Discovery Report

FEMA Region X

Teton Watershed, Idaho

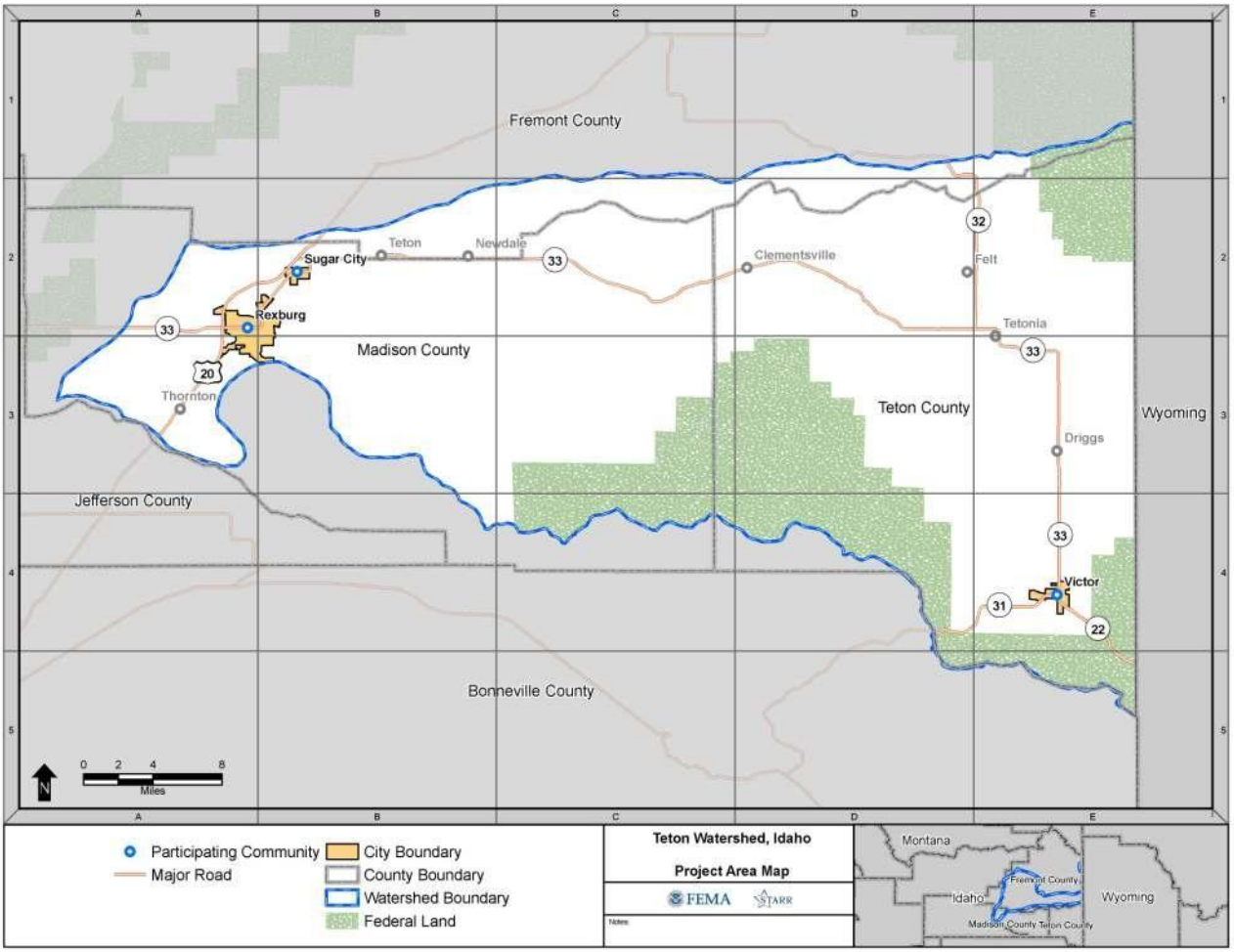
FEMA

Prepared by STARR

I. Watershed Description

The Teton Watershed is located in east-central Idaho, near the state borders of Wyoming and Montana. The Teton River is roughly 76 miles long with a watershed area of approximately 1,119 square miles, draining the east side of the Big Hole Mountains and the west side of the Teton Range along the Idaho-Wyoming border. Much of this mountain valley is open range and pasture, grain and potato fields. National Flood Insurance Program (NFIP) participants in the Teton Watershed include Fremont, Madison, and Teton Counties, and the cities of Sugar City, Rexburg, Victor, and Driggs. The community of Driggs did not join the NFIP until after Discovery had been initiated in the watershed and is not included in this report. There are no Tribal areas within the watershed.

Map 1: Image of Teton Watershed Project Area Map *(full size maps in appendix)*



II. Project Description and Methodology

Discovery is the process of data collection, including information exchange between all governmental levels of stakeholders, spatial data presentation, and cooperative discussion with stakeholders to better understand the area, decide whether a flood risk project is appropriate, and if so, to collaborate on the project planning in detail. At this time, Discovery processes and requirements are still being defined; however, draft guidance is available from the draft *Appendix I – Discovery (fall 2010)*, and the draft *Meetings Guidance for FEMA Personnel (October 2010)*. In addition, there are several draft tools and templates at various stages of completion that were used to support the effort.

Region X initiated an extensive Discovery project in October 2010, with the Discovery of 24 watersheds/project areas in Idaho, Oregon, Washington, and Alaska, involving almost 200 communities. Essentially a pilot project for the Discovery process itself, RX Discovery involved data collection, community interviews, a meeting with stakeholders in the watershed, and development of recommendations based on an analysis of data and information gathered throughout the process.

Figure 1. Data Sources for Region X Discovery *(project-specific data sources in Appendix)*

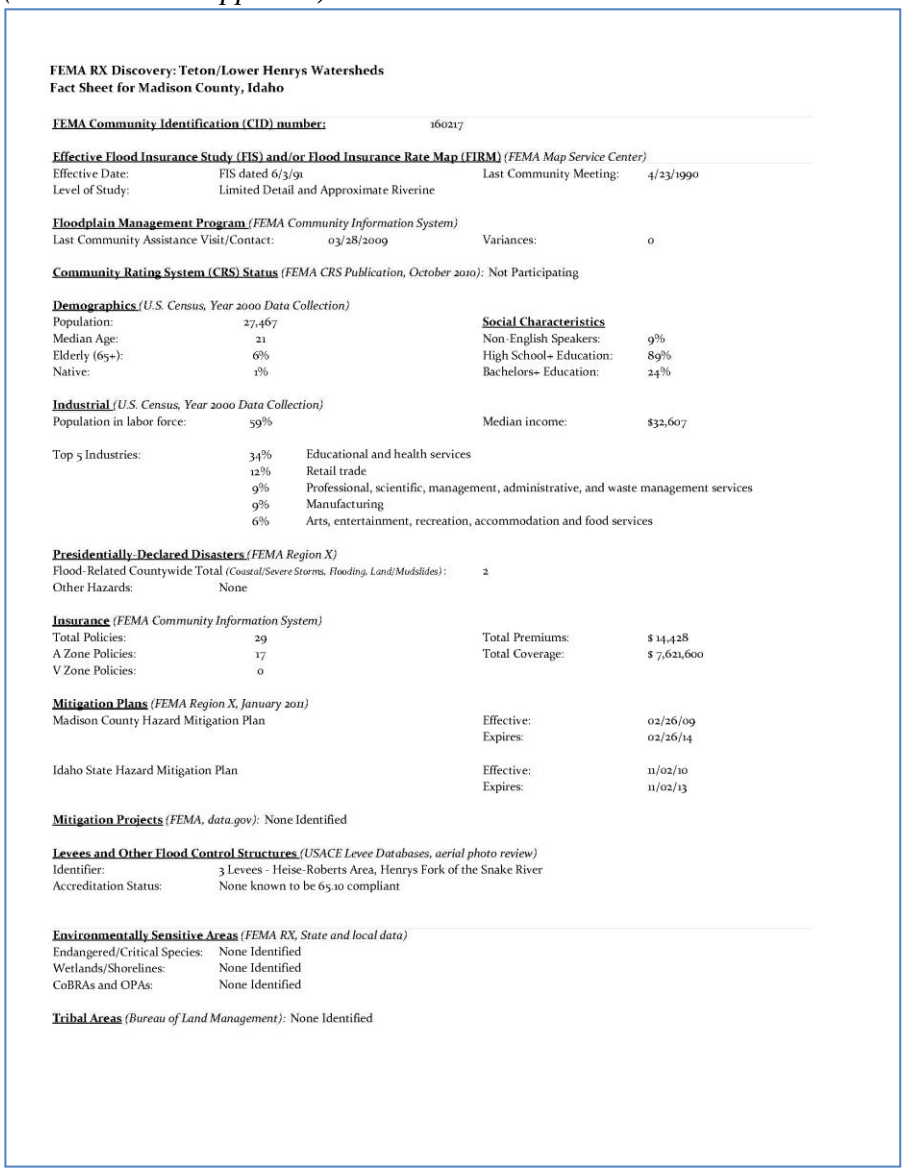
Alaska State Geospatial Data Clearinghouse	FEMA Regional Office	National Oceanic and Atmospheric Administration (NOAA)
Oregon Department of Transportation	FEMA Map Service Center	NOAA Fisheries Service
Idaho Department of Transportation	FEMA Publications	NOAA National Geophysical Data Center
Idaho State Geospatial Data Clearinghouse	FEMA Community Information System	U.S. Army Corps of Engineers National Levee Database
Washington State Department of Transportation	FEMA Coordinated Needs Management System (CNMS)	U.S. Census Bureau
Community data, where available	FEMA HAZUS	U. S. Census - TIGER
Local, Regional, State website search	FEMA RX Inventory	U.S. Department of Agriculture
Developed based on community interview/meeting	FEMA Legacy Data	U.S. Fish and Wildlife Service
STARR	Data.gov	U.S. Geologic Survey
ESRI	National Atlas of the United States	

The Region X Discovery data collection entailed a massive collection of tabular and spatial data for all communities from Federal and State sources, as well as information collected through interviews with each community. The tabular data file in the Appendix provides detailed information about the data and its use in Discovery for this specific watershed. Data was used primarily in two ways – tabular data was documented on a Community Fact Sheet,

and spatial data was included in the Discovery Geodatabase, and is displayed on the Discovery maps, where appropriate. Full-sized Discovery maps are included in the appendix.

The second phase of the Region X Discovery effort involved a review of the collected data with community officials through a phone interview, and a request for additional information. Prior to the interview, community officials received information about the Discovery process, and a Fact Sheet and Interview Reference Map for their community. Communities were asked to identify "Areas and Points of Concern" based on their local knowledge and analysis of the data shown on the map. The Areas and Points of Concern (mapping needs, desired mitigation projects, etc.) were documented in the Discovery Geodatabase and discussed during the Discovery Meeting.

Figure 2. Fact Sheet, page 1, for Madison County, Teton Watershed
(tabular data in appendix)



FEMA RX Discovery: Teton/Lower Henrys Watersheds
Fact Sheet for Madison County, Idaho

FEMA Community Identification (CID) number: 160217

Effective Flood Insurance Study (FIS) and/or Flood Insurance Rate Map (FIRM) *(FEMA Map Service Center)*

Effective Date:	FIS dated 6/3/91	Last Community Meeting:	4/23/1990
Level of Study:	Limited Detail and Approximate Riverine		

Floodplain Management Program *(FEMA Community Information System)*

Last Community Assistance Visit/Contact:	03/28/2009	Variances:	0

Community Rating System (CRS) Status *(FEMA CRS Publication, October 2010)*: Not Participating

Demographics *(U.S. Census, Year 2000 Data Collection)*

Population:	27,467	**Social Characteristics**	
Median Age:	21	Non-English Speakers:	9%
Elderly (65+):	6%	High School+ Education:	89%
Native:	1%	Bachelors+ Education:	24%

Industrial *(U.S. Census, Year 2000 Data Collection)*

Population in labor force:	59%	Median income:	$32,607

Top 5 Industries:	34%	Educational and health services
	12%	Retail trade
	9%	Professional, scientific, management, administrative, and waste management services
	9%	Manufacturing
	6%	Arts, entertainment, recreation, accommodation and food services

Presidentially-Declared Disasters *(FEMA Region X)*

Flood-Related Countywide Total *(Coastal/Severe Storms, Flooding, Land/Mudslides)*:	2
Other Hazards:	None

Insurance *(FEMA Community Information System)*

Total Policies:	29	Total Premiums:	$ 14,428
A Zone Policies:	17	Total Coverage:	$ 7,621,600
V Zone Policies:	0		

Mitigation Plans *(FEMA Region X, January 2011)*

Madison County Hazard Mitigation Plan	Effective:	02/26/09
	Expires:	02/26/14
Idaho State Hazard Mitigation Plan	Effective:	11/02/10
	Expires:	11/02/13

Mitigation Projects *(FEMA, data.gov)*: None Identified

Levees and Other Flood Control Structures *(USACE Levee Databases, aerial photo review)*

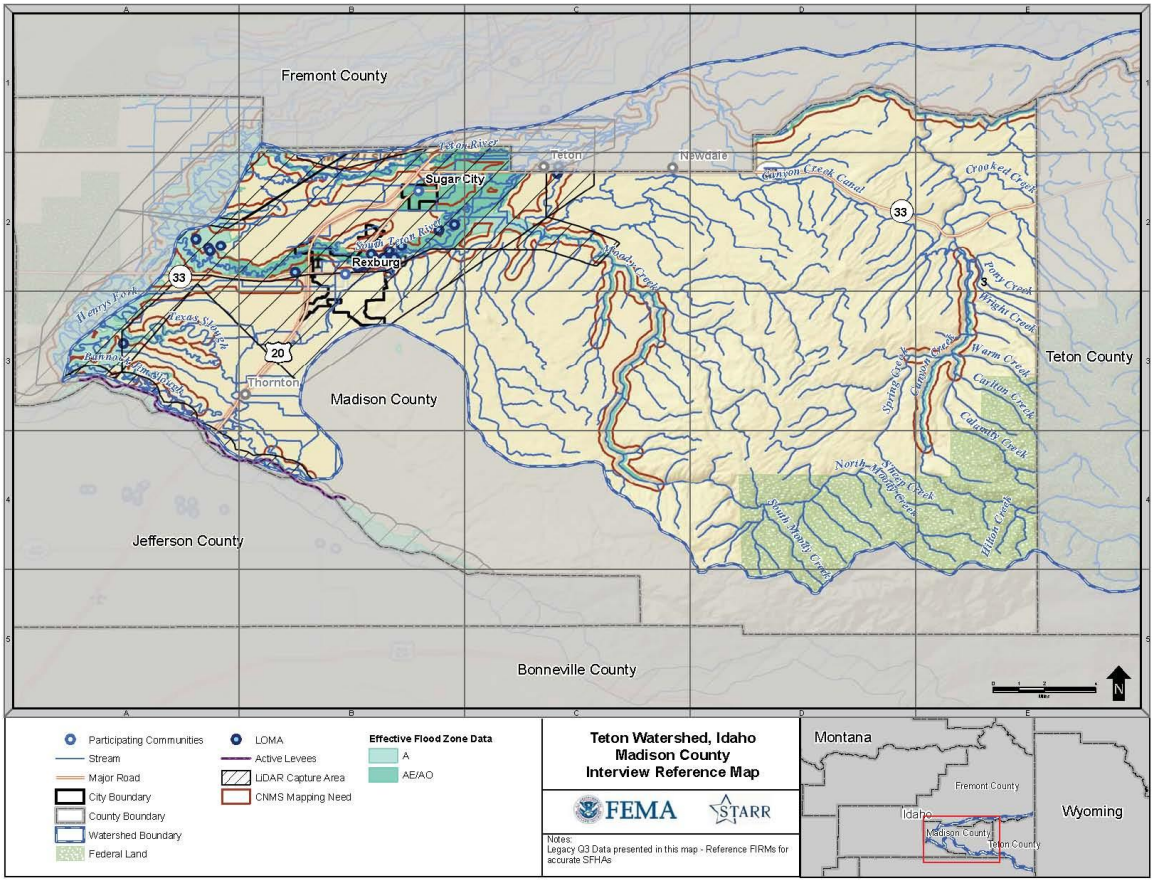
Identifier:	3 Levees - Heise-Roberts Area, Henrys Fork of the Snake River
Accreditation Status:	None known to be 65.10 compliant

Environmentally Sensitive Areas *(FEMA RX, State and local data)*

Endangered/Critical Species:	None Identified
Wetlands/Shorelines:	None Identified
CoBRAs and OPAs:	None Identified

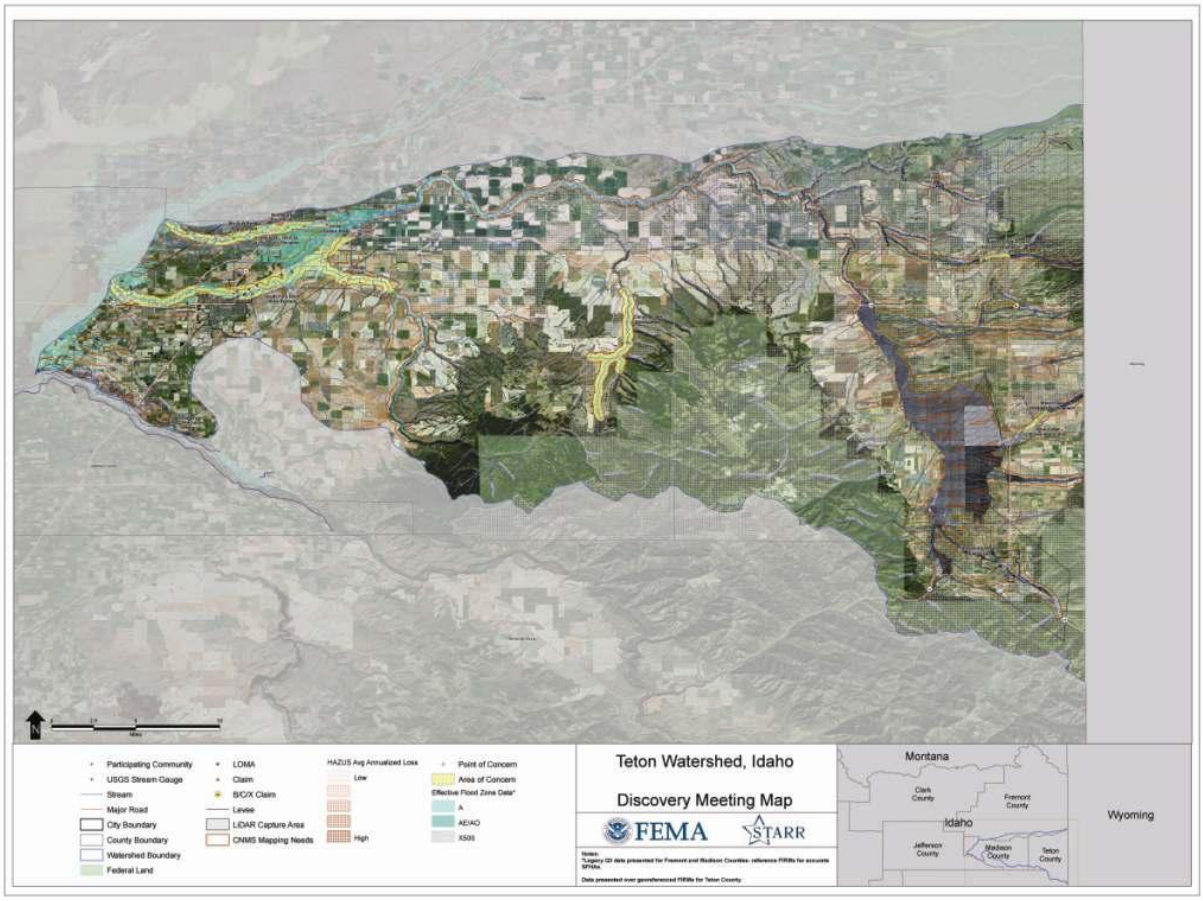
Tribal Areas *(Bureau of Land Management)*: None Identified

Map 2. Image of Interview Reference Map for Madison County, Teton Watershed



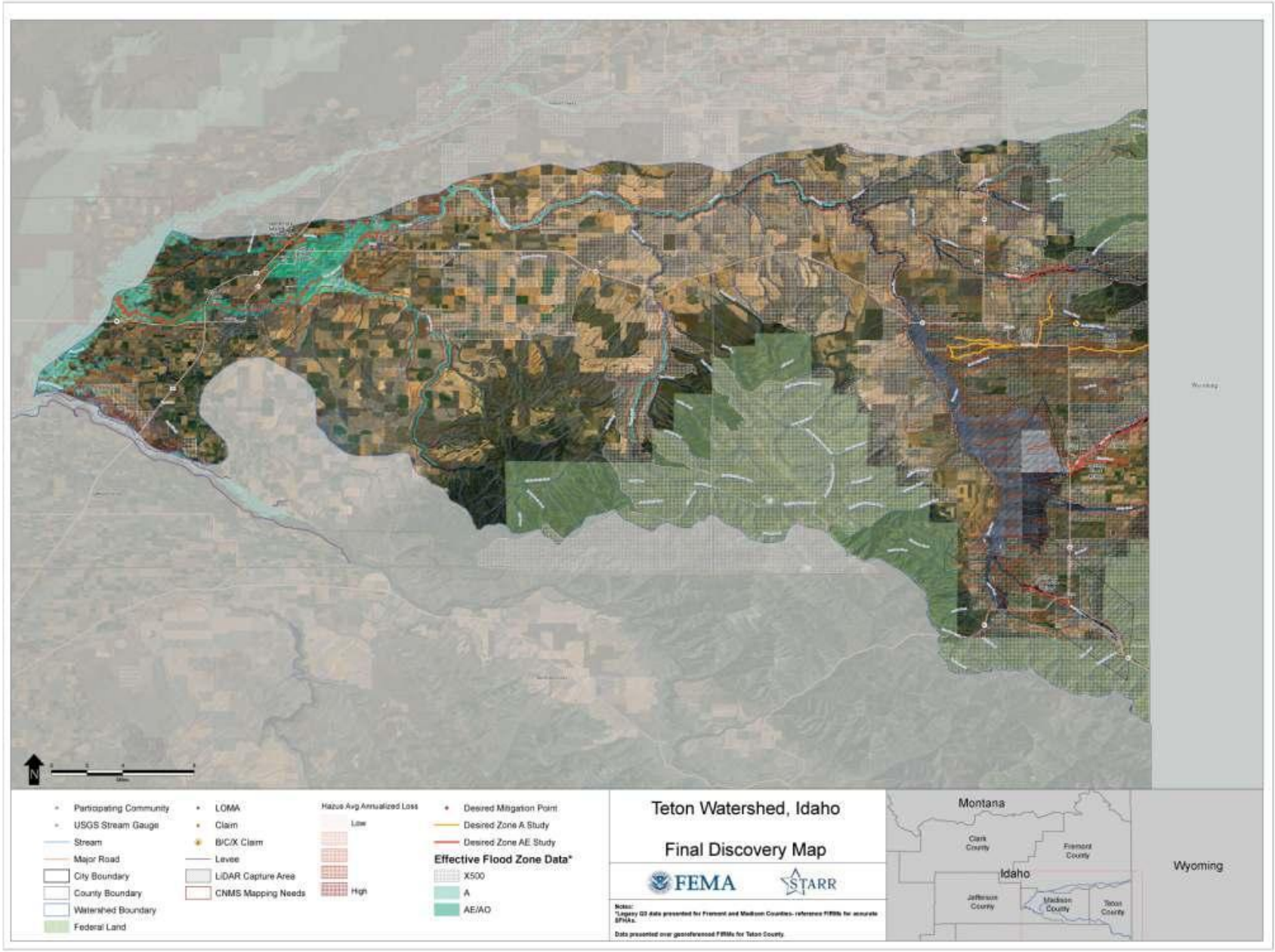
The third step was to hold a watershed-wide Discovery Meeting and facilitate discussion and data analysis of study needs, mitigation project needs, desired compliance support, and local flood risk awareness efforts. The discussion was stimulated using the Discovery Geodatabase display of relevant data. Attendees, including all affected communities and selected other stakeholders, cooperatively identified possible solutions for the Areas and Points of Concern shown on the Discovery Meeting Map. Solutions included recommendations of floodplain studies, mitigation projects, compliance issues, and ideas on how to improve the local flood risk communication programs.

Map 3. Image of the Teton Watershed Discovery Meeting Map



The fourth phase of the Discovery effort involved an analysis of the data and information collected and discussed at the meeting, and recommendations as to the future relationship and activities between FEMA and the watershed communities. The Final Discovery Map indicates desired study areas and mitigation project locations, and the Discovery Report documents the results of data collection and conversation. If a Risk MAP project is to be initiated in this watershed, Discovery will be concluded with the finalization of a project scope and signed Project Charters, which indicate that all affected stakeholders agree to the terms of a funded project, including communication and data responsibilities.

Map 4. Image of Teton Watershed Final Discovery Map



III. Risk MAP Needs

The results of the data collection and interviews were thoroughly discussed at the Discovery Meeting. The following sections include issues and situations that exist in the Teton Watershed communities that can be considered Risk MAP Needs, which could be addressed with a Risk MAP project. Details and background on all issues can be found in the interview notes, meeting notes, and other files included in the appendix.

i. Floodplain Studies

Teton County's Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) were last updated in 1988, while Fremont and Madison Counties' were last updated in 1991, including the incorporated cities of Rexburg, Sugar City, and Victor. Combined, the Teton Watershed communities have detailed, limited detailed, and approximate riverine analysis. The last NFIP mapping meeting in the watershed was a Final CCO Meeting held in April 1990.

The Final Discovery Map should be referenced to view spatial data that may be indicative of study needs. The CNMS data suggested that a number of flooding sources in the watershed should be updated. One flood insurance claim was been made in the B, C, or X zones in the Teton Watershed. No repetitive losses were identified in the watershed. There have been scattered LOMAs issued across the watershed, particularly along the South Fork Teton River around Rexburg, which was identified for a restudy.

Light Detection and Ranging (LiDAR) data has been collected along the Lower Henrys, North and South Forks of the Teton River, Lower Moody Creek, upper Teton River, lower Teton Creek, and Trail Creek. The existing data, along with additional planned LiDAR capture areas, will be available for new studies through the Idaho Department of Water Resources. FEMA and the state of Idaho have prioritized the area between the Snake River and the state of Montana for LiDAR collection.

Levees were identified through a combination of local floodplain administrator interviews, the U.S. Army Corps of Engineers (USACE) National Levee Database, FEMA's Regional Flood Hazard Layers, and the Mid-Term Levee Inventory. The Heise-Roberts levees along the South Fork of the Snake River in Madison County were built and certified by the USACE; however, the county indicated that the levees may be deaccredited by FEMA, causing much concern for the county and for residents along the Snake River floodplain. Officials from Madison County also indicated that there are small levees built by private landowners along the South Fork Teton River near Rexburg that are not compliant with 44 CFR 65.10.

Some areas were identified by community officials as needing a detailed or approximate riverine study. The desired study areas are shown on the Final Discovery Map and are listed below.

Table 1: Teton Watershed Mapping Needs

STUDY AREA	STUDY LENGTH (miles)	LOCATION DESCRIPTION	STUDY TYPE	PRIORITY
Teton Creek	4.8	From State Highway 33 upstream to the Idaho-Wyoming border	Zone AE	High
Brookside Hollow – Trail Creek	2.5	Extending 2.5 miles downstream of South 50th West Street in Victor	Zone AE	High
South Fork Teton River	17.7	From confluence of Henrys Fork to Madison-Fremont County line	Zone AE	High
North Fork Teton River - Sugar City	2.9	From the 1000 E Street Bridge in Sugar City extending 2.9 miles upstream	Zone AE	High
Teton River Split	4.8	From 2.1 miles upstream of the North/South Fork split extending to 2.1 miles down the South Fork and to 0.7 miles down the North Fork from the split	Zone AE	High
Spring Creek – Driggs	2.9	South of Driggs, starting at confluence with Teton River	Zone AE	High
Badger Creek	3.2	From 0.4 miles upstream of North Badger Creek confluence extending 3.2 miles downstream	Zone AE	Medium
Spring Creek – Tetonia	12.7	From N 500 W St extending upstream (including branches) to W 875 N St	Zone A	Low
South Leigh Creek	3.7	From Hwy 33 extending 3.7 miles to the ID-WY border	Zone A	Low

ii. Mitigation Projects

Madison, Teton, and Fremont Counties have each prepared *Hazard Mitigation Plans,* which have been adopted by their respective incorporated communities. The Fremont and Teton County Hazard Mitigation Plans became effective on 12/18/2008 and will expire on 12/17/2013. The Madison County Hazard Mitigation Plan became effective on 2/26/2009 and will expire on 2/26/2014.

Only one potential desired mitigation project was identified by the communities:

> Railroad Bridge – Sugar City: The city of Sugar City expressed concerns regarding an existing railroad bridge that has a history of flood damage and should be replaced.

iii. Compliance

Data collected from CIS indicated that none of the communities in the Teton Watershed had any variances to their floodplain management ordinances, so it may be assumed that the communities

are regulating to at least the minimum criteria required by FEMA. The most recent FEMA Community Assistance Contact/Visit (CAC or CAV) was in March 2009 with Madison County, prior to that was a March 2006 CAC with Teton County. No trainings or other compliance support were requested.

iv. Communications

In interviews, all communities indicated that they were interested in learning more about Risk MAP's communications support, and were open to a future meeting with FEMA to learn about how they can improve their flood risk communication program. Currently, none of the communities in the watershed participate in the Community Rating System program. As part of a future Risk MAP project, one activity might include working with communities and the FEMA Regional Office to determine good CRS candidates, especially communities that already keep Elevation Certificates, and providing contact information with the ISO Representative. Teton County, with the highest population and Madison County, with the highest number of flood insurance policies in the watershed, might be especially interested in the CRS program. Rexburg has approximately one-quarter the number of policies as Teton County, but the yearly premiums are reported in CIS to be 75% of the Teton County premiums. Rexburg may be interested in CRS even though they have a low policy count.

Many of the communities in the watershed have experienced rapid growth since the 2000 census was published. For instance, Madison County grew from 27,467 residents in 2000 to 37,536 residents in 2010, and Teton County grew from approximately 6,000 residents in 2000 to approximately 10,170 in 2010. Fremont County, which is minimally represented in the watershed, remained relatively stable, growing from 11,819 in 2000 to 13,242 in 2010 (county-wide). The cities of Rexburg, Sugar City, and Victor had respective populations in 2000 of 17,257, 1,242, and 840 (2010 city census data was not available). According to the 2000 census, the median age of residents of the Teton Watershed is 26 years, with approximately 8% of the population over 65 years old, an average of 10% non-English speakers, and less than 1% Native Americans. Approximately 87% of the population holds a high school diploma and around 23% have a college degree. Roughly 67% of residents over age 16 that desired employment were working, with a median annual income of approximately $37,161. Residents across the watershed work primarily in educational, health, and social services, as well as construction. The demographic data indicates a potential need to establish special outreach strategies tailored toward college students and Hispanic populations.

IV. Close

Local officials in the communities were interested in the Discovery process and Risk MAP and open to learning more about how they can begin to develop resiliency to flood events. They identified several areas for map updates and areas in which they could use additional FEMA support. It is recommended that the guidance document outlining the types of Mitigation Planning Technical Support that can be included in Risk MAP projects be evaluated with communities, once finalized. There are levees in the watershed do not meet accreditation requirements, so the initiation of levee outreach well before any mapping project begins would be beneficial to the residents, local officials, and FEMA in avoiding confusion or appeals. The local officials in the Teton Watershed would benefit from the implementation of Risk MAP projects.

V. Appendix – Discovery Files

Communications

- Contacts
  - Stakeholders
  - Notification Dates
- Notifications/Invitations
  - A National Notification
  - B Regional Notification
  - C State Legislator Notification
  - C Congressional Notification
  - D Community Notification
  - E Floodplain Administrator Interview Request
  - Meeting Notes Distribution
  - Meeting Reminder

Community Interviews

- Fact Sheet
- ***Interview Reference Maps***
- Interview Notes
- Locally-Provided Documents

Discovery Meeting

- Agenda
- Presentation
- Sign-In Sheet
- ***Discovery Meeting Map***
- Meeting Notes
- Sample Project Charter

Report

- Report
- ***Project Area Map***
- ***Final Discovery Map***
- Tabular Data, including Data Sources and Mapping Needs
- Geodatabase
- Database Updates