Discovery Report

Upper Green-Great Divide Watershed, HUC 1404

Sub-Basins Included: 14040101, 14040102, 14040103, 14040104, 14040105, 14040106, 14040107, 14040108, 14040109, and 14040200

Counties Included: Lincoln, Sublette, Sweetwater*, Uinta

Communities Included:

Town of Bairoil*	City of Kemmerer	Town of Opal
Town of Big Piney	Town of La Barge*	Town of Pinedale*
Town of Diamondville	Town of Lyman	City of Rock Springs
Town of Granger*	Town of Marbleton*	Town of Superior*
City of Green River	Town of Mountain View	Town of Wamsutter*

**Not participating in the National Flood Insurance Program*

States Included: Wyoming

Draft Report: December 2025

Final Report: May 2026

FEMA

Federal Emergency Management Agency
U.S. Department of Homeland Security, Region 8
Denver Federal Center, Building 53
Denver, CO 80225-0267

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Executive Summary

Through its Risk Mapping, Assessment, and Planning (Risk MAP) Program, the Federal Emergency Management Agency (FEMA) works with federal, state, tribal, and local partners to identify flood hazards, raise flood risk awareness, and promote flood mitigation actions.

The Risk MAP lifecycle consists of a series of phases that culminate in an updated Flood Insurance Study (FIS). The first phase in this cycle is Discovery, during which FEMA identifies and prioritizes streams for an updated FIS by reviewing the available technical data for the project area and gathering local stakeholder input. For this Discovery project in Wyoming's Upper Green-Great Divide Watershed, FEMA identified streams in four counties: Lincoln, Sublette, Sweetwater, and Uinta. The technical data collected for this project included the Coordinated Needs Management Strategy (CNMS) geodatabase, Letters of Map Change (LOMCs), existing regional and state plans and reports, and other national databases. Stakeholder input for the four counties was gathered during virtual meetings held in Winter 2026.

This project was funded in Fiscal Year (FY) 2022, began in January 2023, and was completed in May 2026. This project was completed by the Strategic Alliance for Risk Reduction II (STARR II) Joint Venture under the monitoring of FEMA Region 8. Table 1 includes contact information for key project members.

Table 1. FEMA and STARR II points of contact.

Organization	Point of Contact	Email Address
FEMA Region 8	Christine Gaynes, Study Manager	christine.gaynes@fema.dhs.gov
FEMA Region 8	Zharif Mdazmi, Engineer	ahmad.mdazmi@fema.dhs.gov
STARR II	Jerri Daniels, Discovery Lead	jdaniels@dewberry.com
STARR II	Erica Schmitz, Base Level Engineering (BLE) Production	erica.schmitz@stantec.com

General Information

1. Objective

The objective of this Discovery project was to identify and prioritize streams for updated FIS and accompanying Flood Insurance Rate Maps (FIRMs) in the following Wyoming counties: Lincoln, Sublette, Sweetwater, and Uinta. Discovery was conducted in conjunction with BLE data development, during which the BLE data was also made available to participating community officials upon completion. Preliminary flood hazard analysis results contributed to data visualization efforts used for stakeholder engagement. Streams recommended for updated FIS were identified and prioritized based on input from local stakeholders and analysis of geospatial datasets, including the CNMS.

2. Project Schedule

- Project Kickoff: January 2023
- BLE Analysis Started: February 2023
- BLE Analysis Completed: June 2025
- Draft Report Complete: October 2025
- Discovery Meeting: January 2026
- Discovery Closeout Meeting: May 2026
- Report Final Draft: May 2026
- Discovery Phase Completion: May 2026

3. Project Footprint

The study area for this project is the extent of the Upper Green-Great Divide Hydrologic Unit Code (HUC) 4 Watershed (HUC 1404). It is composed of 10 HUC 8 sub-basins: 14040101, 14040102, 14040103, 14040104, 14040105, 14040106, 14040107, 14040108, 14040109, and 14040200. Although this watershed extends into Utah and Colorado, this Discovery project focused only on the portions located within Lincoln, Sublette, Sweetwater, and Uinta counties in Wyoming, which lie within the HUC 4 watershed boundary (outlined in red in Figure 1).

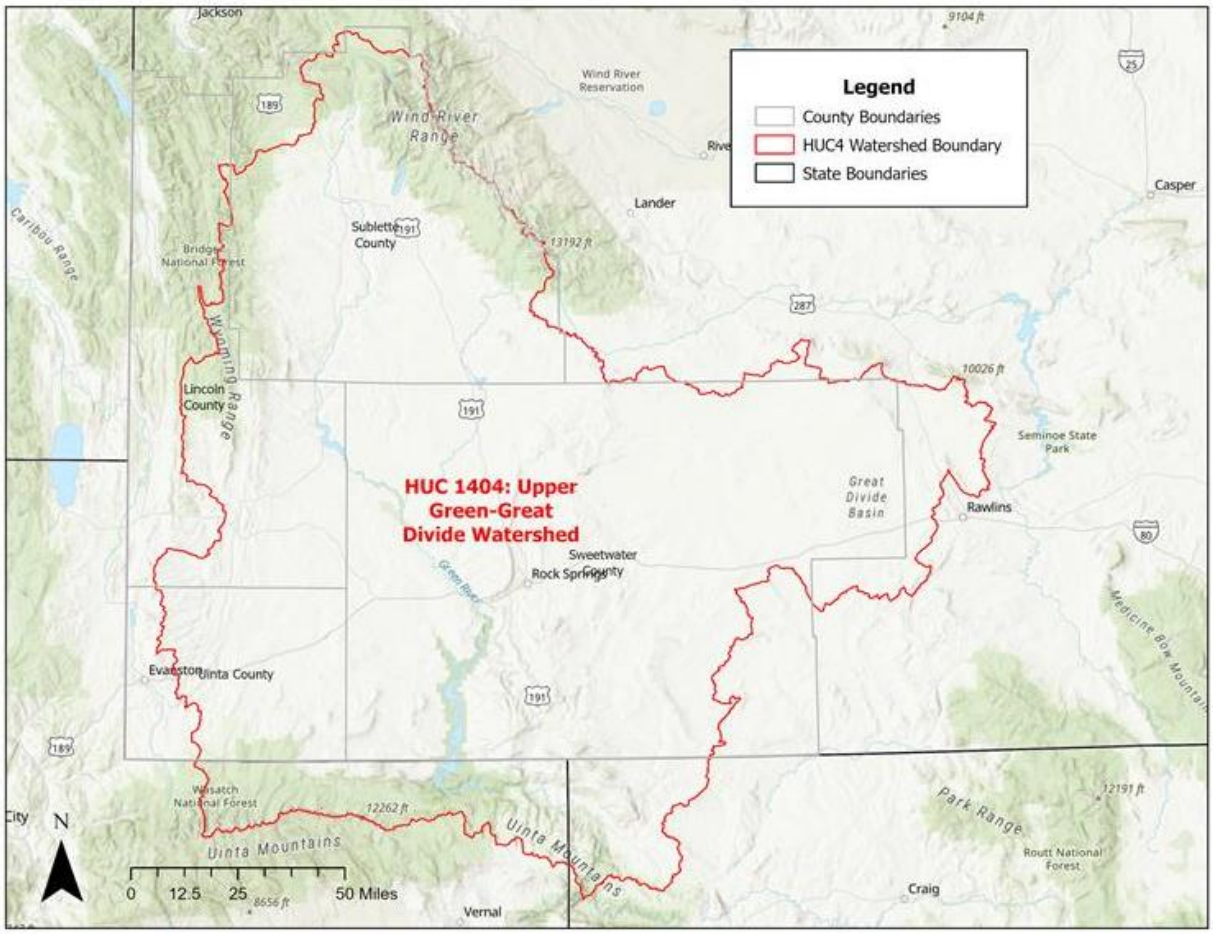


Figure 1. Discovery project footprint.

4. CNMS Miles

CNMS defines a streamlined process and framework for monitoring the validity and quality of all flood studies across the country. This contributes to an accurate picture of our known and yet-to-be-determined flood hazards and supports the efficient allocation of resources for flood mapping. The CNMS process uses 16 (seven critical and nine secondary) physical, climatic, and technical characteristics to evaluate whether the existing hazard information along a waterway accurately represents the current conditions of the watershed (see Table 2). Using data collected prior to this project's BLE analysis, STARR II identified the CNMS miles and their statuses (verified, unverified, and unknown) for further study. These are shown in z. Much of the Upper Green-Great Divide HUC 4 Watershed was composed of unmapped streamlines prior to this study. As seen in Figure 3, a significant number of stream miles will be mapped after the completion of the study. Final study line work and mileage will be available after the completion of the Discovery phase.

Table 2. CNMS elements used to evaluate existing hazard information along a waterway.[1]

CNMS Elements for Evaluation	
Critical	**Secondary**
1. Major change in gage record since effective analysis. 2. Updated and effective peak discharges differ significantly. 3. Model methodology no longer appropriate. 4. Addition or removal of a major flood control structure. 5. Current channel reconfiguration outside effective Special Flood Hazard Area (SFHA). 6. Five or more new or removed hydraulic structures that impact Base Flood Elevations (BFEs). 7. Significant channel fill or scour.	1. Use of rural regression equations in urbanized areas. 2. Repetitive losses outside the SFHA. 3. Increase in impervious area within the sub-basin by more than 50 percent. 4. One to four new or removed hydraulic structures that impact BFEs. 5. Channel improvements or shoreline changes. 6. Availability of better topography/bathymetry. 7. Changes to vegetation or land use. 8. Significant storms with high water marks. 9. New regression equations.

Table 3. CNMS miles organized by county and status.[2]

County	Federal Information Processing Series (FIPS) Code	Stream Mileage Within Upper Green-Great Divide Watershed		
		Valid	Unverified	Total
Lincoln	56023	6.30	467.69	473.99
Sublette	56035	1.24	1,099.38	1,100.62
Sweetwater	56037	6.85	496.75	503.60
Uinta	56041	1.16	651.69	652.85
	Total:	**15.55**	**2,715.51**	**2,731.06**

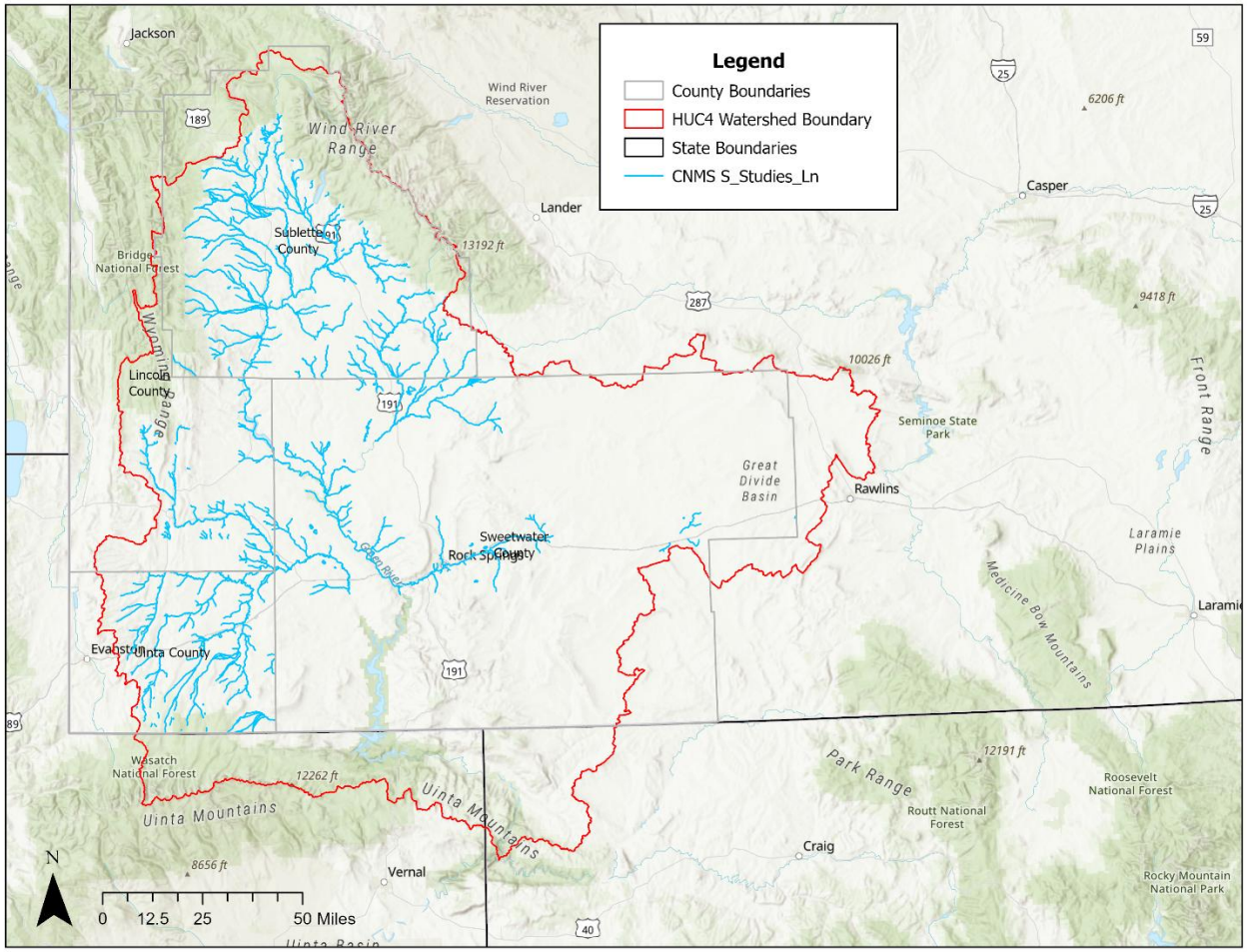


Figure 2. 2023 pre-BLE CNMS mileage.[3]

5. Process

5.1. Discovery Process

Discovery is Phase 1 of the Risk MAP process and led by the Risk MAP Project Delivery Team (PDT), which typically consists of engineers, mapping and mitigation experts, and FEMA flood risk specialists. During Discovery, the PDT learns as much as possible about communities' hazards, challenges, and goals regarding flood risk. It also initiates data collection efforts, engages local officials and community leaders, and, if necessary, generates BLE data. PDT roles and contact information can be found in Appendix I: Resources.

Discovery includes two public-facing key activities: community knowledge and information sharing and the Discovery meeting.

- *Community Knowledge and Information Sharing:* The PDT engages local officials and other community stakeholders to collect relevant data and information. It also collects direct feedback on the community's flood risk challenges and concerns through research and interviews. The PDT then analyzes this information to better understand the community's flood risks.
- *Discovery Meeting:* The goal of the Discovery meeting is to share data based on initial research and analysis. This meeting, which essentially functions as a joint working session, convenes community officials and stakeholders from fields related to flood risk and mitigation (e.g., floodplain management, emergency management, public works, land use planning, etc.). The PDT and meeting attendees review and validate the initial assessment data and information. Attendees may raise concerns or questions that were unaddressed in the initial study. The PDT uses the information gathered during this meeting to determine if and where a detailed Risk MAP study may benefit the community. This information is provided in a formal Discovery report at the end of the Discovery process and may be used in later Risk MAP phases to develop preliminary flood maps.

5.2. BLE Process

BLE is a method of developing flood risk information, such as flood extents, depth, probability, and velocity, using ground elevation data and modeling software. Focusing on areas that are either unmapped or lacking digital maps, BLE generates flood hazard information based on simplified hydrologic and hydraulic engineering methods that comply with FEMA's standards for flood risk projects. BLE data can be accessed and used prior to receiving or updating regulatory FIRMs. In some cases, information provided through BLE may be considered Best Available Information (BAI). For example, BLE should be used as BAI if BLE produces a higher BFE than the one on the effective FIRM. BLE may also be used as BAI if a community does not have regulatory data.

The two-dimensional (2D) BLE study conducted for the Upper Green-Great Divide Watershed focused on hydrologic and hydraulic modeling to assess flood risk in the region. This study, part of the Discovery phase of the Risk MAP process, supports regulatory efforts and emergency management by providing scalable and cost-effective flood risk assessments.

The Hydrologic Engineering Center's Hydrologic Modeling System (HEC-HMS) used in this BLE study focused on generating inflow hydrographs, graphs that show how much water would enter a system over time, using Stochastic Storm Transposition (SST) techniques. SST involves developing hypothetical storm models and flood frequency analyses based on historical data. The inflow hydrograph data served as the boundary conditions for the Hydrologic Engineering Center's River Analysis System (HEC-RAS) v6.4.1 hydraulic models. This approach addressed data gaps in the study area where traditional information, such as precipitation-frequency data and United States Geological Survey (USGS) regression equations, was outdated or unavailable. By developing a suite of synthetic storms based on a 40-year gridded precipitation dataset, the modeling process captured realistic spatial and temporal precipitation patterns. These synthetic storms were then used to simulate runoff and generate probabilistic hydrographs, which represent a range of possible flood events. This ensured that the resulting inflows reflected the basin's hydrologic response under varying conditions, rather than relying solely on outdated statistical relationships or design storms.

The final deliverables of this BLE study included terrain data, calibrated HEC-HMS and HEC-RAS models, water surface elevation (WSEL) grids, depth grids, velocity grids, and draft FIRM database products. Seamless, study-wide raster and polygon floodplain products were created, with overlapping model domains to ensure consistency and facilitate final mapping.

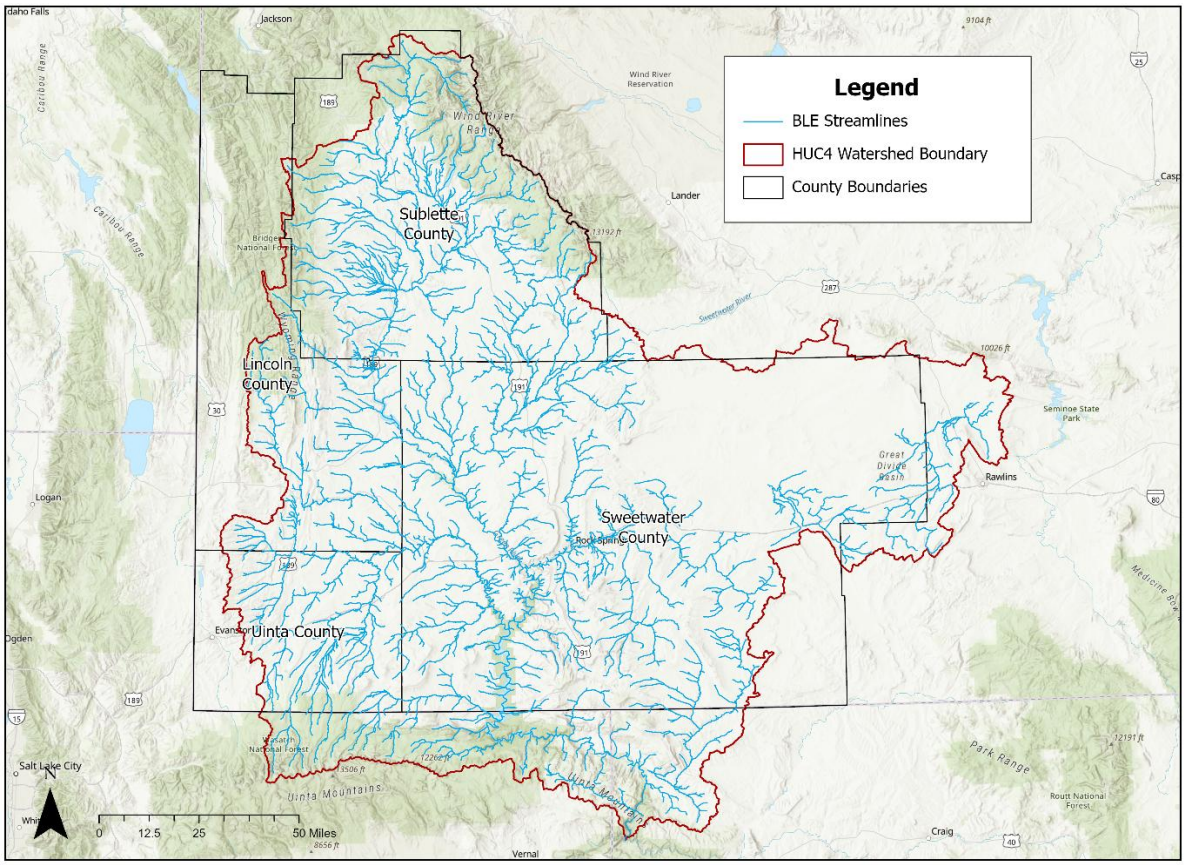


Figure 3. Streams identified through BLE in the Upper Green-Great Divide Watershed. The blank space in the eastern portion of the watershed contains HUC 10s that did not get mapped.

6. Community List

This scoping project included fifteen communities in Lincoln, Sublette, Sweetwater, and Uinta Counties. While Table 4 includes all communities that are either fully or partially in the Upper Green-Great Divide Watershed, this Discovery project focused solely on those within the four aforementioned counties (bolded in the table below). This geographic focus was determined because each of these four Wyoming counties is either completely or mostly within the study HUC 4 watershed, and the majority of the HUC 4 watershed is located in Wyoming.

Table 4. Communities in the Upper Green-Great Divide Watershed. Those in the study area are bolded.

Upper Green-Great Divide Watershed Communities by County and State	
Colorado	Moffat County
Utah	Summit County Daggett County *Town of Dutch John* *City of Manila*
Wyoming	Carbon County Fremont County **Lincoln County** ***Town of Diamondville*** ***City of Kemmerer*** ***Town of La Barge*** ***Town of Opal*** **Sublette County** ***Town of Big Piney*** ***Town of Pinedale*** ***Town of Marbleton*** **Sweetwater County** ***Town of Bairoil*** ***Town of Granger*** ***City of Green River*** ***City of Rock Springs*** ***Town of Superior*** ***Town of Wamsutter*** Teton County **Uinta County** ***Town of Lyman*** ***Town of Mountain View***

Watershed and Communities Overview

1. Climate and Geography

Lincoln, Sweetwater, and Uinta counties are characterized by their location in the Rocky Mountains, with elevations generally ranging between 3,000 and 6,000 feet. Sublette County is also characterized by its proximity to several mountain ranges: the Wyoming Range to the west and the Gros Ventre Range to the northwest. Elevations in Sublette County range between 6,280 and 13,400 feet. In all counties, a large percentage of their land is public (federally managed). This includes Bureau of Land Management (BLM) land, national parks and forests, and other types of public land.

The climate in southwestern Wyoming is cool and dry, categorized as semi-arid. Temperatures across the state are known to be extreme, with highs above 100°F in the summer and below 0°F in the winter. All seasons tend to be dry and cold, except for spring, which receives relatively high precipitation, most often in the form of snow.

Table 5. Average annual precipitation (inches), 1900-2024.[4]

County	Average Annual Precipitation (Inches)
Lincoln	19.77
Sublette	18.57
Sweetwater	9.40
Uinta	12.62

2. Demographics

2.1. Population

Table 6 shows the population for each of the four counties included in this Discovery project. Please note that the population and number of communities are representative of the entire county, including portions outside of the project study area.

Table 6. Population and number of communities in each county.[5]

County	Population	Number of Communities
Lincoln	19,581	9
Sublette	8,728	3
Sweetwater	42,272	6
Uinta	20,450	3
Total:	**91,301**	**21**

2.2. County Resources

All counties have basic Geographic Information System (GIS) capabilities that are accessible through each county's main website.

2.3. Land Use and Agriculture

The agriculture industry is Wyoming's third biggest employer and contributes over a billion dollars to the state economy annually.[6] As of 2022, Wyoming has 10,544 farms on 28.8 million acres of farmland. Table 7 details the number of farms and acres of farmland for each of the four study area counties.

Table 7. Number of farms and acres of farmland per county.[7]

County	Number of Farms	Acres of Farmland
Lincoln	698	364,892
Sublette	402	546,353
Sweetwater	219	1,370,042
Uinta	403	656,988
Total:	**1,722**	**2,938,275**

2.4. Recreation

Outdoor recreation is a major component of the tourism industry in these counties and attracts visitors year-round. Extensive public lands and parks make activities such as hunting, fishing, hiking, biking, camping, and winter sports easily accessible.

3. Historic Flooding Issues

3.1. Presidential Disaster Declarations

Table 9 lists all FEMA Public Assistance Grants awarded to each county. All grants included in the table were awarded following a “severe storms, flooding, and landslides” disaster declaration. While all Public Assistance Grants were awarded for the same disaster, the funds were obligated at different times.

Table 8 details presidential disaster declarations that have been issued for each county. The only disaster declarations shared by all four counties are one for a severe drought in 1977 and two issued during the COVID-19 pandemic in 2020. Table 9 lists all FEMA Public Assistance Grants awarded to each county. All grants included in the table were awarded following a “severe storms, flooding, and landslides” disaster declaration. While all Public Assistance Grants were awarded for the same disaster, the funds were obligated at different times.

Table 8. Presidential disaster declarations.[8]

Date	Disaster Title	Lincoln	Sublette	Sweetwater	Uinta
6/15/1977	Drought	X	X	X	X
8/31/2002	WY Commissary Ridge Fire	X			
7/22/2011	Severe Storms, Flooding, Landslides	X		X	X
7/29/2016	Tokawana Fire				X
9/18/2018	Roosevelt Fire		X		
3/13/2020	COVID-19 Pandemic	X	X	X	X
4/11/2020	COVID-19	X	X	X	X

Table 9. Public Assistance Grant Awards.[8]

Declaration Date	Incident Type	Applicant Name	Project Title	Federal Share Obligated	Obligation Date
7/22/2011	Severe Storm	Lincoln (County)	Emergency Protective Measures	$29,316.29	10/17/2011
			Emergency Protective Measures (Pumping)	$3,895.38	10/13/2011
			Donated Resources	$2,602.50	12/20/2011
			Debris Removal	$9,975.00	10/13/2011
		Town of La Barge (Lincoln County)	Gravel Roadway Repair	$3,918.02	11/01/2011
		Sublette (County)	Gravel Roadway Repair	$3,718.63	10/13/2011
			Emergency Protective Measures (Sandbagging)	$3,682.25	10/13/2011
			Emergency Protective Measures (Emergency Road Repair)	$11,625.64	10/13/2011
			Emergency Protective Measures (Embankment)	$18,474.45	10/13/2011
		Uinta (County)	Emergency Protective Measures (Road Repair for Access)	$6,955.14	10/13/2011
			Embankment Erosion of Structure	$92,202.93	10/27/2011
			Gravel Roadway Repair	$12,998.12	11/10/2011
			Embankment Erosion of Structure	-$303.59	09/16/2016
			Emergency Protective Measures (Road Repair for Access)	$10,633.85	10/27/2011
			Bridge Repair	$14,925.92	10/25/2011
			Gravel Roadway Repair	$23,570.01	10/25/2011
			Gravel Roadway Repair	$9,200.22	10/25/2011

3.2. Ice Jams

Ice jams are a flood hazard in Wyoming, but few instances have been recorded in recent decades. Only two ice jam flood events are recorded for Lincoln, Sublette, Sweetwater, and Uinta Counties in their respective Regional Hazard Mitigation Plans (HMPs): one in April 1984 and one in January 1985, both on the Bear River in Uinta County.[9]

4. Hazard Mitigation Plans

4.1. Summary of HMPs

The four counties in the study area fall under the scope of two multi-jurisdictional regional HMPs in the state of Wyoming: Region 4 and Region 5. Region 4 includes Lincoln, Sweetwater, and Uinta counties, and Region 5 includes Sublette and Fremont counties and the Wind River Reservation.

4.1.1. REGION 4: LINCOLN, SWEETWATER, AND UINTA COUNTIES[10]

Mission Statement: "Reduce or eliminate risk to human life and property from hazards."

Goals:

1. Strengthen public infrastructure.
2. Improve local mitigation capabilities.
3. Protect people and property and reduce economic losses from hazard events.
4. Reduce local costs of disaster response and recovery.
5. Increase public awareness and implementation of hazard mitigation.
6. Utilize FEMA's High Hazard Potential Dam (HHPD) Grant Program to reduce disaster risk from dam incidents.

4.1.2. REGION 5: SUBLETTE COUNTY[11]

Statement of Purpose: "This plan demonstrates the region and each county's and tribe's commitment to reducing risks from hazards and serves as a tool to help decision makers direct mitigation activities and resources."

Goals:

1. Protect Life and Property. Implement activities that will protect lives and reduce property loss, which may occur as a result of natural or man-made hazards.
2. Increase Public Awareness. Provide resources for outreach and education programs to increase public awareness of risks associated with natural and man-made hazards.
3. Increase Knowledge. Gather information necessary to assess and develop plans to avoid and respond to risks and events associated with natural and man-made hazards.

4.2. Status

Table 10 provides an overview of regional HMPs for each county, including their adoption and expiration dates, titles, and current status. The Wyoming State HMP is also included.

Table 10. HMP details.

County	HMP Title	HMP Status	Approval Date	Plan Expiration
Lincoln	Wyoming Region 4 Regional HMP	Active	April 13, 2022	April 13, 2027
Sublette	Wyoming Region 5 HMP	Active	January 2023	January 2028
Sweetwater	Wyoming Region 4 Regional HMP	Active	April 13, 2022	April 13, 2027
Uinta	Wyoming Region 4 Regional HMP	Active	April 13, 2022	April 13, 2027
------	Wyoming State HMP[12]	Active; Undergoing update in September 2025 to succeed existing HMP after its expiration.	February 2021	February 2026

4.3. Identified Concerns

Community concerns were identified through existing HMPs. The most common concerns identified were drought, wildfire, and landslides/debris flows.

Table 11. Identified natural hazard concerns.

County	Natural Hazard Concerns
Lincoln	Drought, earthquakes, landslide/debris flow, wildfire
Sublette	Landslides, unstable soils, high winds, wildfires
Sweetwater	Drought, mine subsidence
Uinta	Dam failure, drought, wildfire

4.4. Hazard Mitigation Grants

Table 12 details the number of FEMA Hazard Mitigation Grant Program (HMGP) funding applications submitted and the amount of funding received by each county. All HMGP grants allocated require a 25%/75% cost share between local and federal funding agencies, respectively.

Table 12. FEMA HMGP funding applications submitted and funding received by county.[13]

County	Program Area	Program FY	Project Amount	Obligation Date
Lincoln	HMGP	1999	$47,500	11/19/1999
Sublette	HMGP Post-Fire (PF)	2018	$0	8/19/2019
	HMGP PF	2018	$311,751.67	1/9/2020
	HMGP PF	2024	$231,000	Pending Review
Uinta	HMGP	2010	--	Funding Denied
	HMGP	2011	--	Funding Denied

4.5. Projects in Progress

The HMPs for Wyoming Regions 4 and 5 detail the mitigation actions taken by their respective communities since the publication of their 2017 HMPs. Many actions outlined in their 2017 HMPs are either completed, in progress, or ongoing. For more information on hazard mitigation projects, reach out to the appropriate Office of Emergency Management/Homeland Security contact below.

- Lincoln County: Jay Hokanson, jay.hokanson@lincolncountywy.gov
- Sublette County: Steve Kipp, skipp@sublettecountywy.gov
- Sweetwater County: Jesse Moreno, morenoj@sweetwatercountywy.gov
- Uinta County: Josh Rasnake, jorasnake@uintacountywy.gov

5. Other County Plans

Lincoln, Sublette, Sweetwater, and Uinta Counties each have long-range planning initiatives that inform land use decisions. These plans and their key themes are detailed below.

5.1. Lincoln County

Natural Resource Management Plan (NRMP) (2021)[14]

Purpose: "This county NRMP serves as a basis for communicating and coordinating with the federal government and its agencies on land and natural resource management and use."

Key Themes:

- *Natural resource conservation:* The 1930s Dust Bowl brought the importance of natural resource conservation in Lincoln County to prominence. To protect natural resources such as minerals, ores, oil, and water, Lincoln County established the Lincoln and Star Valley Conservation Districts. The former includes parts of Kemmerer. The desire to protect natural resources could translate into support for responsible floodplain management practices.
- *Public land access:* Per the NRMP, "The County itself relies on access to federal lands to fulfill its statutory mandate to protect the health, safety, and general welfare of the people within its

jurisdiction; including but not limited to fire protection, search and rescue, flood control, law enforcement, economic development, and the maintenance of County improvements."

- *Road access:* In the past, federal and state agencies have coordinated road closures without County input, which caused economic harm and impacted citizen and visitor enjoyment of the county's natural resources. The NRMP specifies the following as well-traveled, BLM-designated roads within the county: Dry Creek Road, Dempsey Basin Road, Cokeville Stocktrail, and the IGO Road. This can inform the prioritization of areas for improvement, mitigation, and maintenance.

5.2. Sublette County

Comprehensive Plan (2003)[15]

Purpose: "The 2003 Sublette County Plan update to revise the Sublette County Comprehensive Plan was an effort by county leaders and citizens to address the county's present and future land use needs."

Key Themes:

- *Land use and development:* The Comprehensive Plan prioritizes the planning and location of new development in such a way as to avoid excessive costs in providing public services. It also encourages high-density residential development within a one-mile radius of the county's incorporated towns and commercial property development along major thoroughfares. The approximate locations of future residential and commercial developments can be predicted based on these land use and development policies.
- *Private property rights*: One of the county's values, as stated in their vision, is that "Sublette County shall remain free from excessive land use regulation and shall continue to be vigilant in the protection of private property rights." This support for private property rights should be considered in local floodplain management, particularly during outreach efforts.

5.3. Sweetwater County

Comprehensive Plan (2002)[16]

Key Themes:

- *Land use and development*: The Comprehensive Plan dictates that the county's land use guidelines and regulations ensure the protection of public health, safety, and welfare. It also encourages residential development in or adjacent to existing communities and industrial development adjacent to existing industry and near available facilities, services, and resources. The approximate locations of future residential and industrial developments can be predicted based on these land use and development policies.
- *Private property rights:* The county's Land Use Regulations state that an appropriate balance must be maintained between private property rights and the general public interest. This support for private property rights should be considered in local floodplain management, particularly during outreach efforts.

Growth Management Plan (2011)[17]

Key Themes:

- *Growth management:* As one of Wyoming's most populous counties, Sweetwater County is preparing for additional population growth and the development that comes with it. Using the Regional Water District's 1.5% population projection to determine how much growth will occur over the next 20 years, the County designated priority areas for growth management. The Growth Area boundary was mapped from existing data that indicates areas suitable for urban density development and the availability of utilities and other features. City Growth Areas, the areas around the cities of Rock Springs and Green River into which the cities project necessary growth in the foreseeable future, take into account political factors and are the subjects of the Land Use Plan and Transportation Plan included in this Growth Management Plan.
- *Land use and development:* The different maps included in the Growth Management Plan depict the Growth Area boundary, city limits, City Growth Area, existing and proposed land use patterns, current and proposed land use for proposed rezoning, utility service districts, and fire districts. These maps can inform the prioritization of areas for improvement, mitigation, and maintenance.
- *Transportation:* The Growth Management Plan's Master Transportation Plan illustrates the Growth Management Area's arterial roads and major and minor collector roads. This plan can inform the prioritization of transportation infrastructure for improvement, mitigation, and maintenance.

5.4. Uinta County

Comprehensive Plan (2011)[18]

Key Themes:

- *Natural environment protection:* One of Uinta County's goals is to protect sensitive areas and the natural environment. One of its land use policies is that the County "considers 'land' a non-renewable resource that should be managed in the best interest of current and future residents of the county." This information may be used as a backing for floodplain management efforts that support the preservation of the natural environment and/or the interest of county residents.
- *Urbanization:* Per another Uinta County policy, "'urbanizing areas' are those areas experiencing, or likely to experience, increased growth and development interest and pressure. Generally, urbanizing areas are adjacent to the existing communities of Evanston, Bear River, Urie, Mountain View, Lyman, and Fort Bridger…." This information can be used to predict the general areas where future development is likely to occur.

Data Analysis

1. National Flood Insurance Program (NFIP) Data

In this section, available NFIP data are listed for each community included in this Discovery project. Communities identified as participating or previously participating in the NFIP have been assigned unique Community Identification Numbers (CIDs). In the following tables, the county name followed by an asterisk (*) represents the unincorporated areas of that county.

1.1. Flood Insurance Rate Maps (FIRMs)

The majority of communities in the Upper Green-Great Divide Watershed have effective FIRMs. The FIRM effective dates are listed in Table 13. These FIRMs determine the flood insurance rates for different parts of a community. Federal flood insurance is not available to communities that do not participate in the NFIP.

Table 13. NFIP status and Effective Map date.[19]

County	Community	CID	NFIP Status	Current Map Effective Date	SFHAs Present?
Lincoln	Diamondville, Town of	560034	Participating	11/16/2011	Yes
	Kemmerer, City of	560035	Participating	11/16/2011	Yes
	Opal, Town of	560098	Participating	11/16/2011	Yes
	La Barge, Town of	560108	Not participating	11/16/2011	Yes
	Lincoln County*	560032	Participating	11/16/2011	Yes
Sublette	Big Piney, Town of	560070	Participating	Unmapped	Unmapped
	Marbleton, Town of	560065	Not participating	Unmapped	Unmapped
	Pinedale, Town of	560049	Not participating	3/18/1986	Yes
	Sublette County*	560048	Participating	1/1/2008	Yes
Sweetwater	Bairoil, Town of	560120	Not participating	Unmapped	Unmapped
	Granger, Town of	560095	Not participating	2/26/1980	Yes
	Green River, City of	560050	Participating	6/20/2000	Yes
	Rock Springs, City of	560051	Participating	7/20/1998	Yes
	Superior, Town of	560125	Not participating	Unmapped	Unmapped
	Wamsutter, Town of	560111	Not participating	Unmapped	Unmapped
	Sweetwater County*	560087	Not participating	8/1/1978	Yes
Uinta	Lyman, Town of	560075	Participating	2/17/2010	No
	Mountain View, Town of	560092	Participating	2/17/2010	Yes
	Uinta County*	560053	Participating	2/17/2010	Yes

1.2. Letters of Map Change (LOMCs)

Several communities in the Upper Green-Great Divide Watershed have had updates made to their effective FIRMs, called LOMCs. These include Letters of Map Revision (LOMRs), Letters of Map Revision Based on Fill (LOMR-F), and Letters of Map Amendment (LOMAs). Revalidation Letters list previously issued LOMCs that will remain valid after a FIRM revision. They do not include LOMCs that have been incorporated into the new map, have been superseded by the new map, or are no longer valid. The number of LOMCs (categorized as either LOMR or LOMA) and Revalidation Letters for each community are listed in Table 14. Dashes indicate an unmapped community.

Table 14. Number of LOMCs in each community.[20]

County	Community	LOMR	LOMA	Revalidations
Lincoln	Diamondville, Town of	0	1	0
	Kemmerer, City of	0	1	1
	La Barge, Town of	0	0	0
	Opal, Town of	0	0	0
	Lincoln County*	0	18	1
	County Subtotal:	**0**	**20**	**2**
Sublette	Big Piney, Town of	-	-	-
	Marbleton, Town of	-	-	-
	Pinedale, Town of	1	3	0
	Sublette County*	1	9	0
	County Subtotal:	**2**	**12**	**0**
Sweetwater	Bairoil, Town of	-	-	-
	Granger, Town of	0	0	0
	Green River, City of	0	3	0
	Rock Springs, City of	8	17	0
	Superior, Town of	-	-	-
	Wamsutter, Town of	-	-	-
	Sweetwater County*	2	0	0
	County Subtotal:	**10**	**20**	**0**
Uinta	Lyman, Town of	0	0	0
	Mountain View, Town of	0	3	0
	Uinta County*	1	16	0
	County Subtotal:	**1**	**19**	**0**
	Watershed Total:	13	71	2

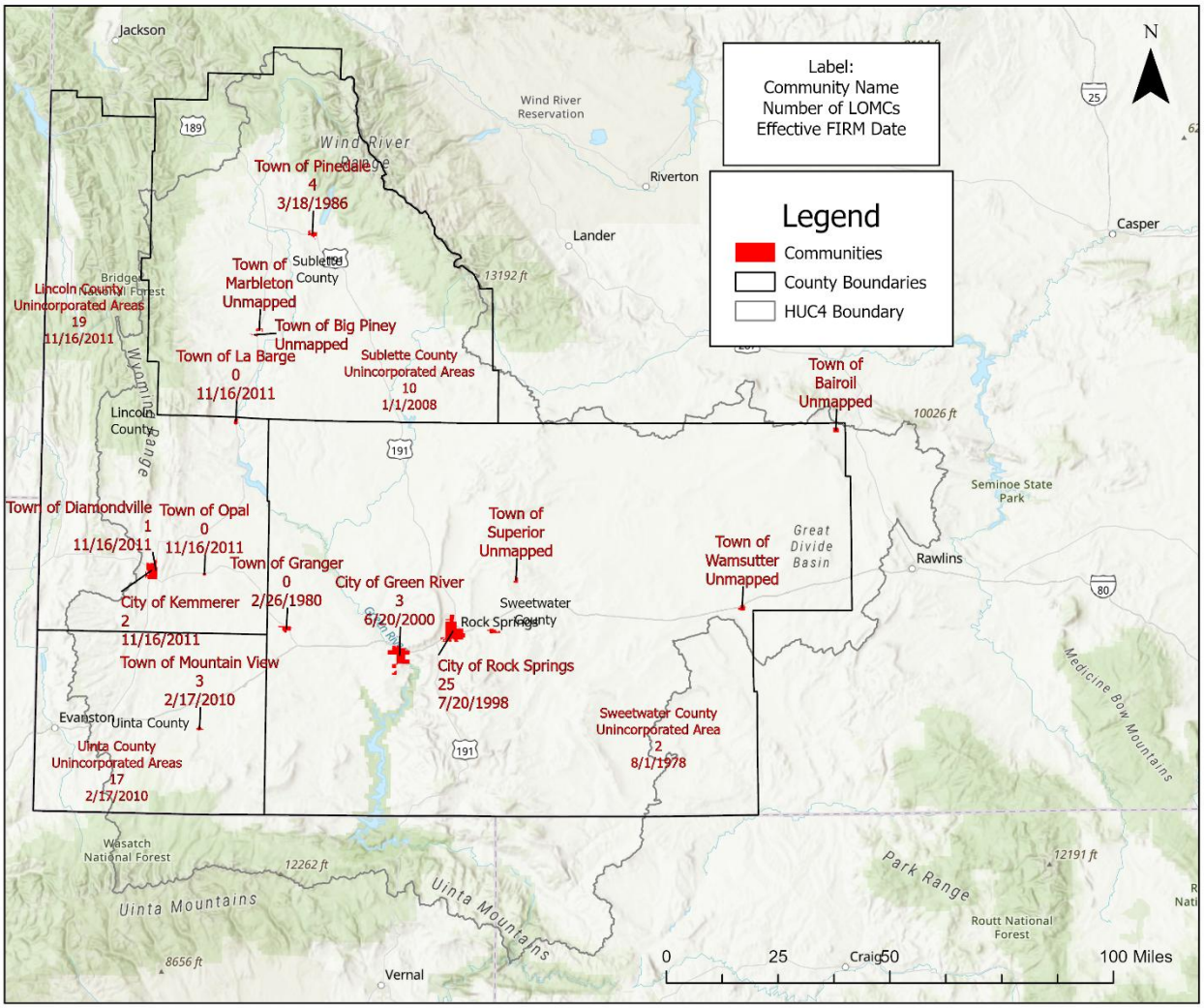


Figure 4. LOMCs and Effective FIRM dates.

1.3. Repetitive Loss Properties

A repetitive loss property is an NFIP-insured structure with two or more claims/losses resulting in claim payments (including building and contents) totaling more than $1,000 per claim that are recorded in any 10-year period. There are no repetitive loss properties recorded in the Upper Green-Great Divide Watershed.

Table 15. Flood insurance losses, premiums, and policy information by community.[21]

County	Community	Repetitive Loss Properties	Total Premiums	Total Paid Losses Since 1978	Policies Since 1978
Lincoln	Lincoln County	0	$29,933	$36,200	43
	Diamondville, Town of	0	$880	0	2
	Kemmerer, City of	0	$2,435	0	2
	Opal, Town of	-	-	-	-
	La Barge, Town of	-	-	-	-
	Lincoln County*	0	$21,355	$36,200	33
Sublette	Sublette County	0	$4,561	$0	6
	Big Piney, Town of	-	-	-	-
	Marbleton, Town of	-	-	-	-
	Pinedale, Town of	-	-	-	-
	Sublette County*	0	$4,561	$0	6
Sweetwater	Sweetwater County	0	$113,920	$901,084	60
	Bairoil, Town of	-	-	-	-
	Granger, Town of	-	-	-	-
	Green River, City of	0	$26,004	$7,436	13
	Rock Springs, City of	0	$87,916	$893,648	47
	Superior, Town of	-	-	-	-
	Wamsutter, Town of	-	-	-	-
	Sweetwater County*	-	-	-	-
Uinta	Uinta County	0	$49,573	$10,133	62
	Lyman, Town of	-	-	-	-
	Mountain View, Town of	0	$11,060	$0	10
	Uinta County*	0	$23,524	$10,133	28

1.4. Community Assistance Visits (CAVs) and Community Assistance Contacts (CACs)

CAVs and CACs are visits to a community by a FEMA staff member or state agency representative on behalf of FEMA that serve the dual purpose of providing technical assistance to the community and assuring that the community is adequately enforcing its floodplain management regulations.

Table 16. CAC and CAV dates per community.[22]

County	Community	CAV/CAC Date
Lincoln	Diamondville, Town of	CAC: 9/6/2017, CAV: 5/4/2004
	Kemmerer, City of	CAC: 9/6/2017, CAV: 5/4/2004
	Opal, Town of	CAC:1/24/2007, CAV: 6/4/2004
	La Barge, Town of	-
	Lincoln County *	CAC: 6/20/2022, CAV: 9/7/2017
Sublette	Big Piney, Town of	CAV: 5/30/2019
	Marbleton, Town of	-
	Pinedale, Town of	CAC: 5/30/2019, CAV: 6/11/2014
	Sublette County*	CAC: 8/25/2009, CAV: 5/29/2019
Sweetwater	Bairoil, Town of	-
	Granger, Town of	-
	Green River, City of	CAC: 10/17/2019, CAV: 6/22/2022
	Rock Springs, City of	CAC: 6/22/2022, CAV: 3/16/2022
	Superior, Town of	-
	Wamsutter, Town of	-
	Sweetwater County*	-
Uinta	Lyman, Town of	CAC: 3/3/1994, CAV: 7/6/2012
	Mountain View, Town of	CAC: 10/12/2017, CAV: 7/3/2012
	Uinta County*	CAC: 3/2/1994, 10/12/2017

2. Additional Data

2.1. Dams

Significant and High Hazard Potential Dams (HHPDs) are dams whose failure or misoperation would result in damage or loss of life and/or property, with hazard potential being the potential downstream impact in the event of a dam emergency. Table 17 details the number of significant hazard potential dams or HHPDs in the Upper Green-Great Divide Watershed by county.

Table 17. Significant- and high-hazard dams per county as of March 2023.[23]

County	Number of Dams Considered Significant- or High-Hazard
Lincoln	5
Sublette	5
Sweetwater	16
Uinta	7
Total:	**33**

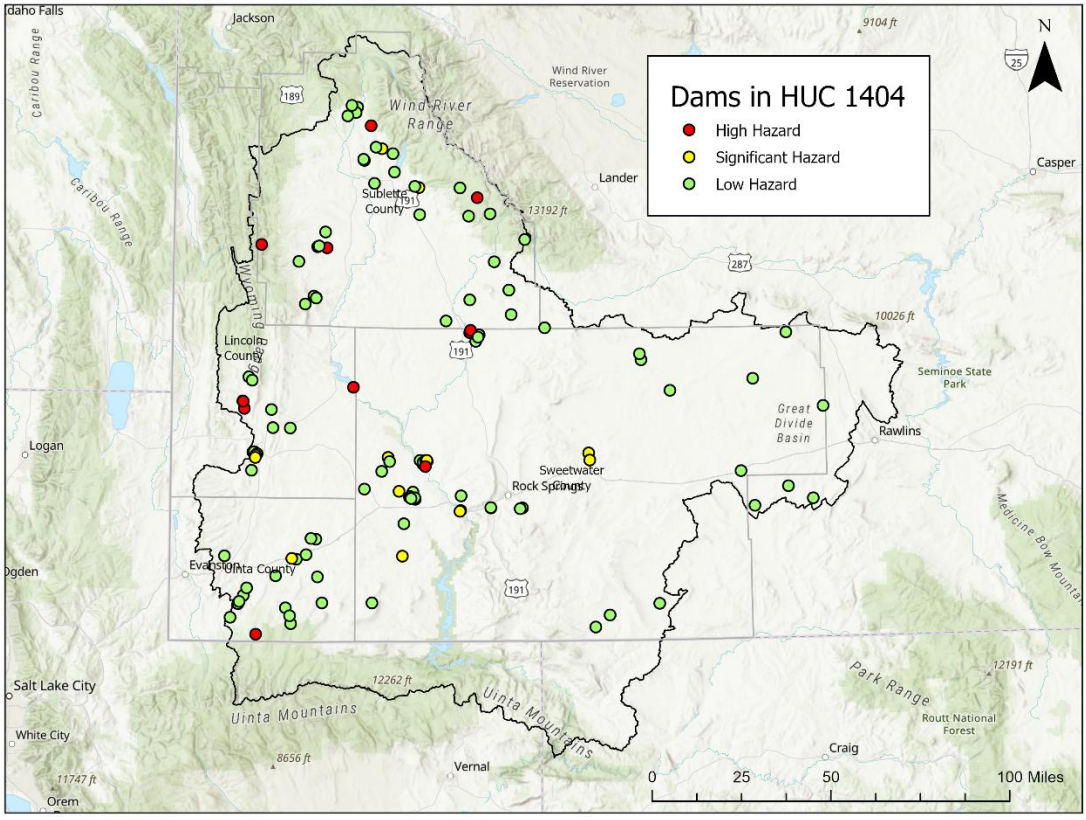


Figure 5. Map of dams by hazard level in the Upper Green-Great Divide Watershed as of March 2023.

2.2. Levees

In 1924, a levee was constructed in Sweetwater County along the south side of Bitter Creek between Pilot Butte Bridge and the confluence with Dead Horse Canyon Creek. This levee was the first major diversion of the Bitter Creek channel. Another levee was built along the east bank of Bitter Creek to protect the western part of the city. These improvements were not certified by the United States Army Corps of Engineers (USACE), did not meet FEMA accreditation requirements, and thus are not reflected in the area's FIRM. A 2009 Levee Accreditation Feasibility Assessment determined that certification would be "problematic and would require extensive additional construction."[24]

During its Environmental Assessment review and Conditional Letter of Map Revision (CLOMR) consideration, FEMA determined that the levees along Dead Horse Canyon Creek needed to be accredited to ensure that the Bitter Creek Clean-Up Project remained in compliance with National Environmental Policy Act (NEPA) guidelines and continued to receive federal assistance. The Amended Final Environmental Assessment: Rock Springs Bitter Creek Clean-Up Project (2011) includes levee rehabilitation as an "Additional Proposed Action," which eventually evolved into the Dead Horse Levee Amendment to the Bitter Creek Construction Project—Phase 1.

Dead Horse Canyon Creek levee improvements were completed in 2012. Based on these improvements, FEMA approved an LOMR for the Dead Horse Canyon Creek area flood map, removing over 100 properties from the SFHA. The Dead Horse Canyon Creek levee is shown as accredited on this LOMR; the other Bitter Creek levee is shown as unaccredited. Though this map change occurred in 2012, the accredited Dead Horse Canyon Creek levee is not recorded in the National Levee Database. There are no other levees in this watershed recorded in the National Levee Database.

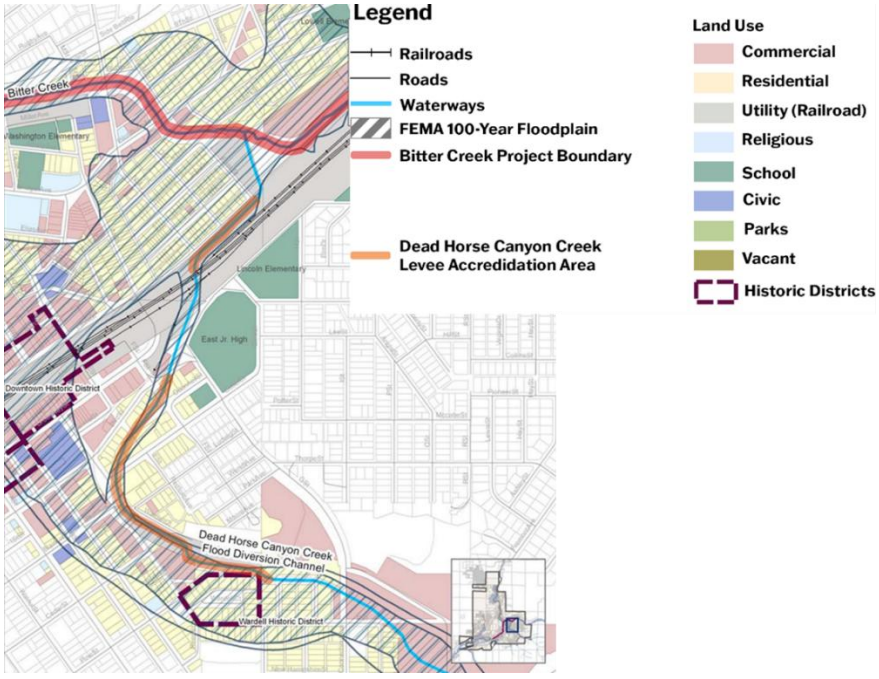


Figure 6. Rock Springs land use. Dead Horse Canyon Creek Levee Accreditation Area highlighted in orange.

2.3. Critical Facilities

Table 18 details the number of critical facilities in each county that are within the boundaries of the Upper Green-Great Divide Watershed. Per FEMA's definition, critical facilities include hospitals, fire stations, police stations, critical record storage, and similar facilities. They should be given extra consideration when creating floodplain and emergency management plans.

Table 18. Number of critical facilities per county.[10,11]

County	Number of Critical Facilities
Lincoln	119
Sublette	53
Sweetwater	94
Uinta	32
Total:	298

2.4. Engineering Data Review

2.4.1. LINCOLN COUNTY

Lincoln County's effective FIS report has an effective date of November 2011 and includes both incorporated and unincorporated areas.[25] Detailed studies were completed for Smiths Fork, South Fork, Spring Creek, Hams Fork, and the Salt River (other flood-prone areas were studied using approximate methods). Flood events in these areas are typically caused by excess snowpack and rapid melting. However, the rural characteristics of these regions typically lead to a lower incidence of repetitive or severe repetitive loss properties. There are a few temporary levees and dikes in the area. The dam at Kemmerer Reservoir is the only permanent flood control structure.

Hydrologic and hydraulic engineering methods included flood frequency flows for the 10-, 50-, 100-, and 500-year flood events with log-Pearson Type III gage analysis, where applicable. WSELs were derived from HEC-2 data, the slope-area method, and normal depth analysis. Cross sections (XS) and Manning's "n" data came from field surveys, photographs, and topographic maps. Floodplains and floodways are delineated using WSELs for the 100- and 500-year floods and boundaries interpolated between XS by equal conveyance reduction.

2.4.2. SUBLETTE COUNTY

Sublette County has no official FIS report offered by FEMA's Map Service Center (MSC). There is no National Flood Hazard Layer (NFHL) for Sublette County.

2.4.3. SWEETWATER COUNTY

Sweetwater County Unincorporated Areas do not have an FIS, but there are reports for the Cities of Green River and Rock Springs. Green River's most recent effective date is June 2000; the original study was performed in March 1977 and revised in September 1998.[26] The original FIS for the City of Rock Springs was prepared by USACE under FEMA supervision in February 1985 and revised in June 1988.[27] Baker Engineers, Inc. performed another revision for Killpecker and Bitter Creeks in February 1989. The current study has an effective date of July 1998.

Rock Springs typically experiences more flood damage than Green River, often caused by ice jams and rapid snowmelt. Historical damage to roads, railways, and streambanks has been recorded; residential damage has also been recorded, though minimal. Flood protection measures include earthen dams with reinforced dikes, a diversion near Pilot Butte Avenue, storm ditches, and temporary structures such as riprap, piles, and stonewalls. The FIS notes, "There are no Federal flood control projects that afford protection to Rock Springs."

Hydrologic and hydraulic engineering methods included flood frequency flows for the 10-, 50-, 100-, and 500-year flood events with log-Pearson Type III gage analysis, where applicable. WSELs were derived from HEC-2 data, the slope-area method, and normal depth analysis. XS and Manning's "n" data came from field surveys, photographs, and topographic maps.

Most floodplains and floodways are delineated using WSELs for the 100- and 500-year floods and boundaries interpolated between XS. The WSELs of areas subject to sheet flow are independent of those along streamways, as there are excessive natural overflow losses.

2.4.4. UINTA COUNTY

Uinta County has had four effective floodplain maps released, dated June 1978, January 1988, July 1989, and February 2010. Each was prepared by a different contractor, with FEMA and the Federal Insurance and Mitigation Administration (FIMA) as the primaries. Detailed studies were completed for Smiths Fork in the Town of Mountain View; Bear River in the City of Evanston; and Blacks Fork, Little Blacks Fork, and Groshon Creek in the Fort Bridger area. Flooding events in these areas are typically caused by excess snowpack and rapid melting, with occasional convective cloudbursts and frontal rainstorms. There is little mention of personal property damage in the County FIS, which has a most recent effective date of February 2010.[28] Flood protection measures are minimal, and the Stateline Dam and widening of the Smiths Fork River are the only federal protections. Volunteers and communities have provided additional protection, such as temporary levee construction.

Hydrologic and hydraulic engineering methods included flood frequency flows for the 10-, 50-, 100-, and 500-year flood events with log-Pearson Type III gage analysis, where applicable. WSELs were derived from HEC-2 data, the slope-area method, and normal depth analysis. XS and Manning's "n" data came from field surveys, photographs, and topographic maps. Floodplains and floodways are delineated using WSELs for the 100- and 500-year floods and interpolated boundaries between XS by equal conveyance reduction.

Table 19. Summary of hydrology and hydraulics (H&H) engineering data methodology for Upper Green-Great Divide Watershed communities' FIS. Dashes indicate that information was either unavailable or could not be found.

County	Study Date	Most Recent FIS Effective Date	Coverage Area	Streams	Hydrologic Engineering Methods	Hydraulic Engineering Methods
Lincoln	4/21/2010	11/16/2011	Town of Diamondville	**Detailed:** Hams Fork	–	–
			City of Kemmerer	**Detailed:** Hams Fork	▪ Log-Pearson Type III and regression analysis. All lakes and reservoirs nearby counted as negligible.	▪ WSEL from HEC-2; profiles for 10-, 50-, 100-, and 500-year floods; starting WSEL from normal depth analysis. ▪ XS data/Manning's "n" data from field survey and photographs.
			Unincorporated Areas	**Detailed:** Salt River **Approximate:** Bear River Blacks Fork Bridger Creek Green River Hams Fork LaBarge Creek Salt River Seven Mile Wash Snake River Twin Creek Willow Creek	▪ Frequency analysis using USGS PeakFQ with Bulletin 17B. Discharge prorated upstream based on drainage area, equation for discharge at sites with no gages prepared using USGS Water-Resources Investigations Report 88-4045.	▪ 100-year WSEL from Water-Surface Profile (WSPRO) for Salt River. ▪ Two hydraulic models: Downstream from confluence with Snake River. ▪ XS data from step-backwater method and survey. ▪ All based on unobstructed flow. ▪ Manning's "n" from field observation and verified coefficients.

County	Study Date	Most Recent FIS Effective Date	Coverage Area	Streams	Hydrologic Engineering Methods	Hydraulic Engineering Methods
Sublette	1/1/2008	–	Unincorporated Areas	–	–	–
	3/18/1986	–	Town of Pinedale	–	–	–
Sweetwater	6/20/2000	9/1998	City of Green River	Green River Bitter Creek	▪ Log-Pearson Type III and regression analysis using gage station at bottom of watershed because of topographic variations throughout watershed. ▪ Regression equation with revised basin average precipitation rate.	▪ XS and Manning's "n" data from field survey. ▪ HEC-RAS to determine WSEL using slope-area method. ▪ Based on unobstructed flow.
	7/20/1998	2/1989	City of Rock Springs	Bitter Creek Dead Horse Canyon Creek Killpecker Creek Sweetwater Creek Tributary No. 1 Tributary No. 2	▪ Frequency hydrographs from rainfall-runoff computations and statistical analysis of synthetic rainstorms. ▪ Used historical precipitation-frequency curves to develop data previously constructed from rainfall records. ▪ Areal reduction factors.	▪ HEC-2 backwater. ▪ XS upstream and downstream from bridges and culverts to establish backwater effects. Assisted by field survey and topographic maps. ▪ Manning's "n" from field survey. ▪ WSEL found using slope-area methods. ▪ Based on unobstructed flow.
	2/26/1980	–	Town of Granger	–	–	–

County	Study Date	Most Recent FIS Effective Date	Coverage Area	Streams	Hydrologic Engineering Methods	Hydraulic Engineering Methods
	8/1/1978		Unincorporated Areas	–	–	–
Uinta	6/15/1978	9/1/1977	Unincorporated Areas	All significant flooding sources	▪ Statistical analysis of gage data using log-Pearson Type III and regression analysis. Small lakes and rivers counted as negligible.	▪ XS and Manning's "n" data from field survey and aerial mapping. ▪ WSEL from HEC-2 and HEC-RAS. Normal depth analysis.
	7/4/1989	10/1/1981 (Hydrology Only)	Town of Mountain View	**Detailed:** Smiths Fork	▪ Discharge frequency using log-Pearson Type III analysis and unit hydrograph. Results calibrated to gage data.	–
		5/1/1987 (Hydraulics Only)	Town of Mountain View	**Detailed:** Smiths Fork	–	▪ XS and Manning's "n" data from field survey and aerial mapping. ▪ WSEL from HEC-2 and HEC-RAS. Normal depth analysis.
	2/17/2010	2007	Unincorporated Areas, Town of Bear River, City of Evanston, Town of Lyman, Town of Mountainview	**Approximate:** Bear River (Town of Bear River) **Detailed:** Bear River Little Blacks Fork Groshon Creek Blacks Fork Smiths Fork	▪ Bulletin 17B from regression equation and calibrated to match previous data.	▪ XS and Manning's "n" data from field survey and aerial mapping ▪ WSEL from HEC-2 and HEC-RAS. Normal depth analysis.

2.5. Hazus Risk Assessment

Hazus is a nationally applicable, standardized methodology that estimates potential losses from earthquakes, hurricane winds, floods, and tsunamis. Hazus was developed by FEMA under contract with the National Institute of Building Sciences and is managed by FEMA's Natural Hazards Risk Assessment Program. Using state-of-the-art GIS software, Hazus combines inventory information, hazard extent and intensity data, and damage functions to display hazard data and estimate disaster impacts, such as structural damage and economic loss. The following sections contain Hazus-derived estimated loss data for the entire watershed and for each county and its communities.

2.5.1. OVERALL FINDINGS

Figure 7 **Error! Reference source not found.**illustrates the total economic loss in dollars estimated by Hazus from the B LE-derived 1% annual chance flood event. The map shows the Hazus results overlaid with BLE streams for areas within the Upper Green-Great Divide Watershed. Losses are less likely to be underestimated when using BLE data rather than effective data, as BLE may provide more information on which to base loss values.

Determined by averaging the losses of Census block-level data, Hazus results indicate that economic loss from the 1% annual chance flood is most concentrated in the northern portion of the watershed (primarily the areas surrounding the Town of Pinedale), the central portion of the watershed (primarily around the City of Rock Springs), and along the southern portion of the watershed (primarily around the Town of Mountain View). The concentrations of flood loss correspond to the locations of the watershed's larger bodies of water (e.g., Willow Creek, New Fork River, Fremont Lake, Green River, Smith's Fork, etc.), as well as areas where more heavily developed land or high-value infrastructure intersects flood-prone areas with high flood depths. This indicates a need for improved flood mitigation efforts along these bodies of water, especially in developed and more populous areas. Possible measures to mitigate future flood damage include levees, stormwater detention ponds, and increased freeboard requirements. Mitigation measures should be informed by a flood hazard area's specific location and flood severity. There is significantly less flood loss in the eastern portion of the watershed, presumably due to its undeveloped, arid landscape and climate. The Hazus Flood Risk Assessment Results data layer overlaid with the BLE Streams data layer illustrates this correlation. Additionally, much of the land in the eastern Upper Green-Great Divide Watershed is either undeveloped or sparsely populated; there is thus less life and property at risk, and consequently, lower flood loss potential.

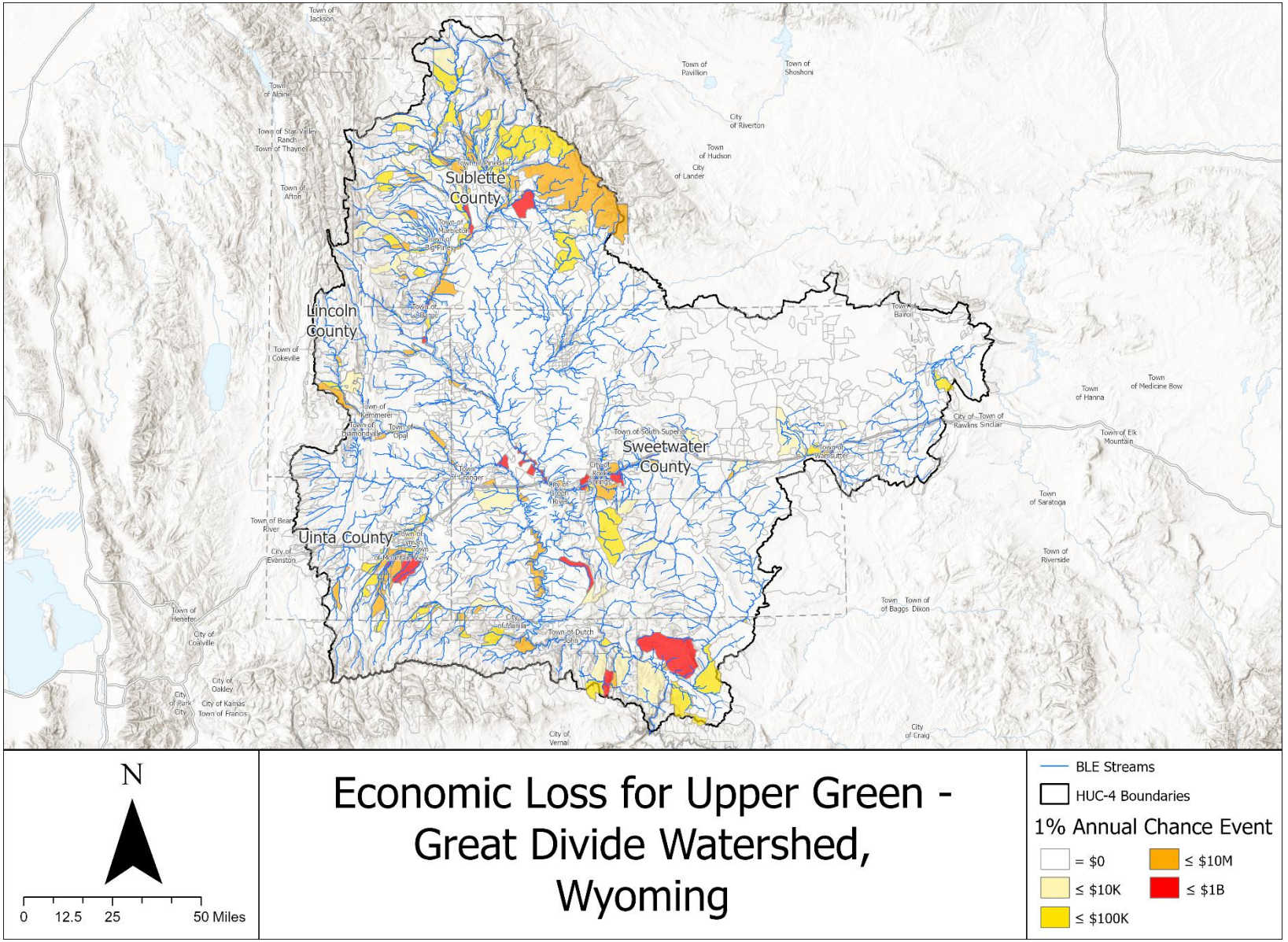


Figure 7. Hazus Flood Risk Assessment Results and BLE Streams in the Upper Green-Great Divide Watershed.

2.5.2. LINCOLN COUNTY

Table 20. Estimated total losses from the 1% annual chance flood event in dollars for Lincoln County.

Community	Total Losses for the 1% Annual Chance Flood Event	Per Capita Losses for the 1% Annual Chance Flood Event	Losses per Square Mile for the 1% Annual Chance Flood Event	Average Annualized Loss
Town of Diamondville	$84,524,000	$163,489	$72,242,735	$6,275,899
City of Kemmerer	$39,199,000	$16,484	$5,025,513	$2,482,351
Town of La Barge	$1,259,000	$3,187	$1,259,000	$120,874
Town of Opal	$5,193,000	$81,141	$5,193,000	$523,373
Unincorporated Areas	$10,321,000	$1,072	$2,532	$811,842
Lincoln County Totals:	**$140,496,000**	**$265,373**	**$83,722,780**	**$10,214,339**

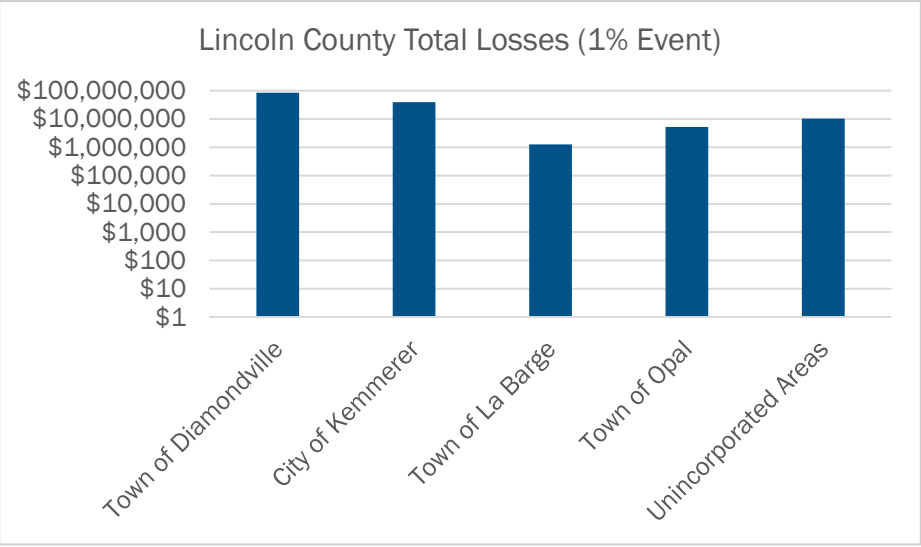


Figure 8. Estimated total losses from the 1% annual chance flood event in Lincoln County by community.

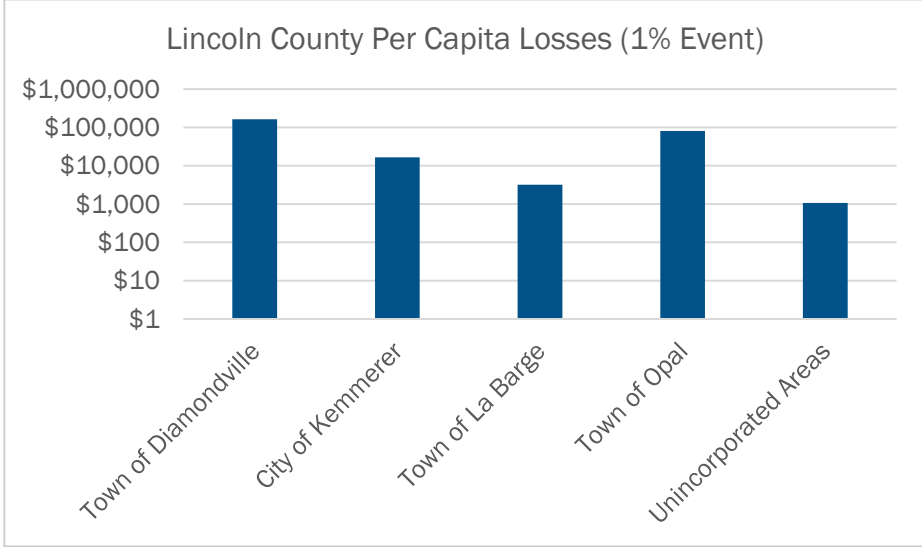


Figure 9. Estimated per capita losses from the 1% annual chance flood event in Lincoln County by community.

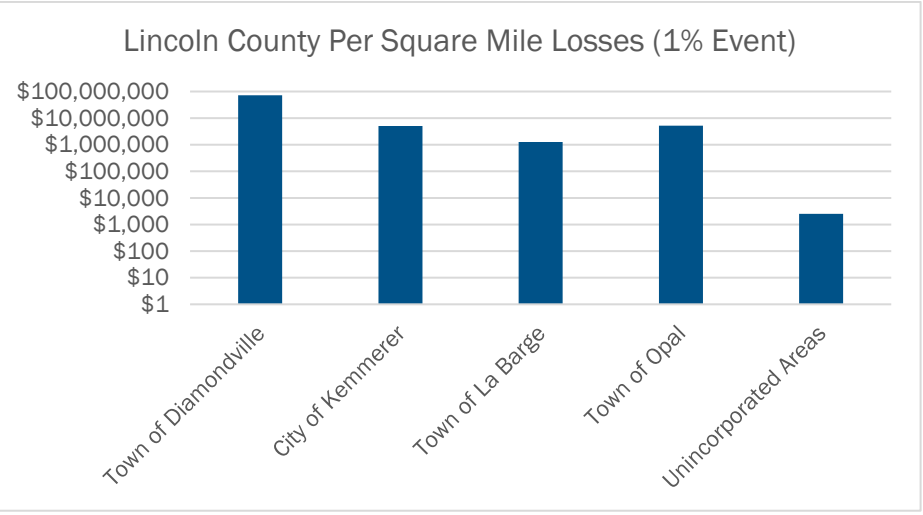


Figure 10. Estimated per square-mile losses from the 1% annual chance flood event in Lincoln County by community.

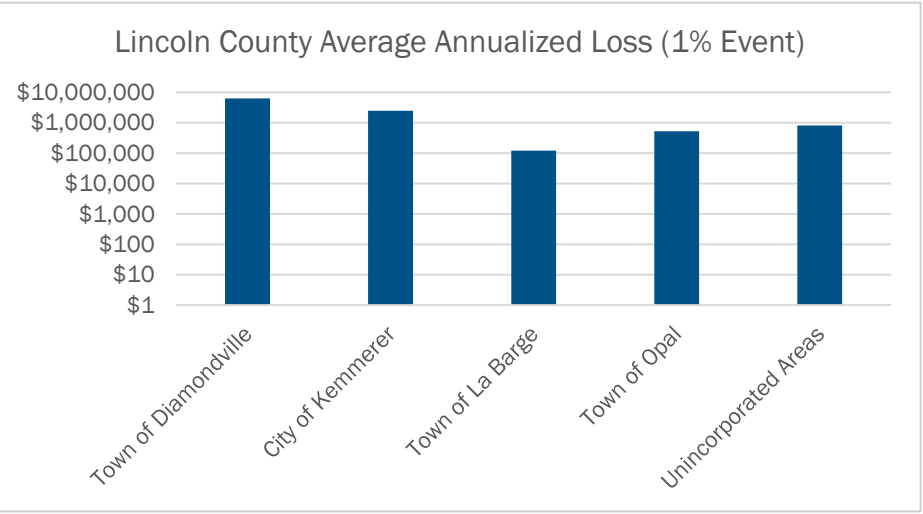


Figure 11. Estimated average annualized loss from the 1% annual chance flood event in Lincoln County by community.

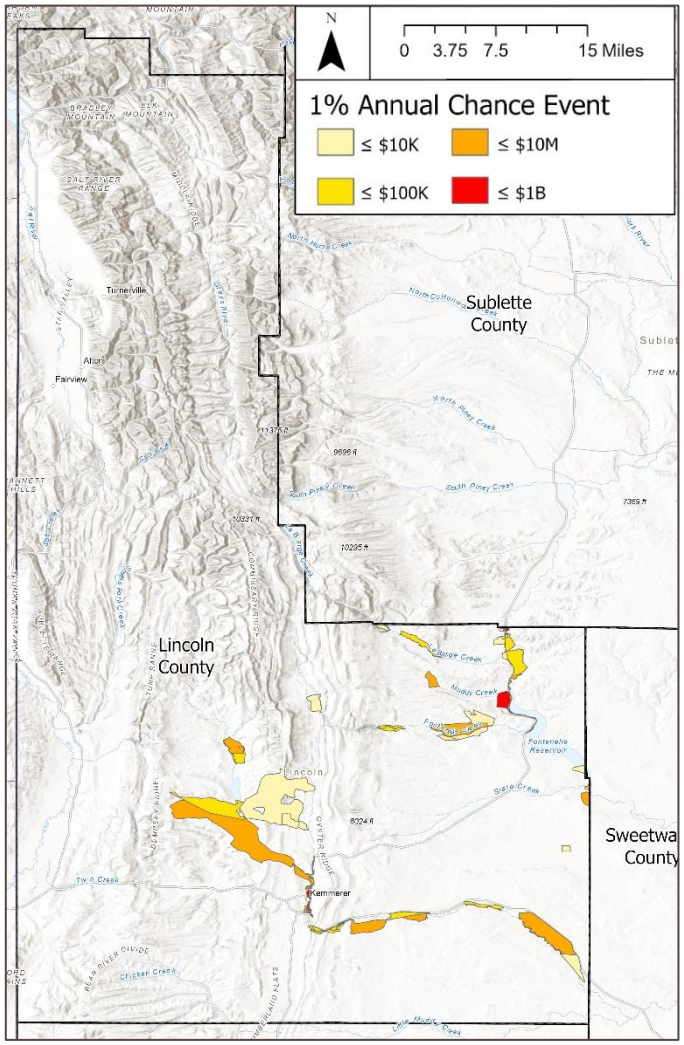


Figure 12. Flood Risk Assessment results for Lincoln County.

2.5.3. SUBLETTE COUNTY

Table 21. Estimated total losses from the 1% annual chance flood event in dollars for Sublette County.

Community	Total Losses for the 1% Annual Chance Flood Event	Per Capita Losses for the 1% Annual Chance Flood Event	Losses per Square Mile for the 1% Annual Chance Flood Event	Average Annualized Loss
Town of Big Piney	$813,000	$2,085	$813,000	$113,300
Town of Marbleton	$0	$0	$0	$0
Town of Pinedale	$2,897,000	$1,444	$1,341,204	$304,448
Unincorporated Areas	$29,588,000	$5,873	$6,058	$2,722,789
Sublette County Totals:	**$33,298,000**	**$9,402**	**$2,160,262**	**$3,140,537**

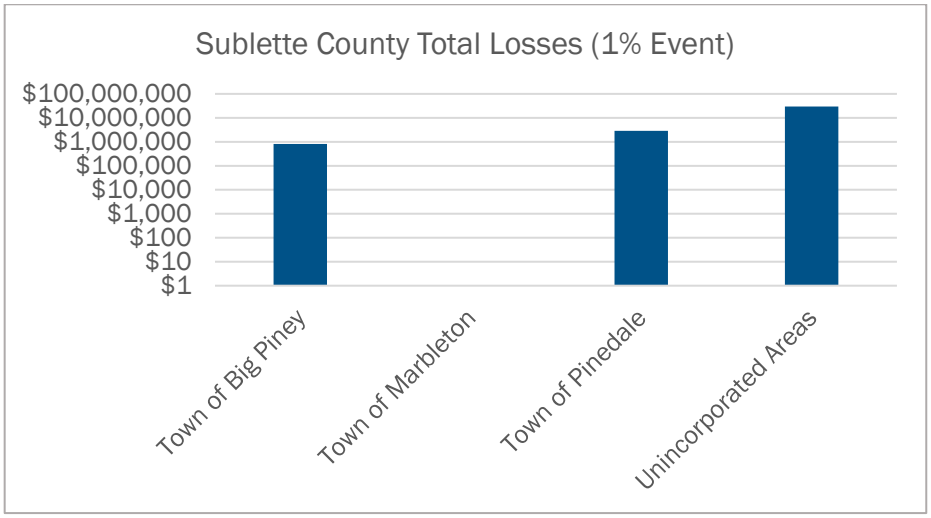


Figure 13. Estimated total losses from the 1% annual chance flood event in Sublette County by community.

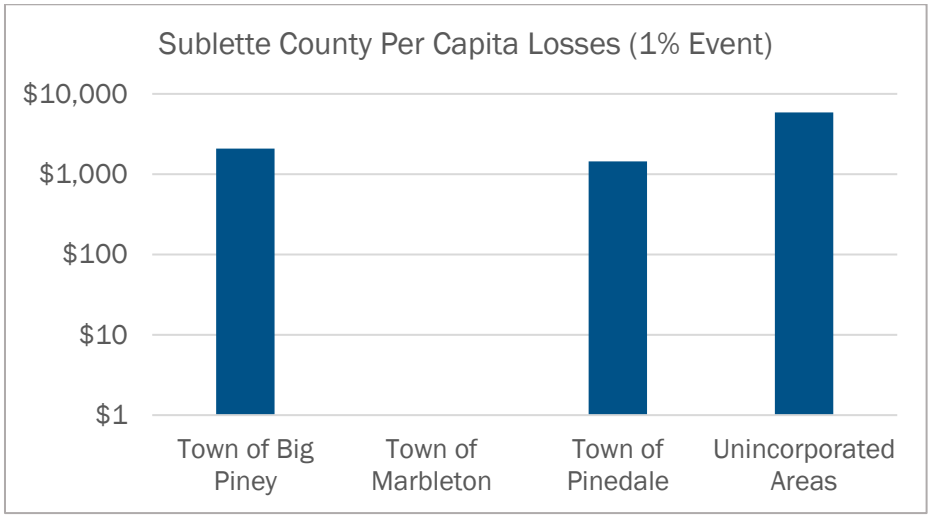


Figure 14. Estimated per capita losses from the 1% annual chance flood event in Sublette County by community.

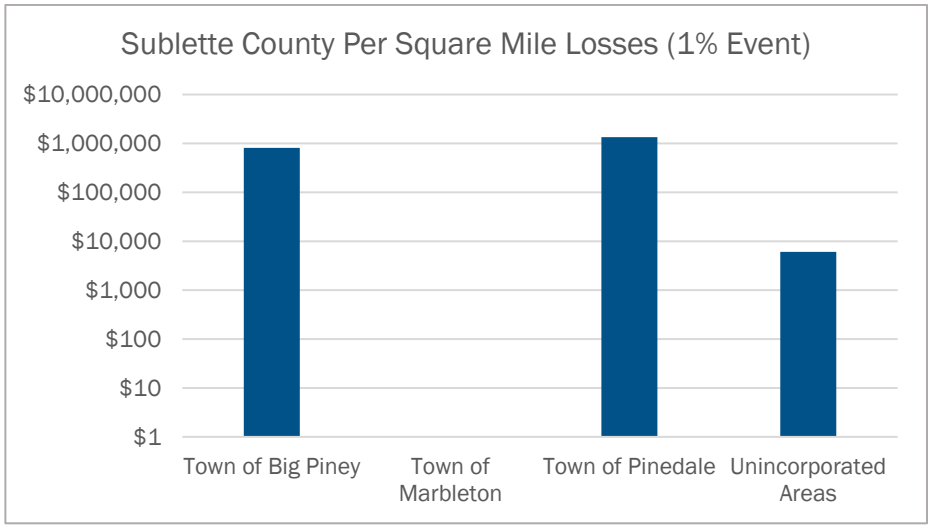


Figure 15. Estimated per square mile losses from the 1% annual chance flood event in Sublette County by community.

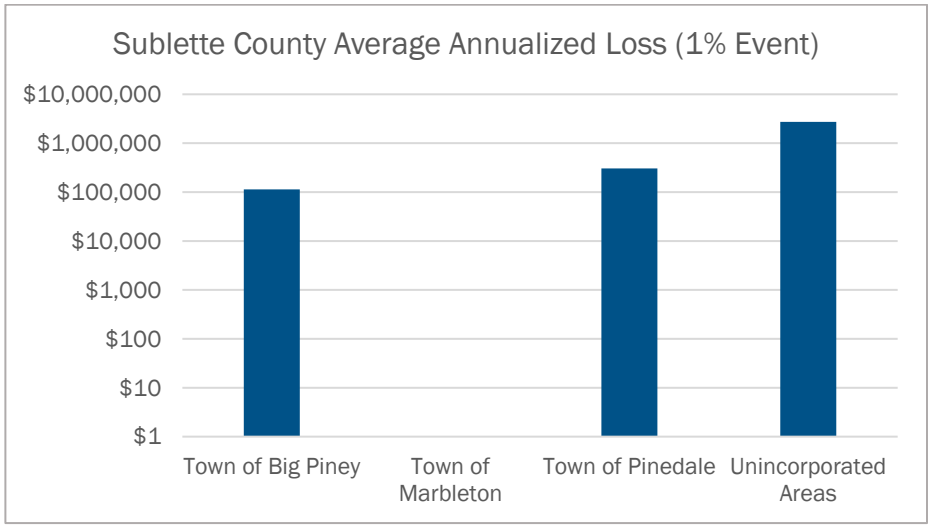


Figure 17. Estimated average annualized loss from the 1% annual chance flood event in Sublette County by community.

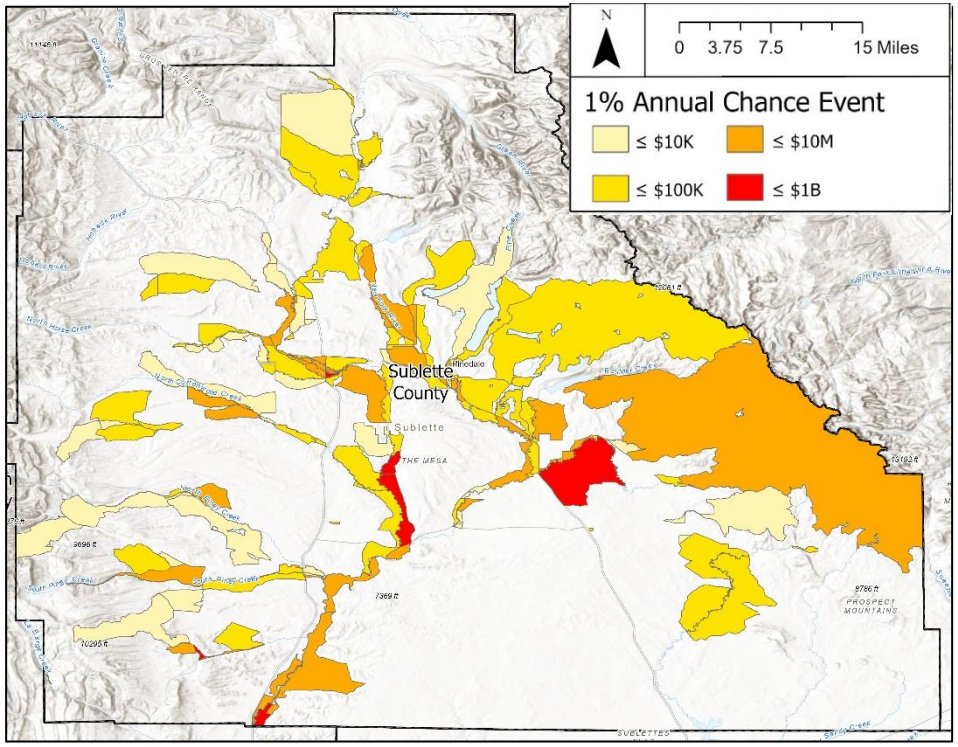


Figure 16. Flood Risk Assessment results for Sublette County.

2.5.4. SWEETWATER COUNTY

Table 22. Estimated total losses from the 1% annual chance flood event in dollars for Sweetwater County.

Community	Total Losses for the 1% Annual Chance Flood Event	Per Capita Losses for the 1% Annual Chance Flood Event	Losses per Square Mile for the 1% Annual Chance Flood Event	Average Annualized Loss
Town of Bairoil	$0	$0	$0	$0
Town of Granger	$4,830,000	$49,794	$1,866,306	$175,650
City of Green River	$53,181,000	$4,722	$3,954,817	$4,585,846
City of Rock Springs	$787,766,000	$34,300	$40,648,400	$46,352,458
Town of Superior	$1,907,000	$10,421	$1,705,725	$168,965
Town of Wamsutter	$7,608,000	$38,619	$4,423,256	$385,307
Unincorporated Areas	$89,091,000	$12,224	$8,577	$6,359,257
Sweetwater County Totals:	$944,383,000	$150,080	$52,607,081	$58,027,483

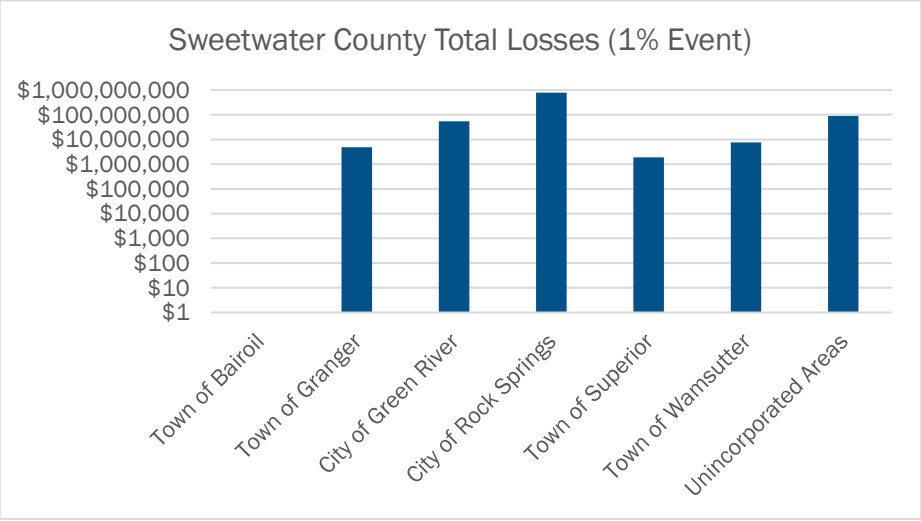


Figure 18. Estimated total losses from the 1% annual chance flood event in Sweetwater County by community.

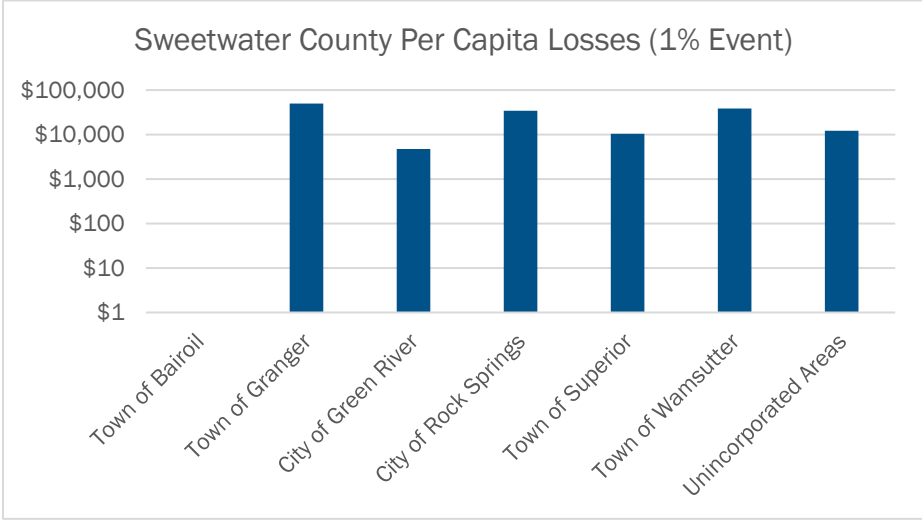


Figure 19. Estimated per capita losses from the 1% annual chance flood event in Sweetwater County by community.

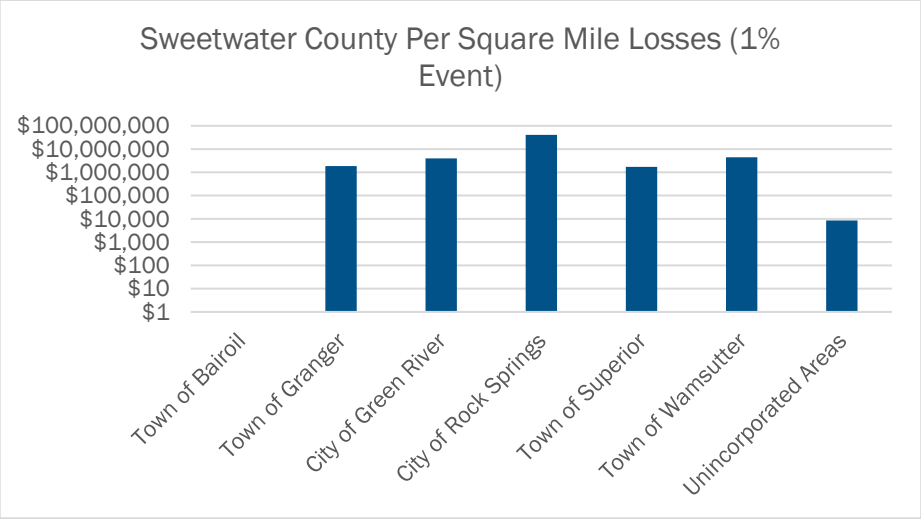


Figure 20. Estimated per square-mile losses from the 1% annual chance flood event in Sweetwater County by community.

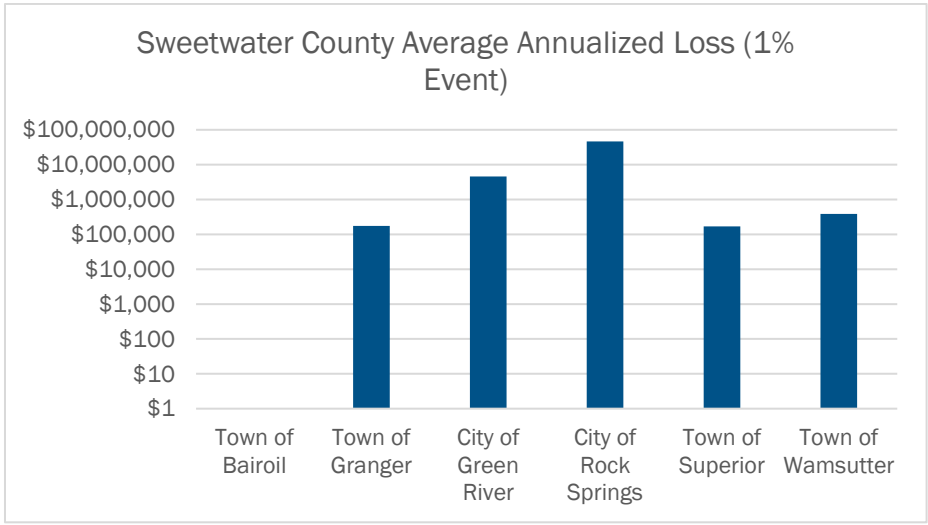


Figure 21. Estimated average annualized loss from the 1% annual chance flood event in Sweetwater County by community.

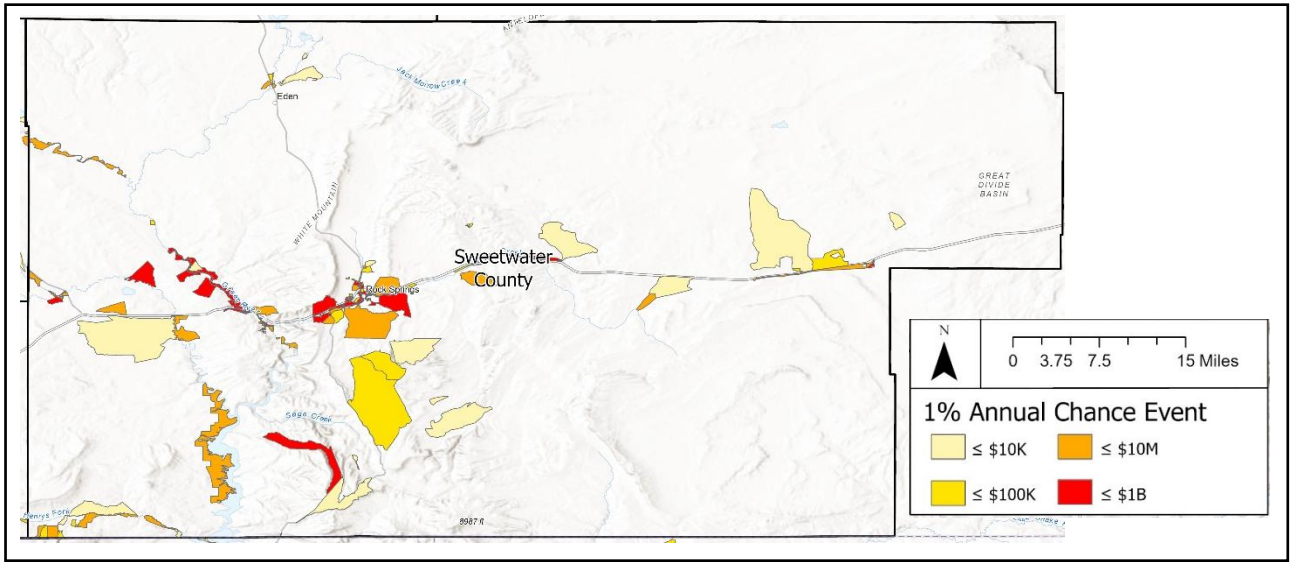


Figure 22. Flood Risk Assessment results for Sweetwater County.

2.5.5. UINTA COUNTY

Table 23. Estimated total losses from the 1% flood event in dollars for Uinta County.

County	Total Losses for the 1%-Annual-Chance Flood Event	Per Capita Losses for the 1%-Annual-Chance Flood Event	Losses per Square Mile for the 1%-Annual-Chance Flood Event	Average Annualized Loss
Town of Lyman	$0	$0	$0	$0
Town of Mountain View	$67,778,000	$53,453	$67,778,000	$6,724,159
Unincorporated Areas	$28,357,000	$5,934	$6,994	$2,741,287
Uinta County Totals:	**$96,135,000**	**$59,387**	**$67,784,994**	**$9,465,446**

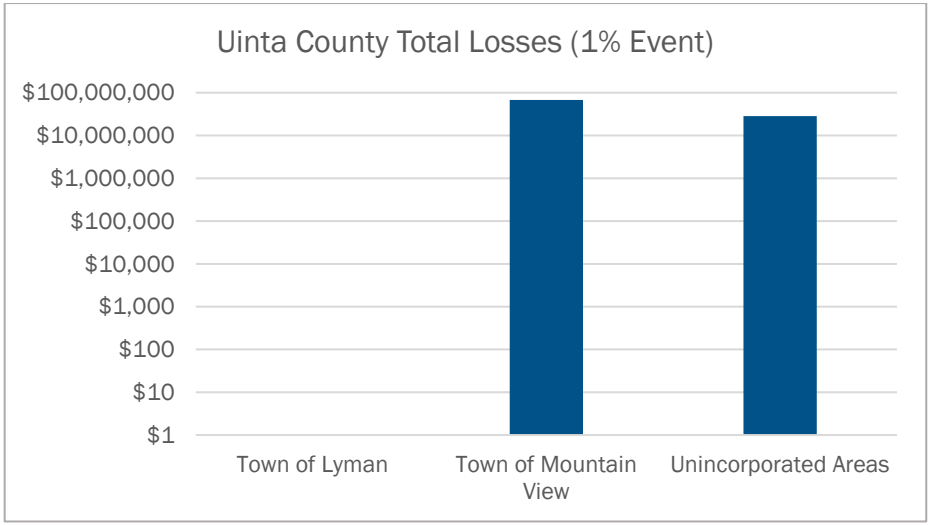


Figure 23. Estimated total losses from the 1% annual chance flood event in Uinta County by community.

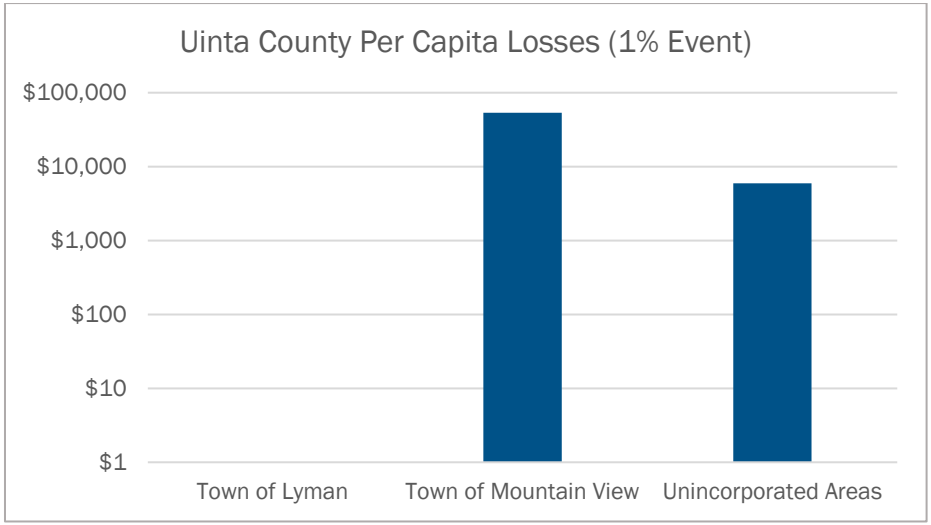


Figure 24. Estimated per capita losses from the 1% annual chance flood event in Uinta County by community.

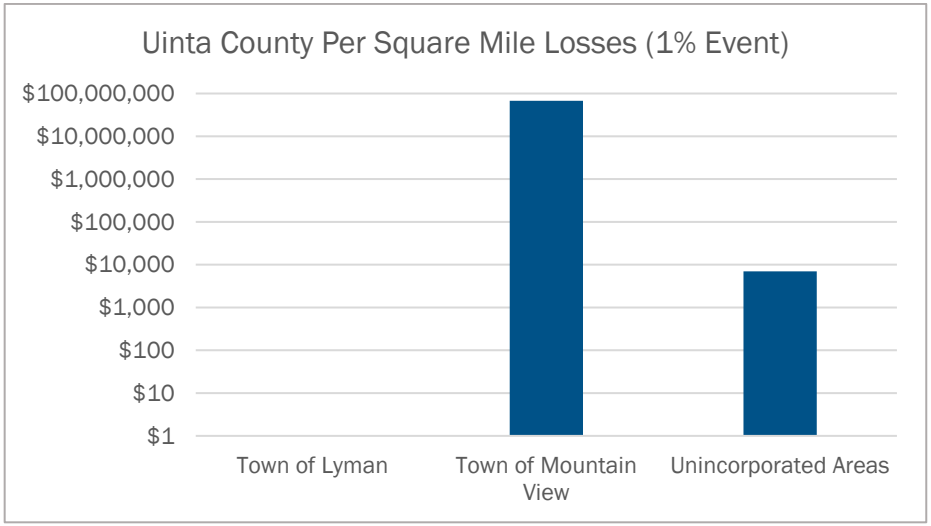


Figure 25. Estimated per square-mile losses from the 1% annual chance flood event in Uinta County by community.

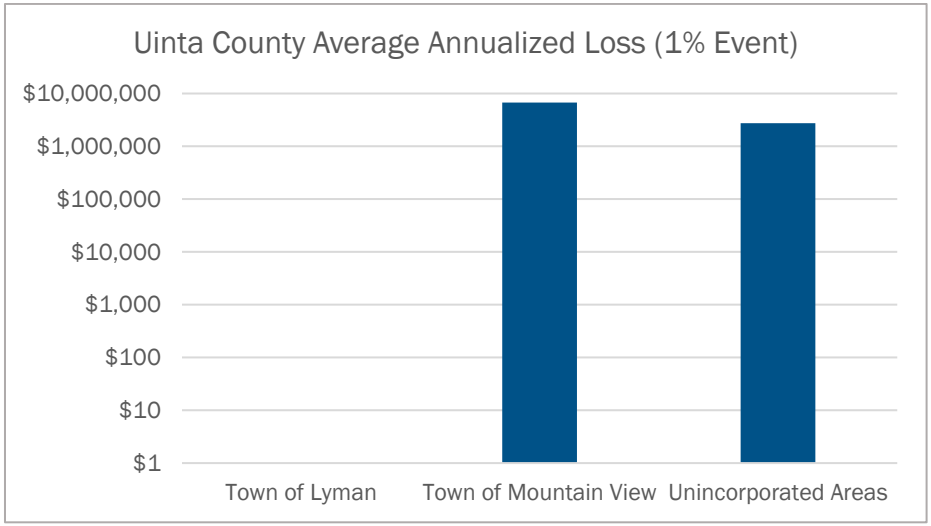


Figure 26. Estimated average annualized loss from the 1% annual chance flood event in Uinta County by community.

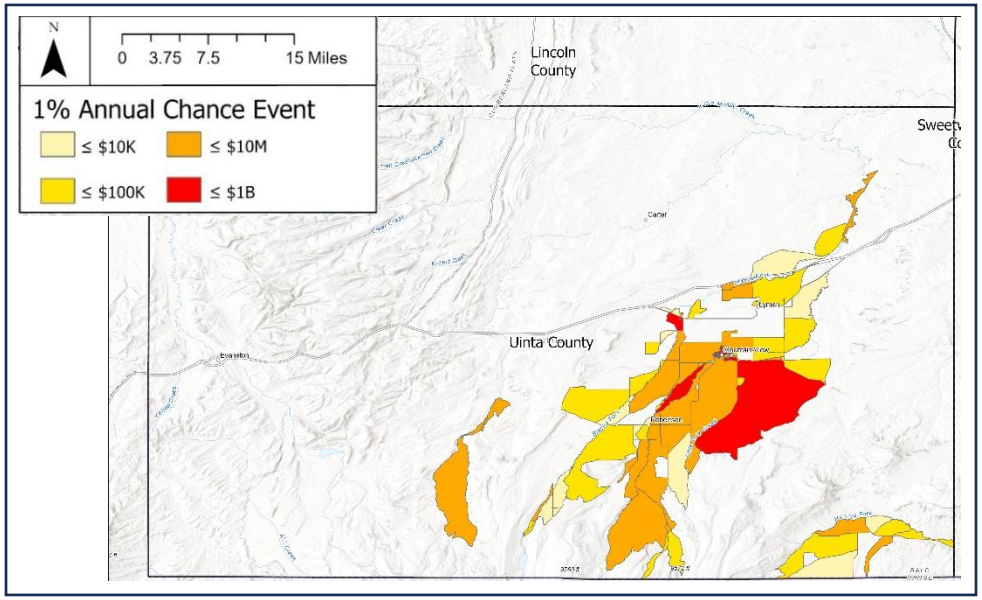


Figure 27. Flood Risk Assessment results for Uinta County.

Project Stakeholder Coordination

1. Stakeholder Identification

Relevant stakeholders for this Discovery project were identified primarily through the FEMA Enterprise Identity Management System (FEIMS). Through this system, the PDT identified a Chief Executive Officer (CEO) and a Floodplain Administrator (FPA) for each community (town, city, and unincorporated areas) where the information was available. Common CEO titles included Mayor and Chairman, and common FPA titles included Clerk, Public Works Director, and County Planner. Throughout the Discovery process, additional stakeholders were identified by existing stakeholders and other PDT members.

The complete stakeholder list for Upper Green-Great Divide Discovery is included in Appendix I: Resources.

2. Pre-Discovery Meeting

Prior to the Discovery Meeting, the PDT collected information on each community's demographic characteristics, flood history, and floodplain management efforts. Resources included FEIMS, the NFIP Community Status Book, and Census data. Individual county websites and stakeholders were consulted regarding their respective GIS capabilities, HMPs, and county-specific data.

The PDT then collected spatial data from a variety of online databases, including the Census Topologically Integrated Geographic Encoding and Referencing (TIGER) system, USGS, CNMS, National Bridge Inventory, National Levee Database, National Inventory of Dams, and Wyoming Department of Transportation. A complete list of data resources used in this Discovery project can be found in Appendix I: Resources.

Regular PDT meetings, which included members of STARR II, FEMA, and Wyoming's NFIP Coordinator, were held throughout the Discovery process to ensure quality and accuracy of the work being done.

2.1. Virtual Discovery Homepage

The PDT created a Virtual Discovery Homepage (https://discovery.region8pts.com/) to support stakeholders' understanding of and participation in the Discovery process, whether the meeting was held in person or online. The Virtual Discovery Homepage, customized for the Upper Green-Great Divide Watershed, was made to mirror the stations typical of an in-person Discovery meeting: 1. What Is Risk MAP?, 2. What Is Base Level Engineering?, 3. How Can You Use BLE Data for Floodplain Management?, and 4. Access and Comment on Your BLE Data. The Virtual Discovery Homepage also provided users with multiple ways to share their thoughts, learn more about Discovery in their community, and familiarize themselves with BLE and the NFIP.

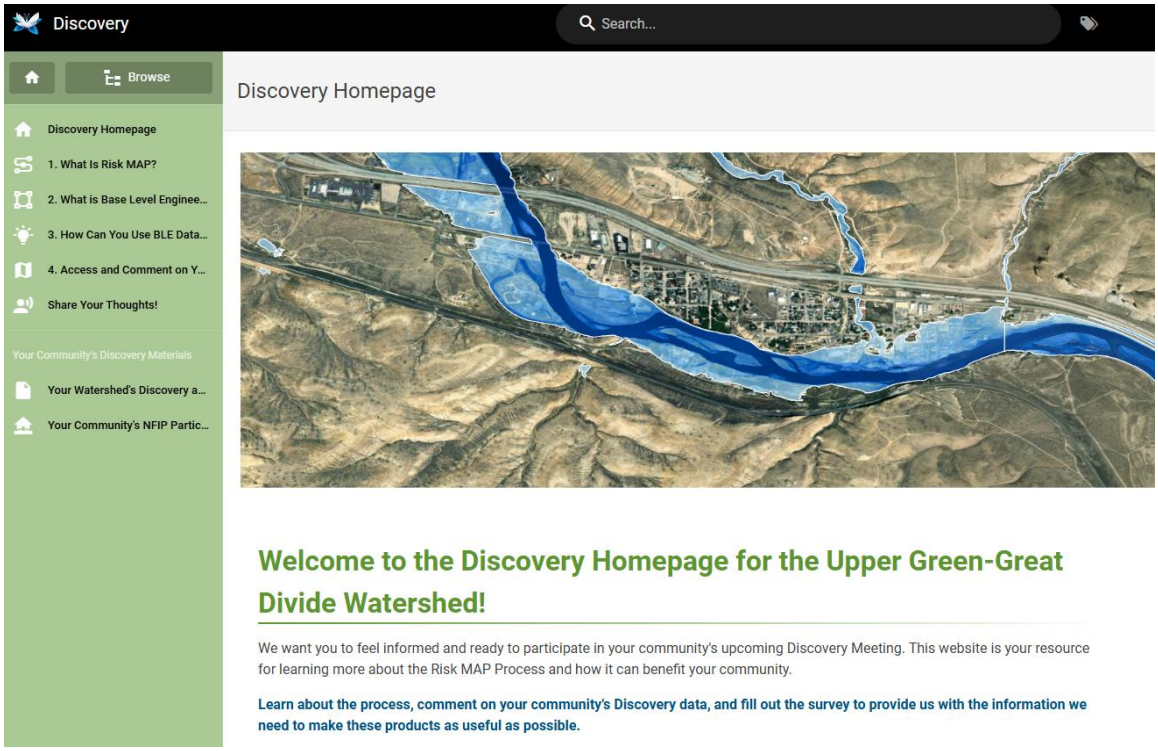


Figure 28. Virtual Discovery Homepage.

The Upper Green-Great Divide Watershed Discovery website displays newly studied BLE flood data for the watershed, along with current effective flood maps. The website presents valuable data for communities regarding updated floodplain extents, flood depths, and calculated flood risk related to economic losses due to flooding. Additionally, the website enables communities to submit location-specific comments in areas where they are facing recurring or new flood-related challenges.

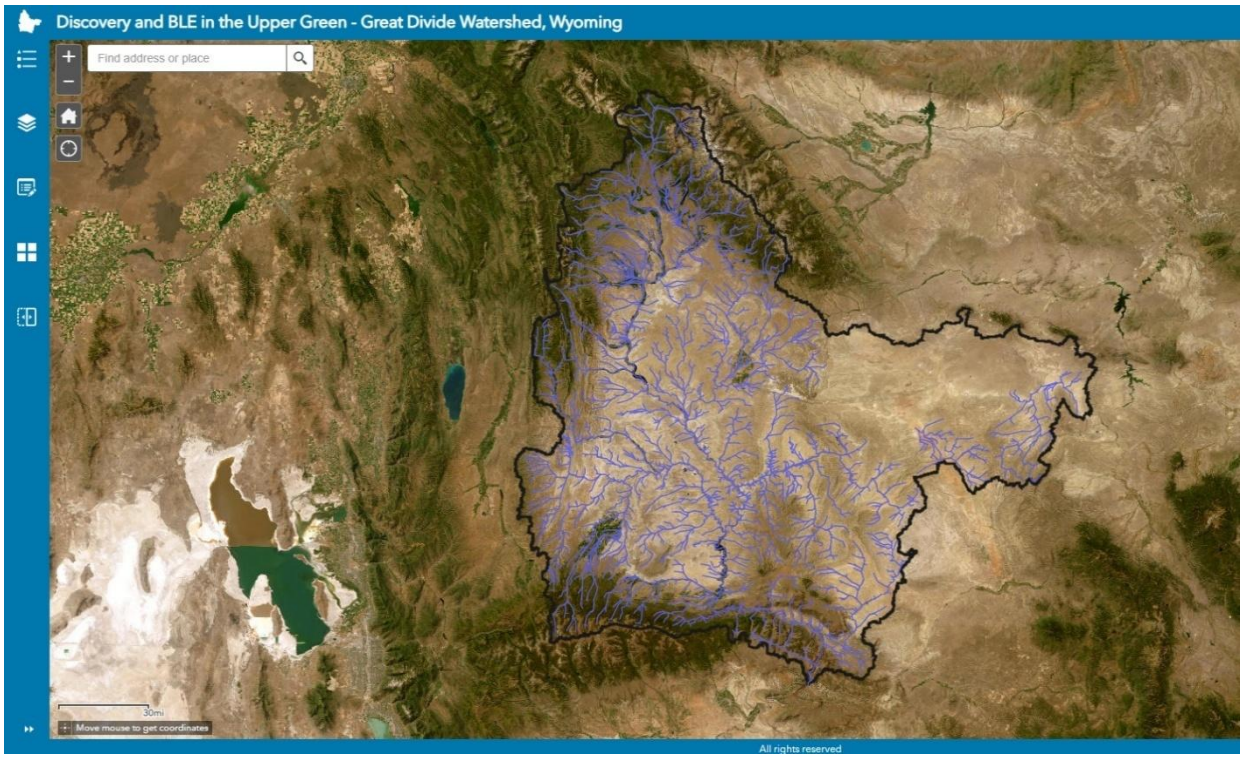


Figure 29. Upper Green-Great Divide Watershed Discovery Website.

The PDT decided on a virtual meeting format to make the meeting more accessible to stakeholders in remote locations. The meeting date was set for January 12, 2026. The Virtual Discovery Homepage was made available to stakeholders two weeks before the Discovery meeting, was presented at the meeting, and remained open for comments for two weeks following the meeting. Comments collected via the Virtual Discovery Homepage prior to the Discovery meeting were incorporated into the meeting presentation.

2.2. Correspondence and Survey Form

The Discovery meeting invitation, adapted from a template on the FEMA Region 8 Resource and Training Library, was sent two weeks before the meeting date. It included a brief overview of the meeting's purpose, the date and time, and the link to join the virtual meeting. The invitation also included a link to the Virtual Discovery Homepage and encouraged recipients to explore it and submit comments prior to the meeting. The embedded comment form allowed users to share their views on community priorities, concerns, barriers, and areas of interest. Lastly, the invitation included a link to RSVP to the Discovery meeting and contact information for those with additional questions. One week after the email was sent, members of the PDT made phone calls to each community's invitees to remind them of the upcoming event and encourage their participation.

Discovery Meetings

1. Stakeholder Engagement: Discovery Meeting

The Discovery meeting for the Upper Green-Great Divide Watershed was held on Microsoft Teams on January 12, 2026. Table 24 lists all of the municipalities, agencies, and organizations that were invited. Table 25 lists those in attendance at the meeting and the community, agency, or organization they were representing. The meeting agenda can be found in Appendix II: Discovery Meeting Materials.

Table 24. Communities and Organizations Invited to the Discovery Meeting

Community or Organization	
Lincoln County	Lincoln County
	Town of Diamondville
	City of Kemmerer
	Town of Opal
	Town of LaBarge
Sublette County	Sublette County
	Town of Marbleton
	Town of Big Piney
	Town of Pinedale
Sweetwater County	Town of Bairoil
	Town of Granger
	City of Green River
	City of Rock Springs
	Town of Superior
	Town of Wamsutter
Uinta County	Uinta County
	Town of Lyman
	Town of Mountain View
State	WY County Commissioners Association
	WY Department of Transportation
	WY Game and Fish Department

Community or Organization	
	WY Office of Homeland Security
	WY Office of Resource Conservation
	WY Office of State Lands and Investments
	WY State Engineer's Office
	WY State Forestry Division
	WY Water Development Office
Federal	U.S. BLM
	USACE
	USDA Natural Resources Conservation Service
	USGS WY Ecological Services Field Office
Non-Governmental Organization	Old Glory Engineering
	The Nature Conservancy
	Petroleum Association of WY

Table 25. Discovery Meeting Attendance List

Name	Position	Community or Organization
Municipal		
Amy Butler	County Engineer	Lincoln County
Destry Dearden	IT/GIS Director	Lincoln County
Jason Rosas	Deputy Assessor	Lincoln County
Ken Kuluski	Planning Director	Lincoln County
Hayley Ruland	Planning and Zoning Administrator	Sublette County
Jeness Saxton	County Administrator	Sublette County
Josie Valette	Wildland Urban Interface Mitigation Coordinator	Sublette County
Steven Kipp	Emergency Manager	Sublette County
Abram Pearce	Director of Public Works	Town of Pinedale
Chandler Marsh	City Planner	City of Rock Springs

Name	Position	Community or Organization
Gary Welling	GIS Coordinator/Planning and Development Department Head	Uinta County
Jason Palmer	Environmental Systems Superintendent	City of Green River
Jeanie Cattelan	Chairwoman, Planning and Zoning Board	Town of Diamondville
Mark Westenskow	Director of Public Works	City of Green River
Nikolas Hernandez	Public Works - Water/Sewer	Town of Big Piney
Ryan Rust	Public Affairs and Grants Manager	City of Green River
Ryan Wells	Chairman, Planning and Zoning Board	Town of Pinedale
State		
Aaron Birkemeier	NFIP Program Manager	WY Office of Homeland Security
Jeri Yearout	Hydraulic Engineer	WY Department of Transportation
Shawn Follum	State Conservation Engineer	USDA Natural Resources Conservation Service WY State Office
Federal		
Ariana Borello	Community Planner	FEMA
Avery Check	Floodplain Management Specialist	FEMA
Christine Gaynes	Study Manager	FEMA
Peter Reinhardt	Floodplain Management Specialist	FEMA
Zharif Mdazmi	Engineer	FEMA
Bradley Hoefer	Project Engineer	USACE
Laurel Hamilton	Chief, Flood Risk and Floodplain Management	USACE
Tony Krause	Hydraulic Engineer	USACE
Cara Williams	Hydrologist	STARR II
Claire Pollard	Discovery GIS Lead	STARR II
Elaine Montes	Discovery Support	STARR II
Jerri Daniels	Discovery Lead	STARR II

Name	Position	Community or Organization
Jon Pink	Task Order Manager, BLE Production Support	STARR II
Mikayla Zeitlin	Discovery Support	STARR II
Non-Governmental Organization		
Austin Gilbert	Principal Engineer	Old Glory Engineering
Lily Simon	Director of Regulatory Affairs	Petroleum Association of WY
Total Attendees:		36
Total Non-FEMA or STARR II Attendees:		25

The meeting, co-led by members of FEMA and STARR II, was divided into three sections: introduction and project overview, draft mapping and data review, and wrap-up and next steps. Survey questions were asked in between meeting sections to collect information and keep attendees engaged. Survey questions and responses can be found in Appendix II: Discovery Meeting Materials.

In lieu of a slideshow, the PDT used the Virtual Discovery Homepage to present. They walked the attendees through the different pages (which correspond to the different in-person Discovery meeting stations) and provided instructions and tips for navigating the website. The PDT then presented the BLE data that was developed for the watershed and its potential floodplain management applications. They also demonstrated how to navigate and leave comments on the Discovery map on the GIS site. In the concluding section of the meeting, the PDT introduced the Flood Info Connect tool, described potential next steps in the Risk MAP process, and answered questions. Questions and answers from the Discovery meeting are included as part of the meeting agenda in Appendix II: Discovery Meeting Materials.

2. Summary of Stakeholder Needs and Comments

2.1. Community Feedback and Follow-Up Meetings

Community feedback both during and after the meeting was largely positive. Multiple attendees voiced their enthusiasm and appreciation for this new data, as several communities in the watershed have outdated, little, or no data. Some were concerned about discrepancies they noticed between the Discovery mapping and local observations and were encouraged to note them in comments on the online Discovery map.

In the week following the meeting, the PDT met separately with two communities, at their request: the City of Rock Springs, Sweetwater County, WY, on January 26, 2026 and Sublette County, WY on January 27, 2026. The goal of these meetings was to reiterate the purpose of Discovery, clarify the non-regulatory status of the new mapping and BLE data, and address questions from the

communities. Sublette County expressed significant interest in a detailed study. Table 26 and Table 27 list the attendees at the Rock Springs and Sublette County follow-up meetings, respectively.

Table 26. City of Rock Springs, Sweetwater County, WY follow-up meeting attendance list.

NAME	AFFILIATION
Chandler Marsh	City Planner, Rock Springs
Celeste Niemoth	Assistant City Planner, Rock Springs
Aaron Birkemeier	WY NFIP Program Manager
Jerri Daniels	STARR II
Claire Pollard	STARR II
Mikayla Zeitlin	STARR II
Zharif Mdazmi	FEMA
Avery Check	FEMA
Peter Reinhardt	FEMA

Table 27. Sublette County, WY follow-up meeting attendance list.

NAME	AFFILIATION
Jeness Saxton	Sublette County Administrator
Hayley Ruland	Sublette County Planning and Zoning Administrator
Kristie Bain	Sublette County Planning and Zoning Assistant
Steven Kipp	Sublette County Emergency Manager
Josie Vallette	Sublette County Wildland Urban Interface Mitigation Coordinator
Amber Robbins	Sublette County Conservation District Assistant District Manager
Abram Pearce	Director of Public Works, Town of Pinedale
Eric Sackett	Rio Verde Engineering (Sublette Contractor)
Mike Jackson	Rio Verde Engineering (Sublette Contractor)
Aaron Birkemeier	WY NFIP Program Manager
Jerri Daniels	STARR II
Claire Pollard	STARR II
Mikayla Zeitlin	STARR II

2.2. Comment Period

The comment period was originally set to end on January 27, 2026, in time for the Discovery Closeout meeting, which was originally scheduled for January 29, 2026. However, representatives from multiple communities emailed requests for an extension to ensure sufficient time to review the draft data and submit thoughtful, technically backed comments. In response, the PDT postponed the comment period end date to February 6, 2026 and the Discovery Closeout meeting to February 17, 2026.

A partial government shutdown went into effect on February 14, 2026, causing the PDT to postpone the Discovery Closeout meeting to May 20, 2026. During the shutdown, STARR II drafted community mapping recommendations for FEMA's review and completed all deliverables.

2.3. Flood Mapping Needs

Many flood mapping-related comments included missing or misrepresented infrastructure and conveyance that did not reflect local observations. The PDT communicated in the Discovery meeting that details, such as certain infrastructure features, were not represented in the modeling or mapping due to the lower BLE Option Level used. BLE Option Levels define a model's scope and methodology and correspond to its level of refinement. Most BLE models for this project were developed at BLE Option Level A (less refined), with select refinement regions developed at Option Level C (more refined). This should be reiterated in follow-up communications to avoid ongoing ambiguity.

Other comments noted common flood hazards in certain areas: ice jams and high spring runoff. Several commenters also marked locations that were mapped into the floodplain despite no flooding being observed. Table 28 summarizes the flood mapping comments received. An unabbreviated list of all flood mapping comments can be found in 96Appendix III: Discovery Comments.

Table 28. Summary of flood mapping comments.

County	Community	Mapping Needs and Comments
Lincoln County		Storm-related flooding impacts homes and other infrastructure along Birch Creek near La Barge and near the intersection of Opal Cutoff and US Highway 30.
Lincoln County	City of Kemmerer	Riverine flooding occurs near Aspen Avenue along Ham's Fork.
Lincoln County		High spring runoff along Ham's Fork east of Kemmerer.
Lincoln County	City of Kemmerer	Ice jams on Ham's Fork in the winter pose a flood hazard.
Sublette County		Want to know if areas that are removed from a flooding source need to be individually identified or if there is pre-existing exclusion criteria.

County	Community	Mapping Needs and Comments
Sublette County		Spring runoff causes certain areas along the Green River to become choke points. This causes ice dams at the bridges on Reardon Road and New Fork Bridge Road.
Sublette County		Some mapped areas do not account for gravel pit floors or water evaporation ponds hydraulically separated from the flooding source.
Sublette County		A detailed study would be beneficial in the Town of Big Piney to determine actual flood extents and along the Green River near Daniel, WY due to the channel's complexity in the area.
Sublette County		Structures missing from map (culverts, gravel pits, etc.) and structures in need of verification (bridges, culvert openings, etc.).
Sublette County	Town of Big Piney	More elevation data needed in certain places.
Sublette County	Town of Pinedale	There is a bridge under US191 that appears to be missing from the model, causing an inaccurate depiction of what is actually happening in the field.
Sublette County	Town of Pinedale	Model contradicts local observations in many locations. • Model shows ponding not observed locally. Confirm whether these areas are treated as hydraulically connected or isolated features. • Model behavior indicates no conveyance of the northern bridge compared to local observations. Confirm conveyance assumptions used at both bridges. Model shows overtopping of the existing embankment. This has not been observed locally. Request clarification on whether the terrain representation in this area aligns with current ground conditions.
Sublette County	Town of Pinedale	Recent fill, grading, and multi-use pathways may affect local drainage patterns. Confirm if pathways are included in the study and clarify whether updated surface information is needed for parcels with recent fill and grading.
Sublette County	Town of Pinedale	A LOMR applies to this reach (16 08 0579P 560048 and 560049). Confirm continued incorporation of these determinations. Local staff note that these have historically been accurate.
Sublette County	Town of Pinedale	Mapped flow paths appear to show limited or no conveyance. Confirm how drainage features in this area are represented and intended representation of flow through the area.

County	Community	Mapping Needs and Comments
Sweetwater County	Town of Wamsutter	The Town of Wamsutter has provided a letter with evidence showing no flooding has occurred in Wamsutter with average snowfall and rainfall.
Sweetwater County	Town of Wamsutter	Mapped flow paths show a large area with no conveyance despite being within the modeled floodplain. Confirm intended hydraulic connectivity and whether this area is expected to convey flow under the applied loading.
Sweetwater County	Town of Wamsutter	Reject model outliers. Using it for Discovery mapping risks non-representative inundation and NFIP compliance issues. Use the consistent runs instead.

During the Discovery meeting, attendees were asked, “What sort of assistance, if any, would you find helpful regarding engineering or GIS data provided by FEMA?” All possible responses received a high number of votes relative to the number of respondents, though “models and simulations” and “risk and vulnerability assessments” received the most (see Figure 30). Based on these responses, engineering and GIS data support offerings should be emphasized and promoted to Upper Green-Great Divide communities.

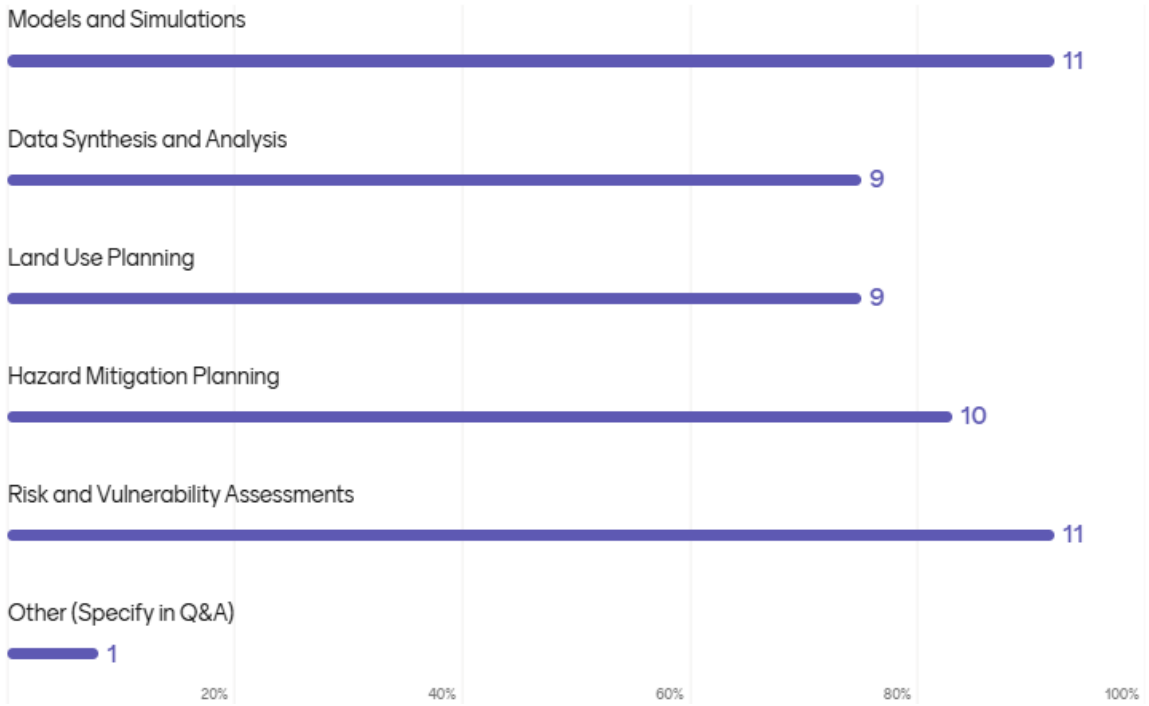


Figure 30. Responses to the question "What sort of assistance, if any, would you find helpful regarding engineering or GIS data provided by FEMA?” Responses collected via Mentimeter survey platform during Discovery meeting.

2.4. Mitigation and Risk Reduction Needs

Mitigation and risk reduction comments highlighted areas in need of reinforcement or repairs. Hazards such as riverine erosion and aging infrastructure were identified in Lincoln County, specifically. Lincoln County noted a potential dam reinforcement project for which funding is being sought, and Sweetwater County noted an existing project that is aimed at restoring and reducing risk along portions of Bitter Creek. Table 29 summarizes the mitigation and risk reduction comments received. An unabbreviated list of all mitigation and risk reduction comments can be found in Appendix III: Discovery Comments.

Table 29. Summary of mitigation and risk reduction project comments.

County	Community	Mitigation and Risk Reduction Project Needs and Comments
Lincoln County		Bank erosion near the confluence of Birch Creek and the Green River in La Barge threatens homes in the area.
Lincoln County	City of Kemmerer	City Reservoir on Ham's Fork south of Viva Naughton, managed by the Kemmerer-Diamondville Water and Wastewater Joint Powers Board (JPB), needs to be reinforced. Believes JPB plans to repair it and are hoping they can get state funding. The City and JPB have been told funding is available from the State Engineer's Office.
Sweetwater County	City of Rock Springs	Bitter Creek Restoration Project underway to reduce flooding in the project area and remove properties from the regulatory floodplain.

2.5. Training, Education, and Outreach Needs

During the Discovery meeting, attendees were asked, "Do you feel like your community has the right staff and/or expertise to discuss and use flood risk data?" Of the 11 responses, only two responded "Yes" without further qualification. All responses to this question can be found in Appendix II: Discovery Meeting Materials. On average, respondents ranked "improve outreach and education campaigns" and "enhanced education and outreach" as the fourth-most important flood risk reduction goal and flood-related action, respectively, out of eight options. Table 30 lists the comments received on training, education, and outreach. This table is also available in Appendix III: Discovery Comments. As these comments were received via the Mentimeter survey platform, responses are anonymous.

Table 30. Summary of training, education, and outreach comments.

Comments
Need help with ordinances and information development. Have staff capable of implementing with training and help.
Additional education would be helpful.
With current staff and resources available, I believe that with more training, our area/community will have or has the expertise.
Could use support with implementing changes to mapping and regulations, education and outreach.
Changeover in staff has led to loss of some history and understanding of roles pertaining to floodplain management.
Augmented reality to help non-technical elected officials would be helpful.

Attendees also expressed interest in grant and funding assistance. They were asked, “What assistance, if any, would you find helpful regarding grant funding opportunities?” “Finding different funding sources and opportunities” and “prioritizing flood risk reduction projects” were the most popular answers.

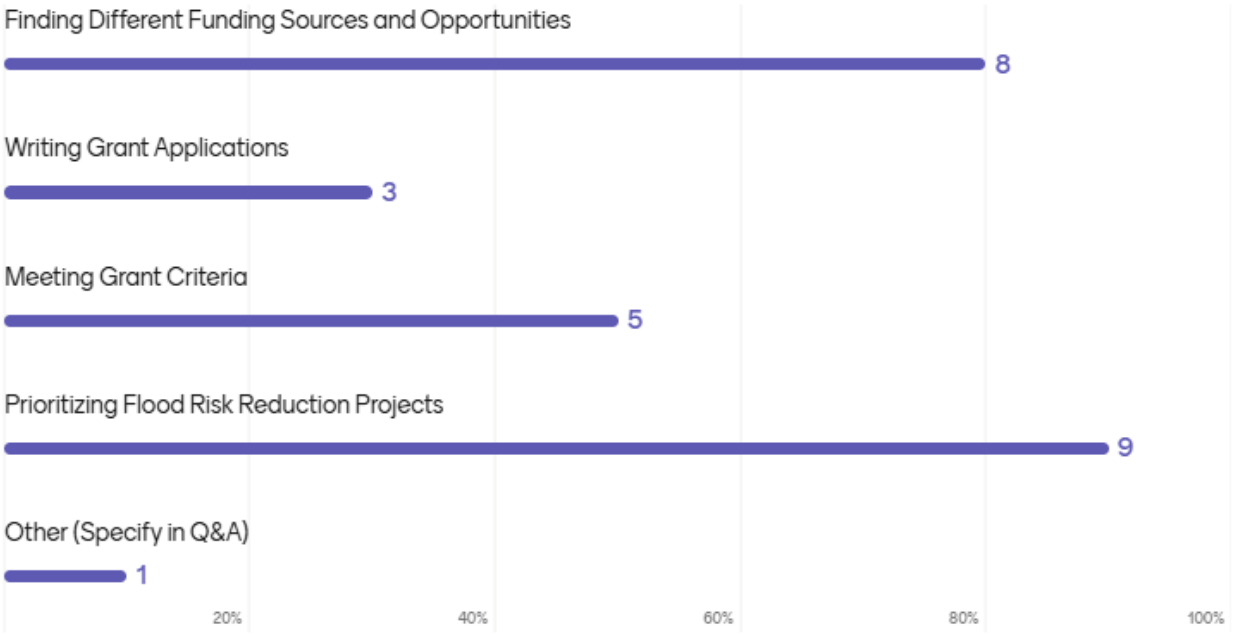


Figure 31. Responses to the question "What assistance, if any, would you find helpful regarding grant funding opportunities?” Responses collected via Mentimeter survey platform during Discovery meeting.

3. Stakeholder Engagement: Discovery Closeout

The Discovery Closeout meeting for the Upper Green-Great Divide Watershed was held on Microsoft Teams on May 20, 2026. Table 31 lists those in attendance at the meeting and the community, agency, or organization they were representing. The meeting agenda and notes can be found in Appendix II: Discovery Meeting Materials.

Table 31. Discovery Closeout Meeting Attendance List

Name	Position	Community or Organization
Municipal		
Alicia Brown	Assistant Emergency Management Coordinator	Lincoln County
Jason Rosas	Deputy Assessor	Lincoln County
Jay Hokanson	Emergency Manager	Lincoln County
Ken Kuluski	Planning Director	Lincoln County
Stephen Malik	Technology Specialist, Public Information Officer	Lincoln County
Amber Robbins	Assistant District Manager	Sublette County Conservation District
Hayley Ruland	Planning and Zoning Administrator	Sublette County
Darby Noorda	Planning & Zoning/GIS Administrative Assistant	Uinta County
Abram Pearce	Director of Public Works	Town of Pinedale
Celeste Niemoth	Assistant City Planner	City of Rock Springs
Chandler Marsh	City Planner	City of Rock Springs
Jason Palmer	Environmental Systems Superintendent	City of Green River
Jeanie Cattelan	Chairwoman, Planning and Zoning Board	Town of Diamondville
Mark Westenskow	Director of Public Works	City of Green River
Romina Aguilera Valdez	Clerk/Treasurer	Town of Wamsutter
State		
Aaron Birkemeier	NFIP Program Manager	WY Office of Homeland Security

Name	Position	Community or Organization
Shawn Follum	State Conservation Engineer	USDA Natural Resources Conservation Service WY State Office
Federal		
Avery Check	Floodplain Management Specialist	FEMA
Christine Gaynes	Study Manager	FEMA
Peter Reinhardt	Floodplain Management Specialist	FEMA
Zharif Mdazmi	Engineer	FEMA
Bradley Hoefer	Project Engineer	USACE
Cara Williams	Hydrologist	STARR II
Claire Pollard	Discovery GIS Lead	STARR II
Haley Heinemann	Discovery Support	STARR II
Jason Schneider	BLE Production Support	STARR II
Jerri Daniels	Discovery Lead	STARR II
Jon Pink	Task Order Manager, BLE Production Support	STARR II
Katie Gronsky	Discovery Support	STARR II
Mikayla Zeitlin	Discovery Support	STARR II
Payton Karr	GIS Support	STARR II
Wylie Minot	Discovery Support	STARR II
Non-Governmental Organization		
Austin Gilbert	Principal Engineer	Old Glory Engineering
Eric Sackett	Professional Engineer	Rio Verde Engineering (Sublette County Contractor)
Jason Coleman	Water Resources Engineer	RK&K
Kamilla Schultz	Professional Engineer	Sunrise Engineering (Town of Diamondville Contractor)
Total Attendees:		36
Total Non-FEMA or STARR II Attendees:		22

The Discovery Closeout meeting was co-led by members of FEMA and STARR II and divided into five sections: introduction and project overview, Discovery meeting and survey summary, resources (Flood Info Connect demonstration), mapping recommendations to FEMA, and wrap-up and next steps.

The PDT presented a slideshow that included a list of key themes and community needs identified in the survey from the initial Discovery meeting, a compilation of mapping recommendations for each community based on the BLE data and comments received, and potential next steps. The PDT also walked through the Flood Info Connect tool with the Town of Pinedale as a sample use case. Attendees were able to ask questions about the tool and provide their initial feedback, which was largely positive. Questions and answers from the Discovery meeting are included as part of the meeting agenda in Appendix II: Discovery Meeting Materials.

4. Recommendations for Future Risk MAP Project Scope

4.1. Scoping Recommendations

The following tables list the recommendations for communities within the Upper Green-Great Divide Watershed by county as pertains to further mapping efforts.

Table 32. Scoping recommendations for Lincoln County communities.

Community	Recommendation	Benefit
All Communities	Adopt BLE as Best Available Information (BAI) if it is more conservative than the effective data.	Encourages new and improved development to adhere to more up-to-date risk reduction standards. Can be done without going through entire Risk MAP regulatory process. Can earn CRS credit for adopting higher standards.
	Consider Community Rating System (CRS) participation.	No participating communities at present. Encourages higher standards to reduce communities' flood risk and provides discounts on NFIP premiums.
City of Kemmerer	The City could collaborate with the Kemmerer-Diamondville Water & Wastewater Joint Powers Board (JPB) and the WY OHS to secure funding and reinforce the Kemmerer Reservoir.	Mitigate the risk of dam failure and potentially reduce flooding on Ham's Fork, particularly from high snowmelt runoff in the spring.
Town of La Barge	Consider NFIP participation.	Access to federal flood insurance, disaster assistance, and grants.

Table 33. Scoping recommendations for Sublette County communities.

Community	Recommendation	Benefit
All Communities	Continue with the regulatory mapping process to update FIRMs.	Towns of Big Piney and Marbleton are unmapped; Town of Pinedale's effective FIRM is 40 years old (1986); Sublette County Unincorporated Areas FIRM is 18 years old (2008). No municipalities have an FIS report. LOMCs (14 countywide) will be consolidated into FIRMs. Communities can implement and enforce more up-to-date measures for new and improved development to reduce their potential economic losses from flood-related events. Complex channel segments and their flood data will be more accurately represented. Structures such as culverts and bridges will be accurately represented.
	Consider CRS participation.	No participating communities at present. Encourage higher standards to reduce communities' flood risk and provides discounts on NFIP premiums.
Town of Pinedale	Provide training on how to use BLE data as requested for Barber Creek.	BLE model more accurately reflects storm impacts on Barber Creek than an unnumbered Zone A designation currently does. Elevations and other data for this creek and the county are available on the Virtual Discovery Homepage.
	Consider NFIP participation.	Access to federal flood insurance, disaster assistance, and grants

Table 34. Scoping recommendations for Sweetwater County communities.

Community	Recommendation	Benefit
All Communities	Adopt BLE as BAI if it is more conservative than the effective data.	Encourages new and improved development to adhere to more up-to-date risk reduction standards. Can be done without going through entire Risk MAP regulatory process. Can earn CRS credit for adopting higher standards.
	Consider CRS participation.	No participating communities at present. Encourages higher standards

Community	Recommendation	Benefit
		to reduce communities' flood risk and provides discounts on NFIP premiums.
City of Rock Springs	Continue with the regulatory mapping process and conduct a detailed study to update FIRM.	Maps for the City of Rock Springs are outdated (effective date of 1998). LOMCs in the community will be consolidated into one map.
	The City could collaborate with WY OHS to secure funding for the Bitter Creek Restoration Project.	Improved flood mitigation measures, increased risk reduction for properties, and more development opportunities along Bitter Creek.
	Contact USACE to have Dead Horse Canyon Creek Levee recorded in the National Levee Database.	Improved access to levee data and supports levee accreditation.
	Confirm community's intent for certification and accreditation of Dead Horse Canyon Creek Levee.	Currently shown on a LOMR as accredited.
	Confirm community's intent for certification and accreditation of Bitter Creek Levee.	Currently shown on a LOMR as unaccredited.
	Reinforce flood risk reduction measures along channels adjacent to land that is either highly developed and populated or is within the 2011 Growth Management Plan's Growth Area boundary.	Increased flood risk reduction for developed and developing areas. Reduced risk and flood loss potential.
City of Green River	Continue with the regulatory mapping process and conduct a detailed study to update FIRM.	Maps for the City of Green River are outdated (effective date of 2000). LOMCs in the community will be consolidated into one map.
	Reinforce flood risk reduction measures along channels adjacent to land that is highly developed or is within the 2011 Growth Management Plan's Growth Area boundary.	Increased flood risk reduction for developed and developing areas. Reduced risk and flood loss potential.

Table 35. Scoping recommendations for Uinta County communities.

Community	Recommendation	Benefit
All Communities	Adopt BLE as BAI if it is more conservative than the effective data.	Encourages new and improved development to adhere to more up-to-date risk reduction standards. Can be done without going through entire Risk MAP regulatory process. Can earn CRS credit for adopting higher standards.
	Consider CRS participation.	No participating communities at present. Encourages higher standards to reduce communities' flood risk and provides discounts on NFIP premiums.

Appendix I: Resources

Table 36. Project Delivery Team

Role	Name	Contact
FEMA Region 8		
Study Manager	Christine Gaynes	christine.gaynes@fema.dhs.gov
Engineer	Zharif Mdazmi	ahmad.mdazmi@fema.dhs.gov
Floodplain Management Specialist	Peter Reinhardt	peter.reinhardt@fema.dhs.gov
Floodplain Management Specialist	Avery Check	avery.check@fema.dhs.gov
Community Planner	Ariana Borello	ariana.borrello@fema.dhs.gov
State of Wyoming		
NFIP Program Manager	Aaron Birkemeier	aaron.birkemeier1@wyo.gov
Grants and Finance Section Chief	Ashley Paulsrud	ashley.paulsrud@wyo.gov
State Hazard Mitigation Officer	Justin Markiewicz	Justin.Markiewicz@wyo.gov
STARR II		
Task Order Manager, BLE Production Support	Jon Pink	jpink@dewberry.com
BLE Production	David Sutley	dsutley@dewberry.com
BLE Production	Erica Schmitz	erica.schmitz@stantec.com
BLE Production	Jason Schneider	jason.schneider@stantec.com
Discovery Lead	Jerri Daniels	jdaniels@dewberry.com
Discovery Support	Wylie Minot	wminot@dewberry.com
Discovery Support	Mikayla Zeitlin	mzeitlin@dewberry.com
Discovery GIS Lead	Claire Pollard	cpollard@dewberry.com
GIS Support	Payton Karr	pkarr@dewberry.com
Outreach Support	Katie Gronsky	kgronsky@dewberry.com
Community Engagement and Risk Communications	Natalie Kretzschmar	natalie.kretzschmar@ogilvy.com

Table 37. CEOs and FPAs

Role		Name	Contact
Lincoln County			
Chief of Staff		Stephen Allen	stephen.allen@lincolncountywy.gov
Emergency Manager, Lincoln County		Jay Hokanson	jay.hokanson@lincolncountywy.gov
Town of Diamondville	Mayor	Clint Bowen	tclerk@diamondvillewyo.com
	Planning and Zoning Board Chairwoman	Jeanie Cattelan	tclerk@diamondvillewyo.com
City of Kemmerer	Mayor	Robert Bowen	rbowen@kemmerer.org
	City Administrator	Brian Muir	bmuir@kemmerer.org
	Public Works Director	Chad Nielson	cnielson@kemmerer.org
Town of La Barge	Mayor	Larry Stepp	clerk@townoflabarge.org
	Public Works Director	Zach Bohm	clerk@townoflabarge.org
Town of Opal	Mayor	Mary Hall	townofopal@gmail.com
	Public Works Director	Gary Hutchinson	townofopal@gmail.com
Sublette County			
Chairman, County Commissioners		Lynn Bernard	lynn.bernard@sublettecountywy.gov
County Administrator		Jeness Saxton	jeness.saxton@sublettecountywy.gov
Planning and Zoning Administrator		Haley Ruland	hayley.ruland@sublettecountywy.gov
Town of Big Piney	Mayor	Shane Voss	townofbigpineywy@gmail.com
	Water/Sewer, Public Works	Nikolas Hernandez	townofbigpineywy@gmail.com
Town of Marbleton	Mayor	Jim Robinson	marbletontown@hotmail.com
	Public Works Director	Todd Brown	tbrown43@live.com
	Mayor	Matt Murdock	mattmurdock@townofpinedale.us

Role		Name	Contact
Town of Pinedale	Director of Public Works	Abram Pearce	abrampearce@townofpinedale.us
Sweetwater County			
Chairman, County Commissioners		Keaton West	westk@sweetwatercountywy.gov
Director, Land Use		Eric Bingham	binghame@sweetwatercountywy.gov
Town of Bairoil	Mayor	Lowell Clawson	townfb@outlook.com
	Water/Sewer License Operator	Debra Good	307-324-7653
Town of Granger	Mayor	Anselmo Valerio	clerk@townofgranger.com
	Water Plant Operator	Mark Gillespie	clerk@townofgranger.com
City of Green River	Mayor	Pete Rust	prust@grwyo.org
	City Administrator	Reed Clevenger	rclevenger@grwyo.org
	Environmental Systems Superintendent	Jason Palmer	jpalmer@grwyo.org
City of Rock Springs	Mayor	Max Mickelson	mayor@rswy.net
	City Planner	Chandler Marsh	city_planner@rswy.net
Town of Superior	Mayor	Richelle Johnson	townclerk@superiorwyoming.net
	Clerk/Treasurer	Anita Vaughn	townclerk@superiorwyoming.net
Town of Wamsutter	Mayor	Larry “Chip” Roney	mayor@wamsutter-wy.org
	Public Works Director	Jose Espinoza	town@wamsutter-wy.org
Uinta County			
Chairman, County Commissioners		Mark Anderson	mark.anderson@uintacountywy.gov
GIS Coordinator/Department Head		Gary Welling	gary.welling@uintacountywy.gov
Town of Lyman	Mayor	Shane Hooton	mayor@lymanwy.com

Role		Name	Contact
	Public Works Director	Jared Crane	jared.crane@lymanwy.com
Town of Mountain View	Mayor	Bryan Ayres	admin@mtnwy.com
	Public Works Director	Jacob Porter	admin@mtnwy.com

Table 38. Other Discovery Partners

Role	Name	Contact
State		
WY Department of Transportation Bridge Program, Hydraulic Engineer	Jeri Yearout	jeri.yearout@wyo.gov
WY Game and Fish Department, Fiscal Division Chief	Dirk Miller	dirk.miller@wyo.gov
WY Office of State Land and Investments Field Services Division, Assistant Director	Ben Bump	ben.bump@wyo.gov
WY State Engineer's Office, Administrator	Jeff Cowley	jeff.cowley@wyo.gov
WY State Forestry Division, WY State Forester	Kelly Norris	kelly.norris@wyo.gov
WY State GIS Coordinator	Sage Sheldon	sage.sheldon@usda.gov
WY Water Development Office, Director	Jason Mead	jason.mead@wyo.gov
WY Water Development Office, Deputy Director	Barry Lawrence	barry.lawrence@wyo.gov
WY Water Development Office, Project Manager	Mabel Jones	mabel.jones1@wyo.gov
Federal		
BLM High Desert District Office, District Manager	Jason Gay	jgay@blm.gov
U.S. Fish and Wildlife Service WY Ecological Services Field Office, WY Field Supervisor	Tyler Abbott	tyler_abbott@fws.gov
USACE Civil Works	Bradley Hoefer	bradley.r.hoefer@usace.army.mil
	Laurel Hamilton	laurel.j.hamilton@usace.army.mil
	Derek Schriner	derek.schriner@usace.army.mil
	Tony Krause	tony.d.krause@usace.army.mil
WY Office of Homeland Security FEMA Integration Team, Risk Analyst (GIS)	Kristopher Felt	kristopher.felt@fema.dhs.gov

Role	Name	Contact
County		
Lincoln County GIS/IT Department, Director	Destry Dearden	destry.dearden@lincolncountywy.gov
Lincoln County Emergency Management, Public Information Officer	Stephen Malik	stephen.malik@lincolncountywy.gov
Lincoln County Engineer	Amy Butler	amy.butler@lincolncountywy.gov
Lincoln County Engineering/GIS Analyst	Kimberly Guinta	kimberly.guinta@lincolncountywy.gov
Lincoln County Planning Director	Ken Kuluski	ken.kuluski@lincolncountywy.gov
Sublette County Commissioner	Mack Bradley	mack.bradley@sublettecountywy.gov
Uinta County Planning and Zoning/GIS, GIS Coordinator/Department Head	Gary Welling	gary.welling@uintacounty.org
Nonprofits and Third-Party Firms		
Old Glory Engineering, Principal Engineer	Austin Gilbert	austin@oldgloryengineering.com
Petroleum Association of WY, President	Pete Obermueller	pete@pawyo.org
The Nature Conservancy, WY Director of Science	Corinna Riginos	corinna.riginos@tnc.org
WY Association of Municipalities, Executive Director	Ashley Garpstreith	ashley@wyomuni.org
WY Association of Conservation Districts, Watershed Coordinator	Carmen Horne-McIntyre	watershed.coordinator@conservewy.com
WY County Commissioners Association, Executive Director	Jerimiah Rieman	jrieman@wyo-wcca.org
WY County Commissioners Association, Natural Resources Policy Analyst	Triston Rice	triston.rice@conservewy.com

Table 39. Data Resources

Data Category	Map Element or Data Type	Source	Link	Date Last Updated (or Date Accessed If Unavailable)
Community and Watershed Information				
Community Characteristics	Demographics	U.S. Census Bureau Community Profiles	Census.gov	September 2025 (Accessed)
	General Geography and Climate Information	Regional and State HMPs	WY State HMP	February 2021 (Updated)
			WY Region 4 HMP	January 2022 (Updated)
			WY Region 5 HMP	August 2022 (Updated)
	Agriculture	U.S. Department of Agriculture (USDA) 2017 Census of Agriculture	Lincoln County Profile	2017 (Updated)
			Sublette County Profile	2017 (Updated)
			Sweetwater County Profile	2017 (Updated)
			Uinta County Profile	2017 (Updated)
	GIS Capabilities	Official County Websites	Lincoln County	October 2025 (Accessed)
			Sublette County	2021 (Updated)
			Sweetwater County	October 2025 (Accessed)
			Uinta County	October 2025 (Accessed)
	Community Concerns and Emergency	County Emergency Management Webpages	Lincoln County	October 2025 (Accessed)
			Sublette County	October 2025 (Accessed)

Data Category	Map Element or Data Type	Source	Link	Date Last Updated (or Date Accessed If Unavailable)
	Management Resources		Sweetwater County	October 2025 (Accessed)
			Uinta County	October 2025 (Accessed)
	Emergency Management Contacts	WY Office of Homeland Security	County Contacts	2019 (Updated)
Watershed-Wide Data	Insurance Information and Paid Losses	FEMA	Community Information System	September 2022 (Accessed)
	FIRM and LOMC Information	FEMA	MSC	October 2025 (Accessed)
	FIS Reports	FEMA	MSC	October 2025 (Accessed)
	Disaster Declarations	FEMA	OpenFEMA	February 2023 (Accessed)
	Historical Flooding Issues	Regional HMPs	WY Region 4 HMP	January 2022 (Updated)
			WY Region 5 HMP	August 2022 (Updated)
	Ice Jams	USACE and Regional HMPs	Ice Jam Database	October 2025 (Accessed)
			WY Region 4 HMP	January 2022 (Updated)
			WY Region 5 HMP	August 2022 (Updated)
	Recreation Areas	USGS	Protected Areas Database of the U.S.	July 2022 (Updated)

Data Category	Map Element or Data Type	Source	Link	Date Last Updated (or Date Accessed If Unavailable)
Other Information	Community Status Book Information	FEMA	NFIP Community States Book	March 2022 (Updated)
	Community Census Information	U.S. Census Bureau	TIGER/Line Shapefiles	September 2025 (Accessed)
	Risk Assessment Data	Discovery Report Hazus Flood Risk Assessment	Data Analysis Section 2.5. Hazus Risk Assessment	September 2025 (Updated)
Map Elements				
Boundaries	State, County, and Community Boundaries	U.S. Census Bureau	TIGER/Line Shapefiles	September 2025 (Accessed)
	HUC 4 and HUC 8 Watershed Boundaries	USGS	National Hydrography Products	October 2023 (Updated)
	Additional HUC 4, 8, 10, and 12 Boundaries	USGS	Technical Scope Data	February 2023 (Accessed)
	Incorporated Cities and Towns (2023)	WY Department of Revenue	Maps and GIS Data	2025 (Updated)
	Colorado Counties	USDA and Colorado State University	ColoradoView	February 2023 (Accessed)
	Colorado Municipal Boundaries	USDA and Colorado State University	ColoradoView	February 2023 (Accessed)

Data Category	Map Element or Data Type	Source	Link	Date Last Updated (or Date Accessed If Unavailable)
	Utah Counties	Utah Geospatial Resource Center	Boundaries Data Index	February 2023 (Accessed)
	Utah Municipal Boundaries	Utah Geospatial Resource Center	Boundaries Data Index	February 2023 (Accessed)
Features	Rivers and Other Flooding Sources	FEMA	CNMS Viewer	July 2025 (Updated)
	Structures	USACE	National Structure Inventory	2025 (Updated)
	Bridges	U.S. Department of Transportation	National Bridge Inventory	August 2025 (Updated)
	Levees	USACE	National Levee Database	October 2025 (Accessed)
	Dams	USACE	National Inventrory of Dams	2020 (Updated)
	USGS Gages	USGS	National Water Information System	October 2025 (Updated)
	Roadways	USGS	The National Map Viewer	November 2022 (Updated)
	Water Bodies and Wetlands	U.S. Fish and Wildlife Service	National Wetlands Inventory	February 2023 (Accessed)
	Federal Lands	U.S. Census Bureau	TIGER/Line Shapefiles	September 2025 (Accessed)
		USGS	GIS Data Download	February 2023 (Accessed)
	CNMS Status	FEMA	CNMS Viewer	July 2025 (Updated)
	Critical Facilities	USGS	National Structures Dataset	August 2025 (Updated)

Data Category	Map Element or Data Type	Source	Link	Date Last Updated (or Date Accessed If Unavailable)
	Hazard Mitigation Strategy Status	FEMA	HMP Status Viewer	February 2023 (Accessed)
	Repetitive Loss Areas	FEMA	OpenFEMA Datasets	March 2025 (Accessed)
	Average Annualized Loss	FEMA	OpenFEMA Datasets	March 2025 (Accessed)
	Observation Points	National Weather Service	GIS Downloads	February 2023 (Accessed)
	National Land Cover Dataset	Multi-Resolution Land Characteristics Consortium	Data Downloads	February 2023
	Statewide NFHL Data (BFEs, Effective Flood Zones)	FEMA	NFHL	2024 (Updated)

Appendix II: Discovery Meeting Materials

1. Discovery Meeting Agenda and Highlights

DATE: January 12, 2026

TIME: 10:00-12:00 MT

LOCATION: Virtual

MEETING LEADS: Jerri Daniels, STARR II

Christine Gaynes, FEMA Region 8

ROLES:

NAME	ROLE
Jerri Daniels, STARR II	Meeting Facilitator, WY Project Manager
Claire Pollard, STARR II	Map Lead
Christine Gaynes, FEMA	FEMA Lead
Zharif Mdazmi, FEMA	WY Project Manager
Aaron Birkemeier, WY Office of Homeland Security (OHS)	WY NFIP Program Manager
Jon Pink, STARR II	Engineering Subject Matter Expert
Mikayla Zeitlin, STARR II	Engagement Activity Facilitator
Elaine Montes, STARR II	Flood Info Connect Presenter

1.1. Meeting Agenda

Estimated Total Run Time: 2 hrs

TIMING	TOPIC	ROLES
15 MIN	**PART 1A: INTRODUCTION**	
5 min	Welcome and Teams Introductions	Jerri Daniels, STARR II
10 min	Project Overview and Objectives	Christine Gaynes, FEMA
5 MIN	**PART 1B: SURVEY**	
5 min		Mikayla Zeitlin, STARR II
1 HR 10 MIN	**PART 2A: DRAFT MAPPING AND DATA REVIEW**	
20 min	How Was Your BLE Data Created?	Jerri Daniels, STARR II David Sutley, STARR II
10 min	How Can You Use BLE for Floodplain Management?	Jerri Daniels, STARR II
40 min	Draft Flood Data and Maps and Comment Demonstration	Claire Pollard, STARR II
10 MIN	**PART 2B: SURVEY**	
10 min		Mikayla Zeitlin, STARR II
20 MIN	**PART 3: WRAP-UP AND NEXT STEPS**	
10 min	Flood Info Connect	Elaine Montes, STARR II
5 min	Wrap-Up and Next Steps	Jerri Daniels, STARR II Christine Gaynes, STARR II
5 min	Exit Survey	Christine Gaynes, STARR II

1.2. Meeting Highlights

- The Project Team provided an overview of the FEMA Risk MAP Process and the Discovery and Base Level Engineering (BLE) phase.
    - Discovery is the first phase of the Risk MAP process, consisting of data collection and BLE modeling.
    - BLE should be used as Best Available Information for floodplain management activities, but insurance rates remain based on the effective FIRM.
    - The data presented in this Discovery meeting will not necessarily become regulatory. It is up to the communities to decide what they want to do with the data after Discovery (e.g., move it through the regulatory update process).
- The Project Team presented the BLE data and flood risk information that was developed during Discovery data collection using HEC RAS v6.4.1.
    - Much of the watershed that was previously unmapped now has draft BLE streams and flood hazard data.
    - Hazus flood risk assessment was used to estimate economic flood risk in dollars using the BLE data.
- The Project Team demonstrated how to navigate the interactive map and leave a comment on draft flood data via the map or the Virtual Discovery Homepage's input form.
    - There is an online tutorial for the interactive map in the top right-hand corner of the GIS site.
    - **Community officials have two weeks from the date of the Discovery meeting to review and submit comments on the draft flood risk data.** They may do so via the interactive map site, the Virtual Discovery Homepage's input form, or via email to mzeitlin@dewberry.com. To revise a comment on the interactive map, you must submit a separate comment with the amended language.
- The Project Team presented next steps for Discovery.
    - The Flood Info Connect tool (https://fic.region8pts.com/) can be used to connect flood risk data with actionable community goals by turning user input into a summary report that includes selected risk reduction goals, preferred information types, and suitable information formats.
    - Community officials should review and comment on their community's data over the next two weeks.
    - **The Discovery Closeout Meeting is Thursday, January 29th, from 1:30-3:00 MT.**
    - Mikayla is the Project Team's point of contact for any questions or follow-up discussion.
- Participants completed survey questions throughout the meeting about their community's flood history, prioritized risk reduction goals and actions, land use goals, and desired support.

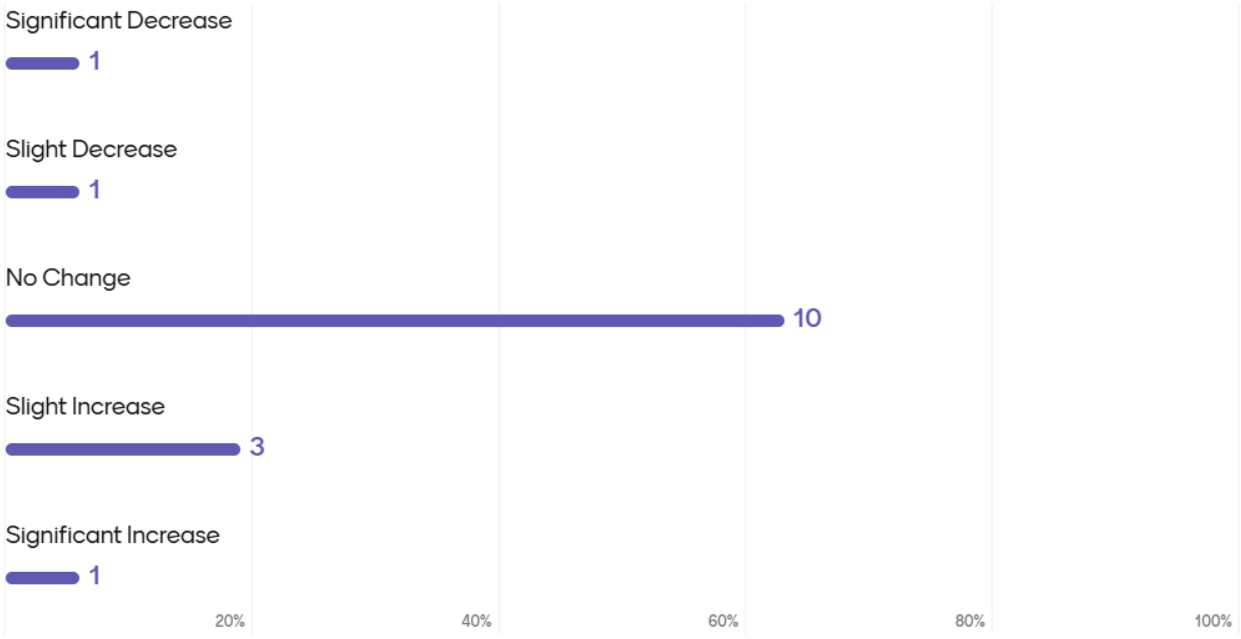
LIVE Q&A	
QUESTION	ANSWER
Do these models use full rain on grid?	Rain on grid was not used, as it is a deterministic method. We used Stochastic Storm Transposition (SST), a probabilistic analysis.
When reviewing the data, how should we communicate that we feel an area is lacking data, and how will that be resolved?	Provide feedback to the Project Team via interactive map, online input form, or email. We can use that feedback to discuss study outcomes with FEMA, for example, by scoping a more refined and detailed model.
Does the interactive map have a topo layer?	Not currently, but we can add one if it is helpful.
How long before this project moves to the next phase?	This depends upon what your community wants. Once you have reviewed the reports, please reach out to the Project Team and describe your needs so that models can be further refined.
How long does it take for a study to move from Discovery to Preliminary Maps?	Three years, at a minimum. Communities can initiate a conversation with FEMA to scope data development through effective mapping.
Is there a one-pager summary of where we stand with the study to share with other community officials?	We will create one.
Can FEMA choose to regulate despite the community's request not to?	Not quite. Communities choose to participate in the NFIP, and they are the regulating body for those requirements. However, if a community does participate in the NFIP, it is required to regulate to its most up-to-date information or higher standards.

2. Mentimeter Survey Results

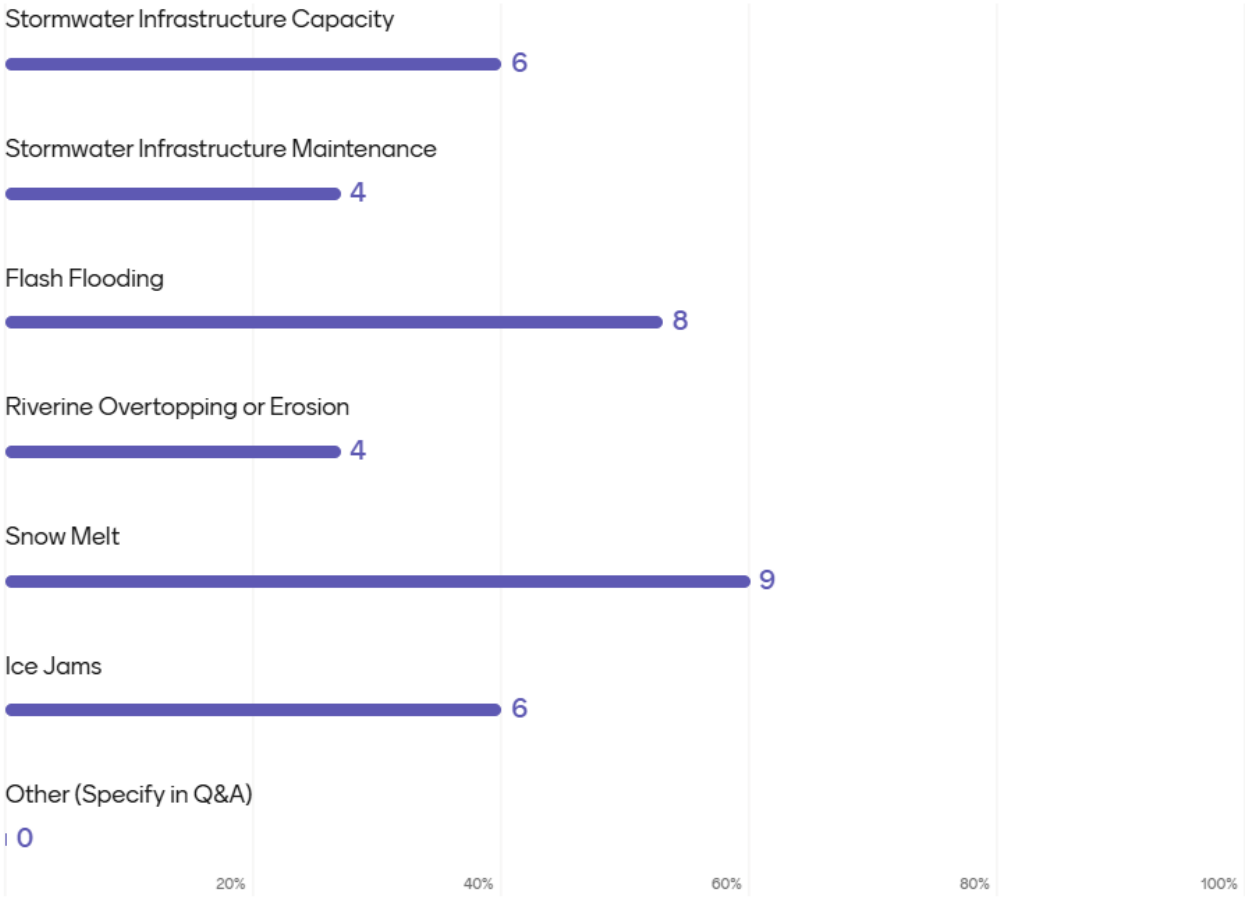
Question 1: What is your preferred contact method and information?

Responses were private to protect individuals' contact information. Most respondents preferred email as a contact method.

Question 2: What, if any, changes have you observed in the frequency or severity of flooding events over the past 10 years?



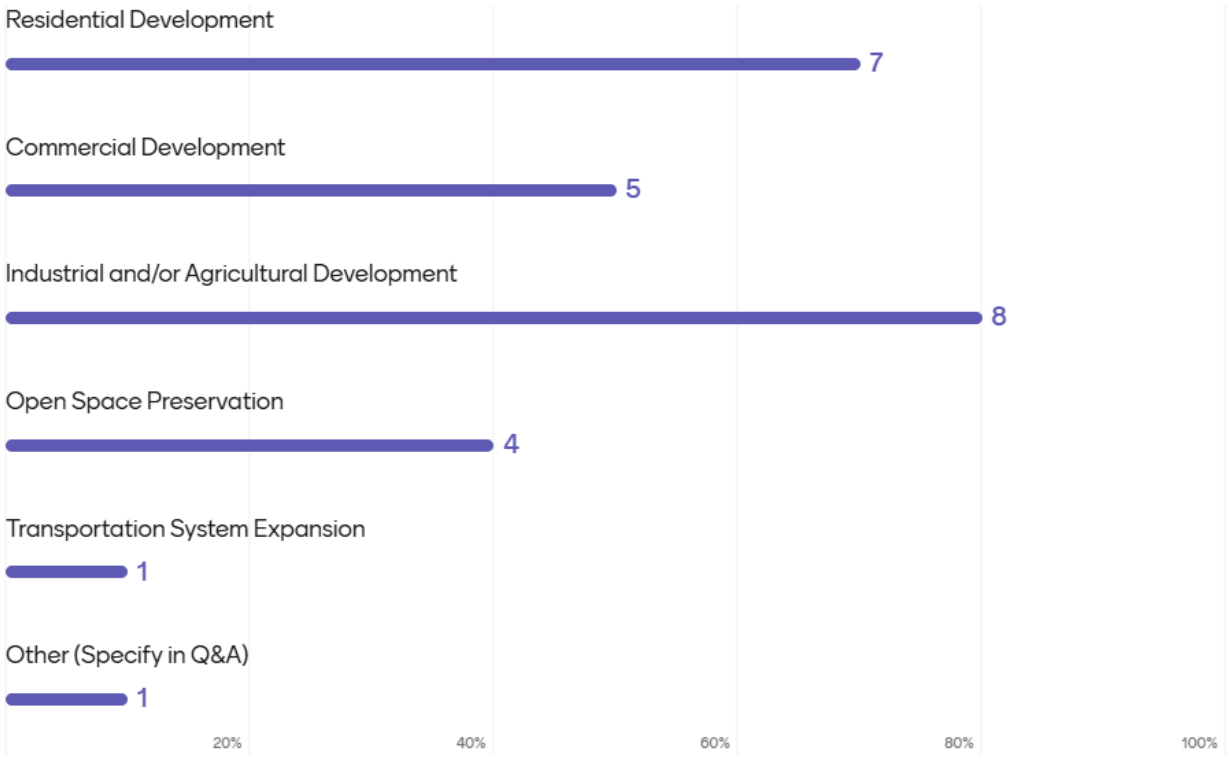
Question 3: Is the flooding that occurs in your community more related to... (Select up to 3 answers)



Question 4: Rank the following flood risk reduction goals in order of importance to your community (1 = most important, 8 = least important):

- 1 Update Floodplain Management Regulations and Codes
- 2 Design and Implement Structural Mitigation Projects
- 3 Bolster Emergency Management and Response
- 4 Improve Outreach and Education Campaigns
- 5 Contextualize Land Use Planning
- 6 Design and Implement Nature-Based Solutions or Restoration Projects
- 7 Develop Grant Applications or Capital Requests Natural Floodplain Functions
- 8 Expand Flood Programs and Procedures

Question 5: What are your community's primary land use planning goals? (Select up to 3 answers)



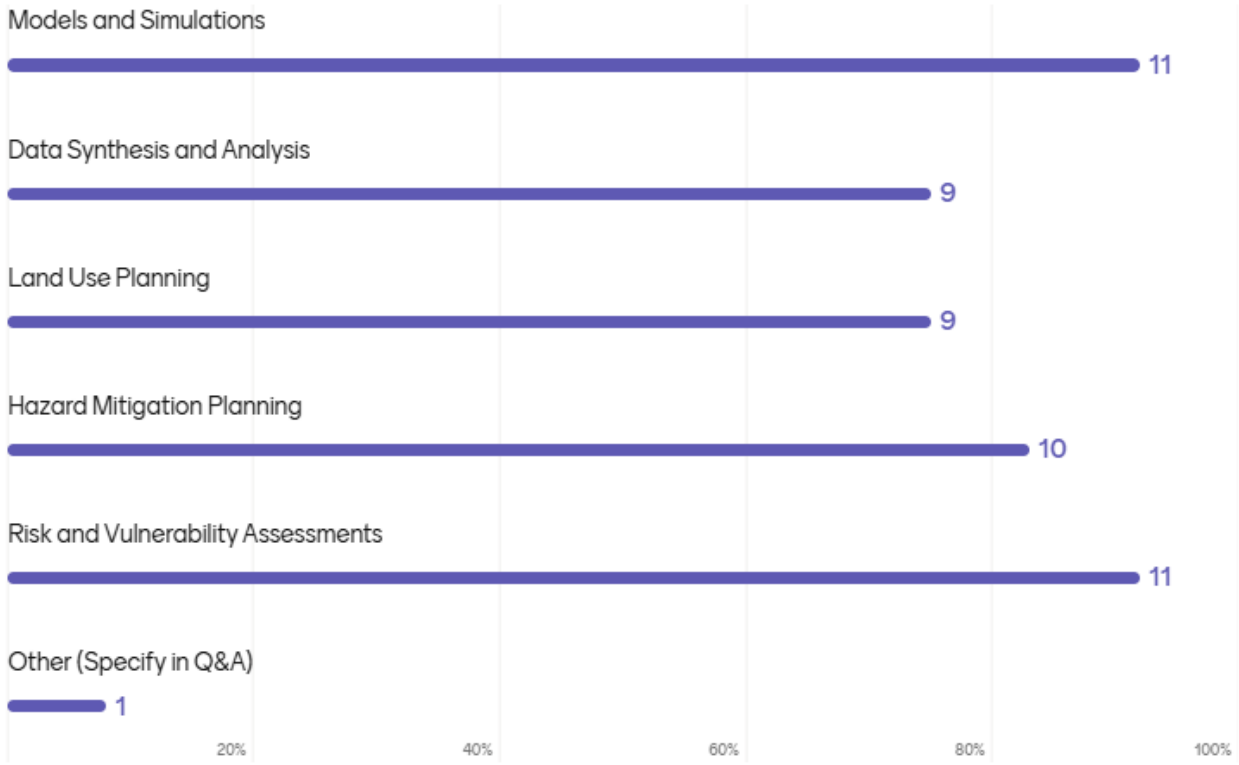
Question 6: Rank the following flood-related actions and activities in order of importance to your community (1 = most important, 8 = least important):

- 1 Updated Flood Mapping
- 2 Stormwater System Upgrades and Retrofits
- 3 Updated Floodplain Ordinance
- 4 Enhanced Education and Outreach
- 5 NFIP CRS Participation and Flood Insurance Discounts
- 6 Building Floodproofing and Retrofits
- 7 Incentives to Develop Outside of the Floodplain
- 8 Floodplain Property Buyouts

Question 7: Do you feel like your community has the right staff and/or expertise to discuss and use flood risk data? If your answer is no, please elaborate.

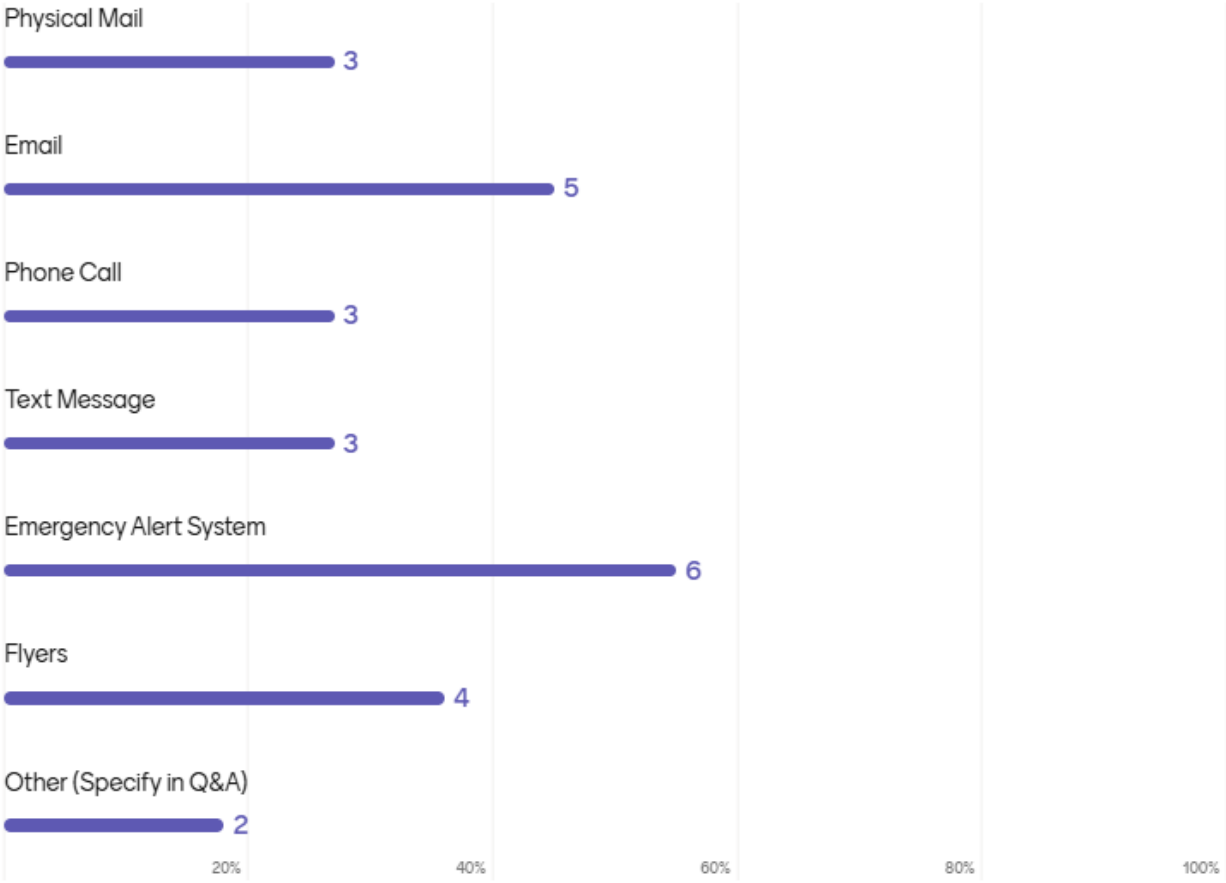
No	No, it does not.
Yes.	yes
No. Need help with ordinances and information development. Have staff capable of implementing with training and help.	Yes, but could use support with implementing changes to mapping and regulations, education outreach
Yes, Additional education would be helpful	No. Change over in staff has led to loss of some history and understanding of roles pertaining to flood plain management.
No - emergency management couldn't be bothered to be in this meeting. Community development is capable of this.	Augmented reality to help non-technical elected officials would be helpful.
With current staff and resources available, I believe with more training that our area / community will or has the expertise.	

Question 8: What sort of assistance, if any, would you find helpful regarding engineering or GIS data provided by FEMA? Select all that apply.



Other response: Depth x velocity

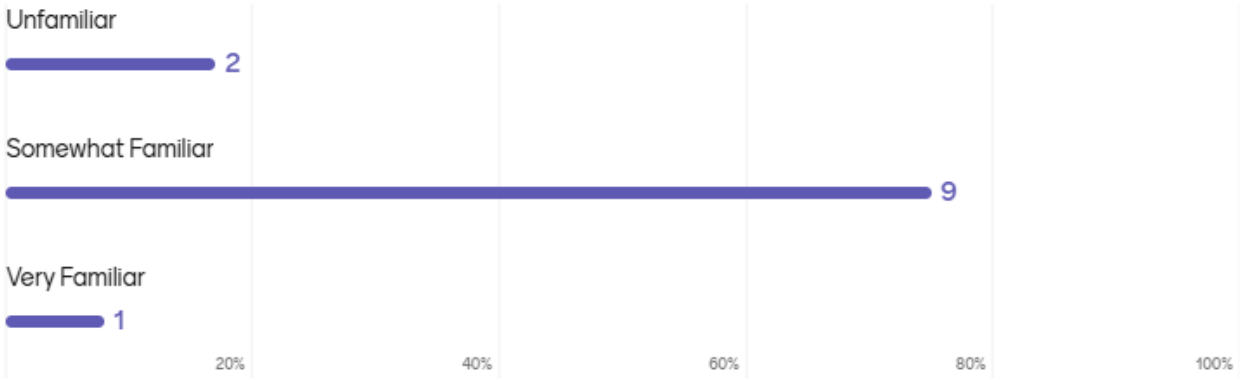
Question 9: How do you share risks or changes in risks with your community? Select all that apply.



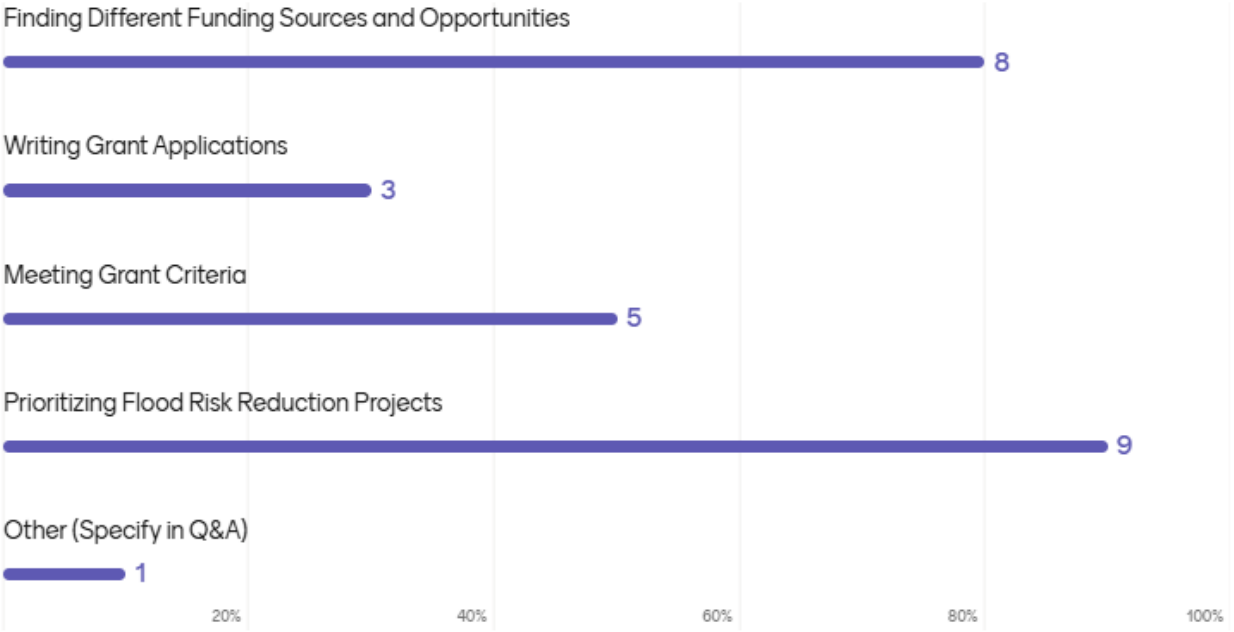
Other responses: Social media

Question 10: What other stakeholders should be involved in this Discovery process? Please provide their name, position, and contact information.
Responses were private to protect individuals' contact information. Submitted information was added to the Project Team's project contact list.

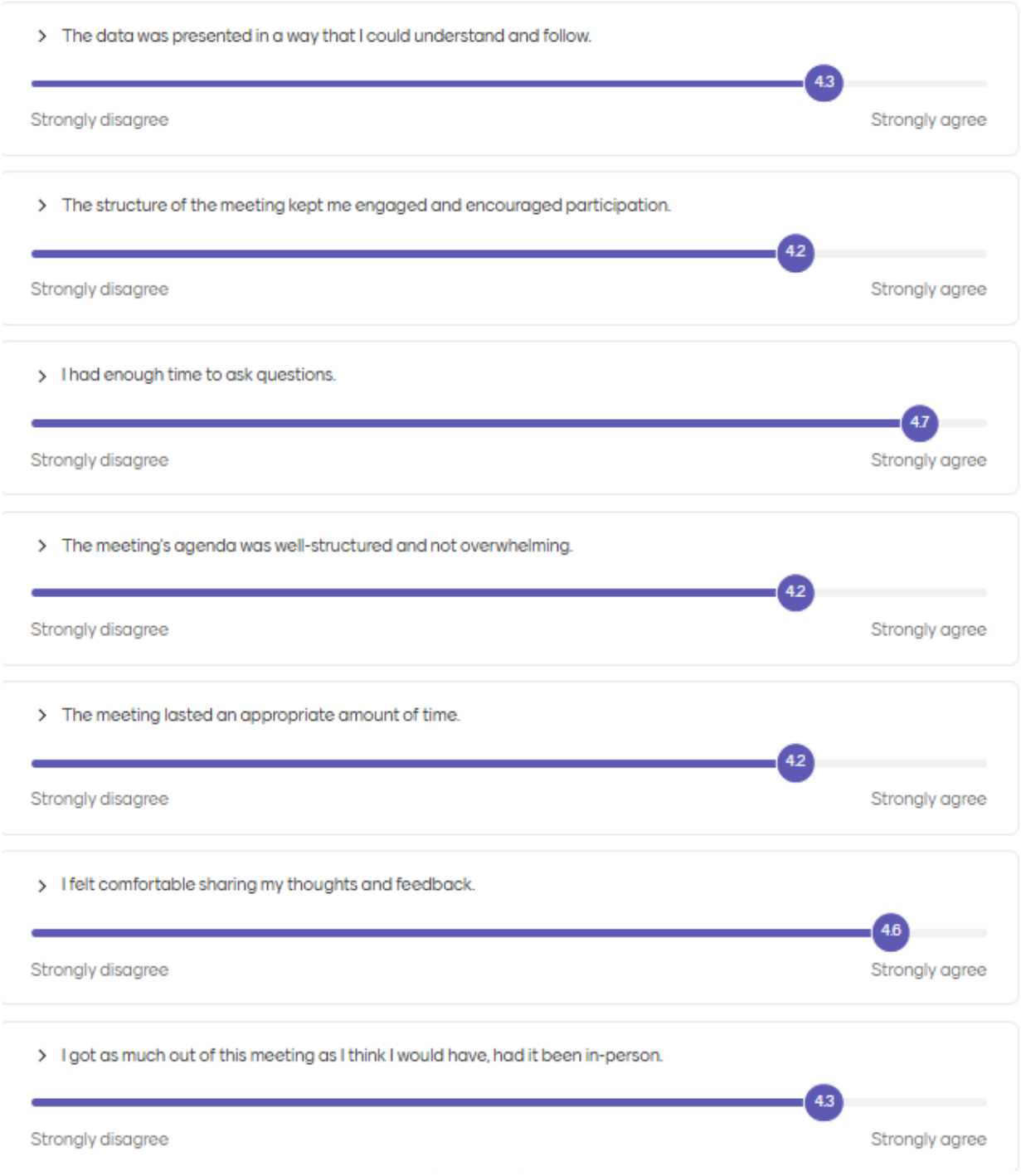
Question 11: How familiar are you with grant resources that are available to communities to help reduce their flood risk?



Question 12: What sort of assistance, if any, would you find helpful regarding grant funding opportunities? Select all that apply.



Question 13: Please rate the following based on your experience at this Discovery meeting.



3. Discovery Closeout Meeting Agenda and Highlights

DATE: May 20, 2026

TIME: 10:00-12:00 MT

LOCATION: Microsoft Teams

MEETING LEADS: Jerri Daniels, STARR II

Christine Gaynes, FEMA Region 8

PROJECT DELIVERY TEAM ROLES:

NAME	PROJECT TEAM
Aaron Birkemeier, WY Office of Homeland Security (OHS)	Wyoming NFIP Program Manager
Ashley Paulsrud, WY OHS	WY OHS Grants/Finance Section Chief
Christine Gaynes, FEMA	FEMA Lead
Zharif Mdazmi, FEMA	Wyoming Project Manager
Jerri Daniels, STARR II	Meeting Facilitator, Discovery Lead
Claire Pollard, STARR II	Map Lead
Mikayla Zeitlin, STARR II	Discovery Support and Outreach
Katie Gronsky, STARR II	Flood Info Connect Presenter

ACTION ITEMS:

ACTION	ASSIGNED TO
Download your community's data before May 31, 2026.	All Communities
Follow up with Sublette County regarding model language for adopting BLE as BAI.	FEMA
Email communities for feedback on Flood Info Connect.	FEMA
Send Discovery Closeout notes and PowerPoint to all attendees.	STARR II

3.1. Meeting Agenda

Estimated Total Run Time: 1.5 hrs.

TIMING	TOPIC	PRESENTER
10 MIN	**PART 1: INTRODUCTION**	
5 min	Welcome and Teams Introductions	Christine Gaynes, FEMA Jerri Daniels, STARR II
5 min	Project Overview and Objectives	Jerri Daniels, STARR II
10 MIN	**PART 2: DISCOVERY MEETING AND SURVEY SUMMARY**	
5 min	Discovery Meeting and Community Participation Summary	Mikayla Zeitlin, STARR II
5 min	Survey Results and Takeaways	Mikayla Zeitlin, STARR II
30 MIN	**PART 3: RESOURCES**	
20 min	Flood Info Connect Demonstration	Katie Gronsky, STARR II
10 min	Virtual Discovery Homepage, GIS Site, and Comments Overview	Jerri Daniels, STARR II
30 MIN	**PART 4: RECOMMENDATIONS**	
30 min	Recommendations by County	Jerri Daniels, STARR II
10 MIN	**PART 5: NEXT STEPS AND WRAP-UP**	
10 min	Overview of: ▪ How communities should use their BLE data ▪ What communities can expect next from FEMA	Christine Gaynes, FEMA Jerri Daniels, STARR II

3.2. Meeting Highlights

- The Project Team provided an overview of the FEMA Risk MAP Process and the Discovery Phase.
  - We are at the end of Risk MAP Phase 1: Discovery and Base Level Engineering (BLE)
  - If there is a recommendation to move forward with mapping, you may be able to move to Phase 2: Data Development. Not all communities will be recommended to do so.
- The Project Team summarized the January Discovery Meeting, additional community participation, and the survey results collected during the meeting.
  - Survey result takeaways included:
    - Snowmelt and flash flooding are the primary causes of flooding observed in communities within the study area.
    - There is a general desire for assistance in understanding and using flood risk data and securing grant funding.
- The Project Team presented Flood Info Connect (https://fic.region8pts.com/), a tool to help users learn how to use flood risk information in their communities. The Town of Pinedale agreed to be a sample use case for a walkthrough of the tool.
  - Flood Info Connect is a stepper tool. The user inputs their community's flood risk reduction goals, risk information preferences, technical proficiencies, and data formats. The tool then outputs a summary report that recommends different types of flood information to help them achieve their goals and communicate their needs.
  - Information entered into Flood Info Connect is not shared unless the user chooses to share their insights with FEMA. This information can help inform training, outreach, and identifies other types of FEMA support. There is interest in understanding how exactly FEMA will respond to community needs/input.
  - The Information Library includes summaries of different types of flood risk data, visual representations of the data, and tips on how to use the data.
  - Christine Gaynes, the FEMA Lead for this Discovery Project, will be following up with attendees to get feedback on Flood Info Connect. This can help inform FEMA of the products that are important to communities.
  - Attendees indicated that they would like time to explore the tool on their own, but multiple expressed initial interest in the product and see it as a useful means of connecting people to useful information.
- The Project Team reviewed the Discovery Resources available to the communities.
  - Many attendees still need to download their community's data from the Virtual Discovery Homepage (https://discovery.region8pts.com. **Data download will be available through May 31, 2026. After this date, communities will no longer be able to download the data.**
  - Many attendees still use the Virtual Discovery Homepage and the GIS Viewer to view their data. Both the Virtual Discovery Homepage and GIS viewer will remain available until a regional solution is identified. You will be notified when this happens.
- The Project Team summarized the comments received on the draft mapping. A table of all comments received is included in the Discovery Report, which is available on the Virtual Discovery Homepage (https://discovery.region8pts.com/en/YourCommunity).

- The Project Team presented their recommendations for each community. A complete table of recommendations for each county is included in the Discovery Report and in the Discovery Closeout Meeting PowerPoint presentation.
    - General recommendations (applicable to all communities):
        - Consider joining the National Flood Insurance Program (NFIP) if not already participating.
        - Consider joining the NFIP Community Rating System (CRS) if not already participating.
        - Adopt BLE as Best Available Information (BAI). If adopting, suggested language and guidance here:

            SECTION B.1. USE OF BEST AVAILABLE DATA

            HIGHER STANDARD OPTION RECOMMENDED

            Where Base Level Engineering is available Base Level Engineering data shall be reviewed and reasonably used in FEMA-identified Special Flood Hazard Areas, where base flood elevation and floodway data have not been identified and in areas where FEMA has not identified Special Flood Hazard Areas.

            1) Base flood elevations, floodway, and floodplain boundaries delineated by Base Level Engineering shall take precedence over base flood elevations, floodway, and floodplain boundaries delineated by effective FIRMs and in Flood Insurance Studies (FIS), if the Base Level Engineering shows increased floodplain or floodway boundaries and/or higher base flood elevations.

            2) Base flood elevations and designated floodway boundaries on effective FIRMs and in Flood Insurance Studies shall take precedence over base flood elevation and floodway boundaries delineated by Base Level Engineering if the FIRMs and/or Flood Insurance Studies show reduce floodway width and/or lower base flood elevations.
    - Parts of Sublette County, the City of Rock Springs, and the City of Green River were recommended to move forward with the Risk MAP Process to develop more refined flood maps. Recommendations were based on multiple factors including age of effective maps, number of Letters of Map Change (LOMCs), and locations of comments received.
        - **These recommendations do not guarantee that these projects will continue into Risk MAP Phase 2: Data Development. This is dependent on FEMA budget and scope. These recommendations do, however, help to inform FEMA's budget allocations during fiscal year planning. You will be notified and involved in future mapping processes if your community's recommended mapping is elected to move forward as a project.**
        - Communities can adopt BLE as BAI right away; you do not need to wait until more detailed mapping occurs. If a project is funded, communities can continue to use BLE as BAI throughout Data Development. Suggested language for adoption and use of conservative data above.
        - Data becomes more refined as a project moves through Risk MAP, so mapping in future phases will more accurately reflect observations (e.g., ponding and puddles, culvert locations, etc.).
        - The City of Rock Springs indicated that they would like to pursue certification and accreditation of both the Dead Horse Canyon Creek and Bitter Creek levees, should their mapping be chosen to continue through the Risk MAP process. The levee owner is responsible for levee certification and must complete the levee certification package and deliver it to FEMA compliant with 44 CFR 65.10.

- The Project Team explained next steps upon completion of Discovery.
  - FEMA will follow up with communities whose mapping is selected to go forward; this is dependent on fiscal year allocations.
  - There will be many opportunities for collaboration if your project is selected.
  - Christine Gaynes (christine.gaynes@fema.dhs.gov) is the Project Team's point of contact for any questions or follow-up discussion.

LIVE Q&A	
QUESTION	**ANSWER**
Is there draft ordinance language for adopting BLE as BAI?	Yes. FEMA will follow up with these resources.
Is Flood Info Connect an opportunity for continued community engagement, helping them stay up to date with current processes?	Flood Info Connect can be helpful for this, and it will also help inform FEMA of communities' needs and desires moving forward, which will, in turn, help inform FEMA's future budgets and scopes.
Has any of the BLE data changed since its initial release?	No, it has not.
Will any data be created for the western part of Lincoln County?	Not at this time. The areas mentioned are outside of the Upper Green-Great Divide study area boundary. The Project Team also confirmed that the BLE efforts currently underway in Wyoming do not include these areas either. If there is a desire to have data in this area, we recommend either emailing Christine Gaynes, the FEMA lead for this Discovery Project, at christine.gaynes@fema.dhs.gov and/or submitting this information through the Flood Info Connect tool.

Appendix III: Discovery Comments

1. Comment Tables

Table 40. Complete list of flood mapping comments. County name followed by an asterisk (*) represents the unincorporated areas of that county.

County	Community	Coordinates (Lat., Long.)	Mapping Needs and Comments
Lincoln County	Lincoln County*	-110.20745511, 42.26602624	Storm; homes impacted by flooding
Lincoln County	Lincoln County*	-110.32941361, 41.77256154	Storm; all of the above (buildings, homes, roads, electricity and/or water) impacted by flooding
Lincoln County	Lincoln County*	-110.53476795, 41.79434038	River/stream; electricity and/or water impacted by flooding; high spring runoff
Lincoln County	City of Kemmerer	-110.53596958, 41.80069111	River/stream
Lincoln County	City of Kemmerer	-110.66339940, 41.95575705	Ice jams on Ham's Fork in the winter could cause flooding in our community.
Sublette County	Sublette County*	-109.94519752 42.89976588	Do these areas in Hay Meadow that are removed from a flooding source need to be identified individually, or will there be exclusion criteria?
Sublette County	Sublette County*	-110.07931727, 42.45863610	Snow melt; roads impacted by flooding; during runoff, this location can become a choke point on the Green River and cause an ice dam at the bridge.
Sublette County	Sublette County*	-109.92960893, 42.56784313	Snow melt; roads impacted by flooding; during runoff, this location can become a choke point on the Green River and cause an ice dam at the bridge.
Sublette County	Sublette County*	-109.85829274, 42.84927791	This area is a gravel pit floor hydraulically separated from the flooding source
Sublette County	Sublette County*	-110.35529994, 42.99357017	This area is a gravel pit floor hydraulically separated from the flooding source
Sublette County	Sublette County*	-109.86391778, 42.83304717	This area is a gravel pit floor hydraulically separated from the flooding source
Sublette County	Sublette County*	-110.26472274, 42.38947482	This area is a produced water evaporation pond, hydraulically separated from the flooding source
Sublette County	Sublette County*	-110.32512609, 42.36449119	This area is a produced water evaporation pond, hydraulically separated from the flooding source
Sublette County	Sublette County*	-109.76844618, 42.65123729	This area is a produced water evaporation pond, hydraulically separated from the flooding source

County	Community	Coordinates (Lat., Long.)	Mapping Needs and Comments
Sublette County	Sublette County*	-110.11049597, 42.53781589	A detailed study at Big Piney would be beneficial to know the actual flood extents.
Sublette County	Sublette County*	-110.07217835, 42.86825454	Due to the complexity of Green River and its side channels in this area, a detailed study would be beneficial.
Sublette County	Sublette County*	-109.82868795, 42.83046049	Culvert under road
Sublette County	Sublette County*	-110.08791137, 42.96876205	Gravel pit
Sublette County	Sublette County*	-110.10154244, 42.94107285	Missing culvert
Sublette County	Sublette County*	-109.90736809, 42.89592811	Verify bridge/culvert opening
Sublette County	Sublette County*	-109.91483540, 42.89599506	Verify bridge/culvert opening
Sublette County	Sublette County*	-110.00515373, 42.96042427	All of the above (buildings, homes, roads, electricity and/or water) impacted by flooding; check for culvert
Sublette County	Sublette County*	-110.07070338, 42.99631440	Culvert under road
Sublette County	Town of Big Piney	-110.11136446, 42.53698387	All of the above (buildings, homes, roads, electricity and/or water) impacted by flooding; better flood elevation data is needed
Sublette County	Town of Big Piney	-110.11893901, 42.53725265	Need more elevation data here. Does not look like the catch ditch along west & south of this property is considered.
Sublette County	Town of Pinedale	-109.88540284, 42.86665839	River/stream; there is a bridge under US191 that appears to be missing from the model, causing inaccurate depiction of what actually is happening in the field.
Sublette County	Town of Pinedale	-109.88157571, 42.86697244; -109.88004149, 42.86697637; -109.88262177, 42.86850228; -109.88047869, 42.87045236; -109.88368661, 42.87793365; -109.88432056, 42.87622029; -109.88064861, 42.87535149; -109.88078272, 42.87551499;	River/stream; model shows ponding not observed locally. Confirm whether these areas are treated as hydraulically connected or isolated features.

County	Community	Coordinates (Lat., Long.)	Mapping Needs and Comments
		-109.88031271, 42.87988741; -109.86650038, 42.86592302; -109.87882284, 42.87932311	
Sublette County	Town of Pinedale	-109.86119434, 42.86029217	River/stream; model behavior indicates no conveyance of the Northern bridge compared to local observations. Confirm conveyance assumptions used at both bridges.
Sublette County	Town of Pinedale	-109.86610010, 42.86688906	River/stream; model shows overtopping of the existing embankment. This has not been observed locally. Request clarification on whether the terrain representation in this area aligns with current ground conditions.
Sublette County	Town of Pinedale	-109.86668482, 42.86442772	River/stream; local staff note recent fill and grading at this parcel. Clarify whether updated surface information is needed. As builts are available.
Sublette County	Town of Pinedale	-109.88356091, 42.87405873	River/stream; a LOMR applies to this reach (16 08 0579P 560048 and 560049). Confirm continued incorporation of these determinations. Local staff note these have historically provided accurate representation.
Sublette County	Town of Pinedale	-109.88331415, 42.87486661	River/stream; the Shared-Use-Path may influence localized drainage. Confirm whether this structure is included in the study.
Sublette County	Town of Pinedale	-109.88861500, 42.86382703	River/stream; grading near ball fields has altered local drainage patterns. Confirm whether updated surface data is needed. As builts available.
Sublette County	Town of Pinedale	-109.88514295, 42.86542526	River/stream; mapped flow paths appear to show limited or no conveyance. Confirm how drainage features in this area are represented.
Sublette County	Town of Pinedale	-109.88399446, 42.87343747; -109.88071717, 42.87939365; -109.88142795, 42.87765032; -109.88116415, 42.87742017; -109.88177033, 42.87614747; -109.88325896, 42.87470470; -109.88528415, 42.86607463; -109.88532170, 42.86519390;	River/stream; mapped flow paths appear to show limited or no conveyance at several locations along this reach. Confirm intended representation of flow through this area.

County	Community	Coordinates (Lat., Long.)	Mapping Needs and Comments
		-109.88474771, 42.86342452	
Sublette County	Town of Pinedale	-109.88429723, 42.87134663	River/stream; grading near Garrison Bridge has altered local drainage patterns. Confirm whether updated surface data is needed. As builts available.
Sweetwater County	Town of Wamsutter	-107.97699413 41.66905799	The Town of Wamsutter has provided a letter with evidence showing no flooding has occurred in Wamsutter. With average snowfall and rainfall there has not been flooding occurring.
Sweetwater County	Town of Wamsutter	-107.96658456, 41.67028739	River/stream; mapped flow paths show a large area with no conveyance despite being within the modeled floodplain. Please confirm intended hydraulic connectivity and whether this area is expected to convey flow under the applied loading.
Sweetwater County	Town of Wamsutter	-107.97606885, 41.66874863	River/stream; reject SST QAQC_R7_Y042_E0004_output_51 (≈172 cfs). It's a clear outlier—3–8× higher than the other six SSTs (20–50 cfs). Using it for Discovery mapping risks non representative inundation and NFIP compliance issues. Use the consistent runs instead.

Table 41. Complete list of mitigation and risk reduction comments.

County	Community	Coordinates (Lat., Long.)	Mitigation and Risk Reduction Needs and Comments
Lincoln County	Lincoln County*	-110.19195177, 42.26364624	Riverine; homes impacted; bank erosion
Lincoln County	City of Kemmerer	-110.65627545, 41.94480944	City Reservoir on Ham's Fork, and just below Viva Naughton, which is managed by the Kemmerer-Diamondville Water and Wastewater Joint Powers Board, needs to be reinforced.
Lincoln County	City of Kemmerer	-110.65537423, 41.94433064	I believe the Joint Powers Board (JPB) plans to repair the City Reservoir. We are hoping that they can get state funding, which we and they have been told is available from the State Engineer's office.
Sweetwater County	City of Rock Springs	-109.22649670, 41.59116013	Bitter Creek Restoration Project underway. https://cms3.revize.com/revize/rocksprings/Documents/Government/Mayors%20Office/Bitter%20Creek%20Reconstruction/1256142169_342285.pdf?t=20241010148200&t=202410101048200

Table 42. Training and outreach comments. Comments are from the survey conducted during the Discovery meeting, which was anonymous.

Training and Outreach Comments
Need help with ordinances and information development. Have staff capable of implementing with training and help.
Additional education would be helpful.
With current staff and resources available, I believe that with more training, our area/community will have or has the expertise.
Could use support with implementing changes to mapping and regulations, education and outreach.
Changeover in staff has led to loss of some history and understanding of roles pertaining to floodplain management.
Augmented reality to help non-technical elected officials would be helpful.

2. Town of Wamsutter Comment Letter

Town of Wamsutter
231 McCormick St
PO Box 6
Wamsutter, WY 82336-0006

Phone: 307-328-0468
Fax: 307-324-9438

From: Town of Wamsutter, Sweetwater County, WY

Re: Upper Green - Great Divide Watershed Discovery

To whom it may concern,

Please accept this letter as consideration for the reclassification of the current Risk Map for the Town of Wamsutter. During the council's regularly scheduled meeting on Feb 02, 2026, the council as a whole expressed the following to be considered for the current flood plain.

The map present on the discover page (item 1.0) shows a flood plain running through the southern side of town. Upon review, we have determined that the map shows the discharge from our lagoon to Frewen Lake (item 2.0) located off Interstate I-80 exit Rasmussen. Frewen Lake is a dry lake, as shown in item 3.0.

Wamsutter's average monthly snowfall for December is typically around **10.5 inches**, while January usually averages **4.2 inches**. The 2022-2023 season significantly exceeded these norms, contributing to what locals described as the "worst winter in decades" for the Red Desert region. During this event, the Town experienced high amounts of snow as pictured in item 4.0. The town experienced packed levels of snow, and the town did not experience any flooding. This was also not an issue with our lagoon, as the amount of water did not overflow the dikes. The Town has experienced monsoons with average rainfall of 2-3 inches. After the rainfall stops the soil aids in quick absorption, which is comprised of long sandy soil. In addition, all the water stays in the Red Desert Basin.

Item 5.0 shows Sweetwater County's historical flooding dating back to 1918, which only shows records of flooding in the Rock Springs and Green River areas.

Council member Davis has been in Wamsutter since 1998, and in his tenure here, he has not seen any flooding.

Please feel free to reach out if you have any questions or need further clarification.

Sincerely,
Mina Aguilera Chavez
Clerk/Treasurer
Mina@wamsutter-wy.org
P.307-328-0468 x1
C.307-922-3446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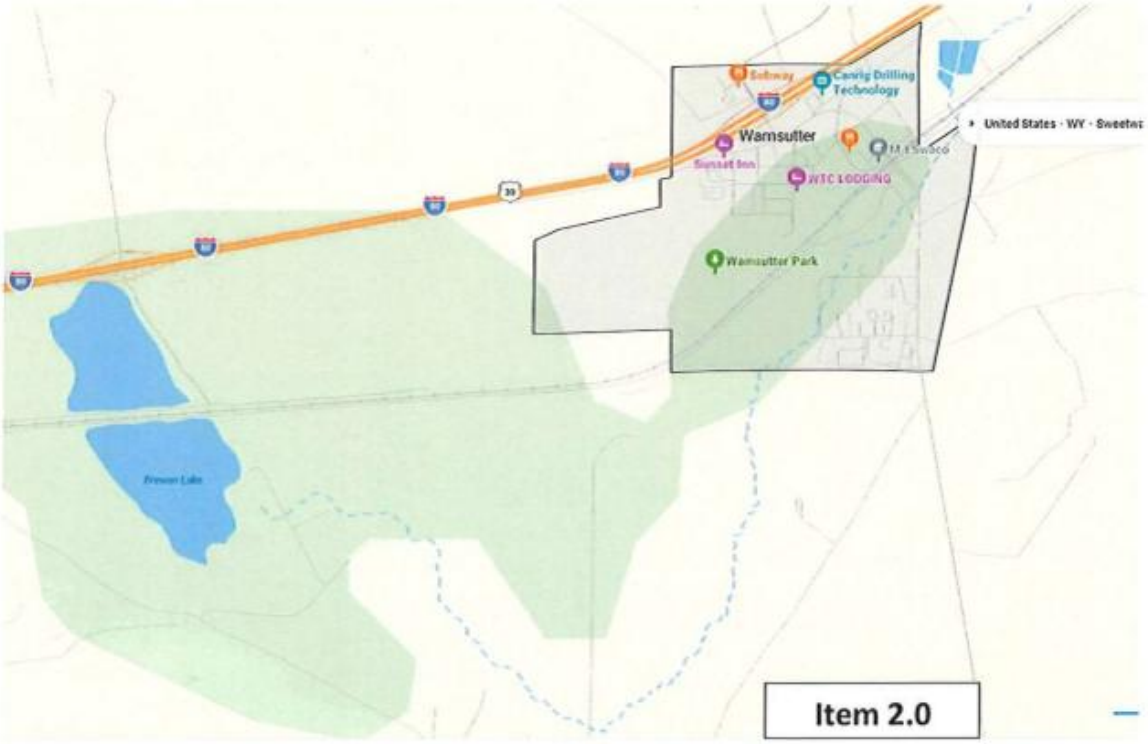
Item 1.0


Subway
Canrig Drilling Technology
Wamsutter
Sunset Inn
WTC LODGING
Wamsutter Park
Item 2.0

2

Snow drifts in Wamsutter. Photo courtesy of Raymond Wolfley

Sweetwater County Historical Floods

DAMAGING FLOODS

Location	Start Date	Information
Green River	1918	Fifty-year flood caused by overabundance of snowfall and excessive spring rain, storm sewer backup. Damage confined to street intersections and basements. Peak discharge recorded at 22,000 CFS.
Rock Springs, Bitter Creek	Apr 1924	Snowmelt lasting nearly a week destroyed bridges and severely damaged or totally destroyed large number of dwellings, driving several hundred residents from their homes.
Rock Springs, Bitter Creek	Jul 1926	An intense rainfall caused a flash flood resulting in interrupted rail and highway traffic, damaged bridges, eroded stream banks and cut communication lines
Rock Springs, Bitter Creek	Aug 1930	Intense rainfall damaged bridges, eroded stream banks, and cut communication lines.
Rock Springs, Killpecker Creek, Bitter Creek	11-Jul-1937	Heavy rain (3 inches in 24 hours) producing a flood caused 200 residents to be evacuated and destroyed roadbed and bridges. Peak discharge of Bitter Creek upstream was approximately 10,000 CFS.
Green River	1956	Heavy snowfall and excessive spring rain caused a flood resulting in limited damage to basements and street intersections.
North Platte River tributaries near Glenrock, Douglas, upper Green River, and Laramie River	1-May-1965	Widespread rainfall combined with snowmelt runoff caused a 30- to greater than 100-year flood.
Green River	1-Sep-1965	Earthen dam holding the reservoir developed a leak, and flood gates were opened to release as much water as rapidly as possible. Discharge from Reservoir was 19,100 CFS. (Calculated 100-year flood has a flow of 25,300 CFS).
Green River	1972	Runoff coupled with heavy rains caused a flood in Green River. The river was running at 19,100 cuffs
Rock Springs-Green River area	4-Jul-1975	Torrential rains caused severe flooding in parts of Rock Springs; damage was especially heavy in the northern part of the city. Several businesses in downtown Rock Springs reported damage from water and mud. Some hail attended the storm.
Rock Springs	24-Jul-1982	A thunderstorm dumped over 2 inches of rain on the city causing local flooding of some streets and a few basements.
Rock Springs	12-Jul-1989	Weak upper-level southerly flow, very moist tropical air and an upper-level disturbance caused a slow-moving torrential rain-producing thunderstorm to hit Rock Springs on the late afternoon and early evening. The heaviest precipitation occurred just south of the town. The Rock Springs airport recorded 0.88 inches of rain along with wind gusts up to 52 mph. Dime-sized hail covered the ground to 1.5 feet deep 5 miles south of the community. As a result of Rock Springs being low relative to the terrain to their south, a tremendous surge of water and mud, up to 3 to 4 feet deep, invaded the town between 1700 MST and 1830 MST. This surge came northward into the south part of Rock Springs by way of Dead Horse Canyon Creek. The water and mud rapidly inundated the downtown section of the community. The result was catastrophic losses to homes, businesses and cars. Automobiles were washed down streets onto lawns, and basements flooded. Not including costs associated with automobiles, a preliminary total damage figure of more than $1.5 million was given by county and city officials. Rock Springs is located on a 100 year flood plain. At 1815 MST, a storm-related death occurred to a conductor who was on a westbound, Union Pacific Railroad engine cab that struck a stationary, empty rail car. The combination of the flooding waters and strong winds caused the empty rail car to lean over to the railroad tracks that the engine cab was traveling on. A brakeman was also injured in the accident. M34V.
Rock Springs	20-Aug-1991	
Dead Horse Canyon, Rock Springs	22-Aug-1995	Thunderstorms produced heavy rain in Dead Horse Canyon. The rainfall caused minor flooding in Rock Springs. In addition, lightning from the thunderstorms knocked out power to a part of Rock Springs, including the airport, for 2.5 hours.
Rock Springs	12-Sep-1998	Primarily western sections of Rock Springs. Water reported to be 4 to 5 feet deep in some areas. Estimated rainfall of 1 to 2 inches in less than an hour over a small area, caused by slow-moving, intense thunderstorms.

NON-DAMAGING FLOODS

Green River	1-Jun-1991	A series of thunderstorms moving through southern Wyoming brought funnel clouds to 3 miles north of Cheyenne at 1710 MST. At 1720 MST, 0.75-inch hail was reported 4 miles southeast of Cheyenne. Near 1800 MST, street flooding was reported at Green River, and Laramie reported heavy rain and 1.00-inch hail at 1830 MST. Hail up to 1.00 inch in diameter was reported 2 miles north of Cheyenne at 1830 MST.
Rock Springs	2-Jun-1991	An early afternoon heavy rain brought flooding to the streets of Rock Springs at 1600 MST.
Rock Springs/Green River	19-Jun-1998	Minor flooding reported on the Blacks Fork at Granger.

Item 5.0

http://www.wrds.uwyo.edu

http://wyohomelandsecurity.state.wy.us

FEMA

http://www.fema.gov

3. Comment Distribution

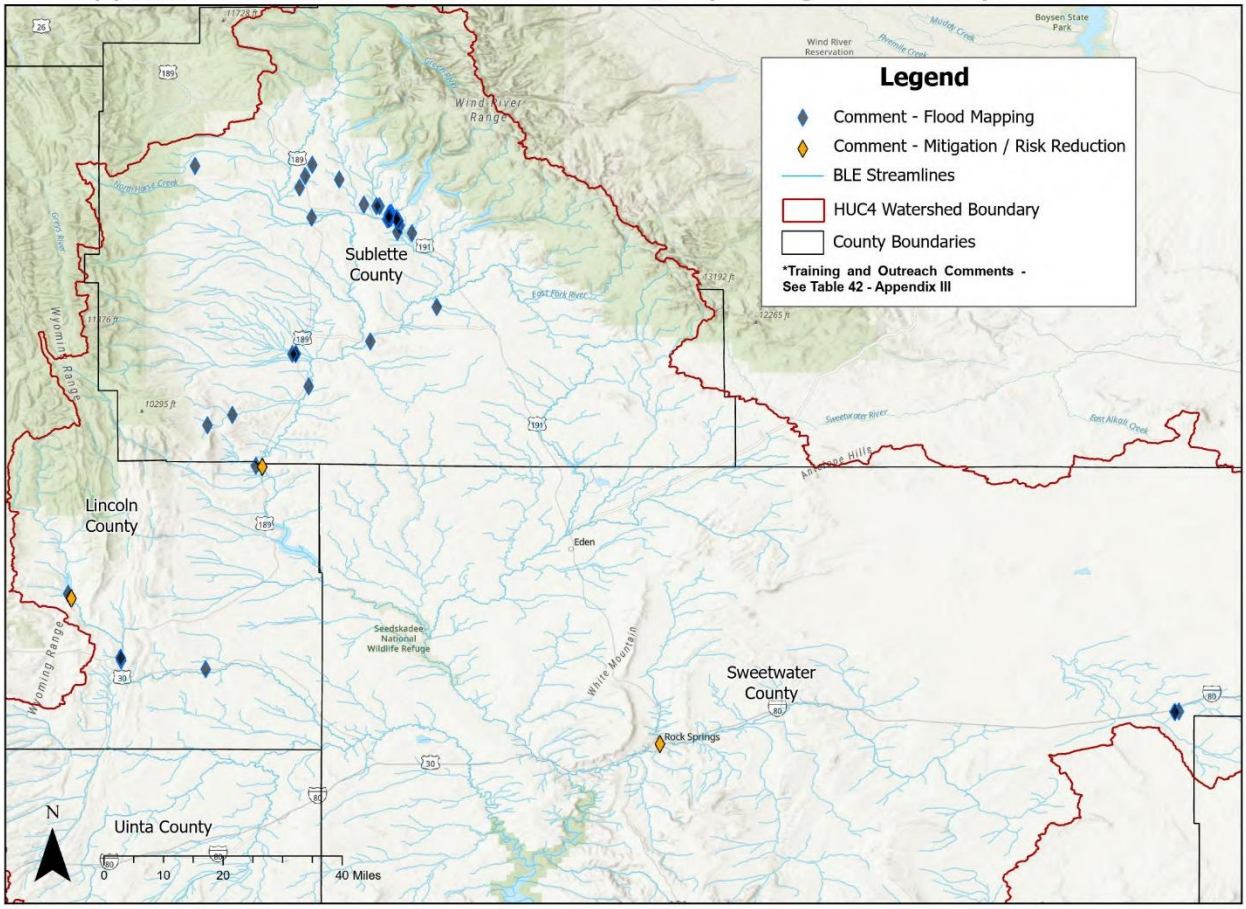


Figure 32. Distribution of locations noted in Discovery comments.

Appendix IV: Acronyms and Abbreviations

2D	Two-Dimensional
AOMI	Area of Mitigation Interest
BAI	Best Available Information
BLE	Base Level Engineering
BLM	Bureau of Land Management
CAC	Community Assistance Contact
CAV	Community Assistance Visit
CEO	Chief Executive Officer
CID	Community Identification Number
CLOMR	Conditional Letter of Map Revision
CNMS	Coordinated Needs Management Strategy
FEIMS	FEMA Enterprise Identity Management System
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIMA	Federal Insurance and Mitigation Administration
FIS	Flood Insurance Study
FIPS	Federal Information Processing Standard
FPA	Floodplain Administrator
FY	Fiscal Year
GIS	Geographic Information System
HEC-HMS	Hydrologic Engineering Center Hydrologic Modeling System
HEC-RAS	Hydrologic Engineering Center River Analysis System
H&H	Hydrology and Hydraulics
HHPD	High Hazard Potential Dam
HMGP	Hazard Mitigation Grant Program
HMGP-PF	Hazard Mitigation Grant Program Post-Fire
HMP	Hazard Mitigation Plan
HUC	Hydrologic Unit Code
JPB	Joint Powers Board
LOMA	Letter of Map Amendment

LOMC	Letter of Map Change
LOMR	Letter of Map Revision
LOMR-F	Letter of Map Revision based on Fill
MSC	Map Service Center
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NRMP	Natural Resource Management Plan
PDT	Project Delivery Team
Risk MAP	Risk Mapping, Assessment, and Planning
SFHA	Special Flood Hazard Area
SST	Stochastic Storm Transposition
STARR II	Strategic Alliance for Risk Reduction
TIGER	Topologically Integrated Geographic Encoding and Referencing
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WSEL	Water Surface Elevation
WSPRO	Water-Surface Profile
WY	Wyoming
XS	Cross-Section

Appendix V: Glossary of Terms

1-Percent Annual Chance Flood: The flood having a 1-percent chance of being equaled or exceeded in any given year. This is the regulatory standard also referred to as the "100-year flood" or "base flood". The base flood is the national standard used by the National Flood Insurance Program (NFIP) and all Federal agencies for the purposes of requiring the purchase of flood insurance and regulating new development. Base Flood Elevations (BFEs) are typically shown on Flood Insurance Rate Maps (FIRMs). (FEMA)

Approximate Study: Areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no BFEs or flood depths are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply. An approximate study is represented on a FIRM as Zone A. (FEMA)

Average Annualized Loss (AAL): AAL is the estimated long-term value of losses to the general building stock averaged on an annual basis for a specific hazard type. Annualized loss considers all future losses for a specific hazard type resulting from possible hazard events with different magnitudes and return periods averaged on a "per year" basis. Like other loss estimates, AAL is an estimate based on available data and models. Therefore, the actual loss in any given year can be substantially higher or lower than the estimated annualized loss. (FEMA)

Base Flood Elevation (BFE): The computed elevation to which floodwater is anticipated to rise during the base flood. BFEs are shown on FIRMs and on the Flood Profiles in the FIS report. The BFE is a regulatory requirement for the elevation or flood proofing of structures. The relationship between the BFE and a structure's elevation determines the flood insurance premium. (FEMA)

Base Level Engineering (BLE): A watershed-wide engineering modeling method that uses high-resolution ground topography, automated model building techniques, and manual model review. BLE allows an engineer to perform large-scale modeling at a fraction of the effort. BLE provides modeling needed to assess unknown and unverified flood hazard areas. (FEMA)

BLE Option Level: A categorization of a BLE model that defines its scope and methodology and corresponds to its level of refinement. Option Levels range from A to E, with Option A being the least refined and Option E being the most refined. BLE models must be Option C or better to upgrade them to regulatory status. (STARR II)

Coordinated Needs Management Strategy (CNMS): A FEMA Geographic Information System (GIS) tool that identifies and tracks the lifecycle of mapping requests and needs for the flood hazard mapping program. (FEMA)

Dam: An artificial barrier that has the ability to impound water, wastewater, or any liquid-borne material, for the purpose of storage or control of water. (Federal Energy Regulatory Commission)

Declared Disaster: Local and state governments share the responsibility for protecting their citizens and for helping them recover after a disaster strikes. In some cases, disasters are beyond the capabilities of local, state, and tribal governments. In 1988, the Stafford Act was enacted to support

local, state, and tribal governments and their citizens when disasters overwhelm and exhaust their resources. This law, as amended, established the process for requesting and obtaining a Presidential Emergency or Disaster Declaration, defined the type and scope of assistance available from the Federal Government, and set the conditions for obtaining assistance. Steps for a Disaster Declaration include: (1) Local government responds, supplemented by neighboring communities and volunteer agencies. (2) If the local government is overwhelmed, the State responds, (3) Damage assessments are completed to determine total losses and recovery needs, (4) Disaster Declaration is requested by the governor of the state or by a tribal Chief Executive Officer (CEO), (5) Based on damage assessments, FEMA evaluates the request, and then (6) the President approves or denies the request. (FEMA)

Detailed Study: A flood hazard mapping study done using hydrologic and hydraulic methods that produce BFEs, floodways, and other pertinent flood data. Detailed study areas are shown on the FIRM as Zones AE, AH, AO, AR, A99, A1-A30, and in coastal areas Zones V, VE, and V1-30. (FEMA)

Flood Insurance Rate Map (FIRM): The official map of a community on which FEMA has delineated both the special hazard areas and the risk premium zones applicable to the community. (FEMA)

Flood Insurance Study (FIS): A compilation and presentation of flood risk data for specific watercourses, lakes, and coastal flood hazard areas within a community. When a flood study is completed for the NFIP, the information and maps are assembled into an FIS. The FIS report contains detailed flood elevation data depicted in flood profiles and tables. (FEMA)

Hazard Mitigation Grant Program (HMGP): The HMGP provides grants to states or tribes and local governments (as sub-grantees) to implement long-term hazard mitigation measures after a major disaster declaration. Each state or tribe (if applicable) administers the HMGP in its jurisdiction. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Individual homeowners and businesses may not apply directly to the program; however, an eligible applicant or sub-applicant may apply on their behalf. (FEMA)

HUC (Hydrologic Unit Code): The United States Geological Survey (USGS) divides and subdivides the area of the United States into successively smaller hydrologic units, which are classified into four levels: regions, sub-regions, accounting units, and cataloging units. The hydrologic units are arranged or nested within each other, from the largest geographic area (regions) to the smallest geographic area (cataloging units). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to eight digits based on the four levels of classification in the hydrologic unit system. (USGS)

Hydraulics: The science that deals with fluids in motion and is used to determine how a quantity of water will flow through a channel or floodplain. For purposes of floodplain analysis, hydraulics is the study of floodwaters moving through the stream and the floodplain. (FEMA)

Hydrology: The science that encompasses the occurrence, distribution, movement, and properties of the waters of the earth and their relationship to the environment within each phase of the hydrologic cycle. The water cycle or hydrologic cycle, is a continuous process by which water is purified by evaporation and transported from the earth's surface (including the oceans) to the atmosphere and back to the land and oceans. (USGS)

Letter of Map Amendment (LOMA): A LOMA is an official amendment, by letter, to an effective NFIP map. A LOMA establishes a structure and/or property's location in relation to the Special Flood Hazard Area (SFHA). LOMAs are usually issued because a structure and/or property has been inadvertently identified as being in the floodplain but is on natural high ground above the BFE or outside of the mapped floodplain as shown on the FIRM. Because a LOMA officially amends the effective NFIP map, it is a public record that the community must maintain. Any LOMA should be noted on the community's master flood map and filed by FIRM panel number in an accessible location. (FEMA)

Letter of Map Change (LOMC): A general term used to refer to the several types of revisions and amendments to FEMA maps that can be accomplished by letter. They include LOMAs, Letters of Map Revision (LOMRs), and Letters of Map Revision based on Fill (LOMR-Fs). (FEMA)

Letter of Map Revision (LOMR): FEMA's modification to an effective FIRM. LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective BFEs, and/or the SFHA. The LOMR officially revises the FIRM and associated tables/Flood Profiles as applicable in the FIS report. (FEMA)

Letter of Map Revision Based on Fill (LOMR-F): A LOMR-F is FEMA's modification of the SFHA shown on the FIRM based on the placement of fill outside the existing regulatory floodway. (FEMA)

Levee: A man-made structure designed to contain or control the flow of water. Levees are constructed from earth, compacted soil, or artificial materials, such as concrete or steel. To protect against erosion and scouring, earthen levees can be covered with grass and gravel or hard surfaces like stone, asphalt, or concrete. (FEMA)

Mitigation: Any cost-effective action taken to eliminate or reduce the long-term risk to life and property from natural and technological hazards, including, but not limited to, flooding. Flood mitigation measures include elevation, flood proofing, relocation, demolition, or any combination thereof. (FEMA)

Repetitive Loss (RL) Property: An RL property is any insurable building for which two or more claims of more than $1,000 were paid by the NFIP within any rolling ten-year period since 1978. An RL property may or may not be currently insured by the NFIP. (FEMA)

Risk Mapping, Assessment, and Planning (Risk MAP) Program: The FEMA program that provides communities with flood risk information and tools to support mitigation planning and risk reduction actions. (FEMA)

Special Flood Hazard Area (SFHA): SFHAs are high-risk areas subject to inundation by the base (1-percent-annual-chance) flood; they are also referred to as 1-percent-annual-chance floodplains, base floodplains, or 100-year floodplains. (FEMA)

Stakeholder: An individual or group that has an interest in a decision or proposed action. A stakeholder may have none, one, or more of the following roles: has authority or decision-making power over some aspect of the project, is affected by the outcome of the project, will be a part of implementing the project, and/or can stop or delay the project (through litigation or other means). A project may have multiple stakeholders, and these stakeholders often have conflicting interests and want competing outcomes. (FEMA)

Watershed: A watershed is a basin-like landform defined by highpoints and ridgelines that descend into lower elevations and stream valleys. A watershed carries water from the land after rain falls and snow melts. Drop by drop, water is channeled into soils, aquifers, creeks, and streams, making its way to larger rivers and eventually the sea. (Watershed Atlas)

Appendix VI: Endnotes

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