveland County	Plan in Progress	N/A
Desha County (AR)	Desha County	Expired	5/19/2013
Drew County (AR)	Drew County	Expired	9/18/2013
Jefferson County (AR)	Jefferson County	Plan in Review	N/A
Lincoln County (AR)	Lincoln County	Plan in Progress	N/A
Morehouse Parish (LA)	Morehouse Parish, Louisiana Hazard Mitigation Plan Update	Current	8/8/2016
State of Arkansas	State of Arkansas All-Hazards Mitigation Plan	Current	9/4/2016
State of Louisiana	State of Louisiana All-Hazards Mitigation Plan	Current	4/2/2017

The CTP Project Team encourages the counties and communities to be diligent in the process of updating their Hazard Mitigation Plans (HMPs) if they are not already under development. Representative(s) from ADEM are available to discuss grant opportunities and/or general assistance that may be available for their HMPs.

Figure 11 displays the locations and types of mitigation grant activity in the Arkansas portion of the Bayou Bartholomew Watershed. Proposed mitigation activities and potential property acquisitions will be identified during Discovery through input from local communities. There may be additional grants being pursued at both the state and local level within the watershed that have not been identified. The bulk of the initial grant Information available to date indicates Safe Rooms are the only FEMA sponsored grant activities ongoing within the watershed.



# GRANT ACTIVITY

BAYOU BARTHOLOMEW  
(HUC 08040205)



FEMA



0 5 10 Miles

- |                        |                            |                               |
|------------------------|----------------------------|-------------------------------|
| County/Parish Seat     | Major Reaches of Watershed | HMGP Grants (Safe Rooms) (48) |
| Interstate             | Other Waters               | Property Acquisition (4)      |
| U.S. Highway           | Large Waterbody            | Public Assistance Grants (0)  |
| City Limits            | Watershed                  |                               |
| County/Parish Boundary |                            |                               |



**Project Location**

**FIGURE 11**

DATE: 4/22/2016

## **ii. Pre-Discovery Data Collection**

For the Bayou Bartholomew Watershed's Engagement / Pre-Discovery Report and Map, multiple datasets were used. The following tabular summary of the data collected is presented in Table 13 in order to document the data used and its sources. All data collected and used during the Discovery activities will be provided to the communities at the Discovery project close-out.

**Table 13: Data Collection for the Watershed.**

<b>Data Types / Description</b>	<b>Deliverable/Product</b>	<b>Source</b>
<b>Average Annualized Loss (AAL) Data</b>	Discovery Map Geodatabase	FEMA
<b>State, County, and Community Boundaries</b>	Discovery Map Geodatabase	AHTD / AGIO / LAGIC
<b>U.S. and State Congressional Staff and Boundaries</b>	Discovery Map Geodatabase and Supporting Documents	State of Arkansas / State of Louisiana / personal communications / AGIO
<b>Effective Flooding (National Flood Hazard Layer, effective geo-referenced non-modernized panels)</b>	Discovery Map Geodatabase and supporting digital dataset	FEMA / ANRC
<b>Topographic Data boundaries (available and in progress)</b>	Discovery Map Geodatabase and supporting digital dataset	FEMA / NRCS / USGS
<b>Wildlife Management Area boundaries</b>	Discovery Map Geodatabase	AGFC / U.S. Forest Service / U.S. Fish and Wildlife Service
<b>Watersheds (HUC-8 &amp; -12)</b>	Discovery Map Geodatabase	USGS NHD
<b>Census Blocks</b>	Discovery Map Geodatabase	U.S. Census Bureau
<b>Claims / Loss Data</b>	Discovery Map Geodatabase	FEMA
<b>Contacts</b>	Spreadsheet / Supporting Documents	Local Web Sites / State of Arkansas / ANRC / FEMA / personal communications
<b>Community Rating System (CRS)</b>	Discovery Report	FEMA's "Community Rating System Communities and Their Classes"
<b>CNMS Data</b>	Discovery Map Geodatabase	FEMA / AR CTP
<b>Levees</b>	Discovery Map Geodatabase	USACE / FEMA
<b>Dams</b>	Discovery Map Geodatabase	ANRC / AGIO / USACE
<b>Grant Locations</b>	Discovery Map Geodatabase, Supporting Documents	FEMA / ADEM / local planning & development districts
<b>Letters of Map Change (LOMC)</b>	Discovery Map Geodatabase	FEMA
<b>Stream Gages</b>	Discovery Map Geodatabase	USGS
<b>Structures / Bridges</b>	Discovery Map Geodatabase	FEMA / U.S. Census Bureau / AHTD / AGIO

**Table 13: Data Collection for the Watershed (continued).**

<b>Data Types / Description</b>	<b>Deliverable/Product</b>	<b>Source</b>
<b>Transportation Lines</b>	Discovery Map Geodatabase	AHTD / LaDOTD
<b>Disaster Declarations</b>	Supporting Documents	FEMA / ADEM
<b>HMPs and Mitigation Activities</b>	Supporting Documents (copies of HMPs not included)	FEMA / ADEM / ANRC / AR CTP / GOSHEP
<b>Imagery</b>	Supporting Documents	AGIO

**iii. Discovery Meeting**

As part of the process for the Bayou Bartholomew Watershed, Discovery meetings will be held at strategic locations in the Watershed on May 11<sup>th</sup>. Meeting times and locations are shown in Table 14. Each meeting will be customized to suit the stakeholders present and to allow interaction of the CTP and Project Team with the Discovery meeting attendees. The Discovery meetings are intended to provide the opportunity to learn about the Risk MAP Program, and discuss and document any concerns and mitigation interests for the Bayou Bartholomew Watershed.

**Table 14: Project Discovery Meeting Times and Locations.**

<b>Meeting</b>	<b>Date and Time</b>	<b>Location</b>
1	Wednesday May 11, 2016 9:00 – 11:00 AM	University of Arkansas at Monticello Gibson Center Senate Room 517 University Dr Monticello, AR 71655
2	Wednesday May 11, 2016 1:30 – 3:30 PM	Lincoln County Office of Emergency Management 203 Liberty Street Star City, AR 71667

The Discovery Meetings will be led by Mike Borengasser, ANRC CTP Coordinator, as well as various other Discovery Meeting personnel from ADEM and FTN. The Discovery Meetings included a brief introduction to the Risk MAP program and the initial results of the Discovery Activities. Community representatives and stakeholders were given the opportunity to collectively talk with the Hazard Mitigation Team (ADEM) and the Risk Identification Team (ANRC / FTN) to review past projects, discuss current projects, and evaluate project opportunities that are specific to mitigation actions. Base Level Engineering (BLE) analysis and mapping will be prepared for the watershed and will be discussed and provided to the communities. Important items for discussion may include some or all of the following at the respective meeting venues:

- Community Benefits and Grant Opportunities – Floodplain-related grants; risk, needs, and topographic availability; RL/SRL properties; Letters of map change (LOMCs); landuse changes over the last 5 years; and single claims.
- Mitigation Planning and Mitigation Activities – Mitigation plans, understanding Risk MAP and determining risk.
- NFIP Information – Effective FIRMs, Flood Insurance Study (FIS), and LOMCs.
- Risk Identification and Communication – Maps of risk/need/topographic availability, LOMCs, population density in the watershed, urban change in the watershed, estimated dollar exposure of parcels near SFHA areas, high-water marks, and low water crossings.
- Base Level Engineering (BLE) – Analysis and data review, usage, and applicability.

During Discovery, community representatives and stakeholders are encouraged to actively contribute information about concerns in the Watershed by identifying relevant locations on the large watershed map and then providing a short explanation on the comment form. Discovery allows attendees and the project team to work together to listen, discuss, and document any notable items for the watershed. Members of the Project Team (ANRC, ADEM, and FTN) will be available to answer questions and engage the attendees after the Discovery meeting. During each Discovery Meeting, the Project Team members will request that attendees provide any additional information within 30 days of the meeting.

Prior to the Discovery Meetings the Bayou Bartholomew Watershed Engagement Plan / Pre-Discovery Report will be distributed in hard copy to the community CEO's and will be made available to download at <http://www.riskmap6.com/> and <http://www.floodplain.ar.gov>.

Additional copies of the Bayou Bartholomew Watershed Discovery Report will be made available at the Discovery Meeting along with several large format watershed maps to be used for discussion and identifying areas of concern in the Watershed. Information collected from the communities will be compiled into a final Discovery Report.

**iv. Discovery Implementation (TO BE COMPLETED POST-DISCOVERY)**

The communities / organizations represented at the Discovery Meetings are included in Table 15 and the communities NOT represented at the Discovery Meetings are included in Table 16.

**Table 15: Communities and Organizations Represented at the Discovery Meetings.**

Community/Organization Represented		

**Table 16: Communities Not Represented at the Discovery Meetings.**

Community Not Represented	

**v. Data Gathering Overview**

Information about the Bayou Bartholomew Watershed was gathered prior to the Discovery Meetings and is documented in the preceding Table 13 Data Collection for the Watershed. The data collected in pre-discovery was obtained from FEMA or other public and/or national datasets.

Table 17 will be completed following the Discovery Meeting as part of the Final Bayou Bartholomew Watershed Discovery Report and will summarize the documentation collected at, and after, the Discovery Meeting specific to a flooding source and/or community area.

**Table 17: Data Collection Summary - During and After Discovery Meeting.**

<b>Information Provided By</b>	<b>Flooding Source</b>	<b>Discovery Workshop Comment Summary</b>

At the conclusion of the Discovery process all supporting information, data and files for the Final Discovery Report will be provided digitally in a directory structure comparable to the example provided below.

#### **08040205\BayouBartholomewWatershedDiscovery**

##### **\General**

- Discovery Metadata – XML
- Project Narrative - PDF

##### **\Correspondence**

##### **\Project\_Discovery\_Initiation**

- Pre-Discovery Newsletter
- Engagement / Pre-Discovery Report – Word/PDF

##### **\Discovery\_Meeting (to be completed after the Discovery Meeting)**

- Meeting Invitations – Word/PDF
- Meeting Attendance Records – PDF
- Risk MAP Action Survey
- Other

##### **\Post\_Discovery (to be completed after the Discovery Meeting)**

- Discovery Map(s) Final - PDF
- Discovery Report - Final - PDF

##### **\Spatial\_Files**

- BayouBartWatershed.gdb
  - Source Citations (L\_Sources)
  - Political Areas (DCS\_S\_Pol\_AR)
  - Transportation (DCS\_Trnsport\_Ln)
  - HUC-8 (DCS\_S\_HUC)
  - Discovery Map (DCS\_Discovery\_Map)
  - Claims data
  - Structures (bridges, dams)
  - Grant locations
  - Streams
  - Other supplemental data

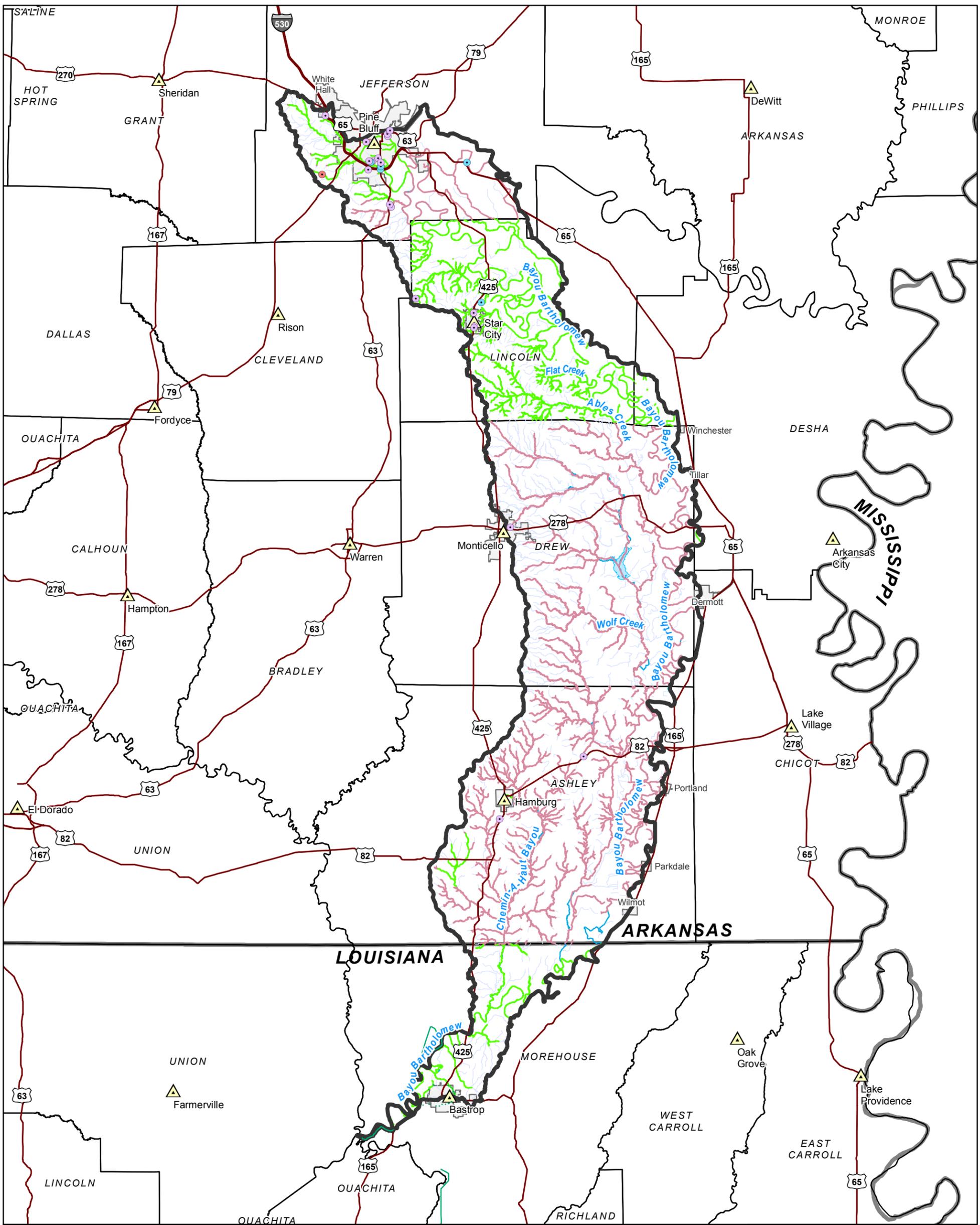
##### **\Supplemental\_Data**

- All other data collected during Discovery

### **III. Watershed Findings**

The NFIP claims reported have been identified as either within the SFHA or those outside of the SFHA, which are identified specifically as BCX Claims, claims that occur outside of the SFHA in Zones B, C, or X. In addition, there are also several locations of RL/SRL within the Bayou Bartholomew Watershed. Claims activity is generally concentrated in and around the population center of Pine Bluff. Figures 5 and 6 show the claims activity and the RL/SRL claims respectively.

Letters of Map Amendment (LOMA), Letters of Map Revisions (LOMRs), and Conditional LOMRs (CLOMR), referred to collectively as Letters of Map Change (LOMCs), are also distributed throughout the watershed, and again are concentrated in the same areas where claims have occurred. LOMCs are often an indicator that the SFHA mapping needs to be reviewed for accuracy. Please refer to Figure 12 for the location of these LOMCs.



**LETTER OF MAP CHANGE (LOMC) ACTIVITY**  
**BAYOU BARTHOLOMEW**  
 (HUC 08040205)



- |  |  |   |   |
|--|--|---|---|
| <ul style="list-style-type: none"> <li> County/Parish Seat</li> <li> Interstate</li> <li> U.S. Highway</li> <li> City Limits</li> <li> County/Parish Boundary</li> </ul> | <ul style="list-style-type: none"> <li> Major Reaches of Watershed</li> <li> Other Waters</li> <li> Large Waterbody</li> <li> Watershed</li> </ul> | <ul style="list-style-type: none"> <li> Letter of Map Amendment (LOMA) (20)</li> <li> Letter of Map Revision (LOMR) (0)</li> <li> LOMR - Fill (LOMR-F) (6)</li> <li> LOMR - Floodway (LOMR-FW) (1)</li> </ul> | <p><b>CNMS Validation Status</b></p> <ul style="list-style-type: none"> <li> Not Valid</li> <li> Requires Assessment</li> <li> Validated</li> </ul> |
|--|--|---|---|

**Project Location**

**FIGURE 12**

DATE: 4/22/2016

**i. CNMS Analysis**

A CNMS analysis is being performed along with the Discovery Meeting. This information will be populated as completed prior to the final Discovery report. Table 18 shows the detailed study streams in the Bayou Bartholomew Watershed that have failed one or more validation elements during the CNMS stream reach level validation process. The CNMS validation elements attempt to identify changes to the Physical Environment, Climate and Engineering Methodologies since the date of the Effective Analysis (different from the Effective issuance date). Per the CNMS validation process, the study is considered as having a need or assigned an “Unverified” status, if one of seven critical (C) elements fail, or if four or more of the ten (10) secondary (S) elements fail during stream reach level validation. The “unverified” status may also have been identified as a community identified need during the Scoping Process that was not able to be addressed during Map Mod or that was identified during the Map Modernization Project.

**Table 18: “Unverified” Detailed Streams per CNMS Analysis.**

Stream Name	City and/or County	Validation Status	Failed CNMS Elements
	In progress		

Table 19 provides a description of the validation elements that failed as identified in the CNMS database.

**Table 19: CNMS Category Descriptions.**

Element Name	Element Description	Issue being identified by the Element
	In progress	

## IV. Watershed Options (TO BE COMPLETED POST-DISCOVERY)

In conjunction with the assessment of risk, need, and the availability of topographic data, as well as the input of stakeholders within in this Watershed, future projects within the Bayou Bartholomew Watershed are recommended. Both FEMA and their CTP Partner, ANRC, look to promote mitigation action within the watershed. After internal and partner review of the communities within the watershed, the following are overarching opportunities have been identified to promote community action within the watershed.

Table 20 lists some potential needs in the Watershed and actions that could be taken under each of the areas discussed during the Discovery meetings, including:

- Risk Identification and Communication – traditional flood studies and data updates.
- NFIP Community Actions – insurance-related mitigation or information.
- Mitigation Planning and Mitigation Actions – items related to planning updates.
- Community Benefits and Grant Opportunities – discuss potential opportunities specific to property acquisition.

**Table 20: Potential Watershed Activities.**

<b>Risk Identification and Communication</b>
<b>NFIP Community Actions</b>
•
<b>Mitigation Planning and Mitigation Actions</b>
•
<b>Community Benefits and Grant Opportunities</b>
•

Table 21 provides specific evaluation guidelines for streams or areas that could benefit from additional study that were identified during Discovery. Any FEMA-based metrics that would be met if the need or issue was addressed is identified, as well as any current FEMA map actions that would affect the activity. Any comments or concerns raised by a stakeholder during the Discovery process that could be tied to one of the needs or actions for the Watershed are included. Some needs/actions may be listed that were not raised by any specific community but were identified as general improvements that could be made in the Bayou Bartholomew Watershed to meet general FEMA regional goals based on the information gathered during Pre-Discovery and Discovery.

Needs are identified as being on the critical path as high, medium, or low priority or as a task that could be assigned to a State or local community to complete. These definitions are also included in Table 21.

- **High** – The local community would immediately benefit from the action and FEMA’s metrics would also be met.
- **Medium** – The local community would benefit over the longer term from the action and a portion of FEMA’s metrics may be met.
- **Low** – The local community activities can continue without this revision and FEMA’s metrics are not affected.
- **Community Action** – The activity would be more appropriate as a community-led action rather than a FEMA-led action.
- **AOMI\_ID** – The Area of Mitigation Interest (AOMI) shapefile prepared for the Bayou Bartholomew provides the spatial location of the information collected and is provided in the Bayou Bartholomew Flood Risk Database developed in association with the Discovery Report.

Table 21: Metrics and Rankings of Need.

Priority	Description of Need				
	<u>Evaluation Guide</u>				
	<b>High</b> – Local community would immediately benefit from the action, and FEMA’s metrics would also be met.				
	<b>Medium</b> – Local community would benefit over the longer term from the action, and a portion of FEMA’s metrics may be met.				
	<b>Low</b> – Local community activities can continue without this revision, and FEMA’s metrics are not impacted.				
	Location of Need / Project	Details	Impacts From Any Current Map Actions	FEMA Metric or Community Benefit	Evaluation
1.					
2.					
3.					
4.					

Table 21: Metrics and Rankings of Needs (Cont’d).

	Location of Need / Project	Details	Impacts From Any Current Map Actions	FEMA Metric or Community Benefit	Evaluation
5.					
6.					
7.					

**Table 21: Metrics and Rankings of Needs (Cont'd).**

	<b>Location of Need / Project</b>	<b>Details</b>	<b>Impacts From Any Current Map Actions</b>	<b>FEMA Metric or Community Benefit</b>	<b>Evaluation</b>
8.					
9.					
10.					

**Table 21: Metrics and Rankings of Needs (Cont'd).**

	<b>Location of Need / Project</b>	<b>Details</b>	<b>Impacts From Any Current Map Actions</b>	<b>FEMA Metric or Community Benefit</b>	<b>Evaluation</b>
11.					
12.					

**i. Project Prioritization (TO BE COMPLETED POST-DISCOVERY)**

During the Discovery process, flood risk projects are intended to be initiated and cataloged at the HUC-8 level. This means that when a project is initiated, all flood hazards within the HUC-8 will be evaluated to determine the project scope within that HUC-8 boundary. Evaluation means that risk, need, available data, and desired output products are assessed for the entire HUC-8. Evaluation does not mean the actual development of new or updated flood risk products, only the assessment of what products would be required to fulfill the identified needs in light of the level of risk. Unmet needs will be cataloged in the Coordinated Needs Management Strategy Database (CNMS).

Once the entire HUC-8 has been evaluated, FEMA Region 6, using input and recommendation from the Bayou Bartholomew Watershed Project Team and specifically the ANRC, who is the CTP with FEMA, will select the project tasks necessary to respond to the identified levels of risk and need. The CTP and the Region are expected to maximize the amount and usefulness of project work to be performed in any HUC-8, but is not expected to perform every project task and meet all needs in every watershed.

As a result of the Discovery process projects may be identified as being high priority projects for consideration in the FY16 (2016-2017) FEMA grant cycle based on current / planned community projects and cost-sharing capabilities.