

Pre-Discovery Report

Curry and Roosevelt County, New Mexico

Curry and Roosevelt County, New Mexico

July 31, 2019



FEMA

Project Area Community List

Community Name*	CID
Curry County Communities	
Clovis, City of	350127
Curry Unincorporated Areas	350010
Grady, Village of	350051
Melrose, Village of	350115
Texico, Town of	350117
Roosevelt County Communities	
Elida, Town of	350101
Floyd, Village of	350103
Roosevelt Unincorporated Areas	350053
Portales, City of	350054

*Communities without CIDs are not included.

Commented [cmc1]: List counties/parishes alphabetically

Commented [cmc2]: Only include unincorporated areas if land area is within watershed.

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The basis and format of this document is derived from FEMA Guidance and Specification, Procedure Memorandums, Operational Guidance, Regional Standard Operating Procedures, and current draft revisions and proposed guidance to include, but not limited to;

Guidance and Specifications: Appendix I - Discovery

Guidance and Specifications: Appendix M – Data Capture Standards

PM 56: Guidelines for Implementation of Coordinated Needs Management Strategy (CNMS)

PM 59: Guidance for Implementation of Watershed-Based Studies

PM 60: Guidance for Flood Risk Assessment Data Development and Analysis

Operational Guidance No. 1-11: Risk MAP Guidance for Incorporating Mitigation Planning Technical Assistance and Training into Flood Risk Projects

Operational Guidance No. 4-11: Risk MAP Meeting Guidance

FEMA Region 6 Discovery & Project Pre-Planning SOP

Any revisions or changes to this document will require FEMA Region 6 Authorization prior to implementation.

Acronyms and Abbreviations

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
DFIRM	Digital Flood Insurance Rate Map
EDAC	Earth Data Analysis Center
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FPA	Floodplain Administrator
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
H&H	hydrologic and hydraulic
HMP	Hazard Mitigation Plan
HUC	Hydrologic Unit Code
HWM	high water mark
LiDAR	Light Detection and Ranging System
LOMA	Letter of Map Amendment
LOMC	Letter of Map Change
LOMR	Letter of Map Revision
MAT	Mitigation Assessment Team
MDP	Master Drainage Plan
MXD	Map Exchange Document
NFIP	National Flood Insurance Program
NHD	National Hydrologic Dataset

Commented [cmc3]: Remove unused acronymns and add acronymns as needed

NMDHSEM	New Mexico Department of Homeland Security and Emergency Management
NMRGIS	New Mexico Resource Geographic Information System
NVUE	New Validated or Updated Engineering
RAMPP	Risk Assessment, Mapping and Planning Partners
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 the State of New Mexico 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 the State of New Mexico and local entities with information needed to mitigate flood related risks.

The FEMA Region 6 office, in partnership with the Earth Data Analysis Center, University of New Mexico began the Discovery process in the Roosevelt County in December 2018 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.

Through the Discovery process, FEMA can determine which areas of the HUC8 Discovery watersheds may/will be funded 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 August 2019 FEMA and the State held a series of 2 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
- Reviewed current and historic mitigation plans to understand local mitigation capabilities, hazard risk assessments, and current or future mitigation activities.
- Include multi-disciplinary staff from within their community to participate and assist in the development of a watershed vision.

The results of the Discovery process are presented in a Discovery Report, a watershed scale Discovery Map and the digital data that were gathered or developed during the process under the fiscal year 2017 CTP Agreement, EMT-2017-CA-00012, Mapping Activity Statement (MAS) 09, between FEMA and EDAC.

This document contains the Pre-Discovery Report. The digital data submitted (on a DVD) with this report contain correspondence, exhibits used at the Discovery meetings, geographic information system (GIS) data, mapping documents (PDF, shapefiles, personal geodatabases and

ESRI ArcGIS 10.5.1 Map Exchange Documents [MXDs]), or other supplemental digital information. Graphics in this 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. Decile risk calculated from 9 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.

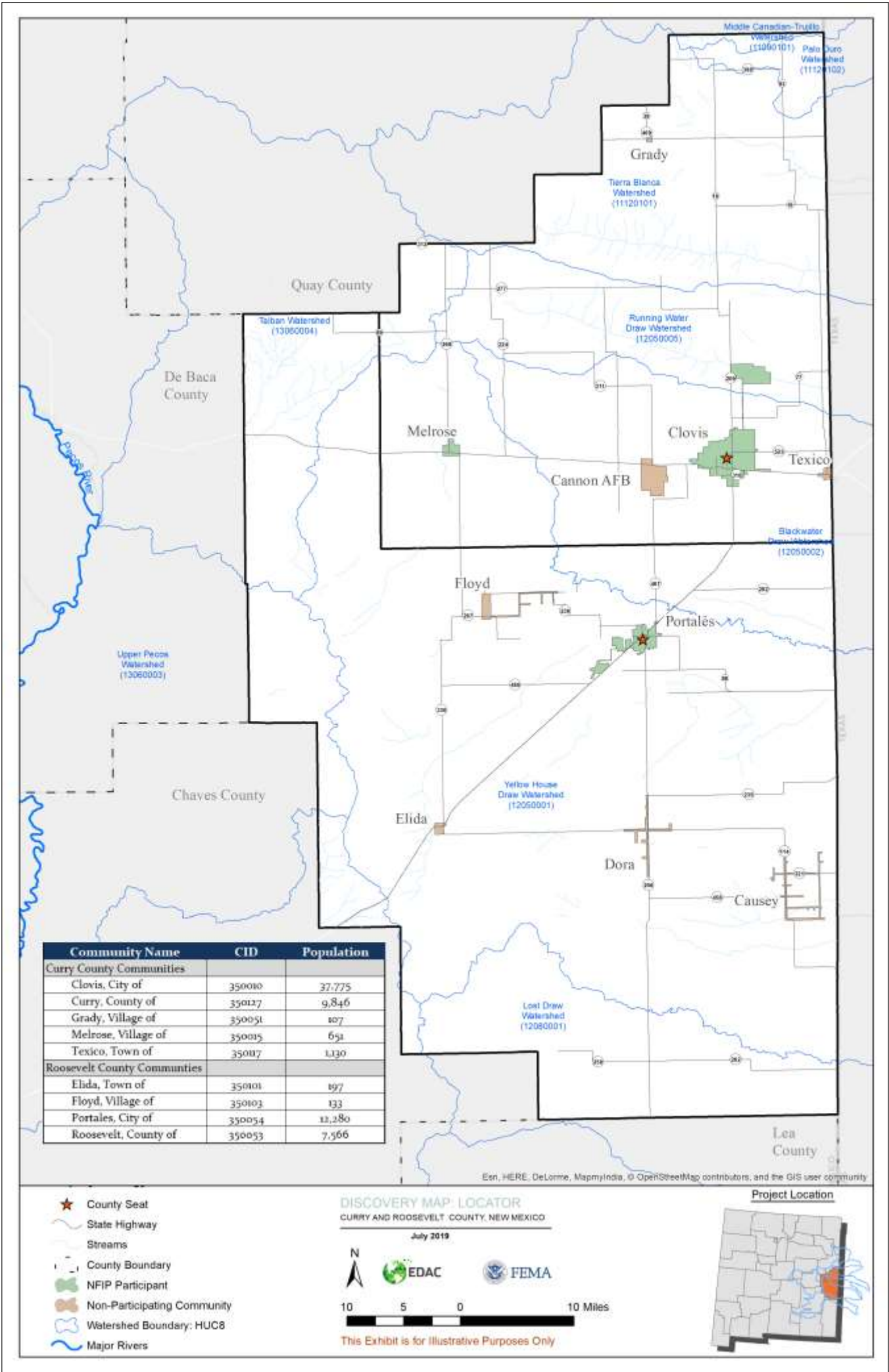
Curry County encompasses an area of approximately 1,407 square miles while Roosevelt County an area of approximately 2,454 square miles. Major communities include the cities of Clovis and Portales. There are no levees in the watershed that are shown to provide protection from the base flood on the DFIRMs.

Table 1 provides a status update for each community's NFIP participation, CRS rating, and current FIRMs. Both Curry and Roosevelt counties and 6 communities are participating in the NFIP. Both counties participate in the NFIP although there are 3 communities not participating in the NFIP. Figure 1 shows the locations of all communities in the watershed.

Table 1: NFIP Status of Project Area Communities

County/ Parish	Community Name	Community Identification Number (CID)	Participating Community?	CRS Rating	FIRM Date	FIRM Status	Populatio n (2010 Census)
Curry	Unincorporate d Areas	350010	Yes		05/16/13	effective	9,843
Curry	Clovis	350127	Yes	8	05/16/13	effective	37,775
Curry	Grady	350051	Yes		08/05/10	NSFHA	107
Curry	Melrose	350115	Yes		05/16/13	effective	651
Curry	Texico	350117	No		N/A	N/A	1,130
Roosevelt	Elida	350101	No		N/A	N/A	197
Roosevelt	Floyd	350103	No		N/A	N/A	
Roosevelt	Portales	350054	Yes	9	10/06/10	effective	12,280
Roosevelt	Unincorporat ed Areas	350053	Yes	-	10/06/10	effective	7,566

Figure 1: Watershed and Communities



The majority of land within the two counties is in private ownership. The Bureau of Land Management owns 8 square miles in Roosevelt County. The US Fish and Wildlife Service manages the Grulla National Wildlife Refuge in Roosevelt County (5 square miles). The State of New Mexico owns 385 square miles in addition the New Mexico State Game and Fish Department owns 39 square miles. Curry County is home to Cannon Air Force Base and the Melrose Air Force Range is located in Roosevelt County.

Risk Decile

The level of flood risk can be calculated by two methods. Risk deciles are calculated from nine parameters, including total population density, historical population growth, predicted population growth, housing units, flood policies, single claims, repetitive losses (RLs), RL properties and declared disasters.

Population

The population in Curry County is 50,168 and Roosevelt County 19,082 based on the 2010 census. Clovis is the largest town in Curry county with a population of 37,775 and Portales is the largest community in Roosevelt County with a population of 12,280. There are in total 7 populated areas inside this watershed. Figure 2 shows the population densities within Curry and Roosevelt counties based on U.S. Census Data 2010.

Figure 3 identifies the relative percent urban cover for areas within the watershed.

There has been a 1% increase in urban land cover over the past thirteen years in Curry and Roosevelt Counties. Most of the land in these two counties is cover by herbaceous vegetation or is under agricultural production.

Figure 4 shows the changes in the percent urban coverage that have occurred in the watershed in the last thirteen years

Figure 2: Population Density in the Watershed

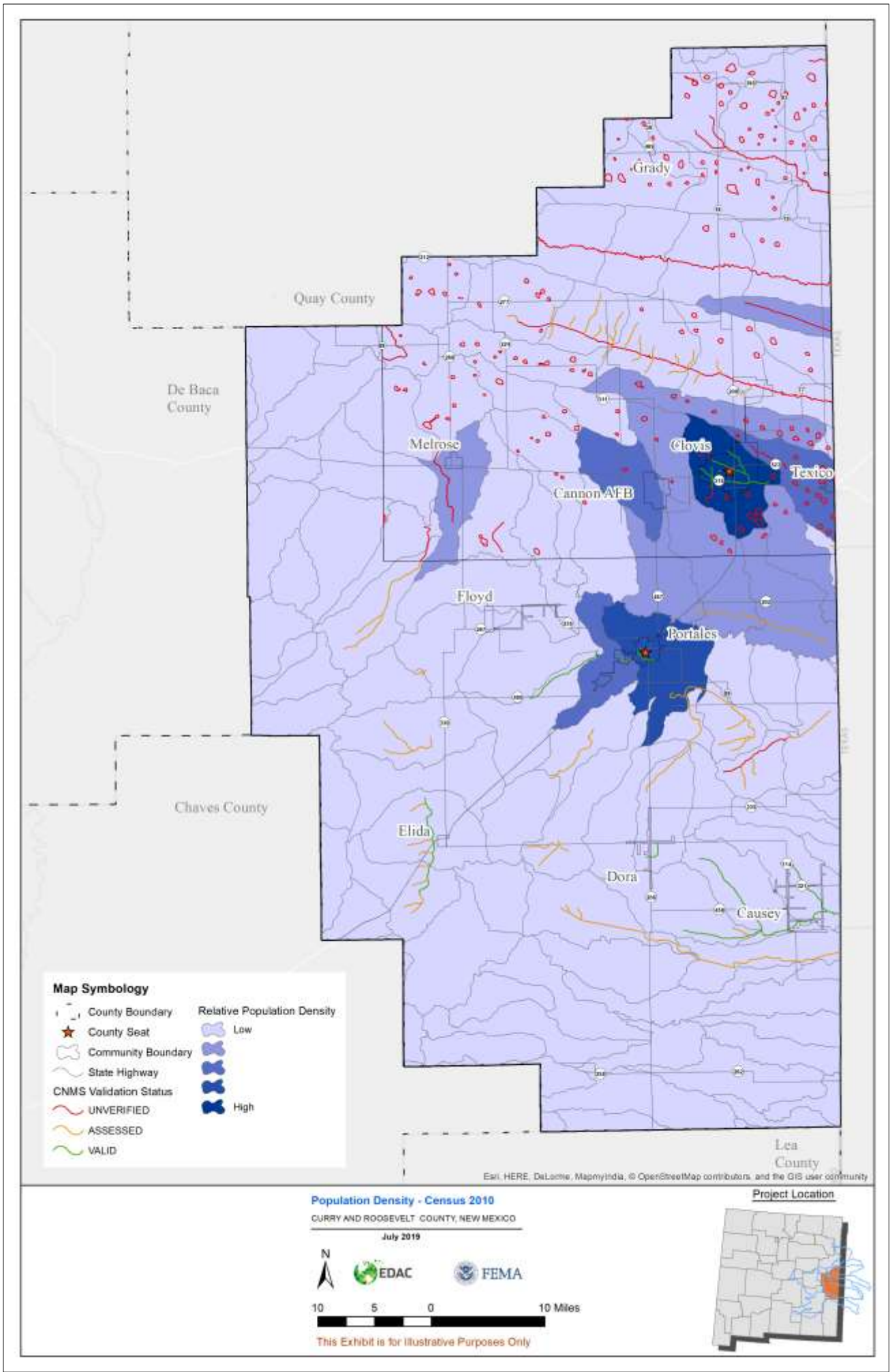


Figure 3: Current Percent Urban Coverage

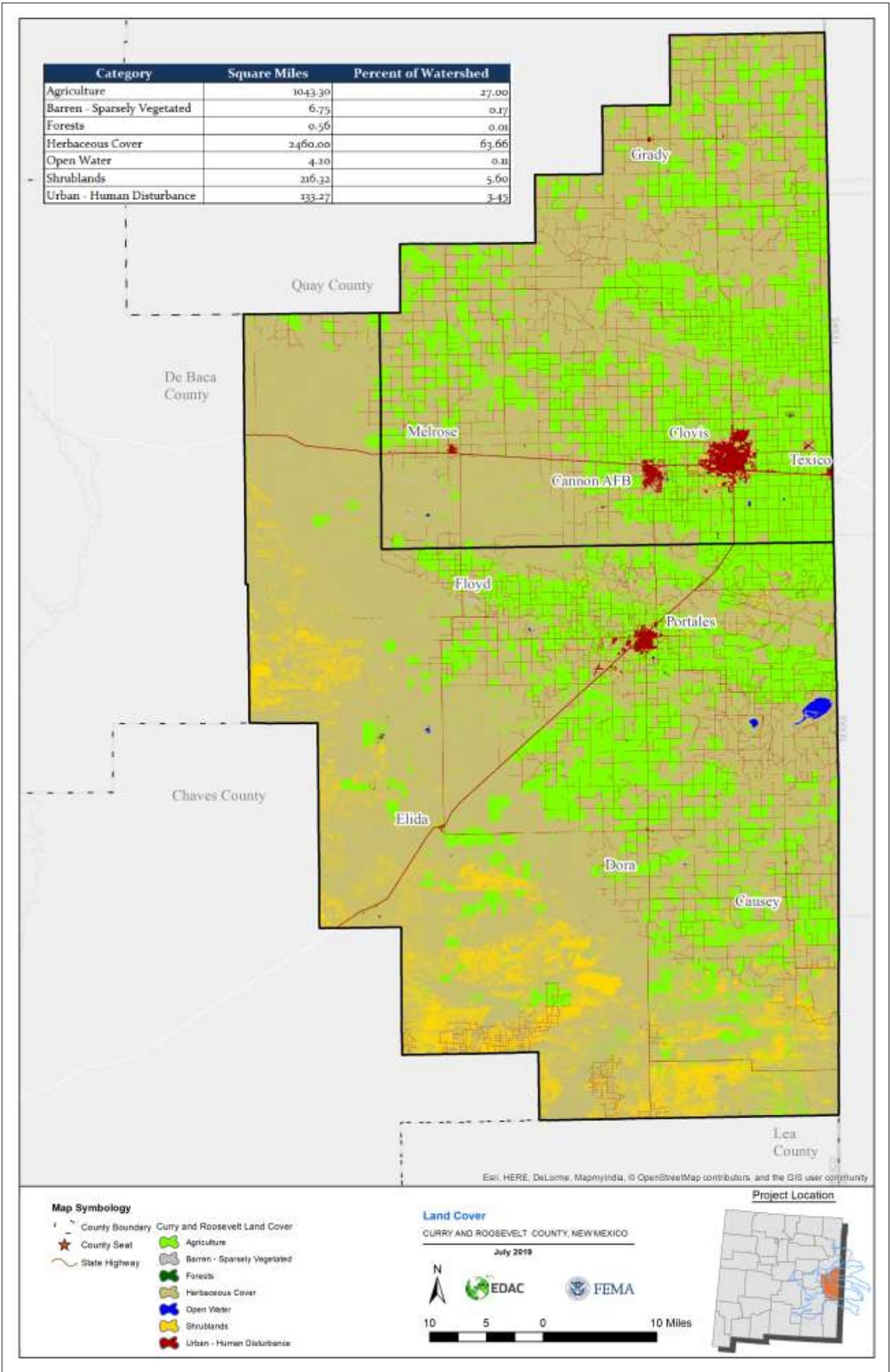


Figure 4: Urban Changes Last Five Years

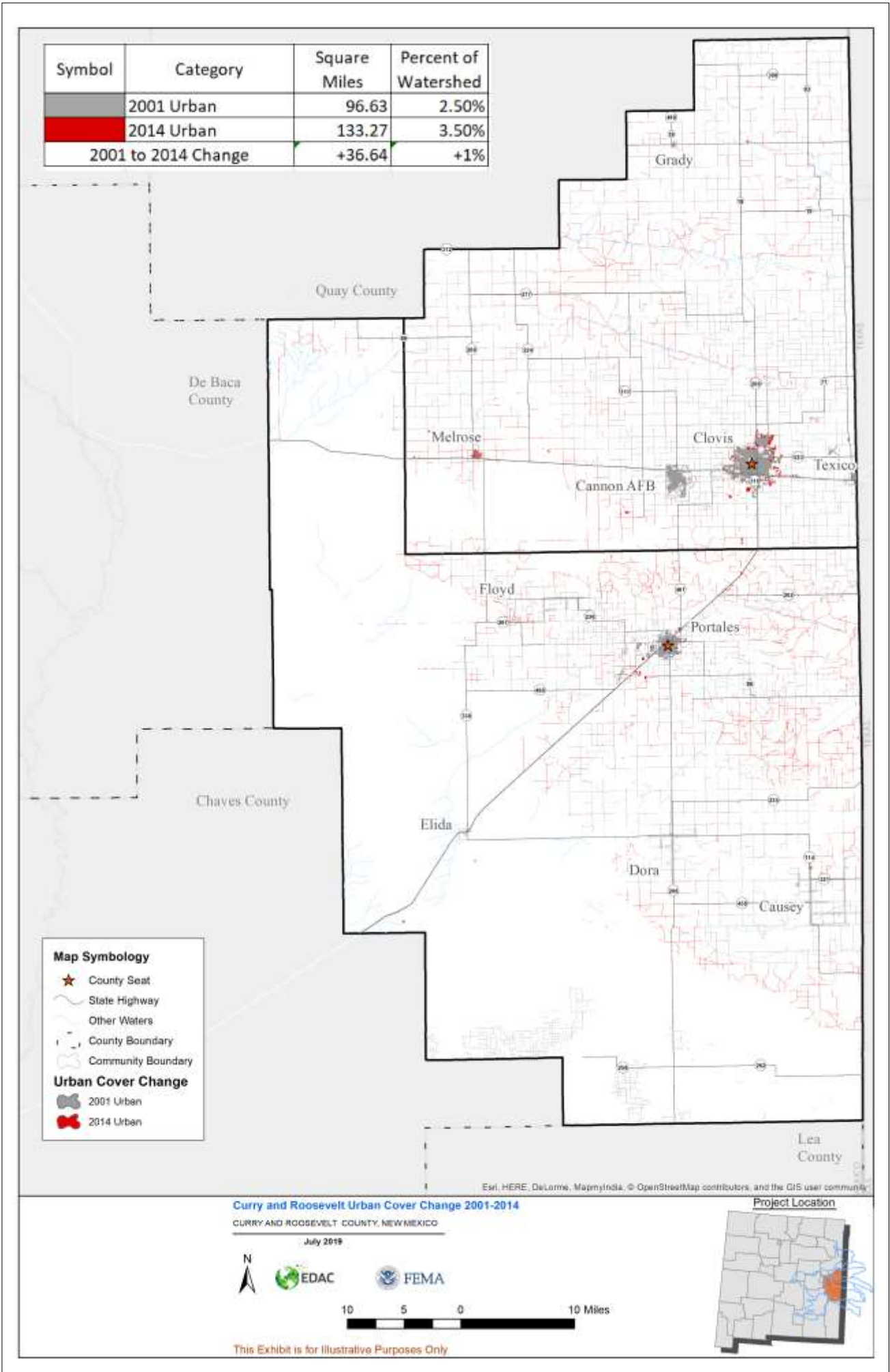


Table 2 lists the number of NFIP insurance claims for the portions of the communities within the Watershed. Of the insurance claims filed within the watershed, 44 percent have been filed in the in the City of Clovis and 56% in the City of Portales. Figure 5 depicts the distribution of NFIP insurance claims within Curry and Roosevelt Counties.

Table 2: Total NFIP Insurance Claims

Total NFIP Insurance Claims by Community	
Community	Claims
Clovis, City of	312
Portales, City of	399

In addition to NFIP claims, there are several locations of Repetitive Loss (RL) or Severe Repetitive Loss (SRL) properties within Curry and Roosevelt Counties. Table 3 summarizes RL and SRL claims by county and community within the Watershed. These losses are also displayed on the Discovery Map included in the supplemental digital data.

Table 3: Repetitive or Severe Repetitive Loss within the Watershed

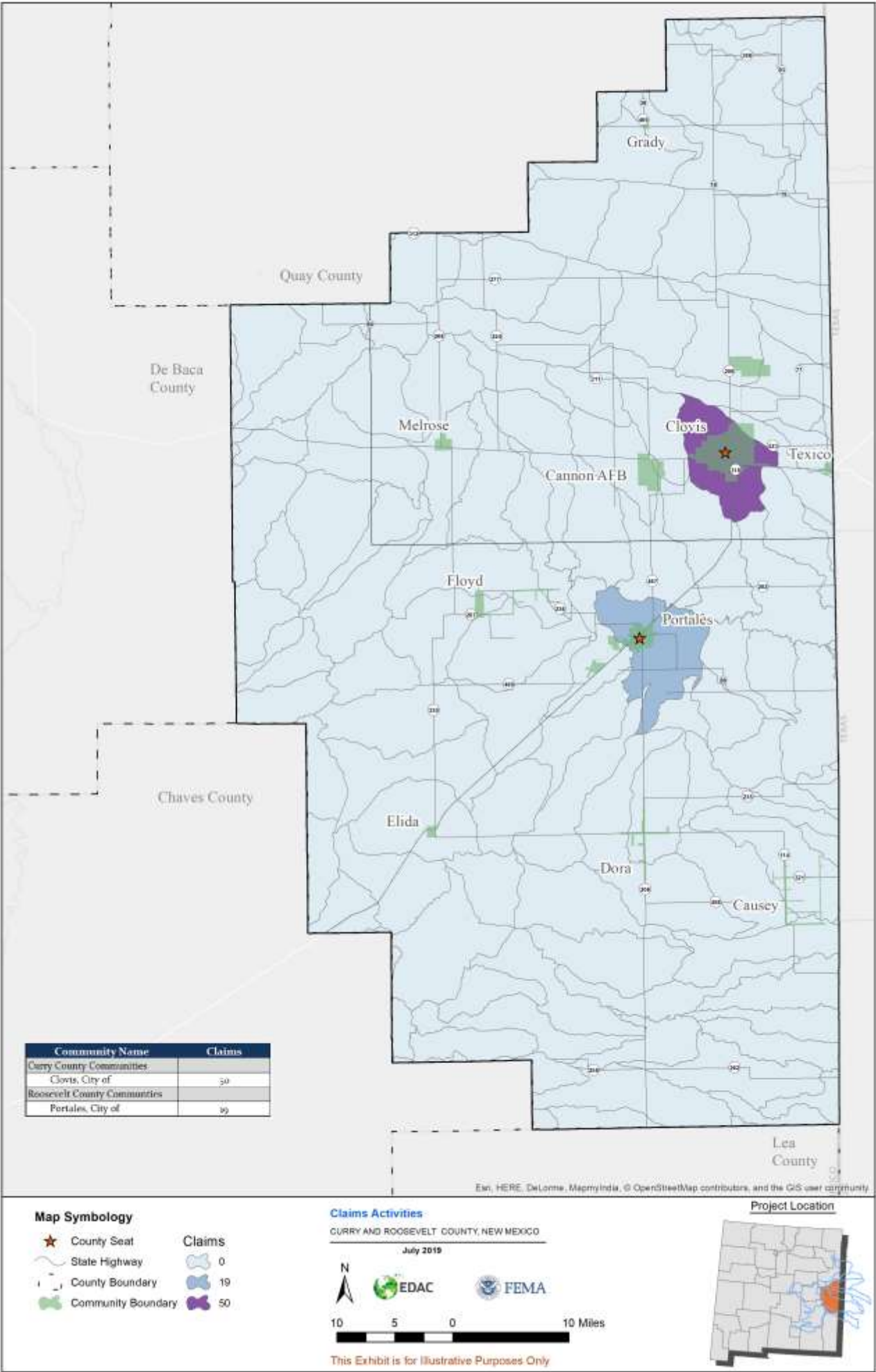
Repetitive Losses/Severe Repetitive Losses By Community			
Community	Number of Properties	Total Claims	Average Claim Per Property
Clovis, City of	2	7	\$67,335.78
Portales, City of	2	6	\$52,85.72

Curry and Roosevelt counties have a history of flooding although no disaster declarations for flooding have been issued for either county. Table 4 lists recent disaster declarations for multiple hazards within the watershed.

Table 4: Disaster Declarations in the Watershed

Date of Declaration	Watershed Counties Declared	For Hazard
5/10/2000	Curry	Severe Fire Threats
9/7/2005		Hurricane Katrina Evacuation
4/2/2007		Severe Storms and Tornadoes
4/17/2011		Tire Fire
3/2/1977	Roosevelt	Drought
1/29/1998		Severe Winter Storm
5/10/2000		Severe Fire Threats
9/4/2005		Hurricane Katrina Evacuation
4/17/2011		Tire Fire

Figure 5: Single Claims in the Watershed



Topographic Data

Topographic coverage of Curry and Roosevelt counties is excellent, FEMA and NRCS collected Lidar data for the entire area through the USGS 3DEP program in 2015. Figure 6 provides a snapshot of CNMS factors for each stream segment, the HUC 12 risk decile, and the availability of topographic data.

Describe and summarize any pertinent information about federally elected congressmen. Potential information could include; does the elected official live in the watershed, are they very active in the watershed communities, do they sit on any committees affecting FEMA, etc.

Significant streams in this watershed include the LIST THE SIGNIFICANT STREAMS. 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 XXX miles of streams in the NAME of WATERSHED 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-mile drainage area and that currently have effective Special Flood Hazard Areas (SFHA) 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 stream 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 the only studies which contribute to the New Validated or Updated Engineering (NVUE) metric.

The NVUE metric is used as an indicator the status of studies for FEMA's mapped SFHA Inventory. Those studies which are categorized as 'unverified', typically indicate that there are some factors of change since the SFHA became effective or may have a deficiency warranting restudy. CNMS stream mileage categorized as 'Requires Assessment' require further input 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.

Error! Reference source not found. compares the NHD data to the CNMS data and summarizes the Validated NVUE stream mileage from CNMS for the watershed.

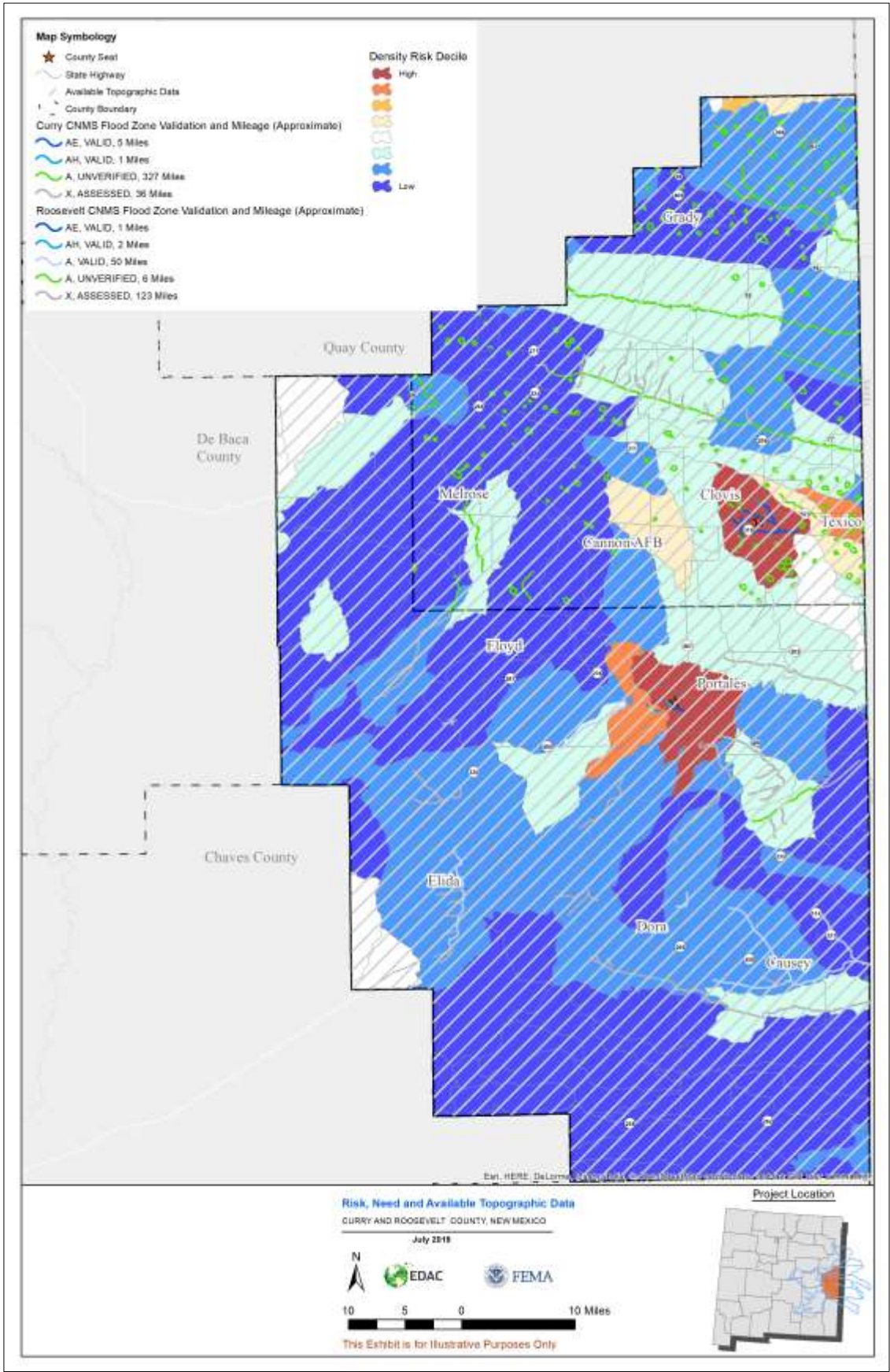
Table 5: NVUE Approximate Stream Mileage in the Watershed

NVUE Validation	Stream Miles
NHD Streams (streams with a drainage area of greater than one square mile)	201
CNMS Streams (streams with effective SFHA)	573
Stream Miles not accounted for in CNMS	144
CNMS Valid Zone AE / AH	9
CNMS Valid Zone A	50
CNMS Unverified Zone AE / AH	0
CNMS Unverified Zone A	333
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)	144
Stream Miles not accounted for in CNMS that would fall in land that <i>could be</i> developed	144
Stream Miles not accounted for in CNMS that would fall in land that <i>could not be</i> developed	0

Within the Curry and Roosevelt counties and using these criteria from CNMS, approximately 333 miles of Zone A and 0 miles of Zone AE areas were identified as being unverified. Streams included in the unverified grouping include **LIST STREAMS** with approximately XXX miles of Zone AE flagged as requiring further assessment or are in the current process of being studied with on-going projects. Additionally, XXX miles of Zone AH and approximately XXX miles of Zone AE in the watershed were characterized as being Valid under the NVUE metrics. *No Zone A areas are flagged as valid as the analysis indicates that none of these SFHAs are model backed Zone A studies. (VERIFY IF THIS APPLIES)*

Figure 6 provides a snapshot of CNMS factors 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 NAME OF WATERSHED Watershed for a Discovery Project.

Figure 6: Risk, Need and Available Topographic Data



II. Discovery Efforts

i. Engagement Plan

Pre-Discovery Community Engagement

Table 6 provides the members of the Regional Project Team was made up of the following staff.

Table 6: Regional Project Team

Organization	Name	Project Role
FEMA R6	Matthew Lepinski	Project Monitor
FEMA R6	Shanene Thomas	Tribal Liason and Mitigation Planning
FEMA R6	Trey Rozelle	Floodplain Management & Insurance
FEMA R6	Christie King	Hazard Mitigation Assistance
NMDHSEM	Veronica Chavez	NFIP Coordinator
NMDHSEM	Wendy Blackwell	State Hazard Mitigation Officer
Earth Data Analysis Center	Shawn L. Penman	CTP Coordinator

FEMA and the Regional Project Team were in contact with all Watershed stakeholders via letters, email, and phone calls before this Discovery meeting to request local participation. In addition to assisting 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 Curry and Roosevelt counties. 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.

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

- Gathered information about local flood risk and flood hazards
- Reviewed mitigation plans to understand local mitigation capabilities, hazard risk assessments, current or future mitigation activities, and areas of mitigation interest
- Encouraged communities within the watershed to develop a vision for the watershed's future
- Used all information gathered to determine which areas of the watershed may require further study through a Risk MAP project
- 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 Urban Change from 2001 – 2014
- Mapped Population Density in the Watershed

The Regional Project Team began outreach efforts to the local governments within the Watershed, Congressional and public officials, to inform them of the Discovery process and to invite them to participate and contribute information about the Watershed about water resource concerns.

Discussions are being held with these agencies about potential partnership opportunities, as well as their help in identifying flood risk throughout the watershed.

Table 7: FEMA History of Engagement

Community Name	Type of Engagement	Date	Agency	Comments
City of Portales	Discussion of effective Firms, BLE data, creation of master drainage plan, transition from BLE to FIRM regulatory update	1/9/2019	FEMA, EDAC	
City of Clovis	CAV	4/25/2019	FEMA, NMDHSEM	Findings None
City of Portales	CAV	4/25/2019	FEMA, NMDHSEM	Findings Enf: Serious/ Eng: Minor
Curry & Roosevelt County	Topographic Acquisition / LIDAR	2015	FEMA, NRCS, USGS	Coordinated through USGS 3DEP Program
Curry County	FIRM Map Updates	2010	FEMA	
Roosevelt County	FIRM Map Updates		FEMA	

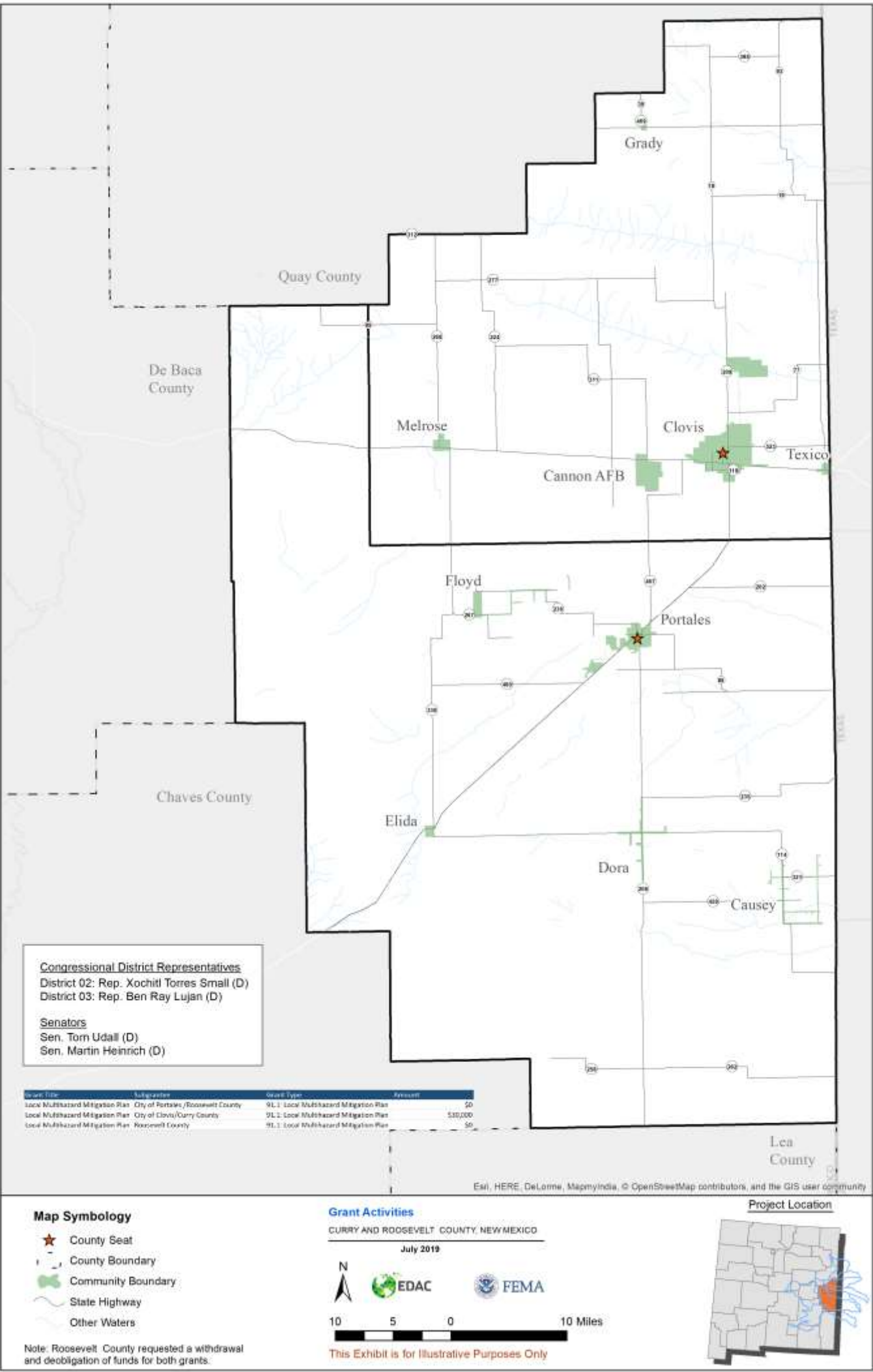
* Meetings or other FEMA engagement activities that have occurred in the watershed in the past 3 years.

Table 8: Mitigation Plan Status

Community Name	Hazard Mitigation Plan Name:	Plan Status:	Plan Approved	Plan Expires
Curry County <ul style="list-style-type: none"> City of Clovis City of Texico Village of Grady Village of Melrose 	Curry County Hazard Mitigation Plan	Approved	9/30/2015	9/29/2020
Roosevelt County		None		

Figure 7 displays the locations and types of mitigation grant activity in Curry and Roosevelt counties which have been approved by FEMA. This map only shows approved grant activity. There may be additional grants being pursued at both the state and local level within the watershed.

Figure 7: Grants Activity



Pre-Discovery Congressional and Media Engagement

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. Working with FEMA External Affairs to inform both legislators and the media will improve credibility and opens the door to understanding risk in a more holistic, comprehensive manner.

Table 9: Congressional Information

U.S. Senator		Term Expiration	FEMA History of Engagement
Tom Udall (D)		2020	
Martin Heinrich (D)		2024	
U.S. Representative	District Number	Term Expiration	FEMA History of Engagement
Xochitl Torres Small (D)	2	2021	
Ben Ray Lujan (D)	3	2021	

State Senators	
District	Name
07	Pat Woods (R)
27	Stuart Ingle (R)

State Representatives	
District	Name
63	Martin Zamora (R)
64	Randal S. Crowder (R)
66	Phelps Anderson (R)
67	Jack Chatfield (R)

Contact information for the community and additional stakeholders can be found with the supplemental digital data.

Tribal Engagement

There are no Tribal nations within Curry and Roosevelt counties.

ii. Pre-Discovery Data Collection

Table 10: Data Collection for the Watershed

Data Types	Deliverable/Product	Source
Average Annualized Loss Data	Discovery Map Geodatabase	Brian Shumon, FEMA Region II

Data Types	Deliverable/Product	Source
Boundaries: Community	Discovery Map Geodatabase	New York State GIS (NYS GIS) Clearinghouse/Pennsylvania Spatial Data Access
Boundaries: County and State	Discovery Map Geodatabase	National Atlas of the United States
Boundaries: Watersheds	Discovery Map Geodatabase	USGS NHD
Census Blocks	Discovery Map Geodatabase	U.S. Census Bureau
Contacts	Table	Local Web Sites, State/FEMA Updates
Community Assistance Visits	Discovery Report	NMDHSEM – NFIP Coordinator
Community Rating System (CRS)	Discovery Report	FEMA’s “Community Rating System Communities and Their Classes”
Dams and Levees	Discovery Map Geodatabase	FEMA Mid-term Levee Inventory (MLI)/USACE

iii. Discovery Meeting

Two, two-hour Discovery meetings will be held at various locations throughout the Watershed between August 13 and August 14, 2019. Workshop times and locations are shown in Table 11. Each Workshop site was prepared with a series of stations, envisioned to be an interactive setting for the Regional Project Team and Discovery Workshop attendees listen, discuss and document any issues for the Watershed.

Table 11: Project Discovery Workshop Times and Locations

Workshop	Date and Time	Location
1	August 13, 2019 2:00 pm – 4:00 pm	Bert Cabiness Government Center Assembly Room 321 Connelly Street Clovis, NM 88101
2	August 14, 2019 10:00 am – 12:00 pm	Yam Theatre 219 S. Main Street Portales, NM 88130

Shawn Penman, the CTP Coordinator, greeted each attendee as they arrived. Attendees rotated around the following four Discovery stations:

- Community Benefits and Grant Opportunities (*Grants station*) – Maps of current 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. The station also had handouts on various FEMA grant programs.

- Mitigation Planning and Mitigation Activities (*Planning station*) – Handouts on mitigation plans, understanding Risk MAP and determining risk.
- NFIP Community Actions (*Compliance and Mitigation station*) – Effective FIRMs, FIS and LOMCs; maps of RL/SRL properties; single claims; and urban changes over the last 5 years.
- Risk Identification and Communication (*Mapping station*) – 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.

At each station, attendees were asked 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. The activity at the stations was intended to be interactive where attendees and staff at the stations work together to listen discuss and document any topical items for the watershed. Members of the Regional Project Team (CTP, State of New Mexico) were at the stations to answer questions and engage the attendees. During each workshop, Regional Project Team members requested that attendees provide any additional information within 2 weeks of the workshop.

Each station was equipped with a series of large-format watershed maps with an aerial photo of the Watershed displayed, along with community boundaries and road names to assist in identifying areas of concern. Additionally, the stations had several 11-inch by 17-inch maps of the watershed with information related to that station's content.

Information sheets were collected at each station for locations that were identified and labeled on the Discovery watershed maps. These information sheets are included in the external files included with this report.

iv. Discovery Implementation

All Discovery Workshops were attended by local stakeholders. A full list of attendees is provided in the sign-in sheets included with the supplemental digital data accompanying this report. Some attendees included:

- Local community elected officials and councilpersons
- Local floodplain managers, emergency management staff, community planners, public works staff
- Add other notable attendees

{If applicable} It should be noted that no community officials attended the Discovery Workshops from list towns and counties that did not attend.

The Workshops afforded personal, interactive communication with attendees at each station. The Project Team interviewed attendees and discussed areas of positive mitigation and areas of continuing concern for the Watershed as a whole. As attendees

visited each station, they not only discussed their own local concerns but also listened to the concerns of others in the Watershed.

Attendees were polled by the FEMA Project Monitor as they exited the Workshop. Verbal feedback from the attendees indicated they felt the Workshop was an opportunity to express their issues and concerns for the Watershed. Many attendees were appreciative of the chance to speak with the various Regional Project Team members from FEMA and the State of New Mexico. The community perception conveyed to FEMA was that attendees felt more engaged in the process to determine where needs and projects may be identified.

v. Data Gathering Overview

Information about Curry and Roosevelt counties was gathered both prior to the Discovery Workshops and interactively during the Workshops.. Much of data collected in pre-discovery was obtained from FEMA or other national datasets. Additional data was collected from NMRGIS and local communities via their public web sites. Table 1211 summarizes the data collected prior to the Discovery Workshop and the primary sources of the data.

During the pre-discovery process phone calls were made to local FPAs, Emergency Managers, and Mitigation planners to collect current and proposed mitigation actions. This data was collected in spreadsheets and will be used by FEMA to track mitigation actions within the region. The final spreadsheets are included in the supplemental digital data.

Table 12: Data Collection Summary – Pre-Discovery Workshop

Data Location	Data Custodian	Data Set Description
Watershed-wide	FEMA	Effective FIRM and FIS and backup information available from FEMA's Map Service Center and FEMA Library
Watershed-wide	FEMA	LOMC locations from FEMA's Map Service Center and FEMA Library
Watershed-wide	FEMA	Locations of RL/SRL properties and Claims
Watershed-wide	FEMA	Location of Grants being funded
Watershed-wide	FEMA	Participation in the NFIP, Community Rating System (CRS) ratings
Watershed-wide	FEMA	Disaster Declarations
Watershed-wide	FEMA	CNMS information
Watershed-wide	FEMA	AAL data
Watershed-wide	FEMA, NMDHSEM	Approved HMPs
Watershed-wide	FEMA, NMRGIS, EDAC	Location of available or planned areas of updated LiDAR or other topographic data
Watershed-wide	FEMA, U.S. Census, NMRGIS	Transportation features
Watershed-wide	FEMA, U.S. Census, NMRGIS	Populated places and population characteristics
Watershed-wide	USGS	Watershed HUC (8 & 12) boundaries, NHD streams, stream gage information, land use and land cover

Data Location	Data Custodian	Data Set Description
Watershed-wide	USDA	NAIP Imagery
Watershed-wide	Local FPAs, Mitigation Planners and Emergency Managers, FEMA	Mitigation Actions identified by local stakeholders and collected by phone call
Watershed-wide	USFWS	Critical habitat locations

Table 13: Data Collection Summary - During and After Discovery Workshop

Item	Flooding Source	Information Provided By	Discovery Workshop Comment Summary

III. Watershed Findings (To be Completed Post-Discovery)

Figure 8: Repetitive and Severe Repetitive Losses

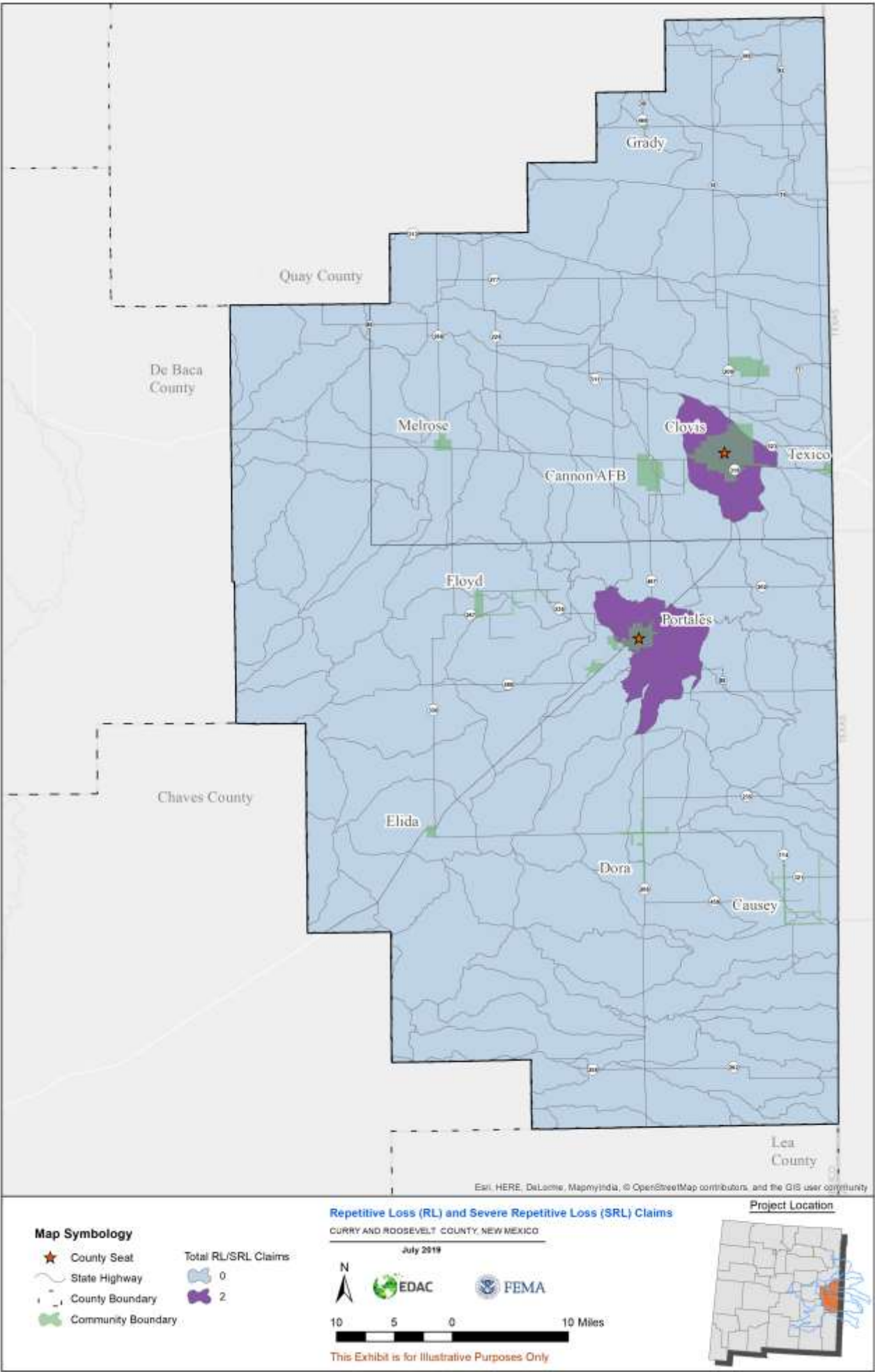
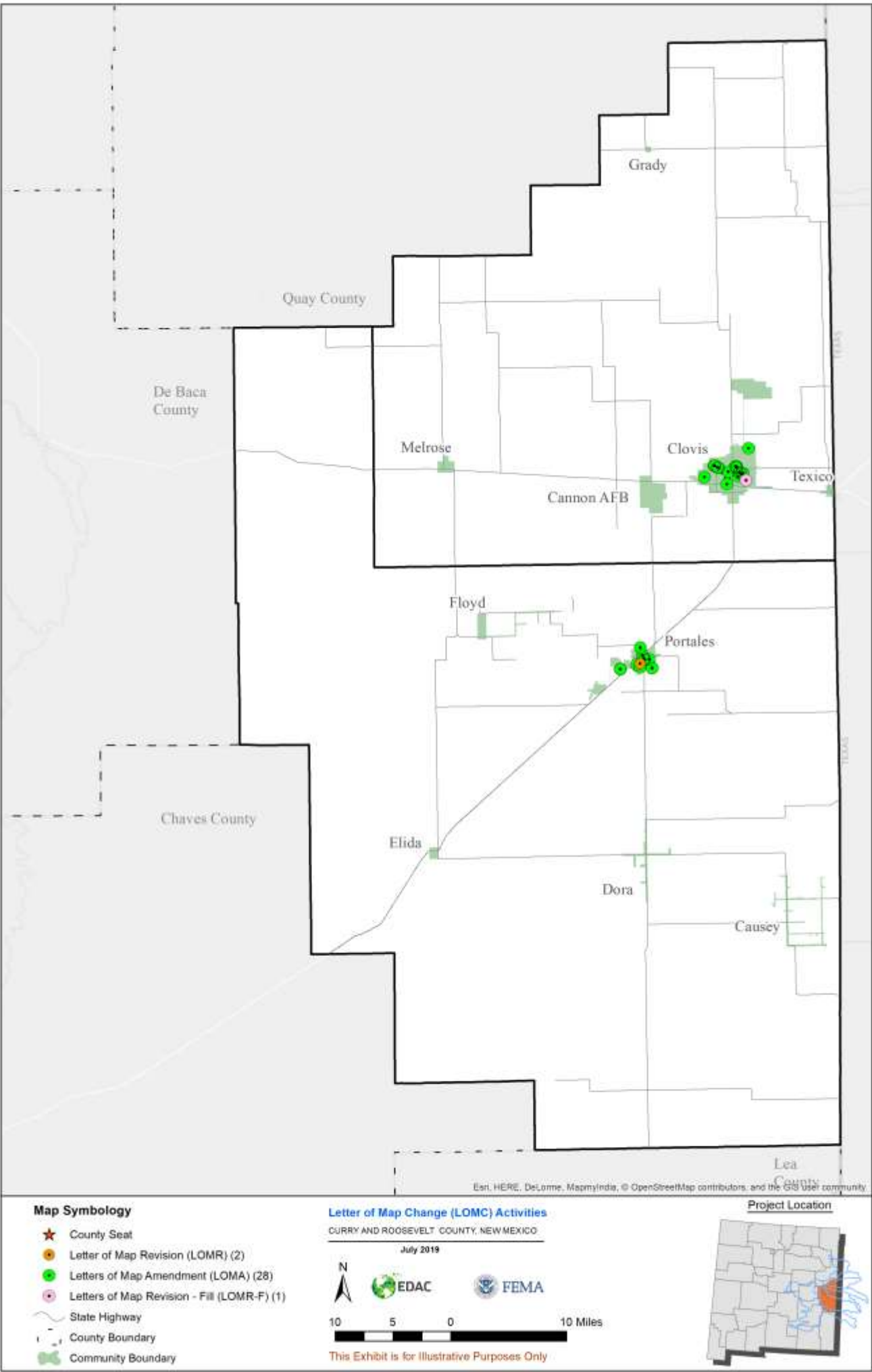


Figure 9: Letter of Map Changes (LOMCs)



i. Pre-Discovery Hydrology

Two limited reviews of hydrologic information were performed for Discovery analysis within Curry and Roosevelt Counties. The reviews were kept at a high level of informational research and were performed by senior engineering staff that relied on engineering judgment, some limited analysis, and regional experience. These reviews were focused on:

- Review of Peak Discharges in the watershed
- Limited Gage analysis for the watershed

For the watershed as a whole, the **one-percent** annual chance peak discharges were reviewed for all streams within a community and across community boundaries looking for discharge anomalies, places where LOMRs demonstrate that the effective discharges may be suspect on a more global basis. Any notes were added if these changes can be eliminated as a concern due to hydrologic factors including local flood control structures, detention, flow break outs, sinks or other natural or manmade factors that may significantly alter hydrology flows. Finally, a watershed wide high-level gage analysis was reviewed comparing the information on any available gages within the watershed that had appropriate historical information to the effective FIS, discharges for streams with gages. This analysis could potentially flag any anomalies that would indicate that the hydrology may be out of date, too high, or too low for sub-basin areas within the watershed.

Review of Peak Discharges

Peak discharges were reviewed based on available FIS reports, hydraulics models, flow gages and available LOMRs within the watershed at the crossing of SHFA areas at corporate limits (county, city and town). A comparison of discharges was made for the same streams across county boundaries as shown in Table 144, Discharge Comparison at Community Limits.

Table 14: Discharge Comparison at Community Limits

Stream Name	County/Parish	Effective one-percent annual chance discharge (cfs)	Effective Discharges Source	Notes

Frequency Analysis

There are no USGS gages within Curry and Roosevelt counties.

The comparison between discharges from FIS and from gage analysis was made and listed in Table 155. The discharges from gage analysis are significantly different than the effective FIS discharges.

Table 15: Summary of Hydrologic Analysis

Stream Name	Drainage Area from USGS Gage (square mile)	Effective discharges Source	Effective one-percent annual chance discharge (cfs)	95 confidence limits lower (cfs) (Gage)	one-percent annual chance discharge from PeakQ (Gage)	95% confidence limits upper (cfs) (Gage)	Number of peaks in record

ii. Pre-Discovery Hydraulics and Floodplain Analysis

Table 16 shows the hydraulic analyses used for streams studied by enhanced methods.

Table 16: Summary of Hydraulic Analysis

Stream Name	County/Parish	Validation Status	Date of Effective Analysis	Hydraulic Model

iii. Pre-Discovery CNMS Analysis

Table 17 shows the detailed study streams in the Curry and Roosevelt counties 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 elements fail, or if four or more of the 10 secondary elements fail during stream reach level validation.

Table 17: CNMS Analysis

Stream Name	County/Parish	Validation Status	Failed CNMS Elements
Northeast Drain	Curry	Valid	S6
Northeast Drain Distributary East	Curry	Valid	S6
Northeast Drain Distributary	Curry	Valid	S6
Thomas Ditch 1	Curry	Valid	S6
Thomas Ditch 2	Curry	Valid	S6
West Second Street Drain	Curry	Valid	S6
Boone Draw	Curry	Valid	A4
Unnamed Reach	Curry	Valid	A4
Unnamed Stream 6	Curry	Valid	A4
Unnamed Stream 7	Curry	Valid	A4
Unnamed Stream 8	Curry	Valid	A4

Stream Name	County/Parish	Validation Status	Failed CNMS Elements
Unnamed Stream 17	Curry	Valid	A4

Table 18 provides a description of the validation elements that failed as identified in the CNMS database.

Table 18: CNMS Category Descriptions

Element Name	Issue being identified by the Element	Element Description
S6	Availability of better topography/bathymetry	Failure of this element indicates better topographic or bathymetric data has been made available since the Effective Study date.
A4		

Summary of CNMS Concerns

DESCRIBE THE SUMMARY OF CONCERNS

IV. Watershed Options (To Be Completed Post-Discovery)

Include tables, maps, or any backup data to Appendix E and reference accordingly

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 Curry and Roosevelt counties are recommended. 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.

Table 19 lists some potential needs in the Watershed and actions that could be taken under each of the four 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 – outreach and disaster activities as well as non-flooding hazards like safe room information

Table 19: Potential Watershed Activities (To be Completed Post-Discovery)

Risk Identification and Communication
<ul style="list-style-type: none"> EXAMPLE: Caney Creek (5 miles) near the City of Newton is a non-model backed Zone A stream. The stream is of high mitigation interest to the City of Newton and the City believes it should be restudied. Providing BFEs through a limited detailed study would help the city better identify and mitigate risk. LiDAR is available in this area.
NFIP Community Actions
<ul style="list-style-type: none"> EXAMPLE: Continue acquisition for RL and SRL properties within the SFHA
Mitigation Planning and Mitigation Actions
<ul style="list-style-type: none"> EXAMPLE: Understand and use available Risk MAP Products (as defined previously) to identify risk and inform future mitigation actions
Community Benefits and Grant Opportunities
<ul style="list-style-type: none"> EXAMPLE: Apply for grants to assist in the continued acquisition of RL and SRL properties within the SFHA throughout the Watershed

BFE = Base Flood Elevation

CAV = Community Assistance Visit

CFM = Certified Floodplain Manager

LOMR = Letter of Map Revision

CLOMR = Conditional Letter of Map Revision

CNMS = Coordinated Needs Management Strategy

CRS = Community Rating System

DEM = Digital Elevation Model

FIRM = Flood Rate Insurance Map

FPA = Floodplain Administrator

G&S = FEMA's *Guidelines and Standards for Flood*

Hazard Mapping Partners

H&H = hydrologic and hydraulic

Hazus = Hazards U.S.

HMP = Hazard Mitigation Plan

LiDAR = Light Detection and Ranging System

LOMR = Letter of Map Revision

LSU = Louisiana State University

NFIP = National Flood Insurance Program

NVUE = New, Validated, or Updated Engineering

PMRS = Physical Map Revision

Risk MAP = Risk Mapping, Assessment, and Planning

RL/SRL = Repetitive Loss/Severe Repetitive Loss

SFHA = Special Flood Hazard Area

SRA = Sabine River Authority

TNRIS = Texas Natural Resources Information System

TXDOT = Texas Department of Transportation

USGS = U.S. Geological Survey

Table 20 provides specific evaluation guidelines for streams or areas that could benefit from additional study. Any FEMA-based metrics that would be met if the need or issue was addressed are noted, as well as any current FEMA map actions that would affect the activity. Any comments or concerns raised by a stakeholder during the Discovery process that could be tied to one of the needs or actions for the Watershed are also noted. Some needs/actions are listed that were not raised by any specific community but were identified as general improvements that could be made in the Name of Watershed Watershed to meet general FEMA regional goals.

Needs are identified as being on the critical path as high, medium, or low priority or as a task that could be assigned to a State or local community to complete. These definitions are also included in Table 20.

- **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 20 Metrics and Rankings of Needs

Item	Description of Need		Impacts From Any Current Map Actions	FEMA Metric or Community Benefit	Evaluation	Relates to Community Comment Number	
	<u>Evaluation Guide</u> 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						
	Location of Need/Project	Details					
		<ul style="list-style-type: none">	<ul style="list-style-type: none">	<ul style="list-style-type: none">			
		<ul style="list-style-type: none">	<ul style="list-style-type: none">	<ul style="list-style-type: none">			

i. Project Prioritization (To be Completed Post-Discovery)

Flood risk projects are intended to be initiated and cataloged at a HUC-8 unit. 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 must be cataloged in the Coordinated Needs Management Strategy Database (CNMS).

Once the entire HUC-8 has been evaluated, the Region will select the project tasks necessary to respond to the identified levels of risk and need. The Region is 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. All scope with the HUC-8 boundary must be tasked/ordered at one time.

This section should include a review of the watershed and the data collected throughout Discovery effort to identify, for FEMA Region 6, State, and Communities, project possibilities for the watershed to engage in the development of the next phase of the Risk MAP Process (Project Area Selection to Resilience Meeting). The identified watershed projects should be reviewed for NVUE, Risk Communication, and Mitigation Actions & Technical Assistance at minimum.