



Floodplain Mapping Update Madison-Jefferson-Ruby River Watersheds

July 19th & 20th 2023 – Madison
County, Ennis, Sheridan, Twin
Bridges

Meeting Overview

- Floodplain maps
 - What are they/how are they used
 - Existing maps
- Mapping Update
- Preliminary Maps
- Next Steps
- One on One station discussions



Project Partners



Town of Twin
Bridges - Montana



MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION (DNRC)



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MT National Flood Insurance Program Coordinator

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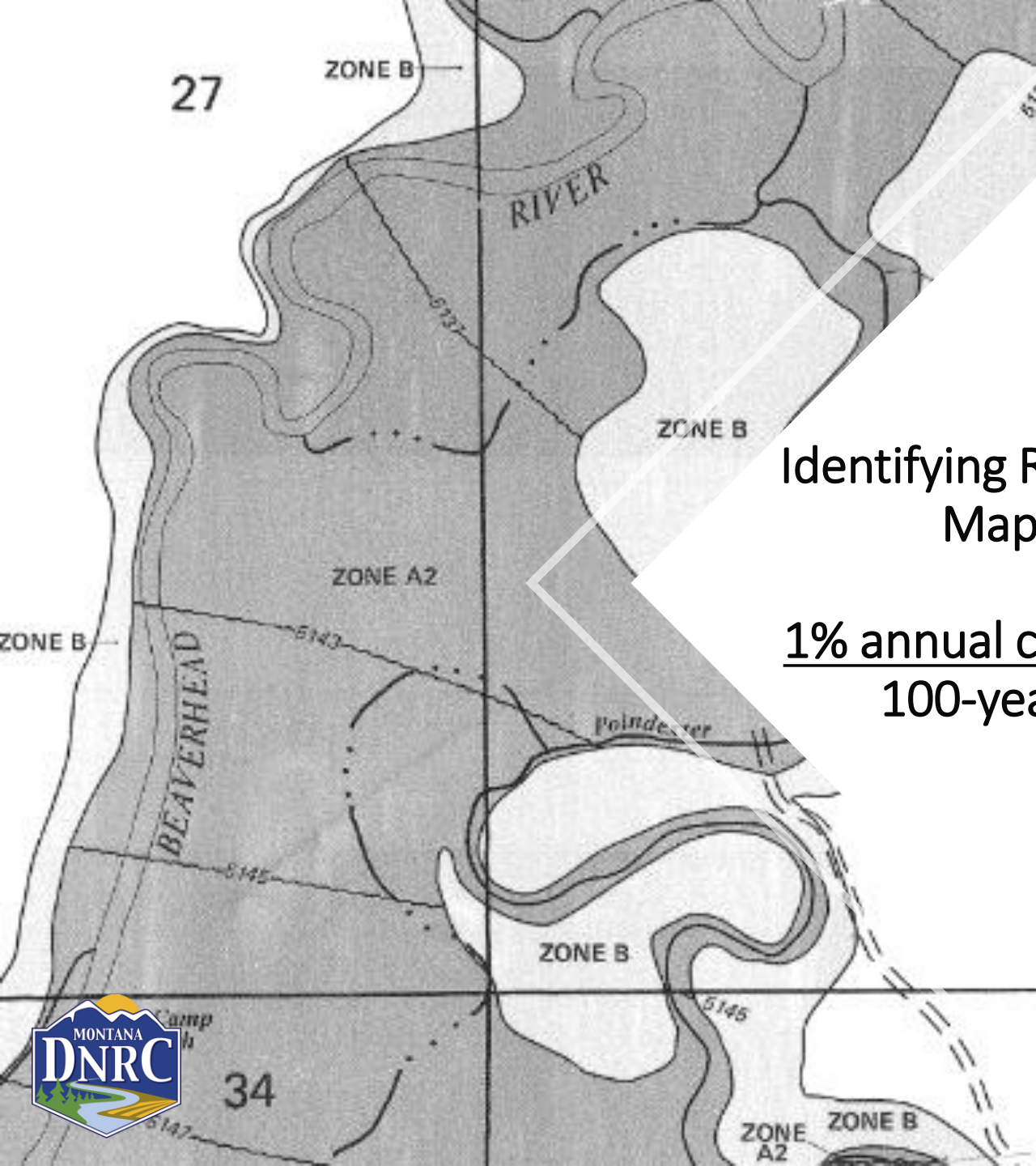
FEMA

FEMA

Thuy Hong-Patton

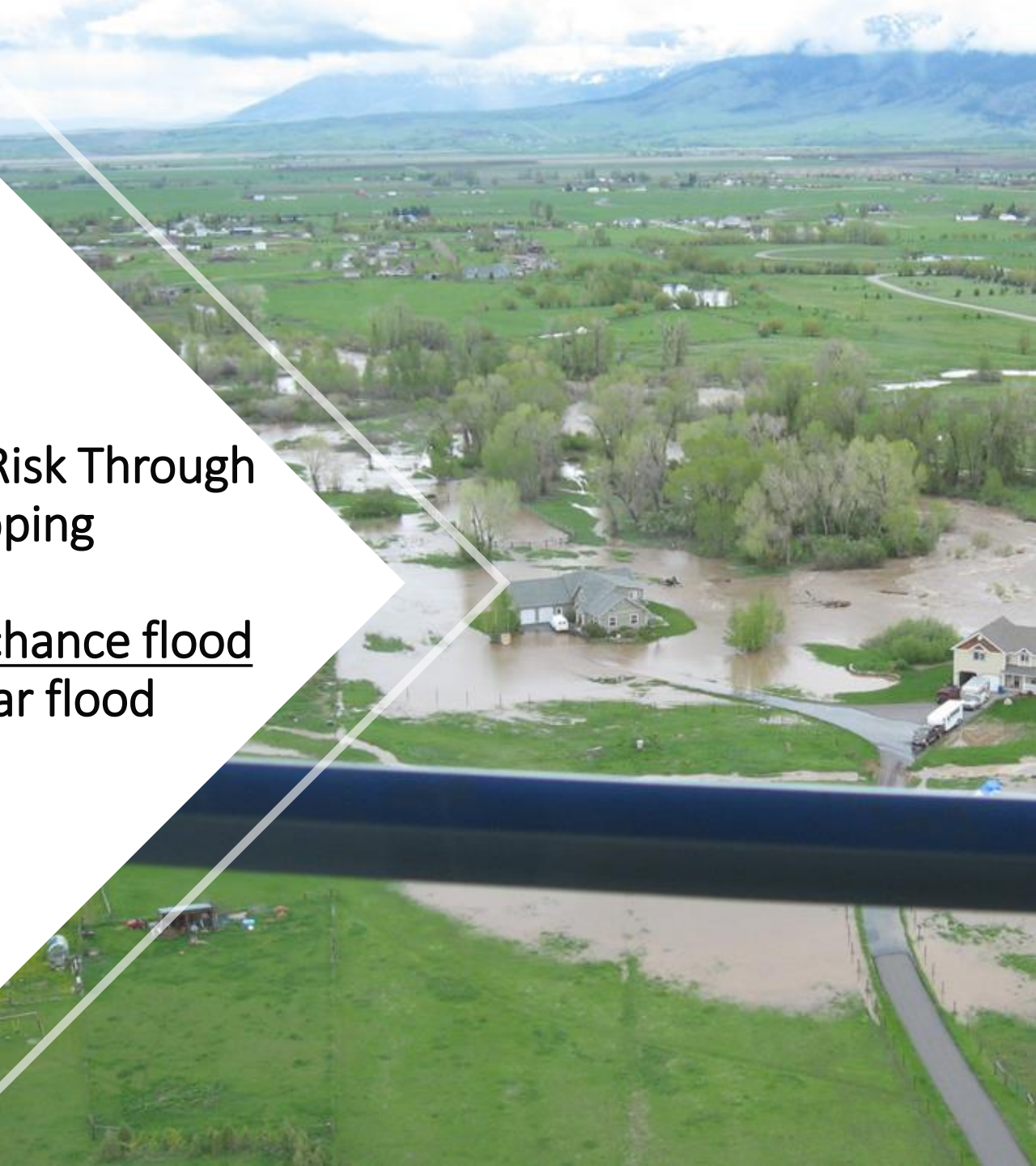
Program Manager





Identifying Risk Through Mapping

1% annual chance flood
100-year flood



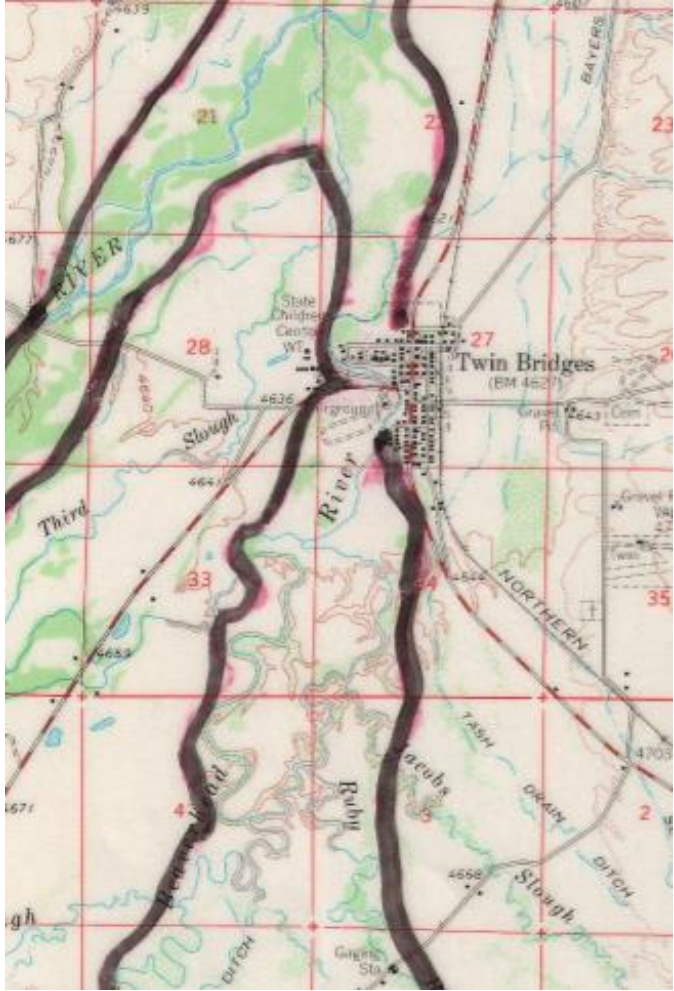
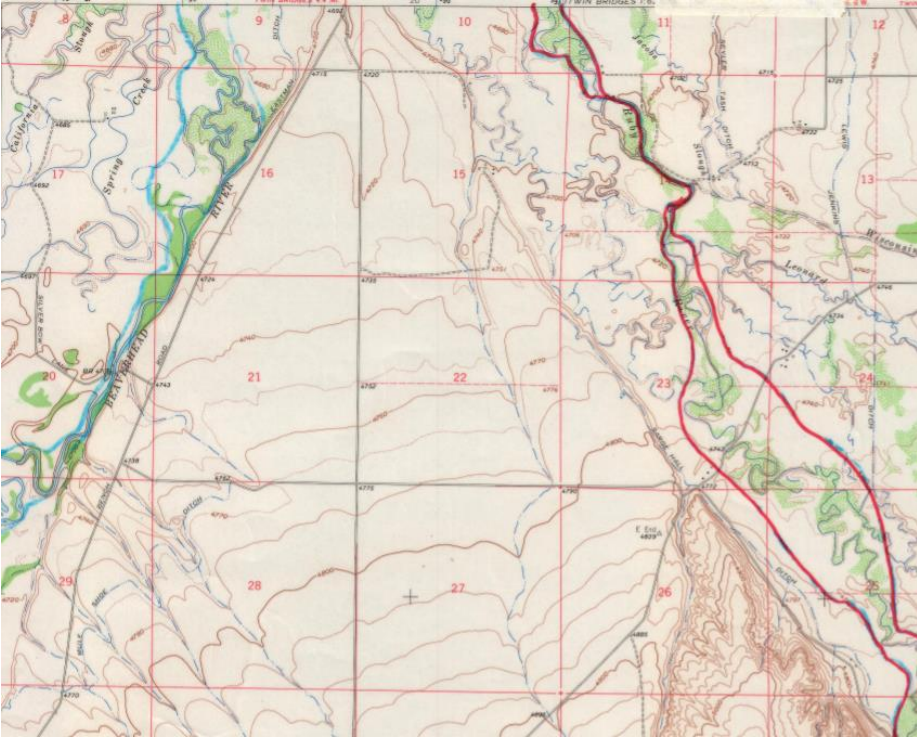
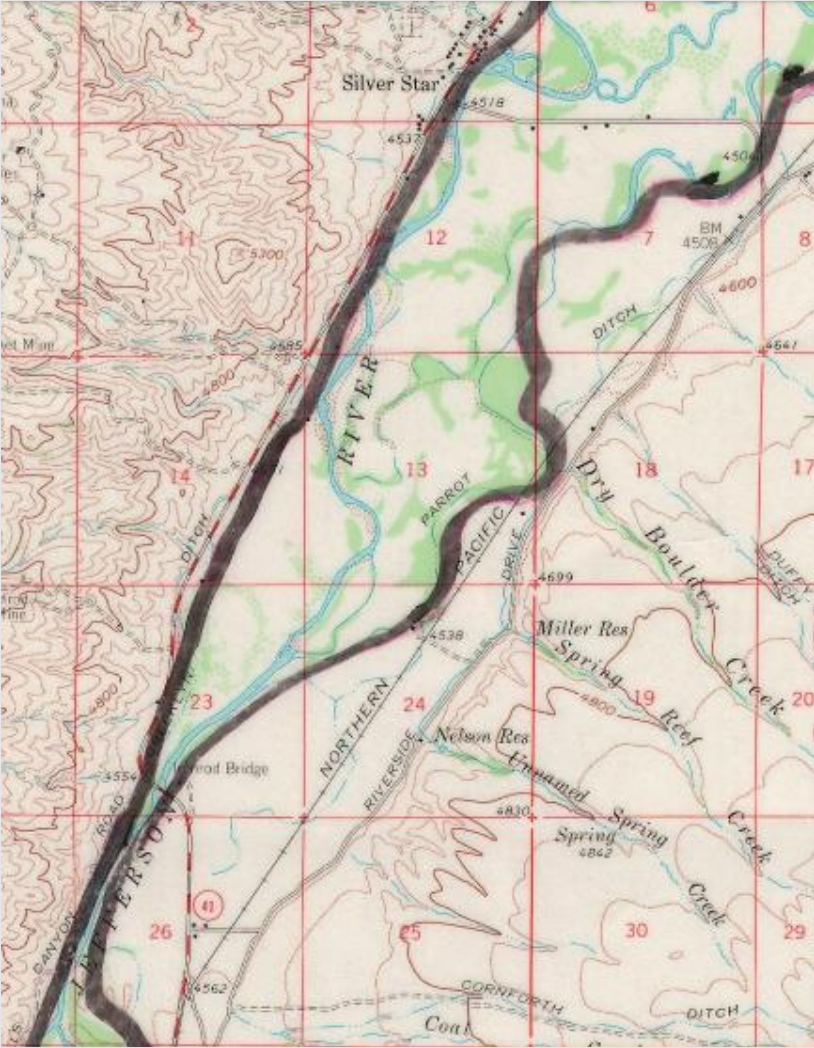
FEMA Flood Insurance Rate Maps

- Indicate areas of flood risk
- Used for various purposes
 - Local floodplain regulations
 - Local planning/sanitation decisions
 - Local emergency planning
 - Mortgage lenders
 - Flood insurance premiums
- Need periodic updating

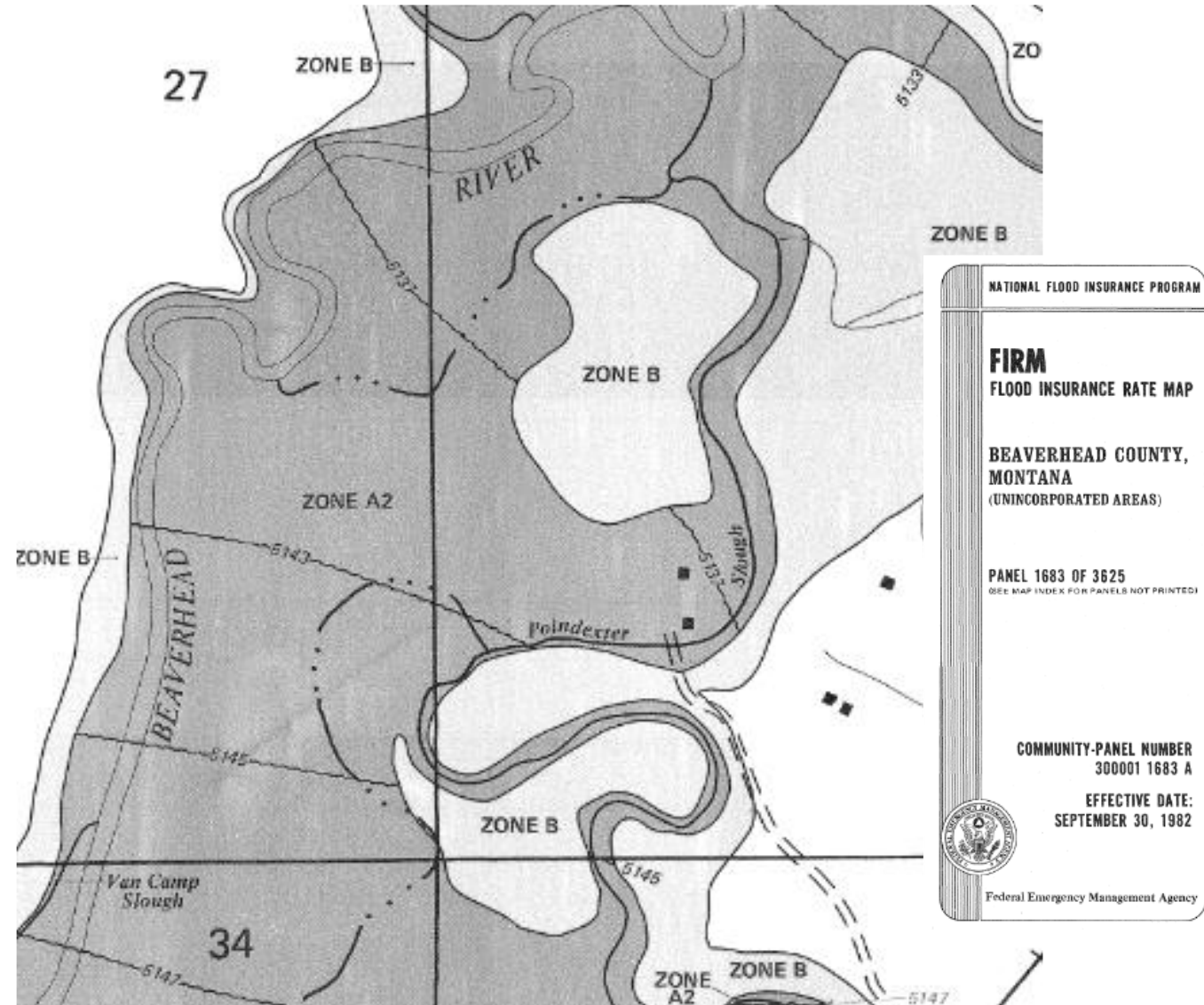


Floodplain Maps

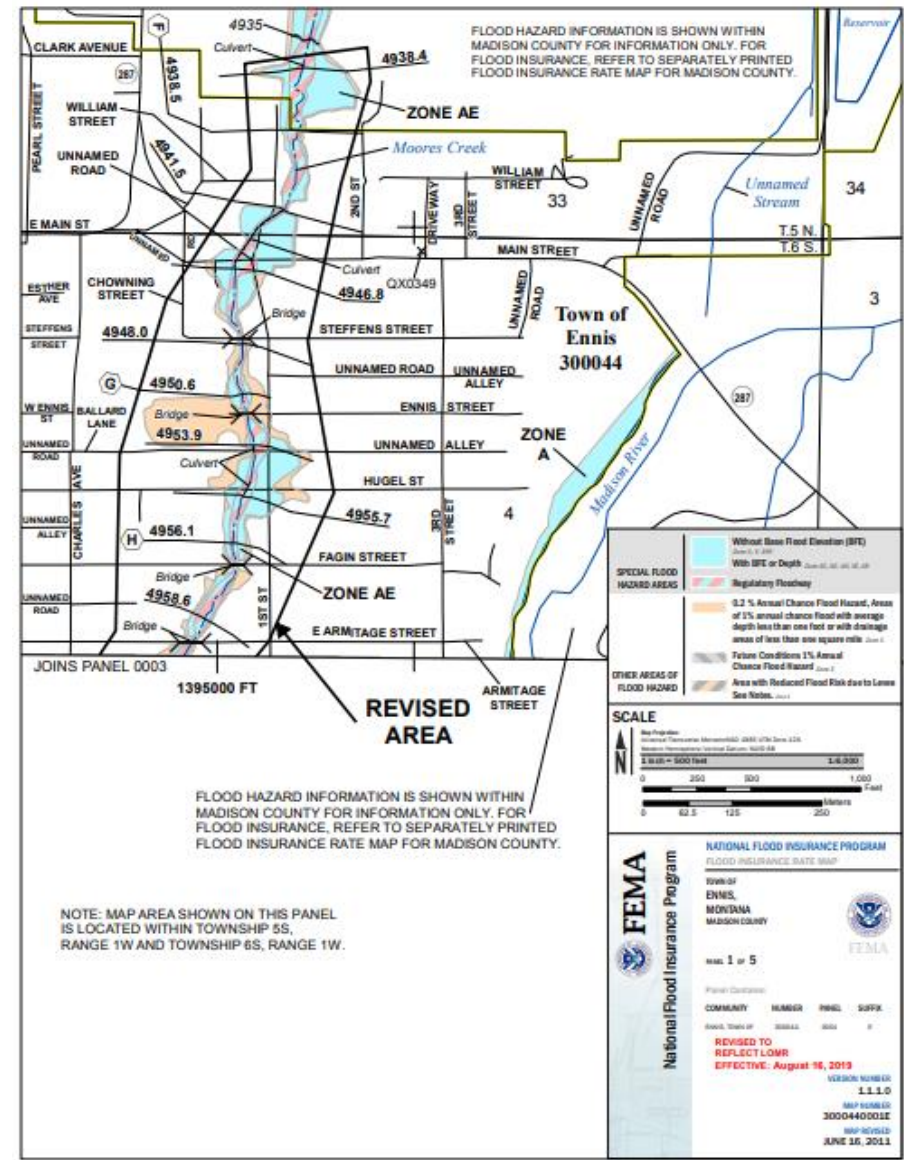
FLOOD PRONE AREAS
MARCH 10, 1997



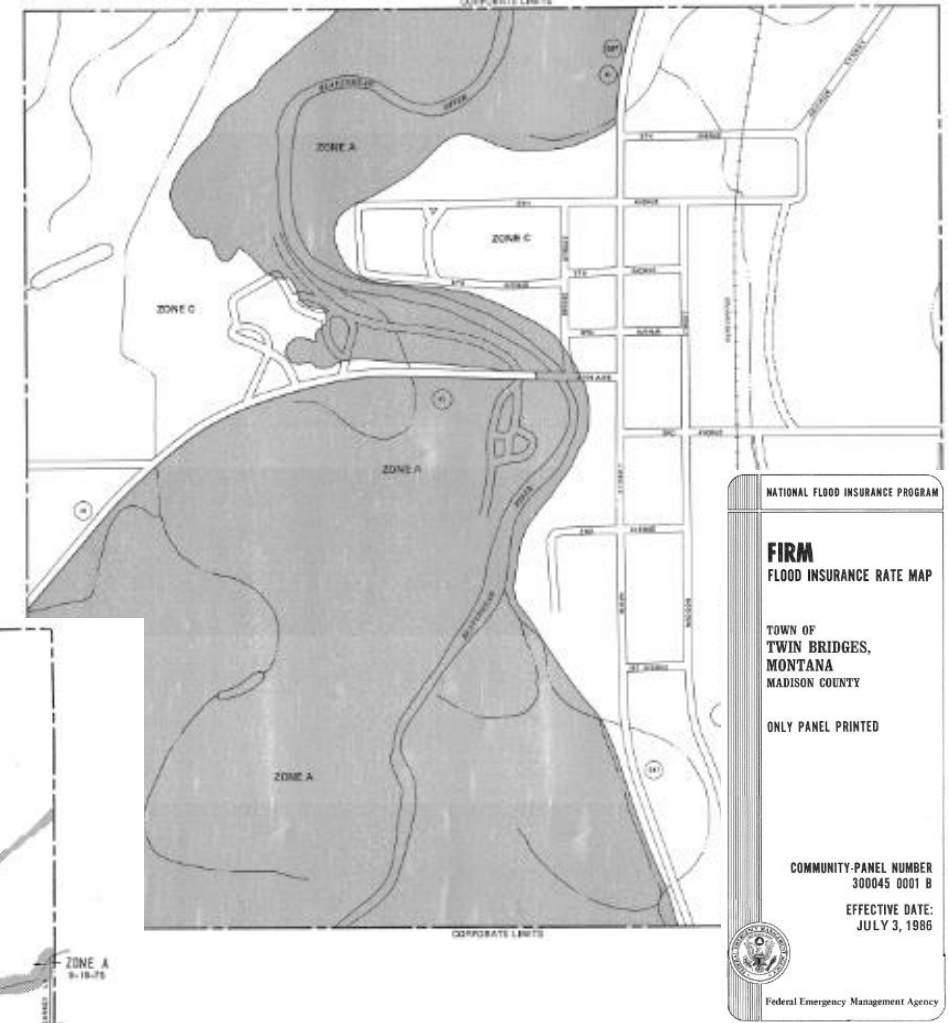
FEMA Flood Insurance Rate Maps



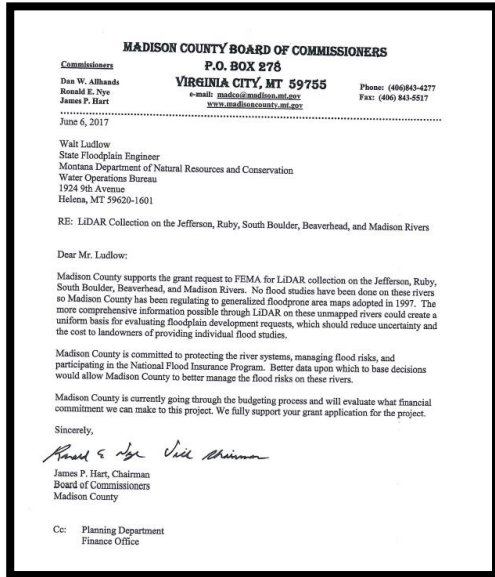
FEMA Flood Insurance Rate Maps



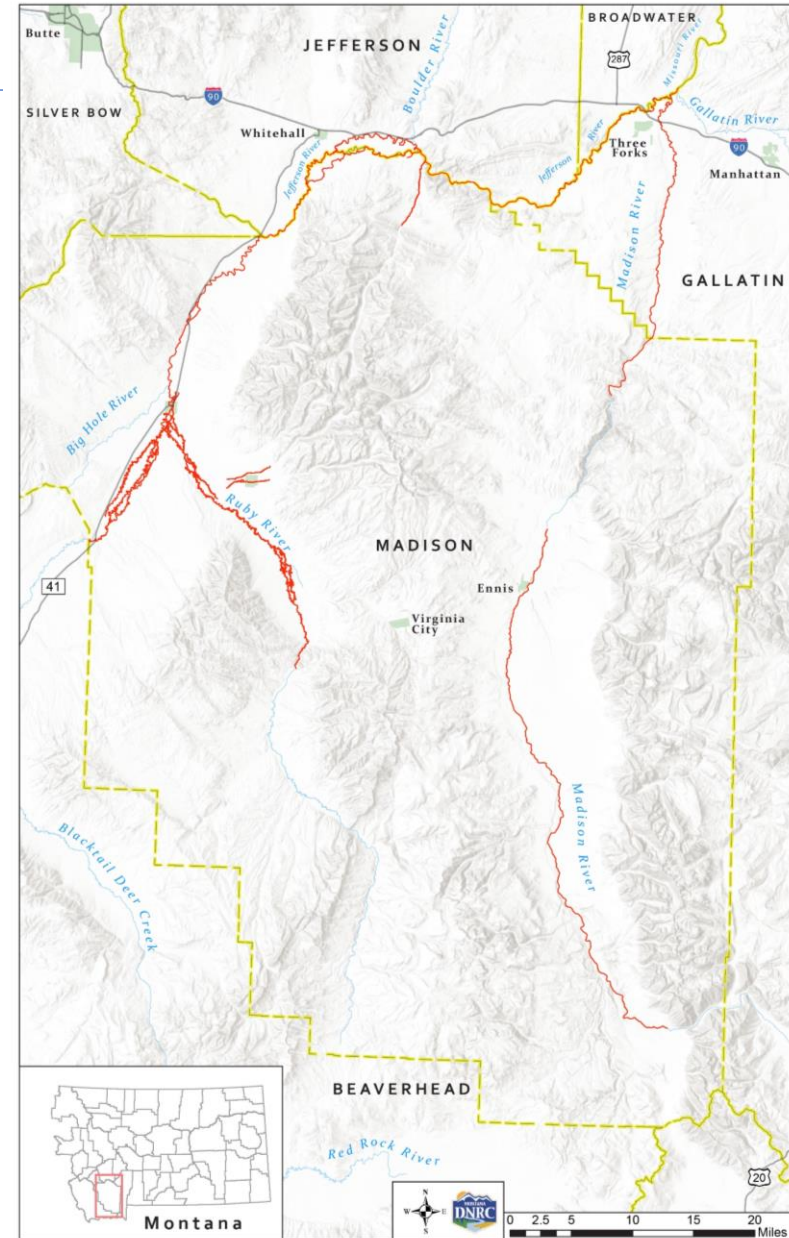
Sheridan - 1974

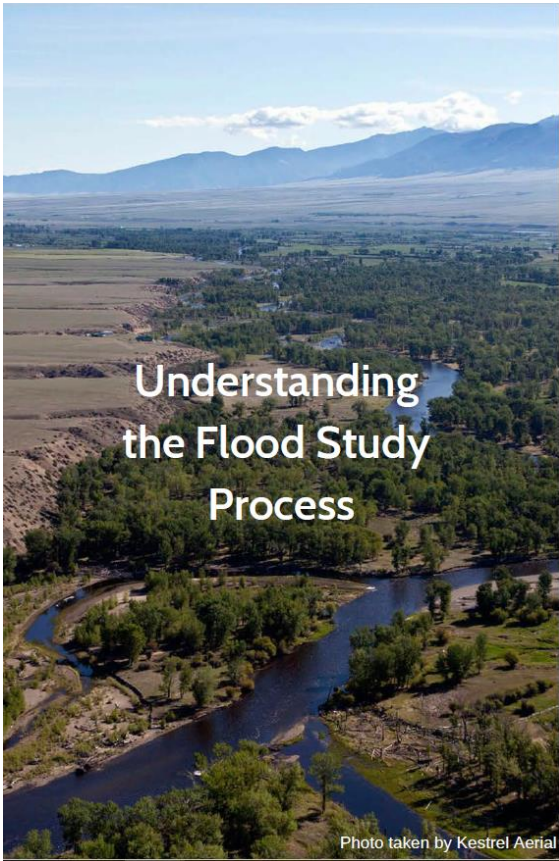


Updated Flood Studies Madison-Ruby-Jefferson River Watersheds



- Fall 2017** – Phase I grant
- Fall 2018** – Phase II grant
- Fall 2020**- Draft Data completed
- Winter 2021**- Public Open House Meeting
- March 2023**- Preliminary Maps





Flood Study Steps

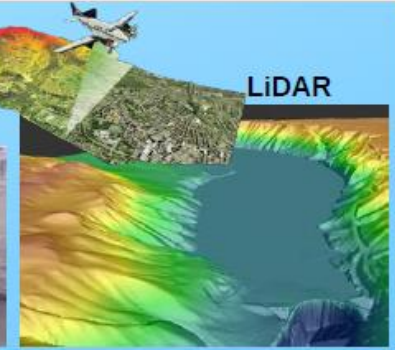
Step 1 - Survey: measurements are made of the topography around the river, along with any culverts, bridges, and road crossings. LiDAR uses an airplane to collect ground elevation over a large area, and ground survey supplements the airborne data.

Step 2 - Hydrology: determines how much water there will be in the river during a flood event. Data from stream gages will tell how many cubic feet of water per second the river will carry during the flood.

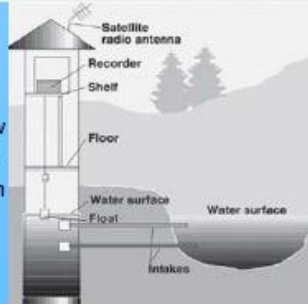
Step 3 - Hydraulics: once the first two steps are complete, calculations can show where the water will go during the flood. The elevation data is combined with the flood flow data to determine where the water will go when it overflows the channel.

Step 4 - Mapping (delineation): the results from step 3 are combined with the elevation data and official maps to see how far the water will spread out. The area shown to be underwater during the flood is the regulatory floodplain.

Step 1 - Survey: The type of the survey depends on the size of the study area and type of study.

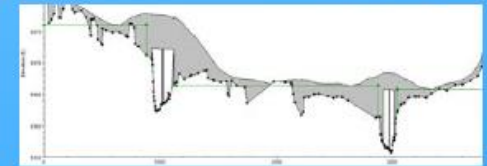
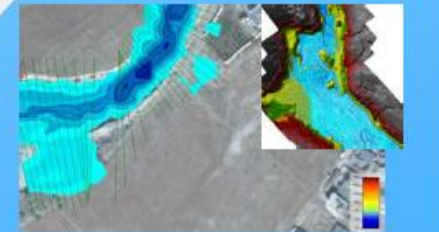


Step 2 - Hydrology: Stream gage stations are an important tool to determine flow rates. If nearby stream gages aren't available, gage data from a similar location is used to determine the flow rate.



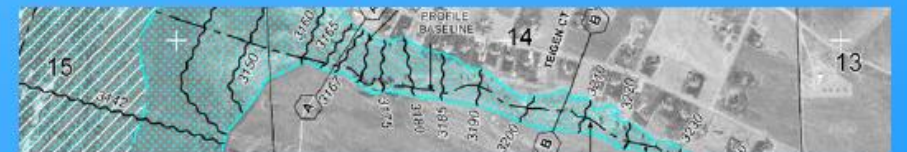
Step 3 - Hydraulics:

- 5 main components to the model
- 1) Hydrology (stream flow data)
 - 2) Cross Sections (measurements of the river bottom at key locations)
 - 3) Roughness (thickness of vegetation, land cover, etc determined by surveyors)
 - 4) Structures (road crossings, culverts, bridges, etc.)
 - 5) Downstream conditions

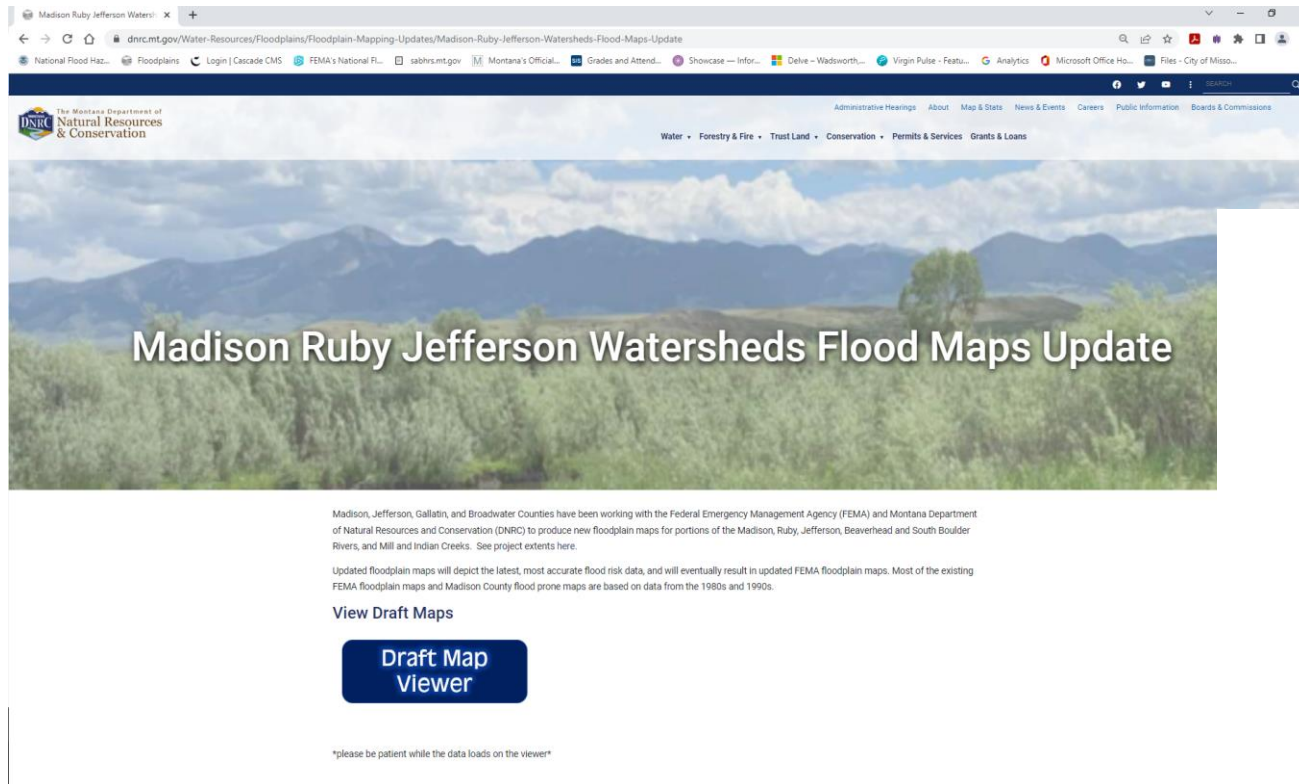


Step 4 - Mapping (delineation):

The result will be the floodplain boundary and a depth grid identifying the shallower and deeper areas of flooding.



Project Website



please be patient while the data loads on the viewer

Draft maps and studies need to go through a lengthy technical and public review process. When finalized, new maps could have effects on some property owners in mapped 100-year floodplains. Click on your county below to learn about the floodplain designations referenced on the maps, community meetings, and other information:

Public Open House Meetings:

- March 9, 2021 | **Madison River** | [view slides](#) [view video recording](#)
- March 10, 2021 | **Jefferson River & S. Boulder R.** | [view slides](#) [view video recording](#)
- March 11, 2021 | **Ruby & Beaverhead Rivers, Sheridan & Twin Bridges** | [view slides](#) [view video recording](#)

Madison, Jefferson, Gallatin, and Broadwater Counties and Montana DNRC hosted virtual public open house meetings about the draft floodplain maps on March 9, 10, and 11, 2021.

Gallatin County and the City of Three Forks

Madison County and the Towns of Ennis, Twin Bridges, and Sheridan

- 100-Year Floodplain (1% Annual Chance Flood)
- Floodway Area (within a 100-Year Floodplain)
- 500 Year Floodplain

For more information please contact your local floodplain administrator.

Madison County

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Kristy Harper
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Town of Ennis & Town of Twin Bridges

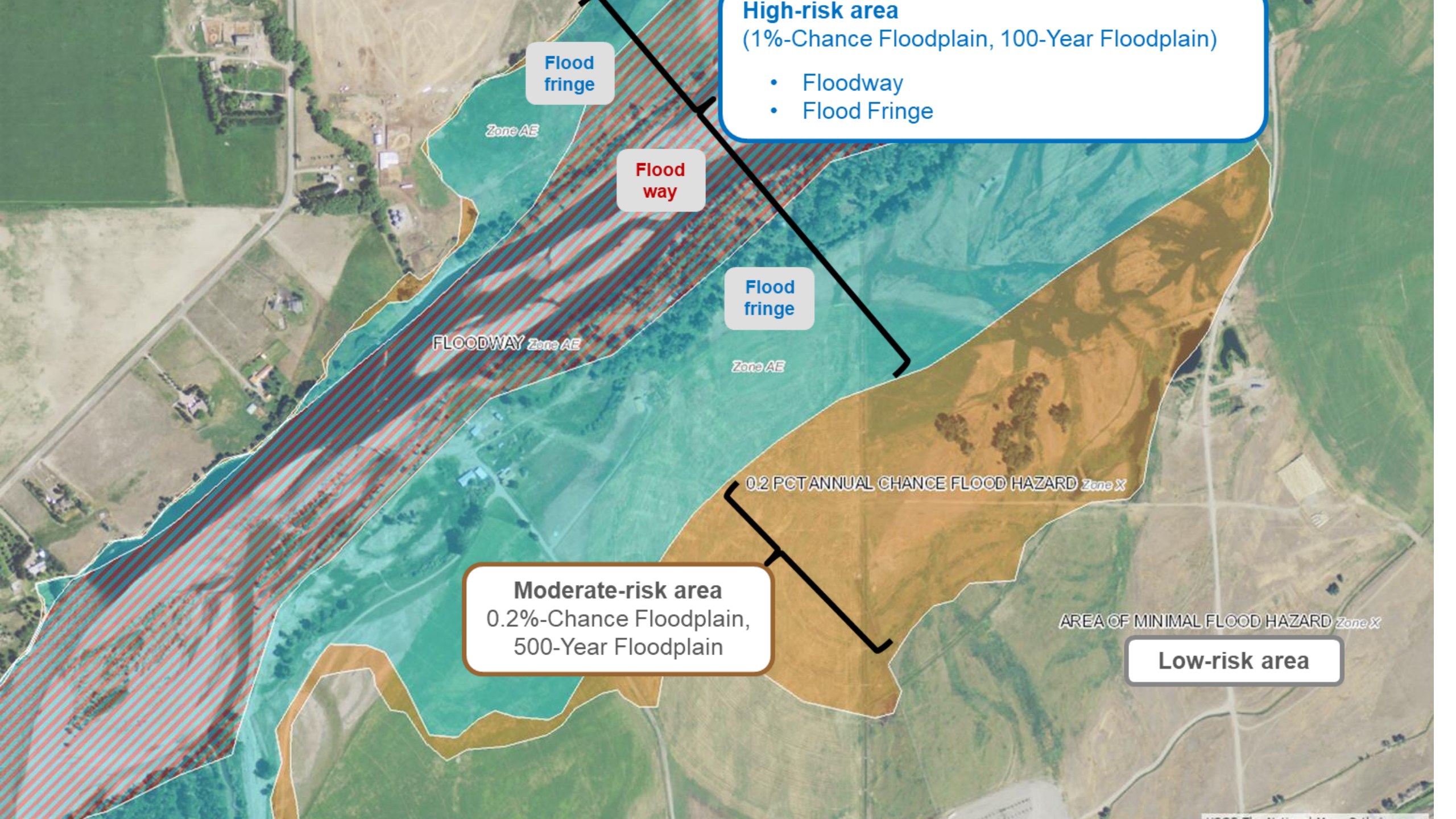
Jonathan Weaver
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Town of Sheridan

Town offices



<https://dnrc.mt.gov/Water-Resources/Floodplains/Floodplain-Mapping-Updates/Madison-Ruby-Jefferson-Watersheds-Flood-Maps-Update>



High-risk area
(1%-Chance Floodplain, 100-Year Floodplain)

- Floodway
- Flood Fringe

Flood fringe

Flood way

Flood fringe

Moderate-risk area
0.2%-Chance Floodplain,
500-Year Floodplain

Low-risk area

Zone AE

FLOODWAY Zone AE

Zone AE

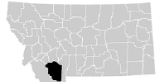
0.2 PCT ANNUAL CHANCE FLOOD HAZARD Zone X

AREA OF MINIMAL FLOOD HAZARD Zone X

Preliminary FEMA Floodplain Maps & Study

FLOOD INSURANCE STUDY FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 5



MADISON COUNTY, MONTANA

AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
ENNIS, TOWN OF	300044
MADISON COUNTY UNINCORPORATED AREAS	300043
SHERIDAN, TOWN OF	300126
TWIN BRIDGES, TOWN OF	300045
VIRGINIA CITY, TOWN OF*	300195

* No Special Flood Hazard Areas Identified



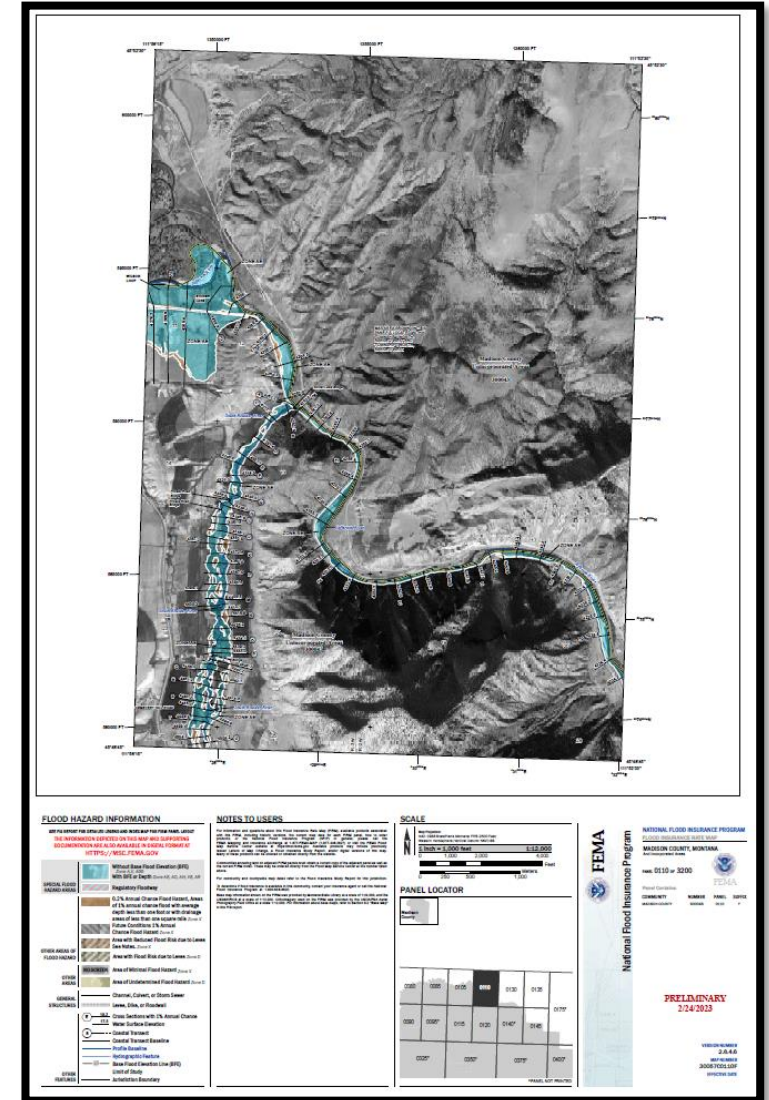
PRELIMINARY
02/24/2023

EFFECTIVE:
TBD

FLOOD INSURANCE STUDY NUMBER
30057CV001A
Version Number 2.6.4.6

Preliminary Flood Insurance Rate Maps and Study:

- 100-year Floodplain (1% annual chance)
- Floodway (within 100 year floodplain)
- 500-year Floodplain (0.2% annual chance)
- Flood Elevations **4973.2**



Project Viewer

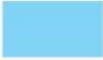




Madison-Ruby-Jefferson Watersheds and Jefferson County Floodplain Mapping Update

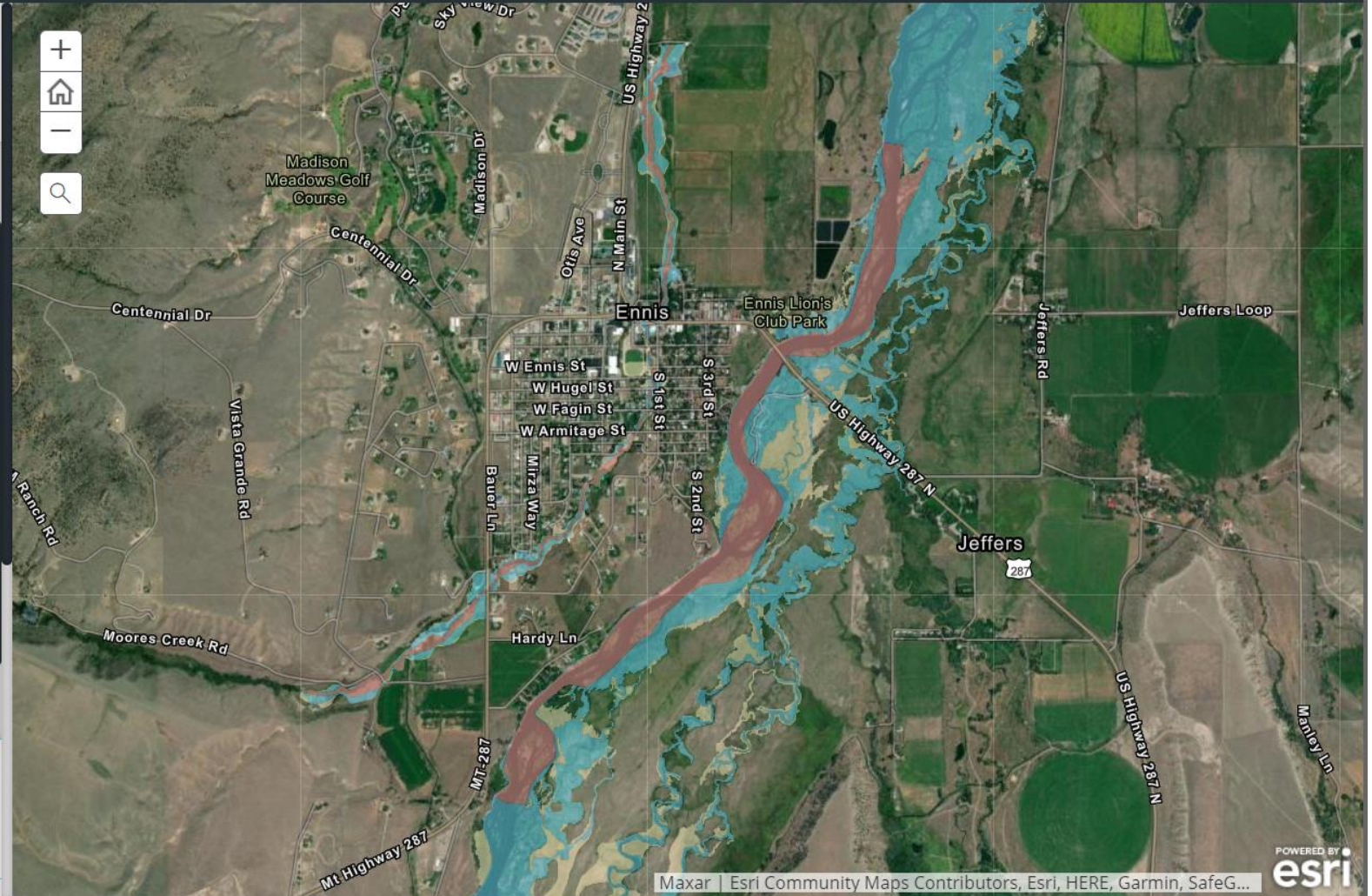
A Story Map [f](#) [t](#) [e](#)

1 Draft/Preliminary Floodplain Mapping

draft/preliminary product. It only includes Madison County, Jefferson County, and selected areas pertaining to this study in Broadwater and Gallatin Counties. The draft/preliminary floodplain designations are undergoing public review and are based on updated flood study information.

To see the current FEMA mapping, go to section 2.

-  100-year Floodplain (1% Annual Chance)
-  Floodway
-  500-year Floodplain (0.2% Annual Chance)
-  Current Effective FEMA Mapping Not Included in Mapping Update
-  Cross Sections - Flood Elevations (in Feet)

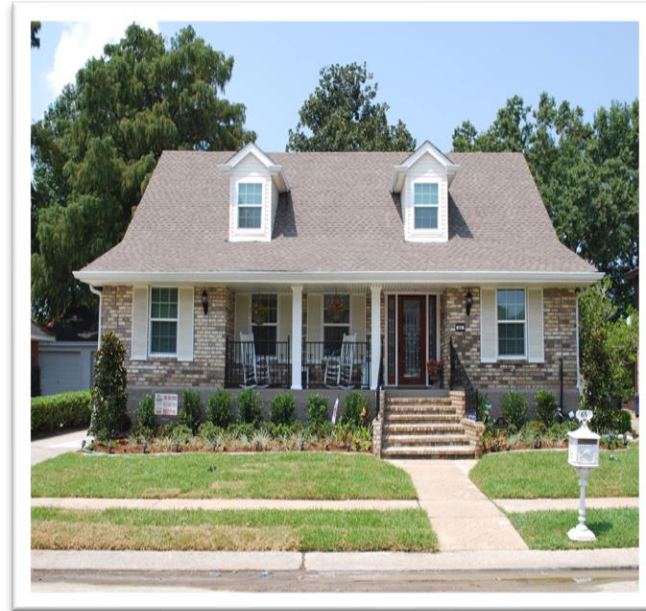


2 Current FEMA Floodplain Mapping

Development Regulations

Madison County and the Towns of Twin Bridges, Ennis, and Sheridan have floodplain regulations that regulate development within the 100-year floodplain.

Floodplain permits are required for all manmade activities within the floodplain, including construction and modifications to existing structures.



Flood Insurance

Flood insurance is mandatory for buildings with a federally backed loan in a high-risk area.

Flood insurance is not mandatory in a lower risk areas but is highly recommended. Lenders can always require insurance in any area.

Flood insurance is the best form of personal risk management and is an important form of economic protection against flooding.



Estimated Timeline



Madison, Ruby, & Jefferson Watershed Floodplain Maps Update

Completed in 2019	Completed in 2020	Completed in fall 2020	Broadwater County 10/14/2022 Madison County 2/24/2023 Gallatin County Mid- late 2023 (est)	Broadwater County 2024 (est) Madison County 2024-2025 (est) Gallatin County 2024-2025 (est)
<p>Measurements are made of the topography around the river, along with any culverts, bridges, and road crossings. LiDAR uses an airplane to collect ground elevation over a large area, and ground survey supplements the airborne data. Flood flow data determines how much water there will be in a river during a flood event.</p>	<p>The elevation and survey data are combined with the flood flow data to determine where the water will go when it overflows the channel and how far it will spread out. The area shown to be underwater and at high risk is mapped as the regulatory floodplain.</p>	<p>Draft data is delivered to the communities. Public open houses were held in January 2021 and March 2021 for landowners to begin to review the information.</p>	<p>FEMA Preliminary Maps are produced and ready for public review and comment period.</p> <p>90-day official comment & appeal period Broadwater County 5/3/2023- 8/1/2023 Madison County Tentative 8/25/2023-11/22/2023</p>	<p>FEMA Flood Insurance Rate Maps finalized.</p>
Data gathering	Engineering and floodplain modeling	Draft Data available public review	Preliminary Data public comment and appeal period	Flood Insurance Rate Maps become effective

Flood Study Conducted
 4 steps of a flood study.

1) Survey & LiDAR	3) Hydraulics (engineering)
2) Hydrology (flood flow)	4) Mapping (delineation)

Public Review
 Open houses are usually held during this time.
 During this time public comments are encouraged. Contact local floodplain administrator to make comments or get information on the project. FEMA will hold an official 90-day appeal period after the maps become preliminary.

Resiliency and Mitigation efforts
 Once new maps become effective the community can determine what mitigation efforts it would like to pursue to reduce flood risks.



Next Steps

Prepare for formal 90-day appeal/comment period

- Tentative August 25th – Nov 22nd
- All appeals and comments come through county or towns
- Forms and information on what is needed to submit will be posted on the project website and copies at the county and town offices.



COMMENT AND APPEAL FORM
Madison County Preliminary Flood Insurance Rate Maps

Madison County appreciates your input on the Preliminary Flood Insurance Rate Maps that the Federal Emergency Management Agency (FEMA) released for public review and comment. Your Comments and Appeals will be used to identify issues and concerns of importance during the review and adoption process. All information will be forwarded to FEMA for review and consideration.

Completed forms must be received by Madison County Floodplain Administrator before the 90-Day Appeal and Comment Period ends, tentative late 2023- early 2024.

1) Complete the following information:

Name: _____ Phone: _____

Mailing Address: _____

Physical address of property in question: _____

Section: _____ Township: _____ Range: _____ Lot/Tract: _____ Geocode: _____

FEMA Map Panel Number: _____

Panel numbers are found on the Preliminary Flood Insurance Rate Maps which can be viewed at the Madison County Planning Office or online at FEMA's MAP service center here <https://msc.fema.gov/portal/governmental>

son:

such as an objection to a flood elevation or delineation of a floodplain boundary. To make an indicating an Appeal and provide a detailed description of the issue below. You must also attach this form, such as topographic maps, an engineering study, photographs, etc. More information ion needed for an appeal can be found here: <https://dnrc.mt.gov/Water-oin-Mapping-Updates/Madison-Ruby-Jefferson-Watershed-Flood-Maps-Update>

h as an objection to a street name, town limit boundary, etc. To make a Comment, check the ent and provide a detailed description of the issue below. Supporting documentation is not

ion of the objection and attach supporting documentation (if needed):

(Continue on reverse)

NAME) Madison County Floodplain Administrator:

must be received before the end of the 90-Day Comment and Appeal Period (TIMEFRAME). Contact Madison County Planning with any questions.

MADISON COUNTY FLOOD MAP UPDATES
Promoting flood-risk awareness <https://rb.gy/s3i> (project website)

FEMA 90-Day Appeal & Comment Period **MADISON COUNTY**
MONTANA

THE FEMA APPEAL & COMMENT PROCESS

FEMA requires a 90-day public Appeal & Comment Period for proposed Flood Insurance Rate Map changes. Public review of proposed Flood Insurance Rate Map changes is an important part of the map update process because it ensures that map data is as accurate as possible. The FEMA Appeal & Comment Period for this project will tentative begin August ,2023. All appeals must be submitted through the Broadwater County Community Planning office.

APPEALS
An Appeal is a technical issue with a Preliminary Flood Insurance Rate Map. Some common types of Appeals include a flood elevation objection or a dispute with the delineation of a floodplain boundary. Appeals require supporting documentation such as a topographic map, engineering study, photographs, etc. Visit www.fema.gov and search "Criteria for Appeals of Flood Insurance Rate Maps" for more information about Appeals.

COMMENTS
A Comment is map error found on a Preliminary Flood Insurance Rate Map. Some common types of Comments include the correction of a street name, town limit boundary, etc. Comments do not generally require supporting documentation.

FEMA's 90-Day Appeal & Comment Period is August 25, 2023 - November 22, 2023.

If you have an Appeal or Comment, the County encourage you to begin organizing materials early so that you are prepared for the 90-Day Appeal & Comment Period.

All appeals must be received during the appeal period to be considered.

PROJECT TIMELINE (tentative)

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**THANK YOU
ONE-ON-ONE
SESSIONS**

