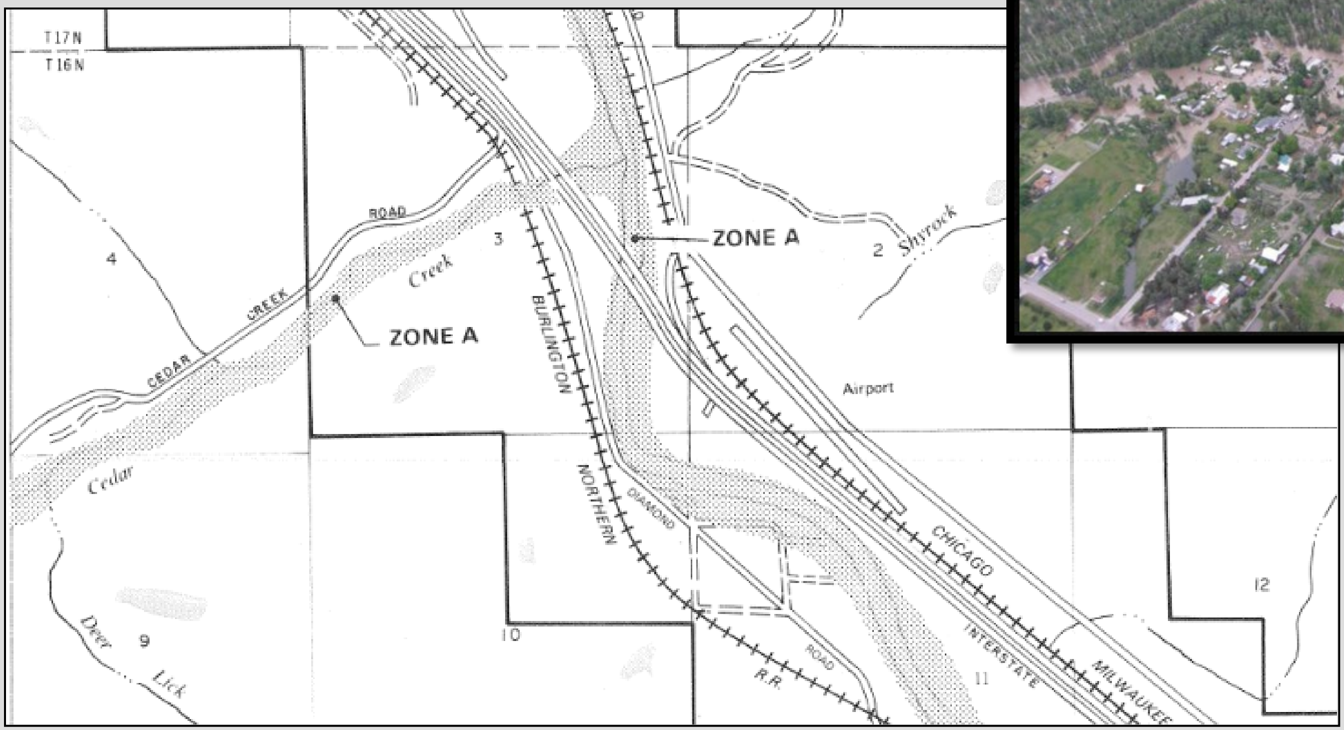
Floodplain Mapping Update: Gallatin County

January 20, 2021

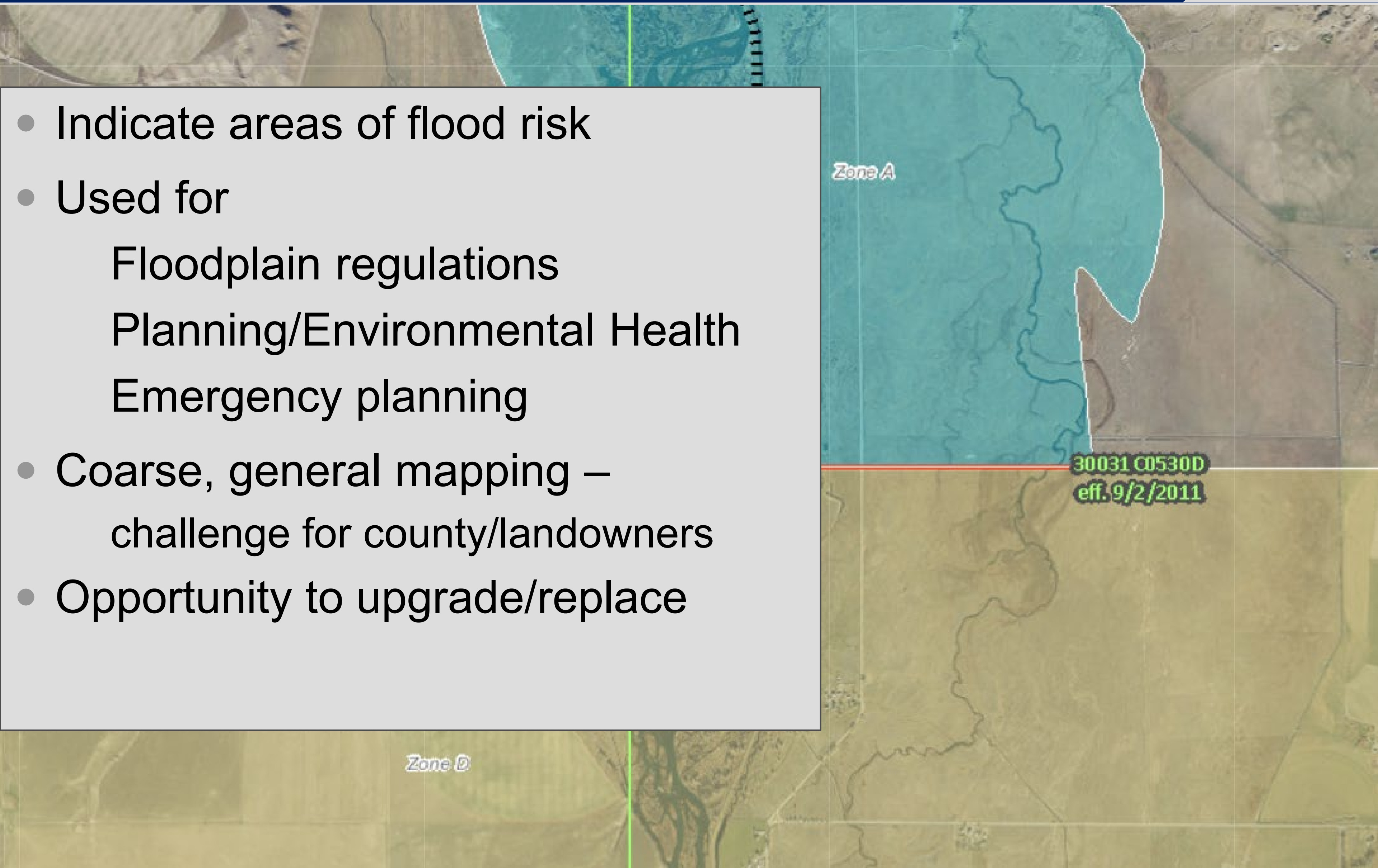
Flood Risk Review Meeting

Identifying Risk Through Mapping

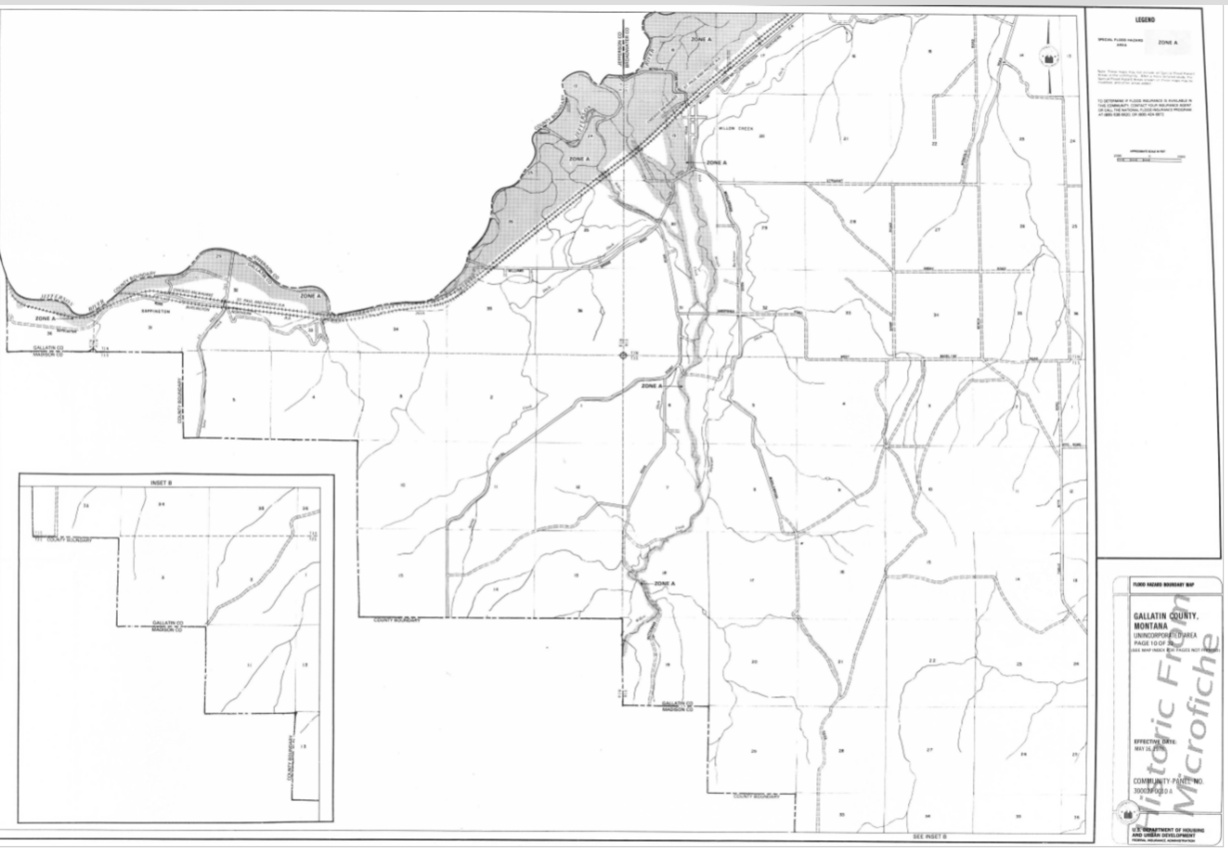


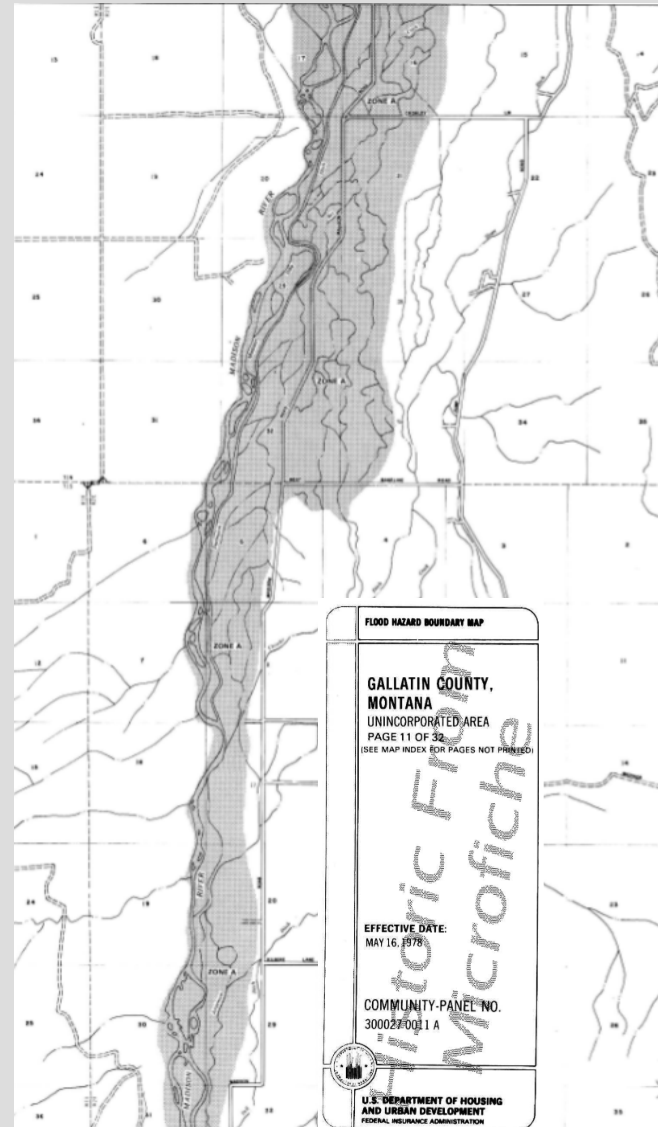
Floodplain Maps

- Indicate areas of flood risk
- Used for
  - Floodplain regulations
  - Planning/Environmental Health
  - Emergency planning
- Coarse, general mapping –
  - challenge for county/landowners
- Opportunity to upgrade/replace



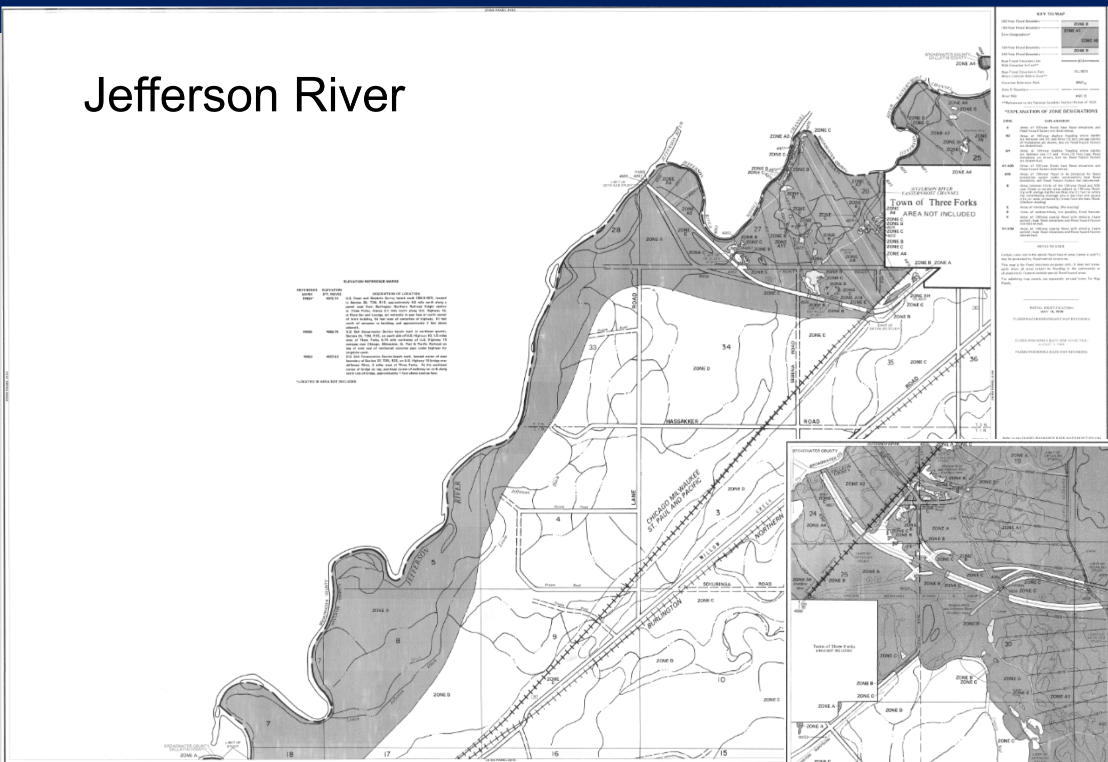
Flood Hazard Boundary Map - 1978



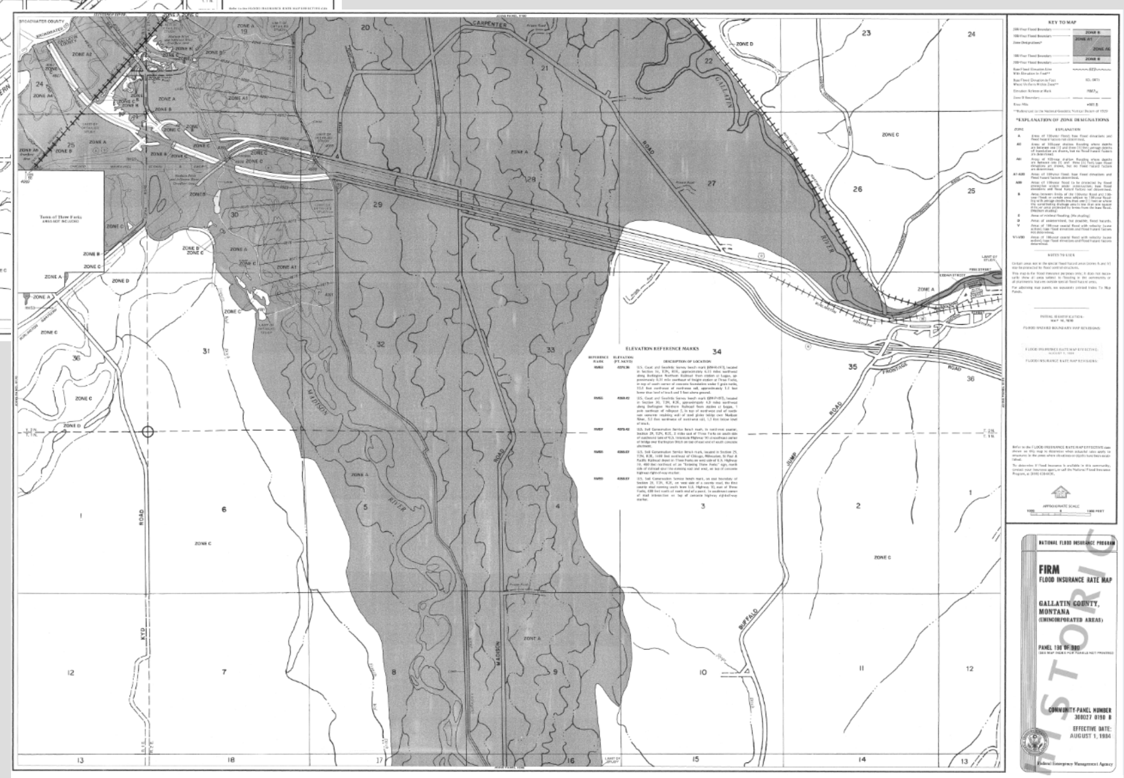


FEMA Flood Insurance Rate Map - 1984

Jefferson River

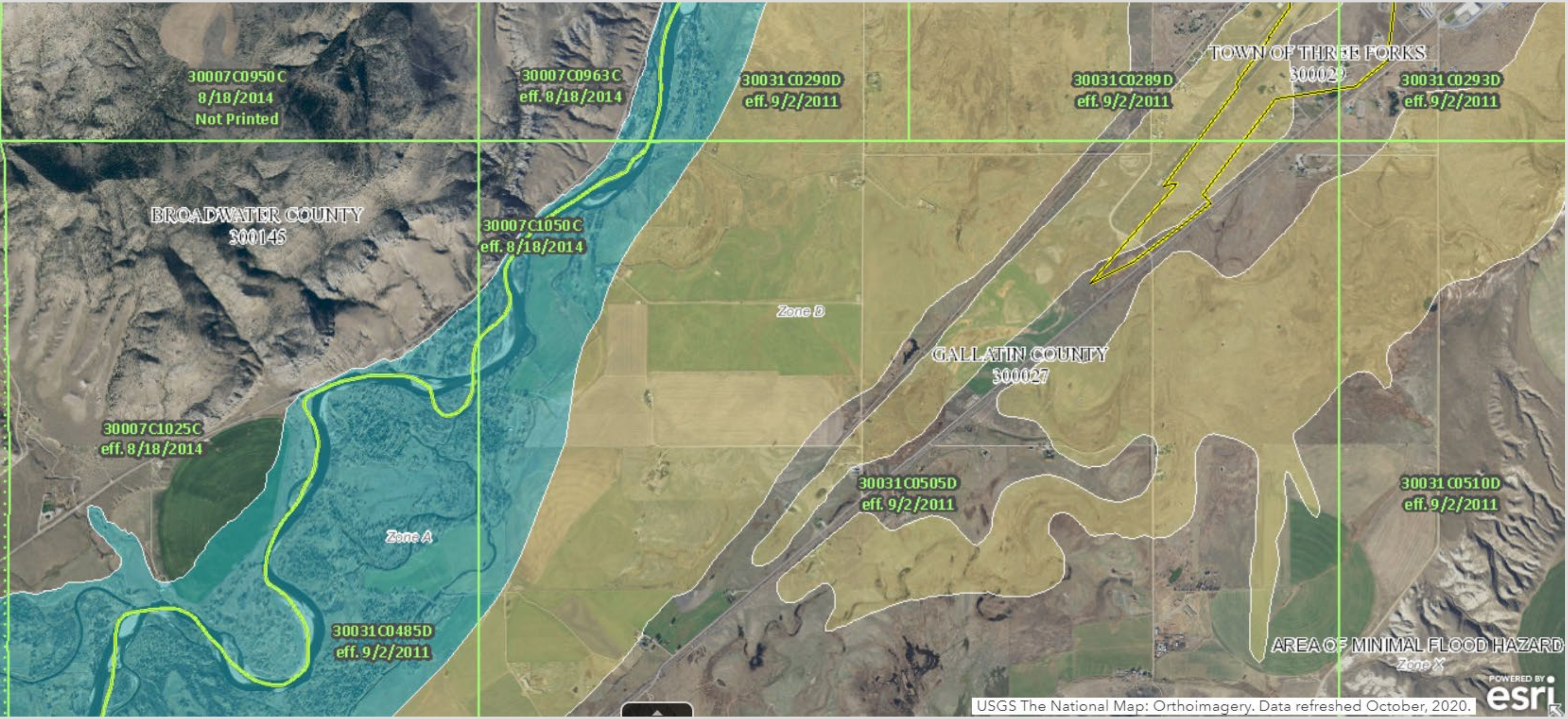


Madison River

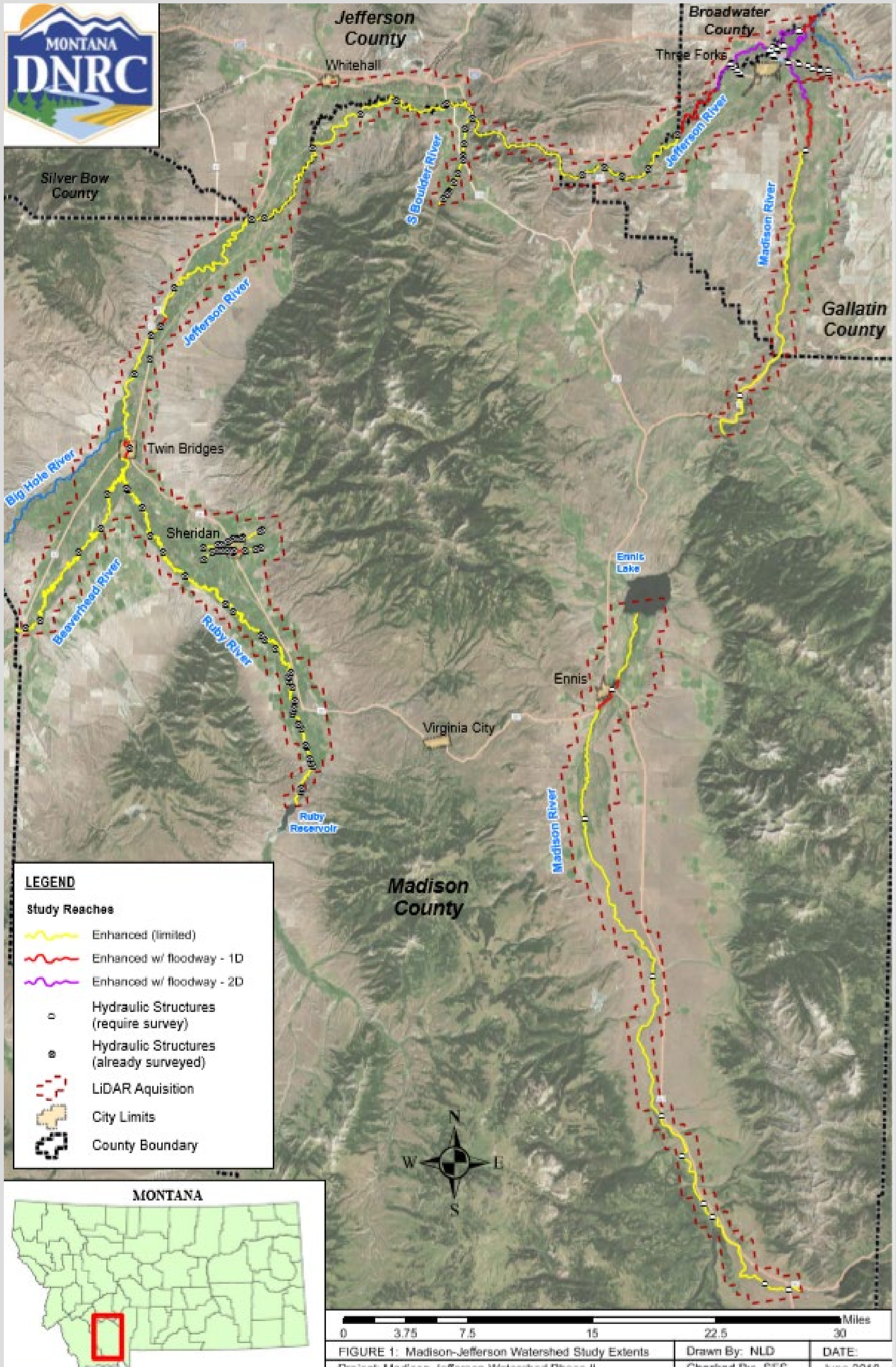


FEMA Flood Insurance Rate Map - 2011

No New Study Conducted- based on information from the 80's



Floodplain Mapping Update: Madison-Ruby-Jefferson River Watersheds



GALLATIN COUNTY

311 West Main, Rm. 306 • Bozeman, MT 59715
commission@gallatin.mt.gov

County Commission

Joe P. Skinner
Steve White
Donald F. Seifert

Phone (406) 582-3000
FAX (406) 582-3003

May, 23, 2018

Mr. Stephen Story
Water Operations Bureau Chief
MT DNRC
PO Box 201601
1924 9th Avenue
Helena MT 59620-1601

RE: Support for Grant Funding to complete Phase II of Jefferson and Madison River Floodplain Mapping projects

Dear Mr. Story,

Gallatin County supports DNRC's grant request to FEMA to complete Phase II of the Jefferson and Madison River floodplain mapping projects. We understand that Phase II would involve the necessary survey work, hydraulic engineering analyses, and production of updated floodplain maps.

In Gallatin County, the Jefferson River has a mix of approximate floodplain mapping, detailed floodplain mapping, and unmapped (undetermined flood risk - Zone D) areas. Jefferson County and Broadwater County have approximate mapping on the north side of the Jefferson River, directly across from our unmapped Zone D areas, creating inconsistency for landowners and floodplain administration. An updated flood study along the entire length of the Jefferson River would provide updated and consistent floodplain mapping for all counties and communities along the river.

The Madison River in Gallatin County is partially mapped as approximate, with a small section of detailed mapping near Three Forks. An updated flood study along the Madison River would provide landowners and our county with data to determine BFEs and floodplain boundaries for septic systems and building construction.

Updated information on the Jefferson and Madison Rivers will help us to better administer our floodplain program and provide cost saving measures for landowners.

We are committed to managing flood risks and participating in the National Flood Insurance Program. Better data upon which to base decisions would allow us to better manage flood risks on the Jefferson an Madison Rivers.

We can commit $5,000 dollars towards this mapping project as a local match. Thank you for considering this grant application, it would provide valuable assistance to our county.

Sincerely,

R. Stephen White, Chairman
Gallatin County Commission

Project Partners

Gallatin County

Three Forks

Madison County

Ennis

Sheridan

Twin Bridges

Jefferson County

Broadwater County

Federal Emergency Management Agency

Montana Department of Natural Resources and Conservation

Tentative Project Schedule

MADISON COUNTY MONTANA

Madison, Ruby, & Jefferson Watershed Floodplain Maps Update

Completed in 2019	Summer 2020	Fall 2020 – Early 2021	2021 (est.)	2022 (est.)
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.	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.	Draft data is delivered to the communities. Public open houses will be conducted for landowners to review the information.	FEMA Preliminary Maps are produced and ready for public review and comment period. A second public open house is usually conducted to review the information. 90-day official comment & appeal period held.	FEMA Flood Insurance Rate Maps finalized.
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
2) Hydrology (flood flow)
3) Hydraulics (engineering)
4) Mapping (delineation)

Public Review

2 public open houses are usually held during this time. Once at draft map stage and again at preliminary map stage.

During this time public comments are encouraged. There will be 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.

Project Webpage

www.floodplain.mt.gov/madison

Madison-Ruby-Jefferson River Watersheds Flood Maps Update

by Nadene Wadsworth — last modified Jan 18, 2021 02:16 PM — History

MADISON COUNTY

Madison, Ruby, & Jefferson Watershed Floodplain Maps Update

Madison, Jefferson, Gallatin, and Broadwater Counties have been working with the Federal Emergency Management Agency (FEMA) and Montana Department of Natural Resources and Conservation (DNRC) to produce new floodplain maps for portions of the Madison, Ruby, Jefferson, Beaverhead and South Boulder Rivers, and Mill and Indian Creeks. See project extents here.

Updated floodplain maps will depict the latest, most accurate flood risk data, and will eventually result in updated FEMA floodplain maps. Most of the existing FEMA floodplain maps and Madison County flood prone maps are based on data from the 1980s and 1990s. To understand why floodplains are mapped please visit the floodplain FAQ's page found here.

A View Draft Data

New floodplain maps from this project are not expected to be finalized for a while – new studies and maps need to go through a lengthy technical and public review process before they can be finalized. When finalized, new maps could have effects on some property owners in mapped 100-year floodplains.

Draft Map Viewer
click here

please be patient while the data loads on the viewer, there is a lot of data loaded in the viewer

You can also view individual draft maps here:
Draft floodplain maps

More Info

Floodplain FAQs

Maps and Technical Reports

Flood Study Process

Madison County

Alex Hogle
Floodplain Administrator/Planning Director
(406) 843-5250
email

Town of Ennis
Town of Twin Bridges

Jonathan Weaver
Floodplain Administrator
(406) 449-8627
email

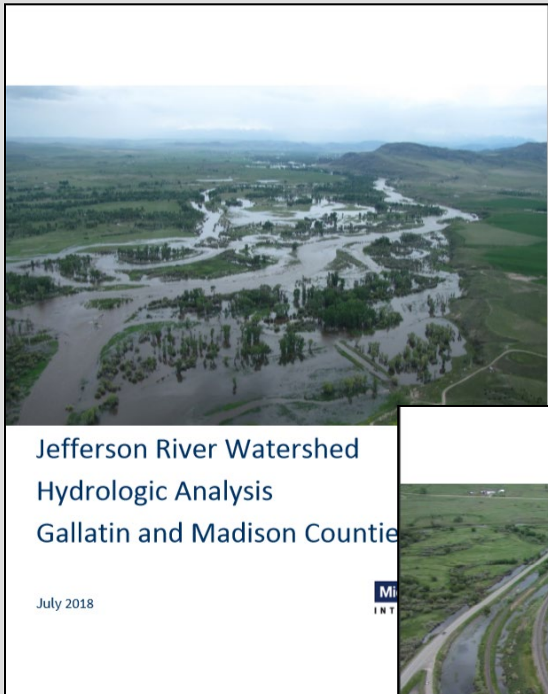
Town of Sheridan

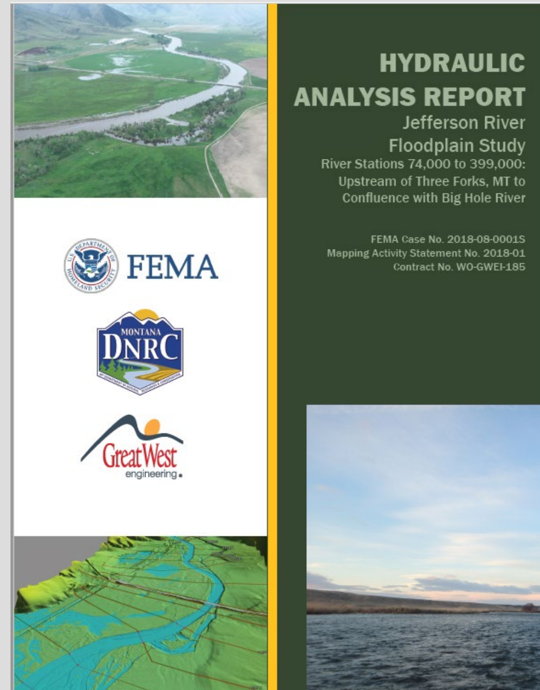
Bob Stump
Mayor/Floodplain Administrator
(406) 842-5431

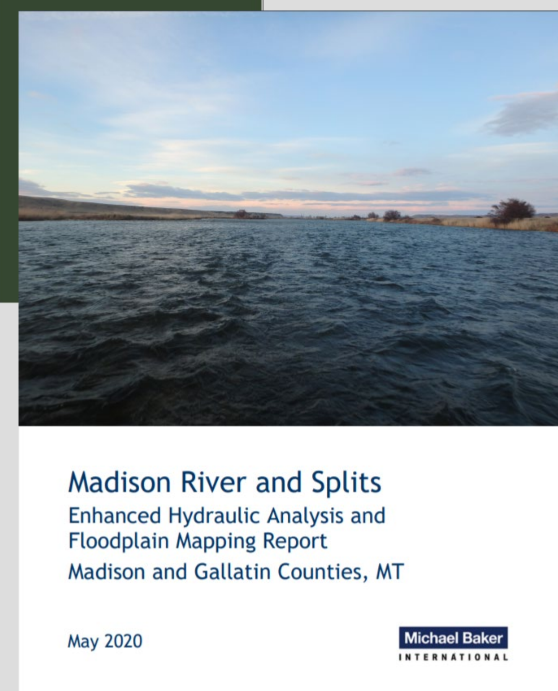
Gallatin County

Sean O'Callaghan
Floodplain Administrator
(406) 582-3120

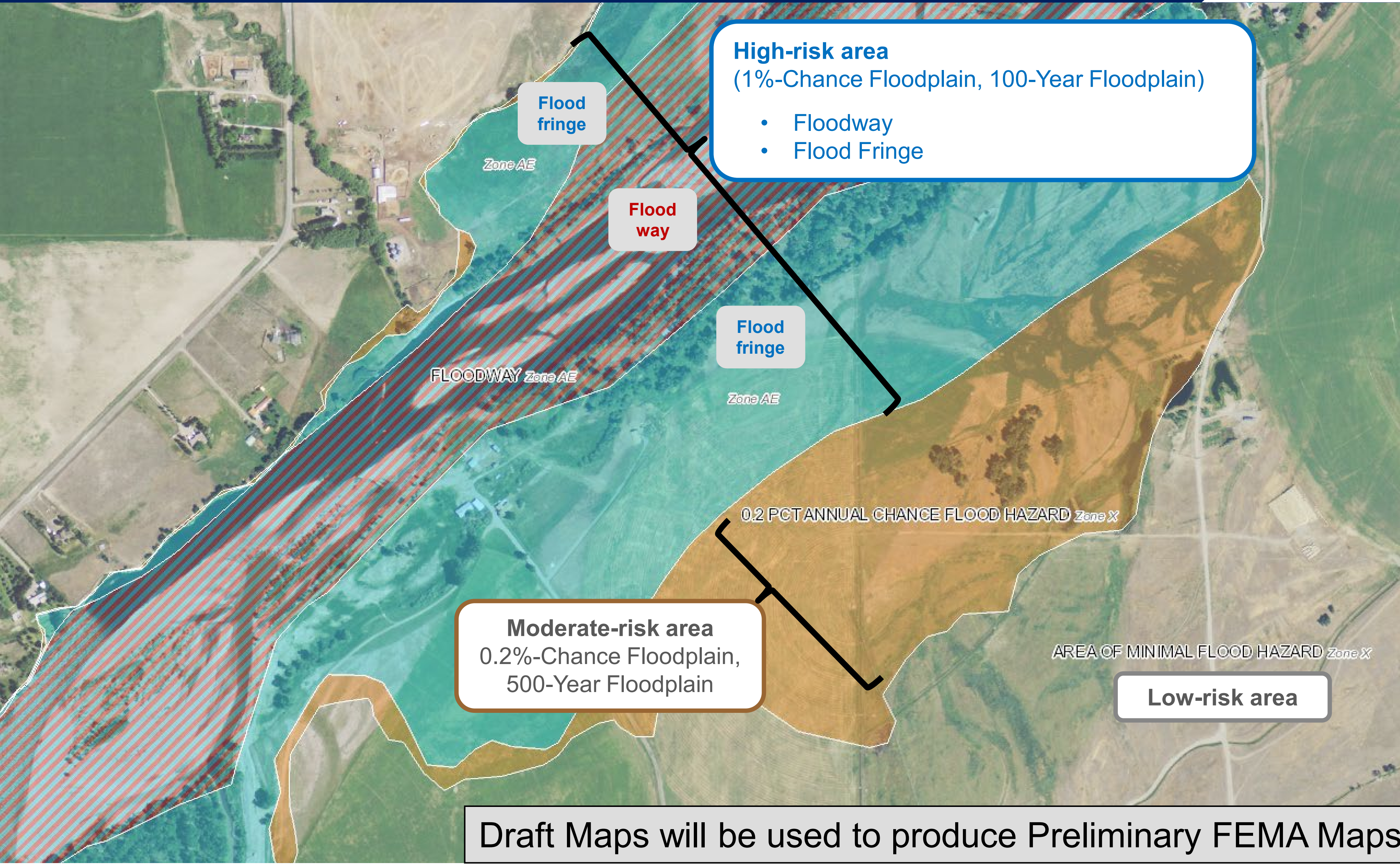
Hydrology and Hydraulic Analyses







Flood Zones



Draft Maps will be used to produce Preliminary FEMA Maps

Draft Map Viewer

Madison-Ruby-Jefferson Watersheds Floodplain Mapping Update

A Story Map

1 Draft Floodplain Mapping

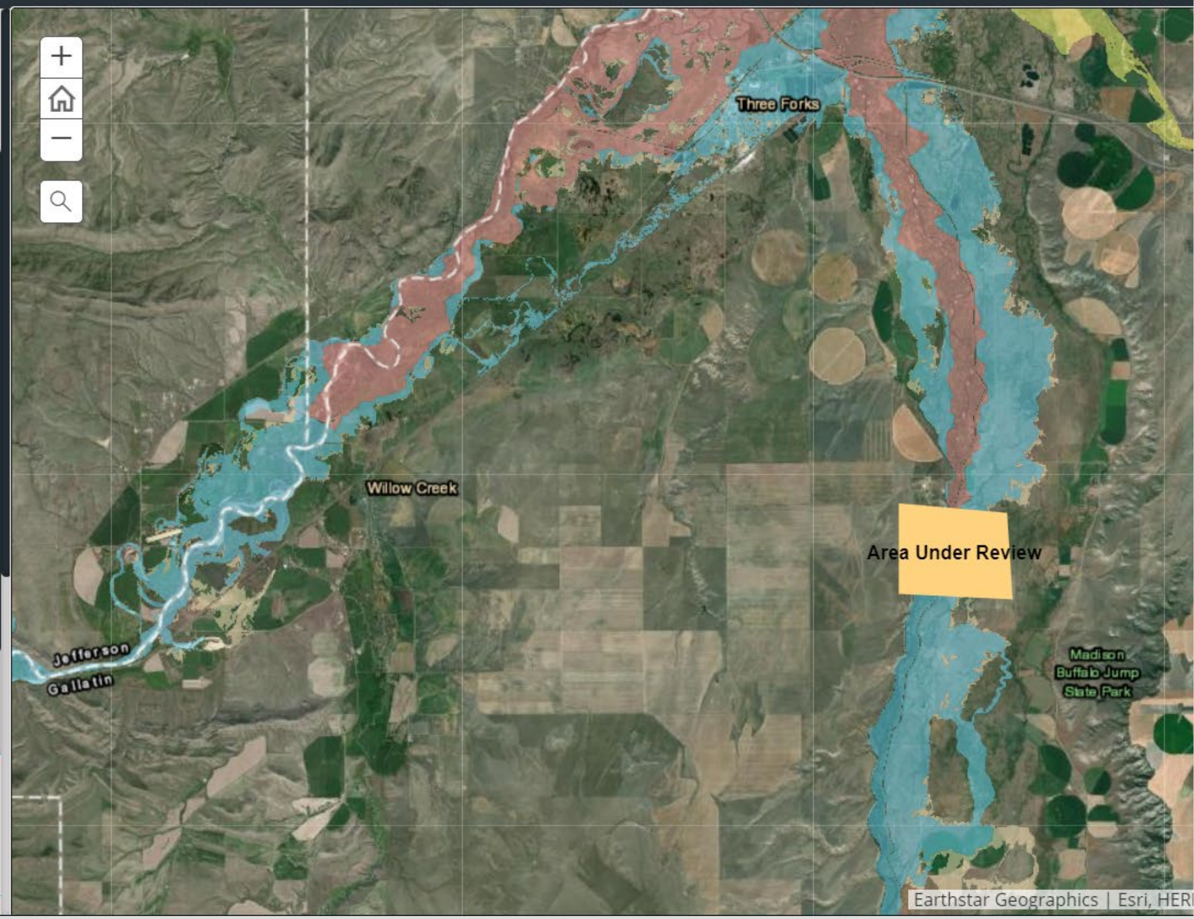
To search by address, click the magnifying glass to the right. To navigate, use a mouse or the (+) and (-) signs.

The flood hazard information in this section is currently a **draft** product. The draft 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



Draft Map Viewer

Madison-Ruby-Jefferson Watersheds Floodplain Mapping Update

A Story Map

1 Draft Floodplain Mapping

2 Current FEMA Floodplain Mapping

This section ONLY reflects the current FEMA floodplain mapping from the official FEMA Flood Insurance Rate Maps. It does NOT reflect Madison County's Floodprone Maps or any other local maps used for local floodplain regulation or planning. The FEMA floodplain boundaries and information were digitized from current FEMA maps. This viewer is not intended to be used for regulatory purposes and should only be used as a visualization tool. **The official FEMA maps and other flood hazard products are available from the FEMA Map Service Center online at:** http://www.msc.fema.gov

100-year Floodplain (1% Annual Chance)

Floodway

500-year Floodplain (0.2% Annual Chance)

Cross Sections - Flood Elevations (in Feet)

Draft Map Viewer

Madison-Ruby-Jefferson Watersheds Floodplain Mapping Update

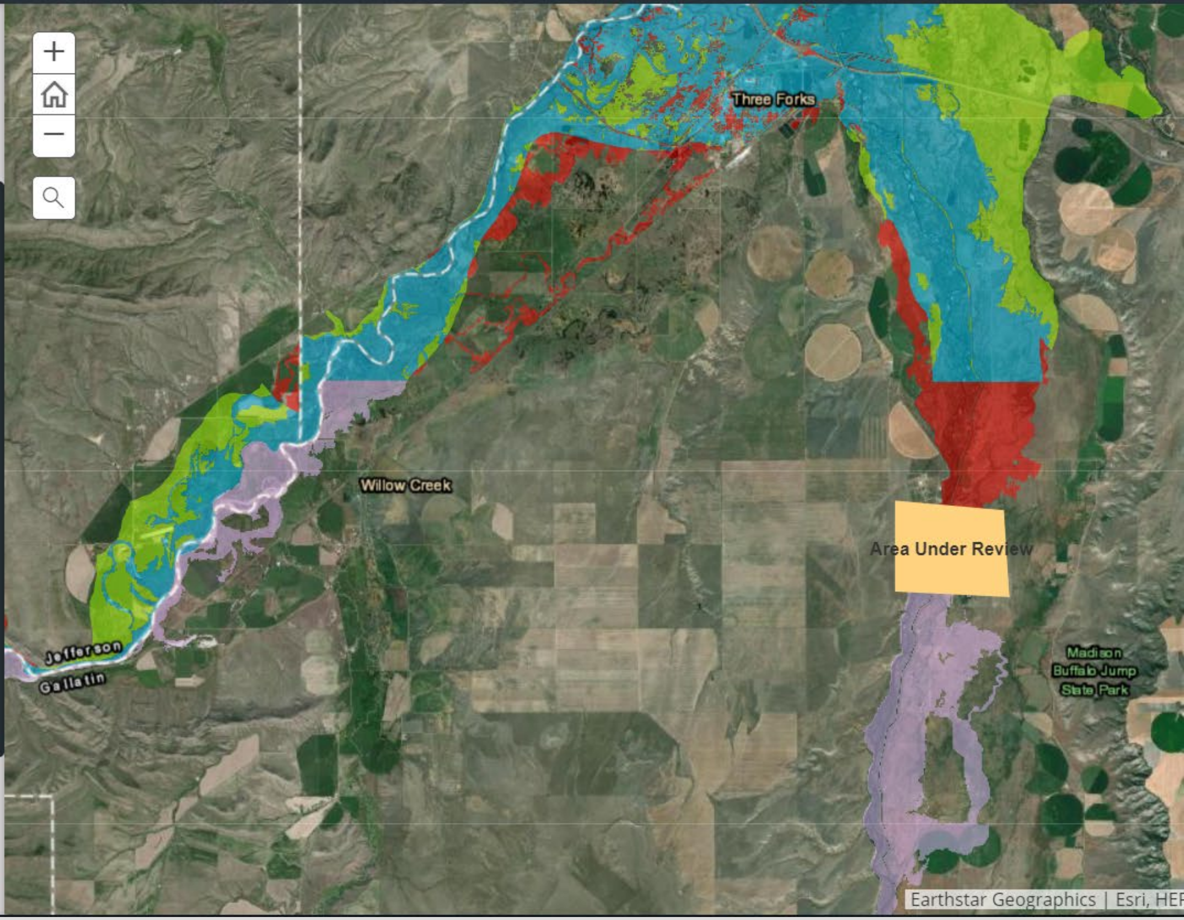
A Story Map

3 Compare Draft 100-year Floodplain Map to Current FEMA Floodplain Map

This section compares the draft 100-Year (1% Annual Chance) Floodplain mapping to the **current FEMA 100 year (1% Annual Chance) Floodplain map.** The 100-Year Floodplain is considered to have a HIGH flood risk, it is the area expected to be inundated by a flood event having a 1% chance of being equaled or exceeded in any given year.

(green)	Land Removed from FEMA Floodplain
(red)	Land Added to FEMA Floodplain
(blue)	No Change to FEMA Floodplain
(lavender)	No Current FEMA Floodplain, Land Added to FEMA Floodplain

4 Compare Draft Floodway Map to Current FEMA Floodway Map



Draft Map Viewer

Madison-Ruby-Jefferson Watersheds Floodplain Mapping Update

A Story Map

1 Draft Floodplain Mapping

To search by address, click the magnifying glass to the right. To navigate, use a mouse or the (+) and (-) signs.

The flood hazard information in this section is currently a **draft** product. The draft floodplain designations are undergoing public review and are based on updated flood study information.

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

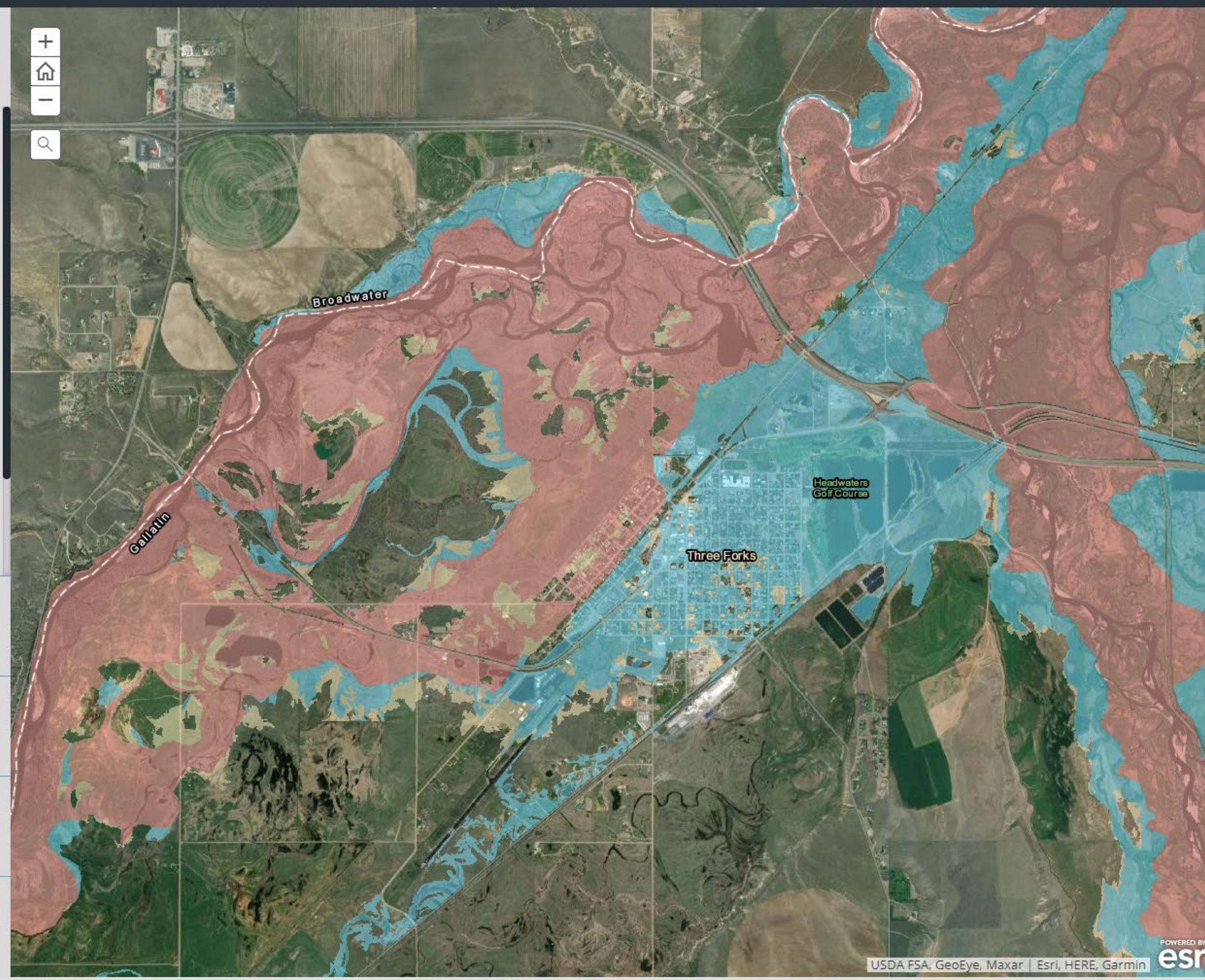
- 100-year Floodplain (1% Annual Chance)
- Floodway
- 500-year Floodplain (0.2% Annual Chance)
- Current Effective FEMA Mapping Not Included in Mapping Update

2 Current FEMA Floodplain Mapping

3 Compare Draft 100-year Floodplain Map to Current FEMA Floodplain Map

4 Compare Draft Floodway Map to Current FEMA Floodway Map

5 Estimated Building Information (Lowest Adjacent Grade (LAG))



Floodplain Regulations

MADISON, RUBY, JEFFERSON RIVERS FLOOD MAP UPDATES

www.floodplain.mt.gov/madison

Owning property in a 100-YEAR FLOODPLAIN

A 100-YEAR FLOODPLAIN (1% Annual Chance Floodplain) is considered to have a HIG
It is the area that is expected to be inundated by a 100-Year Flood, an event having a 1%
being equaled or exceeded in any given year. The 100-Year Flood is also referred to as a
Chance Flood or a Base Flood.

DEVELOPMENT REGULATIONS

Gallatin County and the City of Three Forks require Floodplain Development Permits for development in the 100-Year Floodplain (1% Annual Chance Floodplain) to protect human life and property.

- New building construction must obtain a Floodplain Development Permit.
- New residential construction must be elevated 2 feet above the 100-Year Flood Elevation (Base Flood Elevation).
- Improvements to existing structures must obtain a Floodplain Development Permit. Impr an existing structure greater than 50% of a structure's market value (a Substantial Impro require the entire structure to be brought into compliance with floodplain regulations.
- Other federal, state, and local regulations may apply.

Floodplain r require a permit fo made deve the 100-Yea

Draft floodplain maps are going through review and are not yet effective. It is important to dis community's floodplain regulations with County, Town staff to understand the impacts of floo updates on proposed construction projects in a mapped floodplain.

INSURANCE REQUIREMENT

If you own a building in an area that will be newly mapped into a 100-Year Floodplain, contact your insurance agent or lender as early as possible to start the discussion about flood insurance.

Your lender w to carry floo you have a fe loan and yo located i 100-year

Lenders will typically reevaluate their loans to reassess flood risk when a new flood map or revision goes effective. When this happens, your lender will require you to carry flood insurance if you own a building that is located in a mapped 100-Yea unless you can prove that the building is above the flood elevation or outside of the 100-Year Your lender may also require building elevation information (an Elevation Certificate) at this

There are many cost-saving options available to those who are being newly mapped into the 1 Floodplain. In order to secure the lowest premium, you should purchase flood insurance eithe within 11 months of a new flood map or revision going effective (expected 2022). Contact you agent or lender as early as possible to find the best flood insurance option available to you—a comparison of Newly Mapped rates, Grandfathered rates, etc.

Sean O'Callahan
Gallatin County Floodplain Administrator
sean.ocallaghan@gallatin.mt.gov
406.582.3130

Kelly Smith
City of Three Forks Floodplain Administrator
ksmith@threeforksmontana.us
406.285.3431

MADISON, RUBY, JEFFERSON RIVERS FLOOD MAP UPDATES

www.floodplain.mt.gov/madison

Owning property in a FLOODWAY

A FLOODWAY is the area within a 100-Year Floodplain that must be kept free from new development so that the 100-Year Flood (1% Annual Chance Flood, Base Flood) can be carried without substantial increases in flood heights. The Floodway will usually see the highest water velocities and deepest inundation during a 100-Year Flood event.

DEVELOPMENT REGULATIONS

Gallatin County and the City of Three Forks strictly regulate development in Floodways to protect human life and property by ensuring that there are no increases in flood elevations.

Floodplain Regulations requir floodplain permit for any ma made development in the 10 Year Floodplain (including Floodway).

In accordance with each community's Floodplain Regulations:

- New building construction is not permitted in the Floodway.
- Improvement to existing structures in a Floodway must obtain a Floodplain Development Permit.

INSURANCE REQUIREMENT

Your lender will require you carry flood insurance if you have a federally backed loa and your building is located i mapped 100-Year Floodplai (including Floodway).

If you own a building in an area that will be newly mapped into a 100-Year Floodplain (including Floodway), contact your insurance agent or lender as early as possible to start the discussion about flood insurance.

Lenders will typically reevaluate their loans to reassess flood risk when a new flood map or revision go effective. When this happens, your lender will require you to carry flood insurance if you own a buildin that is located in a mapped 100-Year Floodplain, unless you can prove that the building is above the flo elevation or outside of the 100-Year Floodplain. Your lender may also require building elevation information (an Elevation Certificate) at this time.

There are many cost-saving options available to those who are being newly mapped into the 100-Year Floodplain (including Floodway). In order to secure the lowest premium, you should purchase flood insurance either before or within 11 months of a new flood map or revision going effective (estimated 2022). Contact your insurance agent or lender as soon as possible to find the best flood insurance optic available to you—ask for a comparison of Newly Mapped rates, Grandfathered rates, etc.

Sean O'Callaghan
Gallatin County Floodplain Administrator
sean.ocallaghan@gallatin.mt.gov
406.582.3130

Kelly Smith
City of Three Forks Floodplain Administrator
ksmith@threeforksmontana.us
406.285.3431

MADISON, RUBY, JEFFERSON RIVERS FLOOD MAP UPDATES

www.floodplain.mt.gov/madison

Owning property in a 500-YEAR FLOODPLAIN

A 500-YEAR FLOODPLAIN (0.2% Annual Chance Floodplain) is considered to have a MODERATE flood risk. It is an area that is expected to be inundated by a 500-Year Flood, a flood event having a 0.2% chance of being equaled or exceeded in any given year. The 500-Year Flood is also referred to as a 0.2% Annual Chance Flood.

DEVELOPMENT REGULATIONS

Gallatin County, and the City of Three Forks do not regulate development in the 500-Year Floodplain (0.2% Annual Chance Floodplain) although flooding is still possible in this area.

Unlike in a 100-Year Floodplain, a Floodplain Development Permit is not required for development in a 500-Year Floodplain.

New construction and building improvements may occur in the 500-Year Floodplain without a Floodplain Development Permit. Other federal, state, and local regulations may apply.

If your property has areas of both 100-Year and 500-Year Floodplain, proposed projects may require a Floodplain Development Permit depending on exactly where the development will occur. It is important to discuss the location of any development with County, City or Town staff to understand the impacts of the community's floodplain regulations and flood map updates on proposed projects in or near a mapped

INSURANCE REQUIREMENT

If you own a building in a 500-Year Floodplain (0.2% Annual Chance Floodplain), you are considered to be at a moderate risk of flooding. It is therefore recommended that you purchase flood insurance even if your lender does not require you to do so in order to protect your investment.

Your lender can require flood insurance for a building they are financing regardless of where the building is located.

Lenders will typically review their loans to reassess flood risk when a new flood map or revision goes effective. When this happens, if your building is located in a 500-Year Floodplain, your lender might choose to require you to carry flood insurance and/or provide building elevation documentation (an Elevation Certificate) to prove your building is above the flood elevation.

Some property owners may not see any insurance changes with this mapping update. Talk to your lender or insurance agent early if you are considering purchasing flood insurance in order to find the best option for you.

Sean O'Callaghan
Gallatin County Floodplain Administrator
sean.ocallaghan@gallatin.mt.gov
406.582.3130

Kelly Smith
City of Three Forks Floodplain Administrator
ksmith@threeforksmontana.us
406.285.3431

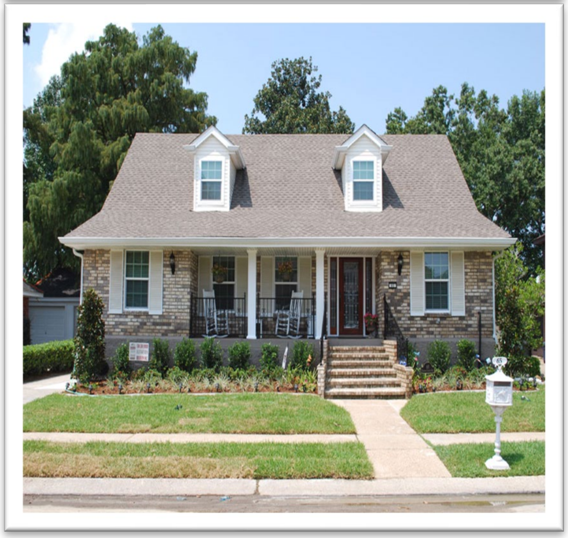
Floodplain Regulations

Gallatin County has floodplain regulations that regulate development within the 100-year floodplain.

Floodplain permits are required for new construction and modifications to existing structures.

New construction and additions- elevated 2'

Improvements and additions to existing structures $\leq$ 50% of building's value, will require the entire structure to be brought into compliance.



Flood Insurance

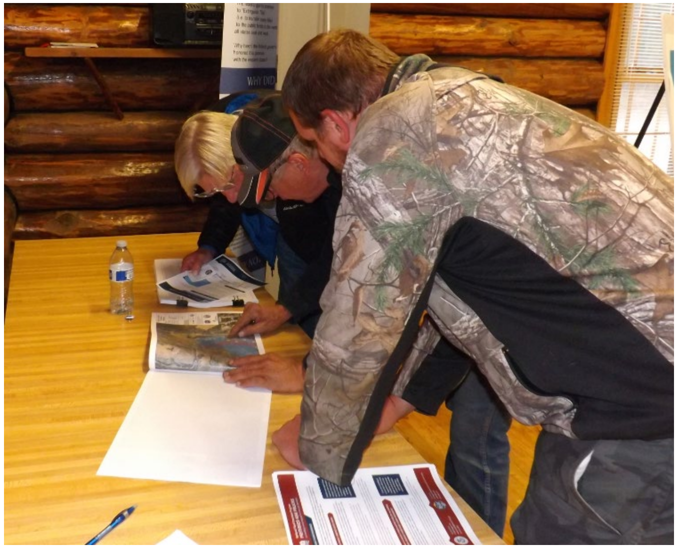
Flood insurance is mandatory for buildings with a federally backed loan in a high-risk flood zone.

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

Flood insurance is an important form of economic protection against flooding.

Next Steps Discussion

- Review draft maps and information
- Share maps and information with public
  - ❑ Website / Map Viewer
  - ❑ Open house meetings & landowner mailings



Thank you

Tiffany Lyden
tlyden@mt.gov
444-0599

Nadene Wadsworth
Nadene.wadsworth@mt.gov
444-6732