

# Discovery Report

*Lower Black Watershed, HUC - 11010009*

*Independence, Jackson, Lawrence, Randolph, and Sharp Counties, Arkansas and  
Oregon and Ripley Counties, Missouri*

*07/31/2015*



## Project Area Community List

Community Name	CID
<i>Independence County Communities (AR)</i>	
Cave City, City of	050313
Independence County Unincorporated Areas	050090
Newark, City of	050092
<i>Jackson County Communities (AR)</i>	
Jackson County Unincorporated Areas	050096
<i>Lawrence County Communities (AR)</i>	
Black Rock, City of	050118
Lawrence County Unincorporated Areas	050443
Lynn, Town of	050263
Portia, Town of	050121
Powhatan, Town of	050572
<i>Oregon County Communities (MO)*</i>	
Oregon County Unincorporated Areas	290822
<i>Randolph County Communities (AR)</i>	
Maynard, Town of	050265
Pocahontas, City of	050183
Randolph County Unincorporated Areas	050460
<i>Ripley County Communities (MO)*</i>	
Ripley County Unincorporated Areas	290830
<i>Sharp County Communities (AR)</i>	
Cave City, City of	050313
Sharp County Unincorporated Areas	050464

\* Limited data provided for counties in Missouri by AR CTP

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## Acronyms and Abbreviations

AAL	Average Annualized Loss
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
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
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
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
LAMP	Levee Analysis and Mapping Procedure
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
MXD	Map Exchange Document
MSDIS	Missouri Spatial Data Information Service
NFIP	National Flood Insurance Program

## Acronyms and Abbreviations (Cont'd)

NHD	National Hydrologic Dataset
NRCS	Natural Resources Conservation Service
NVUE	New, Validated, or Updated Engineering
Risk MAP	Risk Mapping, Assessment, and Planning
RL	Repetitive Loss
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.

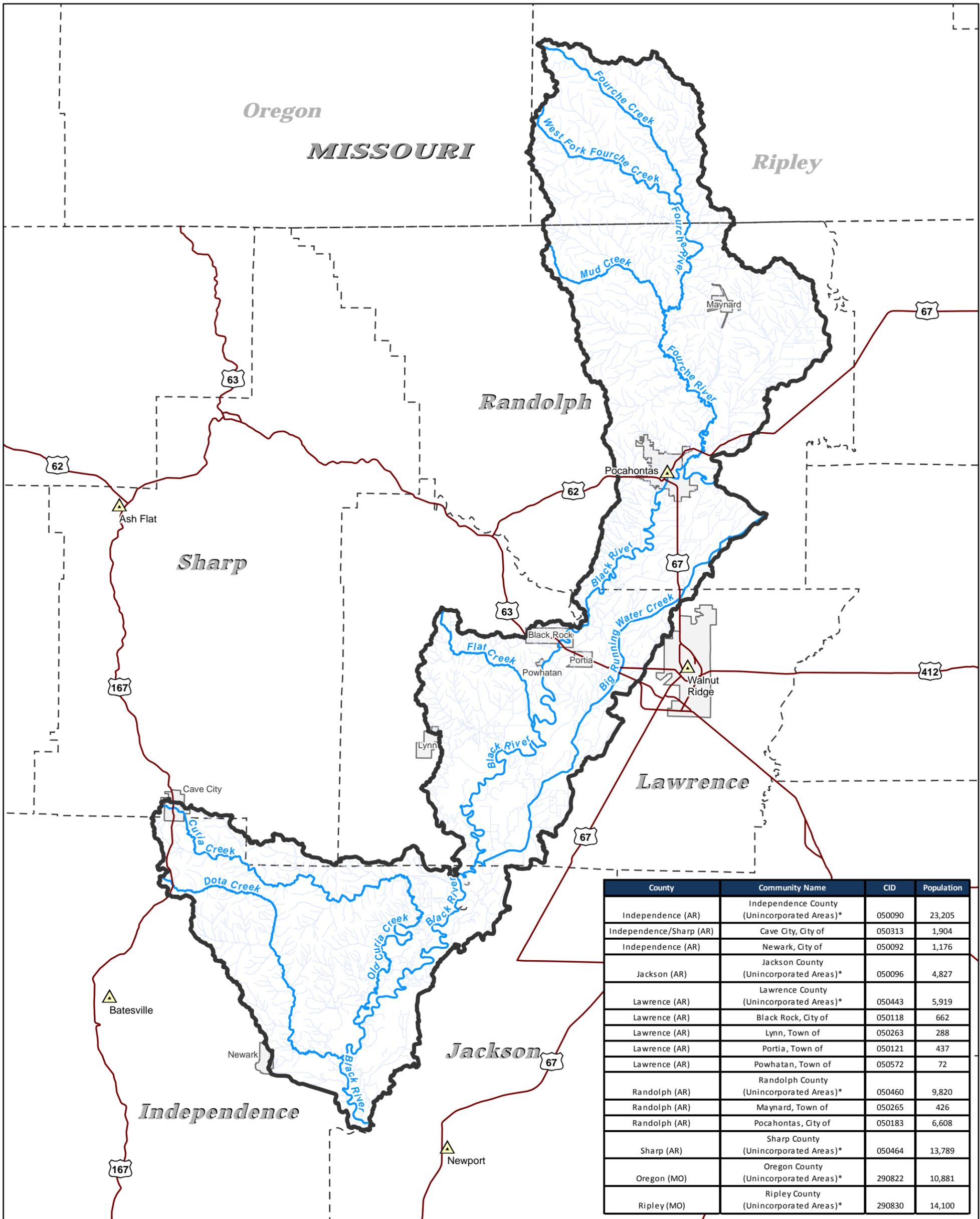
The FEMA Region 6 office and the Arkansas Natural Resources Commission (ANRC) entered into a Cooperating Technical Partners (CTP) partnership agreement for implementation of Risk MAP in the State of Arkansas. As part of this partnership, the ANRC and its contractor, FTN Associates, Ltd. (FTN), began the Discovery process in the Lower Black Watershed in October 2014 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, 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 April 2015, ANRC, as the State CTP, held Discovery Meetings in this watershed. During Discovery, ANRC and FEMA 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.

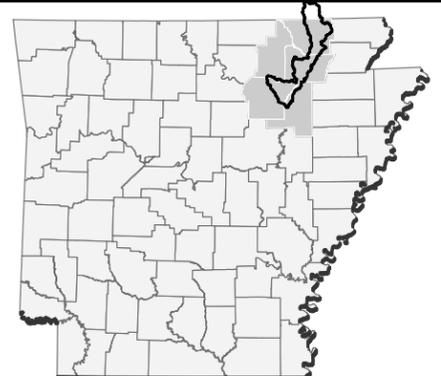
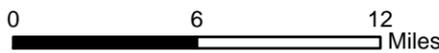
The results of the Discovery process are presented in this Final Discovery Report, a watershed scale Discovery Map and the digital data gathered or developed under the fiscal year 2014 CTP Agreement, EMW-2014-CA-00163, Mapping Activity Statement (MAS) 7, between FEMA and ANRC.



County	Community Name	CID	Population
Independence (AR)	Independence County (Unincorporated Areas)*	050090	23,205
Independence/Sharp (AR)	Cave City, City of	050313	1,904
Independence (AR)	Newark, City of	050092	1,176
Jackson (AR)	Jackson County (Unincorporated Areas)*	050096	4,827
Lawrence (AR)	Lawrence County (Unincorporated Areas)*	050443	5,919
Lawrence (AR)	Black Rock, City of	050118	662
Lawrence (AR)	Lynn, Town of	050263	288
Lawrence (AR)	Portia, Town of	050121	437
Lawrence (AR)	Powhatan, Town of	050572	72
Randolph (AR)	Randolph County (Unincorporated Areas)*	050460	9,820
Randolph (AR)	Maynard, Town of	050265	426
Randolph (AR)	Pocahontas, City of	050183	6,608
Sharp (AR)	Sharp County (Unincorporated Areas)*	050464	13,789
Oregon (MO)	Oregon County (Unincorporated Areas)*	290822	10,881
Ripley (MO)	Ripley County (Unincorporated Areas)*	290830	14,100

# WATERSHED AND COMMUNITIES MAP

## LOWER BLACK WATERSHED (HUC 11010009)



**Project Location**

DATE: 3/24/2015

**FIGURE 1**

\* Population includes all of unincorporated county

This document contains the Final Discovery Report. The digital data submitted with this report contains correspondence, exhibits used at the Discovery meetings, geographic information systems (GIS) data, mapping documents (PDF, shapefiles, personal geodatabases and ESRI ArcGIS 10.x Map Exchange Documents [MXDs]), and 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 Lower Black Watershed (HUC 11010009) encompasses an area of approximately 819 square miles and extends across two states (northeast Arkansas and southeast Missouri) and seven counties (Independence, Jackson, Lawrence, Randolph, and Sharp Counties in Arkansas and Oregon and Ripley Counties in Missouri). Major communities include the cities of Cave City, Newark, Black Rock, and Pocahontas. Smaller communities include Lynn, Portia, Powhatan, and Maynard. As this watershed extends across two states and the populated land area is located in Arkansas, a single Discovery project was planned with the ANRC taking the lead. Due to the rural nature of the land area in Missouri, limited information has been provided for that extent of the project area.

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

- Topographic data developed via Light Detection and Ranging System (LIDAR) is currently available for a portion of the watershed and additional data is being collected that will result in complete LIDAR coverage for the watershed.
- The Lower Black Watershed is currently the location of the initial Arkansas Silver Jackets collaborative project.
- In 2011, the City of Pocahontas and surrounding areas experienced severe flooding along the Black River, which included a levee breach.
- Flood losses in Independence, Jackson, Lawrence, Randolph, and Sharp counties have exceeded \$5.4 million from 1978 through February 2015; however this is reflective of NFIP claims and losses and does not represent the losses of the uninsured. These losses are from 266 claims. As of March 2, 2015 there are 470 policies in these five counties. These reported values and numbers include entire counties which may or may not be wholly located in the watershed. The number of claims and policies for the Missouri counties are not reflected in these totals.

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 Lower Black Watershed has elevation data in parts of the watershed. Additionally, as part of a joint venture, FEMA and the USGS are collecting LIDAR for the remaining areas of the Lower Black Watershed, which will result in a complete coverage area. This could be used by communities to pursue updated hydrologic and hydraulic studies and result in improved mapping of the Special Flood Hazard Areas (SFHAs).
- Mitigation activities to reduce risk to life and property are being evaluated and may be underway in the watershed.

Table 1, NFIP Status of Project Area Communities, provides the current status for each community's Community Identification Code (CID), NFIP participation, Community Rating System (CRS) rating, and Flood Insurance Rate Maps (FIRMs). All five of the Arkansas Counties, one of the Missouri Counties, and all eight of the communities are participating in the NFIP. Currently, only Oregon County, Missouri does not participate in the NFIP. Additionally, none of the counties or communities are participating in CRS.

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

County	Community Name	CID	Participating Community?	CRS Rating
Independence (AR)	Independence County Unincorporated Areas <sup>1</sup>	050090	Yes	N/A
Independence (AR)	Cave City, City of <sup>1,2</sup>	050313	Yes	N/A
Independence (AR)	Newark, City of <sup>1</sup>	050092	Yes	N/A
Jackson (AR)	Jackson County Unincorporated Areas <sup>1</sup>	050096	Yes	N/A
Lawrence (AR)	Lawrence County Unincorporated Areas <sup>1</sup>	050443	Yes	N/A
Lawrence (AR)	Black Rock, City of <sup>1</sup>	050118	Yes	N/A
Lawrence (AR)	Lynn, Town of <sup>1</sup>	050263	Yes	N/A
Lawrence (AR)	Portia, Town of	050121	Yes	N/A
Lawrence (AR)	Powhatan, Town of	050572	Yes	N/A
Randolph (AR)	Randolph County Unincorporated Areas <sup>1</sup>	050460	Yes	N/A
Randolph (AR)	Maynard, Town of	050265	Yes	N/A
Randolph (AR)	Pocahontas, City of	050183	Yes	N/A
Sharp (AR)	Sharp County Unincorporated Areas <sup>1</sup>	050464	Yes	N/A
Sharp (AR)	Cave City, City of <sup>1,2</sup>	050313	Yes	N/A
Oregon (MO)	Oregon County Unincorporated Areas <sup>1</sup>	290822	No	N/A
Ripley (MO)	Ripley County Unincorporated Areas <sup>1</sup>	290830	Yes	N/A
<sup>1</sup> Community is located within one or more HUC8 watersheds.				
<sup>2</sup> Community is located within one or more counties.				

### ***Drainage and Flooding***

The Lower Black Watershed lies within the larger White River Basin and is located in Northeastern Arkansas. The Lower Black Watershed consists of mountainous terrain with low-lying areas with numerous interconnected channels around Curia Creek and the Black River. 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 is the Black River. The Black River has its origins in southern Missouri and ultimately empties into the White River at the southern end of this watershed. Other primary streams in the watershed are Big Running Water Creek, Curia Creek, Dota Creek, Flat Creek, Fourche Creek, Fourche River, Mud Creek, Old Curia Creek, and West Fork Fourche Creek.

As part of FEMA's Map Modernization (Map Mod) program, Independence County, Lawrence County, Randolph County, Sharp County, and Oregon County (MO) received countywide FIRMs on March 17, 2010; December 18, 2012; May 2, 2012; September 16, 2011; and December 16, 2008, respectively. Additionally, Independence County received a partial update to their FIRMs on March 15, 2012. All of these counties are referred to as "modernized." Jackson County has been issued Preliminary countywide digital FIRMs (DFIRMs); however the mapping process was postponed until recently due to the new Levee Analysis and Mapping Procedure (LAMP) being conducted by FEMA independent of this Discovery. Once Jackson County receives and adopts their FIRMs they also will be considered modernized. Ripley County (MO) has no countywide FIRMs to date and is the only "non-modernized" county in the Watershed. A summary of the community FIRM dates is included in Table 2, Community FIRM Status.

There is a portion of one levee in the watershed (Jacksonport Levee) that shows some protection from the base flood on the current effective FIRMs. The Jacksonport Levee is considered the boundary of the watershed and is located in Jackson County. Due to its minimal presence in the Watershed, information is limited to specific impacts in the Watershed. There are also some local levees that are not shown as providing protection from the base flood, or the 1-percent-annual-chance flood, on the current effective FIRMs.

### ***Population***

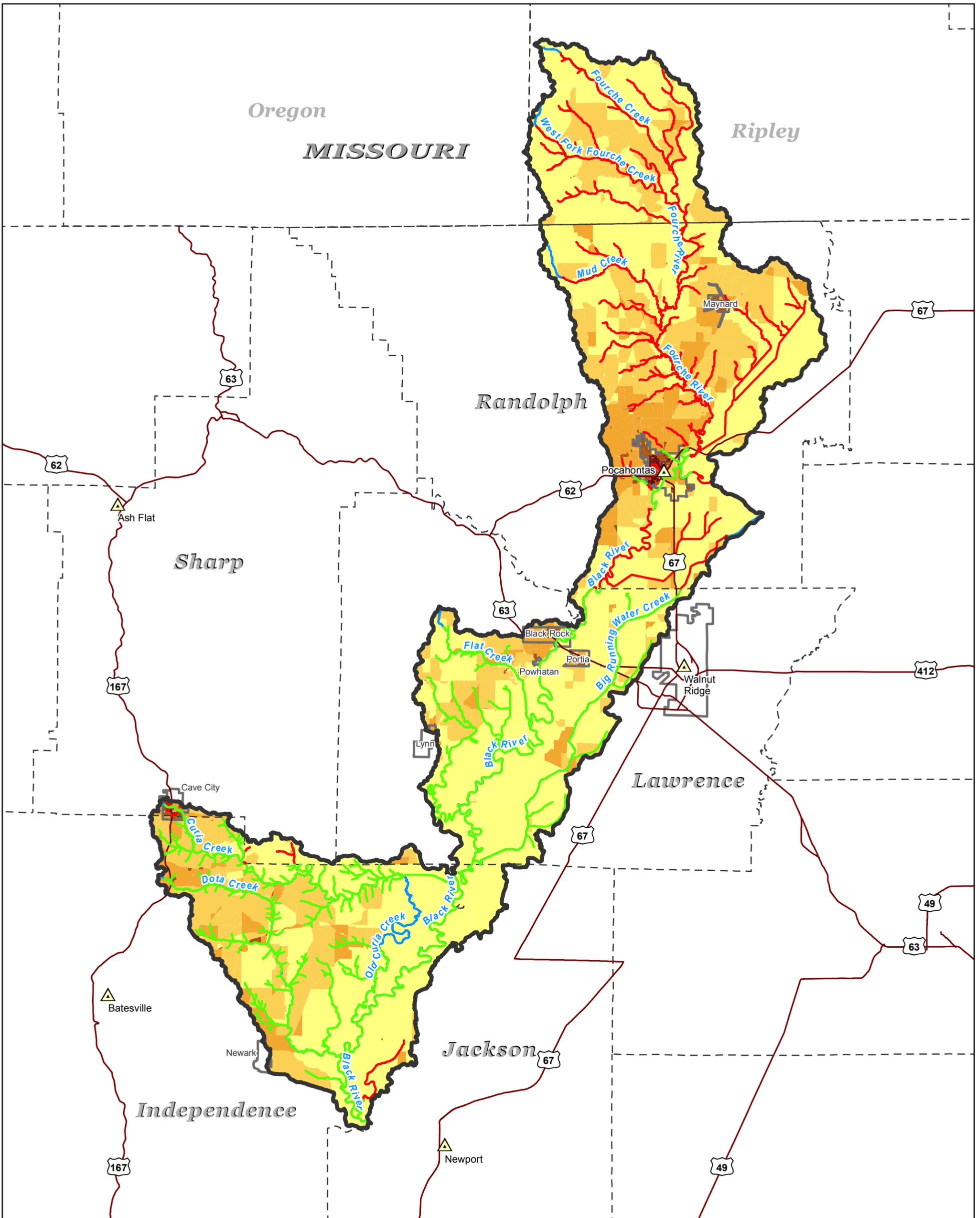
The estimated population in this watershed totals 25,512 people, based on the 2010 U.S. Census. The City of Pochontas is the highest population center in the watershed with 6,608 people. For the population of communities partially located in the watershed, the 2010 Census Block values were used to approximate the population within the portion of the community within the watershed. There are portions of 8 populated areas inside this watershed. Figure 2 shows the population densities (number of persons per square mile) within the Lower Black Watershed based on 2010 U.S. 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 that have at least 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**

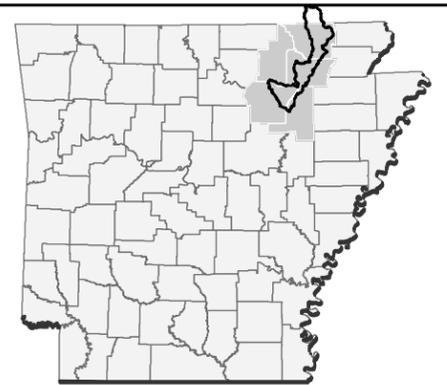
County	Community Name	CID	FIRM Date	FIRM Status
Independence (AR)	Independence County Unincorporated Areas <sup>1</sup>	050090	3/15/2012	REVISED; Modernized Countywide
Independence (AR)	Cave City, City of <sup>1, 2</sup>	050313	3/17/2010	REVISED; Modernized Countywide
Independence (AR)	Newark, City of <sup>1</sup>	050092	3/17/2010	REVISED; Modernized Countywide
Jackson (AR)	Jackson County Unincorporated Areas <sup>1</sup>	050096	9/19/1990	Non-modernized study
Jackson (AR)	Jackson County Unincorporated Areas <sup>1</sup>	050096	10/31/2014	PRELIMINARY DFIRM Issued, includes Seclusion Area
Lawrence (AR)	Lawrence County Unincorporated Areas <sup>1</sup>	050443	12/18/2012	REVISED; Modernized Countywide
Lawrence (AR)	Black Rock, City of <sup>1</sup>	050118	12/18/2012	REVISED; Modernized Countywide
Lawrence (AR)	Lynn, Town of <sup>1</sup>	050263	12/18/2012	REVISED; Modernized Countywide
Lawrence (AR)	Portia, Town of	050121	12/18/2012	REVISED; Modernized Countywide
Lawrence (AR)	Powhatan, Town of	050572	12/18/2012	REVISED; Modernized Countywide
Randolph (AR)	Randolph County Unincorporated Areas <sup>1</sup>	050460	5/2/2012	REVISED; Modernized Countywide
Randolph (AR)	Maynard, Town of	050265	5/2/2012	REVISED; Modernized Countywide
Randolph (AR)	Pocahontas, City of	050183	5/2/2012	REVISED; Modernized Countywide
Sharp (AR)	Sharp County Unincorporated Areas <sup>1</sup>	050464	9/16/2011	REVISED; Modernized Countywide
Sharp (AR)	Cave City, City of <sup>1, 2</sup>	050313	9/16/2011	REVISED; Modernized Countywide
Oregon (MO)	Oregon County Unincorporated Areas <sup>1</sup>	290822	12/16/2008	REVISED; Modernized Countywide
Ripley (MO)	Ripley County Unincorporated Areas <sup>1</sup>	290830	1/17/1986	Non-modernized study
<sup>1</sup> Community is located within one or more HUC8 watersheds.				
<sup>2</sup> Community is located within one or more counties.				



**POPULATION DENSITY (2010)**  
**LOWER BLACK WATERSHED**  
 (HUC 11010009)



0 6 12 Miles



**Project Location**

- County Seat
- County Boundary
- City Limits
- Major Reaches of Watershed
- Lower Black Watershed

- CNMS Validation Status**
- Unverified
  - Assessed
  - Valid

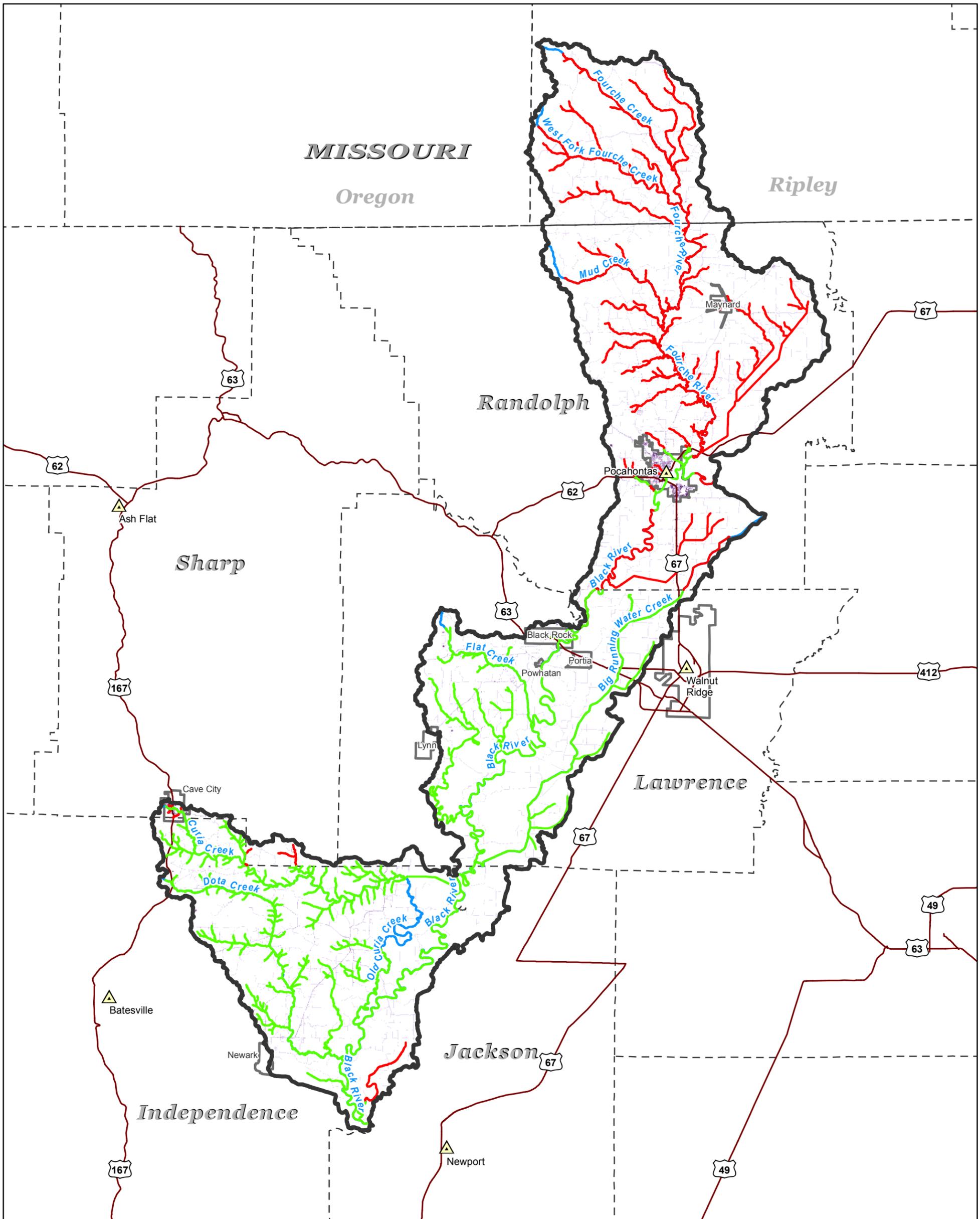
- Population Density - 2010 Census**  
**Pop. / Sq. Mi.**
- 0 - 12
  - 13 - 36
  - 37 - 231
  - 232 - 1,675
  - 1,676 - 12,303

**FIGURE 2**

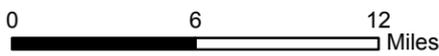
DATE: 3/23/2015

## ***Landuse***

The landuse of the Lower Black Watershed is predominantly rural land that is either forested or pasture. The primary population center within the watershed is the Pocahontas area, which is located along the Black River. Along the Black River floodplain are smaller population centers in the communities of Black Rock, Portia, and Powhatan. Outside of the Black River floodplain of the Lower Black Watershed, the larger population centers are the communities of Cave City, Maynard, and Newark. The terrain ranges from steep mountains in the west and north to flat, low-lying areas along the Black River. Figure 3 identifies the relative percent urban cover for areas within the watershed from 2011, while Figure 4 shows the changes in the landuse 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, and are displayed by HUC-12 sub-basins. Therefore, Figure 4 demonstrates where you could see changes in the watershed hydrology, either in increased or decreased run-off potential, based on the changes in landuse reflected over the past 5 years.



**PERCENT URBAN COVER (2011)**  
**LOWER BLACK WATERSHED**  
 (HUC 11010009)



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

- Major Reaches of Watershed
- Lower Black Watershed

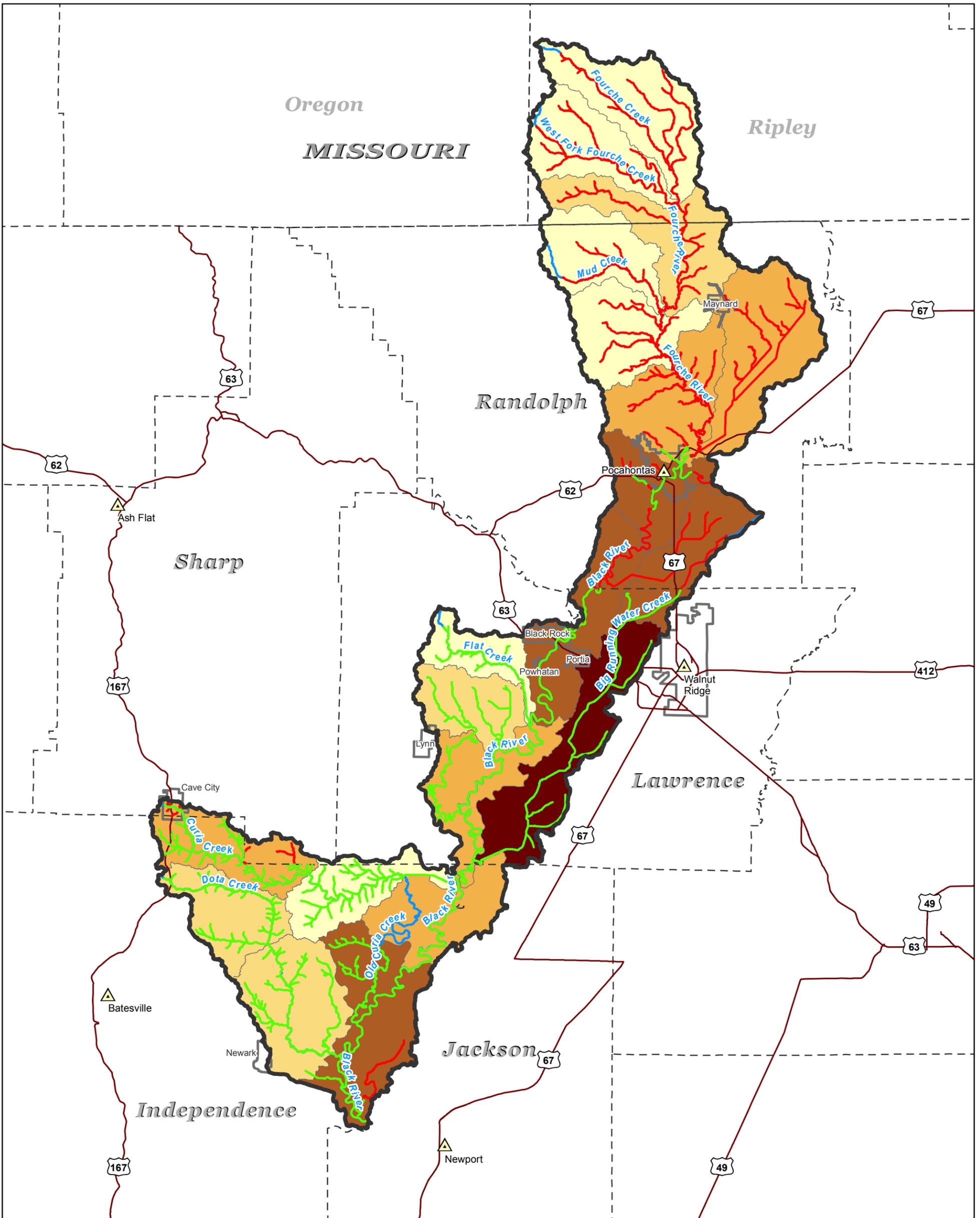
- CNMS Validation Status**
- Unverified
  - Assessed
  - Valid

- Urban Cover**
- 1 - 25%
  - 25 - 50%
  - 50 - 75%
  - 75 - 100%

**Project Location**

**FIGURE 3**

DATE: 3/23/2015



**LANDUSE CHANGE  
(2006 - 2011)**  
LOWER BLACK WATERSHED  
(HUC 11010009)



0 6 12 Miles



**Project Location**

- County Seat
- Interstate
- U.S. Highway
- County Boundary
- City Limits
- Major Reaches of Watershed
- Lower Black Watershed

- CNMS Validation Status**
- Unverified
  - Assessed
  - Valid

- Land Use Change (2006 - 2011)**
- Least
  - Low
  - Moderate
  - High
  - Most

**FIGURE 4**

DATE: 3/23/2015

### ***Insurance Claims***

Table 3, Total NFIP Insurance Claims, lists the number of NFIP insurance claims for the communities that touch the 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 Lower Black Watershed. Of the insurance claims easily identified within the watershed, the majority occur in the City of Pocahontas, and the Unincorporated Areas of Randolph County. 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 Lower Black Watershed.

In addition to NFIP claims activity, there are several Repetitive Loss (RL) properties, but no Severe Repetitive Loss (SRL) properties, within the Lower Black Watershed. The main concentration of the RL properties is in the City of Pocahontas, and the Unincorporated Areas of Randolph County, as shown in Figure 6.

Table 4, identifies the Repetitive or Severe Repetitive Losses within the Watershed by county and community. As noted, these losses are also displayed on Figure 6 and on the Discovery Map, which was 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 Black River Levee breach and subsequent flooding in 2011 may not be documented as claims if the majority of the damage occurred to uninsured properties.

**Table 3: Total NFIP Insurance Claims**

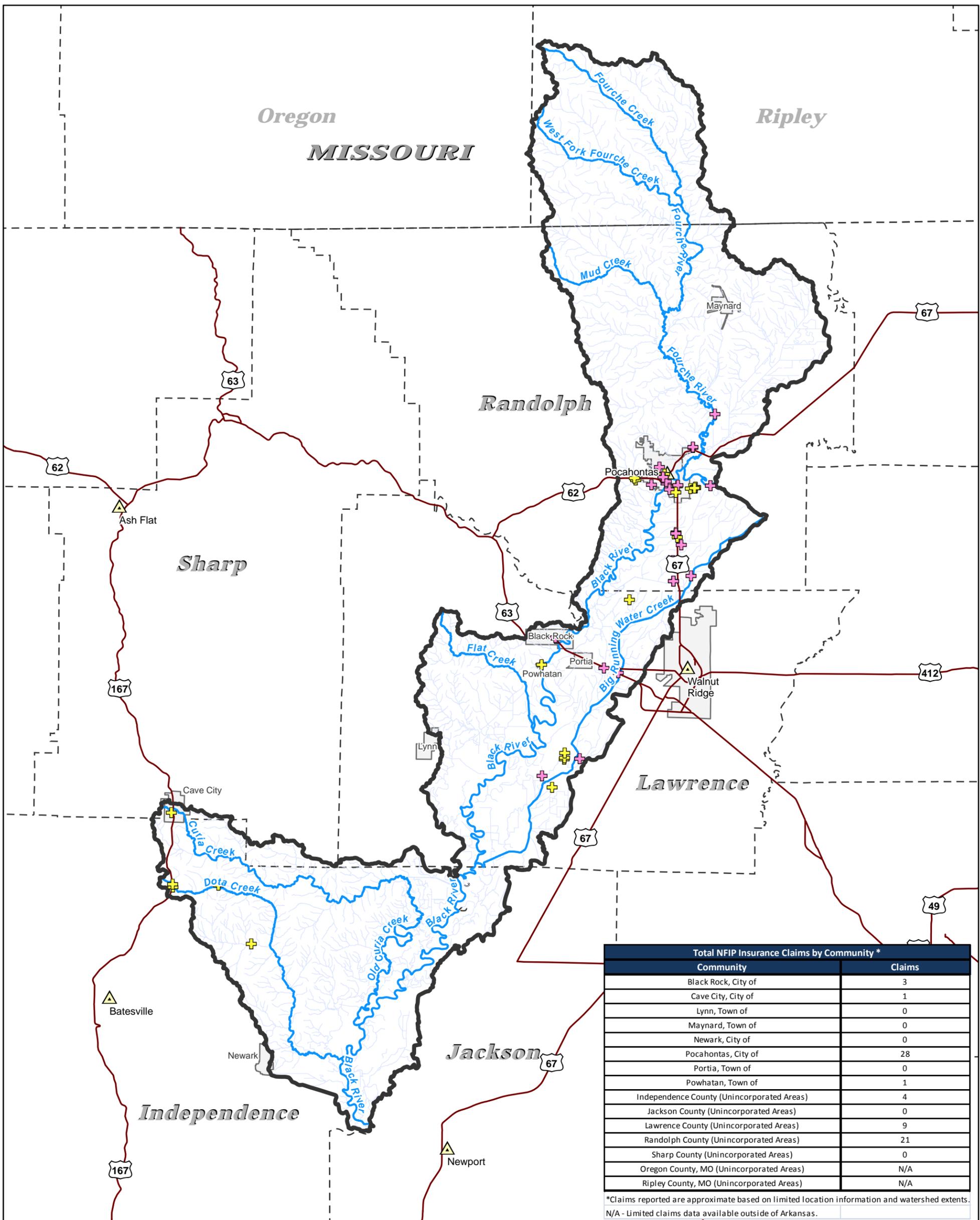
<b>Total NFIP Insurance Claims by Community *</b>	
<b>Community</b>	<b>Claims</b>
Black Rock, City of	3
Cave City, City of	1
Lynn, Town of	0
Maynard, Town of	0
Newark, City of	0
Pocahontas, City of	28
Portia, Town of	0
Powhatan, Town of	1
Independence County (Unincorporated Areas)	4
Jackson County (Unincorporated Areas)	0
Lawrence County (Unincorporated Areas)	9
Randolph County (Unincorporated Areas)	21
Sharp County (Unincorporated Areas)	0
Oregon County, MO (Unincorporated Areas)	N/A
Ripley County, MO (Unincorporated Areas)	N/A

\*Claims reported are approximate based on limited location information and watershed extents.  
 N/A - Limited claims data available outside of Arkansas.

**Table 4: Repetitive or 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>
Black Rock, City of	1	2	2.0
Cave City, City of	0	0	0
Lynn, Town of	0	0	0
Maynard, Town of	0	0	0
Newark, City of	0	0	0
Pocahontas, City of	5	10	2.0
Portia, Town of	0	0	0
Powhatan, Town of	0	0	0
Independence County (Unincorporated Areas)	0	0	0
Jackson County (Unincorporated Areas)	0	0	0
Lawrence County (Unincorporated Areas)	0	0	0
Randolph County (Unincorporated Areas)	2	4	2.0
Sharp County (Unincorporated Areas)	0	0	0
Oregon County, MO (Unincorporated Areas)	N/A	N/A	N/A
Ripley County, MO (Unincorporated Areas)	N/A	N/A	N/A

\* Numbers reported are approximate based on limited location information and watershed extents.  
 N/A - Limited claims data available outside of Arkansas.



Total NFIP Insurance Claims by Community *	
Community	Claims
Black Rock, City of	3
Cave City, City of	1
Lynn, Town of	0
Maynard, Town of	0
Newark, City of	0
Pocahontas, City of	28
Portia, Town of	0
Powhatan, Town of	1
Independence County (Unincorporated Areas)	4
Jackson County (Unincorporated Areas)	0
Lawrence County (Unincorporated Areas)	9
Randolph County (Unincorporated Areas)	21
Sharp County (Unincorporated Areas)	0
Oregon County, MO (Unincorporated Areas)	N/A
Ripley County, MO (Unincorporated Areas)	N/A

\*Claims reported are approximate based on limited location information and watershed extents.  
N/A - Limited claims data available outside of Arkansas.

### CLAIMS ACTIVITY

LOWER BLACK WATERSHED  
(HUC 11010009)

- County Seat
- Interstate
- U.S. Highway
- County Boundary
- City Limits
- Major Reaches of Watershed
- Other Waters
- Lower Black Watershed

0 6 12 Miles

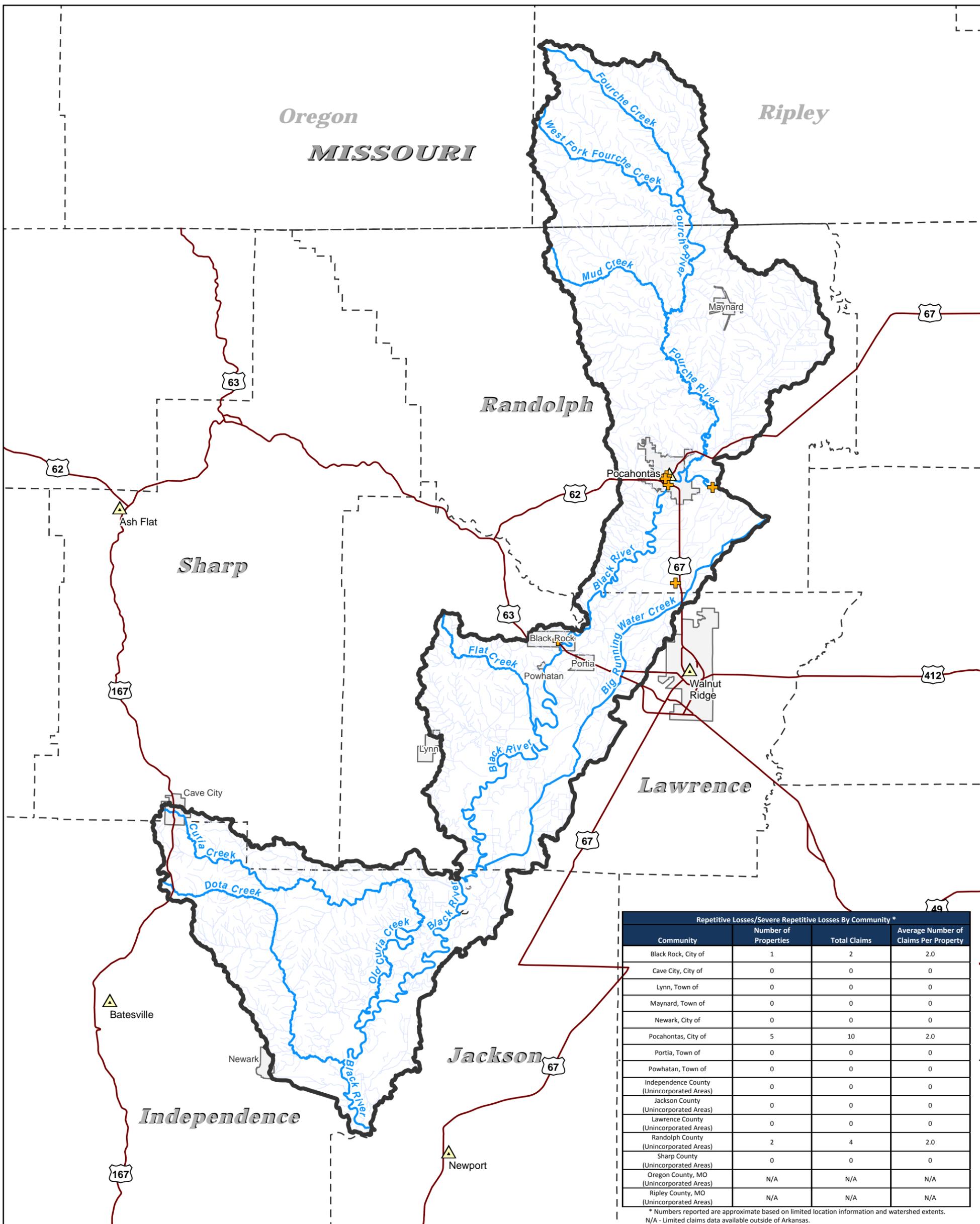
**NFIP Insurance Claims**

- BCX Claims (Outside SFHA)
- Claims (Inside SFHA)

**Project Location**

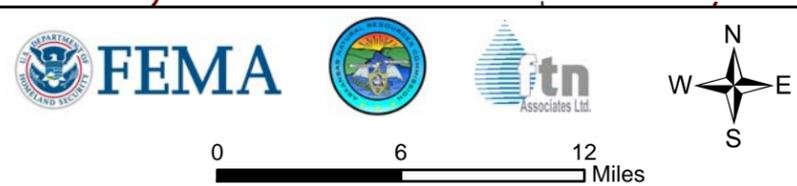
**FIGURE 5**

DATE: 3/24/2015



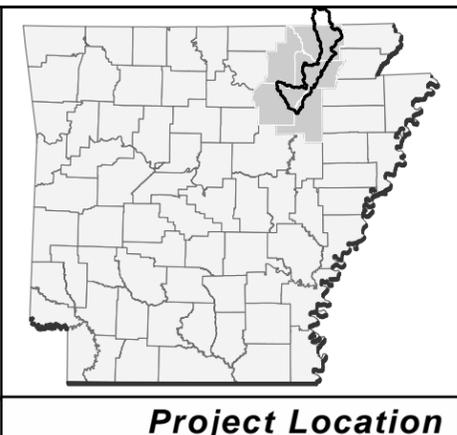
# REPETITIVE AND SEVERE REPETITIVE LOSS CLAIMS

## LOWER BLACK WATERSHED (HUC 11010009)



- County Seat
- Interstate
- U.S. Highway
- County Boundary
- City Limits
- Major Reaches of Watershed
- Other Waters
- Lower Black Watershed

- Repetitive Losses**
- Severe Repetitive Loss
  - Repetitive Loss



**FIGURE 6**

DATE: 3/24/2015

**Disaster Declarations**

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

**Table 5: Disaster Declarations**

Watershed Counties Declared	Number of Disaster Declarations per Hazard *				
	Flood	Hurricane	Winter Storm (Ice/Snow)	Tornado	Severe Storm
Independence County	3	1	3	2	12
Jackson County	4	1	4	2	13
Lawrence County	2	1	2	0	9
Oregon County	0	1	2	0	11
Randolph County	3	1	2	0	10
Ripley County	1	1	2	0	9
Sharp County	4	1	4	0	8

\* Time period of 1967 - January 2015

**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 Lower Black Watershed when compared nationally and regionally to other HUC-8 watersheds. Nationally, this HUC’s risk decile rating ranks between 51% and 80% 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**

Lower Black Watershed Risk Factor Rankings	
National Risk Factor Rank: 1300	Region 6 Risk Factor Rank: 340
National Risk Decile: 6	Region 6 Risk Decile: 6
Average Annualized Loss: \$3,365,000	Average Annualized Loss: \$3,365,000
National Average Annualized Loss Rank: N/A	Region 6 Average Annualized Loss Rank: 178
National Overall Rank: 1300	Region 6 Overall Rank: 209

### ***Topographic Data***

The Lower Black Watershed has updated elevation data for portions of the watershed. Additionally, as part of a joint venture, FEMA and the USGS are collecting LIDAR for the remaining areas of the Lower Black Watershed, which will result in a complete coverage area. This could be used by communities to pursue updated hydrologic and hydraulic studies and result in improved mapping of the Special Flood Hazard Areas (SFHAs).

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

Significant streams in this watershed include the Black River, Big Running Water Creek, Curia Creek, Dota Creek, Flat Creek, Fourche Creek, Fourche River, Mud Creek, Old Curia Creek, and West Fork Fourche Creek. 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 2,130 miles of streams in the Lower Black 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 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.

In addition to listing the miles of studied streams within a watershed, CNMS documents certain other factors, such as physical environment, 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. 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. During Discovery of the Lower Black Watershed no streams were found to be categorized as "Requires Assessment." 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.

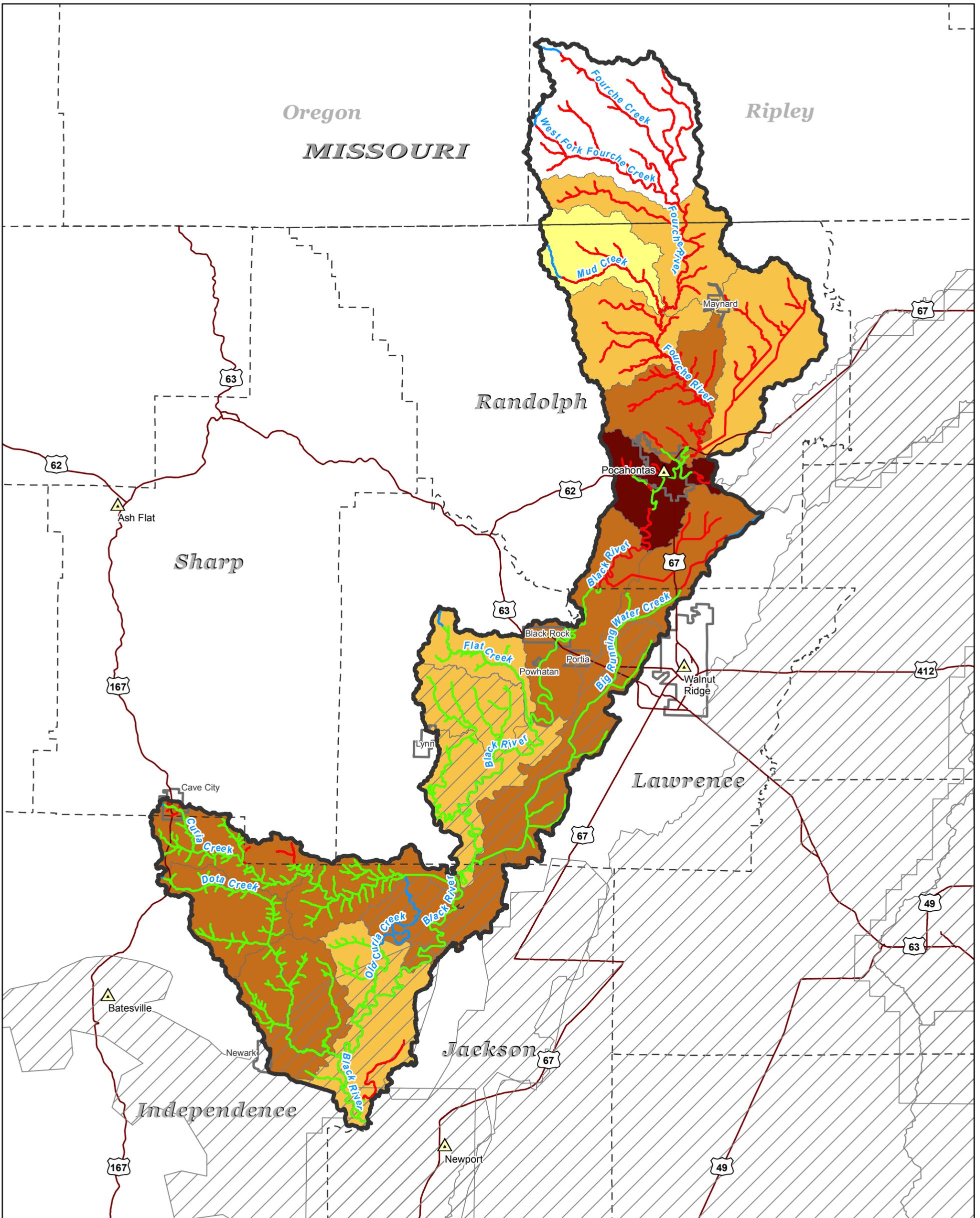
Table 7, NVUE Approximate Stream Mileage in the Watershed, compares the NHD data to the CNMS data and summarizes the Validated NVUE stream mileage from CNMS for the watershed.

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

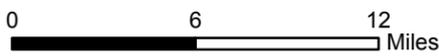
NVUE Validation	Stream Miles
NHD Streams (streams with a drainage area of greater than 1 square mile)	2,130.0
CNMS Streams (streams with effective SFHA)	700.5
Stream Miles not accounted for in CNMS	1,429.5
CNMS Valid Zone AE / AH Stream Miles	53.7
CNMS Valid Zone A Stream Miles	368.8
CNMS Unverified Zone AE / AH Stream Miles	0
CNMS Unverified Zone A Stream Miles	278
CNMS Zone AE / AH Stream Miles Requiring Further Assessment or in the process of being studied	0
CNMS Zone A Stream Miles Requiring Further Assessment	0
All Stream Miles not accounted for in CNMS as there are no effective SFHAs (sum of the below)	0
Stream Miles not accounted for in CNMS that would fall in land that <i>could be</i> developed	0
Stream Miles not accounted for in CNMS that would fall in land that <i>could not be</i> developed	0

Within the Lower Black Watershed, and using these criteria from CNMS, approximately 278 miles of Zone A streams were identified as being “Unverified” and as such are candidates for updated analysis. Additionally, 368.8 miles of Zone A stream miles and 53.7 miles of Zone AE streams in the watershed were characterized as being Valid and included in the NVUE metrics. The unverified Zone A stream miles are characterized as unverified due to the absence of hydraulic model data or other analysis known to support the mapping.

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 resulted in the selection of Lower Black Watershed for a Discovery Project.



**RISK, NEEDS, AND TOPOGRAPHIC DATA**  
 LOWER BLACK WATERSHED  
 (HUC 11010009)



- County Seat
- Interstate
- U.S. Highway
- County Boundary
- City Limits
- Major Reaches of Watershed
- Lower Black Watershed
- LiDAR available

- CNMS Validation Status**
- Unverified
  - Assessed
  - Valid

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



**Project Location**

**FIGURE 7**

DATE: 3/23/2015

### ***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 Lower Black Watershed, which includes portions of Arkansas and Missouri, there are 4 U.S. Senators, 2 members from the U.S. House of Representatives, 4 State Senators, and 9 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 Lower Black 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.

Currently Representative Crawford serves on the House Committee on Transportation & Infrastructure which is working to address the rising costs of disasters in the U.S. and improve the efficiency and effectiveness of FEMA's disaster assistance capabilities and programs. This Committee also includes the Water Resources and Environment Subcommittee which addresses issues that affect the U.S. Army Corps of Engineers as well as other agencies involved in water resources.

The U.S. Congressionals from the State of Arkansas were invited to participate in a Pre-Discovery Webinar on March 11, 2015 that provided a high level briefing on the Discovery process and activities in Arkansas. Representatives from Senator Tom Cotton's, Representative Steve Womack's, and Representative French Hill's staff participated in the webinar.

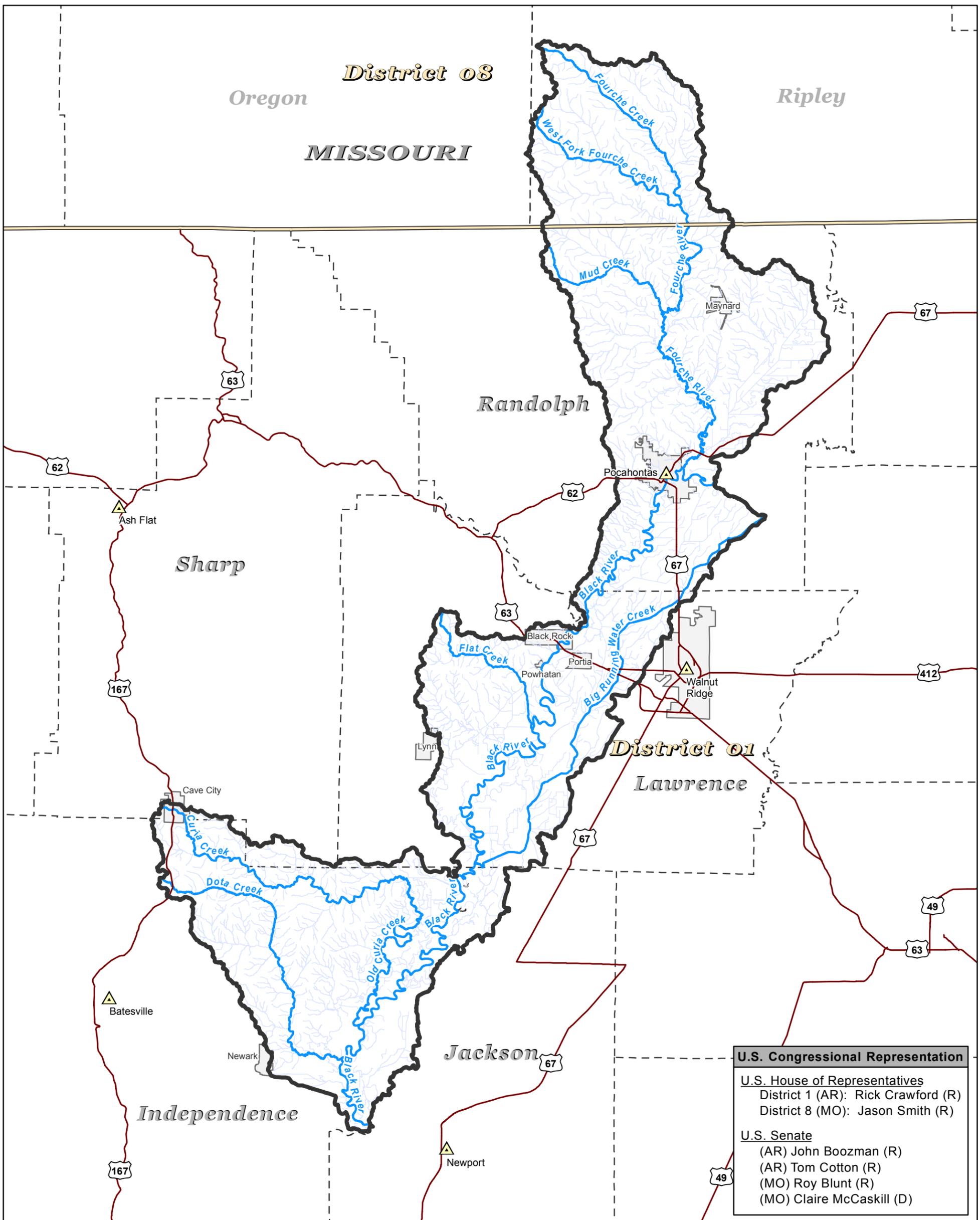
**Table 8: U.S. Congressionals (as of July 1, 2015)**

<b>U.S. Senators</b>			
<b>Name</b>	<b>Address</b>	<b>Phone</b>	<b>Email</b>
John Boozman (R) Arkansas	300 South Church St. Suite 400 Jonesboro, AR 72401	(870) 268-6925	<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) Arkansas	300 South Church St. Suite 338 Jonesboro, AR 72401	(870) 933-6223	<a href="http://www.cotton.senate.gov/content/contact-tom">www.cotton.senate.gov/content/contact-tom</a>
Roy Blunt (R) Missouri	2502 Tanner Drive Suite 208 Cape Girardeau, MO 63703	(573) 334-7044	<a href="http://www.blunt.senate.gov/public/index.cfm/contact-form?p=contact-roy">www.blunt.senate.gov/public/index.cfm/contact-form?p=contact-roy</a>
Claire McCaskill (D) Missouri	555 Independence St., Room 1600 Cape Girardeau, MO 63703	(573) 651-0964	<a href="http://www.mccaskill.senate.gov/contact">www.mccaskill.senate.gov/contact</a>
<b>U.S. Representatives</b>			
<b>Name</b>	<b>Address</b>	<b>Phone</b>	<b>Email</b>
Rick Crawford (R) District 1 - AR	2400 Highland Drive Suite 300 Jonesboro, Arkansas 72401	(870) 203-0540	<a href="http://crawford.house.gov/contact/">http://crawford.house.gov/contact/</a>
Jason Smith (R) District 8 - MO	2502 Tanner Drive Suite 205 Cape Girardeau, Missouri 63703	(573) 335-0101	<a href="http://jasonsmith.house.gov/contact/email-me">http://jasonsmith.house.gov/contact/email-me</a>

**Table 9: State Congressionals (as of July 1, 2015)**

State Senators <sup>1</sup>				
District	Name	Address	Phone	Email
19 (AR)	Linda Collins-Smith (R)	P.O. Box 90 Pocahontas, AR 72455	(870) 378-1434	<a href="mailto:Linda.Collins-Smith@senate.ar.gov">Linda.Collins-Smith@senate.ar.gov</a>
20 (AR)	Blake Johnson (R)	P.O. Box 8 Corning, AR 72422	(870) 323-1766	<a href="mailto:Blake.Johnson@senate.ar.gov">Blake.Johnson@senate.ar.gov</a>
23 (AR)	Ronald Caldwell (R)	120 CR 393 Wynne, AR 72396	(501) 682-6107	<a href="mailto:ronald.caldwell@senate.ar.gov">ronald.caldwell@senate.ar.gov</a>
33 (MO)	Mike Cunningham (R)	201 W Capitol Ave. Rm. 331 Jefferson City, MO 65101	(573) 751-1882	<a href="mailto:Mike.Cunningham@senate.mo.gov">Mike.Cunningham@senate.mo.gov</a>
State Representatives <sup>1</sup>				
District	Name	Address	Phone	Email
47 (AR)	Michael John Gray (D)	P. O. Box 360 Augusta, AR 72006	(870) 347-6000	<a href="mailto:michael.gray@arkansashouse.org">michael.gray@arkansashouse.org</a>
52 (AR)	Dwight Tosh (R)	4513 Butler Road Jonesboro, AR 72404	(870) 926-0423	<a href="mailto:dwight.tosh@arkansashouse.org">dwight.tosh@arkansashouse.org</a>
56 (AR)	Joe Jett (D)	572 County Road 101 Success, AR 72470	(870) 276-5319	<a href="mailto:joe.jett@arkansashouse.org">joe.jett@arkansashouse.org</a>
60 (AR)	James Ratliff (D)	P. O. Box 791 Imboden, AR 72434	(501) 454-5200	<a href="mailto:jamesratliff3468@gmail.com">jamesratliff3468@gmail.com</a>
61 (AR)	Scott Baltz (D)	4589 Highway 90 West Pocahontas, AR 72455	(870) 378-1380	<a href="mailto:scottbaltz@yahoo.com">scottbaltz@yahoo.com</a>
62 (AR)	Michelle Gray (R)	58 Gray Manor Lane Melbourne, AR 72556	(870) 368-4729	<a href="mailto:michelle.gray@arkansashouse.org">michelle.gray@arkansashouse.org</a>
63 (AR)	James Sturch (R)	2 Rick Road Batesville, AR 72501	(870) 612-7589	<a href="mailto:jmsturch@yahoo.com">jmsturch@yahoo.com</a>
143 (MO)	Jeff Pogue (R)	201 West Capitol Ave Room 400-CC Jefferson City MO 65101	(573) 751-2264	<a href="mailto:Jeff.Pogue@house.mo.gov">Jeff.Pogue@house.mo.gov</a>
153 (MO)	Steve Cookson (R)	201 West Capitol Ave Room 403-A Jefferson City MO 65101	(573) 751-1066	<a href="mailto:Steve.Cookson@house.mo.gov">Steve.Cookson@house.mo.gov</a>

<sup>1</sup> State Congressionals listed for Arkansas and then Missouri in numerical order by District served.

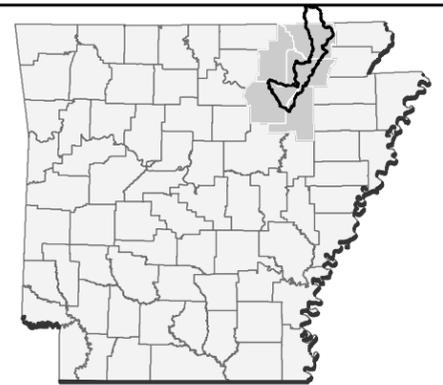
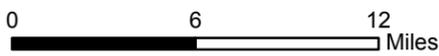


U.S. Congressional Representation	
<b>U.S. House of Representatives</b>	
District 1 (AR):	Rick Crawford (R)
District 8 (MO):	Jason Smith (R)
<b>U.S. Senate</b>	
(AR) John Boozman	(R)
(AR) Tom Cotton	(R)
(MO) Roy Blunt	(R)
(MO) Claire McCaskill	(D)

**U.S. CONGRESSIONAL DISTRICTS**  
 LOWER BLACK WATERSHED  
 (HUC 11010009)



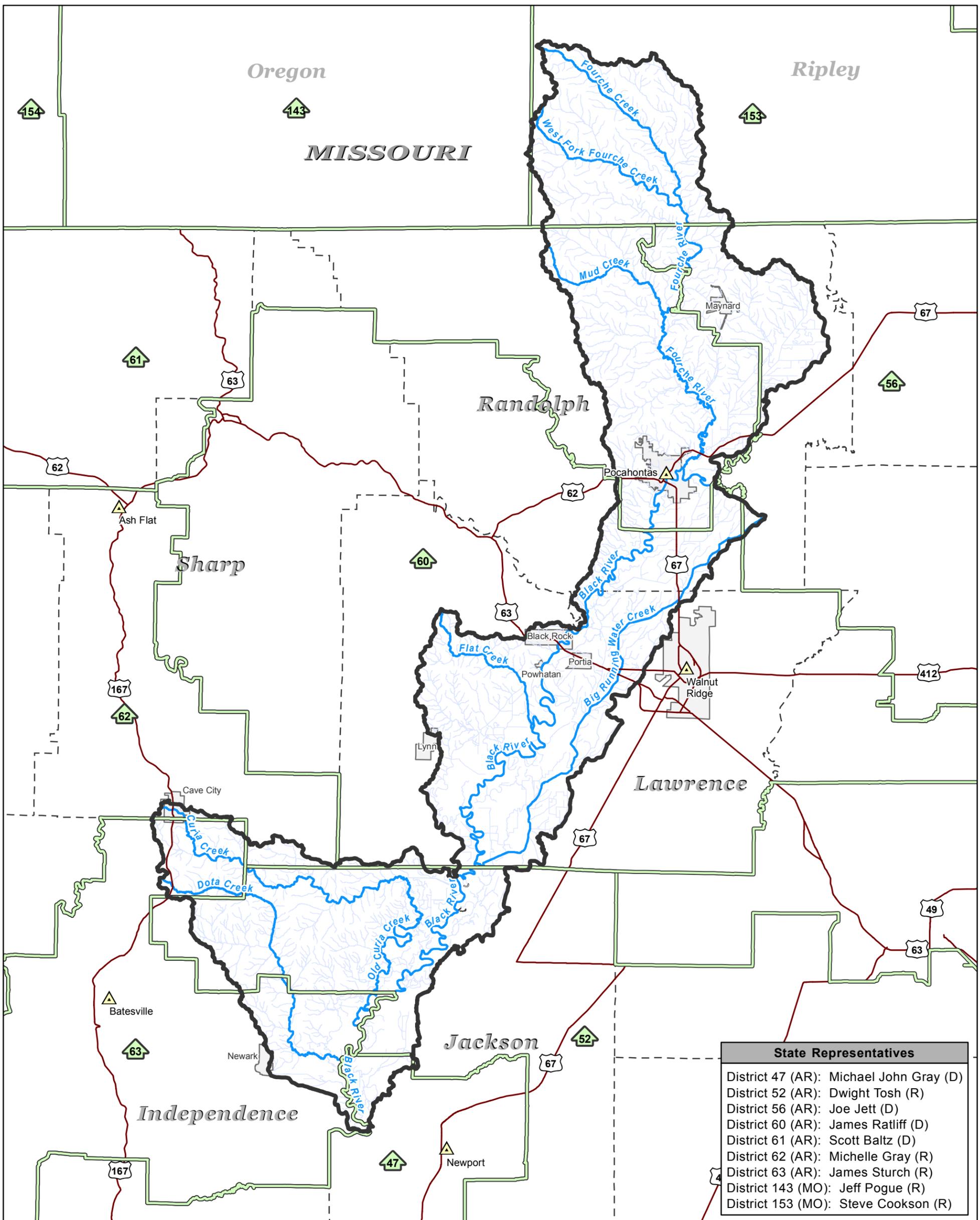
**FEMA**



**Project Location**

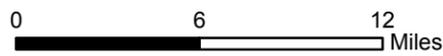
**FIGURE 8**

DATE: 3/23/2015



State Representatives	
District 47 (AR):	Michael John Gray (D)
District 52 (AR):	Dwight Tosh (R)
District 56 (AR):	Joe Jett (D)
District 60 (AR):	James Ratliff (D)
District 61 (AR):	Scott Baltz (D)
District 62 (AR):	Michelle Gray (R)
District 63 (AR):	James Sturch (R)
District 143 (MO):	Jeff Pogue (R)
District 153 (MO):	Steve Cookson (R)

**STATE HOUSE OF REPS. DISTRICTS**  
**LOWER BLACK WATERSHED**  
 (HUC 11010009)

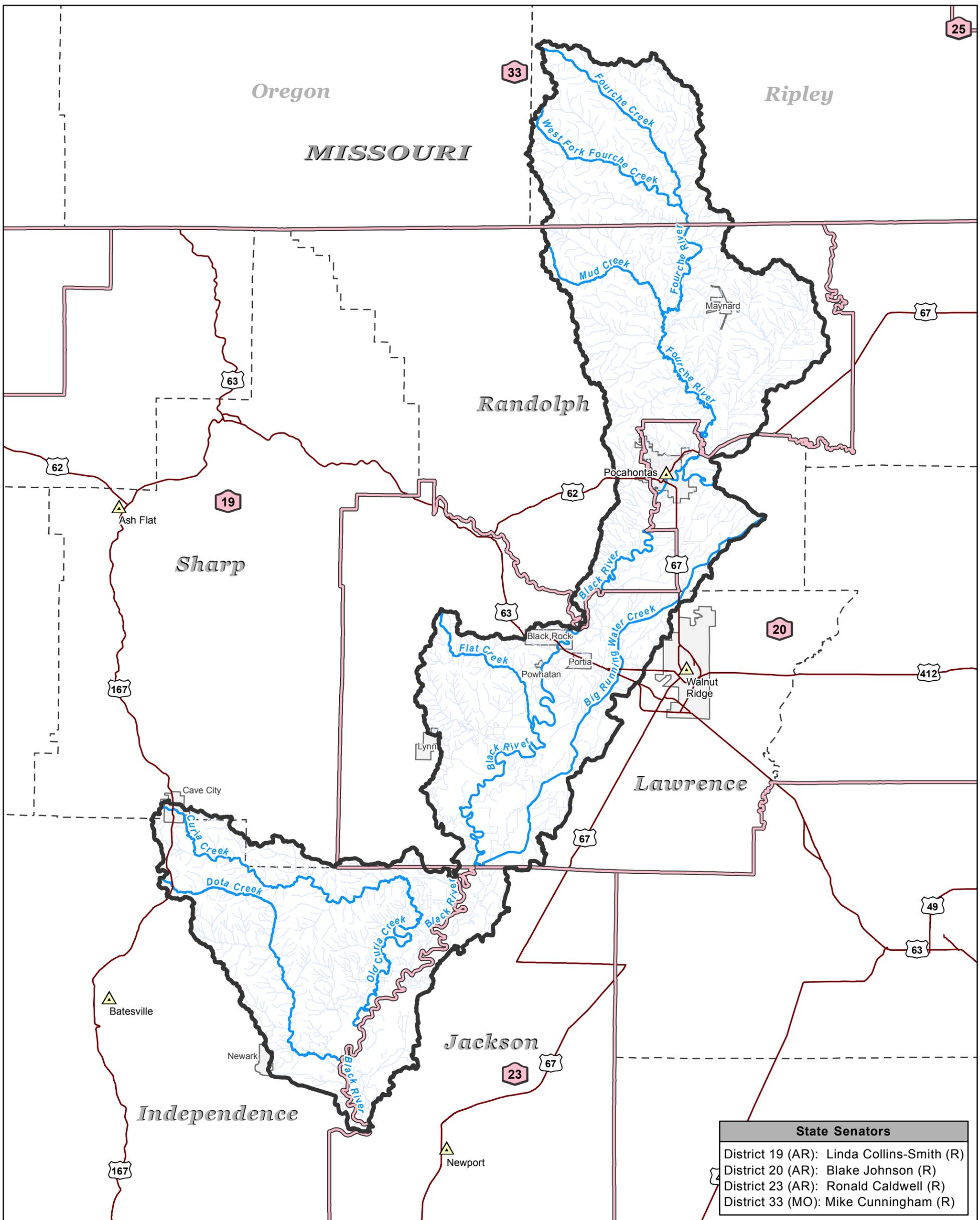


- County Seat
- Interstate
- U.S. Highway
- County Boundary
- City Limits
- Major Reaches of Watershed
- Other Waters
- Lower Black Watershed
- Arkansas House District Boundaries
- Missouri House District Boundaries

**Project Location**

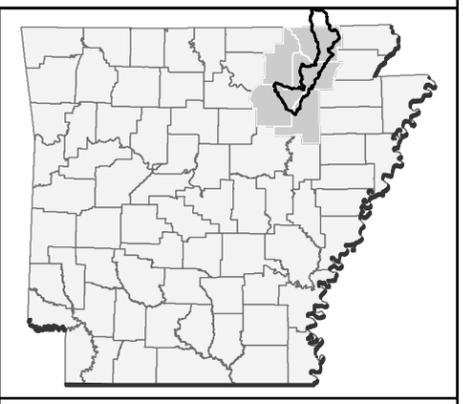
**FIGURE 9**

DATE: 3/23/2015



State Senators	
District 19 (AR):	Linda Collins-Smith (R)
District 20 (AR):	Blake Johnson (R)
District 23 (AR):	Ronald Caldwell (R)
District 33 (MO):	Mike Cunningham (R)

**STATE SENATE DISTRICTS**  
 LOWER BLACK WATERSHED  
 (HUC 11010009)



- County Seat
- Interstate
- U.S. Highway
- County Boundary
- City Limits
- Major Reaches of Watershed
- Other Waters
- Lower Black Watershed
- Arkansas Senate District Boundaries
- Missouri Senate District Boundaries

**FIGURE 10**

**Project Location**  
 DATE: 3/23/2015

## 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 within the State of Arkansas via letters, email, and/or 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 Lower Black 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 Lower Black Watershed Project Team**

Name	Organization	Project Role
Michael Borengasser	ANRC	CTP Coordinator / 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 (SHMO)
Linda Johnson	FTN	CTP Contractor / Program Manager
MaryBeth Breed	FTN	CTP Contractor / Project 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 Landuse 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 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.

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

**Table 11: History of Engagement**

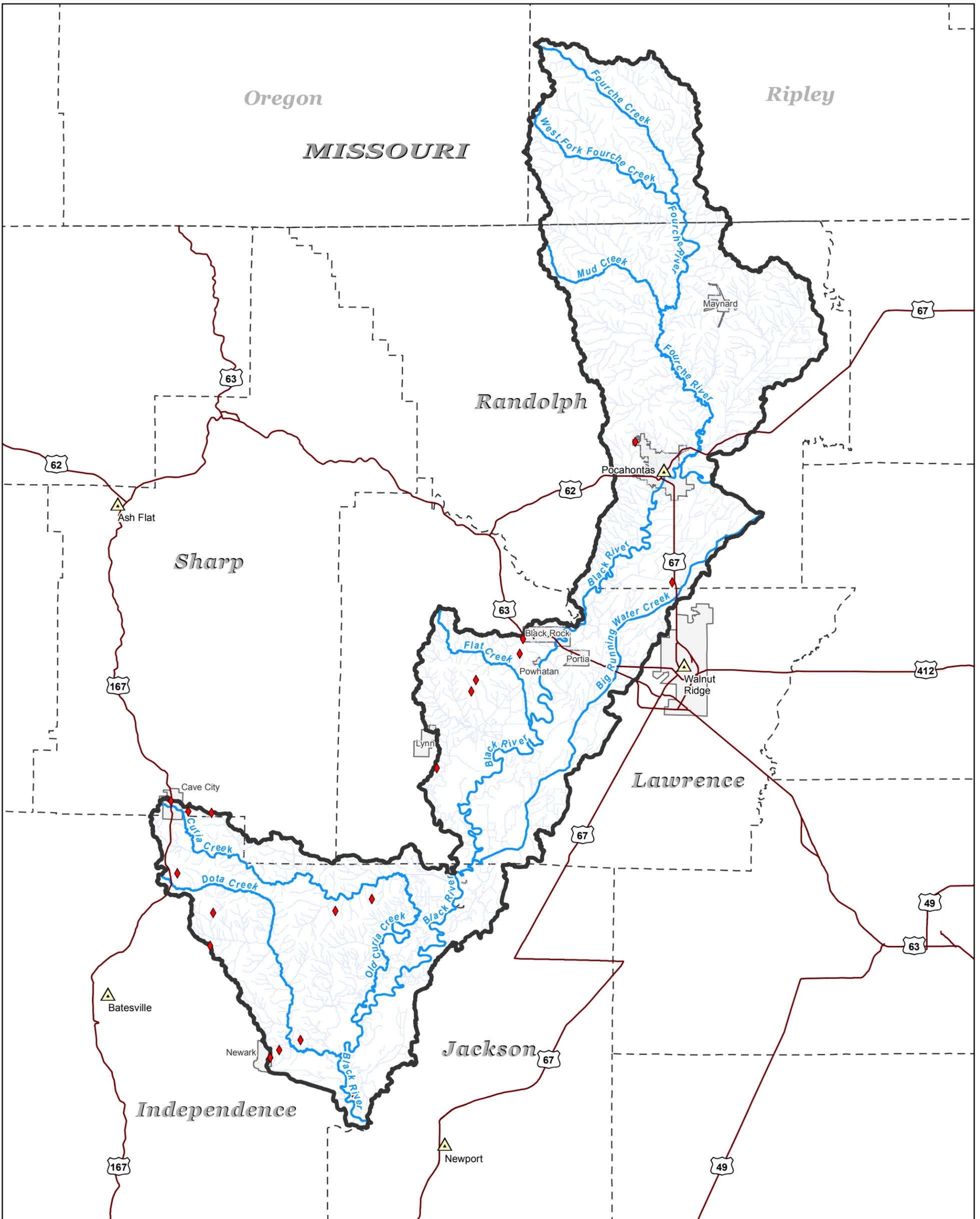
<b>Community Name</b>	<b>Type of Engagement</b>	<b>Date</b>	<b>Agency</b>	<b>Comments</b>
Independence County and Incorporated Areas	Map Mod	March 2010	FEMA	
Independence County and Incorporated Areas	Map Mod	March 2012	FEMA	Map update for levee certification
Jackson County and Incorporated Areas	Map Mod (preliminary)	Preliminary October 2014	FEMA	Preliminary DFIRMs issued October 2014 with seclusion applied
Jackson County and Incorporated Areas	LAMP Project	2014 - present	FEMA	In-progress: Massey-Alexander Levee and White River - Village Creek Levee (Project outside of Lower Black Watershed)
Lawrence County and Incorporated Areas	Map Mod	December 2012	FEMA	
Oregon County and Incorporated Areas	Map Mod	December 2008	FEMA	
Randolph County and Incorporated Areas	Map Mod	May 2012	FEMA	
Sharp County and Incorporated Areas	Map Mod	September 2011	FEMA	
Randolph County and Lawrence County	LIDAR	2013	USACE	Topography newer than effective FIRM; LIDAR collection included the Lower Black Watershed and may not include all parts of the counties listed
Independence County and Jackson County	LIDAR	2010	USACE	Topography newer than effective FIRM; LIDAR collection included the Lower Black Watershed and may not include all parts of the counties listed
Independence County, Jackson County, Lawrence County, Randolph County, Oregon County, and Ripley County	LIDAR	2014 (ongoing)	FEMA	Topography newer than effective FIRM; LIDAR collection includes the Lower Black Watershed areas not previously collected and all of Randolph County; may not include all parts of the counties listed

**Table 12: Hazard Mitigation Plan Status (as of June 30, 2015)**

Community Name	Hazard Mitigation Plan Name	Plan Status	Plan Expires
Independence County	Multi-Jurisdictional Hazard Mitigation Plan Community of Independence County, AR	Update in Progress	6/9/2013
Jackson County	Natural Hazard Mitigation Plan Jackson County, Arkansas	Update in Progress	1/5/2013
Lawrence County	Lawrence County, AR Natural Hazard Mitigation Plan	Update in Progress	11/3/2014
Randolph County	None	Plan in Progress	N/A
Sharp County	Hazard Mitigation Plan Community of Sharp County, AR	Update in Progress	7/13/2014
State of Arkansas	State of Arkansas All-Hazards Mitigation Plan	Current	09/04/2016
Oregon County, MO	N/A	N/A	N/A
Ripley County, MO	N/A	N/A	N/A
State of Missouri	Missouri Hazard Analysis	Current	December 2016

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.

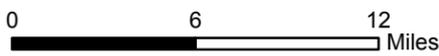
Figure 11 displays the locations and types of mitigation grant activity in the Lower Black Watershed, including any additional mitigation activities identified during Discovery that may or may not have been completed through a grant process. There may be additional grants being pursued at both the state and local level within the watershed that have not been identified. Information available to date indicates grants for Safe Rooms are the only FEMA sponsored grant activities within the watershed.



**GRANT ACTIVITY**  
 LOWER BLACK WATERSHED  
 (HUC 11010009)



**FEMA**



- |                 |                            |                          |
|-----------------|----------------------------|--------------------------|
| County Seat     | Major Reaches of Watershed | HMGP Grants (Safe Rooms) |
| Interstate      | Other Waters               | Mitigation Grants        |
| U.S. Highway    | Lower Black Watershed      | Property Acquisition     |
| County Boundary |                            | Public Assistance Grants |
| City Limits     |                            |                          |

**Project Location**

**FIGURE 11**

DATE: 3/23/2015

## ii. Pre-Discovery Data Collection

For the Lower Black Watershed's Engagement / Pre-Discovery Report and Map, multiple datasets were used. The 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 as part of the Discovery project close-out.

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

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

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

Data Types / Description	Deliverable/Product	Source
Transportation Lines	Discovery Map Geodatabase	AHTD / U.S. Census Bureau
Disaster Declarations	Supporting Documents	FEMA
Hazard Mitigation Plans and Mitigation Activities	Supporting Documents (copies of HMPs not included)	FEMA / ADEM / AR CTP
Imagery	Supporting Documents	AGIO / Microsoft

**iii. Discovery Meeting**

As part of the process for the Lower Black Watershed, Discovery meetings were held at strategic locations in the Watershed on April 27 - 28, 2015. Meeting times and locations are shown in Table 14. Each meeting was 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 Lower Black Watershed.

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

Meeting	Date and Time	Location
1	Monday April 27, 2015 2:00 – 4:00 PM	City of Black Rock, City Hall 491 Elm Street Black Rock, AR 72415
2	Tuesday April 28, 2015 9:00 – 11:00 AM	Pocahontas Community Center (Room 1) 300 Geneva Drive Pocahontas, AR 7245
3	Wednesday April 28, 2015 2:00 – 4:00 PM	City of Cave City, City Hall 120 E. Center Street Cave City, AR 72521

The Discovery Meetings were 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 had 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. First Order Approximation (FOA) analysis and mapping was prepared for the watershed and was discussed and provided to the communities. Important items for discussion included 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; 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 Studies (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 were 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 that will be documented. Discovery allowed 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) noted their availability to answer questions and engaged the attendees after the Discovery Meeting. During each Discovery Meeting, the Project Team members requested that attendees provide any additional information within 30 days of the meeting. Follow-up correspondence was distributed by the Project Team in mid June requesting information and input from the communities on or before July 2, 2015.

Prior to the Discovery Meetings the Lower Black Watershed Engagement Plan / Pre-Discovery Report was distributed in hard copy to the community CEO’s and made available by download at <http://www.riskmap6.com/> and <http://www.floodplain.ar.gov>. The Final Lower Black Watershed Discovery Report will also be distributed in the same fashion and will replace the Engagement Plan / Pre-Discovery Report on the above noted websites.

Additional copies of the Lower Black Final Discovery Report will be made available at the Discovery Close-out Meeting that will be held on / before September 30, 2015. The Discovery Close-out Meeting is intended to present all of the findings from the Discovery process in the Lower Black Watershed to the stakeholders and to discuss future project opportunities.

#### iv. Discovery Implementation

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
City of Black Rock, Lawrence County	White River Planning & Development District
City of Cave City, Lawrence & Sharp Counties	Running Water Levee District
City of Pocahontas, Randolph County	Arkansas Forestry Commission
City of Newark, Independence County	Congressman Crawford’s Office
Independence County	Senator Boozman’s Office
Lawrence County	Senator Cotton’s Office
Randolph County	ANRC
Sharp County	ADEM
	FTN

The communities NOT represented at the Discovery Meetings are included in Table 16.

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

Community Not Represented	Community Not Represented
Town of Lynn, Jackson County	Town of Maynard, Randolph County
Town of Portia, Jackson County	Jackson County
Town of Powhatan, Jackson County	

**v. Data Gathering Overview**

Information about the Lower Black 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 was completed following the Discovery Meeting as part of the final Lower Black Watershed Discovery Report and summarizes the comments collected at the Discovery Meeting specific to a flooding source and/or community area.

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

Information Provided By	Flooding Source	Discovery Workshop Comment Summary
Independence County	Unnamed Tributary to Dota Creek	Replace Holcombe Cemetery Road Bridge, per Hazard Mitigation Plan.
Lawrence County	Lake Charles	Would like to see inundation map prepared and made available to the County, per Hazard Mitigation Plan.
Lawrence County	Ralph McDonald Lake	Would like to see inundation map prepared and made available to the County, per Hazard Mitigation Plan.
Lawrence County	Flat Creek WID Site 2	Would like to see inundation map prepared and made available to the County, per Hazard Mitigation Plan.
Sharp County	Cedar Lake	Would like to have a spillway analysis done to confirm adequate sizing.
City of Newark	Unnamed Tributary	The 2 <sup>nd</sup> St, 4 <sup>th</sup> St and Main St bridges are all candidates for mitigation due to erosion. (These areas of mitigation interest are located in the Middle White Watershed.)
City of Newark	Black & White Rivers	Flooding occurs at the Newark Treatment plan when these rivers are high. The plant is located in the Middle White Watershed.

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.

## **11010009\Lower Black Watershed Discovery**

### **\General**

- Discovery Metadata – XML
- Project Narrative - PDF

### **\Correspondence**

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

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

#### **\Discovery\_Meeting**

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

#### **\Post\_Discovery**

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

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

- LowBlack\_Discovery.gdb
  - Community Contact List (L\_Mtg\_POC)
  - Source Citations (L\_Sources)
  - Political Areas (DCS\_S\_Pol\_AR)
  - Transportation (DCS\_Trnsport\_Ln)
  - HUC-8 (DCS\_S\_HUC)
  - Discovery Map (DCS\_Discovery\_Map)

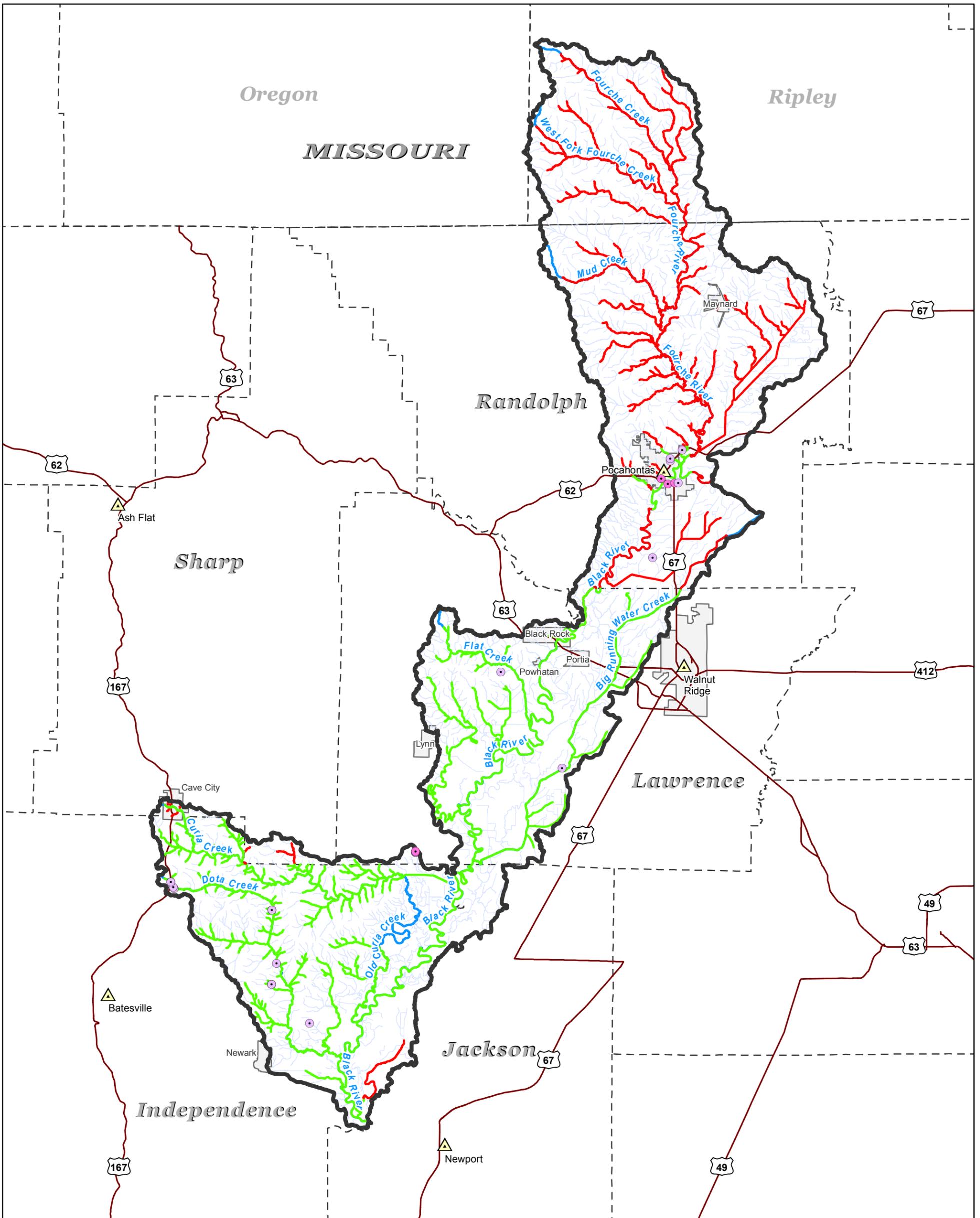
#### **\Supplemental\_Data**

- All other data collected during Discovery
  - Congressional Briefing

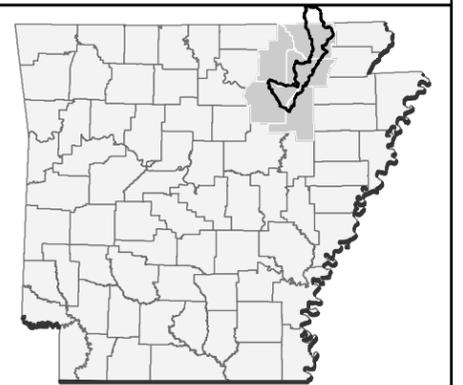
### **III. Watershed Findings**

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 Lower Black Watershed. Claims activity is generally concentrated in the Pocahontas area. Figures 5 and 6 show the claims activity and the RL/SRL claims respectively.

Letters of Map Amendment (LOMA), Letters of Map Revision (LOMR), and Conditional LOMR (CLOMR), referred to collectively as LOMCs, appear in several locations throughout the watershed, with the largest concentration in the Pocahontas area, however, there are not a large number LOMCs in this watershed. Please refer to Figure 12 for the location of these LOMCs.



**LETTER OF MAP CHANGE (LOMC) ACTIVITY**  
 LOWER BLACK WATERSHED  
 (HUC 11010009)



- County Seat
- Interstate
- U.S. Highway
- County Boundary
- City Limits
- Major Reaches of Watershed
- Other Waters
- Lower Black Watershed
- Letter of Map Amendment (LOMA)
- Letter of Map Revision (LOMR)
- LOMR - Fill (LOMR-F)
- LOMR - Floodway (LOMR-FW)

- CNMS Validation Status**
- Unverified
  - Assessed
  - Valid

**FIGURE 12**

**Project Location**  
 DATE: 3/23/2015

**i. CNMS Analysis**

A CNMS analysis was performed in preparation for the Discovery Meeting. 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. No detailed streams were found to fail the CNMS validation process during the initial review nor after the Discovery process was completed. Table 18 would show the detailed study streams in the Lower Black Watershed that have failed one or more validation elements during the CNMS stream reach level validation process, however none were identified.

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

Stream Name	City and/or County	Validation Status	Failed CNMS Elements
N/A			

N/A – No streams were found to be invalid during Pre-Discovery reviews.

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
N/A		

## IV. Watershed Options

In conjunction with the assessment of risk, need, and the availability of topographic data, as well as the input of stakeholders within this Watershed, future projects within the Lower Black 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 that 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**

Risk Identification and Communication
<ul style="list-style-type: none"> <li>• Dam inundation studies in Lawrence and Sharp Counties</li> <li>• Bridge Replacement in Independence County</li> <li>• Several bridge replacements or erosion control measures in City of Newark</li> <li>• Flood protection measures for the Newark Treatment Plant</li> </ul>
NFIP Community Actions
<ul style="list-style-type: none"> <li>• NONE</li> </ul>
Mitigation Planning and Mitigation Actions
<ul style="list-style-type: none"> <li>• NONE</li> </ul>
Community Benefits and Grant Opportunities
<ul style="list-style-type: none"> <li>• Pursue acquisitions/relocation of RL properties in Campbell Station (Randolph County HMP)</li> </ul>

Table 21 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 were 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 were 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 Lower Black Watershed to meet general FEMA regional goals based on the information gathered during Pre-Discovery and Discovery.

Needs were 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.

Table 21: Metrics and Rankings of Needs

Priority	Description of Need				
	<p><u>Evaluation Guide</u></p> <p><b>High</b> – Local community would immediately benefit from the action, and FEMA’s metrics would also be met</p> <p><b>Medium</b> – Local community would benefit over the longer term from the action, and a portion of FEMA’s metrics may be met</p> <p><b>Low</b> – Local community activities can continue without this revision, and FEMA’s metrics are not impacted</p> <p><b>Community Action</b> – Activity would be more appropriate as a community-led action rather than a FEMA-led action</p>				
	Location of Need / Project	Details	Impacts From Any Current Map Actions	FEMA Metric or Community Benefit	Evaluation
1.	Dam inundation studies	Lake Charles, Ralph McDonald Lake, and Flat Creek WID Site 2 in Lawrence County		Risk Identification	Community Action
2.	Dam inundation studies	Cedar Lake in Sharp County		Risk Identification	Community Action
3.	Bridge Replacement	Holcombe Cemetery Rd, Independence County		Risk reduction	Low
4.	Bridge Replacement or erosion control measures	City of Newark		Risk reduction, mitigation	Low
5.	Flood Protection	City of Newark Treatment Plan		Risk reduction, mitigation	Medium

## **i. Project Prioritization**

During the Discovery process, flood risk projects are 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 CNMS database.

Once the entire HUC-8 has been evaluated, FEMA Region 6, using input and recommendation from the Lower Black Watershed 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 FY15 (2015-2016) FEMA grant cycle based on current / planned community projects and cost-sharing capabilities. Projects that are not selected for the FY15 (2015-2016) FEMA grant cycle can be considered for future grant years as the communities develop the resources and cost-sharing capabilities.