Discovery Report

FEMA Region X

Big Wood River Watershed, Idaho

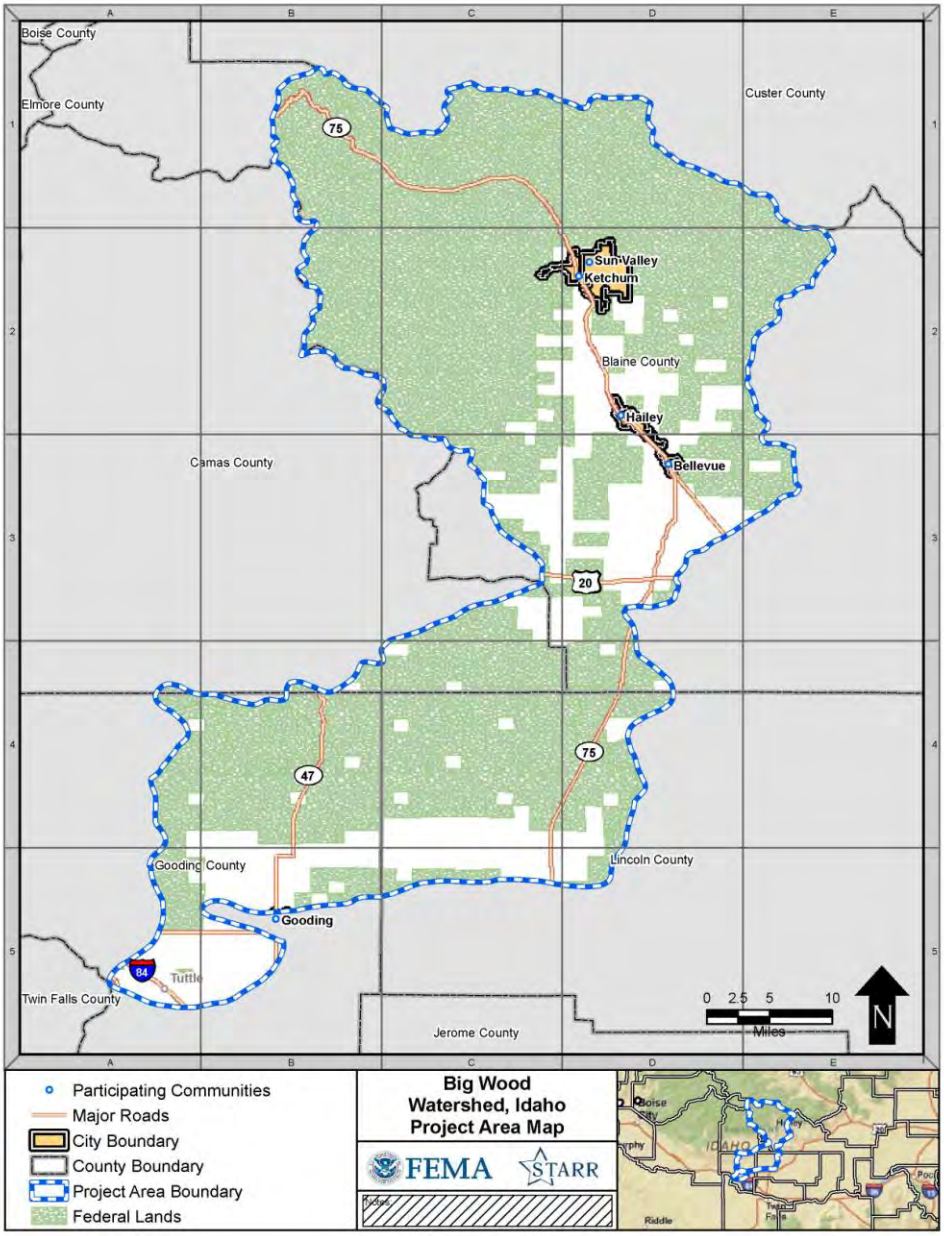
FEMA

Prepared by STARR

I. Watershed Description

The Big Wood River Watershed is located in central Idaho. The Big Wood River Watershed begins in the Sawtooth Range near Galena Summit in the Sawtooth National Recreation Area. The Big Wood River flows generally to the south between the Boulder Mountains, Pioneer Mountains and the Smokey Mountains. The National Flood Insurance Program (NFIP) participants in the Big Wood River Watershed include Blaine County, Sun Valley, Ketchum, Hailey, Bellevue, Gooding County, Gooding, and Lincoln County. A small portion of Camas County is included in the watershed but that county is not participating in the NFIP. No tribal areas exist within the watershed in Blaine, Lincoln, or Gooding Counties.

Map 1: Image of the Big Wood River 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 At this time, Discovery processes and requirements are still being defined; however, draft guidance is available from the draft *Appendix I – Discovery (fall 2010)*, and the draft *Meetings Guidance for FEMA Personnel (October 2010)*.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 (RX) 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)*

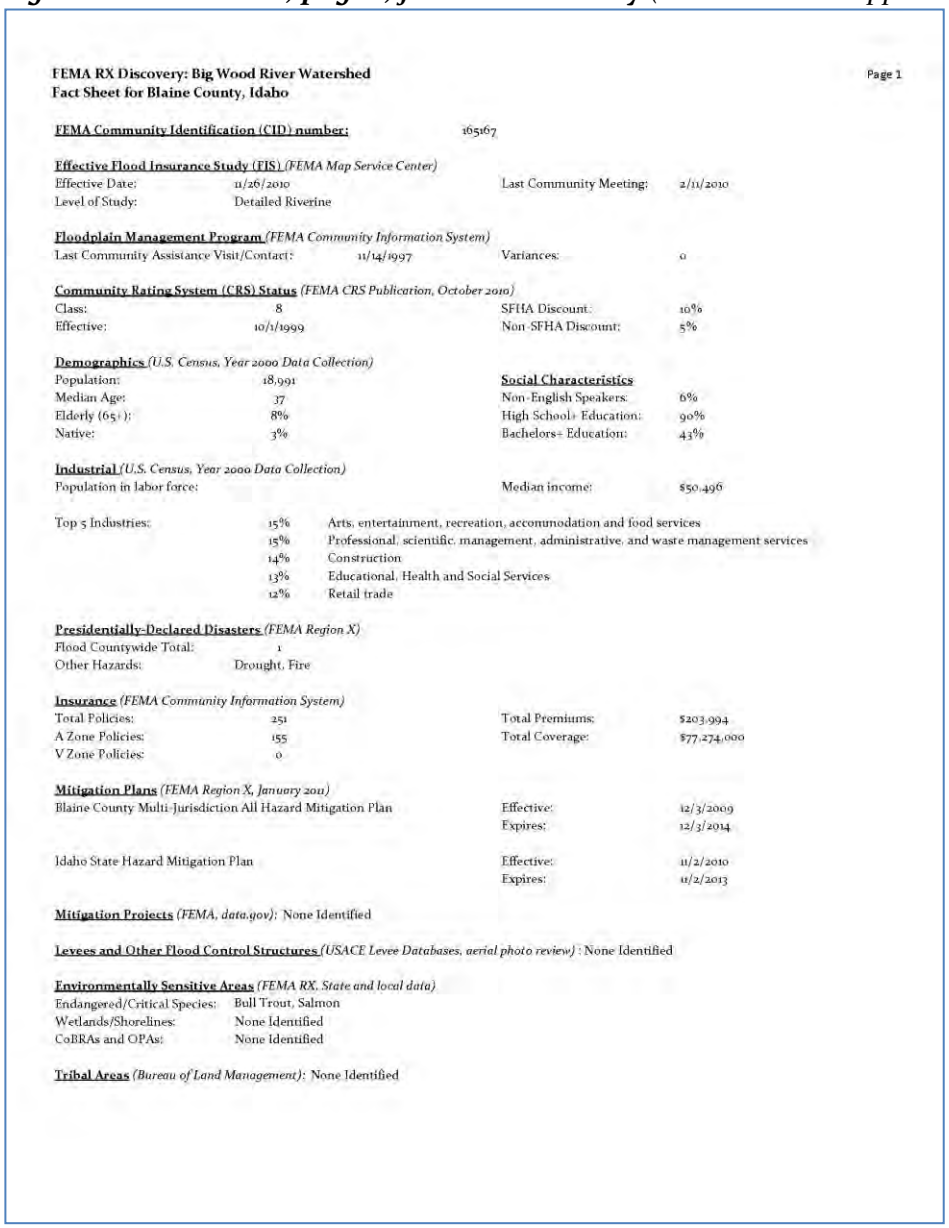
Alaska State Geospatial Data Clearinghouse	FEMA Regional Office	National Oceanic and Atmospheric Administration (NOAA)
Oregon Department of Transportation	FEMA Map Service Center	NOAA Fisheries Service
Idaho Department of Transportation	FEMA Publications	NOAA National Geophysical Data Center
Idaho State 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 2a. Fact Sheet, page 1, for Blaine County *(tabular data in appendix)*



FEMA RX Discovery: Big Wood River Watershed Page 1
Fact Sheet for Blaine County, Idaho

FEMA Community Identification (CID) number: 165167

Effective Flood Insurance Study (FIS) *(FEMA Map Service Center)*

Effective Date:	11/26/2010	Last Community Meeting:	2/11/2010
Level of Study:	Detailed Riverine		

Floodplain Management Program *(FEMA Community Information System)*

Last Community Assistance Visit/Contact:	11/14/1997	Variances:	0

Community Rating System (CRS) Status *(FEMA CRS Publication, October 2010)*

Class:	8	SFHA Discount:	10%
Effective:	10/1/1999	Non-SFHA Discount:	5%

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

Population:	18,991	**Social Characteristics**	
Median Age:	37	Non-English Speakers:	6%
Elderly (65+):	8%	High School+ Education:	90%
Native:	3%	Bachelors+ Education:	43%

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

Population in labor force:		Median income:	$50,496

Top 5 Industries:	15%	Arts, entertainment, recreation, accommodation and food services
	15%	Professional, scientific, management, administrative, and waste management services
	14%	Construction
	13%	Educational, Health and Social Services
	12%	Retail trade

Presidentially-Declared Disasters *(FEMA Region X)*

Flood Countywide Total:	1
Other Hazards:	Drought, Fire

Insurance *(FEMA Community Information System)*

Total Policies:	251	Total Premiums:	$203,994
A Zone Policies:	155	Total Coverage:	$77,274,000
V Zone Policies:	0		

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

Blaine County Multi-Jurisdiction All Hazard Mitigation Plan	Effective:	12/3/2009
	Expires:	12/3/2014
Idaho State Hazard Mitigation Plan	Effective:	11/2/2010
	Expires:	11/2/2013

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

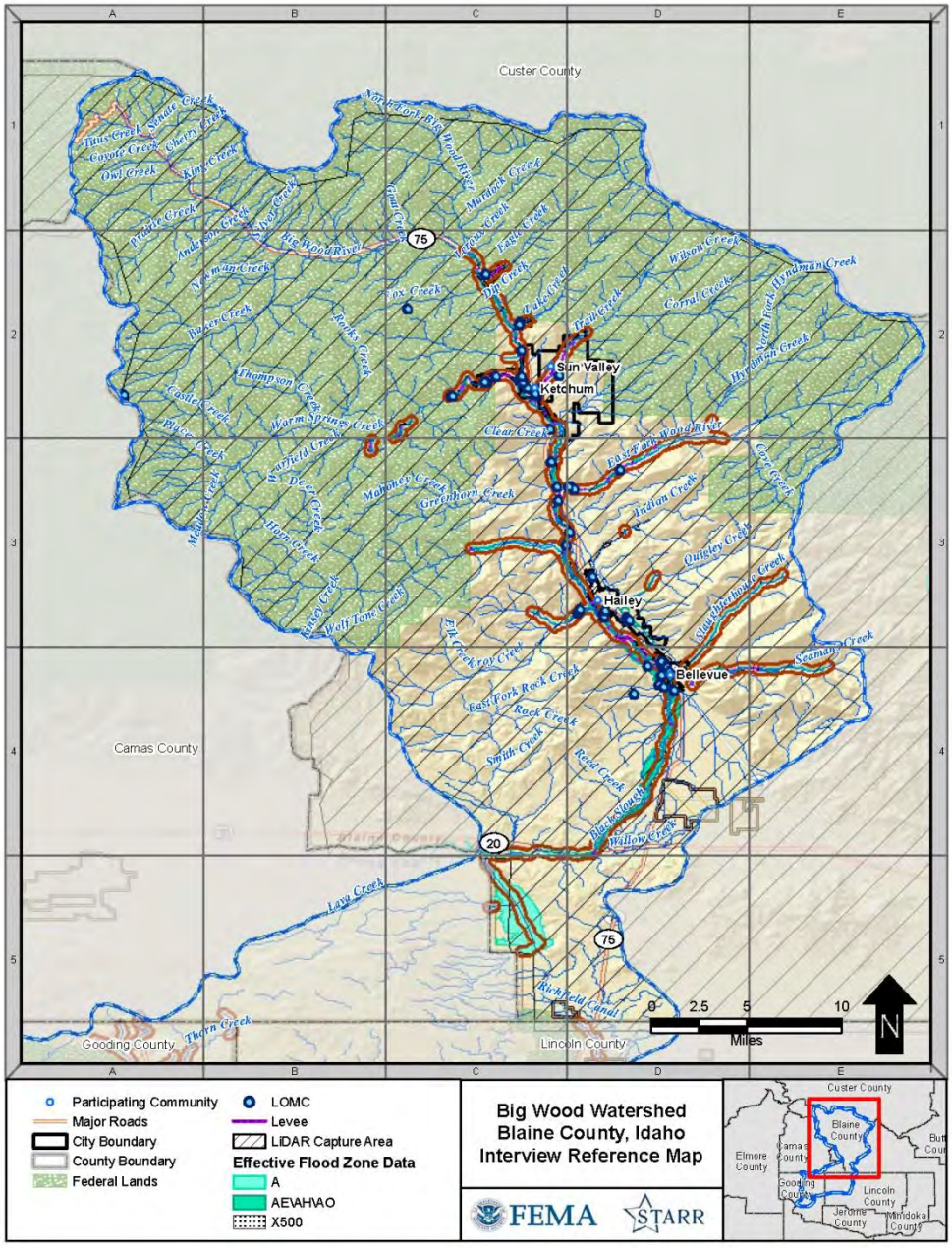
Levees and Other Flood Control Structures *(USACE Levee Databases, aerial photo review)* : None Identified

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

Endangered/Critical Species:	Bull Trout, Salmon
Wetlands/Shorelines:	None Identified
CoBRAs and OPAs:	None Identified

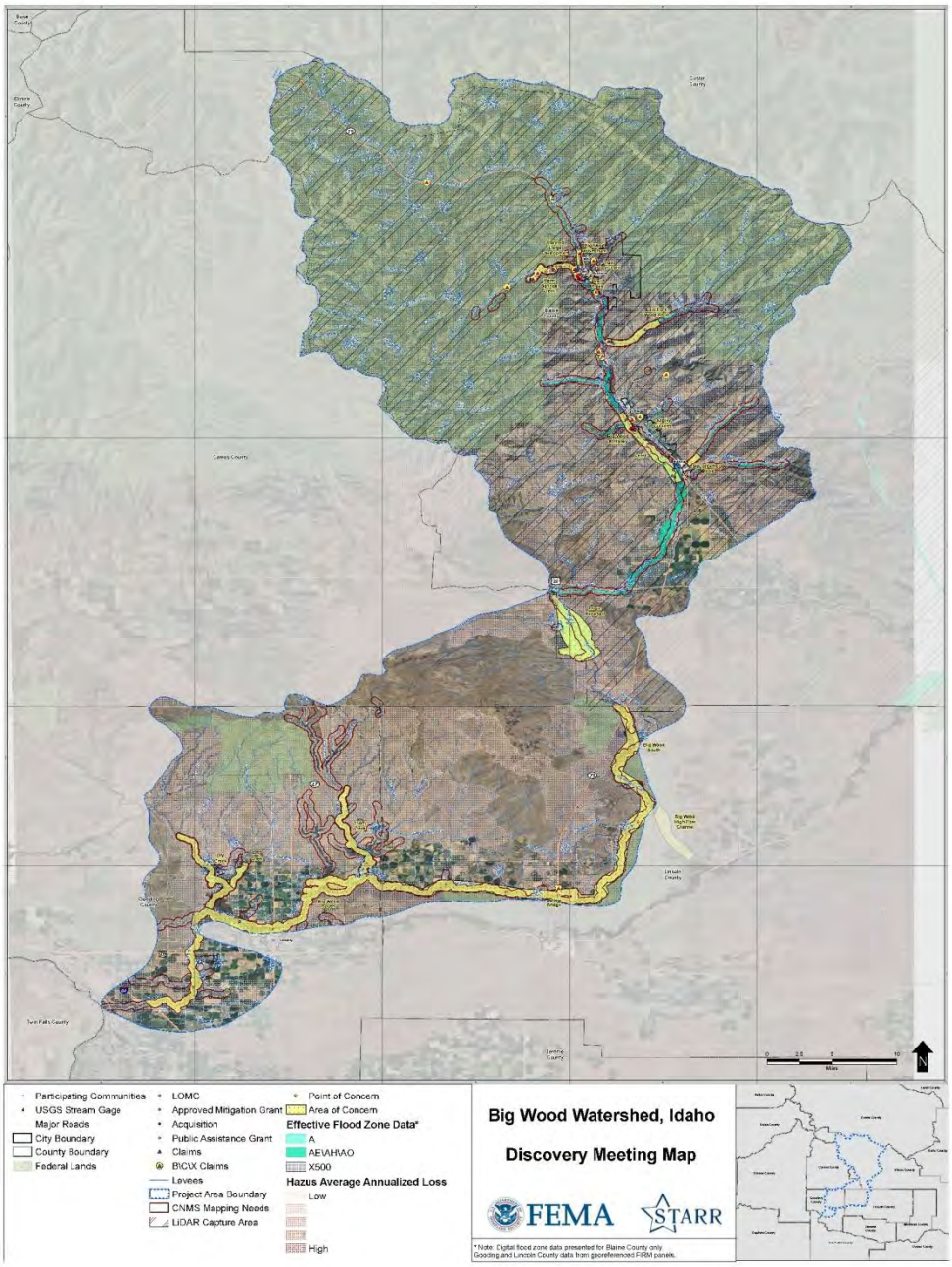
Tribal Areas *(Bureau of Land Management)*: None Identified

Map 2. Image of Interview Reference Map for Blaine County



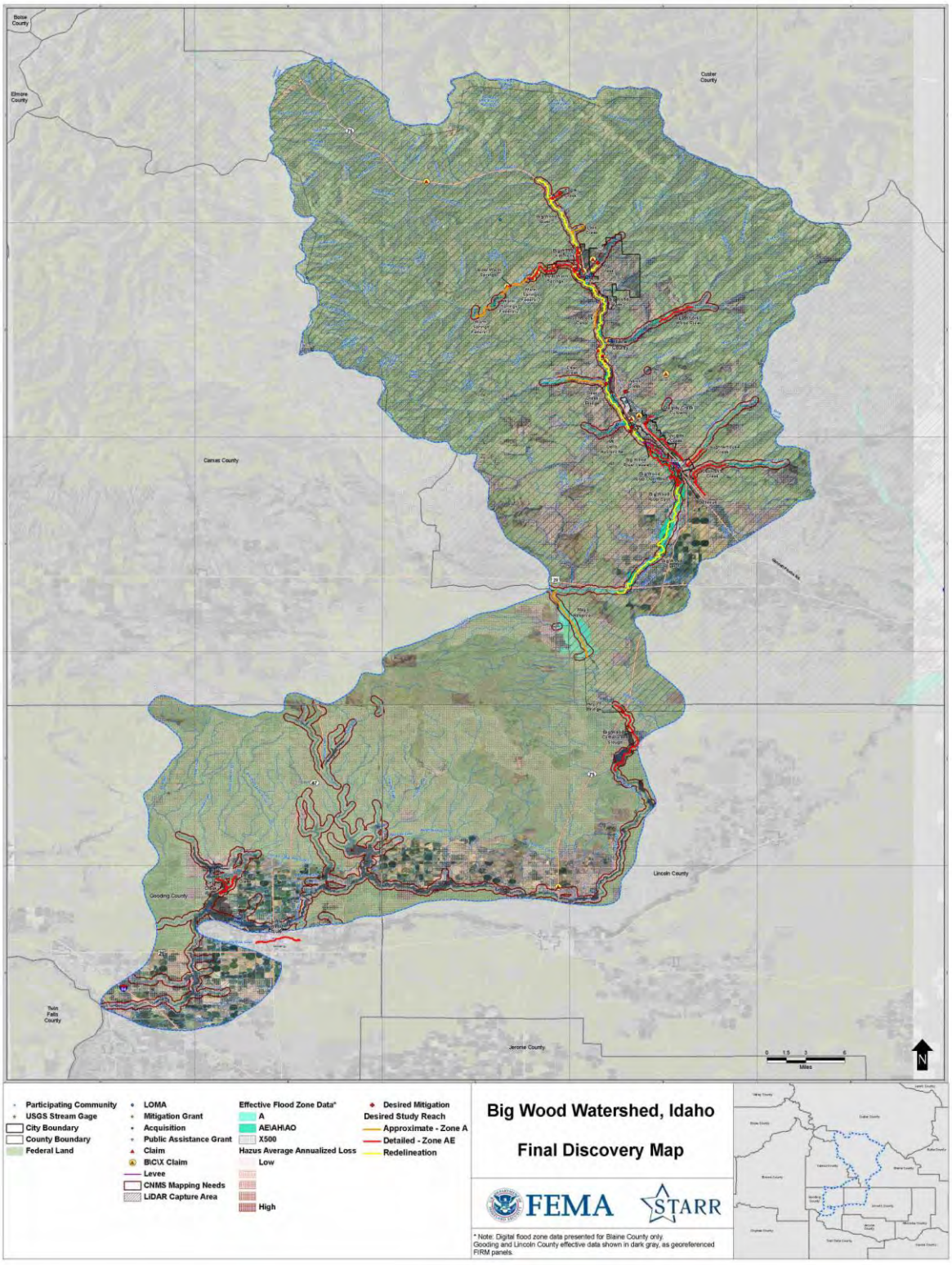
The third step was to hold a watershed-wide Discovery Meeting and facilitate discussion and data analysis of study needs, mitigation project needs, desired compliance support, and local flood risk awareness efforts. The discussion was stimulated using the Discovery Geodatabase display of relevant data. 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 Big Wood River 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 the Big Wood River 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 Big Wood River Watershed communities that can be considered Risk MAP Needs, to be addressed with Risk MAP projects. 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

Each of the NFIP-participating communities were individually interviewed and invited to participate in the Discovery meeting process. The results of the data collection, local information, and Risk Map needs were documented at each meeting and summarized below.

Within the Big Wood River Watershed, Flood Insurance Studies (FISs) and Flood Insurance Rate Maps (FIRMs) were last updated in November 2010 for Blaine County and its participating communities. Gooding County and Lincoln County were last updated in 1985 and 1986, respectively. The Big Wood River Watershed communities have both detailed and approximate riverine analyses as part of their FIS. The last community meeting in Blaine County was a Final Meeting held in February 2010, while the last meetings in Gooding County and Lincoln County were in 1979.

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. About 20 claims have been made in the B, C, or X zones in the watershed located in Blaine County. Most of these claims have occurred near the confluence of the Big Wood River with Warm Springs Creek with some downstream of the confluence of the Big Wood River and East Fork Wood River. The Warm Springs Creek and Big Wood River confluence has been prioritized for a new detailed study while the other areas have been requested for redelineation to improved topographic information.

The tabular insurance information indicated there are four repetitive loss properties in the watershed with two in Hailey and two in the unincorporated area of Blaine County. There have been numerous LOMAs issued across the watershed, with a notable cluster at the Warm Springs Creek and Big Wood River confluence. Another cluster is noted near Bellevue along the Big Wood River. This area has also been requested for a new detailed study. Many other LOMAs are distributed along the Big Wood River and its tributaries in the higher population density areas of Blaine County while no LOMAs have occurred in Gooding or Lincoln Counties' portion of the Big Wood River Watershed.

As shown on the Final Discovery Map, LiDAR has been collected for most of Blaine County, with the exception of the southern portion. LiDAR has never been collected for Gooding County or Lincoln County.

Several levees were identified in the Big Wood River Watershed through a combination of the U.S. Army Corps of Engineers (USACE) National Levee Database, FEMA's Regional Flood Hazard Layers, and the Mid-Term Levee Inventory, or during interviews with local officials. No levees are known to have 44 CFR 65.10 documentation; however, some levees may be shown on the FIRM as providing flood protection.

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

Table 2: Big Wood River Watershed Mapping Needs

PRIORITY	STUDY AREA	STUDY LENGTH (miles)	LOCATION DESCRIPTION	STUDY TYPE
High	Big Wood River 1	6.5	From u/s limit of detailed study to 0.5 mi u/s Adam's Gulch	Redelineation
High	Big Wood - Ketchum	2.2	From 0.5 mi u/s Adam's Gulch to confluence with Warm Springs Creek	Detailed - Zone AE
High	Big Wood River 2	16.4	Cnflc of Warm Springs Creek to u/s extent of Big Wood Overflow Split	Redelineation
High	Big Wood River Split	4.7	Big Wood River main channel from u/s extent of Big Wood River Overflow to d/s extent of Big Wood River Overflow	Detailed - Zone AE
High	Big Wood River Overflow	5.2	Big Wood River Overflow channel from u/s extent of Big Wood River to d/s extent of Big Wood River	Detailed - Zone AE
High	Big Wood River 3	11.2	Cnflc with Big Wood River split to d/s limit of detailed study	Redelineation
High	Magic Reservoir	5.7	Magic Reservoir South of Hwy 20 west of Hwy 75	Appx - Zone A
High	Big Wood - Cottonwood Slough	6.5	Lincoln County east of Hwy 75	Detailed - Zone AE
High	Eagle Creek	0.8	Eagle Creek from Big Wood confluence upstream	Detailed - Zone AE
High	Lower Warm Springs	6.7	Warm Springs Creek thru City of Ketchum	Detailed - Zone AE
High	Quigley Creek	4.8	City of Hailey	Detailed - Zone AE
High	Slaughterhouse Creek	1.7	City of Bellevue upstream to the NE	Detailed - Zone AE
High	Dog Creek	1.3	NE of city of Gooding	Detailed - Zone AE
High	Dry Creek	2	NE of city of Gooding	Detailed - Zone AE
High	Little Wood River	3.4	City of Gooding	Detailed - Zone AE
Medium	East Fork Wood River	2.4	From u/s limit of detailed study u/s to limit of study	Detailed - Zone AE
Low	Lake Creek	1.1	Lake Creek north of Ketchum	Appx - Zone A
Low	Upper Warm Springs	1.5	Upper reach of Warm Springs Creek	Detailed - Zone AE
Low	Trail Creek - Sun Valley	0.9	Trail Creek thru Sun Valley to Sun Valley Dam	Redelineation
Low	Comstock Canal	1.2	Populated area west bank south of Ketchum	Detailed - Zone AE
Low	Deer Creek	2.7	From confluence to apprx 2.5 miles upstream	Appx - Zone A
Low	Seaman's Creek	4.4	South and East of Bellevue	Detailed - Zone AE

ii. Mitigation Projects

The Blaine County Multi-Jurisdictional All Hazard Mitigation Plan, which includes the other NFIP communities of the Big Wood River Watershed that are within Blaine County, was approved in December of 2009 and expires on December 3, 2014. Gooding County and the city of Gooding have prepared the Gooding County Hazard Mitigation Plan which is valid between through August 2013 and Lincoln County has developed the Lincoln County Hazard Mitigation Plan which is effective through July 2013.

Several potential desired mitigation projects were identified by the communities during the Discovery Meeting, including:

- *Big Wood River Levee* – Non-Regulatory Risk Map Products desired for the Big Wood River split location to illustrate several different flow scenarios for the main channel and the overflow channel
- *Bellevue Canal* – bank stabilization at a meander on the Big Wood River to protect the canal
- *Hwy 75 Bridge* – slow water flow and prevent the Big Wood River's flow split to Cottonwood Slough which increases flooding on Little Wood River
- *Eagle Creek*– undersized culvert increases flood hazard on Eagle Creek at Highway 75
- *Trail Creek* - Sun Valley interested in a dam breach analysis for the Trail Creek Dam
- *Deer Creek Bridge* – Continued bank stabilization where eroded during 2006 flood
- *Indian Creek* - diverting Indian Creek from its confluence with the Hiawatha Canal directly to the Big Wood River
- *Quigley Creek Culverts* - clean the culverts and channel, restoring dilapidated banks, and installing wing walls on culverts to improve flood flow thru this channel
- *Mt. Della Avalanche* - avalanche caused flooding in the Big Wood River, mitigation study may be appropriate

iii. Compliance

Data collected from CIS indicated that none of the communities in the Big Wood River 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 was in February 2007 with the city of Gooding, prior to that was a November 2003 call with Gooding County. Lincoln County's last contact was in September of 2003 while Bellevue and Hailey had a visit in June of 2003. Blaine County and Sun Valley have not had contact since the 1990s but Ketchum had a call in June 2002. 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, Blaine County, Hailey, Ketchum, and Sun Valley are participating in the Community Rating System program. The communities of Gooding, Gooding County, Lincoln County, and Bellevue should be evaluated for participation.

The Big Wood River Watershed, in general, has a low population density. Of the three participating counties in the watershed, Blaine County has the most people with 18,991 residents. Lincoln County has about 4,044 residents and Gooding County has approximately 14, 155 people (2000 Census data). The median age of residents in the watershed is 36 years, with approximately 12% of the population over 65 years old, an average of 8% non-English speakers, and about 2% Native Americans. An average of around 80% of the population holds a high school diploma, and around 16% have a college degree. As of 2000, approximately 64% of residents over age 16 that desired employment were working, with a median annual income of approximately $38,300. Residents in the Blaine County portion of the watershed work primarily in arts, entertainment, recreation, accommodation, and food services industries while Lincoln and Gooding Counties economies are focused on agriculture, forestry, fishing, hunting, and mining. There was nothing outstanding in the demographics data to indicate that special outreach strategies would be necessary for the Big Wood River Watershed communities.

The local officials were all interested in learning more about how to provide flood risk information to residents. Community representatives indicated the need for a 'local champion' for flood studies to keep the public informed and to allow public input throughout the process.

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. The local officials in the Big Wood River 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
- Draft Project Charter

Report

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