Engagement Plan / Pre-Discovery Report

Bayou Meto Watershed, HUC - 08020402

Arkansas, Faulkner, Jefferson, Lonoke, Prairie, Pulaski Counties, Arkansas

April 16, 2014

Project Area Community List

Community Name	CID
Arkansas County Communities	
Arkansas County Unincorporated Areas	050418
Gillett, City of	050325
Humphrey, City of	050108
Stuttgart, City of	050002
Faulkner County Communities	
Faulkner County Unincorporated Areas	050431
Jefferson County Communities	
Humphrey, City of	050108
Jefferson County Unincorporated Areas	050440
Lonoke County Communities	
Allport, Town of	050379
Cabot, City of	050309
Carlisle, City of	050312
Humnoke, City of	050258
Lonoke, City of	050341
Lonoke County Unincorporated Areas	050448
Prairie County Communities	
Prairie County Unincorporated Areas	050459
Pulaski County Communities	
Jacksonville, City of	050180
North Little Rock, City of	050182
Pulaski County Unincorporated Areas	050179
Sherwood, City of	050235

Table of Contents

Acronyms and Abbreviations iv
I. Discovery Overview 1
i. Watershed Selection 3
II. Discovery Efforts 25
i. Engagement / Pre-Discovery Report 25
ii. Pre-Discovery Data Collection 28
iii. Discovery Meeting 28
iv. Discovery Implementation (to be completed Post-Discovery) 30
v. Data Gathering Overview 31
III. Watershed Findings (Pre-Discovery) 33
i. CNMS Analysis 35
IV. Watershed Options (to be completed Post-Discovery) 36
i. Project Prioritization (to be completed Post-Discovery) 39

List of Tables

Table 1: NFIP Status of Project Area Communities 5
Table 2: Community FIRM Status 8
Table 3: Total NFIP Insurance Claims 11
Table 4: Repetitive or Severe Repetitive Loss within the Watershed 13
Table 5: Disaster Declarations in the Watershed 14
Table 6: Watershed Risk Factor Rankings 16
Table 7: NVUE Approximate Stream Mileage in the Watershed 17
Table 8: U.S. Congressionals 20
Table 9: State Congressionals 21
Table 10: CTP Bayou Meto Watershed Project Team 25
Table 11: FEMA History of Engagement 26
Table 12: Mitigation Plan Status 26
Table 13: Data Collection for the Watershed 28
Table 14: Project Discovery Meeting Times and Locations 29
Table 15: Communities and Organizations Represented at the Discovery Meetings 30
Table 16: Communities Not Represented at the Bayou Meto Discovery Meetings 30
Table 17: Data Collection Summary – Pre-Discovery Meeting 31
Table 18: Data Collection Summary - During and After Discovery Meeting 32
Table 19: “Unverified” Detailed Streams per CNMS Analysis 35
Table 20: CNMS Category Descriptions 36
Table 21: Potential Watershed Activities (to be completed Post-Discovery) 37
Table 22 Metrics and Rankings of Needs (to be completed Post-Discovery) 38

List of Figures

Figure 1: Watershed and Communities 2
Figure 2: Population Density in the Watershed.....7
Figure 3: Current Percent Urban Coverage.....9
Figure 4: Urban Changes 2006 - 2011.....10
Figure 5: Claims Activity.....12
Figure 6: Repetitive and Severe Repetitive Losses 15
Figure 7: Risk, Needs, and Topographic Data in Watershed.....19
Figure 8: U.S. Congressional Map 22
Figure 9: State House of Representative Map 23
Figure 10: State Senator Map 24
Figure 11: Grants Activity.....27
Figure 12: Letter of Map Changes (LOMCs) 34

Acronyms and Abbreviations

ADEM	Arkansas Department of Emergency Management
AGFC	Arkansas Game and Fish Commission
AGIO	Arkansas Geographic Information Office
AHTD	Arkansas Highway and Transportation Department
ANRC	Arkansas Natural Resources Commission
BFE	base (1-percent-annual-chance) flood elevation
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
DFIRM	Digital Flood Insurance Rate Map
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FPA	Floodplain Administrator
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	Hydrologic Unit Code for watershed unit with average size of 700 square miles
HUC-12	Hydrologic Unit Code for watershed unit with average size of 40 square miles
HWM	high water mark
LIDAR	Light Detection and Ranging System

Acronyms and Abbreviations (Cont'd)

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
NVUE	New Validated or Updated Engineering
Risk MAP	Risk Mapping, Assessment, and Planning
RL	Repetitive Loss
PMR	Physical Map Revision
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.

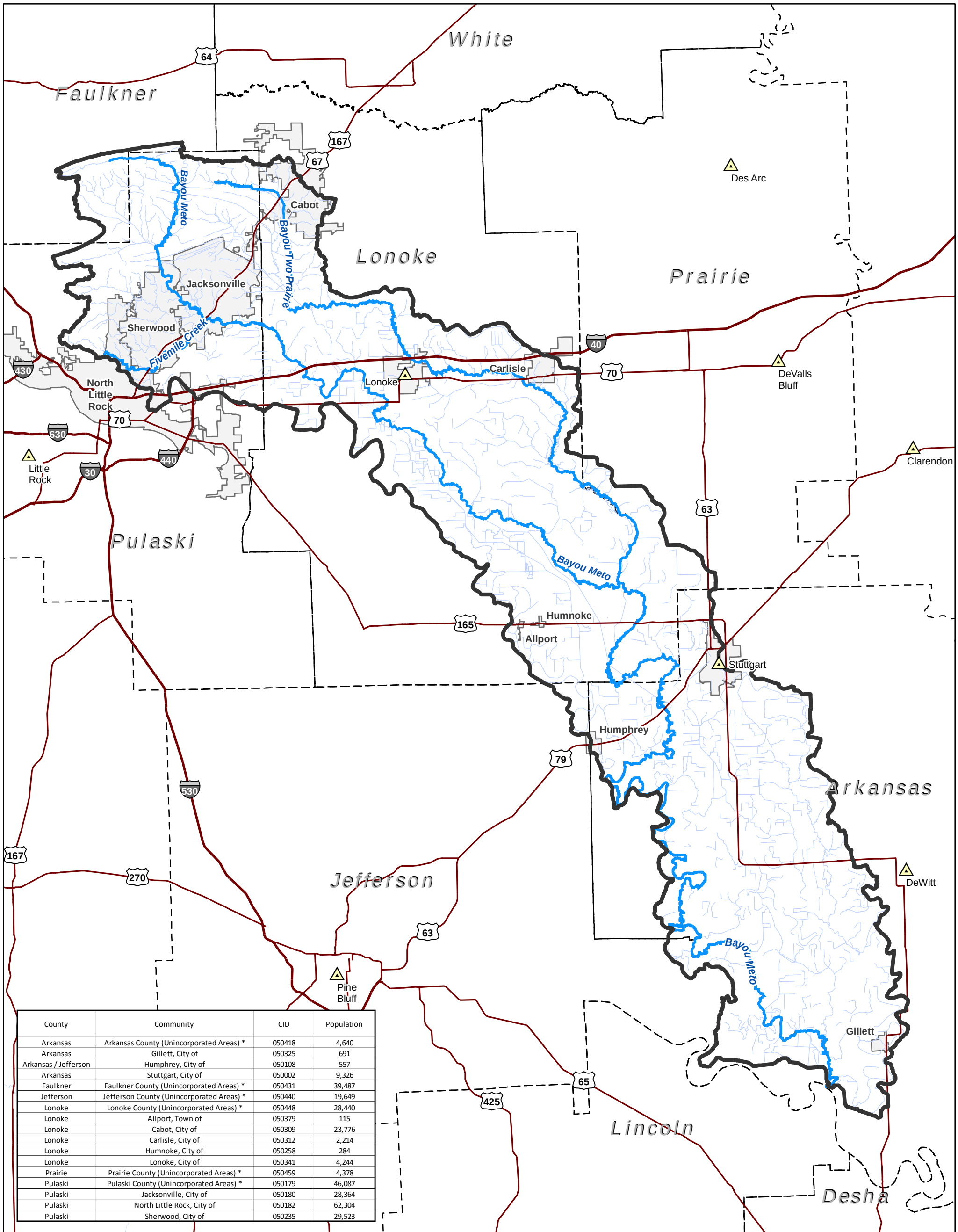
The vision and intent of the Risk MAP program is to, through collaboration with State and Local entities, deliver quality data that increases public awareness and leads to mitigation actions that reduce risk to life and property. To achieve this vision, FEMA has transformed its traditional flood identification 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) 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), along with AMEC Environment & Infrastructure (AMEC), began the Discovery process in the Bayou Meto Watershed in October 2013 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 in Figure 1, Watersheds and Communities Map.

Through the Discovery process, FEMA 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 2014, ANRC, as the State CTP, will hold Discovery Meetings in this watershed area. During Discovery, FEMA and the State reached 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	Community	CID	Population
Arkansas	Arkansas County (Unincorporated Areas) *	050418	4,640
Arkansas	Gillett, City of	050325	691
Arkansas / Jefferson	Humphrey, City of	050108	557
Arkansas	Stuttgart, City of	050002	9,326
Faulkner	Faulkner County (Unincorporated Areas) *	050431	39,487
Jefferson	Jefferson County (Unincorporated Areas) *	050440	19,649
Lonoke	Lonoke County (Unincorporated Areas) *	050448	28,440
Lonoke	Allport, Town of	050379	115
Lonoke	Cabot, City of	050309	23,776
Lonoke	Carlisle, City of	050312	2,214
Lonoke	Humnoke, City of	050258	284
Lonoke	Lonoke, City of	050341	4,244
Prairie	Prairie County (Unincorporated Areas) *	050459	4,378
Pulaski	Pulaski County (Unincorporated Areas) *	050179	46,087
Pulaski	Jacksonville, City of	050180	28,364
Pulaski	North Little Rock, City of	050182	62,304
Pulaski	Sherwood, City of	050235	29,523

WATERSHED AND COMMUNITIES MAP

BAYOU METO WATERSHED (HUC 08020402)

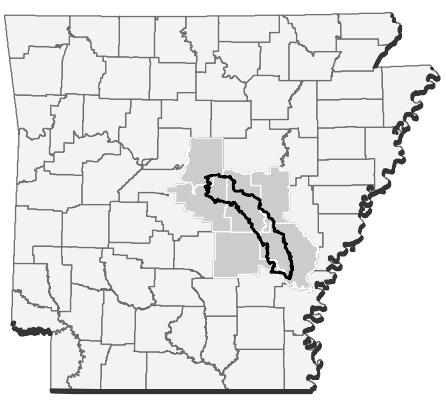
FEMA

0 5 10 Miles

N W E S

County Seat
US Highway
Interstate
Bayou Meto and Major Reaches
Other Waters
City Limits
Bayou Meto HUC 8

* Population includes all of unincorporated county



Project Location

FIGURE 1

DATE: 4/16/2014

S:\projects\03015-0005-005\gis\doc\map\Discovery_Maps\Bayou_Meto_Discovery_Figure_1.mxd

The results of the Discovery process will be presented in the Discovery Report, a watershed scale Discovery Map and the digital data that will be gathered or developed during the fiscal year 2013 CTP Agreement, EMT-2013-CA-0012, Mapping Activity Statement (MAS) 5, 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 10.1 Map Exchange Documents [MXDs]), or other supplemental digital 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 Meto Watershed (HUC 08020402) encompasses an area of approximately 1,002 square miles and extends across six counties (Arkansas, Faulkner, Jefferson, Lonoke, Prairie, and Pulaski) in the central portion of the State. Major communities include the cities of Jacksonville and Sherwood, and portions of Cabot and North Little Rock. Smaller communities include Allport, Carlisle, Gillett, Humnoke, Humphrey, Lonoke, and a portion of Stuttgart.

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

- Topographic data (LiDAR) is available throughout a majority of the watershed aiding in providing quality data.
- The communities of Sherwood, Jacksonville, Cabot, and unincorporated Pulaski and Lonoke counties experienced record flood events in recent years that have led to substantial losses and major highway and road closings, including Highway 67/167, a major artery in this watershed. These events have heightened the awareness in these communities to pool their resources to mitigate flood risks and update their flood maps.
- During past Map Modernization activities for Arkansas and Pulaski Counties, the following items were noted:
    - The scoping process revealed community requests for a restudy of Bayou Meto and various tributaries in Pulaski County, requests for restudies of multiple detailed mapping streams in the City of Stuttgart, and the addition of an unstudied stream in the City of Gillett.
    - For the streams in Pulaski County, a portion of these streams were restudied, but have not made it to the effective Flood Insurance Rate Maps (FIRMs) due to the ongoing levee certification issues.
    - A small number of tributaries were studied along the eastern border of Pulaski County. The tie-in between existing studies in Lonoke County and Pulaski County, do not coincide between the boundaries, which indicate the need for additional studies in Lonoke County.

- The cities of Sherwood and Jacksonville have expressed an interest and potential cost sharing opportunity.
    - The City of Sherwood is interested in performing mitigation activities along Jacksonville-Cato Road, adjacent to Kellogg Creek, as portions of this road are prone to frequent flooding, which isolates an existing subdivision from outside access.
    - The City of Jacksonville is interested in possibly upgrading the mapping along Bayou Meto Tributary 1 from Zone A to Zone AE.
- Due to the impacts to the State Highway system during recent flooding events and the fact that Bayou Meto is a navigable waterway under the USACE jurisdiction, additional state and federal partnerships with the AHTD and USACE may be possible.

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 Meto Watershed has elevation data for a majority of 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 a status update for each community's NFIP participation, Community Rating System (CRS) rating, and current FIRMs. All six (6) of the counties and all eleven (11) communities are participating in the NFIP. However, only one of the communities, the City of Jacksonville, is participating in CRS. Figure 1 shows the locations of all communities in the watershed.

Table 1: NFIP Status of Project Area Communities

County	Community Name	Community Identification Number (CID)	Participating Community?	CRS Rating
Arkansas	Arkansas County Unincorporated Areas[1]	050418	Yes	N/A
Arkansas	Gillett, City of	050325	Yes	N/A
Arkansas	Humphrey, City of [1,2]	050108	Yes	N/A
Arkansas	Stuttgart, City of[1]	050002	Yes	N/A
Faulkner	Faulkner County Unincorporated Areas[1]	050431	Yes	N/A
Jefferson	Jefferson County Unincorporated Areas[1]	050440	Yes	N/A
Jefferson	Humphrey, City of [1]	050108	Yes	N/A
Lonoke	Lonoke County Unincorporated Areas[1]	050448	Yes	N/A
Lonoke	Allport, Town of	050379	Yes	N/A
Lonoke	Cabot, City of[1]	050309	Yes	N/A
Lonoke	Carlisle, City of[1]	050312	Yes	N/A
Lonoke	Humnoke, City of	050258	Yes	N/A
Lonoke	Lonoke, City of	050341	Yes	N/A
Prairie	Prairie County Unincorporated Areas[1]	050459	Yes	N/A
Pulaski	Pulaski County Unincorporated Areas[1]	050179	Yes	N/A
Pulaski	Jacksonville, City of	050180	Yes	8
Pulaski	North Little Rock, City of[1]	050182	Yes	N/A
Pulaski	Sherwood, City of	050235	Yes	N/A

[1] Community is located within one or more HUC8 watersheds.
[2] Community is located in Arkansas and Jefferson Counties.

Drainage and Flooding

The primary river in the watershed is Bayou Meto. Bayou Meto has its origins in northern Pulaski County and southeastern Faulkner County. Bayou Meto is a slow-moving stream that originates northwest of the Little Rock Air Force Base and travels approximately 150 miles south and east before emptying into the Arkansas River a few miles southwest of Gillett, Arkansas. The Arkansas River ultimately joins the Mississippi River.

The Bayou Meto Watershed is predominantly a flat, low-lying area with numerous interconnected channels that is subject to routine flooding. In recent years, heavy rains in the headwaters of the watershed have caused flooding that has impacted numerous homes, streets, and businesses along the US Highway 67/167 corridor. Flood problems are present and have persisted for some time due to the nature of the watershed. The Bayou Meto Water Management Project was developed by the Bayou Meto Water Management District and the USACE to improve flooding in the lower portion of the watershed. Currently, the cities of Jacksonville, North Little Rock, and Sherwood and Pulaski County are managing their floodplains with non-modernized FIRMs dating back to 1985, 1990, 1995, and 2001 respectively. These communities have been impacted by ongoing levee issues within Pulaski County.

The Pulaski County and incorporated areas FIRMs are currently part of the Seclusion Process being implemented by FEMA Region 6. The Seclusion Process will allow the preliminary maps for all of Pulaski County to move toward final, with the exception of those areas affected by a non- or de-accredited levee. Those affected areas will retain their effective SFHAs in lieu of being updated. The currently preliminary Pulaski County FIRMs, including the Seclusion areas, are expected to become effective in early 2015.

There is one levee (Farelly Lake Levee District) in the southern portion of the watershed that shows to provide protection from the base flood on the Arkansas and Jefferson County FIRMs. Both the Jefferson and Arkansas County FIRM panels identify the area as a shaded Zone X, with a provisionally accredited levee note that indicates compliance is required by April 5, 2009 (Arkansas County Panel 05001C0275D, March 2, 2009 and Jefferson County Panel 05069C0375D, March 16, 2009).

Most of the counties within the watershed have had their FIRMs updated to a countywide and digital format through FEMA's Map Modernization (Map Mod) program, with the exception of Faulkner County and Prairie County, with Pulaski County in progress. Faulkner County does have a countywide FIRM and database, however, it was prepared prior to the Map Mod Program and is therefore not considered “fully modernized”.

Table 4 provides a status update for each community’s current FIRMs.

Population

The population in this watershed totals 138,690 people, based on the 2010 U.S Census. The cities of Sherwood, and Jacksonville are the highest population centers (populations: 29,523, and 28,364 respectively) located entirely within the watershed. There are portions of 11 populated areas inside this watershed.

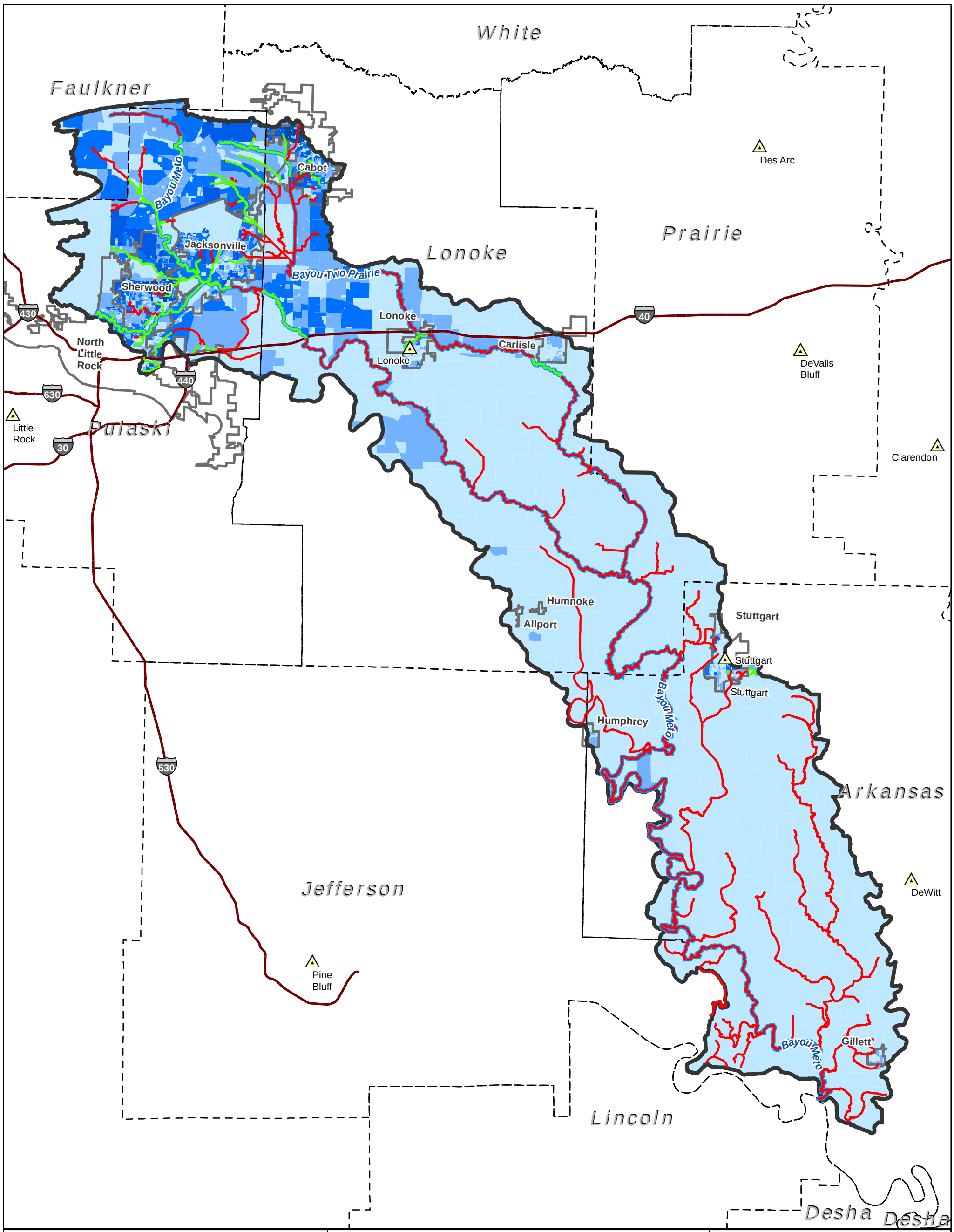
Figure 2 shows the population densities within the Bayou Meto Watershed based on 2010 U.S. Census' Census Block Data.

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 scale is 1-10, 1 being the highest and 10 being the lowest. The measured amount of risk (or risk decile) for the Bayou Meto Watershed is 3. Nationally, this HUC's risk decile rating ranks in the 26 – 50th percentile of all HUC-8s in the United States and in Region 6.

Landuse

The landuse of the Bayou Meto Watershed is predominantly rural land that is either forested or cropland. In the northernmost portion of the watershed are the primary population centers, including North Little Rock, Sherwood, Jacksonville, and Cabot, along the US Highway 67 / 167 corridor. These communities have seen fairly significant increases in development and population over the last 10 years. Along the I-40 corridor are smaller population centers in the communities of Lonoke and Carlisle. Outside of the northern portion of the Bayou Meto Watershed, the City of Stuttgart is the largest population center. The terrain ranges from gently rolling hills in the northwest to flat, low-lying areas in the southeast. Figure 3 identifies the relative percent urban cover for areas within the watershed from 2011, while Figure 4 shows the changes in the percent urban coverage that have occurred in the watershed from 2006 - 2011.



POPULATION DENSITY (2010)

BAYOU METO WATERSHED (HUC 08020402)

FEMA

0 5 10 Miles

N W E S

County Seat
Interstate
Bayou Meto and Major Reaches
City Limits
Project_Counties

CNMS Validation Status

Assessed
Unverified
Valid
Bayou Meto HUC 8

Population Density - 2010 Census

0 - 35
36 - 130
131 - 325
326 - 767
768 - 1801

Project Location

FIGURE 2

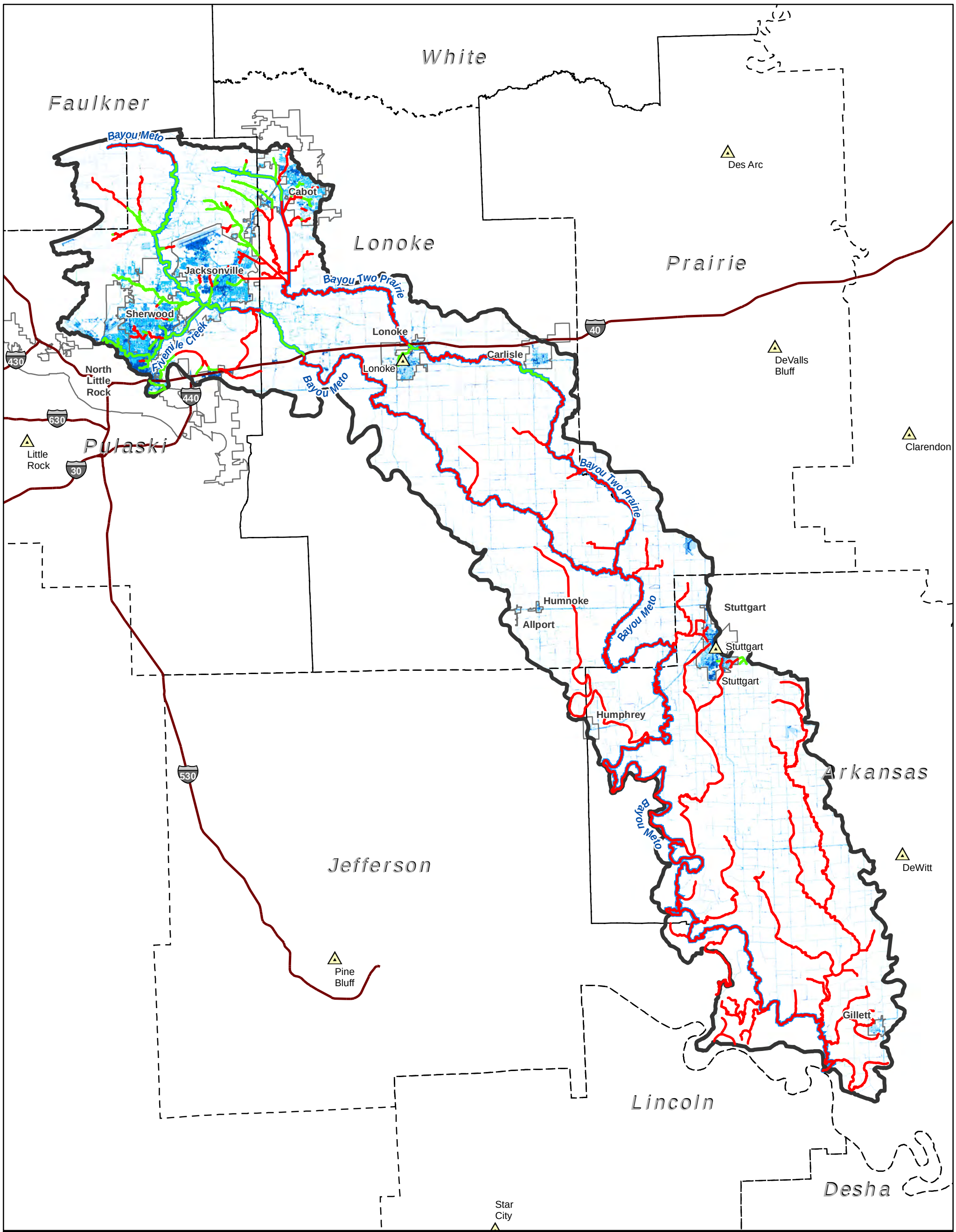
DATE: 4/16/2014

S:\projects\03015-0005-005\gis\doc\map\Discovery_Maps\Bayou_Meto_Discovery_Figure_2.mxd

Table 2: Community FIRM Status

County	Community Name	Community Identification Number (CID)	FIRM Date	FIRM Status
Arkansas	Arkansas County Unincorporated Areas	050418	3/2/2009	REVISED; Modernized Countywide
Arkansas	Gillett, City of	050325	3/2/2009	REVISED; Modernized Countywide
Arkansas	Humphrey, City of [1]	050108	3/2/2009	REVISED; Modernized Countywide
Arkansas	Stuttgart, City of	050002	3/2/2009	REVISED; Modernized Countywide
Faulkner	Faulkner County Unincorporated Areas	050431	12/19/2006	Countywide format but not considered a Modernized Countywide
Jefferson	Jefferson County Unincorporated Areas	050440	3/16/2009	REVISED; Modernized Countywide
Jefferson	Humphrey, City of [1]	050108	3/16/2009	REVISED; Modernized Countywide
Lonoke	Lonoke County Unincorporated Areas	050448	2/20/2008	REVISED; Modernized Countywide
Lonoke	Allport, Town of	050379	6/16/2006	REVISED; Modernized Countywide
Lonoke	Cabot, City of	050309	6/16/2006	REVISED; Modernized Countywide
Lonoke	Carlisle, City of	050312	6/16/2006	REVISED; Modernized Countywide
Lonoke	Humnoke, City of	050258	6/16/2006	REVISED; Modernized Countywide
Lonoke	Lonoke, City of	050341	6/16/2006	REVISED; Modernized Countywide
Prairie	Prairie County Unincorporated Areas	050459	10/15/1985	ALL ZONE A, X No Elevations; Not Modernized
Pulaski	Pulaski County Unincorporated Areas	050179	10/19/2001	REVISED; Preliminary, Modernized Countywide Maps Issued 09/21/2007; partial Revised Preliminary Maps issued 03/04/2009
Pulaski	Jacksonville, City of	050180	8/16/1995	REVISED; Preliminary, Modernized Countywide Maps Issued 09/21/2007
Pulaski	North Little Rock, City of	050182	9/5/1990	REVISED; Preliminary, Modernized Countywide Maps Issued 09/21/2007
Pulaski	Sherwood, City of	050235	8/16/1995	REVISED; Preliminary, Modernized Countywide Maps Issued 09/21/2007

[1] Community is located in Arkansas and Jefferson Counties.



PERCENT URBAN COVER (2011)

BAYOU METO WATERSHED (HUC 08020402)

FEMA

0 5 10 Miles

N W E S

County Seat
Interstate
Bayou Meto and Major Reaches
Bayou Meto HUC 8
City Limits

CNMS Validation Status
Unverified
Assessed
Valid
Project Counties

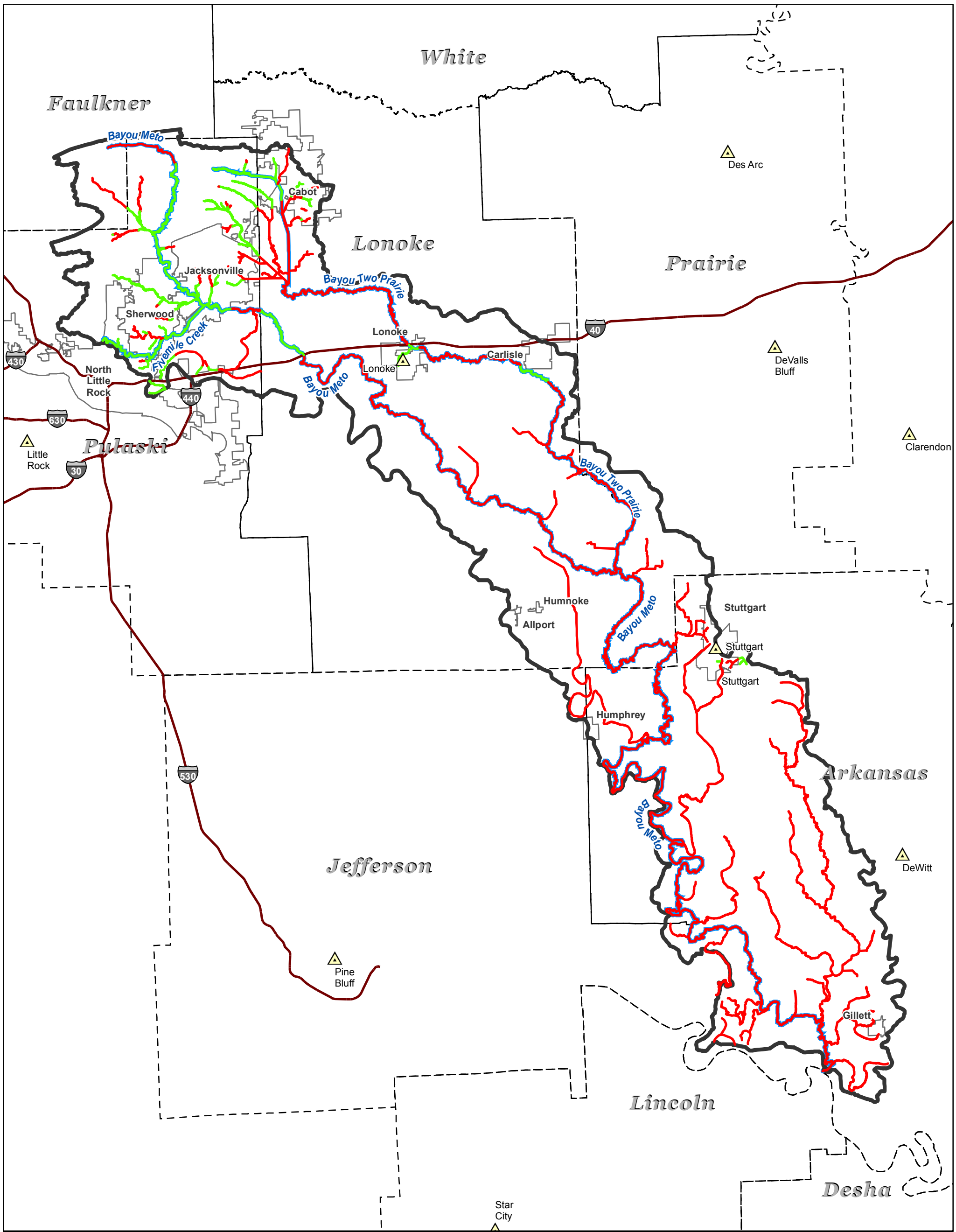
VALUE
1 - 25%
26 - 50%
51 - 75%
76 - 100%

Project Location

FIGURE 3

DATE: 4/16/2014

S:\projects\03015-0005-005\gis\doc\map\Discovery_Maps\Bayou_Meto_Discovery_Figure_3.mxd



URBAN CHANGES (2006 - 2011)

BAYOU METO WATERSHED (HUC 08020402)

FEMA

tn Associates Ltd.

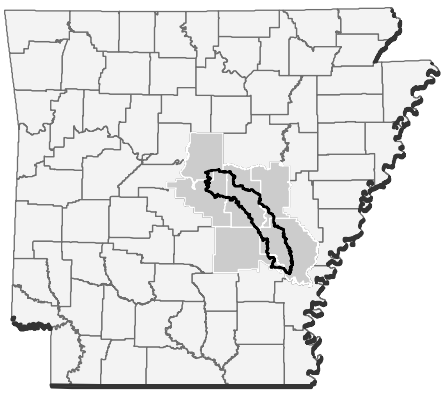
N W E S

0 5 10 Miles

County Seat
Interstate
Bayou Meto and Major Reaches
Bayou Meto HUC 8
City Limits

CNMS Validation Status
Unverified
Assessed
Valid
Project Counties

Urban Change (2006 - 2011)
Least
Most



Project Location

FIGURE 4

DATE: 4/16/2014

S:\projects\03015-0005-005\gis\doc\map\Discovery_Maps\Bayou_Meto_Discovery_Figure_4.mxd

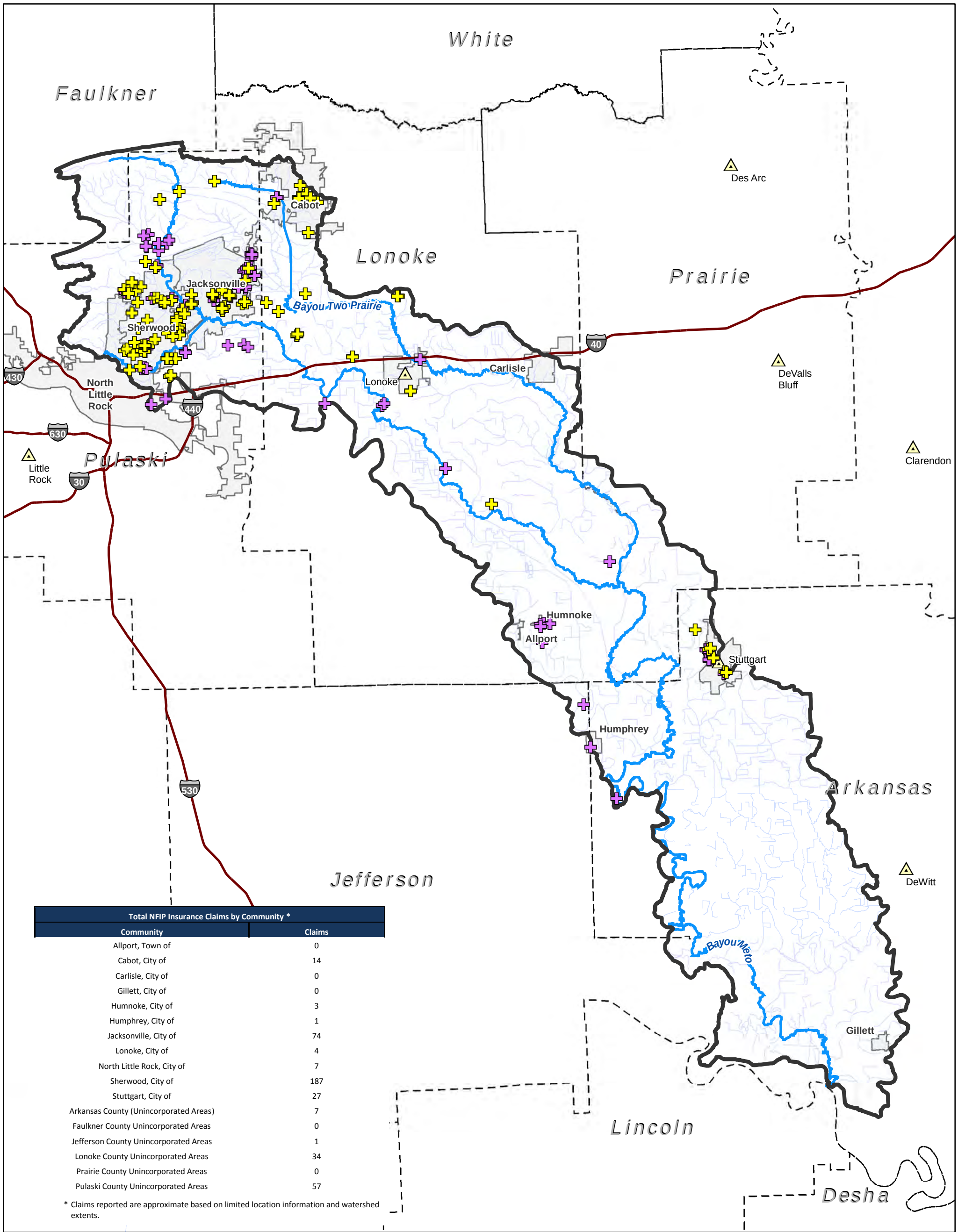
Insurance Claims

Table 3 lists the number of NFIP insurance claims for the communities that touch the Bayou Meto Watershed. Due to limitations on the physical locations of the claims data, the graphical locations were developed using street addresses, where available. All locations reported are approximate and are near and/or within the boundary of the Bayou Meto Watershed. Of the insurance claims easily identified within the watershed, the majority occur in the cities of Jacksonville and Sherwood. Figure 5 provides a graphical representation of the NFIP insurance claims activity within the Bayou Meto Watershed.

Table 3: Total NFIP Insurance Claims

Total NFIP Insurance Claims by Community *	
Community	**Claims**
Allport, Town of	0
Cabot, City of	14
Carlisle, City of	0
Gillett, City of	0
Humnoke, City of	3
Humphrey, City of	1
Jacksonville, City of	74
Lonoke, City of	4
North Little Rock, City of	7
Sherwood, City of	187
Stuttgart, City of	27
Arkansas County (Unincorporated Areas)	7
Faulkner County (Unincorporated Areas)	0
Jefferson County (Unincorporated Areas)	1
Lonoke County (Unincorporated Areas)	34
Prairie County (Unincorporated Areas)	0
Pulaski County (Unincorporated Areas)	57

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



Total NFIP Insurance Claims by Community *	
Community	Claims
Allport, Town of	0
Cabot, City of	14
Carlisle, City of	0
Gillett, City of	0
Humnoke, City of	3
Humphrey, City of	1
Jacksonville, City of	74
Lonoke, City of	4
North Little Rock, City of	7
Sherwood, City of	187
Stuttgart, City of	27
Arkansas County (Unincorporated Areas)	7
Faulkner County Unincorporated Areas	0
Jefferson County Unincorporated Areas	1
Lonoke County Unincorporated Areas	34
Prairie County Unincorporated Areas	0
Pulaski County Unincorporated Areas	57

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

CLAIMS ACTIVITY

BAYOU META WATERSHED

(HUC 08020402)

FEMA

N W E S

0 5 10 Miles

BCX Claims (Outside SFHA)

Claims (In SFHA)

County Seat

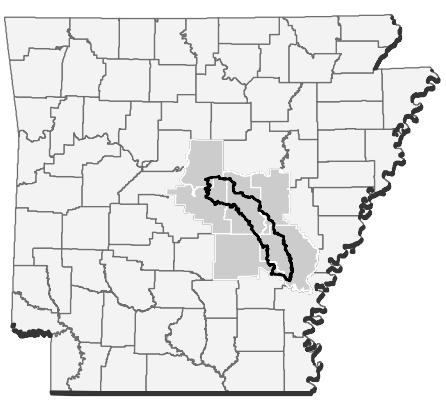
Interstate

Bayou Meto and Major Reaches

Other Waters

City Limits

Bayou Meto HUC 8



Project Location

FIGURE 5

DATE: 4/16/2014

S:\projects\03015-0005-005\gis\doc\map\Discovery_Maps\Bayou_Meto_Discovery_Figure_5.mxd

In addition to NFIP claims activity, there are several Repetitive Loss (RL) or Severe Repetitive Loss (SRL) properties within the Bayou Meto Watershed. The main concentration of these properties is in or around the cities of Jacksonville and Sherwood, as shown in Figure 6.

Table 4 summarizes RL and SRL claims by county and community within the Watershed. These losses are also displayed on Figure 6 and on theDiscovery Map, which will be available at the Discovery meeting and included in the supplemental digital data to be provided at the conclusion of the Discovery process.

Table 4: Repetitive or Severe Repetitive Loss within the Watershed

Repetitive Losses/Severe Repetitive Losses By Community *			
Community	**Number of Properties**	**Total Claims**	**Average Claim Per Property**
Allport, Town of	0	0	0
Cabot, City of	3	6	2
Carlisle, City of	0	0	0
Gillett, City of	0	0	0
Humnoke, City of	0	0	0
Humphrey, City of	0	0	0
Jacksonville, City of	12	28	2.3
Lonoke, City of	0	0	0
North Little Rock, City of	0	0	0
Sherwood, City of	33	80	2.4
Stuttgart, City of	2	4	2
Arkansas County (Unincorporated Areas)	2	6	3
Faulkner County (Unincorporated Areas)	0	0	0
Jefferson County (Unincorporated Areas)	0	0	0
Lonoke County (Unincorporated Areas)	9	22	2.4
Prairie County (Unincorporated Areas)	0	0	0
Pulaski County (Unincorporated Areas)	9	20	2.2

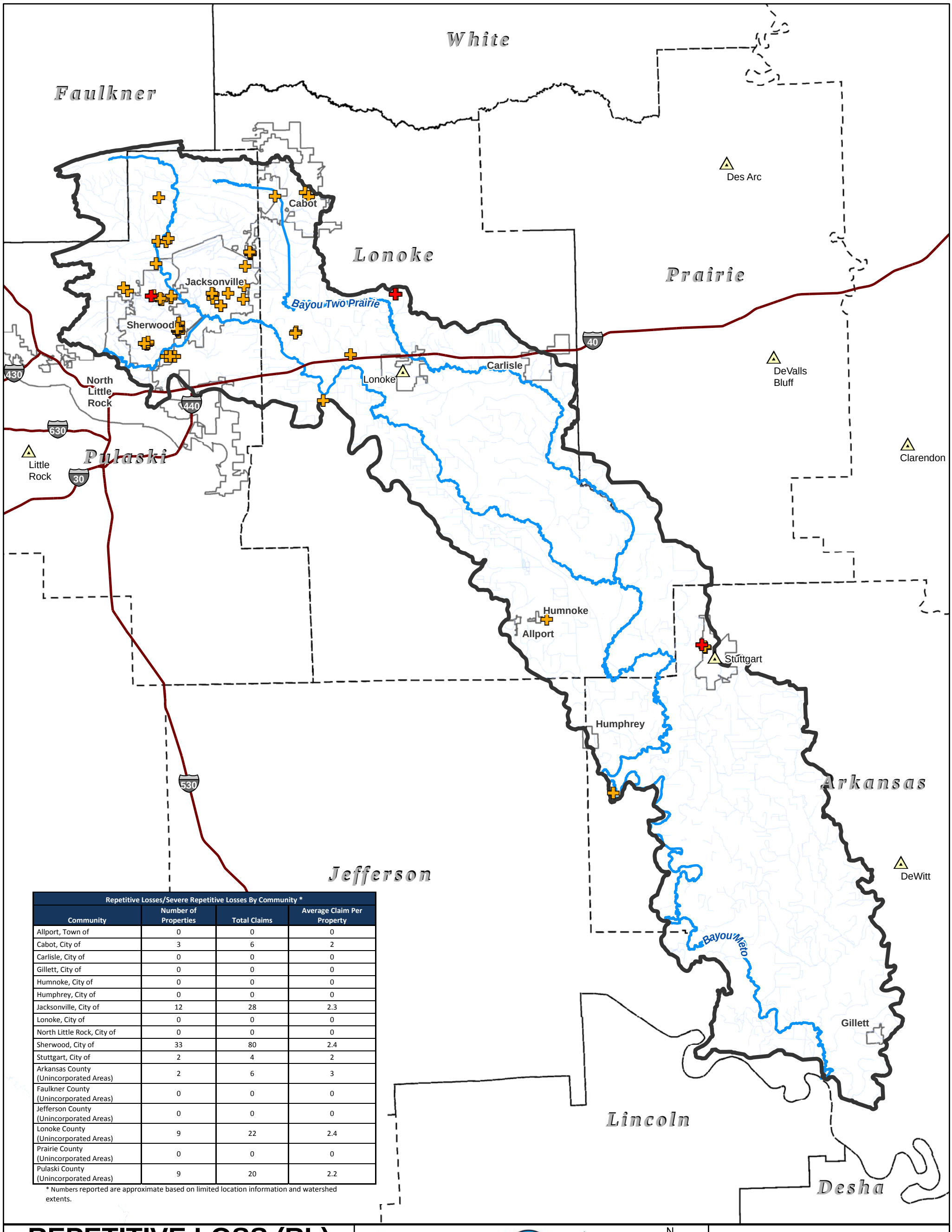
* Numbers reported are approximate based on limited location information and watershed extents.

The Bayou Meto Watershed has had a history of flooding as demonstrated by numerous presidential disaster declarations issued in the past. Table 5 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
Arkansas County	2	--	2	--	4
Faulkner County	3	--	1	3	5
Jefferson County	5	--	1	--	6
Lonoke County	3	--	2	4	7
Prairie County	3	--	2	4	7
Pulaski County	5	--	1	4	8

* Time period of 1965 - January 2014



Repetitive Losses/Severe Repetitive Losses By Community *			
Community	Number of Properties	Total Claims	Average Claim Per Property
Allport, Town of	0	0	0
Cabot, City of	3	6	2
Carlisle, City of	0	0	0
Gillett, City of	0	0	0
Humnoke, City of	0	0	0
Humphrey, City of	0	0	0
Jacksonville, City of	12	28	2.3
Lonoke, City of	0	0	0
North Little Rock, City of	0	0	0
Sherwood, City of	33	80	2.4
Stuttgart, City of	2	4	2
Arkansas County (Unincorporated Areas)	2	6	3
Faulkner County (Unincorporated Areas)	0	0	0
Jefferson County (Unincorporated Areas)	0	0	0
Lonoke County (Unincorporated Areas)	9	22	2.4
Prairie County (Unincorporated Areas)	0	0	0
Pulaski County (Unincorporated Areas)	9	20	2.2

* Numbers reported are approximate based on limited location information and watershed extents.

REPETITIVE LOSS (RL) AND SEVERE REPETITIVE LOSS (SRL) CLAIMS

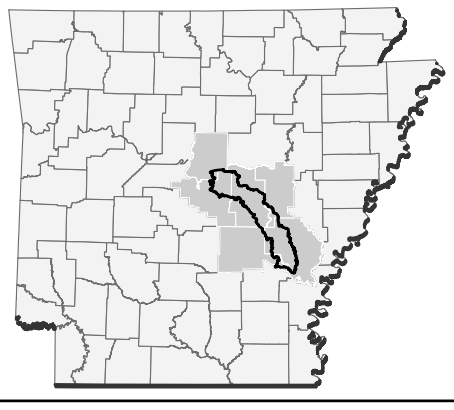
BAYOU METO WATERSHED (HUC 08020402)

FEMA

N W E S

0 5 10 Miles

- Severe Repetitive Loss
- Repetitive Loss
- County Seat
- Interstate
- Bayou Meto and Major Reaches
- Other Waters
- City Limits
- Bayou Meto HUC 8



Project Location

FIGURE 6

DATE: 4/15/2014

S:\projects\03015-0005-005\gis\doc\map\Discovery_Maps\Bayou_Meto_Discovery_Figure_6.mxd

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. 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. Table 6 lists the overall rankings of the Bayou Meto 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 was important in the selection of this watershed for a Discovery Project.

Table 6: Watershed Risk Factor Rankings

Bayou Meto Watershed Selection Rankings			
National Risk Factor Rank:	N/A	Region 6 Risk Factor Rank:	247
National Risk Decile:	3	Region 6 Risk Decile:	3
Average Annualized Loss:	$13,664,000	Average Annualized Loss:	$13,664,000
National Average Annualized Loss Rank:	N/A	Region 6 Average Annualized Loss Rank:	290
National Overall Rank:	583	Region 6 Overall Rank:	47

Topographic Data

Recent acquisitions of topographic data have been made in portions of the Bayou Meto Watershed. This data when combined with the Pulaski County GIS (PAgis) topographic data, creates a large area of usable topographic data. Topographic coverage totals are approximately 90 percent of the entire watershed. Areas that are noted to be lacking updated topographic information are in Faulkner County within the watershed. Only the USGS 10-meter DEM data is available for these missing areas and is not suitable for detailed study modeling and floodplain mapping.

Coordinated Needs Management Strategy

Significant streams in this watershed include the Bayou Meto, Bayou Two Prairie, Fivemile Creek, and Jacks Bayou. In addition to the significant streams, Fears Lake, Indianhead Lake, and Little Pecan Lake are just a few of the significant water resources within the watershed. The USGS provides a National Hydrologic Dataset (NHD) that can be used to identify stream miles that reflect drainage areas of one square mile 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 2,891 miles of streams in the Bayou Meto Watershed.

The Coordinated Needs Management Strategy (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 with an approximately one-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.

In addition to listing the miles of studied streams within a watershed, CNMS documents certain physiological, climatological, or engineering methodological factors 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 which are 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. CNMS stream mileage categorized as 'Requires Assessment' indicates further input is needed to determine their validity – often because they represent paper inventory or non-modernized studies. 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.

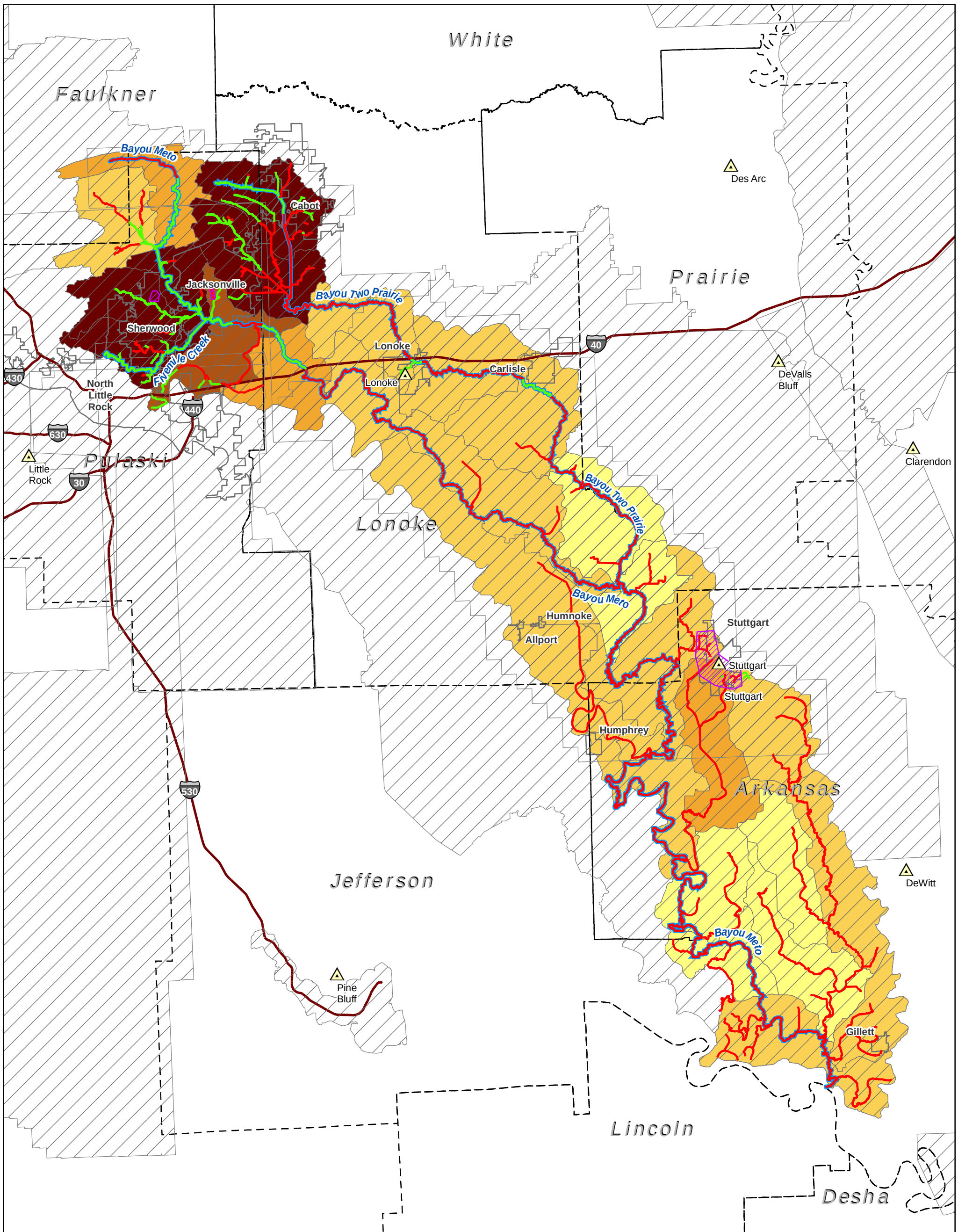
Table 7 compares the NHD data to the CNMS data and summarizes the Validated NVUE stream mileage from CNMS for the watershed.

Table 7: NVUE Approximate Stream Mileage in the Watershed

NVUE Validation	Stream Miles
NHD Streams (streams with a drainage area of greater than one square mile)	2,891.2
CNMS Streams (streams with effective SFHA)	653.7
Stream Miles not accounted for in CNMS	2,237.5
CNMS Valid Zone AE / AH	115.6
CNMS Valid Zone A	0
CNMS Unverified Zone AE / AH	18.5
CNMS Unverified Zone A	519.6
CNMS Zone AE / AH Requiring Further Assessment or in the process of being studied	0
CNMS Zone A Requiring Further Assessment	0
All Stream Miles not accounted for in CNMS as there are no effective SFHAs (sum of the below)	4.2
Stream Miles not accounted for in CNMS that would fall in land that *could be* developed	4.2
Stream Miles not accounted for in CNMS that would fall in land that *could not be* developed	0

Within the Bayou Meto watershed, and using these criteria from CNMS, approximately 519.6 miles of Zone A and 18.5 miles of Zone AE areas were identified as being "unverified" and candidates for updated analysis. Streams included in the unverified grouping include portions of Bayou Meto, Bayou Two Prairie, Ditch 7, 7A, and 7B, Ink Bayou, and Jacks Bayou. Additionally, no Zone A stream miles and approximately 115.6 miles of Zone AE in the watershed were characterized as being Valid and included in the NVUE metrics. The unverified Zone A stream miles are characterized as unverified is due to the absence of hydraulic model data or other analysis known to support the mapping.

Figure 7 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 resulted in the selection of Bayou Meto Watershed for a Discovery Project.



RISK, NEEDS, AND TOPOGRAPHIC DATA

BAYOU METO WATERSHED (HUC 08020402)

FEMA

0 5 10 Miles

N W E S

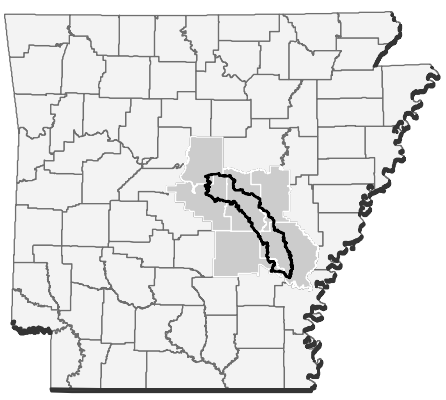
- County Seat
- Interstate
- Bayou Meto and Major Reaches
- Requested Study Areas
- LIDAR
- City Limits
- Project_Counties

CNMS Validation Status

- Assessed
- Unverified
- Valid

Density Risk Decile

- High
- Low



Project Location

FIGURE 7

DATE: 4/16/2014

S:\projects\03015-0005-005\gis\doc\map\Discovery_Maps\Bayou_Meto_Discovery_Figure_7.mxd

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 Meto Watershed, there are two U.S. Senators, two members from the U.S. House of Representatives, seven State Senators, and 13 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 Meto Watershed while Figures 8 - 10 provide a graphical summary of the U.S. and State Congressional district boundaries.

Currently, U.S. Senators Pryor and Boozman are active with regards to FEMA committees and policies. For example, 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. Additionally, Senator Pryor serves on the Homeland Security and Governmental Affairs Committee and has also helped draft a bill to "Protect Arkansas from FEMA Mistakes".

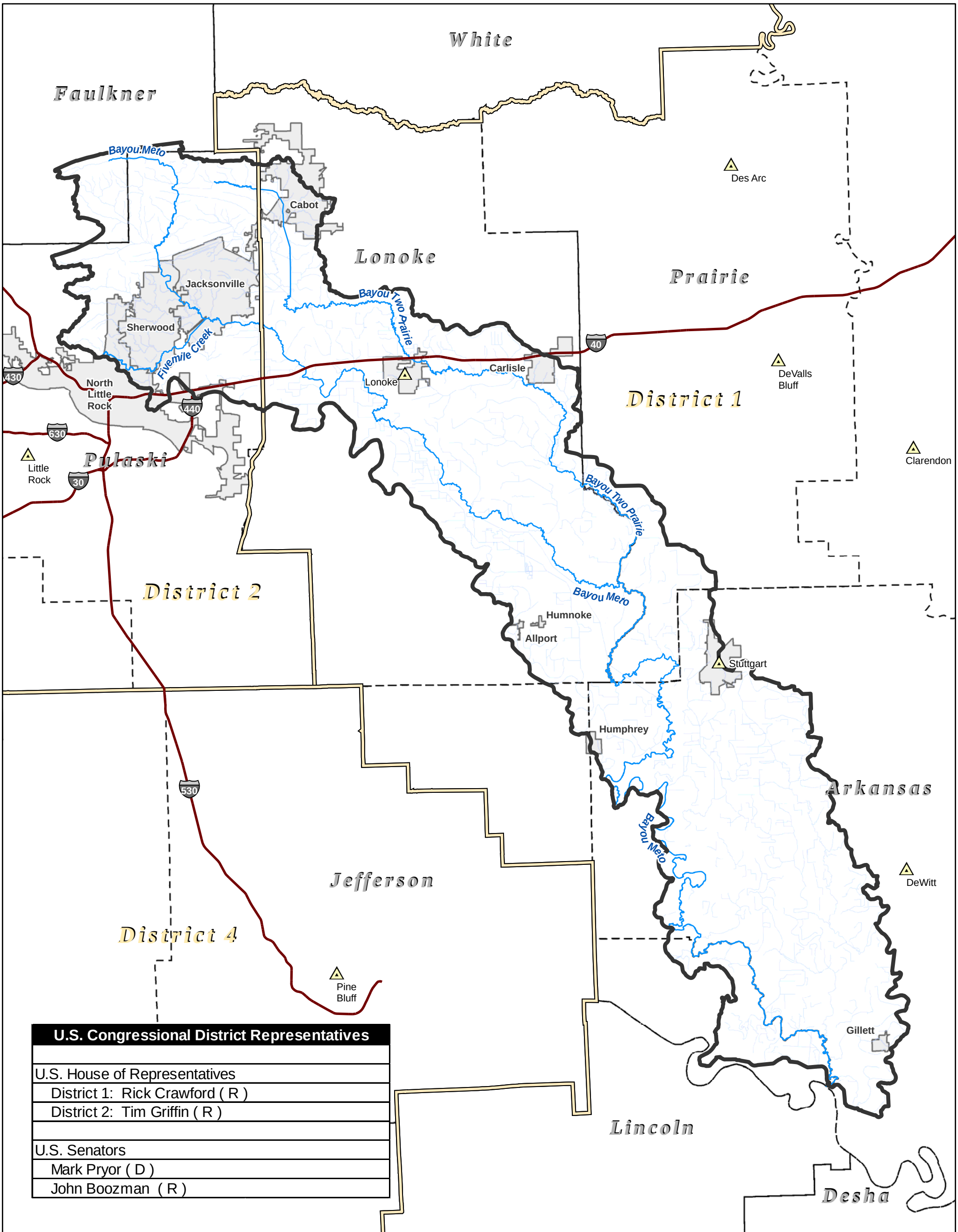
Table 8: U.S. Congressionals

U.S. Senators			
Name	**Address**	**Phone**	**Email**
Mark Pryor (D)	The River Market 500 Clinton Ave, Ste 401 Little Rock, AR 72201	(501) 326-6336	http://www.pryor.senate.gov/public/index.cfm?p=ContactMe
John Boozman (R)	1401 W. Capitol Ave. Plaza F Little Rock, AR 72201	(501) 372-7153	http://www.boozman.senate.gov/public/index.cfm/contact
U.S. Representatives			
Name	**Address**	**Phone**	**Email**
Rick Crawford (R) District 1	112 S. 1st Street, Cabot, AR 72023	(501) 843-3043	http://crawford.house.gov/contact/
Tim Griffin (R) District 2	1501 N. University, Ste 150 Little Rock, AR 72207	(501) 324-6029	https://griffin.house.gov/contact-me/email-me

Table 9: State Congressionals

State Senators [1]				
District	**Name**	**Address**	**Phone**	**Email**
15	David Sanders (R)	Room 320 State Capitol Little Rock, AR 72201	(501) 682-6107	davidjamessanders@gmail.com
25	Stephanie Flowers (D)	217 S. Main Street Pine Bluff, AR 71601	(870) 535-1032	stephanie.flowers@senate.ar.gov
28	Jonathan Dismang (R)	P.O. Box 475 Beebe, AR 72012	(501) 766-8220	dismang28@gmail.com
29	Eddie Joe Williams (R)	401 Cobblestone Drive Cabot, AR 72023	(501) 286-9366	EddieJoe.Williams@senate.ar.gov
30	Linda Chesterfield (D)	12 Keo Drive Little Rock, AR 72206	(501) 888-1859	lchesterfield@comcast.net
34	Jane English (R)	2401 Lakeview Road, L-1 North Little Rock, AR 72116	(501) 257-7670	jane.english@senate.ar.gov
35	Jason Rapert (R)	P.O. Box 10388 Conway, AR 72034	(501) 336-0918	Jason.Rapert@senate.ar.gov
State Representatives [1]				
District	**Name**	**Address**	**Phone**	**Email**
12	Chris Richey (D)	P.O. Box 2356 West Helena, AR 72390	(870) 995-2499	chris.richey@arkansashouse.org
13	David Hillman (D)	403 Essex Road Almyra, AR 72003	(870) 830-3004	dhillman@futura.net
14	Walls McCrary (D)	319 West Academy St Lonoke, AR 72086	(501) 676-2317	ewmccrary@sbcglobal.net
16	James L. Word (D)	6503 Little Dove Drive Pine Bluff, AR 71603	(870) 543-6391	jword@aaasea.org
37	Eddie L. Armstrong III (D)	P.O. Box 5323 North Little Rock, AR 72119	(501) 444-8468	earmstrong4rep@gmail.com
38	Patti Julian (D)	3711 Lockridge Road North Little Rock, AR 72116	(501) 771-2653	patti.julian@arkansashouse.org
39	Mark Lowery (R)	229 Summit Valley Circle Maumelle, AR 72113	(501) 837-5221	markdlowery@mac.com
40	Douglas House (R)	8923 Bridge Creek Road North Little Rock, AR 72120	(501) 590-1055	housedouglas@gmail.com
41	Jim Nickels (D)	P.O. Box 6564 Sherwood, AR 72124	(501) 833-2424	jim.nickels@arkansashouse.org
42	Mark W. Perry (D)	P.O Box 97 Jacksonville, AR 72078	(501) 982-4561	mperry@windstream.net
43	Davy Carter (R)	P.O. Box 628 Cabot, AR 72023	(501) 682-7771	davy.carter@arkansashouse.org
44	Joe Farrer (R)	199 Lewisburg Road Austin, AR 72007	(501) 743-6855	jfarrer@suddenlink.net
67	Stephen Meeks (R)	552 Highway 225 E Greenbrier, AR 72058	(501) 314-9250	Stephen.Meeks@arkansashouse.org

[1] State Congressionals listed in numerical order by District Served.



U.S. Congressional District Representatives
U.S. House of Representatives
District 1: Rick Crawford (R)
District 2: Tim Griffin (R)
U.S. Senators
Mark Pryor (D)
John Boozman (R)

U.S. CONGRESSIONAL MAP

BAYOU METO WATERSHED (HUC 08020402)

FEMA

0 5 10 Miles

N W E S

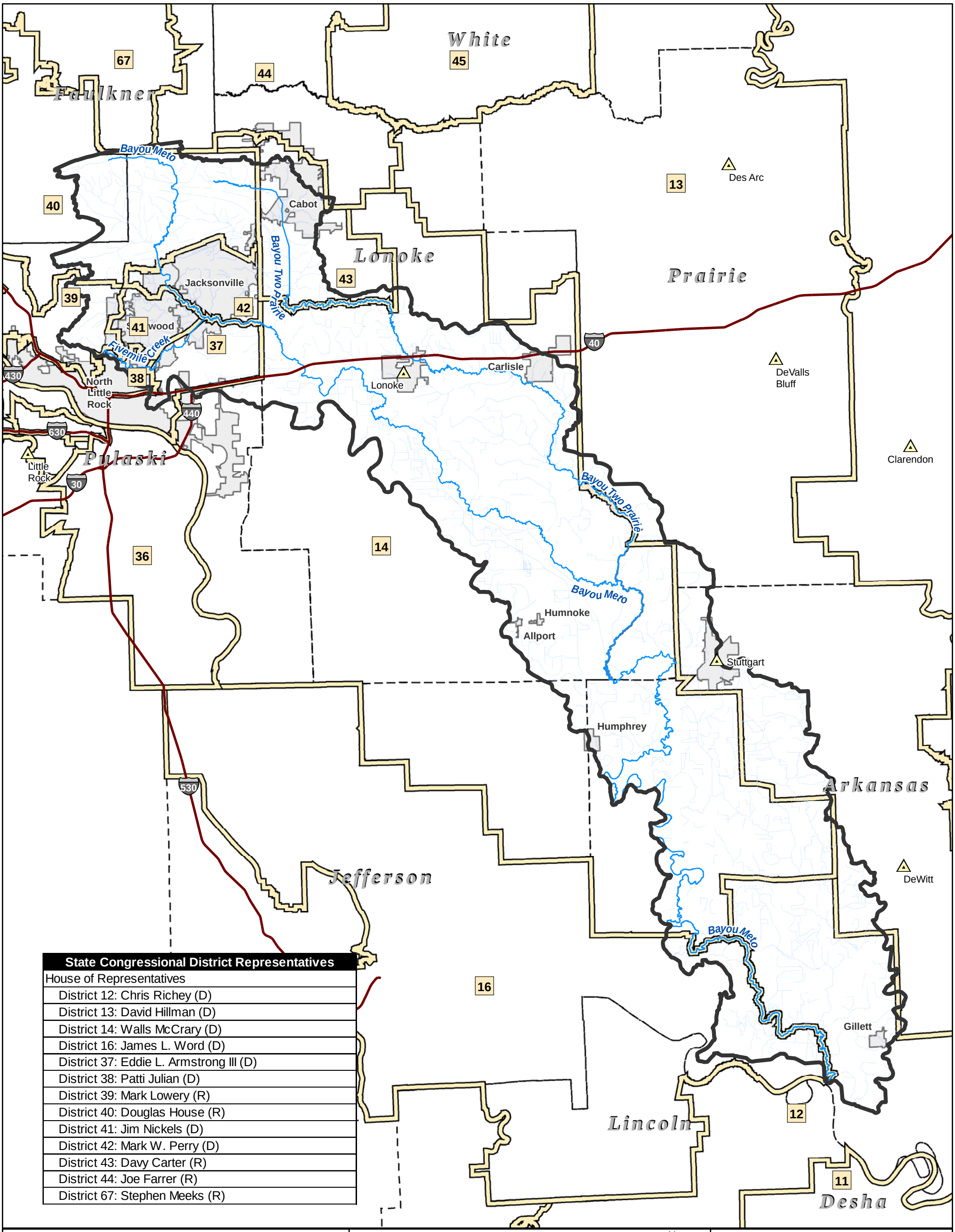
County Seat
Interstate
Bayou Meto and Major Reaches
Bayou Meto HUC 8
Congressional District Boundaries
City Limits
Project_Counties

Project Location

FIGURE 8

DATE: 4/15/2014

S:\projects\03015-0005-005\gis\doc\map\Discovery_Maps\Bayou_Meto_Discovery_Figure_8.mxd



State Congressional District Representatives
House of Representatives
District 12: Chris Richey (D)
District 13: David Hillman (D)
District 14: Walls McCrary (D)
District 16: James L. Word (D)
District 37: Eddie L. Armstrong III (D)
District 38: Patti Julian (D)
District 39: Mark Lowery (R)
District 40: Douglas House (R)
District 41: Jim Nickels (D)
District 42: Mark W. Perry (D)
District 43: Davy Carter (R)
District 44: Joe Farrer (R)
District 67: Stephen Meeks (R)

STATE HOUSE OF REPRESENTATIVES MAP

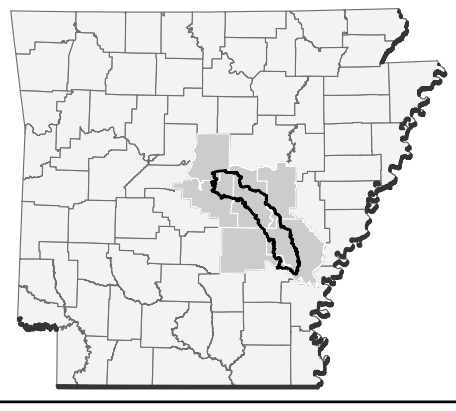
BAYOU METO WATERSHED (HUC 08020402)

FEMA

N W E S

0 5 10 Miles

- County Seat
- Interstate
- Bayou Meto and Major Reaches
- Bayou Meto HUC 8
- City Limits
- Project Counties
- State House District Boundaries

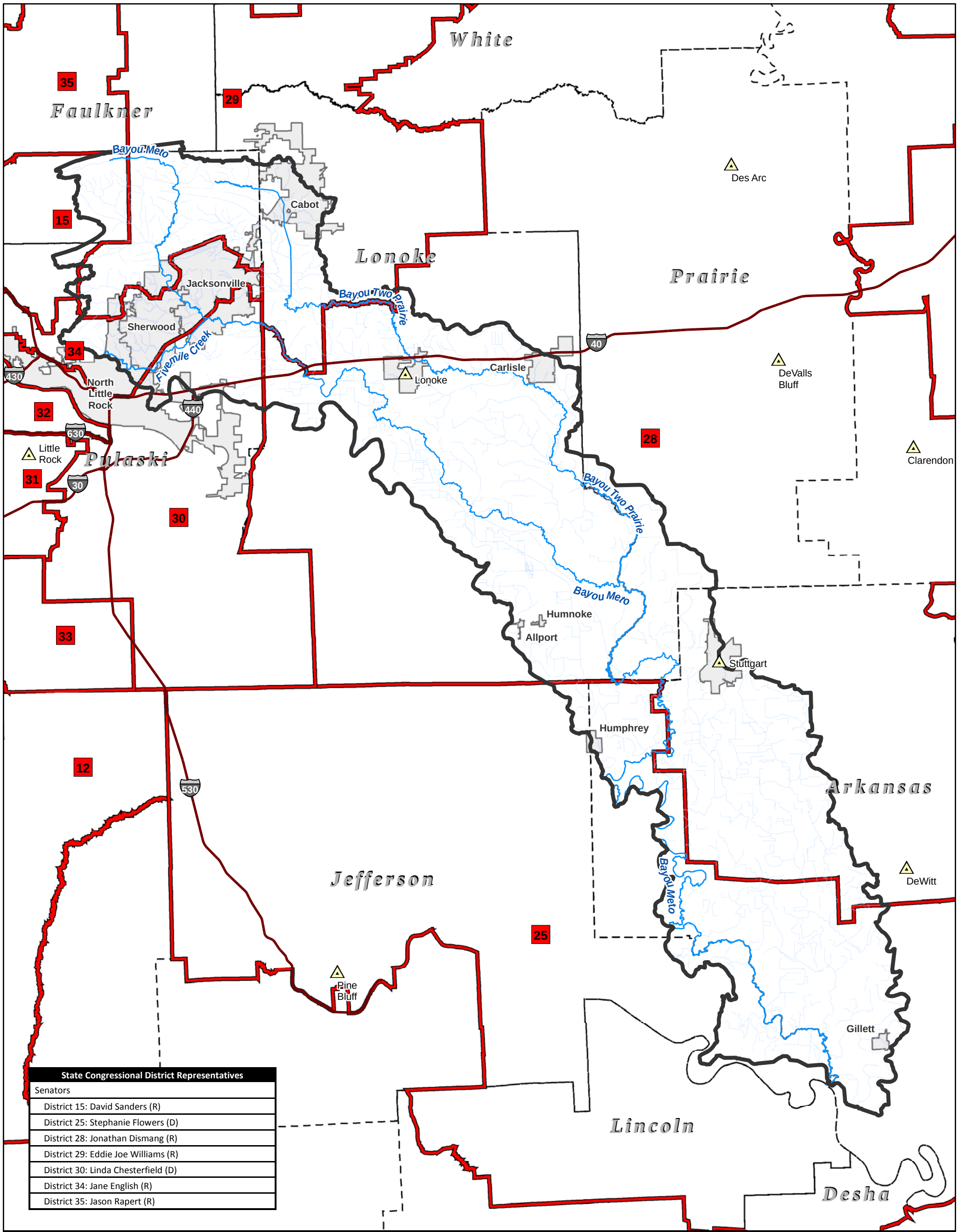


Project Location

FIGURE 9

DATE: 4/15/2014

S:\projects\03015-0005-005\gis\doc\map\Discovery_Maps\Bayou_Meto_Discovery_Figure_9.mxd



State Congressional District Representatives
Senators
District 15: David Sanders (R)
District 25: Stephanie Flowers (D)
District 28: Jonathan Dismang (R)
District 29: Eddie Joe Williams (R)
District 30: Linda Chesterfield (D)
District 34: Jane English (R)
District 35: Jason Rapert (R)

STATE SENATOR MAP

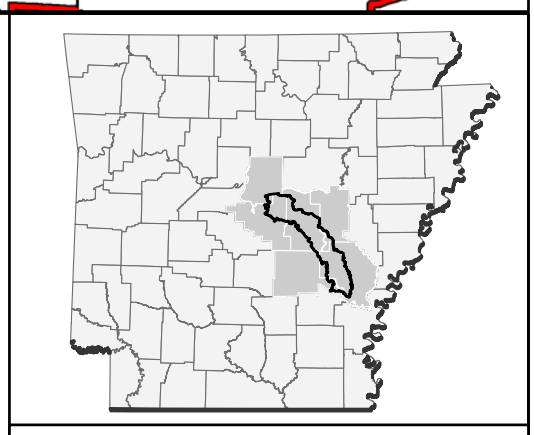
BAYOU METO WATERSHED (HUC 08020402)

FEMA

0 5 10 Miles

N W E S

County Seat
Interstate
Bayou Meto and Major Reaches
Bayou Meto HUC 8
City Limits
Project Counties
State Senate District Boundaries



Project Location

FIGURE 10

DATE: 4/15/2014

S:\projects\03015-0005-005\gis\doc\map\Discovery_Maps\Bayou_Meto_Discovery_Figure_10.mxd

II. Discovery Efforts

i. Engagement / Pre-Discovery Report

Pre-Discovery Community Engagement

The CTP Project Team, Table 10, 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 meeting, 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 Meto Watershed. A detailed list of Communities, local officials, federal, state and regional agencies that were invited to participate in the Discovery Process is included with the supplemental digital data accompanying this report.

Table 10: CTP Bayou Meto Watershed Project Team

Name	Organization	Project Role
Michael Borengasser	State of Arkansas / ANRC	CTP Coordinator / Project Manager / State NFIP Coordinator
Nancy Gambill	State of Arkansas / ANRC	CTP Program Manager / Supervisor – Dam Safety & Floodplain Mgmt
Matthew DuBois	FEMA Region 6	Project Monitor – FEMA Engineering And Mapping Lead
Linda Johnson	FTN	CTP Contractor / Program Manager
MaryBeth Breed	FTN	CTP Contractor / Project Manager
Lee Beshoner	FTN	CTP Contractor
Stephen Noe	AMEC	CTP Sub-Contractor
Alicia Williams	AMEC	CTP Sub-Contractor
Lacye Blake	State of Arkansas / ADEM	State Hazard Mitigation Officer

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

includes discussions with other state and federal agencies about potential partnership opportunities, as well as enlisting their help in identifying flood risk throughout the watershed.
FEMA's activity with the communities in the Bayou Meto Watershed is summarized in Table 11, FEMA History of Engagement and Table 12, Mitigation Plan Status.

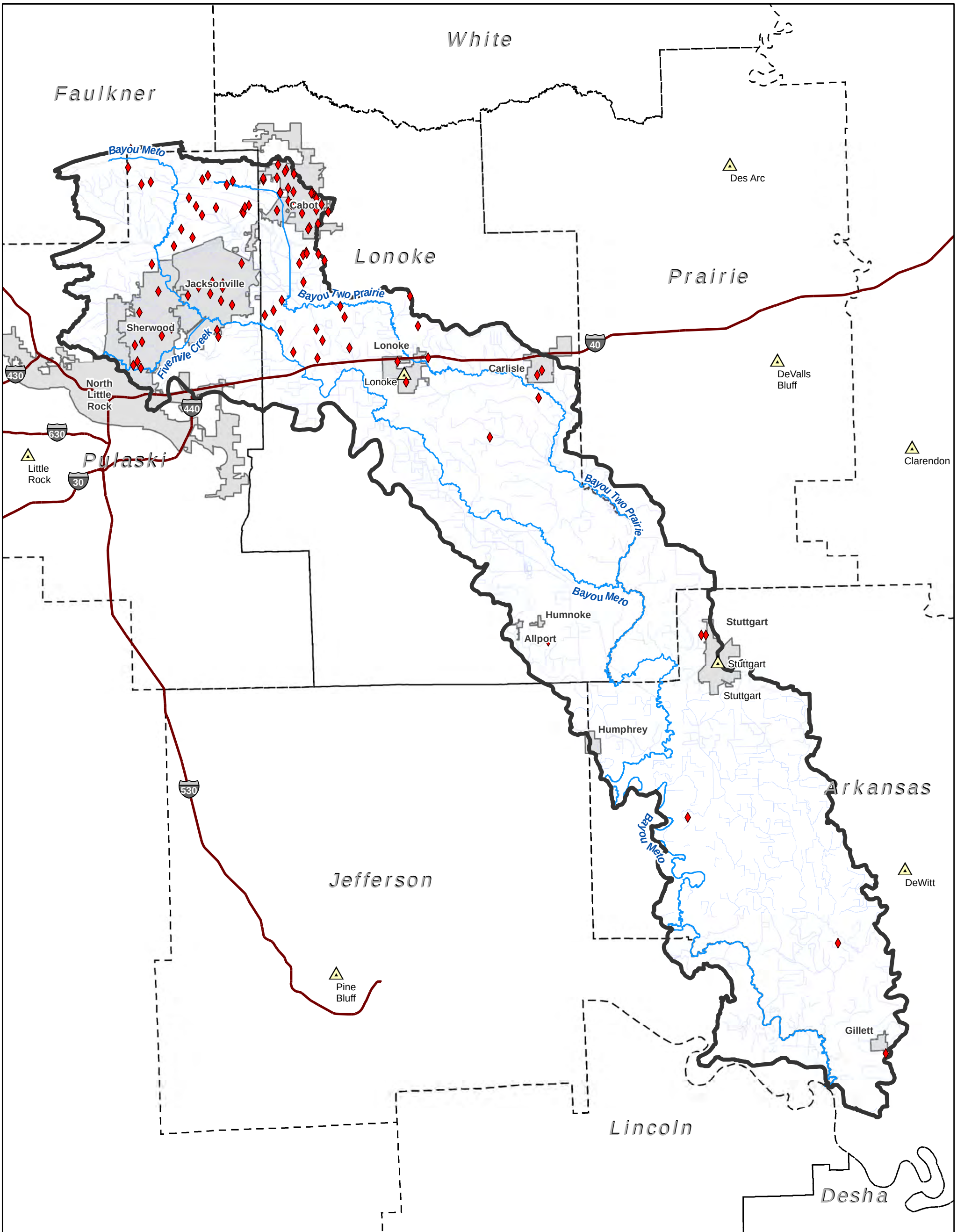
Table 11: FEMA History of Engagement

Community Name	Type of Engagement	Date	Agency	Comments
Arkansas County and Incorporated Areas	Map Modernization	March 2009	FEMA	Provisionally accredited levee expired April 2009
Faulkner County and Incorporated Areas	Map Modernization (partial)	December 2006	FEMA	Considered "non-modernized" FIRMs
Jefferson County and Incorporated Areas	Map Modernization	March 2009	FEMA	Provisionally accredited levee expired April 2009
Lonoke County and Incorporated Areas	Map Modernization	February 2008	FEMA	
Pulaski County and Incorporated Areas	Map Modernization (Preliminary Maps)	Ongoing	FEMA	Undergoing Region 6 Seclusion Process
Arkansas, Lonoke, and Prairie Counties	LIDAR	April 2010	NRCS	
Lonoke County	LIDAR	December 2011	FEMA / USGS	
Pulaski County	LIDAR	2010 -2011	PAgis / FEMA	

Table 12: Mitigation Plan Status

Community Name	Hazard Mitigation Plan Name:	Plan Status:	Plan Expires
Arkansas County	NA	Under Development	3/2/2013
Faulkner County	NA	Active (Expiring)	4/28/2014
Jefferson County	NA	Under Development	9/13/2011
Lonoke County	NA	Active (Expired)	4/9/2014
Prairie County	NA	Active (Expiring)	4/28/2014
Pulaski County (Cities of Little Rock & North Little Rock, previously separate plans)	NA	Pending Approval (FEMA)	7/31/2011

The CTP Project Team will discuss and encourage the counties that attend the Discovery Meetings to initiate the process for updating their Hazard Mitigation Plans (HMPs) if they are not already under development. Representative(s) from ADEM will also be 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 Bayou Meto Watershed. There may be additional grants being pursued at both the state and local level within the watershed that have not been identified. The information available to date indicates grants for Safe Rooms are the only grant activities within the watershed.



GRANT ACTIVITY

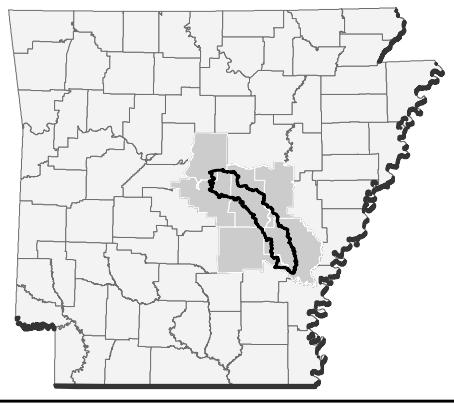
BAYOU METO WATERSHED
(HUC 08020402)

FEMA

0 5 10 Miles

N W E S

- HMGP Grants (Safe Rooms)
- Mitigation Grants
- Public Assistance Grants
- County Seat
- Interstate
- Bayou Meto and Major Reaches
- Bayou Meto HUC 8
- City Limits
- Project_Counties



Project Location

FIGURE 11

DATE: 4/7/2014

S:\projects\03015-0005-005\gis\doc\map\Discovery_Maps\Bayou_Meto_Discovery_Figure_11.mxd

ii. Pre-Discovery Data Collection

For the Bayou Meto Watershed's 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.

Table 13: Data Collection for the Watershed

Data Types	Deliverable/Product	Source
Average Annualized Loss Data	Discovery Map Geodatabase	FEMA
Areas of Concern	Discovery Map Geodatabase	FTN
Boundaries: Community	Discovery Map Geodatabase	AHTD
Boundaries: Congressionals	Discovery Map Geodatabase	AGIO
Boundaries: County and State	Discovery Map Geodatabase	AHTD
Boundaries: Effective Flooding	Discovery Map Geodatabase	FEMA
Boundaries: Topographic Data	Discovery Map Geodatabase	FEMA / AGIO
Boundaries: Wildlife Management Areas	Discovery Map Geodatabase	AGFC / USDA Forestry Service
Boundaries: Watersheds	Discovery Map Geodatabase	USGS NHD
Census Blocks	Discovery Map Geodatabase	U.S. Census Bureau
Claims / Loss Data	Discovery Map Geodatabase	ADEM / ANRC
Contacts	Spreadsheet	Local Web Sites State/FEMA Updates
Community Rating System (CRS)	Discovery Report	FEMA's "Community Rating System Communities and Their Classes"
CNMS Data	Discovery Map Geodatabase	FEMA / FTN
Dams and Levees	Discovery Map Geodatabase	USACE / ANRC
Grant Locations	Discovery Map Geodatabase	ADEM
Letters of Map Change	Discovery Map Geodatabase	FEMA
Stream Gages	Discovery Map Geodatabase	USGS
Structures / Bridges	Discovery Map Geodatabase	FEMA / U.S. Census Bureau
State House/Senate Districts	Discovery Map Geodatabase	State of Arkansas
U.S. House Districts	Discovery Map Geodatabase	U.S. Census Bureau
Transportation Lines	Discovery Map Geodatabase	U.S. Census Bureau / ESRI /AGIO

iii. Discovery Meeting

As part of the process for the Bayou Meto Watershed, Discovery meetings will be held at strategic locations in the Watershed on May 6, 2014. 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 will provide an opportunity to learn about the Risk MAP Program, and discuss and document any concerns and mitigation interests for the Bayou Meto Watershed.

Table 14: Project Discovery Meeting Times and Locations

Meeting	Date and Time	Location
1	Tuesday May 6, 2014 9:00 – 11:00 AM	Jacksonville Community Center 5 Municipal Drive Jacksonville, AR 72076
2	Tuesday May 6, 2014 2:00 – 4:00 PM	Arkansas County Courthouse Annex 312 South College Stuttgart, AR 72160

The Discovery Meeting will be led by Mike Borengasser, ANRC CTP Coordinator, as well as various other Discovery Meeting personnel from ADEM and FTN. The Discovery Meeting may include a brief introduction to the Risk MAP program and the intended results of the Discovery Activities. Community representatives and stakeholders will have the opportunity to collectively talk with our Hazard Mitigation Team (ADEM) and our Risk Identification Team (ANRC / FTN / AMEC) to review past projects, discuss current projects, and evaluate project opportunities that were specific to mitigation actions. Important items for discussion may include some or all of the following:

- Community Benefits and Grant Opportunities – Floodplain-related grants; risk, needs and topographic availability; RL/SRL properties; letters of map change (LOMCs); urban 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, 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.

During Discovery, community representatives and stakeholders are encouraged to actively contribute information about concerns in the Watershed by identifying a relevant location on the large watershed map and then providing a short explanation on the comment form. Discovery will allow 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, FTN, and AMEC) are available to answer questions and engage the attendees before, during, and 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.

The Bayou Meto Watershed Engagement Plan / Pre-Discovery Report was distributed in hard copy to the community CEO's and will be available to download at http://riskmap6.com/ and http://www.floodplain.ar.gov . Additional copies will also be 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 will be collected from the communities and compiled for inclusion in the final Discovery Report.

iv. Discovery Implementation (to be completed Post-Discovery)

The communities / organizations represented at the Discovery Meetings are included in Table 15.

Table 15: Communities and Organizations Represented at the Discovery Meetings

Community/Organization Represented	Community/Organization Represented

It should be noted that no community officials attended the Discovery Meetings from communities as noted in Table 16.

Table 16: Communities Not Represented at the Bayou Meto Discovery Meetings

Community Not Represented	Community Not Represented

v. Data Gathering Overview

Information about the Bayou Meto Watershed was gathered prior to the Discovery Meetings. Much of data collected in pre-discovery was obtained from FEMA or other public and/or national datasets. Table 17 summarizes the data collected prior to the Discovery Meeting and the primary sources of the data.

Table 17: Data Collection Summary – Pre-Discovery Meeting

Data Location	Data Custodian	Data Set Description
Watershed-wide	FEMA Map Service Center (MSC)	Special Flood Hazard Areas, FEMA's Map Service Center
Watershed-wide	FEMA MSC & Region 6	LOMC locations
Watershed-wide	FEMA, ANRC & ADEM	Locations of RL/SRL properties and Claims
Watershed-wide	FEMA & ADEM	Location of Grants being funded
Watershed-wide	FEMA & ANRC	Participation in the NFIP, Community Rating System (CRS) ratings
Watershed-wide	FEMA	Disaster Declarations
Watershed-wide	FEMA Region 6	CNMS information
Watershed-wide	FEMA Region 6	AAL data
Watershed-wide	ADEM	Approved HMPs
Watershed-wide	FEMA Region 6 & NRCS	Location of available or planned areas of updated LIDAR or other topographic data
Statewide	AGIO	Transportation and Political Boundary features
Watershed-wide	U.S. Census & AGIO	Populated places and population characteristics
Watershed-wide	USGS	Watershed HUC (8 & 12) boundaries, NHD streams, stream gage information, land use and land cover
Watershed-wide	AGIO	Imagery
Statewide	AGIO	US and State Congressional Districts and their elected representatives

Table 18 will be completed following the Discovery Meeting as part of the final Bayou Meto Watershed Discovery Report and will summarizes the comments that were collected at the Discovery Meeting specific to a flooding source.

Table 18: Data Collection Summary - During and After Discovery Meeting

Flooding Source	Information Provided By	Discovery Workshop Comment Summary

All supporting information, data and files for this Engagement Plan / Pre-Discovery Report and subsequent Final Discovery Report will be provided digitally in a directory structure comparable to the example provided below at the conclusion of the Discovery process.

08020402\Bayou Meto Watershed Discovery

\Project_Discovery_Initiation

- Discovery Invitation Letter
- Pre-Discovery Newsletter

\Discovery_Meeting (to be completed post-Discovery)

- Sign In Sheets
- **\RiskMAPMitigationActionWsheet**
  - Community input collected
- **Follow-up**
  - Discovery Newsletter

\Post_Discovery (to be completed post-Discovery)

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

\Supplemental_Data

- Engagement Plan / Pre-Discovery Report
- Metadata file

\GIS

- BayouMetoWatershed.gdb

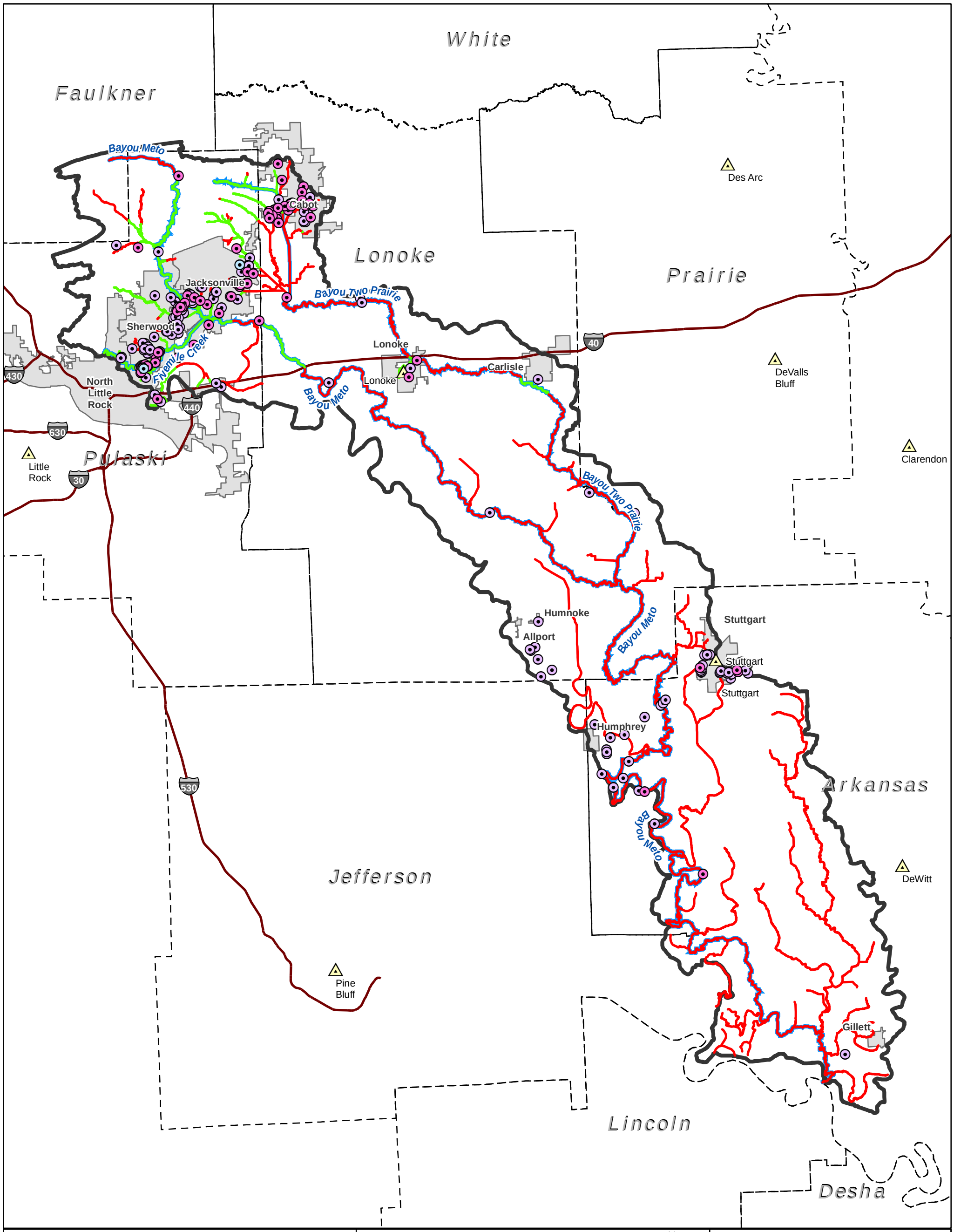
\Outreach

- Risk MAP Discovery
- Risk MAP Flood Risk Products
- What is Risk MAP Factsheet

III. Watershed Findings (Pre-Discovery)

The NFIP claimis reported have been identified as those within the SFHA and 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 Meto Watershed. Claims activity is generally concentrated in the population center of Sherwood, Jacksonville, Cabot and Stuttgart. Figures 5 and 6 show the claims activity and the RL/SRL claims respectively.

Letters of Map Amendment and Revisions are also distributed throughout the watershed, and again are concentrated in the same areas where claims have occurred. Please refer to Figure 12 for the location of these Letters of Map Change (LOMC).



LETTER OF MAP CHANGE (LOMC) ACTIVITY

BAYOU METO WATERSHED (HUC 08020402)

FEMA

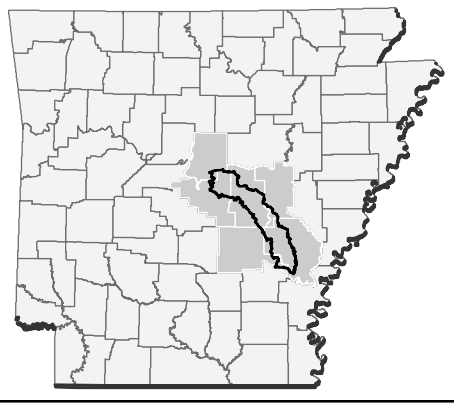
0 5 10 Miles

N W E S

- Letter of Map Revision-Fill (LOMR-F)
- Letter of Map Amendment (LOMA)
- Letter of Map Revision-Floodway (LOMR-FW)
- County Seat
- Interstate
- Bayou Meto and Major Reaches
- Bayou Meto HUC 8
- City Limits
- Project Counties

CNMS Validation Status

- Unverified
- Assessed
- Valid



Project Location

FIGURE 12

DATE: 4/16/2014

S:\projects\03015-0005-005\gis\doc\map\Discovery_Maps\Bayou_Meto_Discovery_Figure_12.mxd

i. CNMS Analysis

A CNMS analysis was performed in preparation for the Discovery Meeting. Table 19 shows the detailed study streams in the Bayou Meto 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 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 Modernization or that was identified during the Map Modernization Project.

Table 19: "Unverified" Detailed Streams per CNMS Analysis

Stream Name	City and/or County	Validation Status	Failed CNMS Elements
Candlewood Drain	Cabot	Unverified	C5, S4, S6
Ditch 3B	Stuttgart, Arkansas Co	Unverified	S4, S5, S6, S7
Ditch 7	Stuttgart, Arkansas Co	Unverified	C5, S4, S5, S6
Ditch 7A	Stuttgart, Arkansas Co	Unverified	C5, S4, S5, S6
Ditch 7B	Stuttgart, Arkansas Co	Unverified	C5, S4, S5, S6,
Drain 4	Cabot	Unverified	C5, S6
Jacks Bayou Tributary 1	Jacksonville, LRAFB, Pulaski Co	Unverified	C5, C6, S6
Jacks Bayou Tributary 2	Jacksonville, Pulaski Co	Unverified	C6, S5, S6
Jacks Bayou Tributary 2A	Jacksonville	Unverified	C6, S6
Jacks Bayou Tributary 2B	Jacksonville	Unverified	C6, S6
Main Ditch	Stuttgart	Unverified	S4, S5, S6, S7
Mill Bayou	Stuttgart, Arkansas Co	Unverified	C5, C6, S5, S6
Stuttgart King Bayou Ditch	Stuttgart, Arkansas Co	Unverified	C5, S5, S6, S7
Woodruff Creek*	Sherwood	Unverified	S6
Woodruff Creek Tributary 3*	Sherwood	Unverified	S6

*Community request during Map Modernization

Table 20 provides a description of the validation elements that failed as identified in the CNMS database.

Table 20: CNMS Category Descriptions

Element Name	Element Description	Issue being identified by the Element
C5	Channel reconfiguration	There are areas where the main channel appears to be outside the SFHA (man-made or updated information)
C6	Hydraulic structures added or removed (1 to 5)	Structures present and do not appear to be reflected in the FIS / FIRMs / hydraulic model
S4	Hydraulic structures added or removed (1 to 5)	Structures present and do not appear to be reflected in the FIS / FIRMs / hydraulic model
S5	Channel improvements	Obvious changes in channel configuration that do not appear to be reflected in the FIS / FIRMs
S6	Topographic data	New topographic data is available throughout the Bayou Meto Watershed. Some of the effective FIRMs may not reflect this newer topographic data.
S7	Vegetation or land use changes	The Bayou Meto Watershed has undergone significant growth and development in/around the population centers which would indicate changes in vegetation and landuse in the watershed has not been applied to these systems.

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 Meto 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 21 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 21: Potential Watershed Activities (to be completed Post-Discovery)

Risk Identification and Communication
•
NFIP Community Actions
•
Mitigation Planning and Mitigation Actions
•
Community Benefits and Grant Opportunities
•

Table 22 provides specific evaluation guidelines for streams or areas that could benefit from additional study that have been identified during Discovery. Any FEMA-based metrics that would be met if the need or issue was addressed will be 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 will be 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 Meto Watershed to meet general FEMA regional goals based on the information gathered during Pre-Discovery.

Needs will be 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 22.

- **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.

Table 22 Metrics and Rankings of Needs (to be completed Post-Discovery)

Priority Item	Description of Need Evaluation Guide **High** – Local community would immediately benefit from the action, and FEMA's metrics would also be met **Medium** – Local community would benefit over the longer term from the action, and a portion of FEMA's metrics may be met **Low** – Local community activities can continue without this revision, and FEMA's metrics are not impacted **Community Action** – Activity would be more appropriate as a community-led action rather than a FEMA-led action		Impacts From Any Current Map Actions	FEMA Metric or Community Benefit	Evaluation
	Location of Need/Project	Details			
1					
2					
3					
4					
5					
6					

i. Project Prioritization (to be completed Post-Discovery)

During the Discovery process, flood risk projects are intended to be initiated and cataloged at a 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 Meto Project Team and specifically the ANRC, who is the CTP of 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 will be identified as being high priority projects for consideration in the FY14 FEMA grant cycle based on current / planned community projects and cost-sharing capabilities.

TO BE IDENTIFIED POST DISCOVERY