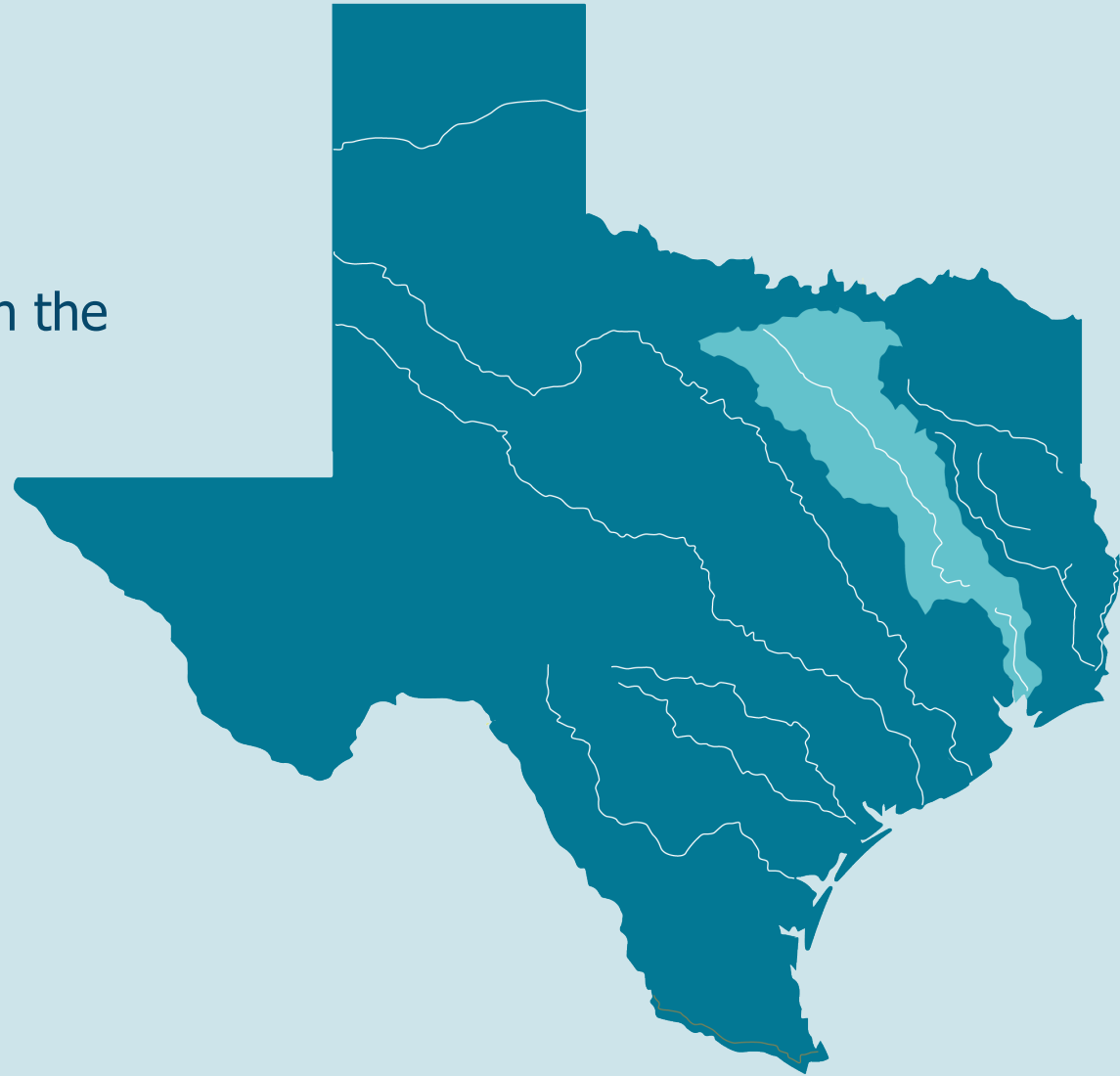




Public Meeting to Accept Comments on the  
Draft Regional Flood Plan  
Arlington, Texas (hybrid meeting)  
September 8, 2022





# Agenda

- 1.
- 2.
- 3.
- 4.

# AGENDA

- **Call to Order / Purpose and Format of the Meeting**
- Roll Call
- Approval of Minutes From Previous Meeting
- Texas Water Development Board Comments
- Overview of Regional Flood Planning Process
- Presentation on the Draft Region 3 Trinity Regional Flood Plan
- Receive Public Comments (limit 3 minutes per person)
- Adjourn





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Region 3 Trinity Flood Planning Group Hybrid Meeting  
Thursday, July 21, 2022  
10:00 a.m.  
Dallas County Records  
Building Results Training  
Room #7.Y11 (7th Floor)  
500 Elm St  
Dallas, TX 75202

The Region 3 Trinity Flood Planning Group held a meeting, in person as well as virtual, on Thursday, July 21, 2022, at 10:00 AM. Chairman Glenn Clingenpeel called the meeting to order at 10:00 AM.

Voting Members Present:

Melissa Bookhout  
Lissa Shepard  
Sano Blocker (absent)  
Jordan Macha (absent)  
Rachel Ickert  
Craig Ottman (alternate for Rachel Ickert)  
Matt Robinson  
Sarah Standifer  
Andrew Isbell  
Glenn Clingenpeel  
Chad Ballard  
Galen Roberts  
Scott Harris

10 voting members were present at the time of roll call, constituting a quorum.

Ex Officio Members Present:

Adam Whisenant  
Rob Barthen  
Allen Nash for Steve Bednarz  
Kevin Enoch for Andrea Sanders  
Richard Bagans  
Humberto (Bert) Galvan  
Kris Robles for Brittany Frazier (joined after roll call)  
Greg Waller (absent)  
Ellen Buchanan  
Todd Burrer (joined after roll call)  
Jerry Cotter (joined after roll call)  
Lisa McCracken (absent)  
Cameron Cornett for Diane Howe  
Edith Marvin (joined after roll call)  
Justin Bower  
Lonnie Hunt (absent)

### Approval of the Minutes of the Last Meeting

Motion: Sarah Standifer moved to approve the minutes as presented;  
Second: Galen Roberts; Action: Minutes were unanimously approved.

### Approval of the Minutes of the previous Technical Subcommittee meeting

Motion: Scott Harris moved to approve the minutes as presented;  
Second: Lissa Shepard; Action: Minutes were unanimously approved.

### Acknowledgement of written public comments received

No written public comments were received.

### Receive registered public comments on specific agenda items

No registered public comments were received.

### TWDB Update

Richard Bagans with TWDB provided an agency update.

Region 3 RFPG is the first region to have executed all contracts for the additional funding provided for Task 11, 12, and 13.

The RFPG and consultants were reminded of the recent email that was distributed regarding the submission requirements for the Draft Regional Flood Plans. In the next 3 weeks, all other regions will meet to approve their Draft Regional Flood Plans, followed by public hearings in September.

Once the Draft Regional Flood Plan has been approved for submission, members of the RFPG have the discretion to include language to accommodate edits, such as “the RFPG approves to submit the Draft Regional Flood Plan with the updates discussed today or with substantial updates from the Technical Consultant.” Once the Draft Regional Flood Plan is submitted to the TWDB, no edits can be made. However, edits may be allowed through documented public comments or TWDB comments. Every comment received from the public and TWDB will need to be documented and responded to prior to adopting the Final Regional Flood Plan. Members of the RFPG are allowed to submit public comments on the Draft Regional Flood Plan to permit additional review. In summation, edits are allowed, but they will need to be made through a formal documentation process until the final adoption. The Final Regional Flood Plan is expected to be adopted in December 2022 or January 2023. The Amended Regional Flood Plan will allow for continued outreach and for updates in data collection as necessary to enhance Chapters 1-9. In



addition, it will allow for revisions of FMXs and the addition of FMXs under Tasks 4b and 5.

Update from Region 3 Technical Consultant – Stephanie Griffin with Halff Associates:

Ms. Griffin provided an overview of the agenda. Ms. Griffin stated that a summary of individual chapters within the Draft Regional Flood Plan would be presented. The Draft Regional Flood Plan chapters one, two, three, four, five, seven, and eight had previously been discussed in detail with the RFPG members and so only a short summary of those chapters would be presented. Chapters six, nine, and ten were recently finalized and provided to the RFPG members for review. Ms. Griffin stated that those chapters would be presented in more detail and that TWDB responses to the Technical Memorandum Addendum would also be presented before the members would be asked to consider adoption of the draft plan. In addition, she stated that Public Outreach initiatives, including the upcoming open houses, would also be discussed.

a. Overview of the Draft Region 3 Trinity Regional Flood Plan including goals and recommended FMEs, FMPs and FMSs

- Executive Summary, Stephanie Griffin with Halff Associates:

The Executive Summary was limited to 20 pages and provided background on the Regional Flood Planning process, key findings, recommendations and highlights of the Draft Regional Flood Plan. TWDB required statements were also included.

- Chapter 1 Planning Area Description, Stephanie Griffin with Halff Associates:

Disaster Declarations and flood issues from the past twenty years were summarized in Chapter 1. The chapter also includes a summary of land uses in the region, such as working lands and urbanized areas. In order to identify vulnerable areas within the region, a Social Vulnerability Index (SVI) was used. The SVI supported the development of the Draft Regional Flood Plan by assisting in the identification of proposed and recommended FMXs.

- Chapter 2 Flood Risk Assessment, Samuel Amoako-Atta with Halff Associates:

Chapter 2 included a summary of the [regional online data collection tool](#) that was created as an outreach tool to gather local flood-risk information. The regional online data collection tool is still publicly accessible, but is no longer actively monitored. The tool will be actively monitored during the amendment process. Chapter 2 also included the flood risk analysis for the region. The analysis examined current and future flood risk conditions, flood exposure, and the

vulnerability of communities and critical facilities to floods. More information had been collected since the last RFPG meeting, therefore an updated flood risk analysis table was presented side by side with the initial flood risk analysis table.

There was discussion on the regional online data collection tool. It was proposed that a funding mechanism be explored in future flood planning cycles to enable continuous submissions and active monitoring.

- Chapter 3 Floodplain Management Practices and Goals, Stephanie Griffin with Halff Associates:

The RFPG solicited local entity and public input in the development of floodplain management practices and flood protection goals for the Trinity Region. The RFPG recommended six floodplain management standards that were based on responses and input received. In addition, the RFPG developed seven overarching flood mitigation and floodplain management goals that met TWDB requirements. Each goal has at least one specific goal statement provided in the chapter.

- Chapter 4 Assessment and Identification of Flood Mitigation Needs, David Rivera with Freese and Nichols, Inc.:

Chapter 4 describes the process adopted by the RFPG to conduct a flood mitigation needs analysis to identify the areas of greatest known flood risk and areas where the greatest flood risk knowledge gaps exist. The assessment guided the effort of identifying the FMXs. 356 FMEs, 33 FMPs, and 143 FMSs were identified across the basin and subsequently divided into different categories prior to the deadline of April 2022. Additional FMXs have been submitted after the deadline and will be reviewed under the amended plan process.

- Chapter 5 Recommendation of FME, FMS, and Associated FMP, David Rivera with Freese and Nichols, Inc.:

Chapter 5 utilized the information developed in Chapter 4 to recommend flood mitigation actions, also known as FMXs, for inclusion in the Draft Regional Flood Plan. The RFPG Technical Subcommittee met several times to review all FMXs to ensure they met the TWDB requirements. 342 of the 356 FMEs were recommended and included in the Draft Regional Flood Plan. During the review process, 14 FMEs were not recommended due to the study being completed, the sponsor's lack of interest, or duplication. The total cost for implementing 342 recommended FMEs was estimated at \$145,966,000 million dollars.

During the review process, seven of 33 FMPs were recommended and included in the Draft Regional Flood Plan. These seven FMPs



had the necessary supporting documentation to be fully evaluated and met the TWDB requirements. The total cost for implementing seven recommended FMPs was estimated at \$175,770,000 million dollars.

During the review process, 136 of 143 FMSs were recommended and included in the Draft Regional Flood Plan. Seven FMSs were not recommended due to similarities to other FMSs, with which they were ultimately combined in the plan. The total cost for implementing seven recommended FMSs was estimated at \$746,900,000 million dollars.

- Chapter 6 Impacts of Regional Flood Plan, David Rivera with Freese and Nichols, Inc.:

Chapter 6, Task 6A summarizes the overall impacts of the FMXs recommended in the Draft Regional Flood Plan. Chapter 6, Task 6B summarizes the recommended FMXs that would measurably contribute to or impact water supply development and the State Water Plan. A few FMX examples were presented.

Impact of FME example: It was determined that approximately 70% or 38,000 stream miles of the Trinity River Basin had outdated or approximated floodplain mapping. The Draft Regional Flood Plan recommended 35 county-wide FMEs to improve floodplain mapping coverage. The recommended FMEs would provide up-to-date floodplain mapping for approximately 9,500 streams or 25% of the entire Trinity River Basin.

Impact of FMP example: One of the recommended FMPs presented was a regional detention project that would replace an existing undersized detention pond and provide sufficient storage capacity to mitigate flood events associated with the 100-year flood. The benefits of implementing the seven recommended FMPs would provide flood risk reduction benefits to over 4,000 people within their zone of influence and help ameliorate roadway flooding conditions. Chapter 6 will be updated as the consultants continue with the amendment process.

Impact of FMS example: Because of the nature of the actions, recommended FMSs are not readily quantifiable. However, sponsors of three of the recommended FMSs dealing with property acquisitions provided detailed evaluations regarding the estimated effects of implementation. They estimated that the three recommended property acquisition FMSs would reduce flood exposure to 183 structures and 207 people.

Task 6B evaluated and summarized the impacts of the recommended FMSs and FMPs on the State Water Plan. The recommended FMSs or FMPs will not have a measurable impact on water supply, water availability, or the operation of existing water supply reservoirs.

Similarly, the recommended FMSs and FMPs are not anticipated to have any measurable impact on the State Water Plan.

A comment was provided to the Consultants regarding the duplication of Region C text in Chapter 6. It appeared on page 6-19 and again on page 6-22.

- Chapter 7 Flood Response Information and Activities, Audrey Giesler with Halff Associates:

Chapter 7 summarizes the current flood response preparations in the Trinity Region using demographic, historical, projected, and statistical data from Chapters 1 through 6. Survey responses received from entities through the online data collection tool were also documented. The survey revealed that 1) most participating jurisdictions do not have comprehensive flood plans, 2) coordination between city and county entities is essential at all stages of a flood event, and 3) online and on-the-ground outreach regarding mitigation measures is essential.

- Chapter 8 Administrative, Regulatory & Legislative Discussion, Audrey Giesler with Halff Associates:

Chapter 8 included Legislative, Administrative, Regulatory, Flood Planning, and New Funding Recommendations. Eight Legislative recommendations, nine Administrative and Regulatory recommendations, and 17 Flood Planning recommendations were approved by the RFPG for inclusion in the Draft Regional Flood Plan. New Funding recommendations were not identified through the regional flood planning process. However, several existing funding mechanisms as well as recommended changes to those existing funding recommendations were proposed and included under Legislative or Administrative recommendations. The RFPG recommendations emphasize Counties' responsibilities and abilities, the acquiring of additional funding or the State providing additional funding, and rural and small communities challenges faced due to minimized resources.

It was proposed that a working group be established to revisit these recommendations prior to the next flood planning cycle.

- Chapter 9 Flood Infrastructure Financing Analysis, David Rivera with Freese and Nichols, Inc.:

Chapter 9 summarized how sponsors of recommended FMXs proposed to finance the recommended actions. The chapter focused on understanding the funding needs of the sponsors and recommended the role the State should have in financing the recommended FMXs. Methodology and results of the financing survey



were presented. As of July 5<sup>th</sup>, 2022, only 22 of 158 sponsors had responded to the survey. The overall total cost needed to implement the recommended FMXs was estimated at over one billion dollars. It was projected that the majority of the funds, \$961,274,000 dollars, would need to be provided by state and federal sources. It was mentioned that the financing survey will continue to be promoted throughout the region, and that the amendment process will allow information from future responses to be included in the Amended Plan.

It was stated that the RFPG had met with several sponsors to address outstanding questions. Further comments and additional FMXs received will be documented as public comment and will be responded too and addressed after the public comment period closes, but they cannot be added to the Draft Plan. However, edits and additions may be incorporated in the Amended Draft Regional Flood Plan. TWDB stated that they will review the public comment process and provide clarification to the RFPG.

There was some discussion on the availability of funding for recommended FMXs, and how those funds would be allocated. It was clarified that all data and supporting materials submitted in the Region 3 Regional Flood Plan will be incorporated into the Statewide Flood Plan which the TWDB will then use to determine which actions receive funding. A prioritization review may occur if limited funding is available. Chapter 5 of the Regional Flood Plans will be used by the TWDB as one resource in the ranking process.

The first regional flood plan erred on the side of inclusion and sought to identify all eligible FMXs and areas at risk of flooding within the region. During subsequent flood planning cycles, additional efforts will be made to identify potential FMXs in areas of flood risk that do not have local or regional champions. It was suggested that an RFPG meeting be held during the interim flood planning cycles to discuss FMX funding and provide input.

- Chapter 10 Public Participation and Plan Adoption, Owen Ramsey with Cooksey Communications:

An overview of Chapter 10 was provided. Chapter 10 highlights the efforts that have been undertaken to increase public awareness about flood planning, gather data for the regional flood plan, and encourage continued engagement throughout the flood planning process. Chapter 10 includes four appendices that encompass informational flyers, written comments received prior to submissions of the Draft Regional Flood Plan, oral comments that will be received, and written comments that will be received.

- i. Responses to select TWDB comments on the Technical

Memorandum and Technical Memorandum Addendum, Stephanie Griffin with Halff Associates:

TWDB provided informal comments on the Technical Memorandum that was submitted in January 2022 and the Technical Memorandum Addendum that was submitted in March 2022. TWDB requested clarification on short-term goals to establish a baseline measurement. A "Baseline" column was added to the short-term goals that are found in Chapter 3 and baselines were clarified. TWDB also provided comments on the included tables, maps, and the geodatabase. The consultants have addressed all comments.

TWDB provided a checklist to the consultants on July 1<sup>st</sup> to ensure that all deliverables associated with the Draft Plan have been met. It was requested that in the motion to adopt the Draft Region 3 Regional Flood Plan, that the RFPG provide flexibility to the consultants to allow for modifications based on the checklist or other non-material changes such as typographical errors.

- b. \* Consider approval of the Draft Regional Flood Plan to be submitted to the TWDB, the RFPG website and three libraries within the region

Chairman Glenn Clingenpeel called for a motion to approve the Draft Regional Flood Plan to be submitted to the TWDB contingent upon the incorporation of any necessary non substantive comments or changes, published to the RFPG website and provided to three libraries within the region for public access.

Motion: Scott Harris approved the Draft Regional Flood Plan to be submitted to the TWDB contingent upon the incorporation of any necessary non substantive comments or changes, published to the RFPG website and provided to three libraries within the region for public access; Second: Rachel Ickert; Action: Motion passed unanimously.

- c. Process to receive, review and respond to comments received on Draft Regional Flood Plan, Stephanie Griffin with Halff Associates:

Written comments from the public must be received by October 10<sup>th</sup>, 2022. Oral comments will be received at the September 8<sup>th</sup> RFPG meeting. TWDB is expected to provide comments in mid-October. The Consultant Team will group comments together by common topics and develop draft responses for RFPG's consideration. An RFPG meeting will be scheduled in November or December to review all comments and consider draft responses. Any additional FMXs received will be considered for potential inclusion in the amended plan.

- d. Public outreach updates, Allison Chvojan with Cooksey Communications:



Open House Informational Sessions have been scheduled for August 29<sup>th</sup> – August 31<sup>st</sup>. For the purpose of preventing a quorum, members of the RFPG should notify the consultants if they wish to attend. Scott Harris, Andrew Isbell, and Glenn Clingenpeel confirmed they will attend the Open House meeting in Dayton on August 29<sup>th</sup>. Andrew Isbell tentatively confirmed and Glenn Clingenpeel confirmed they will attend the Open House meeting in Crockett on August 30<sup>th</sup>. Rachel Ickert and Glenn Clingenpeel confirmed they will attend the Open House meeting in Arlington on August 31<sup>st</sup>.

The purpose and format of the Open House Informational Sessions was presented. Breakout sessions are planned for the public to ask specific questions. Informational postcards will be sent to interested parties. Informational flyers and news releases will be provided via email to the RFPG and interested stakeholders to share.

It was requested that the flyers include a Regional Flood Planning overview and Draft Regional Flood Plan highlights.

#### Updates from liaisons for adjoining coastal regions

- a. Region 5 Neches RFPG: Andrew Isbell reported that the Region 5 meeting will be held on Friday, July 22nd.
- b. Region 6 San Jacinto RFPG: Scott Harris reported that Region 6 has approved the Draft Regional Flood Plan and is open for public comment. Todd Burrer also reported via WebEx Chat Feature:

“My report from the San Jacinto basin is that our plan is finished and online ready for review. Will be having our public engagement meeting on August 5.”

#### Update from Planning Group Sponsor

There were no updates.

#### Review administrative costs requiring certification

There were no administrative costs requiring certification.

#### Receive registered public comments – limit 3 minutes per person

Mr. Clingenpeel opened the floor for public comments. No public comments were received and the public comment section was closed.

#### Announcements

Scott Harris suggested that the RFPG start engaging with the [Gulf Coast Protection District](#) on current and future projects in the lower basin. Scott Harris

will provide a point of contact and continue the discussion with Glenn Clingenpeel.

Confirm meeting date for next meeting

Thursday, September 8<sup>th</sup>, 2022, at 6:00 p.m. the Public Hearing will take place at the NCTCOG Transportation Meeting Room

Thursday, November 17<sup>th</sup>, 2022, at 10:00 a.m. Location TBD

Thursday, December 8<sup>th</sup>, 2022, at 11:00 a.m. Location TBD

Consider agenda for next meeting

Adjourn

11:51 am pm adjourned

THE ABOVE AND FOREGOING ARE CERTIFIED TO BE TRUE AND CORRECT MINUTES OF THE REGULAR MEETING OF THE REGION 3 TRINITY FLOOD PLANNING GROUP HELD JULY 21, 2022.

\_\_\_\_\_  
SCOTT HARRIS, Secretary  
REGION 3 TRINITY FLOOD  
PLANNING GROUP

\_\_\_\_\_  
Date

\_\_\_\_\_  
GLENN CLINGENPEEL, Chair  
REGION 3 TRINITY FLOOD  
PLANNING GROUP

\_\_\_\_\_  
Date



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- Roll Call
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# Regional Flood Planning Overview

Glenn Clingenpeel

Chair, Trinity Regional Flood  
Planning Group

Executive Manager, Technical  
Services and Basin Planning,  
Trinity River Authority

**DRAFT  
2022**

**REGION 3  
TRINITY REGIONAL  
FLOOD PLAN**

Prepared for the Region 3 Trinity Regional  
Flood Planning Group

July 2022

TECHNICAL CONSULTANT TEAM  
Halff Associates, Inc. (Prime)  
Freese and Nichols, Inc.  
Nick Fang, Ph.D., P.E.  
H2O Partners  
Cooksey Communications



**REGION 3 TRINITY**  
REGIONAL FLOOD PLANNING GROUP



# The Trinity Regional Flood Planning Group

## Voting Members

Chad Ballard  
Sano Blocker  
Melissa Bookhout  
Glenn Clingenpeel  
Scott Harris  
Rachel Ickert  
Andrew Isbell  
Jordan Macha  
Galen Roberts  
Matt Robinson  
Lissa Shepard  
Sarah Standifer

## Interest Represented

Small business  
Electric-generating utilities  
Agricultural interests  
River authorities  
Water utilities  
Flood districts  
Public  
Environment  
Water districts  
Industries  
Counties  
Municipalities



# The Trinity Regional Flood Planning Group



## Non-Voting Members

Richard Bagans

Rob Barthen

Steve Bednarz

Justin Bower

Ellen Buchanan

Todd Burrer

Jerry Cotter

Bert Galvan

Diane Howe

Lonnie Hunt

Edith Marvin

Lisa McCracken

Kris Robles

Andrea Sanders

Greg Waller

Adam Whisenant

## Organization Represented

Texas Water Development Board

Texas Department  
of Agriculture

Texas State Soil and Water  
Conservation Board

Houston-Galveston Area Council

Region 5 Neches Flood Planning  
Group (liaison)

Region 6 San Jacinto Flood Planning  
Group (liaison)

US Army Corps of Engineers, Fort  
Worth Rep.

Texas Commission on  
Environmental Quality

Federal Emergency  
Management Agency

Deep East Texas Council  
of Governments

North Central Texas Council  
of Governments

US Army Corps of Engineers,  
Galveston Rep.

General Land Office

Texas Division  
of Emergency Management

National Weather Service /  
West Gulf River Forecast Center

Texas Parks and Wildlife Department

The background of the slide is an underwater scene. The top half shows the surface of the water with gentle ripples and a wave cresting on the right side. The bottom half is a deep, clear blue, representing the underwater environment. The text is overlaid on this background.

# What is State and Regional Flood Planning?



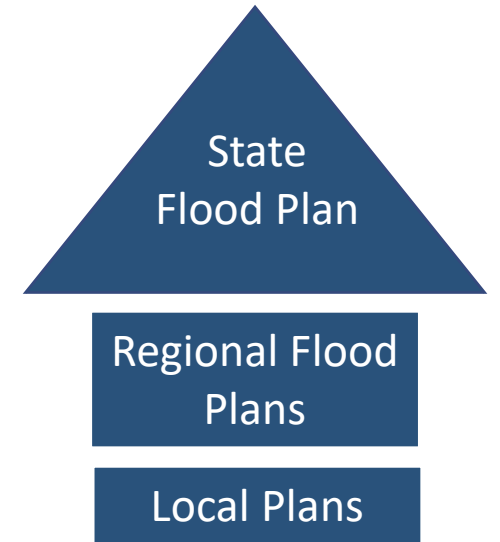
# Texas' State Flood Planning Process

- 2019: 86<sup>th</sup> Texas Legislature passed Senate Bill 8, providing new process for statewide flood planning
- Texas Water Development Board (TWDB) charged with implementation
- 15 regional flood planning groups (RFPGs)
- 12 interest categories represented
- First planning cycle started 2020, nearing end (future cycles: 5 years)
- Regional Plans to become part of State Flood Plan Sept. 2024



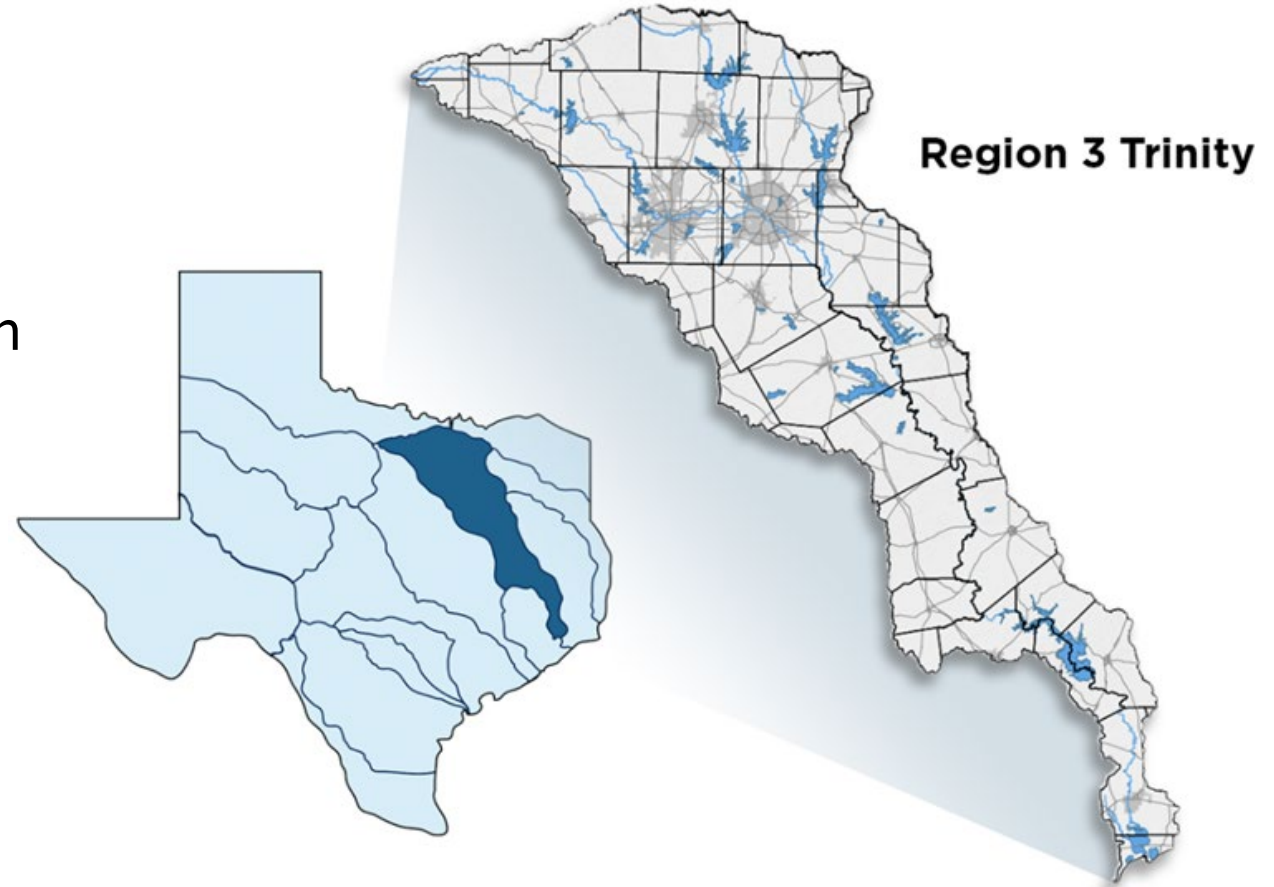
# Regional Flood Planning Process


- Approach modeled after regional water planning
- Grassroots ("bottom up") approach
- Same scope of work for each RFPG
- Regional flood plans will roll up to become State Flood Plan
- Public process



# Region 3 Trinity River Basin

- From Cooke County in north to Chambers County on Gulf Coast
- All or part of 38 counties
- Nearly 18,000 square miles, with almost 16,000 stream miles
- 30+ major lakes and reservoirs
- Population approximately 8 million and rapidly growing



The background of the slide is an underwater scene. A wave is visible at the top, with its crest just below the surface. The water is a deep teal color, and there are some light rays or bubbles visible in the background.

# Draft Regional Flood Plan Overview

# Regional Flood Plan Components

## Existing & Future Conditions

### Task 1

Introduce region

### Task 2

Determine current and future flood risk

### Task 3

Establish planning goals

### Task 4

Identify potential solutions

## Recommended Solutions

### Task 5

Select recommended solutions

### Task 6

Identify potential impacts

### Task 7

Summarize flood response info

### Task 8

Recommend improvements

### Task 9

Identify funding sources

### Task 10

Encourage public participation

## Amended to Include

### Task 11

Perform additional outreach

### Task 12

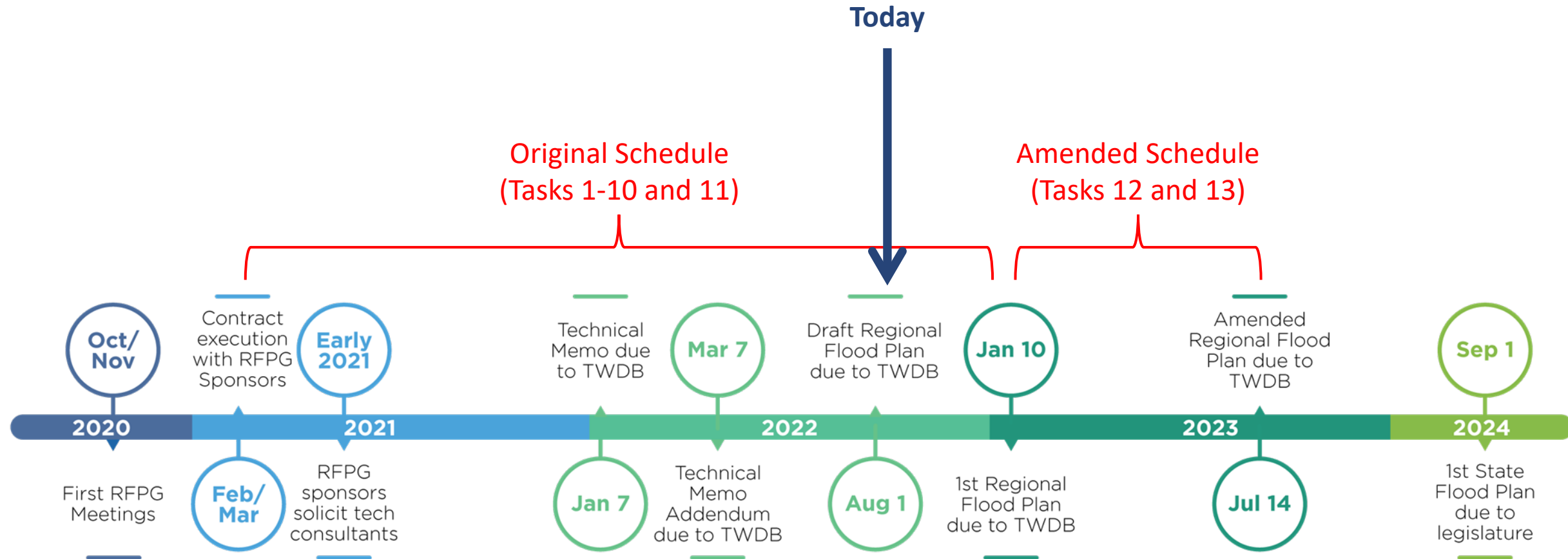
Advance FMEs to FMPs

### Task 13

Adopt amended plan



# Schedule





# Chapters 1 through 3

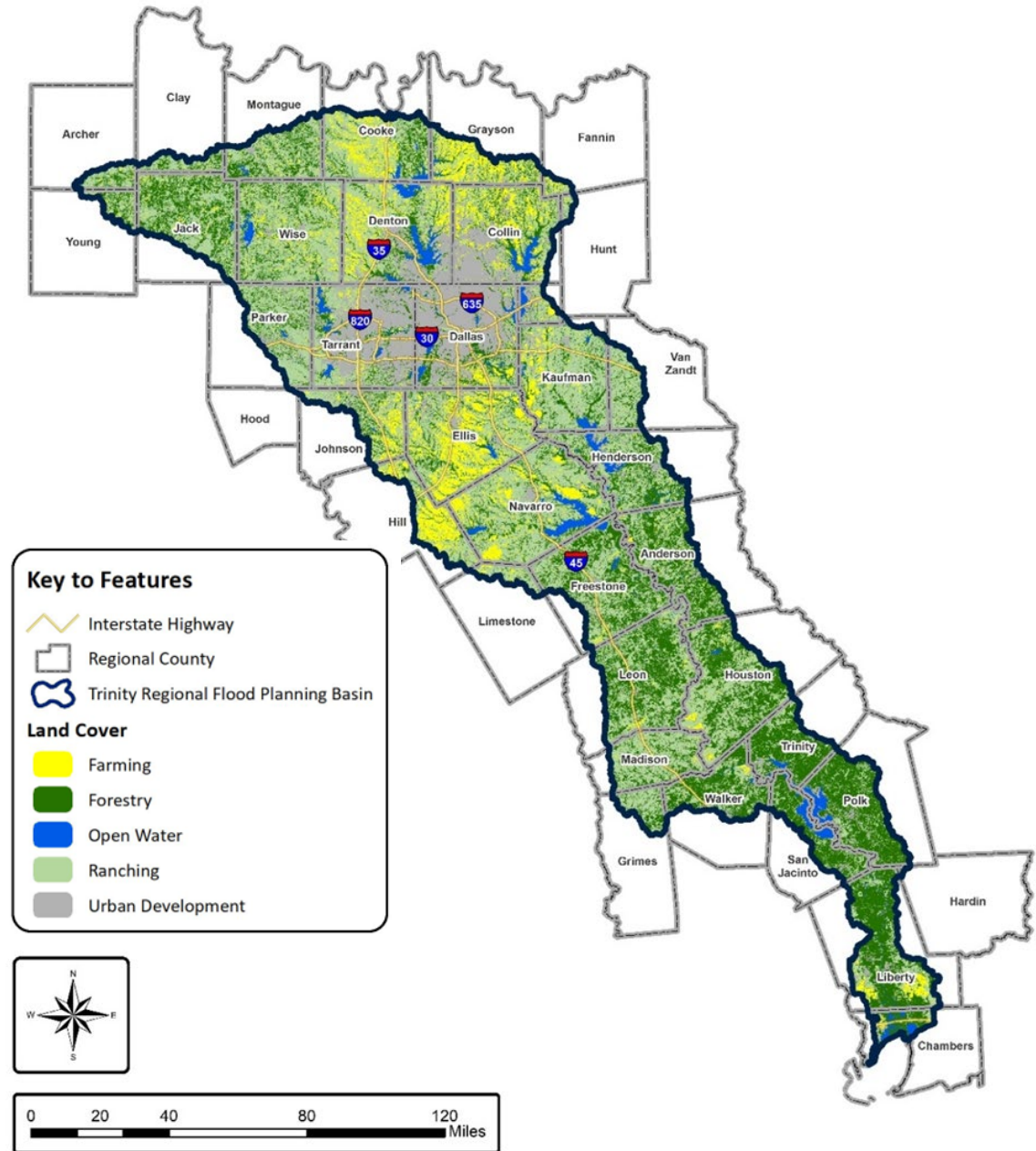
Overview of Region

Current and Future Flood Risk

Planning Goals

# Basin-by-Basin: Working Lands

- Farming/ Crop Production
  - Predominant in Upper and Mid Basin areas
  - Concentrations of farming area in Liberty Co.
- Forestry
  - Predominant working land type in Lower Basin
  - Relationship to national forests and preserves
- Ranching
  - Prominent land use throughout basin
  - Largest concentration of ranching areas to NW of Metroplex and in Mid Basin area



# Data Collection Website & Outreach

## Community Representative?

**Community Stakeholders** in the RFPG process include individuals with flood-related responsibilities, such as County and Community officials and Staff as well as Federal, State, regional, and local authorities, utilities and districts.

By logging on with your email address and the password provided, you can help provide the RFPGs with localized knowledge of flood planning resources and validate a wide array of flood risk data. Through this data collection effort the RFPG is requesting community stakeholders:

- Provide information about your contact information and flood-related responsibilities.
- Verify collected flood information through an entity-specific backgrounder.
- Respond to questions to support the development of the regional flood plan.
- Verify and provide geospatial data through data uploads and web maps.

The RFPG appreciates any information you are able to verify and provide with the understanding that it may not be possible to provide response to all items.

[Entity Login](#)

## Member of the Public?

**Public Stakeholders** in the RFPG process include general public individuals, groups, and organizations including non-profit and non-governmental organizations with an interest in providing information to support flood planning efforts.

By providing your name, address, and email address, you can help provide the RFPG with localized knowledge of flood prone areas and areas where flood mitigation is needed. Your contact information is used to document who is providing information in case we have any follow-up questions.

Name

Address

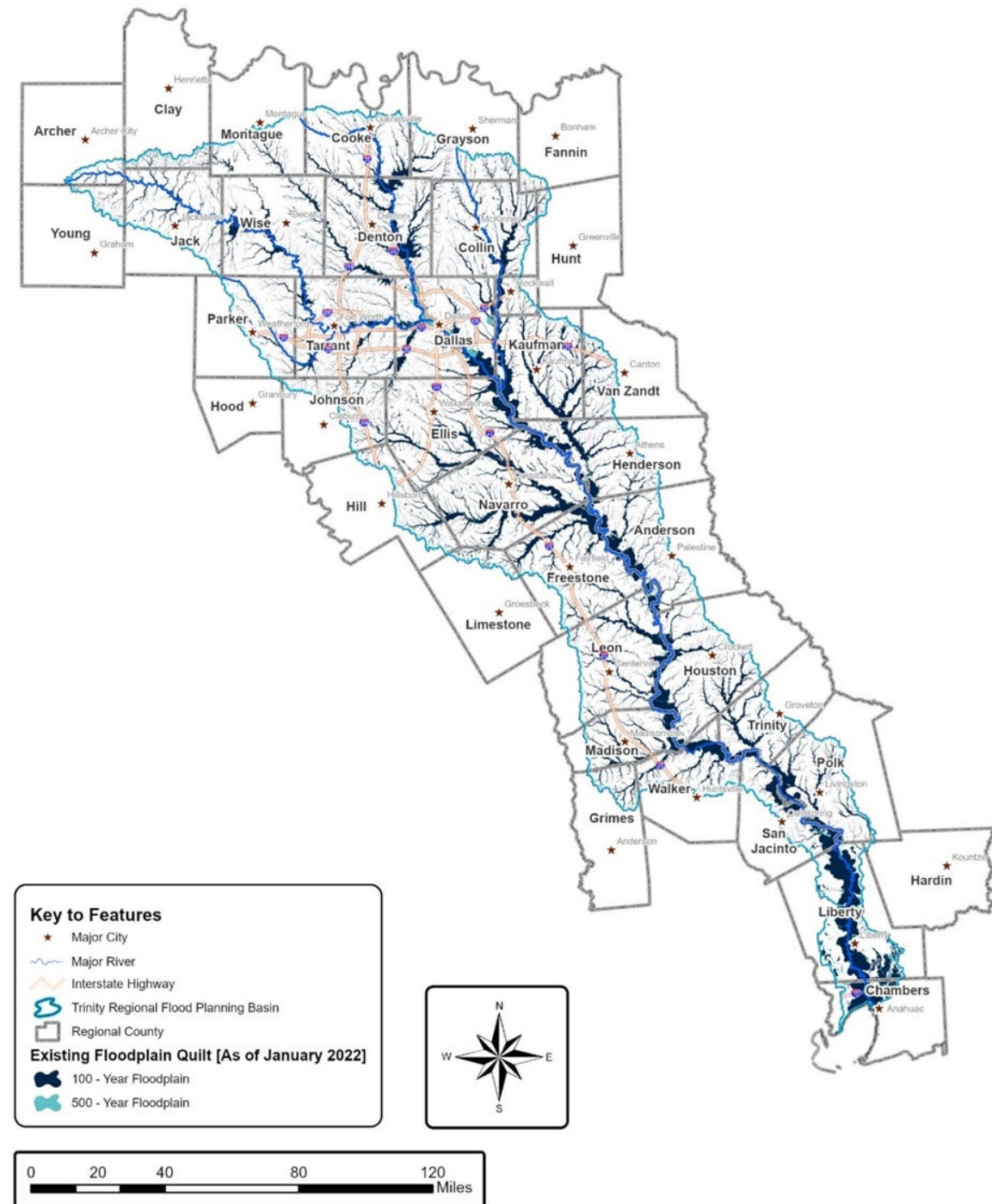
Email

[Take me to the map](#)



# Key Findings: Existing Conditions

- Region-wide 1.32 million people displaced by 1% Annual Chance Event (ACE)
- Total value of exposed buildings > \$636 billion
- Even more impact from 0.2% ACE
- Assessed impacts of flooding on socially vulnerable populations and community's ability to recover








# Key Findings: Future Conditions

- Hard to assess because few communities map or model
  - RFGP recommended future 1% ACE floodplain as range between current 1% and 0.2% ACE events
  - RFGP recommended 40-foot max buffer for future 0.2% ACE floodplain
- Result: *29% more structures and 25% more people would be potentially impacted by future flood risk conditions*


## Key to Features


 Stream Centerline


 Existing 100-Year Limit


 Existing 500-Year Limit

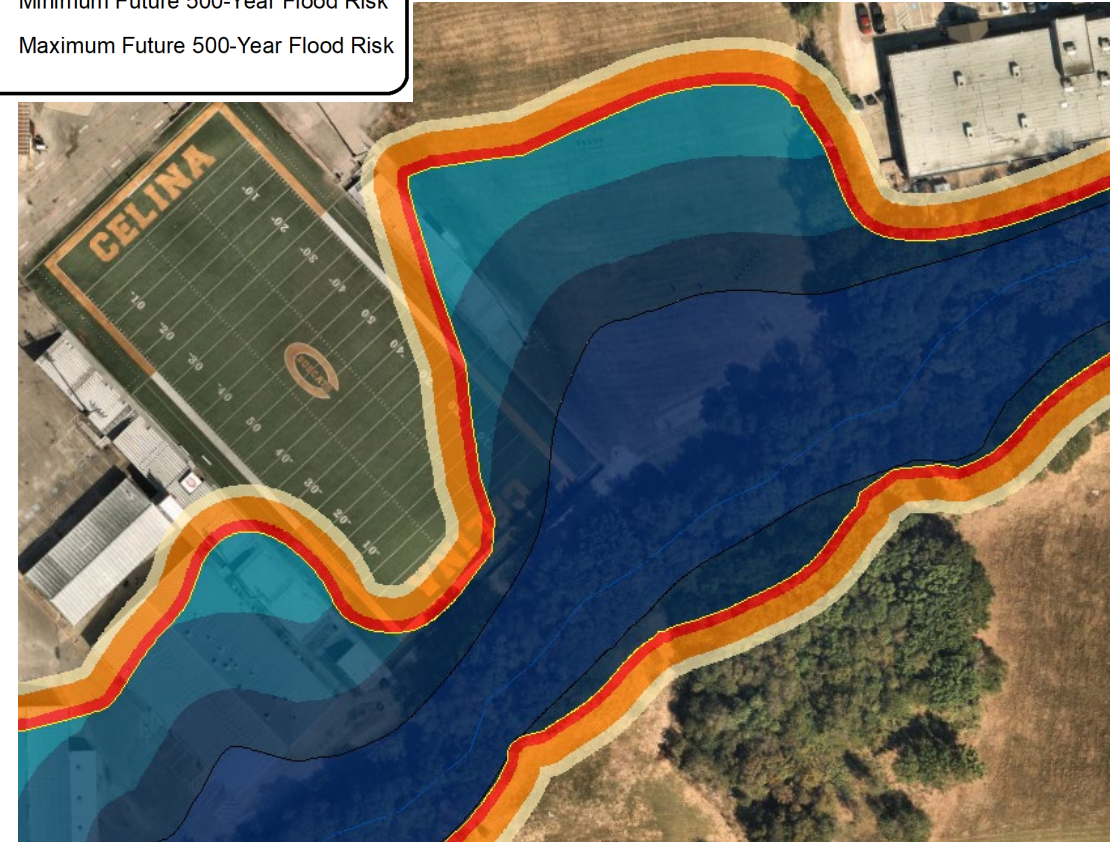
### Zone of Potential Expanded Risk

 Minimum Future 100-Year Flood Risk

 Maximum Future 100-Year Flood Risk

 Minimum Future 500-Year Flood Risk

 Maximum Future 500-Year Flood Risk





# Regional Flood Planning Goals

- (1) Improve flood warning and public safety
- (2) Improve flood analyses
- (3) Reduce property damage and loss
- (4) Preserve the floodplain
- (5) Improve flood infrastructure
- (6) Expand flood education and outreach
- (7) Expand funding

The background is a deep blue, monochromatic image of an underwater scene. A horizontal line across the upper third of the image represents the water's surface, with gentle ripples and light reflecting off it. Below this line, the water is dark and still, with some faint, blurry light patterns suggesting depth and light filtering down.

# Chapters 4 and 5

Potentially Feasible Actions  
Recommended Actions



# Potential Actions

Flood Management Evaluations = FME = *studies*

Flood Mitigation Projects = FMP = *projects*

Flood Management Strategies = FMS = *plans*

**The Draft Plan includes a variety of recommendations for each category, totaling over \$1 billion in recommended solutions.**

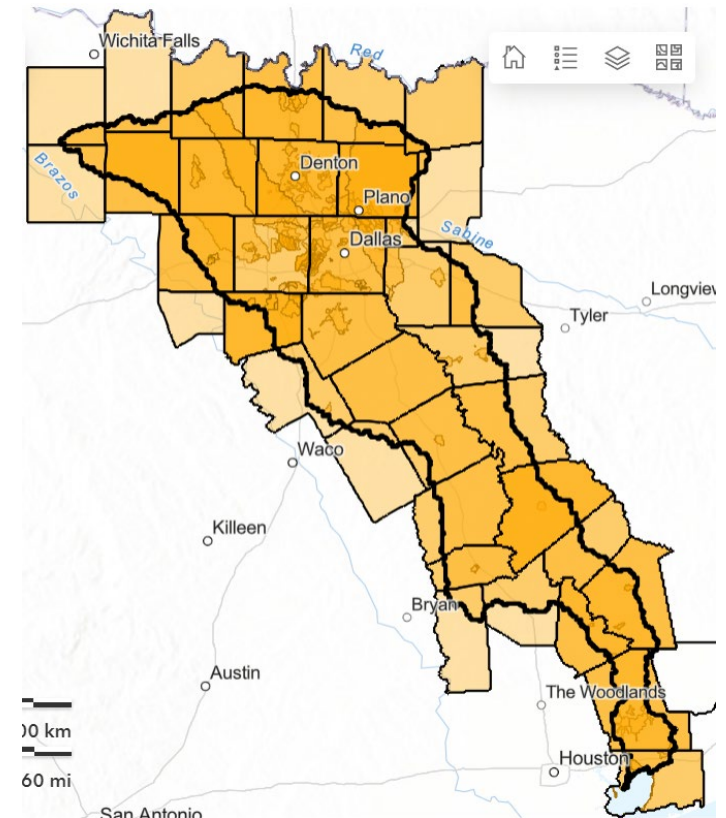
# FME: Region-Wide

- 342 out of 356 recommended and included in Draft Plan

FME Type	FME Description	# of FMEs Recommended	Total Cost
<b>Preparedness</b>	Studies on Flood Preparedness	5	\$3,150,000
<b>Project Planning</b>	Previously Identified Drainage Projects and Flood Studies	228	\$60,937,000
<b>Watershed Planning</b>	Flood Mapping Updates, Drainage Master Plans, H&H Modeling, Dam and Levee Failure	108	\$79,879,000
<b>Other</b>	Dam Studies	1	\$2,000,000
<b>Total</b>		<b>342</b>	<b>\$145,966,000</b>

## Regional Flood Planning Goals

- (1) Improve flood warning and public safety
- (2) Improve flood analyses**
- (3) Reduce property damage and loss
- (4) Preserve the floodplain
- (5) Improve flood infrastructure
- (6) Expand flood education and outreach
- (7) Expand funding





# FMP: Region-Wide

- 7 FMP fully evaluated and recommended so far, based on currently available data
- Many others (30+) still being evaluated for potential inclusion in the Amended Plan

## Regional Flood Planning Goals

- (1) Improve flood warning and public safety
- (2) Improve flood analyses
- (3) Reduce property damage and loss**
- (4) Preserve the floodplain**
- (5) Improve flood infrastructure**
- (6) Expand flood education and outreach
- (7) Expand funding**

FMP Name	Sponsor	Total Cost
Spring Meadows Estates Detention Pond Design	Sachse	\$1,868,000
West Irving Creek Phases 2, 3, and 4	Irving	\$98,746,000
Arlington VC(A)-1 Drainage and Erosion Improvements	Arlington	\$2,601,000
Lancaster/Foch Area Mitigation	Fort Worth	\$11,771,000
Linwood Park Flood Mitigation (Western Arlington Heights)	Fort Worth	\$50,523,000
Sunnyvale Urban Flooding Reduction Improvements - Area 1	Sunnyvale	\$4,560,000
Sunnyvale Urban Flooding Reduction Improvements - Area 2	Sunnyvale	\$5,701,000
		<b>\$175,770,000</b>



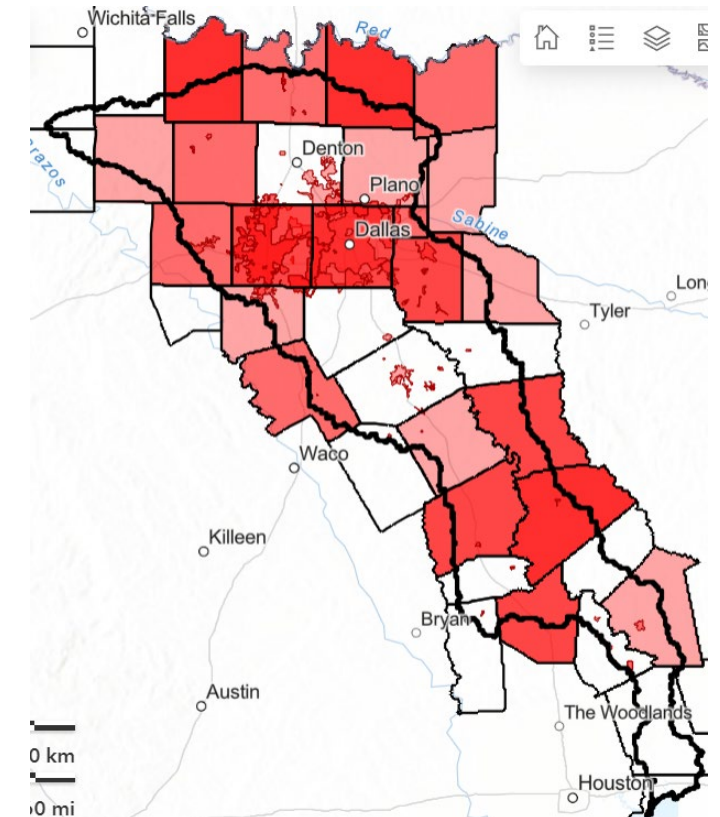
# FMS: Region-Wide

- 136 out of 143 recommended and included in Draft Plan

## Regional Flood Planning Goals

- (1) **Improve flood warning and public safety**
- (2) Improve flood analyses
- (3) Reduce property damage and loss
- (4) **Preserve the floodplain**
- (5) Improve flood infrastructure
- (6) **Expand flood education and outreach**
- (7) **Expand funding**

FMS Type	FMS Description	# of FMSs Recommended	Total Cost
<b>Education and Outreach</b>	Turn Around, Don't Drown Campaigns; NFIP Education; Flood Education; Dam Safety Education; Floodplain Regulatory Awareness	19	\$975,000
<b>Flood Measurement and Warning</b>	Flood Warning Systems; Rain/Stream Gauges and Weather Stations; Low Water Crossings (LWCs)	20	\$5,300,000
<b>Infrastructure Projects</b>	Hazardous Roadway Overtopping Mitigation Program; Citywide Drainage Improvements; Flood-Proofing facilities	5	\$430,000,00
<b>Other</b>	Debris Clearing Maintenance; Channel Maintenance and Erosion Control; Dam Inspections; Levee Inspections; City Parks; Green Infrastructure; Open Space Programs	12	\$8,525,000
<b>Property Acquisition and Structural Elevation</b>	Acquire High Risk and Repetitive Loss Properties; Acquire and Preserve Open Spaces; Flood-Proofing Facilities	28	\$295,500,000
<b>Regulatory and Guidance</b>	City Floodplain Ordinance Creation/Updates; Zoning Regulations; Land Use Programs; Open Space Regulations	52	\$6,600,000
<b>Total</b>		<b>136</b>	<b>\$746,900,000</b>



The background of the slide is a deep blue, monochromatic image of an underwater scene. A horizontal line across the upper third of the image represents the water's surface, with gentle ripples and light reflecting off it. Below this line, the water is calm and dark blue, with some faint, blurry light patterns suggesting depth and light filtering down.

# Chapters 6 through 9

Potential Impacts of Actions

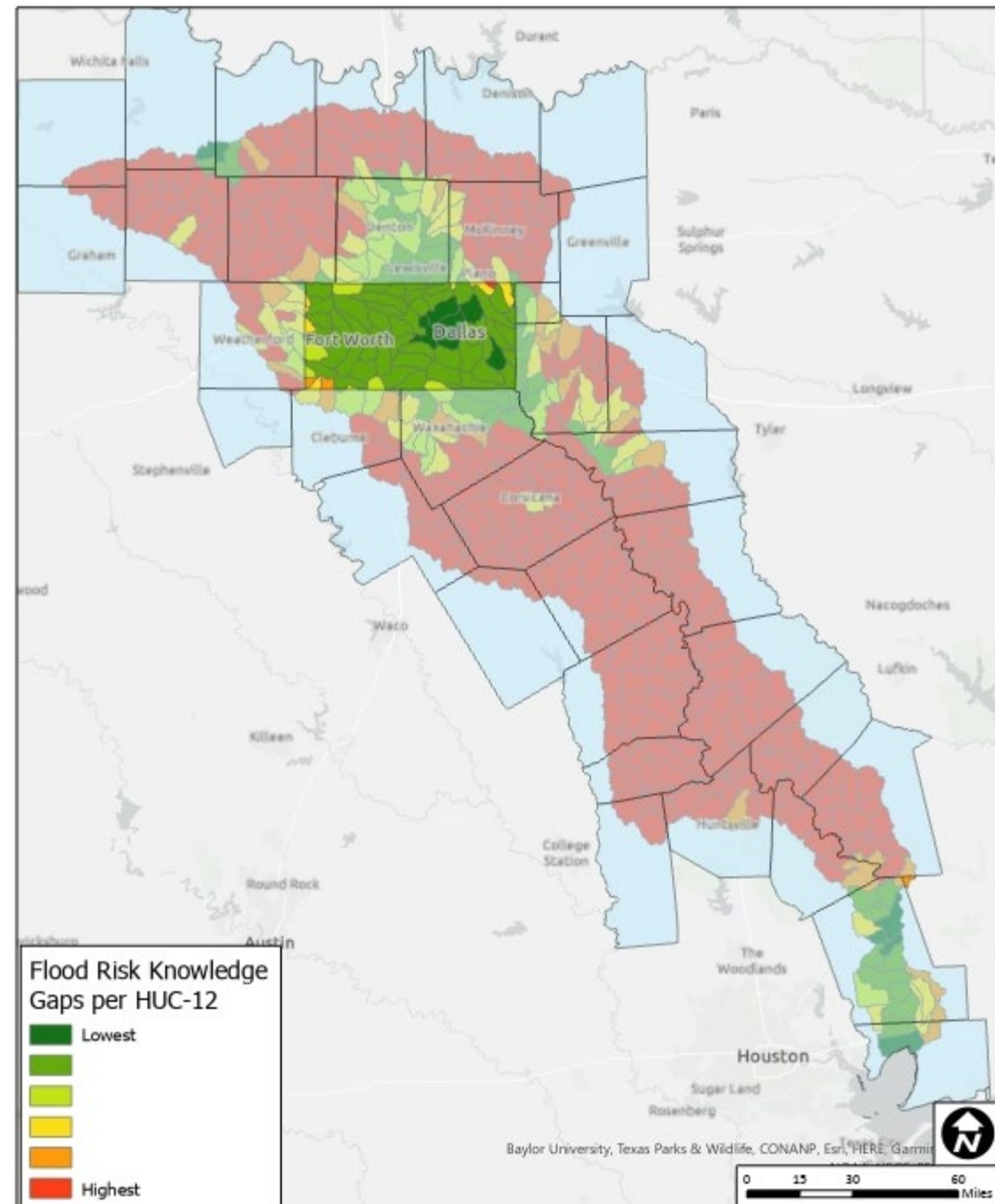
Flood Response Summary

Recommended Planning Process Improvements

Potential Funding

# Impacts of the Regional Flood Plan

- Total area in need of flood risk identification vs. total area to be evaluated by recommended FMEs
- ~**70%** of mapped areas considered outdated and/or approximate
- ~**38,000** stream miles classified as outdated and/or approximate
- Draft Plan includes **35** county-wide FMEs to improve mapping coverage



# Impacts of the Regional Flood Plan - FMP

- Exposure reduction after FMP implementation
- More FMPs to be included in the Amended Plan

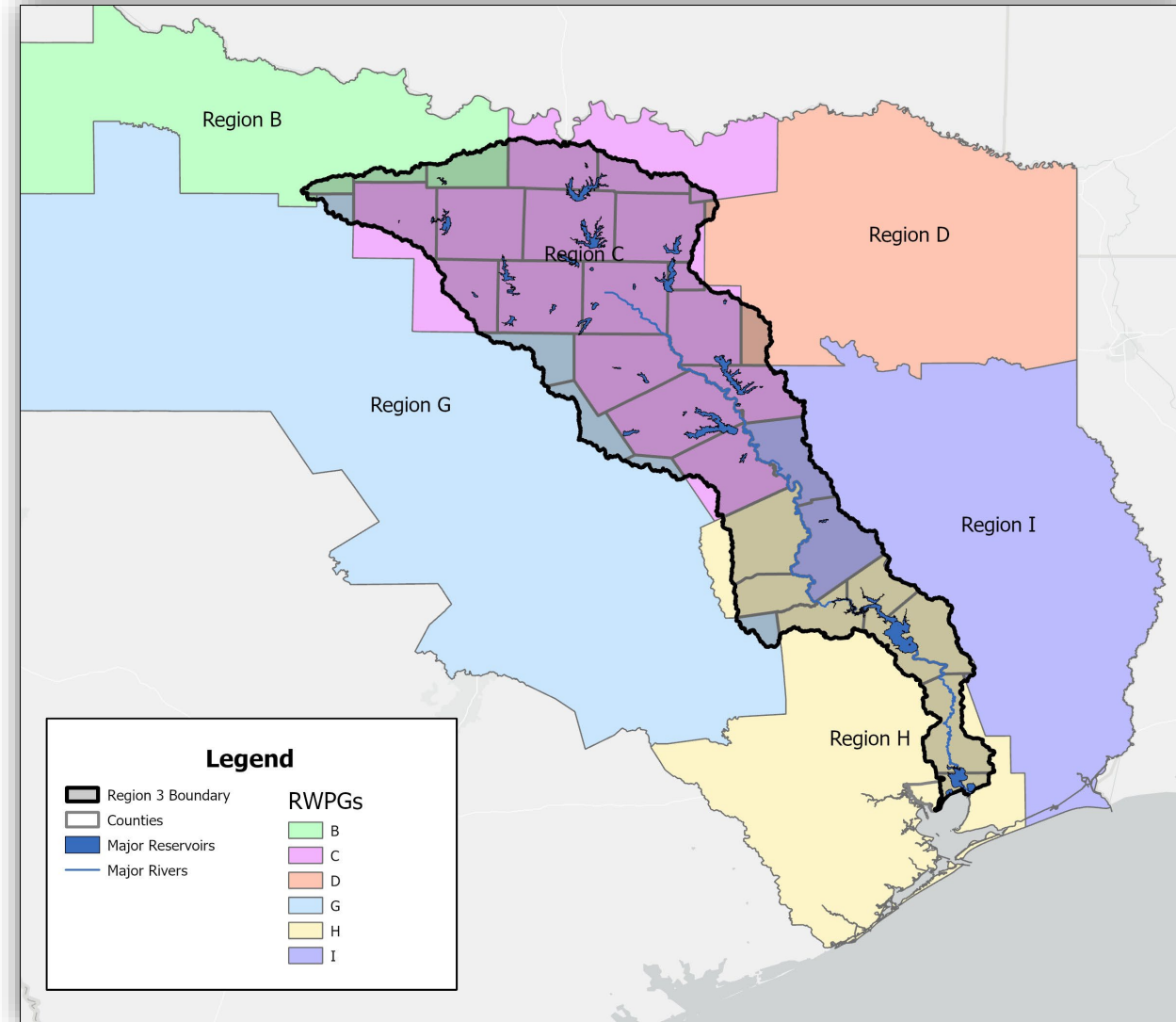
Flood Exposure	Existing Conditions	After FMP Implementation	Exposure Reduction from FMPs
	1% ACE	1% ACE	1% ACE
Exposed Structures	1,500	1,108	392
Exposed Population	37,593	33,421	4,172
Exposed Low Water Crossings	9	2	7
Number of Road Closure Occurrences	253	192	61
Road Length (Mi.)	31	23	8



# Contributions/Impacts on State Water Plan

## Impacts of State Flood Plan on State Water Plan

- Recommended FMSs or FMPs will not have measurable contribution or have negative impact on water supply or water availability
- None of recommended FMSs or FMPs impact operation of existing water supply reservoirs
- Recommended FMSs and FMPs not anticipated to have measurable impact on water supply, water availability, or projects in State Water Plan



# Financing Analysis – Who will pay?



Funding surveys sent to Sponsors on 6/7/2022 and 6/14/2022



14% Sponsor response rate (22 of 158) (as of 7/5/2022)



Overall, total cost of **\$1,076,686,000** needed to implement recommended FMEs, FMSs, and FMPs



From total cost, projected **\$961,274,000** of state and federal funding is needed

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# Chapter 10

## Public Participation

# Public Participation

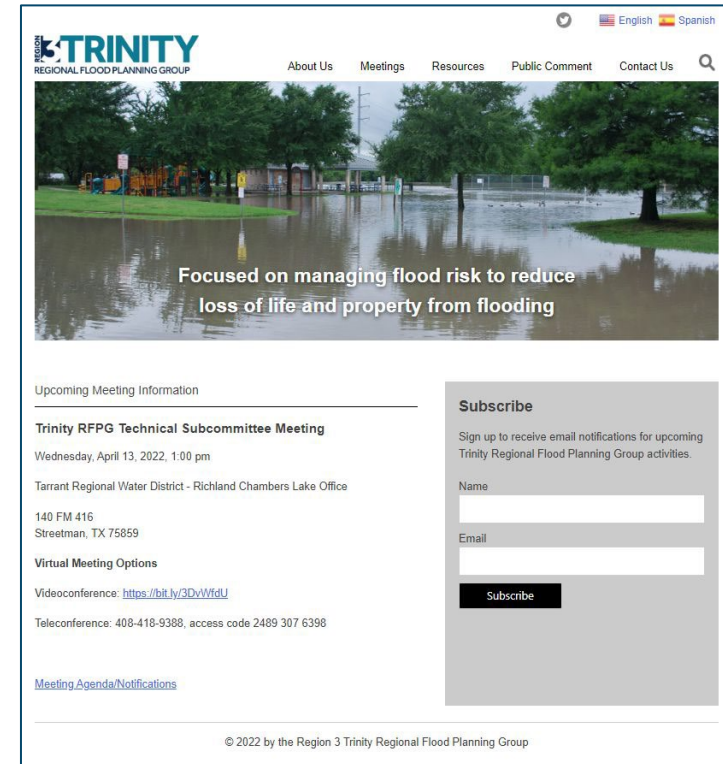
Numerous public meetings of RFPG and Technical Subcommittee, including hybrid meetings across region

Meeting notices and materials posted to website and Texas SOS, and sent via MailChimp to regional stakeholders / interested parties

Maintenance of stakeholders / interested parties database with nearly 850 unique email addresses and nearly 1,100 individual contacts

- City and county officials
- State, federal and other entities with flood planning responsibilities
- Public / interested party sign-ups from website

Development / use of award-winning website





# Public Participation

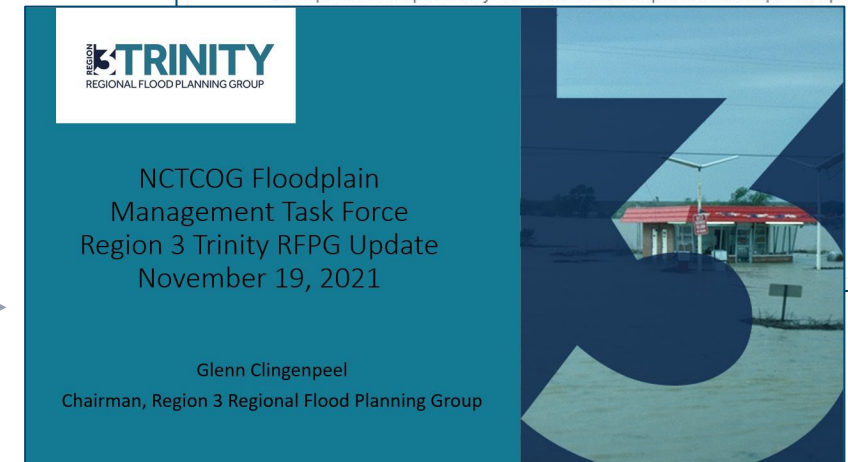
Social media (Twitter) content posted regularly



Press releases and regional media outreach

Development of PowerPoint overview presentation

Presentations to various regional organizations



# Public Participation

Postcard mailers to augment email outreach

Follow-up phone calls to stakeholders

Online data gathering survey/tool with interactive webmaps to confirm current flood risk, identify gaps

Handout materials – flyers and one-pagers

Postcard Aug. 2022 encouraging review of Draft Plan, promoting upcoming events and public comments

In-person, open house "roadshow" to showcase Draft Plan, answer questions, at region-wide sites

Public meeting to take public input on Draft Plan

Subsequent public meetings to consider public and TWDB input, revise and finalize Regional Flood Plan



### The Trinity Regional Flood Planning Group (Trinity RFPG) needs you!



**This newly formed group is responsible for developing the first-ever Regional Flood Plan for the Trinity River Basin and needs your help.** We recently sent you an email with a link to our electronic data collection tool. We need your input and local flood-related data to develop a flood plan that accurately represents flood planning resources and flood-related risks in your area. We have also developed an interactive web map on which you can identify specific flood-prone areas.



### The Trinity Regional Flood Planning Group (Trinity RFPG) needs you!



**This newly formed group is responsible for developing the first-ever Regional Flood Plan for the Trinity River Basin. We need your help! Ultimately, this planning effort is important and relevant for you because projects included in the Regional Flood Plan will be better able to access future State funding.**

The Trinity RFPG (aka Region 3) is among 15 regional flood planning groups statewide designated by the Texas Water Development Board. Spanning a region from Cooke County in the north to Chambers County on the Gulf Coast, the Trinity RFPG is responsible for creating its first Regional Flood Plan by January 2023, which will become part of Texas' first-ever State Flood Plan in 2024. The Trinity Flood Plan will comprise local flood mitigation studies and projects that represent the plans of the local jurisdictions.

We have prepared an **electronic data collection tool** that is available at <https://trinity.half.com/> and through the Public Comment page on our website, [www.trinityrfg.org](https://www.trinityrfg.org). We need your input and local flood-related data to develop a flood plan that represents your flood planning resources and flood-related risks in your area. We have also developed an **interactive web map** (also available through the links above) on which you can identify specific flood-prone areas.

The data collection effort is designed for you to input whatever flood-related data and information you may have. Reports, maps and models can be uploaded to the site. Alternatively, this information can be mailed to the Trinity lead consultant, Half Associates, Inc. at 4000 Fossil Creek Blvd, Fort Worth, TX 76137-1422. The data collection tool is designed to be a "come and go" type tool where you can answer questions one day and come back and answer other questions another day. You can also "divide and conquer" by sending coworkers who have the relevant data the link and asking them to answer specific questions.

**In order to be ready to participate in the data collection effort, we encourage you to gather up the following information (if available):**

- Floodplain ordinance
- Development regulations
- Land use plans
- Watershed studies or flood studies
- Hydraulics and hydrology models
- Flood maps
- Flood early warning system information
- Drainage criteria manual
- Capital improvement projects (flood-related)
- Planned flood studies

To ensure you receive the survey and other future e-updates, we ask that you be sure to add [info@trinityrfg.org](mailto:info@trinityrfg.org) to your approved or recognized list of email addresses. As the Trinity RFPG begins this data collection effort, we encourage you to stay informed and participate.

If you have any questions or concerns about the data collection tool and/or interactive web map, please contact Project Manager **Stephanie Griffin with Half Associates, Inc.** at (817) 813-5704 or [sgriffin@half.com](mailto:sgriffin@half.com), or you can also email us at [info@trinityrfg.org](mailto:info@trinityrfg.org).

Also please feel free to share this information and future e-updates with others who may have an interest in Trinity Regional Flood Planning and encourage them to visit the website when it launches.

Thank you for your interest and participation in this critical regional planning effort!

# Regional Flood Plan Adoption Timeline



# Public Participation Opportunities

**Submit comments on Draft Regional Flood Plan by Oct. 10**

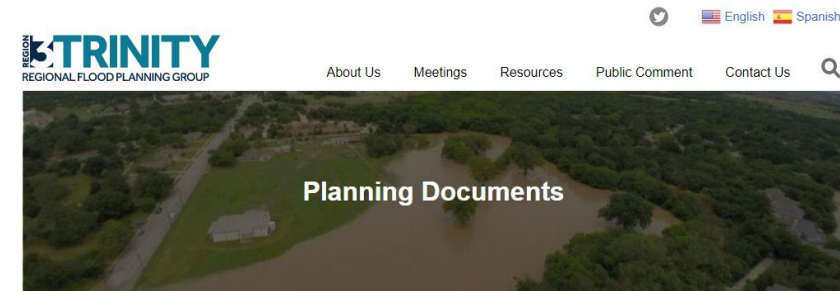
**Web:** [www.trinityrfpg.org](http://www.trinityrfpg.org)

- Review Draft Plan on Planning Documents page (sort by "2022 Draft Plan")
- Submit comments via form on Public Comment page

**Email:** [info@trinityrfpg.org](mailto:info@trinityrfpg.org)

**Mail:**

Halff Associates, Inc.  
Attn: Stephanie Griffin  
4000 Fossil Creek Blvd.  
Fort Worth, Texas 76137-1422



Categories: 2022 Draft Plan, Bylaws, Draft Appendices, Draft Chapter 1

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Document	Category	Size	Meeting Date	Upload Date
<a href="#">Draft Trinity Regional Flood Plan – Cover and Table of Contents</a>	2022 Draft Plan	1.53MB	-	07/12/2022
<a href="#">Draft Trinity Regional Flood Plan – Executive Summary</a>	2022 Draft Plan	1.52MB	07/21/2022	07/12/2022
<a href="#">Draft Trinity Regional Flood Plan – Chapter 1</a>	2022 Draft Plan	8.25MB	07/21/2022	07/12/2022
<a href="#">Draft Trinity Regional Flood Plan – Chapter 2</a>	2022 Draft Plan	19.14MB	07/21/2022	07/12/2022
<a href="#">Draft Trinity Regional Flood Plan – Chapter 3</a>	2022 Draft Plan	2.51MB	07/21/2022	07/12/2022
<a href="#">Draft Trinity Regional Flood Plan – Chapter 4</a>	2022 Draft Plan	1.92MB	07/21/2022	07/12/2022
<a href="#">Draft Trinity Regional Flood Plan – Chapter 5</a>	2022 Draft Plan	1.42MB	07/21/2022	07/12/2022
<a href="#">Draft Trinity Regional Flood Plan – Chapter 6 – revised</a>	2022 Draft Plan	1.02MB	-	07/12/2022
<a href="#">Draft Trinity Regional Flood Plan – Chapter 7</a>	2022 Draft Plan	1.44MB	07/21/2022	07/12/2022
<a href="#">Draft Trinity Regional Flood Plan – Chapter 8</a>	2022 Draft Plan	1.34MB	07/21/2022	07/12/2022





# Additional Resources

- Visit with consultant team and RFBG members, ask questions
- Review interactive floodplain webmap, mark local flooding issues
- Review maps / tables of recommended flooding solutions
- Review hard copy of Draft Regional Flood Plan
- Access RFBG website to view Draft Plan, sign up for e-updates, complete Public Comment form
- Submit written comment cards



# Agenda

- 1.
- 2.
- 3.
- 4.

# AGENDA

- Call to Order / Purpose and Format of the Meeting
- Roll Call
- Approval of Minutes From Previous Meeting
- Texas Water Development Board Comments
- Overview of Regional Flood Planning Process
- Presentation on the Draft Region 3 Trinity Regional Flood Plan
- **Receive Public Comments (limit 3 minutes per person)**
- Adjourn

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# Public Comments

3 minutes per speaker





# Agenda

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- 2.
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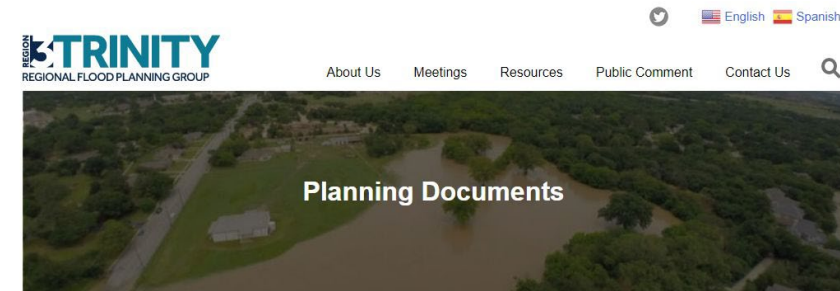
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