



North Central Texas Council of Governments (NCTCOG)

Upper West Fork Trinity Watershed

Discovery Findings Meeting

June 26, 2023

Agenda

- NCTCOG Overview
- Risk MAP Overview
- Upper West Fork Trinity Discovery
 - Activities
 - Findings
- Base Level Engineering
- Post Meeting Coordination

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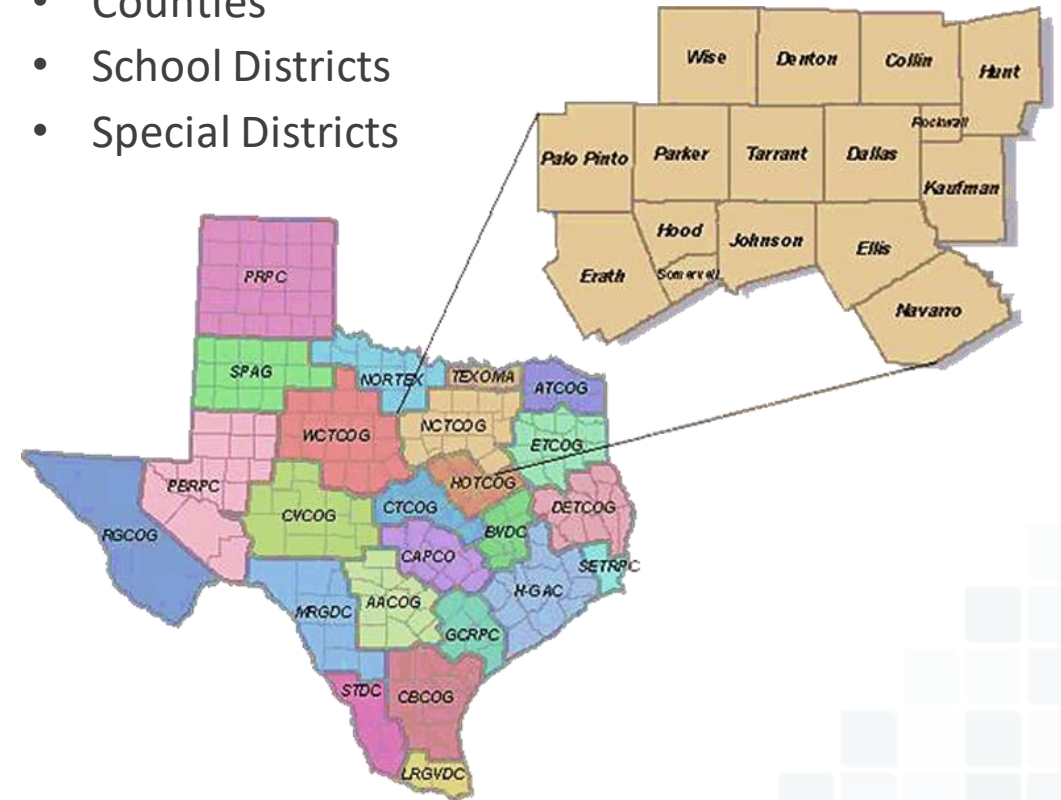
WHAT IS NCTCOG'S ROLE?

VOLUNTARY ASSOCIATION OF, BY, AND FOR LOCAL GOVERNMENTS, ESTABLISHED IN 1966, TO HELP THEM:

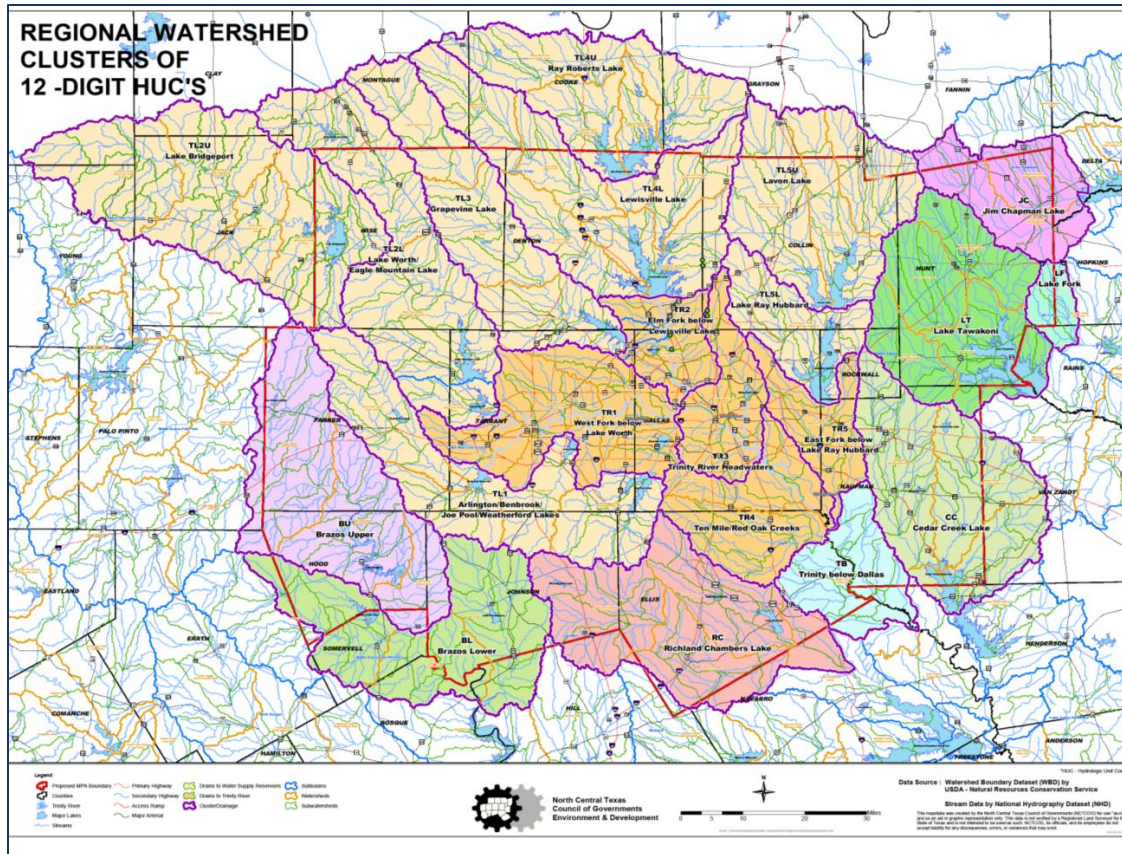
- Plan for common needs
- Strengthen their individual and collective power
- Recognize regional opportunities
- Resolve regional problems
- Make joint decisions/cooperate for mutual benefit

228 Member Governments

- Cities
- Counties
- School Districts
- Special Districts



WHAT IS NCTCOG'S ROLE?

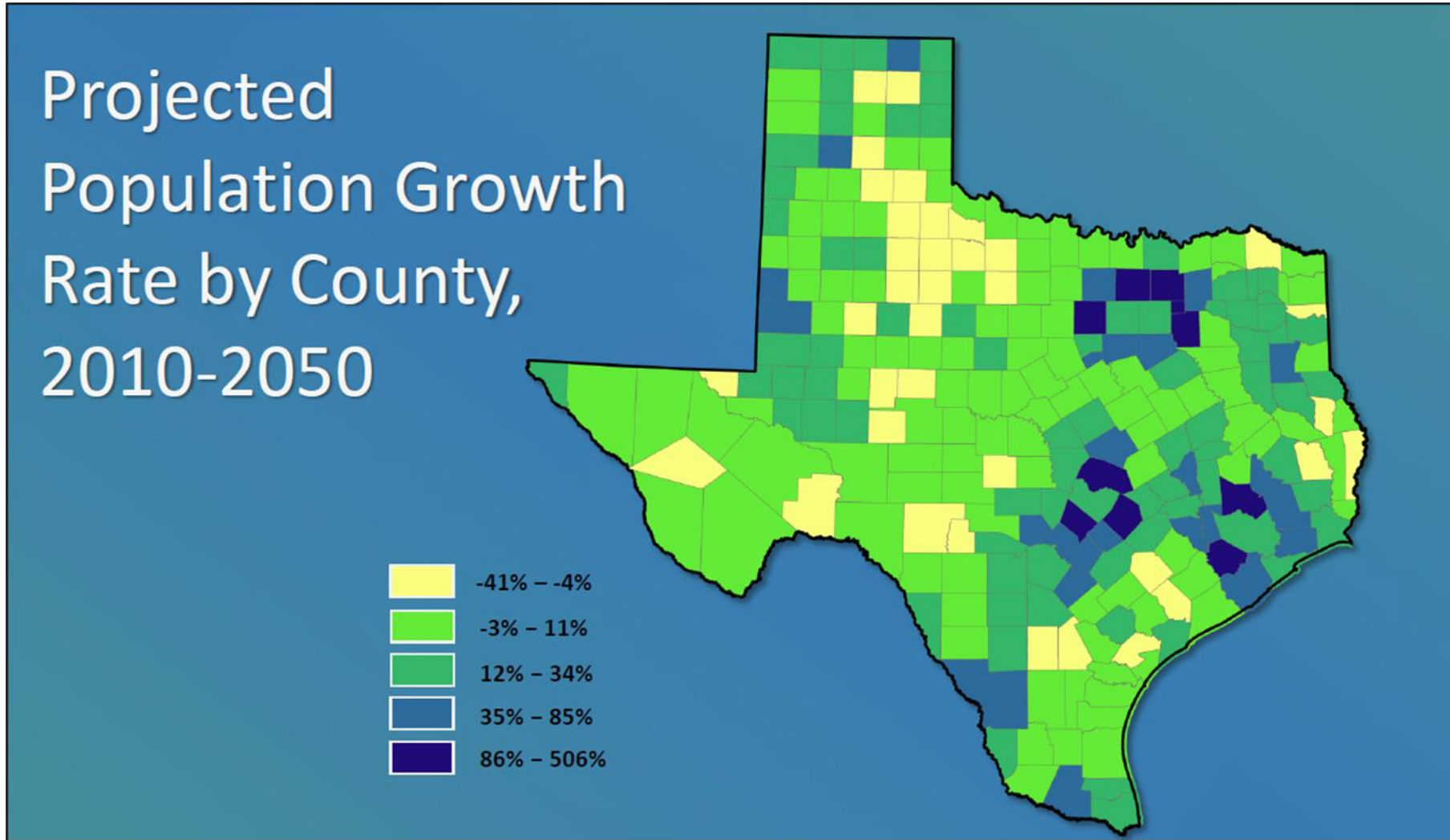


NCTCOG Environment and Development Watershed Management Program:

Focuses on water quality, stormwater, and floodplain topics/issues.

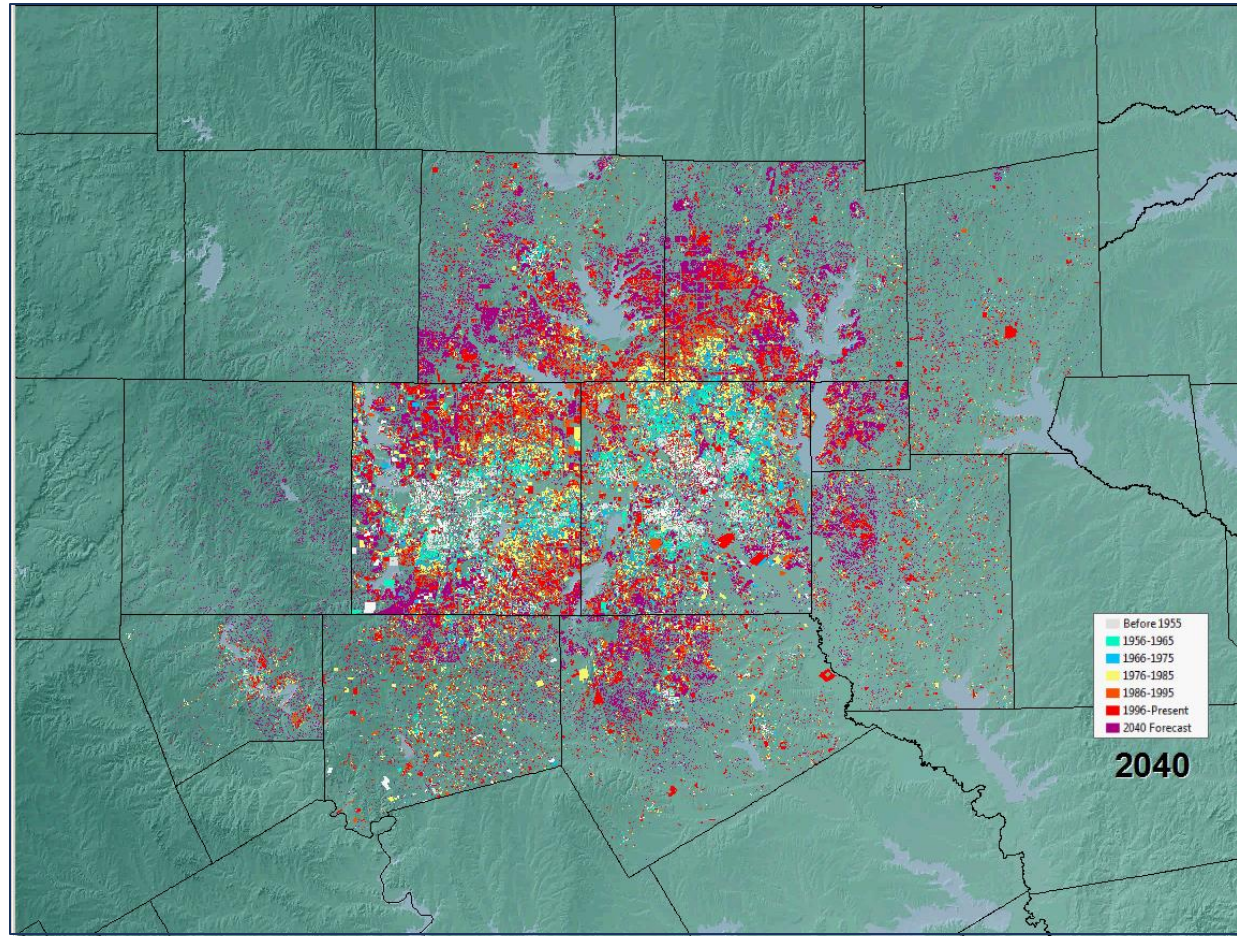
- North Central Texas region does not have a flood control district. Lots of local/regional entities working in their own jurisdictions.
- NCTCOG will never replace a flood control district, but as an agency, we work toward regional cooperation on flooding issues to help everyone accomplish common goals together.

WHAT IS NCTCOG'S ROLE?



WHAT IS NCTCOG'S ROLE?

North Central Texas 1950-2040 Growth



WHAT IS NCTCOG'S ROLE?

NCTCOG GOALS AS A COOPERATING TECHNICAL PARTNER

- **Direct Goals:**
 - Better data for better decision making
 - Coordination between communities and local/regional/state/federal organizations (what COGs do best!)
 - Partnerships
- **Indirect Goals:**
 - Higher Standards



**North Central Texas
Council of Governments**

DISCOVERY OVERVIEW



FEMA's Risk Mapping, Assessment, and Planning (MAP) Program

- Provide flood information and tools for better protection
- Action-Driven through local understanding and ownership of risk

DISCOVERY OVERVIEW

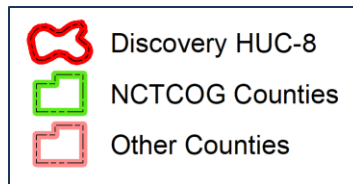
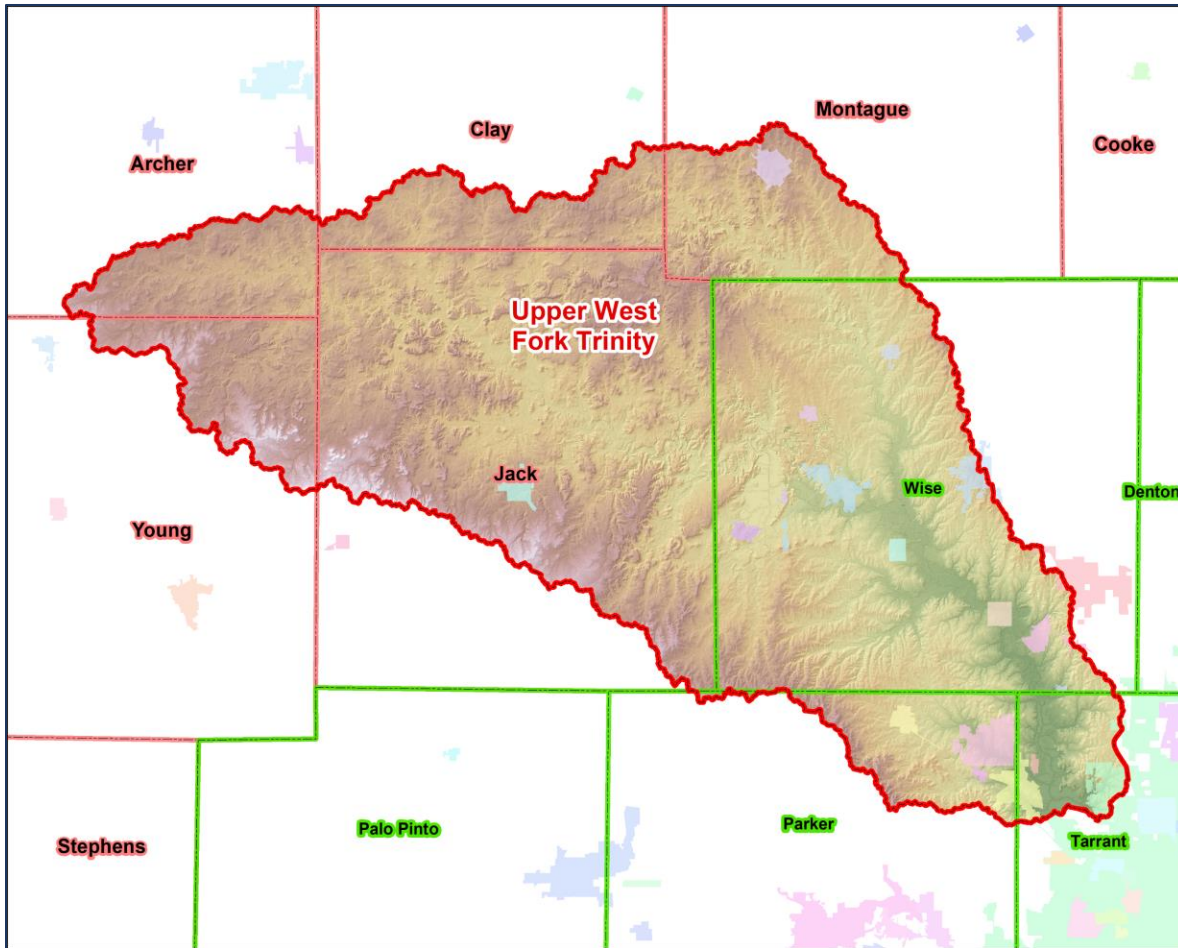
Discovery Process
And Base Level Engineering



FEMA's Risk Mapping, Assessment, and Planning (MAP) Program

- Provide flood information and tools for better protection
- Action-Driven through local understanding and ownership of risk

DISCOVERY GOALS



NCTCOG LEADING UPPER WEST FORK TRINITY DISCOVERY

Gather Information

- Local flood risks and hazards
- Current mitigation efforts

Provide Information

- Mitigation planning and actions
- Risk communication

DISCOVERY PROCESS



FEMA Selects
Watershed for Discovery



Watershed Stakeholder
Coordination



Data Gathering and
Analysis; BLE Data
Development



Discovery Meeting



Post Meeting
Coordination



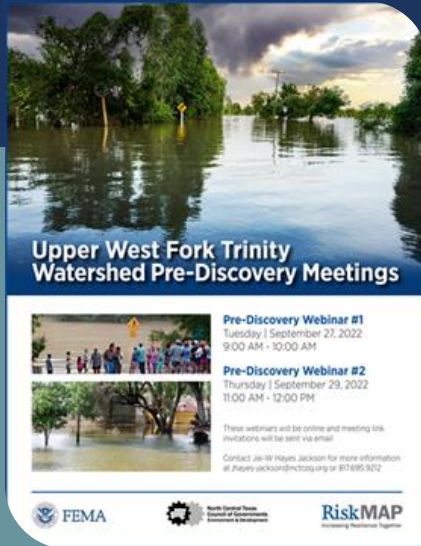
Risk MAP Project
Recommendations to
FEMA

Currently in the
Post-Meeting
Coordination Phase

DISCOVERY ACTIVITIES

Pre-Discovery: Inform communities of process and timeline

1



Upper West Fork Trinity Watershed Pre-Discovery Meetings

Pre-Discovery Webinar #1
Tuesday | September 27, 2022
9:00 AM - 10:00 AM

Pre-Discovery Webinar #2
Thursday | September 29, 2022
11:00 AM - 12:00 PM

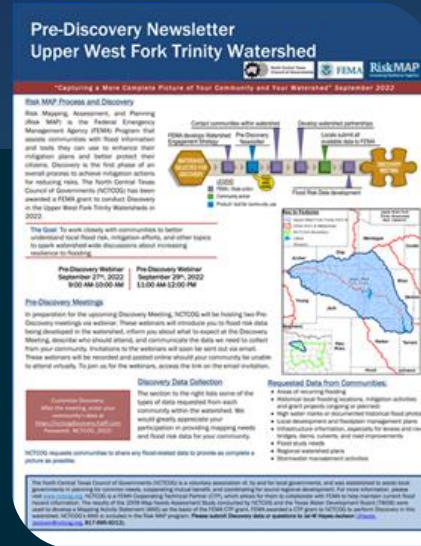
These webinars will be online and meeting link invitations will be sent via email.

Contact Jai-W Hayes Jackson for more information at jhayes.jackson@nctcog.org or 817.695.9212

FEMA | North Central Texas Council of Governments | RiskMAP

Discovery Flyer

2



Pre-Discovery Newsletter
Upper West Fork Trinity Watershed

"Capturing a More Complete Picture of Your Community and Your Watershed" September 2022

Risk MAP Process and Discovery

Risk MAP is the Federal Emergency Management Agency (FEMA) Program that works with communities to help them understand and learn how they can use to enhance their mitigation plans and better protect their citizens. Discovery is the first phase of an overall process to achieve mitigation actions for reducing risks. The North Central Texas Council of Governments (NCTCOG) has been awarded a FEMA grant to conduct Discovery in the Upper West Fork Trinity Watersheds in 2022.

The goal is to work closely with communities to better understand local flood risk, mitigation efforts, and other factors to support watershed-wide discussions about increasing resiliency to flooding.

Pre-Discovery Webinar
September 27th, 2022
9:00 AM - 10:00 AM

Pre-Discovery Webinar
September 29th, 2022
11:00 AM - 12:00 PM

Pre-Discovery Meetings

In preparation for the upcoming Discovery Meeting, NCTCOG will be hosting two Pre-Discovery meetings via webinar. These webinars will introduce you to flood risk data being developed in the watershed, inform you about what to expect at the Discovery Meeting, describe who should attend, and communicate the data we need to collect from your community. Invitations to the webinars will soon be sent out via email. These webinars will be recorded and posted online should your community be unable to attend virtually. To join us for the webinars, access the link on the email invitation.

Discovery Data Collection

The section to the right lists some of the types of data requested from each community within the watershed. We would greatly appreciate your participation in providing mapping needs and flood risk data for your community.

NCTCOG requests communities to share any flood-related data to provide as complete a picture as possible.

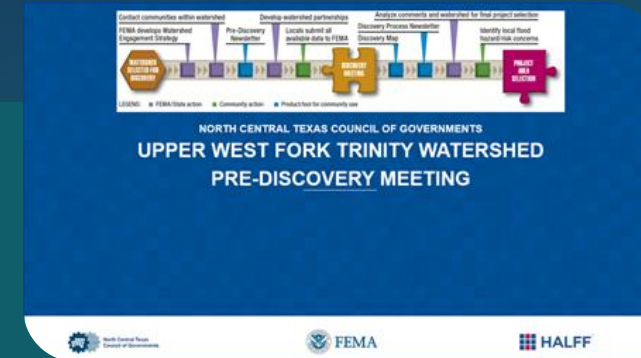
Requested Data from Communities

- Aerial or surveying footage
- Historical flood footage, pictures, mitigation activities, and grant projects ongoing or planned
- High water marks or documented historical flood photos
- Local development and floodplain management plans
- Infrastructure information, especially for levees and levee bridges, dams, culverts, and road improvements
- Flood risk needs
- Regional development plans
- Recreational management activities

RiskMAP

Newsletter

3



NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS
UPPER WEST FORK TRINITY WATERSHED
PRE-DISCOVERY MEETING

Agenda:

1. Contact communities within watershed
2. FEMA develops Watershed Engagement Strategy
3. Pre-Discovery Webinar
4. Local submit of available data to FEMA
5. Analyze watershed partnerships
6. Discovery Process Newsletter
7. Discovery Map
8. Identify local flood hotspots/concerns
9. Pre-Discovery Meeting

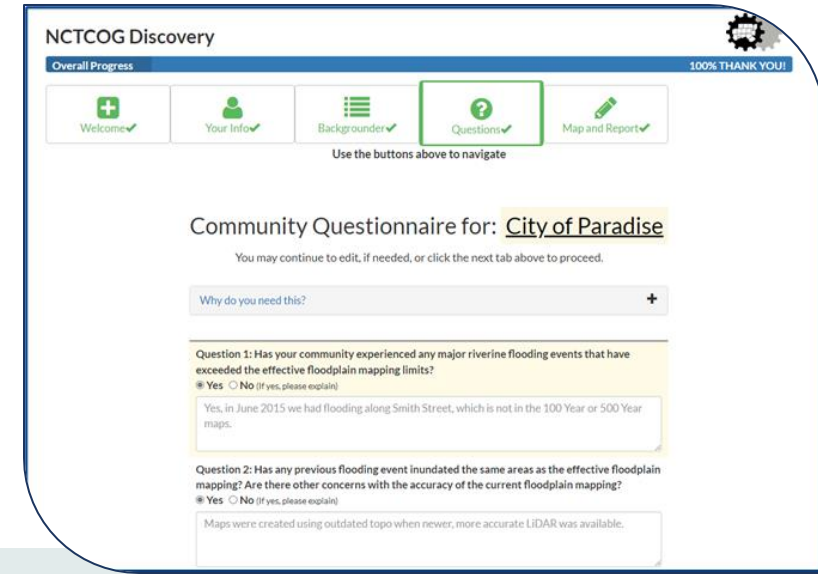
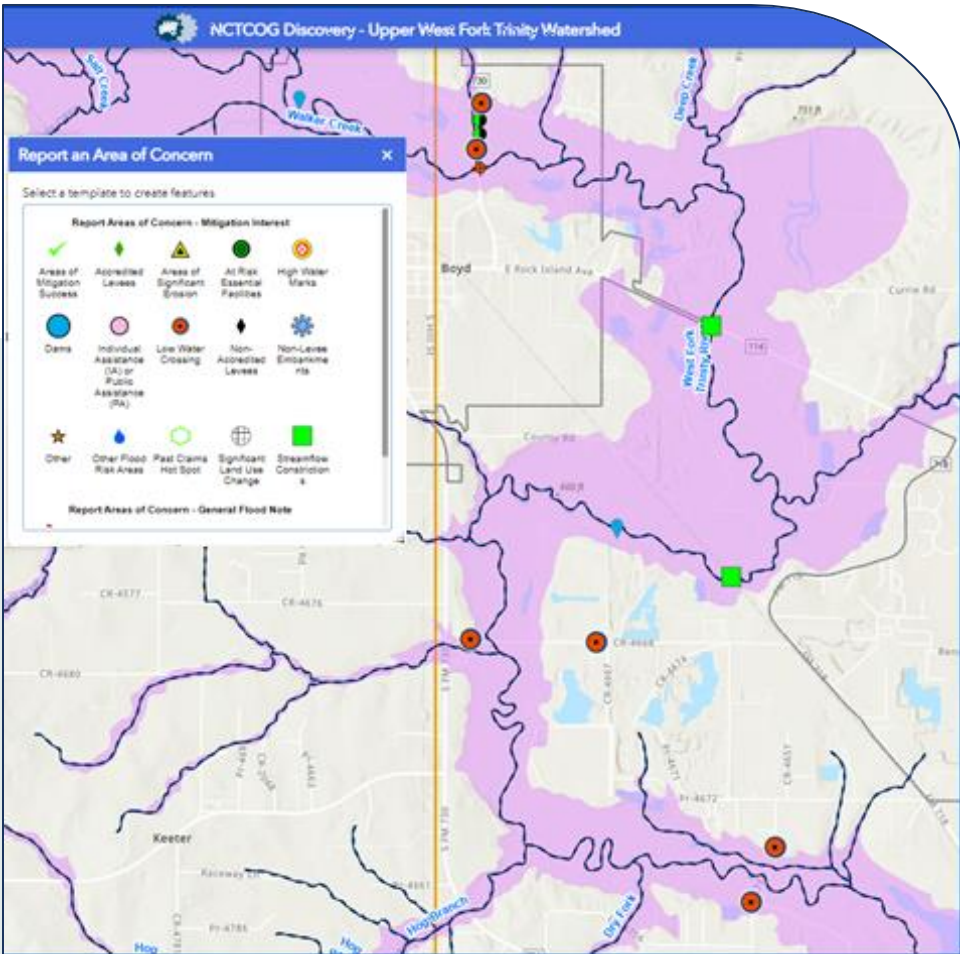
Legend: FEMA/State action | Community action | Product from for community use

FEMA | NCTCOG | HALFF


Pre-Discovery Webinars

DISCOVERY ACTIVITIES

Communities used Discovery Website to submit their flood risk concerns



DATA SUBMITTED

 Low Water Crossings

 Highwater Marks

 Significant Land use Change



Streamflow Constrictions



Flooding Concerns

North Texas Discovery Journey – Guide/Ambassador Checklist

Community Name: _____

Community Contact: _____ Role: _____

Knowledge Scale (1-10; 1 = very little knowledge, 10 = very good understanding): _____

Discovery Meeting Guide: _____

One of the primary sources to collect data for the Areas of Mitigation Interest is from our local partners during the flood study process. To accomplish this, establish a dialogue with the community representative and guide them to each of the meeting stations to ensure we collect data about their mitigation needs and address their questions or concerns.

Grey – Handled at Laptop Booth

Blue – Informational Booths

Data Item	Completed Pre-Meeting?	Completed/Updated At Meeting?
Backgrounder (Website) – basic information, i.e. NFIP policies/claims, floodplain stream miles, LiDAR availability, hazard mitigation plan, CRS status, etc.	<input type="checkbox"/>	<input type="checkbox"/>
Questionnaire (Website) – comments on mapping, any mitigation projects, unmapped areas that flood, high water mark data, do you use GIS, master drainage plan, etc.	<input type="checkbox"/>	<input type="checkbox"/>
Map (Website) – has community entered areas of mitigation interest (AOMI) information into the web map?	<input type="checkbox"/>	<input type="checkbox"/>

Requesting Information from Communities

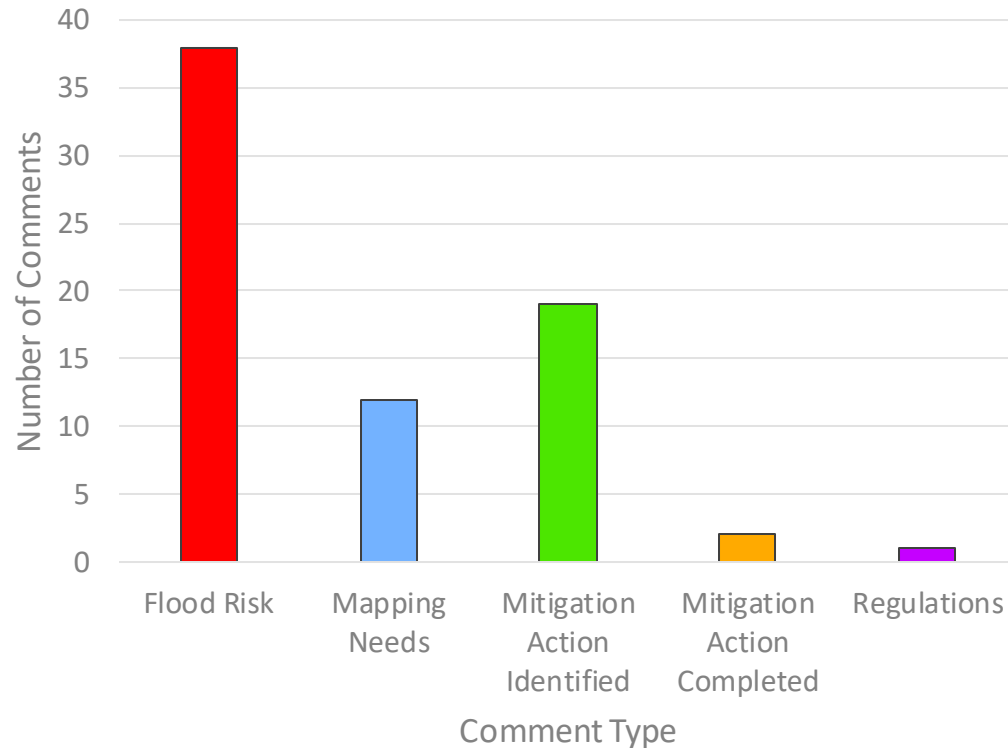
DISCOVERY MEETING – JANUARY 17TH
 Receive flooding issues
 Facilitate discussion among stakeholders



Meet With Other Stakeholders

DISCOVERY FINDINGS

Upper West Fork Trinity Watershed
Stakeholder Comments



Flood Risk- Areas that have flooded and pose a risk to structures or people

Mapping Need- Areas that may need updated floodplain studies

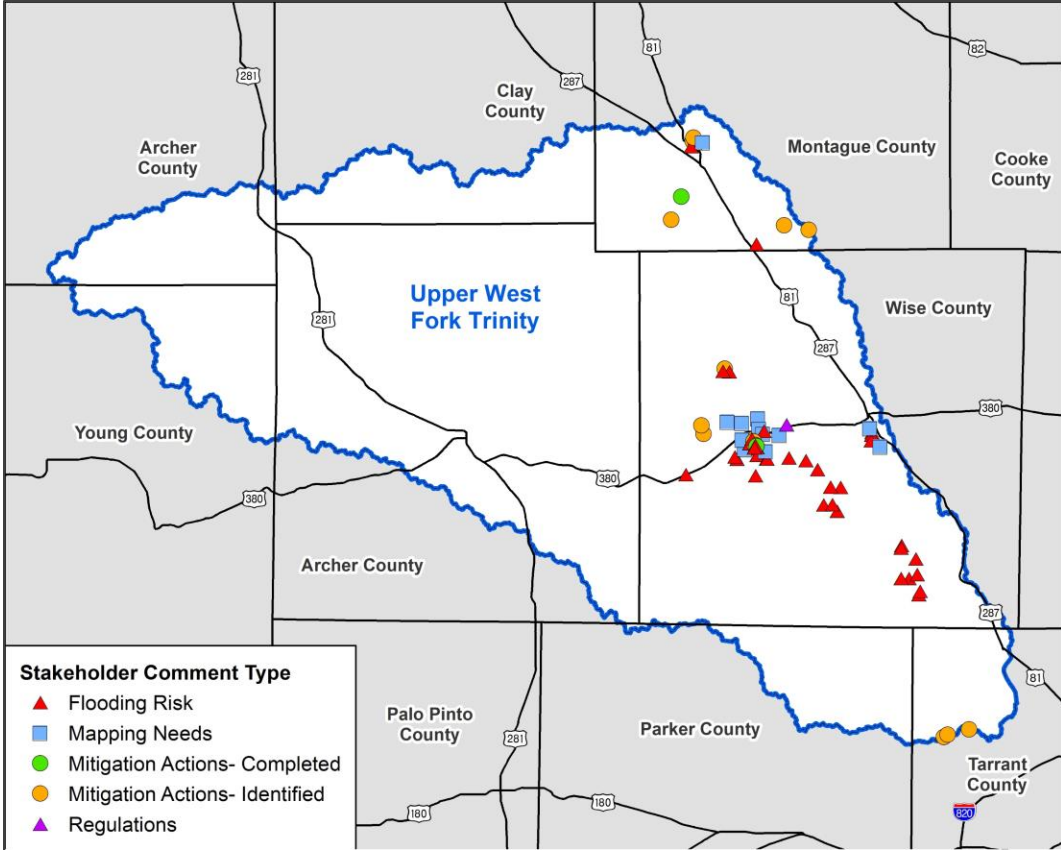
Mitigation Action Identified- Areas that may need projects to minimize flooding risks

Mitigation Action Completed- Areas where mitigation projects have already occurred that minimized flooding risks

Regulations- Areas where the regulations may need updates

DISCOVERY FINDINGS

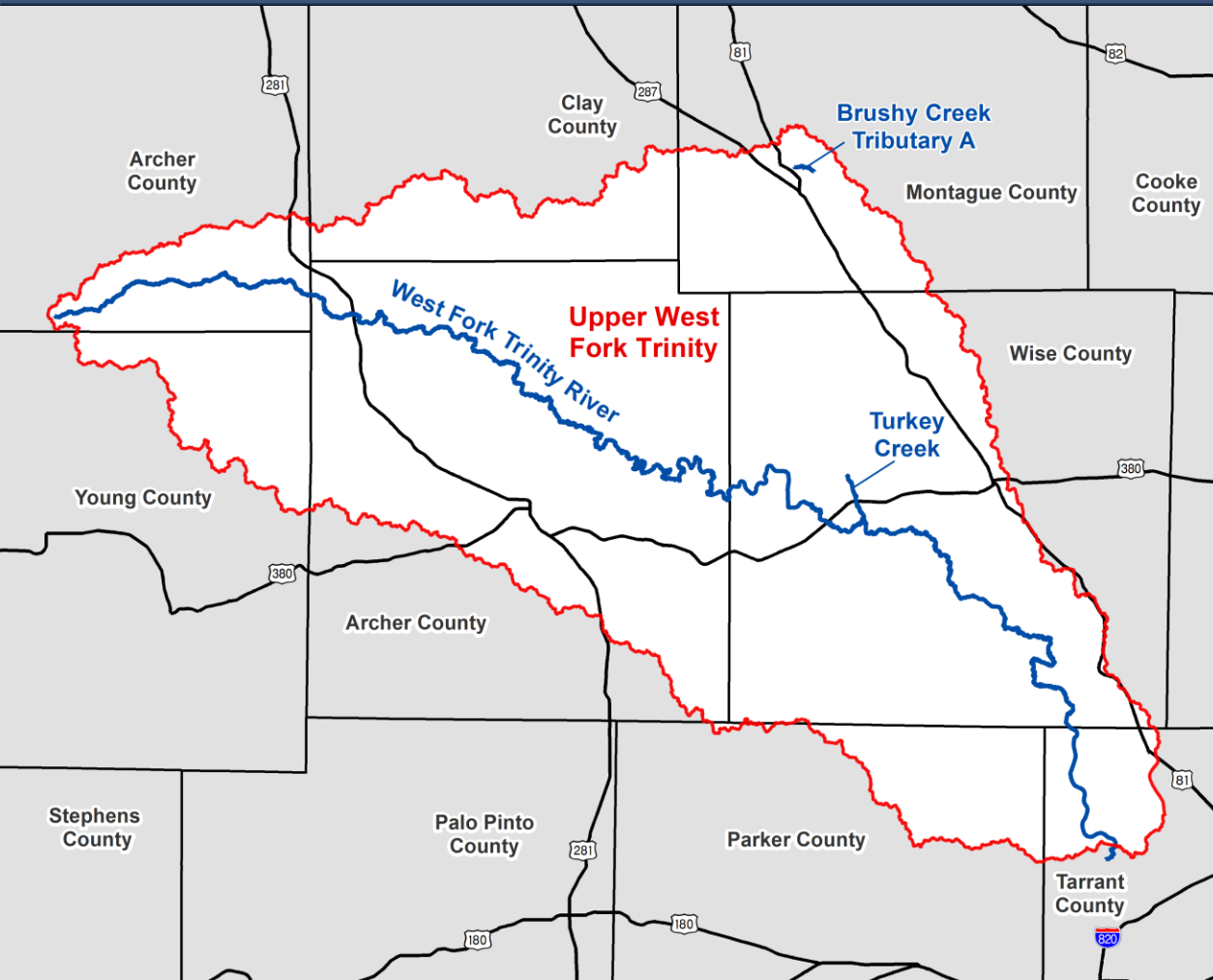
72 Stakeholder Map Comments



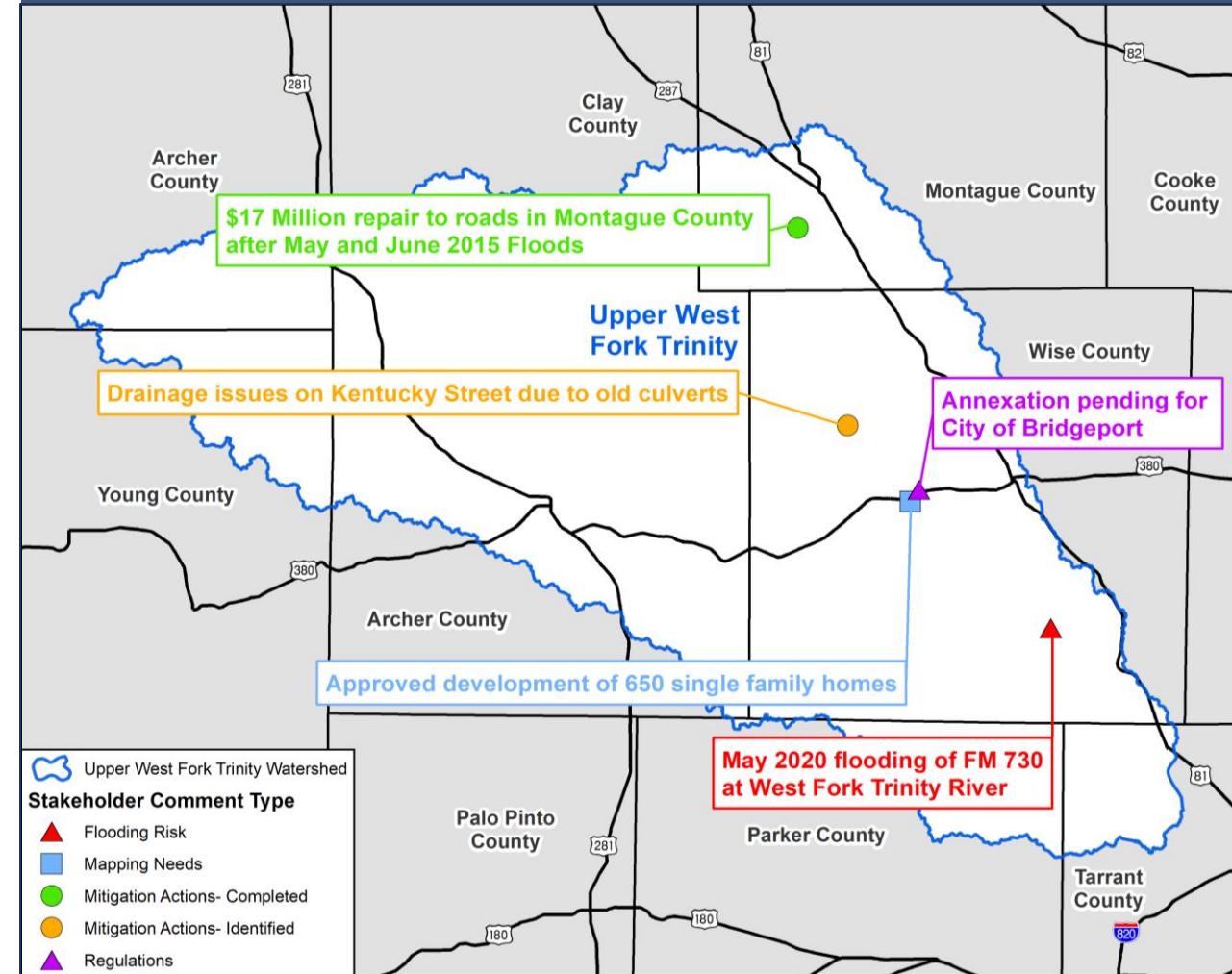
Number of Comments	Community
9	Bowie
2	Boyd
17	Bridgeport
4	Chico
5	Decatur
1	Fort Worth
5	Montague County
1	Runaway Bay
2	Tarrant County
26	Wise County

DISCOVERY FINDINGS

Requested Study Streams

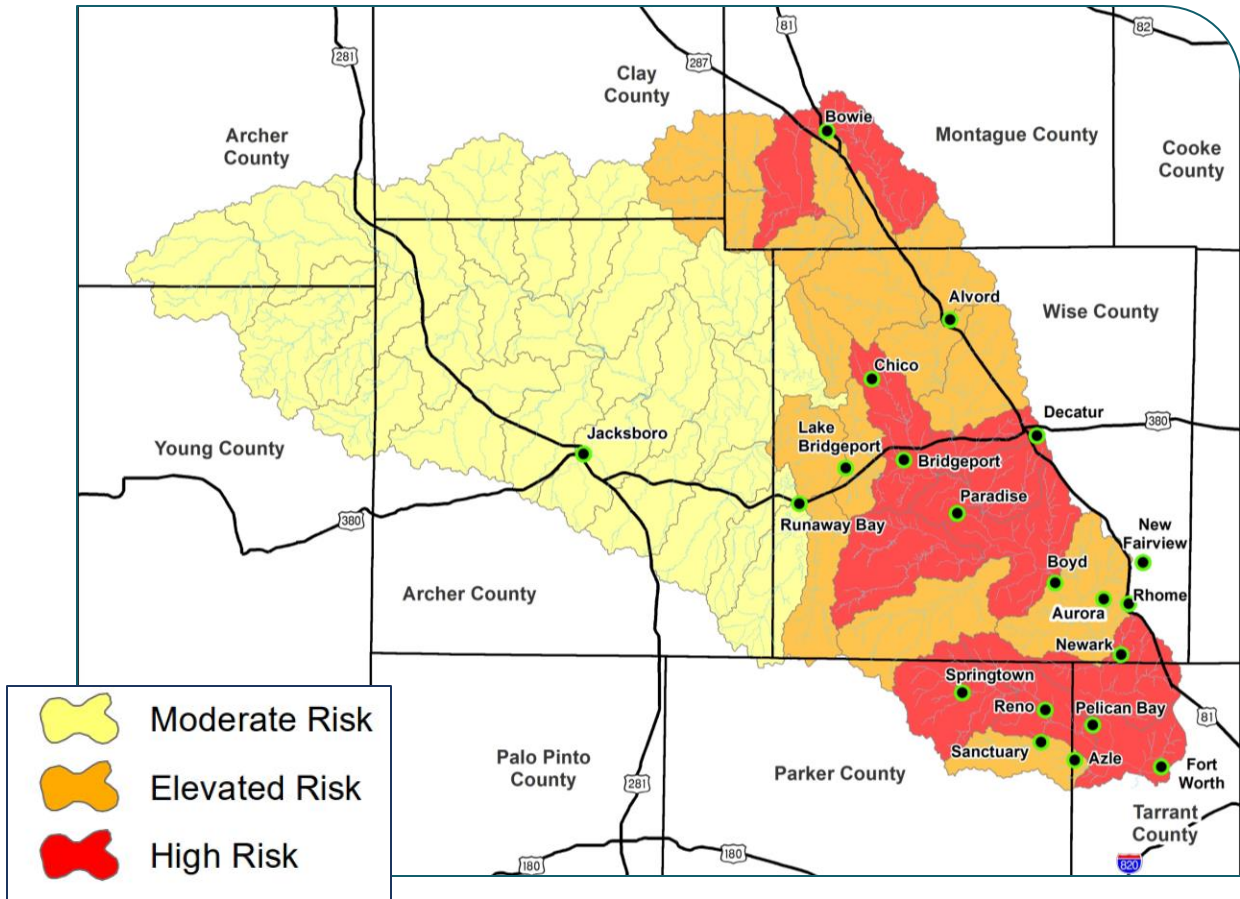


Sample Comments Submitted



DISCOVERY FINDINGS

HUC-12 Watershed Prioritization

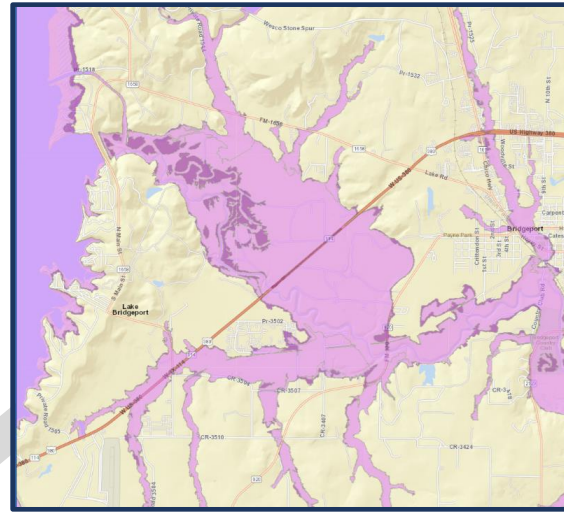


Criteria No.	Description	Max Weight
1	Population density	10
2	Population change	10
3	Predicted population growth	10
4	History of flood claims	10
5	History of flood events	10
6	Number of Letters of Map Change (LOMR/LOMA)	5
7	National Risk Index- Flooding Score	10
8	Age of technical data – hydrology (num. of years)	5
9	Age of technical data – hydraulics (num. of years)	5
10	Ability to leverage current studies (Y/N)	5
11	Potential for local funding (Y/N)	5
12	Potential for local “work in kind” (Y/N)	3
13	Previous contribution to a FEMA study (Y/N)	2
14	Stakeholder mapping request	10

BASE LEVEL ENGINEERING

1

- Automated hydraulic modeling
- Model Review and Adjustments
- Gage Review included in hydrology



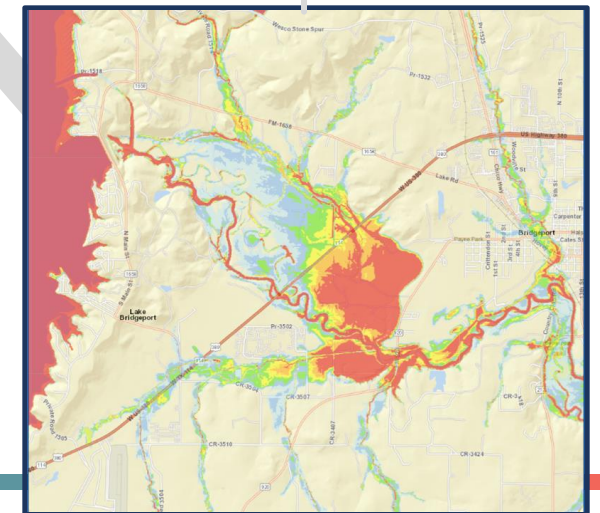
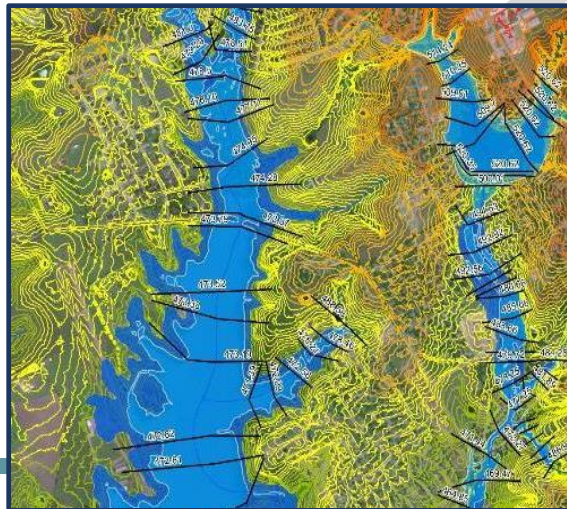
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- Depth and Analysis Grids
- Areas of Expanded Flood Risk
- Flood Risk Assessment

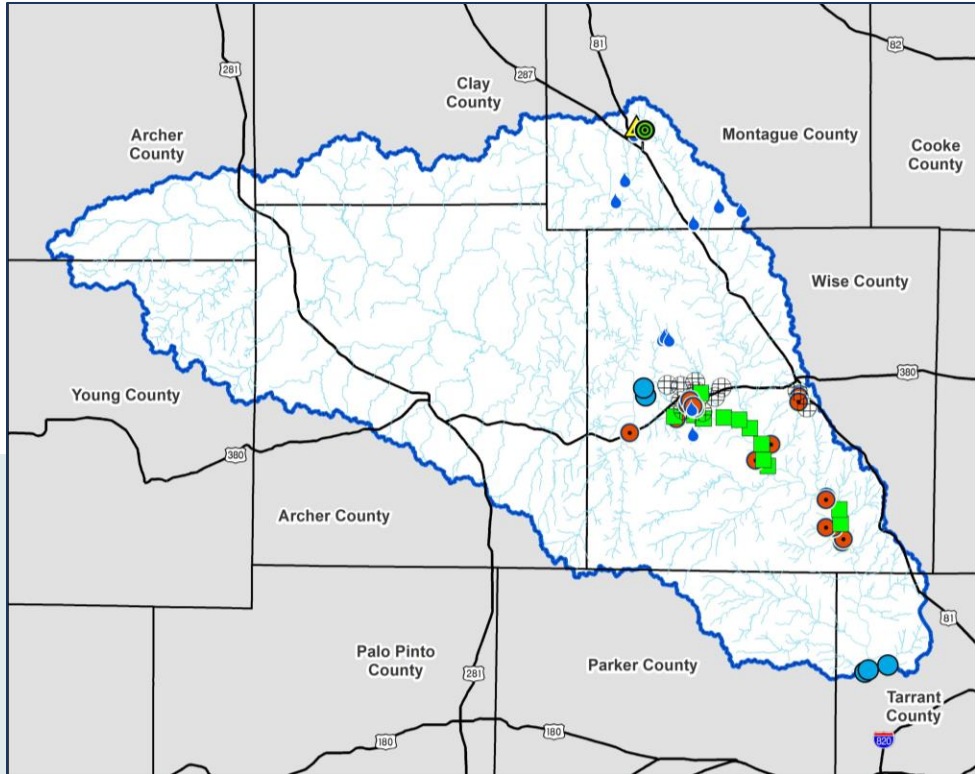
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Hydraulic modeling

- 10%, 4%, 2%, 1% and 0.2% storm events
- Floodplain Boundaries
- 10%, 1% and 0.2%



DISCOVERY FINDINGS

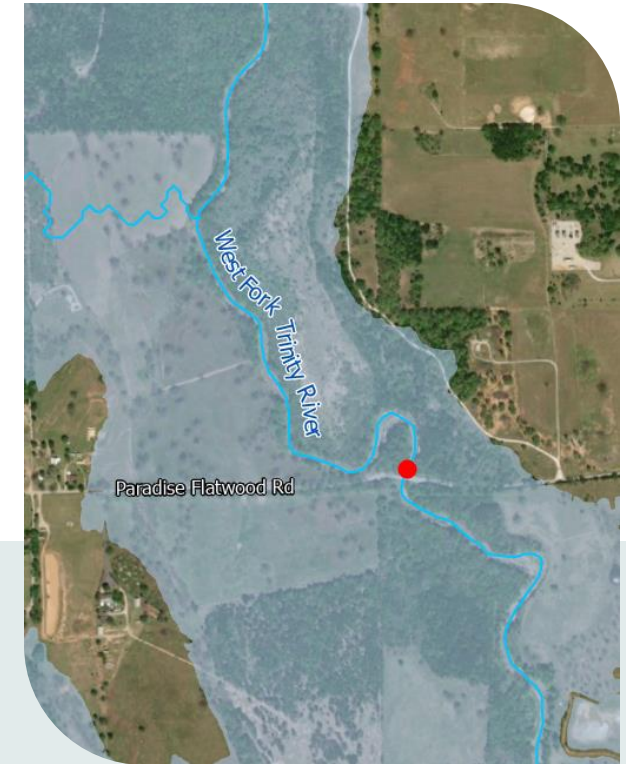


AREAS OF MITIGATION INTEREST (AOMI)

- Structure inventory for future Discovery/Mitigation efforts
- Places with unknown or increased flood risk
- Identified by communities

Areas of Mitigation Interest

- ✓ Areas of Mitigation Success
- ▲ Areas of Significant Erosion
- Dams
- Low Water Crossing
- Streamflow Constrictions
- ◎ Mapping Need
- Other Flood Risk Areas
- ⊞ Significant Land Use Change



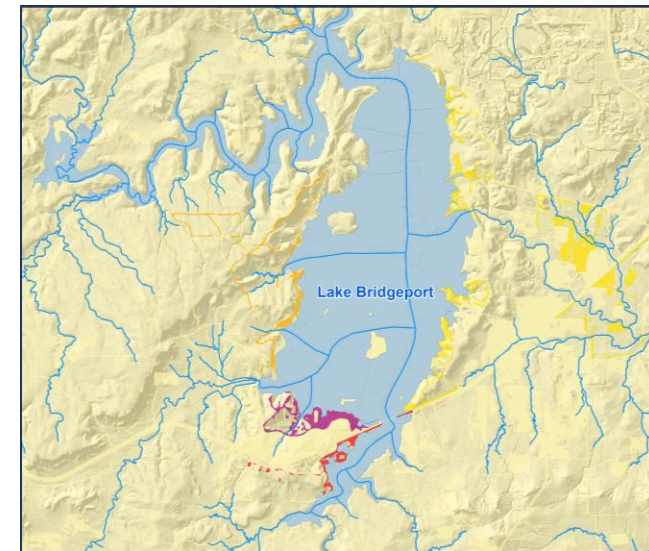
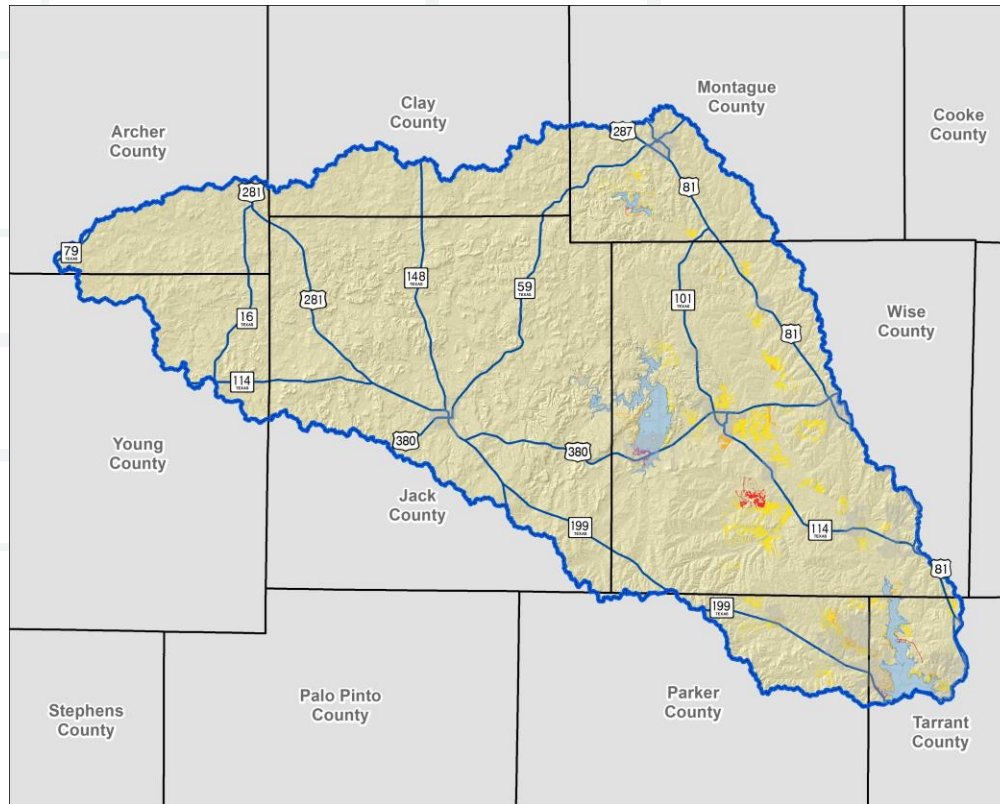
Key to Features

- AOMI Point
- ~ Model Stream
- ⊞ Mapping: 100-Year

DISCOVERY FINDINGS

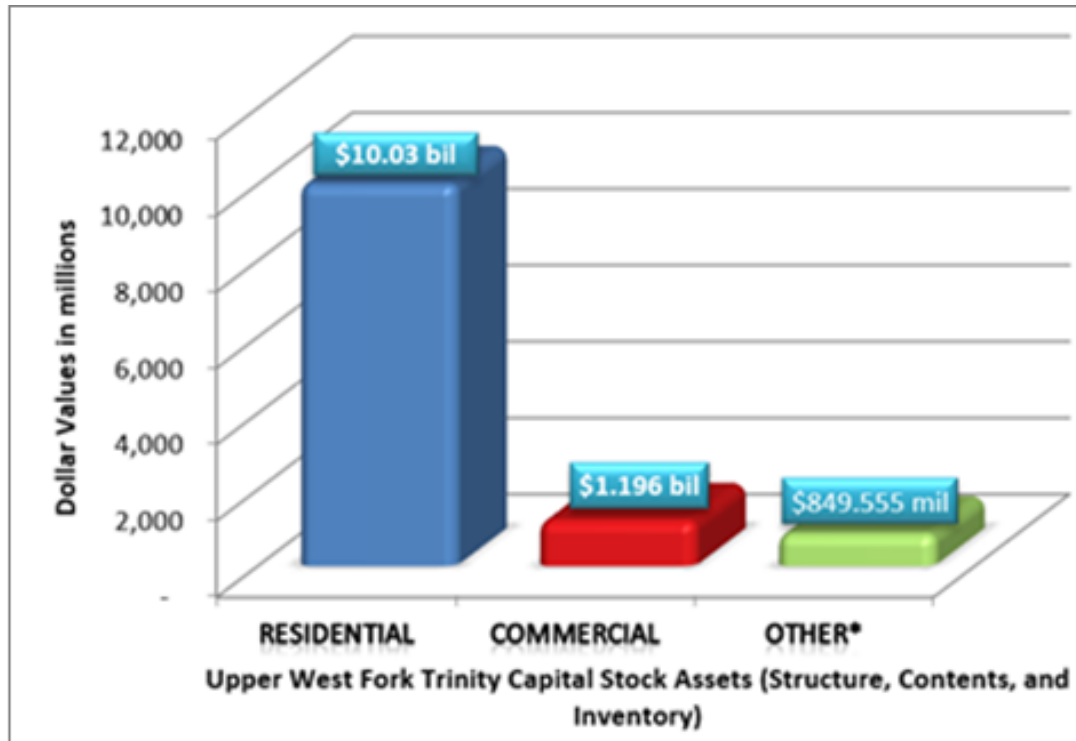
Hazus-Based 100-Year Potential Loss Estimates

- Identify flooding consequences in damages and other losses
- Based on 100 Year Depth Grids and at-risk assets
- Can be further refined



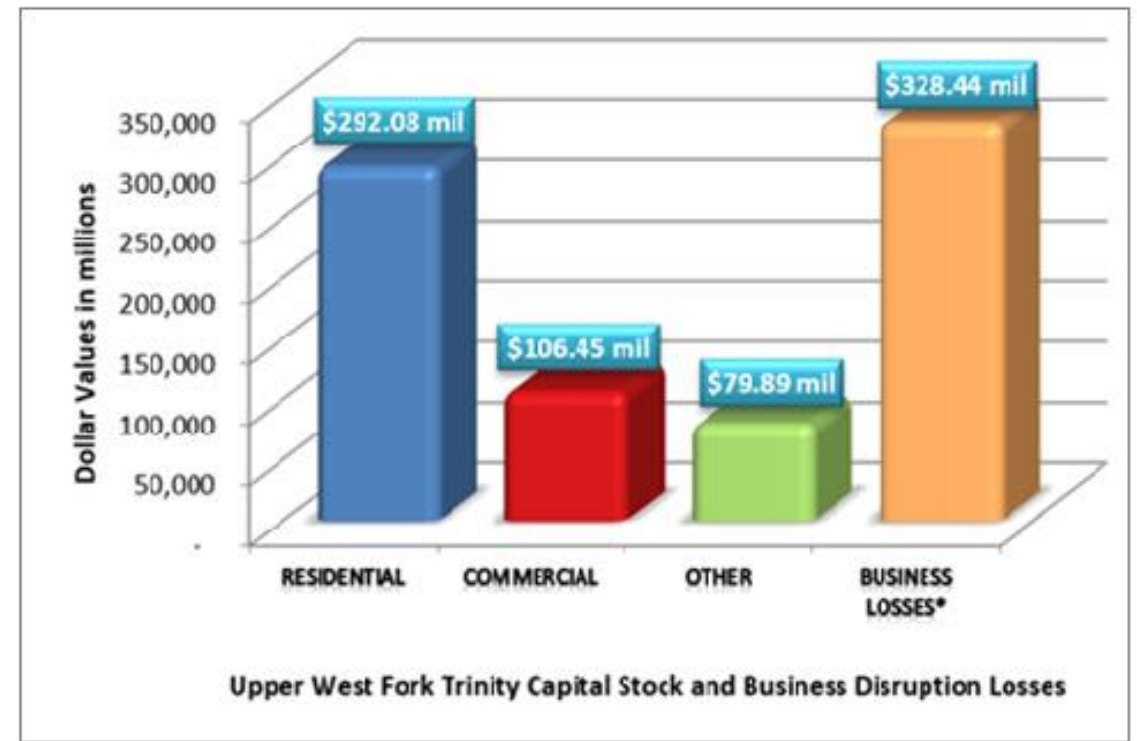
DISCOVERY FINDINGS

Asset Inventory Values



*Other structure types include Industrial, Agricultural, Education, Religious and Government structures.

100-Year Flood Event Potential Losses

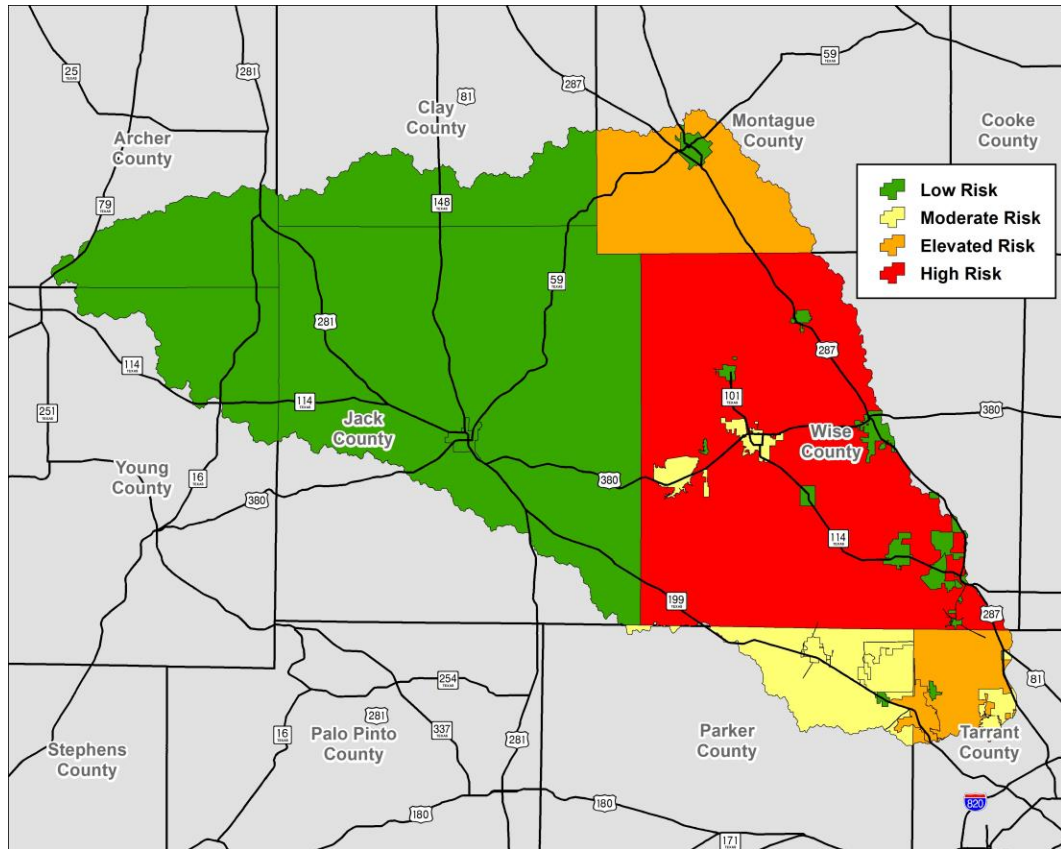


*Business Losses are the sum of inventory Loss, Relocation Cost, Income Loss, Rental Income Loss, Wage Loss, and Direct Output Loss.

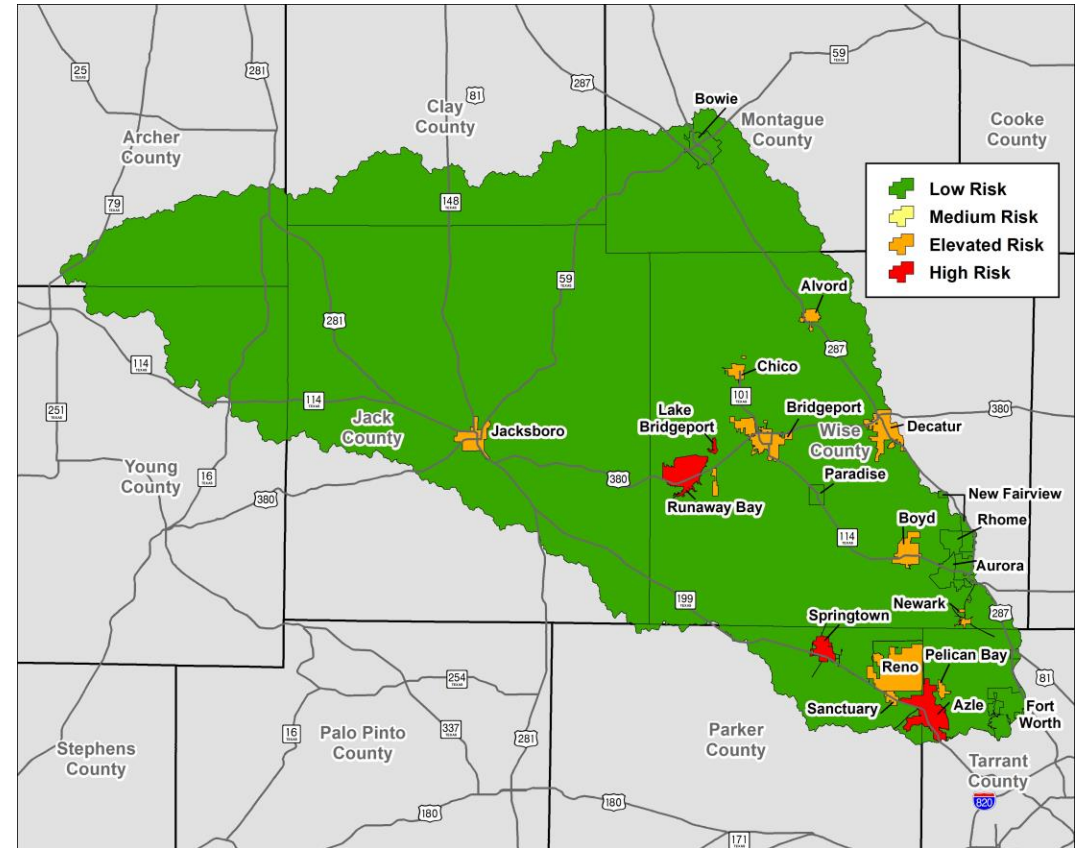
DISCOVERY FINDINGS

HAZUS-BASED 1% ANNUAL CHANCE LOSS ESTIMATES

Total Community Loss



Community Loss By Area



DISCOVERY FLOOD RISK REPORT



Prioritization Results



Records of Historical
Flooding



Summary of Discovery
Activities



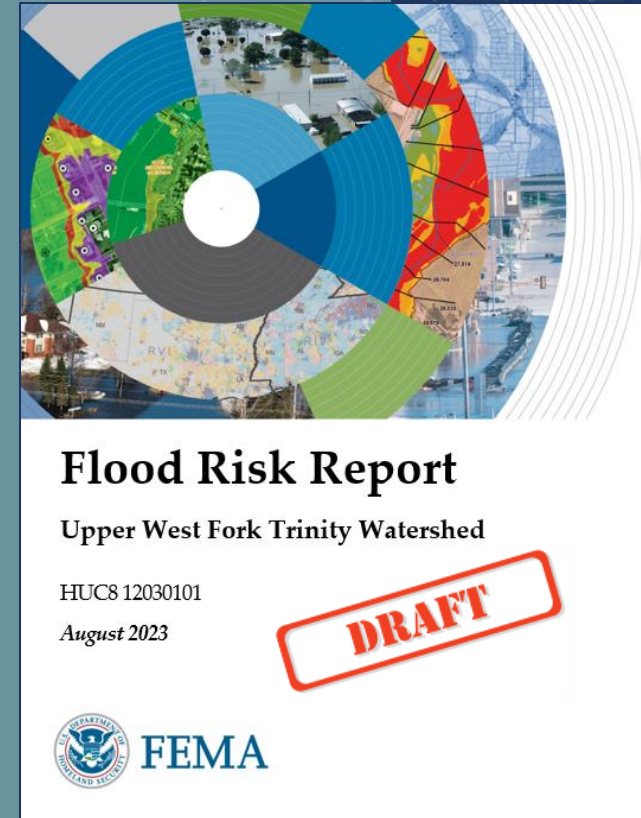
Stakeholder Comments



Community Snapshots



Figures and Maps

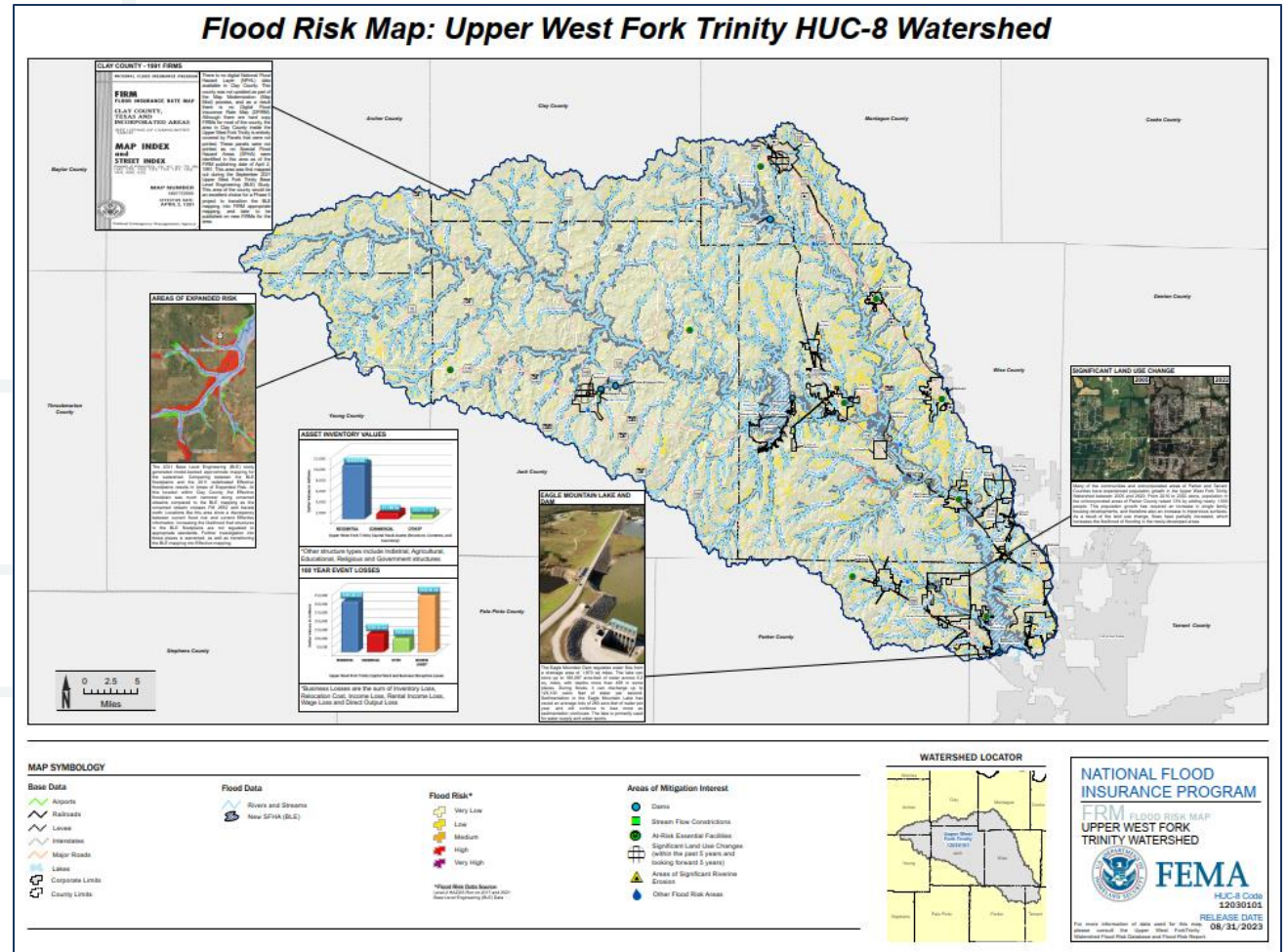


DISCOVERY FLOOD RISK REPORT

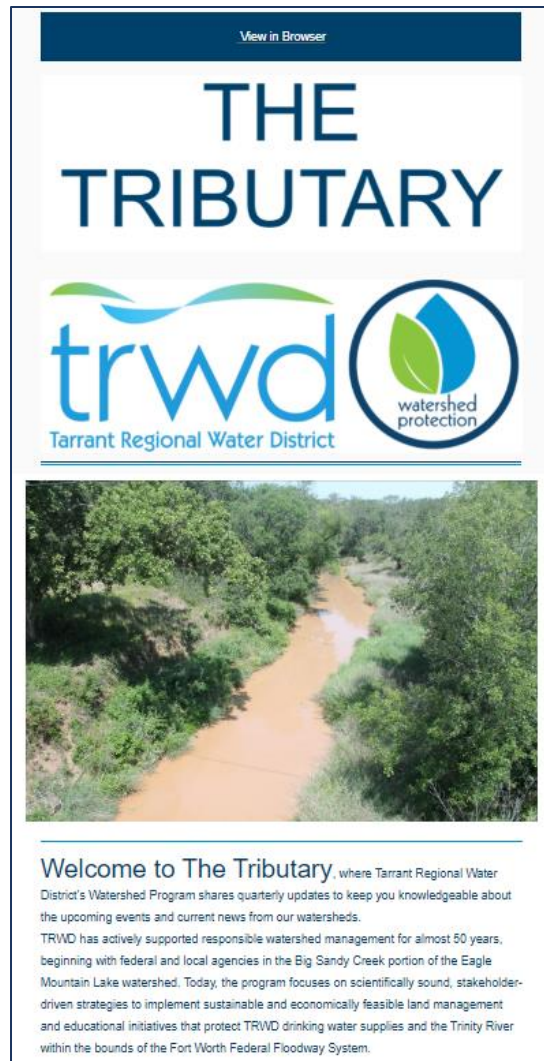


DISCOVERY FLOOD RISK MAP

- Shows Flood Risk, including:
 - Community Comments
 - BLE Data
 - HAZUS Losses
 - Land Use Change



TARRANT REGIONAL WATER DISTRICT NEWSLETTER

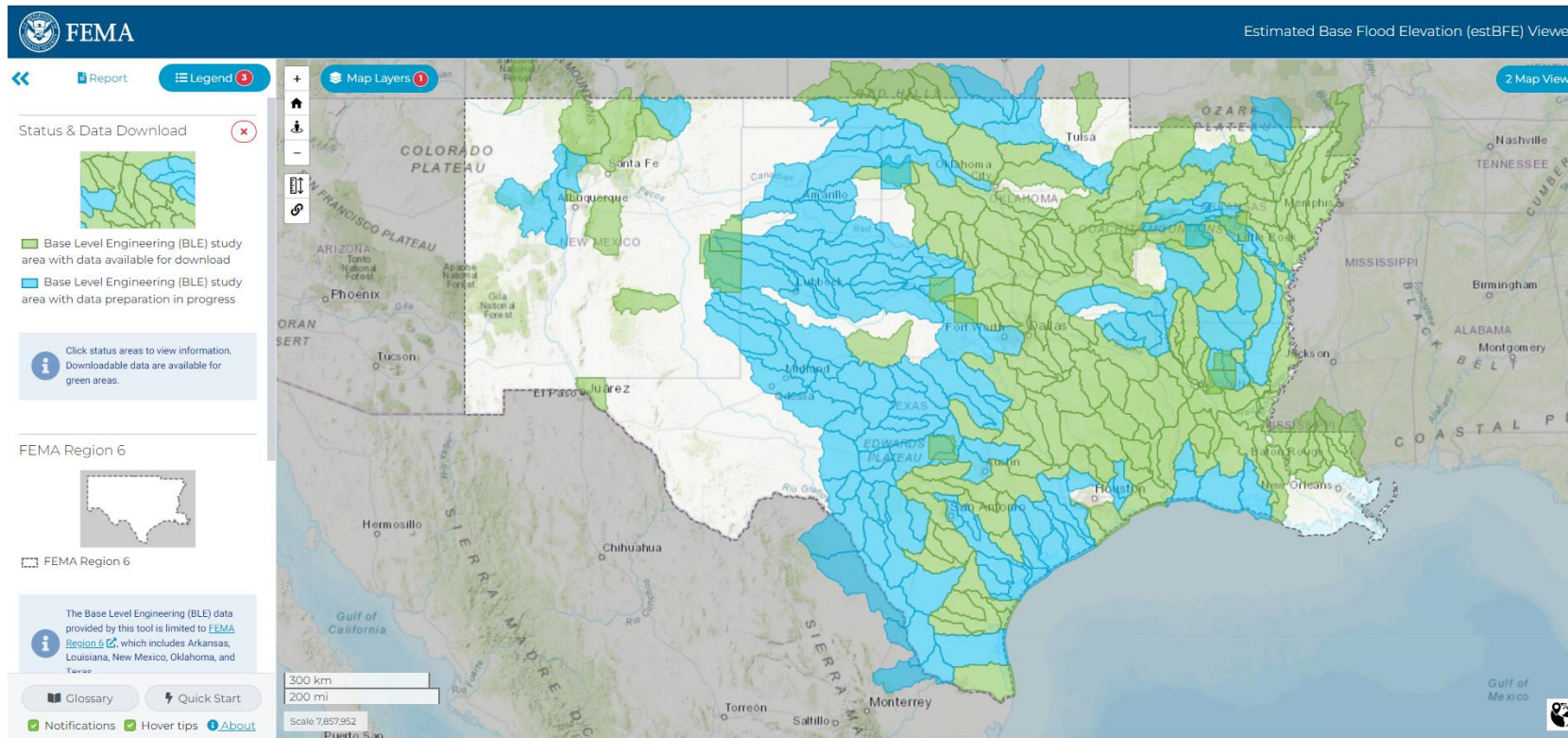


- Newsletter for Tarrant Regional Water District
- Discusses land management strategies and educational incentives
- Jurisdiction covers Lake Bridgeport, Eagle Mountain Lake, and their watershed
- Subscribe here:
 - <https://trwd.us12.list-manage.com/subscribe?u=d62a6eab917276b12327e6786&id=bbe12d0ae4>

FEMA BFE VIEWER

[HTTPS://WEBAPPS.USGS.GOV/INFRM/ESTBFE](https://webapps.usgs.gov/infrm/estbfe)

- View and download completed BLE data
- Useful for determining BFEs for development
- Watch recording here: <https://youtu.be/PWt3epwHofU>
- BFE Viewer Tutorial starts at minute 52:50



DISCOVERY OVERVIEW

Discovery Process
And Base Level Engineering

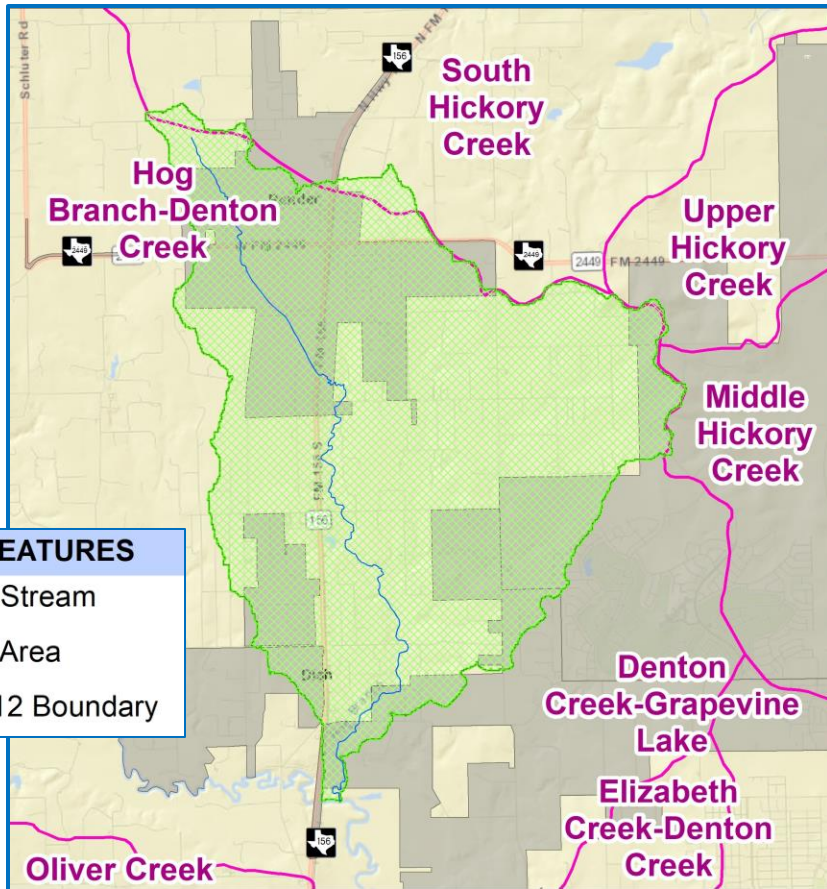


End of Phase 1

Up Next: Phase 2

- Coordinate with FEMA and NCTCOG
- Perform Flood Hydrology and Hydraulics Studies

RECENT POST-DISCOVERY PROJECT



2021 HOG BRANCH STUDY – DENTON COUNTY

New H&H and Mapping

Flood Risk Products including Flood Risk Assessment

Result of Denton Discovery

Q&A

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