

**Region 2 Lower Red-Sulphur-Cypress Regional Flood Planning Group**

**July 7, 2022**

**2:00 pm**

**at**

**Northeast Texas Community College**

**Community Room - (Hum 101),**

**2886 FM 1730, Chapel Hill Road,**

**Mount Pleasant, TX 75455**

**or**

**Via teleconference/webinar**

**Use the following information to register for the meeting:**

<https://us06web.zoom.us/meeting/register/tZUpf-2qzspEtHgRnvTyR0oaf-sn2p0989I>

*After registering, you will receive a confirmation email containing information about joining the meeting.*

If you experience issues while registering or do not have access to a computer, please contact Paul Prange no less than two (2) workdays prior to the meeting at 903.255.3519 or [pprange@atcog.org](mailto:pprange@atcog.org).

**Agenda:**

1. Call to Order
2. Welcome
3. Confirmation of attendees / determination of quorum
4. Public comments – limit 3 minutes per person
5. \*Consider approval of minutes for the meeting held June 2, 2022
6. \*Consider the nomination of Troy Hudson to serve as a voting member of the Region 2 Flood Planning Group in the currently vacant *Public* category.

**Presentations**

7. Texas Water Development Board Update
8. Region 1 Canadian-Upper Red Regional Flood Planning Group Update

**Technical Consultant Update**

9. Technical Presentation by Halff Associates, Inc.
  - a. Status Update
  - b. Present Chapter 9
  - c. Present Chapter 10
  - d. Discuss Comments on Draft
  - e. Draft Plan Outreach Approach
  - f. Schedule

**Other Business**

10. Update from Planning Group Sponsor
11. Consider date and agenda items for next meeting
12. Adjourn

**\*Denotes Action Items**

If you wish to provide written comments prior to or after the meeting, please email your comments to [pprange@atcog.org](mailto:pprange@atcog.org) and include “Region 2 RFPG Meeting” in the subject line of the email – OR – you may mail your comments to Region 2 RFPG, c/o ATCOG – Paul Prange, 4808 Elizabeth St, Texarkana, TX 75503.

If you wish to provide oral public comments at the meeting, please submit a request via email to [pprange@atcog.org](mailto:pprange@atcog.org), include “Region 2 RFPG Meeting Public Comment Request” at least 2 hours prior to the meeting, and follow the registration instructions at top of page 1 of the Agenda.

Additional information may be obtained from: [www.texasfloodregion2.org](http://www.texasfloodregion2.org), or by contacting Paul Prange at [pprange@atcog.org](mailto:pprange@atcog.org), 903-832-8636, -or- Region 2 RFPG, c/o ATCOG, 4808 Elizabeth St, Texarkana, TX 75503

All meeting agendas and notices will be posted on our website at [www.texasfloodregion2.org](http://www.texasfloodregion2.org). If you wish to be notified electronically of RFPG activities, please submit a request to [pprange@atcog.org](mailto:pprange@atcog.org), include “Request for notification of Region 2 RFPG activities”. This request will be honored via email only unless reasonable accommodations are needed.

**Meeting Minutes**  
**Region 2 Lower Red-Sulphur-Cypress Flood Planning Group Meeting**  
**June 2, 2022**  
**2:00 p.m.**

**Ark-Tex Council of Governments Office Building (EOC Room), Texarkana, TX 75503 and Via Zoom  
Webinar/Teleconference**

**Roll Call:**

<u>Voting Member</u>	<u>Interest Category</u>	<u>Present (x) /Absent ( ) / Alternate Present (*)</u>
Preston Ingram (William)	Agricultural interests	X
Andy Endsley	Counties	X
W. Greg Carter	Electric generating utilities	X
Laura-Ashley Overdyke	Environmental interests	
Casey Johnson	Industries	
Dustin Henslee	Municipalities	X
Kirby Hollingsworth	Public	
R. Reeves Hayter	River authorities	X
Kelly Mitchell	Small business	X
Joseph W. Weir III	Water districts	
Susan Whitfield	Water utilities	X

<u>Non-voting Member</u>	<u>Agency</u>	<u>Present(x)/Absent( )/ Alternate Present (*)</u>
James (Clay) Shipes	Texas Parks and Wildlife Department	X
Andrea Sanders	Texas Division of Emergency Management	
Darrell Dean	Texas Department of Agriculture	X
Tony Resendez	Texas State Soil and Water Conservation Board	
Trey Bahm	General Land Office	
Anita Machiavello	Texas Water Development Board (TWDB)	X
Michelle Havelka	Texas Commission on Environmental Quality	
Darlene Prochaska	USACE, Fort Worth District	
Travis Wilsey	USACE, Tulsa District	
Randy Whiteman	RFPG 1 Liaison	
Richard Brontoli	Red River Valley Association	
Jason Dupree	TxDOT – Atlanta District	X
Dan Perry	TxDOT – Paris District	

**Quorum:**

Quorum: **Yes**

Number of voting members or alternates representing voting members present: **7**

Number required for quorum per current voting membership of **11: 6**

**Other Meeting Attendees: \*\***

Chris Brown - ATCOG

Kathy McCollum - ATCOG

Paul Prange – ATCOG

Joshua McClure – Halff Associates Team

Jim Keith – Halff Associates Team

Parker Moore – Halff Associates Team

Kelly Rich – TWDB

\*\*Meeting attendee names were gathered from those who entered information for joining the Zoom meeting.

*All meeting materials are available for the public at:*

<http://www.twdb.texas.gov/flood/planning/regions/schedule.asp>.

**AGENDA ITEM NO. 1: Call to Order**

Reeves Hayter called the meeting to order at 2:02p.m.

**AGENDA ITEM NO. 2: Welcome**

Reeves Hayter welcomed members and attendees to the Region 2 Lower Red-Sulphur-Cypress Flood Planning Group meeting.

**AGENDA ITEM NO. 3: Confirmation of attendees / determination of a quorum**

Reeves Hayter asked ATCOG staff member, Paul Prange, to conduct a roll call of attendees. Each present voting and non-voting member of the Region 2 Lower Red-Sulphur-Cypress RFGP introduced themselves, establishing that a quorum had been met. Seven voting members were present and four non-voting members were also present.

**AGENDA ITEM NO. 4: Public comments – limit 3 minutes per person**

Reeves Hayter opened the floor for public comments. No public comments were received.

**AGENDA ITEM NO. 5: \*Consider approval of minutes for the meeting held Thursday, March 3, 2022.**

Reeves Hayter opened the floor for discussion and approval of the minutes from the previous meeting. A motion was made by Greg Carter and was seconded by Andy Endsley to approve the minutes as presented. The motion carried unanimously.

**PRESENTATIONS**

**AGENDA ITEM NO. 6: Texas Water Development Board Update:**

Reeves Hayter turned the floor over to Anita Machiavello who reminded the Region 2 Flood Planning Group that an executed sub-contract amendment must be submitted to TWDB once the Sponsor's contract amendment has been executed. Ms. Machiavello encouraged the members of the flood planning group to revisit the TWDB website and review the latest newsletter which contains guidance relating to voting on FMXs and that the TWDB is preparing another newsletter at this time. Chris Brown asked Ms. Machiavello if Region 2 has already received its executed contract amendment and Ms. Machiavello stated that it is currently being finalized by TWDB and will be submitted to ATCOG within the next two weeks.

**AGENDA ITEM NO. 7: Region 1 Canadian-Upper Red Regional Flood Planning Group Updates:**

Reeves Hayter asked for any updates relating to Region 1 flood planning activities. Joshua McClure announced that Region 1 met on May 11, 2022 and updated their FMX tables and voted to recommend 184 FMEs, 62 FMSs and 4 FMPs. Additional FMPs will be considered at the Region 1 meeting in June along with the review of Chapters 4 and 5 & 7 and 8.

**TECHNICAL CONSULTANT UPDATE**

**AGENDA ITEM NO. 8: Technical Presentation by Half Associates, Inc.**

- **Chapter 6 – Impacts of Regional Flood Plan and impacts to State Water Plan**
  - a. **Chapter 6 is attached for review before the meeting**

- b. **Present material**
  - c. **Discuss adjusting impact numbers to reflect partial adoption of FMS/E/Ps**
  - d. **Discuss comments**
- **Chapter 8 – Administrative, Regulatory, and Legislative Recommendations**
  - a. **Chapter 8 is attached for review before the meeting**
  - b. **Present materials**
  - c. **Discuss comments**
- **Chapter 9 - Flood Infrastructure Financing Analysis**
  - a. **Show survey that has been distributed to FMX sponsors**
  - b. **Discuss outreach efforts**
- **Schedule**

Reeves Hayter turned the floor over to Joshua McClure who presented information regarding Chapters 6, 8 and 9. Mr. McClure began discussion on Chapter 6 – Impacts of Regional Flood Plan and impacts to State Water Plan, including Key Assumptions. Mr. McClure also presented the FMP Summary of Impacts relating to Exposed Structures, Exposed Population, and Exposed Low Water Crossings by comparing Existing Conditions to Conditions After FMP Implementation. Mr. McClure then presented information relating to FMS Impacts in the categories of Regulatory and Guidance, Property Acquisition and Structural Elevation, Education and Outreach, and Flood Measurement and Warning, before presenting the FMS Summary of Impacts. Additionally, Mr. McClure presented information relating to FME Impacts in the categories of Preparedness, Project Planning, Watershed Planning, and Other, before providing the FME Summary of Exposures. Discussion took place among the flood planning group. Greg Carter commented on flood gauges listed in the FME Impacts – Preparedness Category and Reeves Hayter commented on the percentage of Population versus Structures listed in the FME Summary of Exposures. Mr. McClure addressed their comments.

Joshua McClure turned the presentation over to Jim Keith to discuss Chapter 6B – Contributions/Impacts on State Water Plan and Chapter 6A – Key Assumptions. Mr. Keith stated that none of the recommended actions will have a measurable impact on Water Supply or Water Availability. Discussion took place among the flood planning group. Greg Carter asked if Wright Patman Lake has a high sedimentation rate compared to other reservoirs within the region and Reeves Hayter and Kelly Mitchell responded by stating that the Sulphur River Basin Authority conducted numerous studies over several years. The findings indicated that the sediment appears to randomly shift throughout the lake over time.

Joshua McClure then conducted a presentation focusing on Chapter 8 – Legislative, Administrative, and Regulatory Recommendations, as well as, Flood Planning Recommendations. Mr. McClure provided information relating to all Specific Recommendation Statements and the Reason for Recommendation and discussion took place among the regional flood planning group. Mr. McClure then provided the comments received from the region 2 flood planning group and much discussion took place. Recommendations from Reeves Hayter, Greg Carter and Dustin Henslee were provided to amend the language in several Specific Recommendation Statements and one recommendation relating to Dam Inspection Reports was removed from the list.

Joshua McClure turned the meeting over to Jim Keith, once again, to present information relating to Chapter 9 – Flood Infrastructure Financing Analysis. Mr. Keith provided the Potential Sponsor Financing Survey and stated that the survey was sent out via email on June 1, 2022 and follow-up phone calls will be conducted with the Potential Sponsors.

Joshua McClure then presented the schedule of upcoming activities including: Tasks 1-8 (Address RFPG2 Comments), Task 9 Flood Infrastructure Financing Analysis, Task 10 Finalize Regional Flood Plan (RFP), Review and Vote on Draft RFP, 60 Days of Public Comments (Minimum), and Address Public Comments.

### **OTHER BUSINESS**

#### **AGENDA ITEM NO. 9: Update from Planning Group Sponsor**

Reeves Hayter turned the floor over to Chris Brown who announced that he had no updates to provide at this time.

#### **AGENDA ITEM NO. 10: Consider date and agenda items for next meeting**

Reeves Hayter opened the floor for discussion. The Region 2 RFPG board members agreed to conduct the next meeting on Thursday, July 7, 2022 at 2:00p.m. at a location to be determined in Mount Pleasant, TX and via webinar/teleconference.

#### **AGENDA ITEM NO. 11: Adjourn**

Reeves Hayter opened the floor to adjourn the meeting.

A motion was made by Greg Carter and was seconded by Dustin Henslee.

The vote to adjourn was passed by unanimous consent.

The meeting was adjourned at 4:33p.m. by Reeves Hayter.

*Approved by the Region 2 Lower Red-Sulphur-Cypress RFPG at a meeting held on 07/07/2022.*

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Reeves Hayter, CHAIR

# Troy Hudson

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2334 Sword Dr. Garland, Tx 75044 Tel: 580-980-0574

## **Professional Experience**

### September 2020 - Present

Fannin County Emergency Management Coordinator – Fannin County Office of Emergency Management (Bonham, Tx) Full-Time (40 Hrs) Directly responsible for the county's emergency operations plan, administrative functions of the office to the county judge, and serve as the contact to the State of Texas Division of Emergency Management. Duties as follows, sever as the coordinator to all county volunteer fire departments and Local Emergency Planning Committee (LEPC). Respond to all major incidents that may grow past local resources. Appointed as Floodplain Administrator that oversees the county's floodplain program.

### March 2020 – September 2020

Training and Exercise Coordinator - North Central Texas Trauma Regional Advisory Council (Arlington, Texas) Full-Time (40 Hrs) Directly responsible for developing training to assist the regions in achieving their goals of preparedness, response, and recovery. Training, drills, and exercises to help identify and assess how well a healthcare delivery system is prepared to respond to an emergency. To serve as the secondary back up to the Emergency Medical Task Force Coordinator when in his/her absence. During the Covid-19 response, this position serves within the planning and coordination section as the planning section chief, emergency medical coordination center officer, and site liaison for the Battelle Decontamination program. Program management of the Hospital Coalition training and exercise program for Trauma Service Area-C. Serve as a liaison from the emergency medical task force to the Texas Division of Emergency Management within DDC 4B Garland.

### March 2018 - August 2019

Director of Operations - Minuteman Disaster Response (McKinney, TX) Full-Time (40 hr wk) Responsible for overseeing all aspects of administrative, operational, and logistical functions of the disaster response and relief team. Development of policies and procedures for administrative and operational functions of the organization.. Development of the Flood and Swiftwater team and damage assessment team. Responsible for operational program management, logistics, and the development of table-top / full scale exercises and training. During disaster deployments assisting local emergency management/officials in damage assessments and recovery operations. Providing expertise to response personnel on matters of severe weather operations. Mutual-aid to Princeton Fire/Rescue for swift water rescue operations. Development of After Action Reports.



#### November 2017 - Current

Assistant District Staff Officer-Emergency Management/Division Staff Officer-Marine Safety and Environmental Protection - United States Coast Guard Auxiliary (Lake Texoma) Part-Time (Volunteer - 16-20 hr week) Serve as the incident management (exercise) assistant district staff officer to the district staff officer for implantation and development of exercises and training. Serve as a member of the district 8 incident management assistance team (Type 1, 2, and 3). Responsible to the local level for marine safety and environmental education, training, and liaison to other government agencies. Vessel Safety examiner for recreational and commercial vessels.

#### December 2017 - March 2018

Emergency Management Specialist - University of Southeastern Oklahoma (Durant, OK) Part-Time (20-30 hr wk) Responsible to the emergency management director for administrative development of policies and procedures. Assisting the emergency management director for the university emergency management program.

#### November 2015 - December 2017

Director of Emergency Management - Coal County Emergency Management (Coalgate, OK) Full-Time (40 hr wk) Directly responsible for the county emergency management program, development, implantation, operational planning, and preparedness. Providing outreach for tribal communities within the county during disaster response and recovery operations. Conducting Public and Individual Assistance support, liaison to tribal and local government entities. Conducting damage assessments after state and federally declared disasters within the county. Giving guidance to municipal and county administrators on disaster preparedness, execution of disaster declaration, logistical operations, hazard mitigation, public grant administration, and recovery operations. Planning, development, and execution of exercises and training related to disaster preparedness and response. Part-time emergency medical responder Coalgate Fire Department. Liaison between all county volunteer fire agencies.

#### April 2011 - November 2015

Public Safety Officer - Tribal Security - Choctaw Nation of Oklahoma (Atoka, OK) Full-Time (40 hr wk) Responsible for the safety and welfare of employees and visitors to Choctaw Nation properties, Ensuring security access to secured areas are maintained. Granting access from vendors and contractors to sensitive/secured areas are within tribal policies and procedures.

#### April 1999 - February 2010

Emergency Preparedness Specialist - Federal Police Officer - US Department of Veterans Affairs (Dallas, TX) Full-Time (40 hr wk) (GS-9) Responsible for planning, development, and implementation of emergency operations procedures to the VA North Texas Healthcare System (3 medical centers, 5 community based outpatient clinics with an overall population of 7,000). Mid-level management program responsibility for federal strategic disaster response and operational responsibilities to Emergency Support Function #8. Overseeing daily emergency response functions to all VA

medical center facilities within North Texas. Development and operational oversight for the VA federal medical disaster response team - National Disaster Medical System, mass casualty program, exercises, and training program. Overseeing, coordinating, and supervisory control of the VA Police training program for 33 federal uniformed police officers. Served as subject matter expert for use of force, tactical firearms, defensive tactics, supervisory patrol duties, and physical security of federal VA facility protocols. Periodically serving as patrol supervisor and point of contact to the director of the VA facility during major incidents. Point of Contact for the SNS/CHEMPACK program. HSP/ASPR Grant administration and coordinator.

### **Core Areas of Study and Expertise**

- Emergency Planning and Response / Fire/Rescue Response/Wildland Fire Operations
  - FEMA Continuity of Operations Manager Certification / COOP Train - The - Trainer
    - Emergency Operations Center - Manager / EMPG Grant Administration
      - Public Outreach / Public Information Officer - Awareness
        - FEMA Professional Development Series
        - FEMA IS 100, 200, 300, 400, 700, and 800
      - Mass Casualty Decontamination / Bio-Terrorism Train - The - Trainer
      - Homeland Security Medical Executive / Mass Vaccination Operations
    - Threat and Hazard Identification and Risk Management / Disaster Recovery
      - Strategic National Stockpile / Chempack / Points of Distribution
        - Disaster Declaration PA/IA Damage Assessments
      - Homeland Security Exercise and Evaluation Program Certification
        - OK-First Certified -Mesonet/National Weather Service
        - USCG - Basic Incident Command Support Technician
- Technical Rescue Technician Level - Swiftwater / Boat Operations / Search and Rescue

### **Awards, Achievements, and Citations**

*U.S. Navy (Awards)* Southwest Asian Service Medal (Desert Shield/Storm) Aug 1990-Feb 1991  
Naval Reserve Meritorious Service Medal (1988-1996)  
National Defense Medal (1990-1991)  
Pistol expert Medal (1988)

*Oklahoma City Housing Authority* - Drug Enforcement Officer (Certificate of Recognition)  
Oklahoma City Federal Building Bombing response April 19 1995

*U.S. Department of Veterans Affairs* - Law Enforcement Training Center (Letter of Commendation) Director of VA LETC expressing my professionalism, dedication, and experience in providing success to training during my assignment as guest instructor April 2002.

*U.S. Department of Veteran Affairs* -Law Enforcement (Police) (Letter of Appreciation) Letter from Presidential Cabinet member Secretary of Department of Veterans Affairs Anthony Principi for providing dignitary protection during his trip to the North Texas Area Aug 2003.

*Texas Department of State Health Services* - Regional SNS Coordinator (Letter of Appreciation) for my assistance to the State of Texas, coordinating meetings between the State of Texas, the Joint Reserve Base Ft. Worth, Texas and US Department of Veterans Affairs July 2006

*Oklahoma Department of Emergency Management (Certificate of Achievement) New  
Emergency Manager Orientation August 2016.*

*Emergency Management Institute - FEMA (Certificate of Achievement) Professional  
Development Series January 2018.*

### **Federal Disaster Declaration Responses**

Hurricanes - Katrina, Rita, Ike, Dean, and Gustav.

DR-4222, DR-4256, DR-4324, DR-4485

### **US Military Service**

US Navy (Active Duty) Airman Non-Designated 05/1988 - 07/1991

Stationed NAS Sigonella Sicily - Plane Captain for the C2 Greyhound, responsible for  
maintaining knowledge of required maintenance, fueling, cleaning, and securing of aircraft  
during non-flying missions.

US Naval Reserve (Active Reserve) Rate: Mineman 07/1991 - 03/1996

Stationed NAS Dallas Grand Prairie, Tx and NAS Ft. Worth JRB Ft. Worth, Tx  
Responsible for the care, security, maintenance, and movement of underwater mines and  
explosives.

### **References**

Darryl Brewer - Fannin County Emergency Management Coordinator (retired)

Bonham, Texas

(903)227-4955

[dbrewer@fanninco.net](mailto:dbrewer@fanninco.net)

Derrick Mixon - Atoka County Emergency Management Director

Atoka, Ok

(580)239-1767

[doumixon@gmail.com](mailto:doumixon@gmail.com)

Karen Adkins - City of McKinney Emergency Management Coordinator

McKinney, Tx

(469)667-2478

[kadkins@mckinneytexas.org](mailto:kadkins@mckinneytexas.org)



# Regional Flood Planning Group 2 Meeting Lower Red-Sulphur- Cypress July 7, 2022



# Outline/Agenda

- Chapter 9- Flood Infrastructure Financing Analysis
  - Show survey that has been distributed to FMX sponsors.
  - Discuss outreach efforts.
- Chapter 10
  - Discuss comments resolution
- Discuss Draft Flood Plan comments
- Schedule



# Ch. 9 Flood Infrastructure Financing Analysis

# Financing Survey Example

Hello Sponsor,

We are reaching out to you because there are one or more actions for your entity that will be listed in the Lower Red-Sulphur-Cypress regional flood plan, and we need your help to identify how much state or federal funding you may need to implement these projects.

**Please reply to this email and fill out the drop-down menu in the table below for each of your entities' Flood Mitigation Actions by June 20, 2022.** Please note the percent funding financed by sponsor and other funding needed must equal 100%. For more information regarding your Flood Mitigation Actions, visit the following link: [RFP Region 2 - FMX Summaries by Sponsor](#).

The Texas Water Development Board (TWDB) designated 15 regional flood planning areas each of which began with a designated regional flood planning group that will develop a regional flood plan for their region by January 2023. TWDB will bring the regional flood plans together to produce the first State Flood Plan by September 1, 2024. Entities must have their project listed in the State Flood Plan to receive state funding for a proposed flood project. As part of the regional flood planning process, RFPGs must indicate how sponsors will propose to finance recommended Flood Mitigation Actions included in the Flood Plan<sup>1</sup>. Flood Mitigation Actions include Flood Management Evaluation (FME), Flood Mitigation Strategy (FMS), and Flood Mitigation Project (FMP)<sup>2</sup>.

*There is no commitment associated with being a sponsor for an action in the plan, this is just a planning level study.*

Flood Mitigation Action ID	Flood Mitigation Action Type <sup>2</sup>	Flood Mitigation Action Name	Flood Mitigation Action Description	Flood Mitigation Action Total Estimated Cost*	Sponsor Funding		Other Funding Needed** (Including state, federal, and/or other funding)
					Anticipated Source of Sponsor Funding	Percent Funding to be Financed by Sponsor**	
21000015	FME	FIS	Update County maps to Zone AE	\$1,154,000	Choose an item.	Choose an item.	Choose an item.
21000058	FME	Property Acquisition	Acquisition and management strategies of land to preserve open space within Region 2 for flood mitigation and water quality in the floodplain.	\$250,000	Choose an item.	Choose an item.	Choose an item.
22000021	FMS	NFIP Involvement	Application to join NFIP or adoption of equivalent standards	\$100,000	Choose an item.	Choose an item.	Choose an item.

\*Costs are based on high level engineering estimates and assumptions.

\*\*Percent funding financed by sponsor and other funding needed MUST equal 100%

# Flood Infrastructure Financing Survey - Update

Funding surveys sent to Sponsors on 6/1/2022 and 6/2/2022

12% Sponsor response rate (5 of 42)  
(as of 7/1/2022)

Generally, Sponsors have responded that they have very little to no funding available



# Sponsors who have responded to survey

Sponsor	Number of Recommended FMEs, FMSs, and/or FMPs
City of Paris	2
Cooke County	1
Red River County	1
Red River Valley Association	1
Texarkana	7

# Flood Infrastructure Financing Survey - Ongoing Efforts

## Increase Sponsor response rate

- Following up via phone calls

## RFPG is available for calls to address Sponsor questions


- Any edits or additions will be incorporated into the Amended Plan

## Chapter 9 can be edited during the public comment period

- August 1<sup>st</sup> RFP Draft submittal
- Continue to receive responses after submittal
- Update statistics on survey



# Chapter 10- Public Participation and Plan Adoption



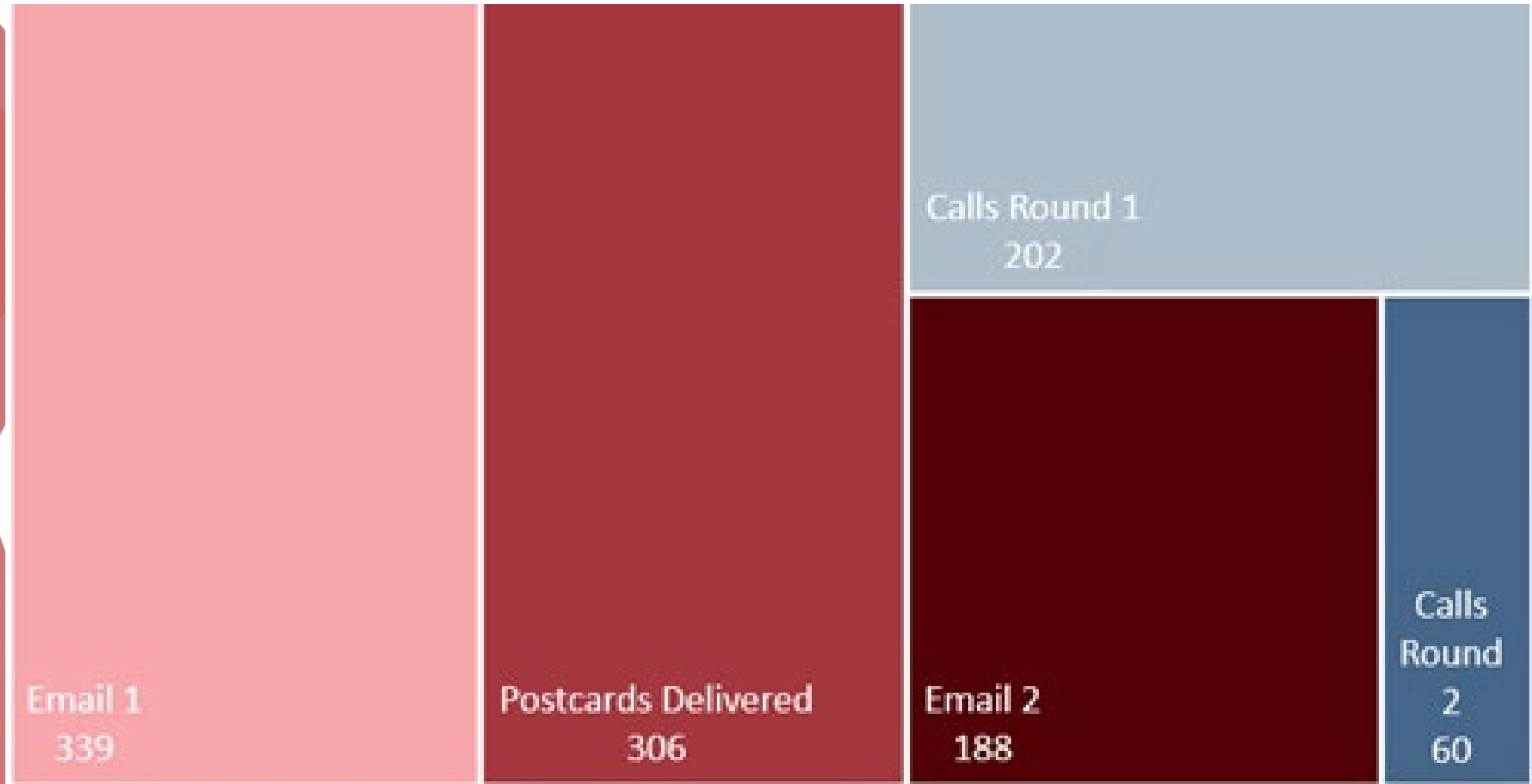
Regional Flood  
Planning Group  
(RFPG) members  
represent a wide  
variety of  
stakeholders  
potentially affected by  
flooding, including :

- Agriculture
- Counties
- Electric Generation Utilities
- Environmental Interests
- Flood Districts
- Industry
- Municipalities
- Public
- River Authorities
- Small Businesses
- Water Districts
- Water Utilities



# Survey Recipients included:

- Agriculture
- Cities
- Counties
- Councils of Governments
- Districts (MUDs, SUDs, etc.)
- Federal Agencies
- State Agencies
- Public Stakeholders
- River Authorities



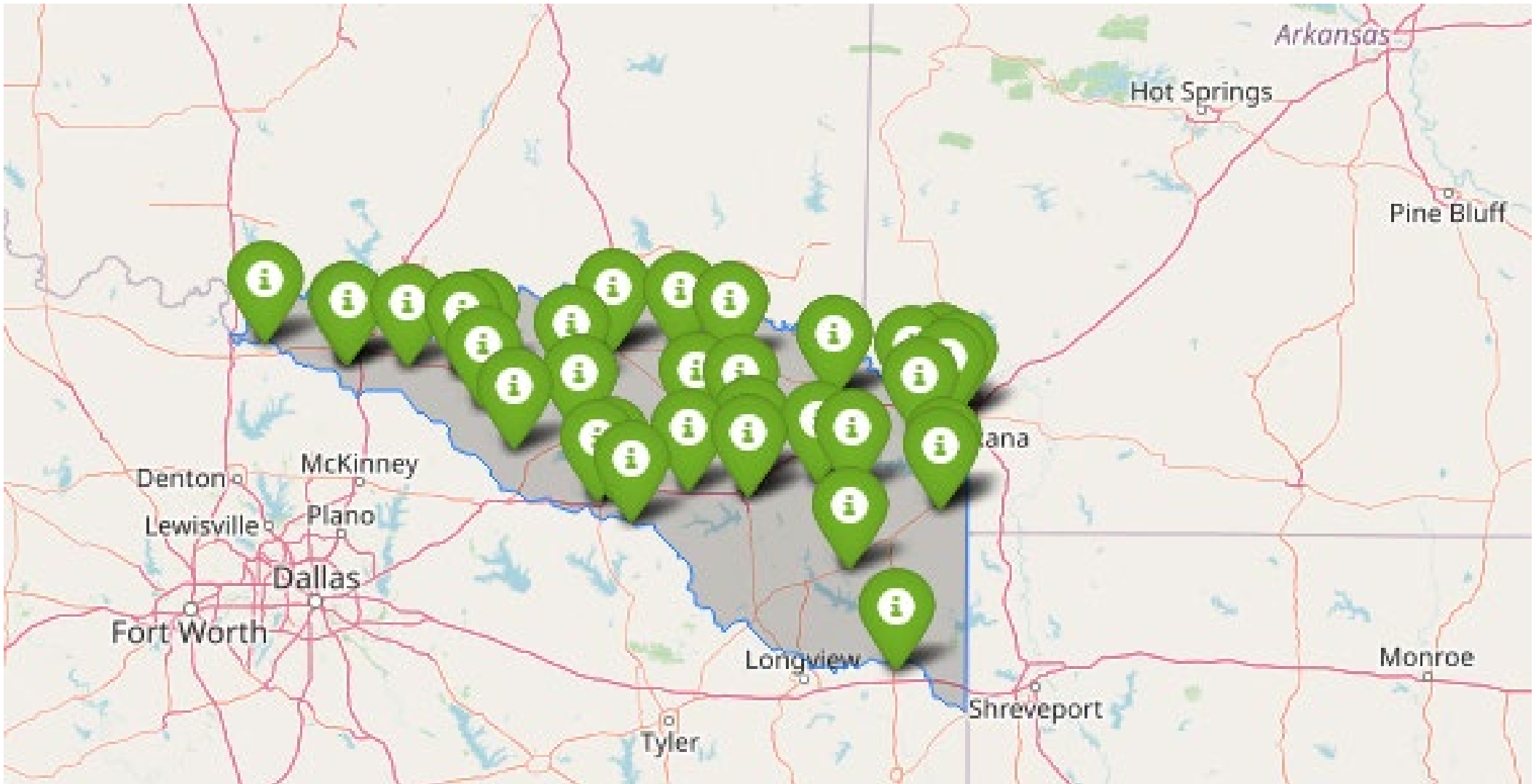
Email 1  
339

Postcards Delivered  
306

Calls Round 1  
202

Email 2  
188

Calls  
Round  
2  
60







ER RED-SULPHUR-CYPRESS  
**REGIONAL FLOOD  
PLANNING GROUP**  
REGION 2

[Home](#) [About Us](#)

# Region 2 Lower Red-Sulphur-Cypress Regional Flood Planning Group

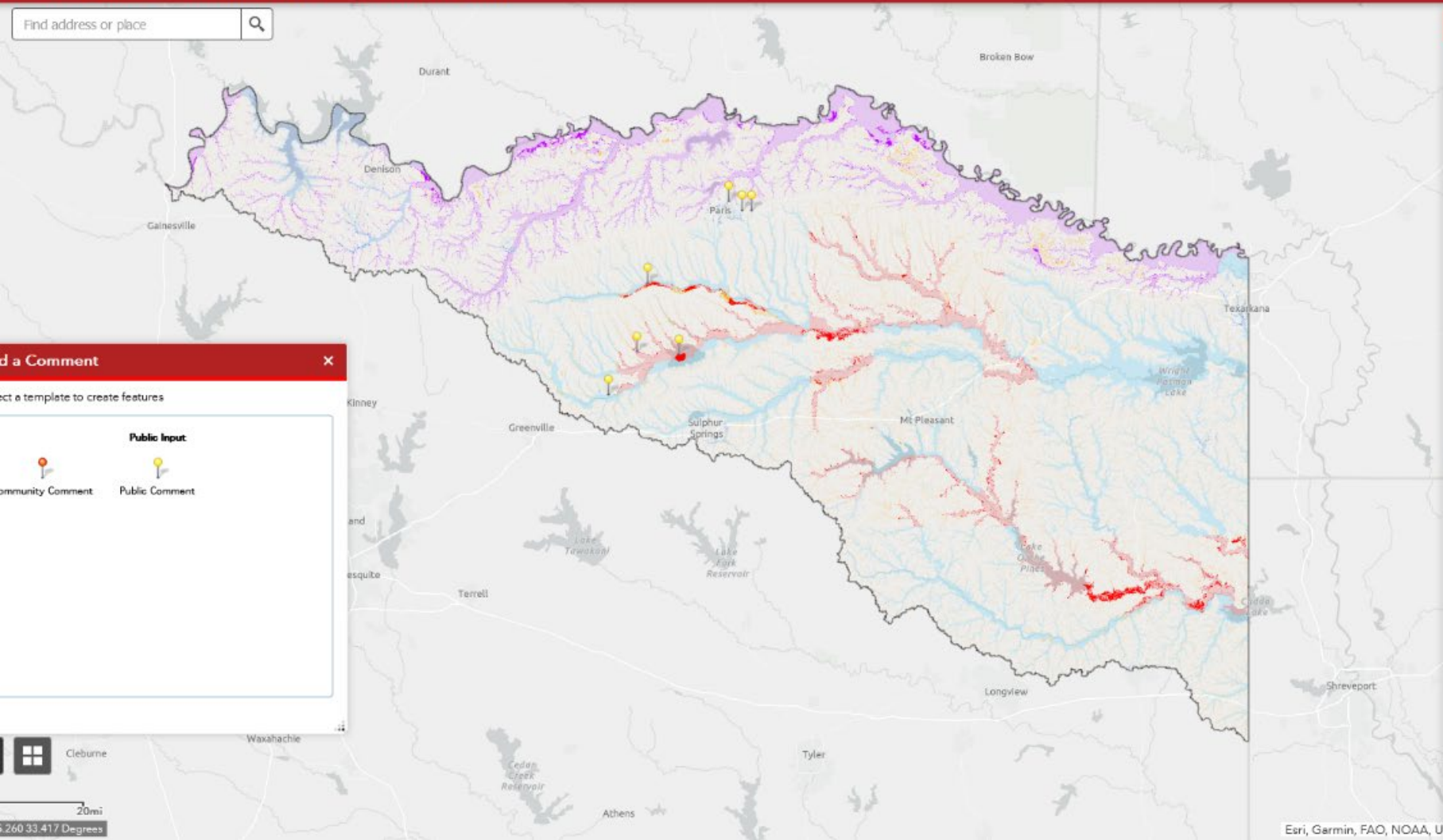
*Learn more about what we do*

*Each planning group provides region-specific information such as the regional water plan, data projections, and planning group contact information.*

*Share your Community's Flood Protection Plans and Projects Here*



# Region 2 Lower Red-Sulphur-Cypress Draft Flood Map



## Map Information

About

### Web Map Instructions

Find address or place

The searchbar feature in the upper left corner of the map enables you to zoom to a particular address.

Using the Add Feature tool in the left corner, you can add points with comments to help identify areas with flooding concerns. You may add as many features as needed.

Similarly, the Add Feature tool enables you to add or change information about the points features you have already created.

The legend below shows the different flood zones.

### Public Input

- Community Comment
- Public Comment

### Lower Red-Sulphur-Cypress Flood Plan Region

### Lower Red Floodquilt by Source

- Floodquilt 1% (100 Yr) Hatched Symbology
  - Quilt NFHL Effective Detailed
  - Quilt NFHL Effective Approximate
  - BLE
  - Fathom Fluvial
- Floodquilt 0.2% (500 Yr) Solid Symbology



# Draft State Flood Plan Review



# Discuss Comments

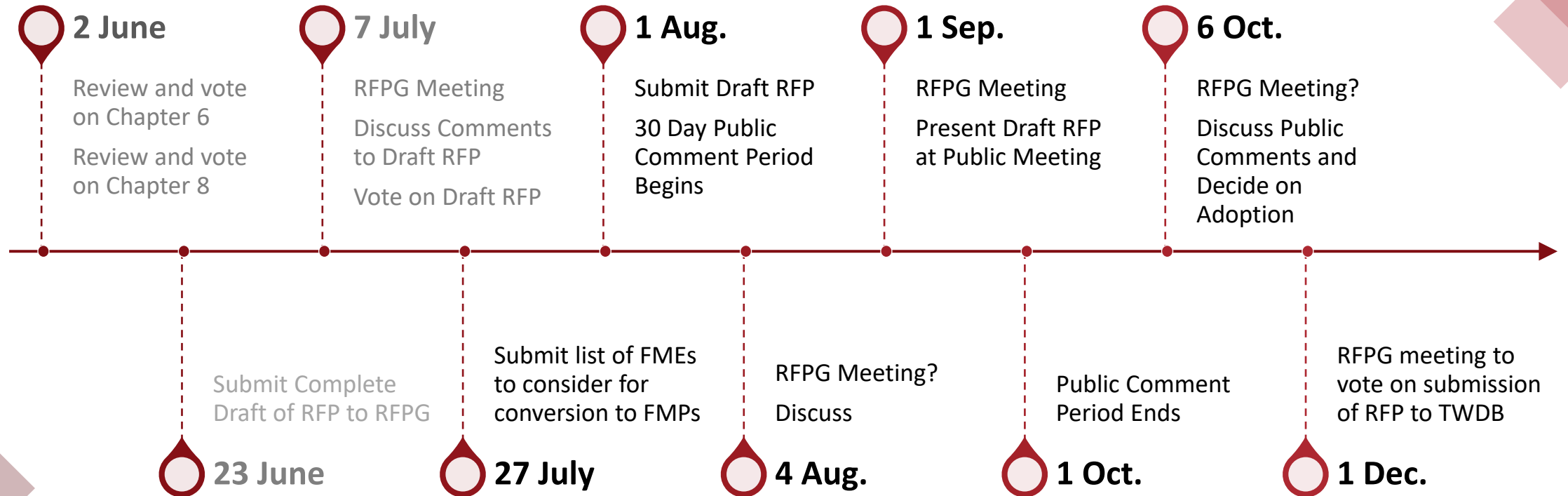
# What's left for initial RFP?

- Complete Draft and Submit by August 1
- 60 Day Public Comment Period
- Draft Regional Flood Plan Public Meeting
- Address Public Comments and Prepare Final RFP
- Approve RFP
- Submit RFP to TWDB

# Schedule

- Complete Draft and Submit – July 27 to receive by August 1
- 30 Day Public Comment Period
- Aug 7 – RFPG Meeting?
- RFPG Meeting and Draft Regional Flood Plan Public Meeting – September 1
- Address Public Comments

# Schedule



# CHAPTER 10

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# Task 10: Public Participation and Plan Adoption

## Region 2 The Lower Red-Sulphur-Cypress Basin Regional Flood Plan

### Overview of Chapter

This chapter outlines the outreach efforts of the Lower Red-Sulphur-Cypress Basin Regional Flood Planning Area to provide information to the public and seek participation by the public during the planning process. Soliciting input from the public was a key component in the planning process. All meetings were conducted pursuant to the Texas Open Meeting Act and Texas Government Code Chapter 551.

The Texas Water Development Board (TWDB) presented its findings to the 86th Texas legislative session in 2019. Later that year, the Legislature adopted changes to Texas Water Code §16.061, which established a regional and state flood planning process led by the TWDB. The legislation provided funding to improve the state’s floodplain mapping efforts and develop regional plans to mitigate the impact of future flooding. Regional Flood Plans for each of the state’s fifteen major river basins must be delivered to the TWDB by January 10, 2023. An updated version of the Regional Flood Plans will be due every five years thereafter. (*TWDB Flood Planning Frequently Asked Questions, 2021*) To ensure a diversity of perspectives are included, Regional Flood Planning Group (RFPG) members represent a wide variety of stakeholders potentially affected by flooding, including:

- Agriculture
- Counties
- Electric Generation Utilities
- Environmental Interests
- Flood Districts
- Industry
- Municipalities
- Public
- River Authorities
- Small Businesses
- Water Districts
- Water Utilities

Voting members of each RFPG were selected by the TWDB during its board meeting on October 1, 2020. Since then, some voting and non-voting members have been added or replaced as vacancies occurred.

*Table 10.1* lists the voting members of the Region 2 Lower Red-Sulphur-Cypress RFPG as of June 2022 and the interests they represent.



**Table 10.1 Current Voting Members 2 Lower Red-Sulphur-Cypress Regional Flood Planning Group**

Voting Member	Interest
Preston Ingram (William)	Agricultural interests
Andy Endsley	Counties
W. Greg Carter	Electric generating utilities
Laura-Ashley Overdyke	Environmental interests
Casey Johnson	Industries
Dustin Henslee	Municipalities
Kirby Hollingsworth	Public
R Reeves Hayter	River authorities, Chair
Kelly Mitchell	Small business
Joseph W. Weir III	Water districts
Susan Whitfield	Water utilities

Table 10.2 lists the non-voting members of the Region 2 Lower Red-Sulphur-Cypress RFPG as of June 2022 and the interests they represent.

**Table 10.2 Current Non-Voting Members 2 Lower Red-Sulphur-Cypress Regional Flood Planning Group**

Non Voting Member	Interest
Randy Whiteman	Region 1 Canadian-Upper Red RFPG Liaison
James (Clay) Shipes	Texas Parks and Wildlife Department
Andrea Sanders	Texas Division of Emergency Management
Darrell Dean	Texas Department of Agriculture
Tony Resendez	Texas State Soil and Water Conservation Board
Trey Bahm	General Land Office
Megan Ingram	Texas Water Development Board (TWDB)
Michelle Havelka	Texas Commission on Environmental Quality
Anita Machiavello	Texas Water Development Board (TWDB)
Darlene Prochaska	US Army Corps of Engineers, Fort Worth District
Travis Wilsey	US Army Corps of Engineers, Tulsa District
Richard Brontoli	Red River Valley Association
Jason Dupree	Texas Department of Transportation, Atlanta District
Dan Perry	Texas Department of Transportation, Paris District

## 10.2 Outreach to Entities with Flood-Related Authority or Responsibility

The Lower Red-Sulphur-Cypress Regional Flood Planning Group reached out to various entities and stakeholders throughout the region to communicate about the Regional Flood Planning process and solicit data, input, and engagement.

This effort was initiated by establishing a list of entities or individuals to contact with flood planning, mitigation, and floodplain management capabilities in the region. Ultimately a list of 373 entities or individuals was created to reach out to gauge interest in the Regional Flood Planning process.

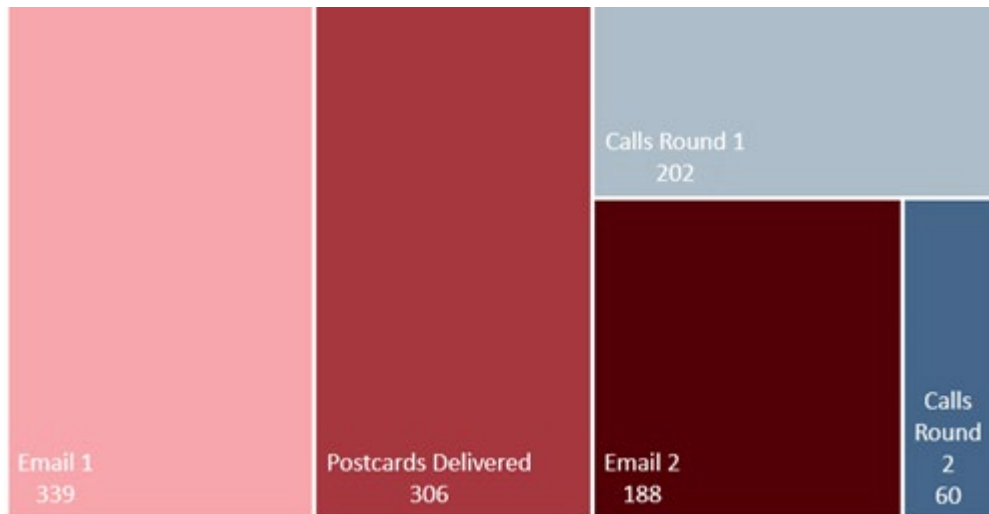
Survey Recipients included:

- Agriculture
- Cities
- Counties
- Councils of Governments
- Districts (MUDs, SUDs, etc.)
- Federal Agencies
- State Agencies
- Public Stakeholders
- River Authorities

### 10.2.1 Data Collection Tools and Surveys

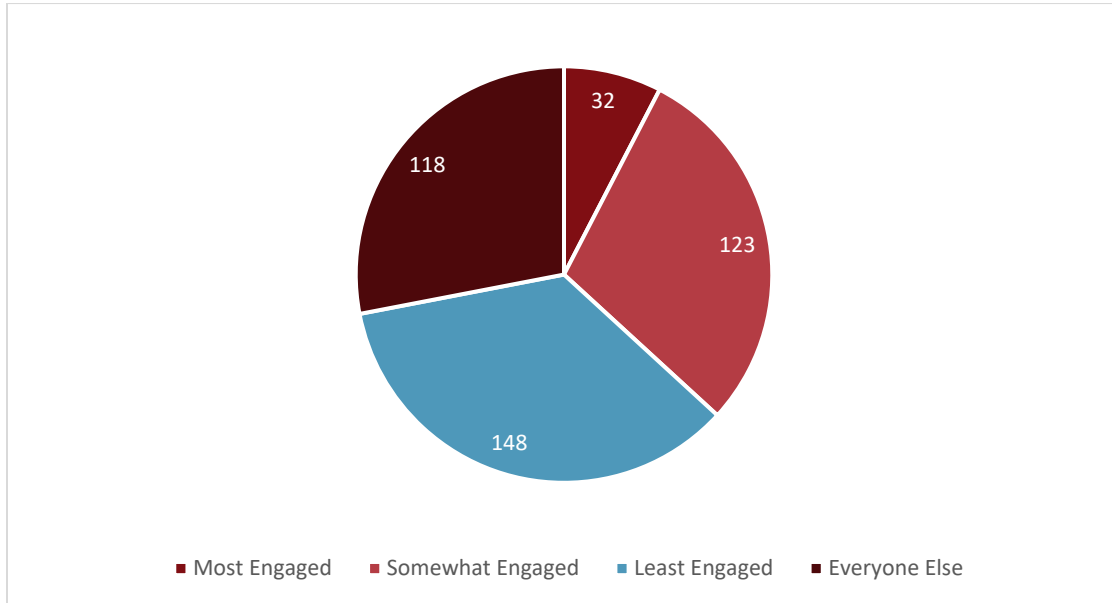
The first round of emails was sent to 339 recipients. Electronic postcards were also sent out to 306 recipients. The second round of emails included 188 recipients. Calls were made to entities and individuals to ensure that emails and/or postcards were received and surveys completed. The first round of calls included a list of 202 recipients, while the second round of calls was to 60 recipients.

**Figure 10.1 Methods Used for June – July 2021 Data Collection Outreach**



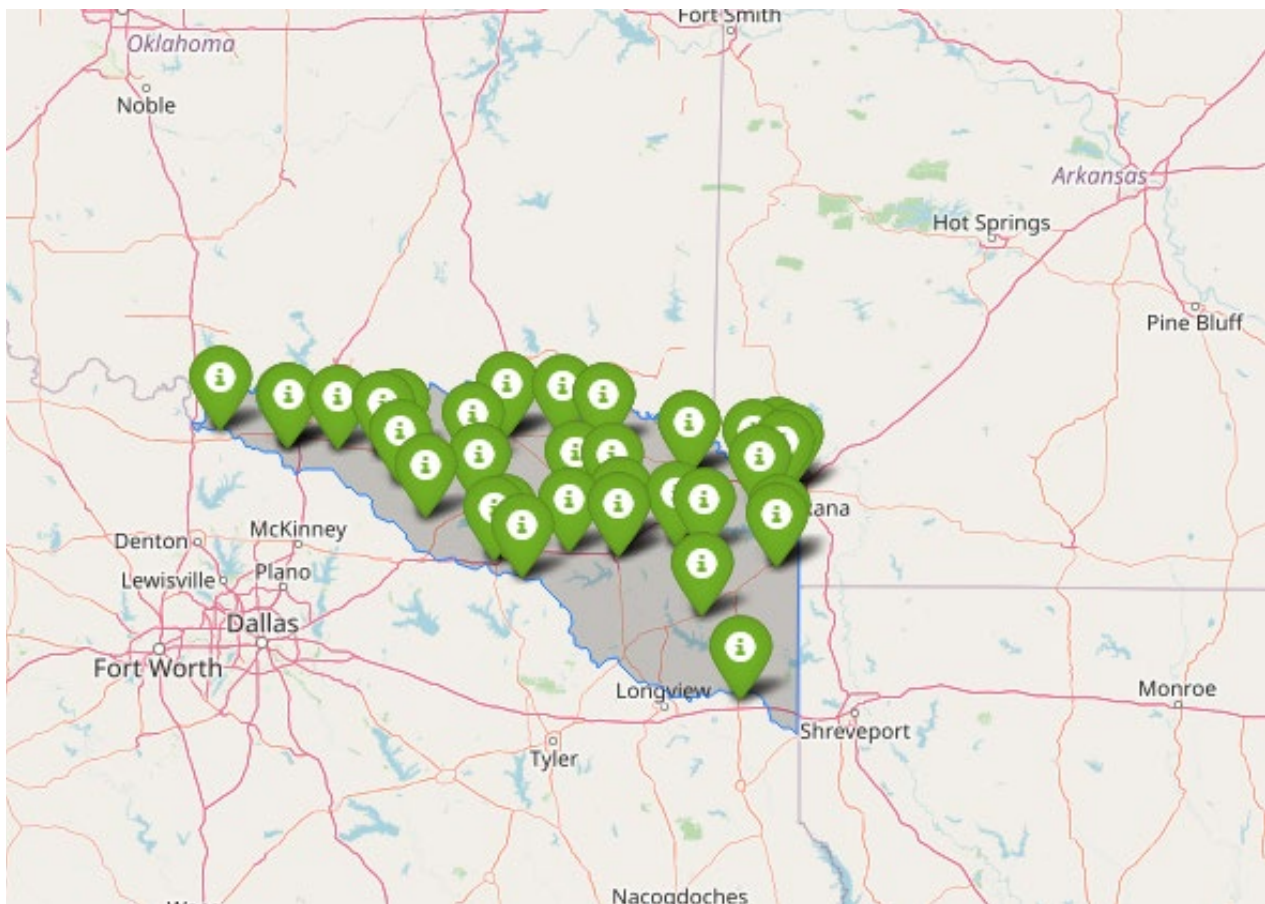
Data was provided via the email service used to send out the emails. The data indicated the level of engagement of the recipients. The data indicated that the most engaged group consisted of 32 individuals, while the least engaged group consisted of 148 individuals. Additionally, of the emails sent 421 recipients subscribed to the emails, with only four unsubscribing from receiving them.

**Figure 10.2 Email Marketing Engagement**



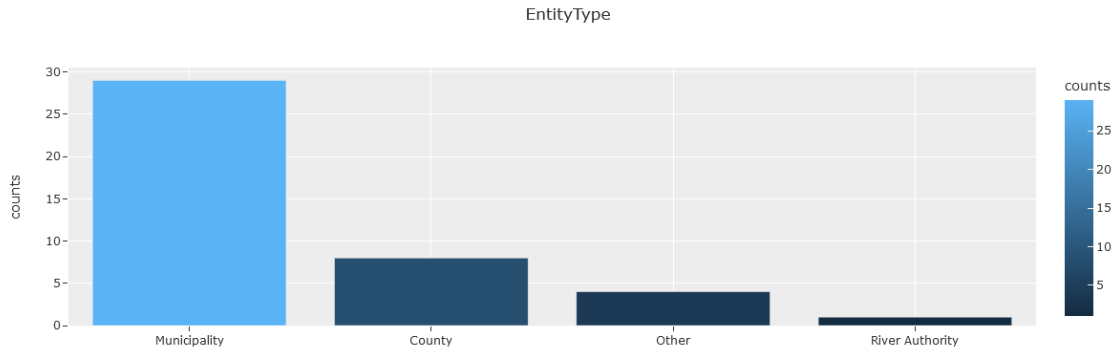
Input from the data collection process indicated the location of entities and/or individuals who participated in the survey. *Figure 10.3* indicates the geographical distribution of the recipients.

**Figure 10.3 Public Input Received from Data Collection Process Locations**



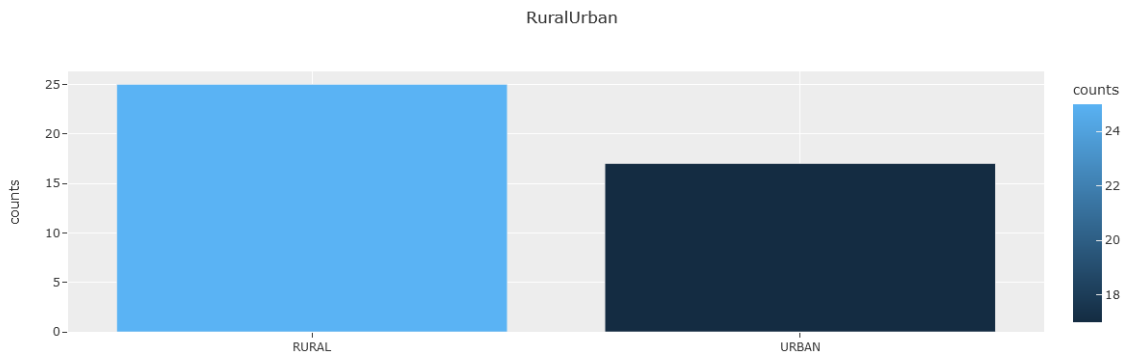
The data collection process also indicated the types of entities that responded to the survey: municipality, county, other, and river authority.

**Figure 10.4 Types of Respondents Counts**



Additionally, data included whether the responding entity was of a rural or urban area. Capturing this data allowed the planning team to gain more information on the types of respondents.

**Figure 10.5 Rural and Urban Respondent Counts**



### 10.3.1 Digital Media: Website

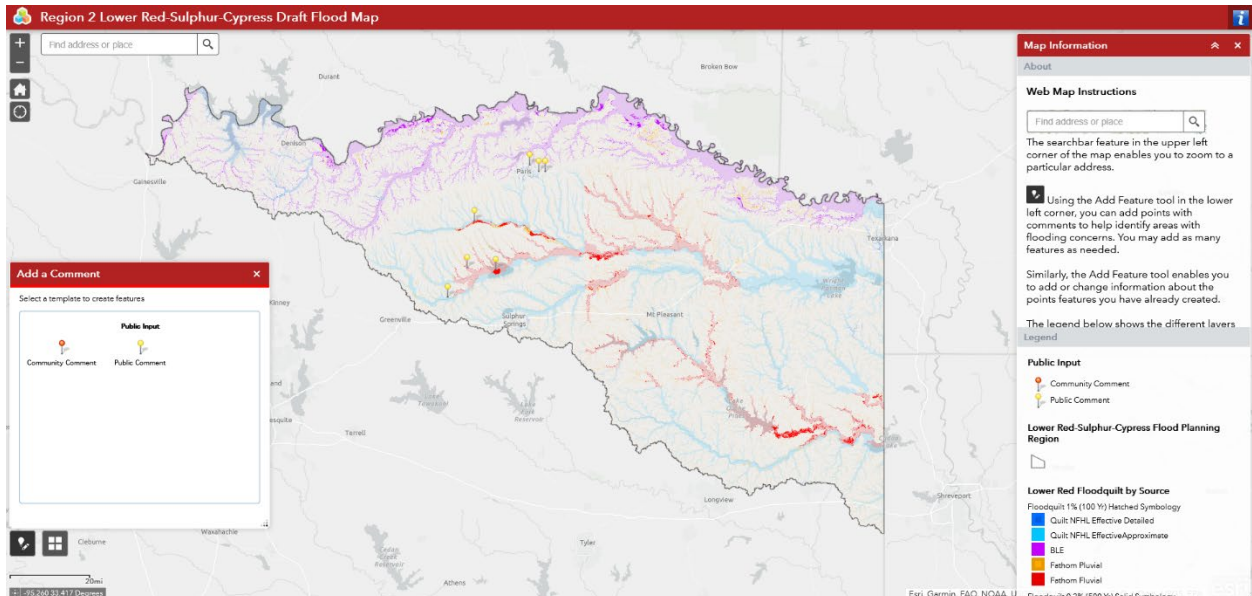
Per the Regional Flood Planning guidelines and following public engagement best practices, a website was created to provide key information to the public (<https://texasfloodregion2.org/>).

Figure 10.6 Lower Red-Sulphur-Cypress Regional Flood Planning Group website



The website allowed users to access information on the flood planning process, membership information, contact information, meeting notices, and notes from past meetings. Community representatives and members of the public were provided the opportunity to upload data to the site for use in the planning process via a Webmap.

Figure 10.7 Additional Public Input Received on Updated Interactive Webmap, February 2022



Per the outreach efforts, seven comments from the public were received via the webmap.

## 10.4 Public Comments

Efforts to communicate and engage the public, regional stakeholders, entities, and individuals with flood-related authority were made with the intent to provide planning process data and solicit data and regionally-specific input and information. This outreach effort provided key information in the planning process and allowed the public to participate in the process as well. Outreach and engagement was a key component of the process and crucial in creating a plan that is truly reflective of Region 2.

The Draft Regional Flood Plan was made available on August 1, 2022, for public comment as previously discussed. The plan will be available for public comment for 30 days before being presented at a public meeting on August 4, 2022, at **LOCATION**. The plan will be available for another 30 days afterward. Members of the public and entities in the region are encouraged to provide comments during this time. All comments will be read and evaluated by the RFPG before addressing the final Regional Flood Plan that will be voted on at the December RFPG meeting and submitted to the TWDB on January 10, 2023.



# EXECUTIVE SUMMARY

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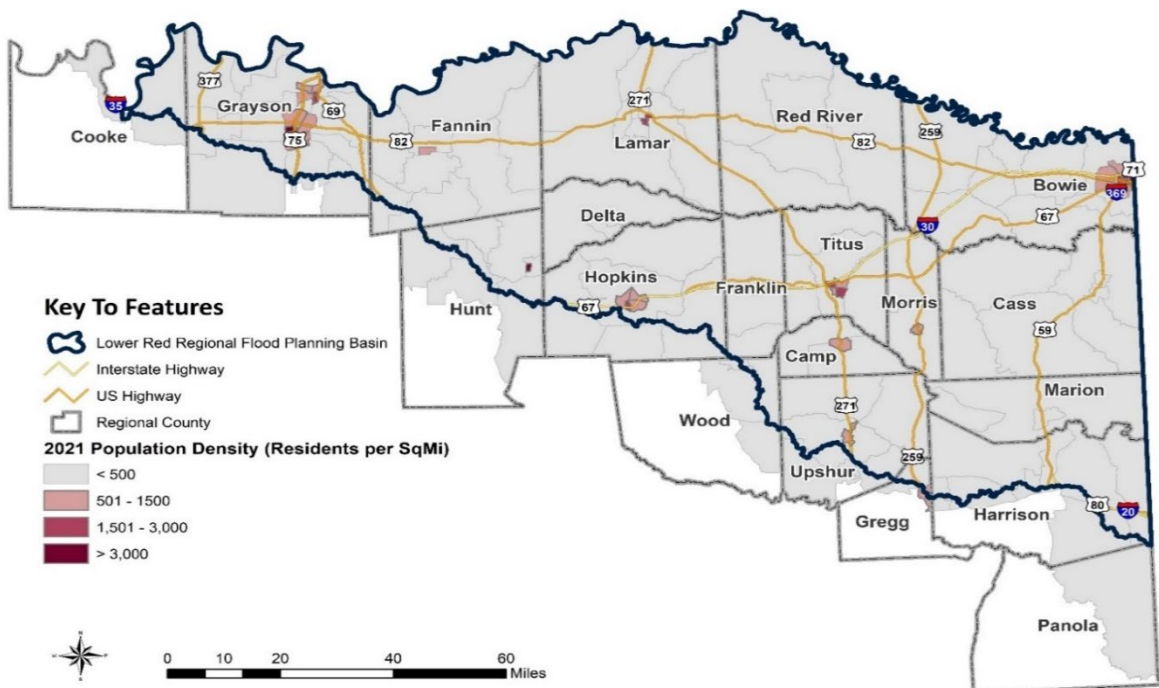
# Executive Summary

In 2019, the 86th Texas Legislature passed Senate Bill 8, which authorized and established the regional and state flood planning processes. The legislature assigned the responsibility of the regional and state flood planning process to the Texas Water Development Board (TWDB). This report presents the Draft Region 2 Lower Red-Sulphur-Cypress Regional Flood Plan, representing the first-ever regionwide flood plan. Region 2 is one of 15 Regional Flood Planning Groups across the State of Texas tasked with developing a regional flood plan.

Region 2 encompasses all or part of 19 counties and spans an area of 9,161 square miles. The area stretches from Gainesville in Cooke County into the northwest to Waskom (east of Marshall) to the southeast, up to Texarkana at the northeast corner. The region borders Oklahoma to the north and Arkansas and Louisiana to the east. Only the lower portion of the Red River is included, with Region 1 covering the upper Red River. The entirety of the Sulphur River and Cypress Creek basins within Texas are included in the region. Both of these streams are tributaries of the Red River in Louisiana. *Figure ES.1* represents the boundaries of Region 2.

According to the TWDB’s population projections, Region 2 is one of the state’s least populated flood planning areas. According to the 2019 five-year American Community Survey estimates, 531,100 residents, or less than 2 percent of Texas residents, currently reside in Region 2. Encompassing 9,161 square miles, the region is largely rural, with 57 percent of the people living in rural areas and only 44 percent living in the cities and towns. Of those living in urban areas, most live in the major cities that fall within Grayson, Lamar, and Bowie County. With roughly 43,000 residents, Sherman is the largest city within Region 2. There are significant population centers in Texarkana, Denison, and Paris as well. These cities are located along Highway 82, which runs east-west through the Region. To the west, the communities of Denison and Sherman are located on the southern border with Oklahoma and the Red River. The other population centers are generally located along I-30. A few larger cities, such as Longview and Marshall, touch the southern boundary of the Region along the I-20 corridor, but those cities are mostly situated within the Sabine River Basin.

**Figure ES.1 Region 2 Lower-Red-Sulphur-Cypress Flood Planning Area**





Agriculture has always been a major economic and cultural factor in the region. Today, there are nearly 200,000 more cattle in the region than people. But this pales compared to the over 28 million poultry being raised in the area, mostly as broilers. There is one broiler chicken for each person in Texas. In addition, there is roughly one layer hen for every two people in the Region. Much of the eastern portion of the region is actively or passively managed timber land that contributes significantly to the region’s economy, including local manufacturing at sawmills and wood product manufacturing. Combined with the warehousing and distribution of products from and through the region, flooding could have a significant impact on the Texas economy

The Region 2 Flood Planning Group (RFPG) is comprised of 25 volunteers who oversaw and directed the development of this plan. The RFPG held a public meeting on July 7, 2022 to receive approval for the submittal of the Draft Region 2 Lower Red-Sulphur-Cypress Regional Flood Plan to the TWDB by August 1, 2022 deadline. Before this meeting, the preliminary draft flood plan was made available to the public on the RFPG’s website. After the meeting, the Technical Consultant Team addressed comments received and made any necessary revisions before submitting the Draft Regional Flood Plan to the TWDB and the public. The draft plan was posted on the RFPG’s website and paper copies of the plan were available at three locations within the region:

- Library 1
- Library 2
- Library 3

A public hearing was held on September 1, 2022, in Mount Pleasant, Texas, to present and receive feedback on the draft plan. The public had at least 30 days before and 30 days following the public hearing to provide written comments in addition to providing written and/or oral comments at the public hearing. The RFPG responded to the comments received and revised the draft plan as appropriate. On December 1, 2022, in Mount Pleasant, Texas, the final plan was adopted for submission to the TWDB by the January 10, 2023 deadline.

## Chapters Included In The Plan

The TWDB developed the scope of work and technical guidelines that adhere to the legislation for each RFPG to develop its regional flood plan. The plan includes 10 required chapters plus the TWDB-required tables. The TWDB-required tables are included in various appendices of this plan, including:

- **Chapter 1 (Task 1) Planning Area Description**  
Chapter 1 provides an overview of the region, including location, economics, agricultural information, social vulnerability, flood-prone areas, historical floods and associated damages, jurisdictions with flood-related authorities or responsibilities, existing infrastructure, and ongoing flood mitigation projects.
- **Chapter 2 (Tasks 2A and 2B) Flood Risk Analyses**  
This plan focuses on the 1 percent and the 0.2 percent annual chance flood events for existing and future conditions. Future conditions are based on 30 years from 2022.
  - **Task 2A Existing Condition Flood Risk Analyses**  
This task estimates existing condition flood risk based on information provided by local entities and the public, as well as regional, state, and federal data sources. The best available existing condition flood risk data is stitched together to create a floodplain quilt. Data gaps are identified, as is the region’s vulnerability.
  - **Task 2B Future Condition Flood Risk Analyses**  
Task 2B assess potential future flood risk considering two scenarios: a “no action” scenario in which development and population growth continue according to current trends and development incorporating floodplain regulations. Future flood risk condition considers multiple

potential impacts on flood risk, such as land use, population growth, sea level change, land subsidence, and sedimentation. The RFPG developed an approach to estimate a range of potential future flood risk conditions using a hierarchy of available data sources that the TWDB approved.

- **Chapter 3 (Tasks 3A and 3B) Floodplain Management Practices and Flood Protection Goals**

Survey questions related to floodplain management practices within the region were included in the data collection effort in Summer 2021, which the RFPG considered in its recommendations in the goals presented in Chapter 3.

- **Task 3A Evaluation and Recommendations on Floodplain Management Practices**

The RFPG recommends six regionwide floodplain management standards to be adopted in this plan. The RFPG does not require the standards to be adopted for their flood management evaluations (FMEs), flood mitigation projects (FMPs), and/or flood management strategies (FMSs) to be included in this plan.

- **Task 3B Flood Mitigation and Floodplain Management Goals**

The RFPG established eight overarching goals in six categories. Each goal includes at least one specific goal statement with short-term (goal year 2033) and long-term (goal year 2053) measurements. Every recommended FME, FMP, and FMS must meet at least one of these goals.

- **Chapter 4 (Tasks 4A and 4B) Assessment and Identification of Flood Mitigation Needs**

The RFPG adopted a process to analyze flood mitigation needs and develop potentially feasible actions (FMEs, FMPs, and FMSs) to address these needs.

- **Task 4A Flood Mitigation Needs Analysis**

The scoring criteria to identify the areas of greatest known flood risk and knowledge gaps considers flood-prone areas that threaten life and property, current floodplain regulations, lack of inundation maps, lack of hydrologic and hydraulic (H&H) models, emergency need, existing models, previously identified projects, historical floods, previously implemented projects, and additional factors identified by the RFPG. The analysis results conclude that approximately two-thirds of the region is inadequately mapped, and 30 percent of the region contains areas with the greatest known flood risk.

- **Task 4B Classification of Potential FMEs and Potentially Feasible FMSs and FMPs**

Task 4B identifies potentially feasible actions (FMEs, FMPs, and FMSs) that might reduce or mitigate flood risk within the region. Potential actions include those identified by the RFPG in previous tasks and those provided by local entities. Planning level costs and estimated benefits are also developed for each potential action.

- **Chapter 5 (Task 5) Recommendation of Flood Management Evaluations, Flood Management Strategies, and Associated Flood Mitigation Projects**

The RFPG established a Technical Subcommittee to review the potentially feasible actions and develop lists of FMEs, FMPs, and FMSs for the full RFPG to consider including in this plan. The RFPG applied a screening process to determine the actions for inclusion in this plan. Sixty-six FMEs, three FMPs, and 79 FMSs were considered for inclusion in the plans. Of these, a total of 42 FMEs, three FMPs, and approximately 38 FMSs are recommended in this regional flood plan. The reduction of those numbers was mostly due to combining potential individual FMEs and FMSs within a city or region. The limited number of FMPs is due to the difficulty in providing the appropriate information and verifying that the project would have no negative impact. As a result, many potential FMEs were converted to FMEs to allow for proving the project viability in meeting the TWDB requirements.

- **Chapter 6 (Tasks 6A and 6B) Impact and Contribution of the Region Flood Plan**

The RFPG considers the potential impacts of the recommended FMEs, FMPs, and FMSs on upstream and downstream neighbors and adjacent regions, as well as potential impacts on the 2022 State Water Plan. Each of the recommended FMPs and FMSs has demonstrated no negative impacts on its neighboring area to be included as a recommended action.

- **Task 6A Impacts of Regional Flood Plan**

The recommended actions are assessed to determine anticipated flood risk reduction and socioeconomic and recreational impacts, as well as environmental, agricultural, water quality, erosion, navigation, and other impacts.

- **Task 6B Contributions to and Impacts on Water Supply Development and the State Water Plan**

The recommended FMPs and FMSs are assessed to determine the potential contribution to or impact on the State Water Plan. The assessment concludes that these recommended actions will not have any anticipated significant impacts on water supply, availability, or projects in the State Water Plan.

- **Chapter 7 (Task 7) Flood Response Information and Activities**

Chapter 7 summarizes flood response preparations in the region. This chapter discusses the four phases of emergency management at the local, regional, state, and federal levels. Survey responses regarding emergency management are summarized. The TWDB requirements strictly prohibit the RFPG from analyzing or performing other activities related to planning for disaster response or recovery activities.

- **Chapter 8 (Task 8) Legislative, Administrative, and Regulatory Recommendations**

The RFPG recommends eight legislative ideas to implement the recommended flood mitigation actions. Nine regulatory or administrative regional flood planning process ideas are recommended to provide clarification or updates to statewide concerns. The RFPG recommends 18 flood planning ideas to improve future cycles of regional flood planning.

- **Chapter 9 (Task 9) Flood Infrastructure Financing Analysis**

Chapter 9 summarizes potential local, state, and federal funding opportunities that local sponsors could pursue while implementing the recommended FMEs, FMPs and FMSs. The survey results soliciting sponsor feedback on recommended actions and potential funding sources are presented.

- **Chapter 10 (Task 10) Public Participation and Plan Adoption**

The regional flood planning process is designed to be a public process. The RFPG adheres to the Texas Open Meetings Act and Freedom of Information Act, including notification requirements. The RFPG incorporates a robust public outreach plan to encourage and solicit local entities and public input. The development of this plan and its adoption is also included in Chapter 10.

- **Related Appendices**

Appendices include the TWDB-required tables and maps, as well as supplemental details supporting information presented throughout the Regional Flood Plan.

Task 4C referred to the Technical Memorandum and Technical Memorandum Addendum that were approved by the RFPG and submitted to the TWDB in January and March 2022, respectively, to indicate significant progress in developing this plan. These two memos were significant milestones in the plan development and included outdated information. To reduce confusion, these two memos were not included in the Regional Flood Plan, although much of the content has been incorporated.

The TWDB will merge the required tables submitted by the RFPGs to develop the 2023 State Flood Plan and corresponding database. The TWDB also required specific Geographical Information System (GIS) schema to be submitted electronically as part of this plan. These files were provided directly to the TWDB.

## Key Findings And Recommendations

### *Existing and Future Flood Risks*

The regional flood plan considered the 1 percent annual chance and the 0.2 percent annual chance flood events. Both of these storm events were considered in the existing conditions and future conditions flood risk analyses. The future conditions scenario is assumed for 30 years from 2022.

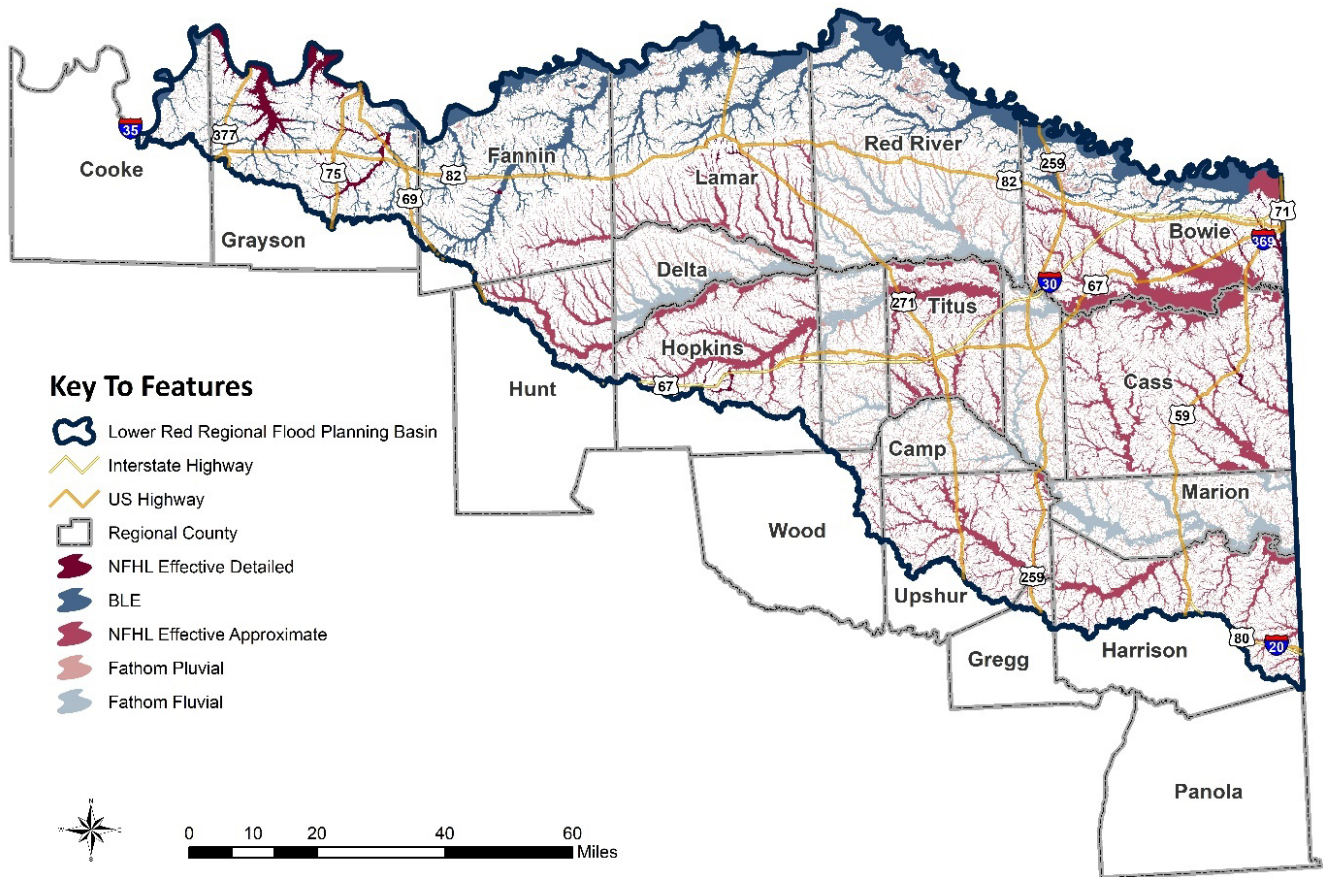
The RFPG was tasked with determining the best available data within the region. In some areas of Region 2, the RFPG could obtain local flood studies with models and maps. In other areas, localized studies were not available. The TWDB provided multiple GIS layers for Region 2 to use as a starting point in developing the floodplain quilt. The best available data for existing and future flood risks were used according to the hierarchy presented in *Table ES.1*. Fathom Pluvial Floodplain data was provided by the TWDB. Pluvial flooding includes flooding in shallower, smaller concentrations than typical riverine floodplains shown on Flood Insurance Rate Maps. This expanded flood hazard limit better represents flood risks in Region 2. The resulting stitching of floodplain layers produced *Figure ES.2*, which shows the flood risks for the 1 percent and 0.2 percent floodplains. This information was applied across Region 2 to identify flood data gaps.

Most communities have older, approximate mapping in Region 2, with five counties not having any floodplain mapping. This updated floodplain quilt represents a significant improvement in understanding flood risks in Region 2; however, it is composed of approximate data and should not be used outside of the purposes of flood planning.

**Table ES.1 Existing and Future Conditions Flood Hazard Approach**

	Best Available		→		→		→		Most Approximate	
	Local Floodplain (if determined current)		NFHL AE		BLE		NFHL A		FAFDS, or No FEMA	
	1% ACE	0.2% ACE	1% ACE	0.2% ACE	1% ACE	0.2% ACE	1% ACE	0.2% ACE	1% ACE	0.2% ACE
Existing	Local Study, if provided	Local Study, if provided	Zone AE + Pluvial Fathom*	Zone AE + Pluvial Fathom*	BLE + Pluvial Fathom	BLE + Pluvial Fathom	Zone A + Pluvial Fathom	Zone A + Pluvial Fathom	Combined Pluvial & Fluvial (Replaced FAFDS with Fathom)	Combined Pluvial & Fluvial (Replaced FAFDS with Fathom)
Future	Local Study, if provided	Local Study, if provided	Existing 500-Year	22-Foot Buffer of Existing 500-Year	Existing 500-Year	22-Foot Buffer of Existing 500' Year	Existing 500-Year	22-Foot Buffer of Existing 500-Year	Fathom Existing 500-Year	22-Foot Buffer of Existing 500- Year

Figure ES.2 Region 2 Existing Conditions Floodplain Quilt



The existing flood control infrastructure was assessed, including dams and levees. Dams and levees protect against flooding but still have associated risks. It is critical to note that not all dams are permitted or constructed for flood control purposes. Six United States Army Corps of Engineers (USACE) flood control dams are located in Region 2. The NRCS has constructed 100 flood-control reservoirs intended to primarily serve agricultural areas. The remaining 377 dams are not known to have a flood control mission, but they provide some measure of flood control within Region 2. Approximately 19 levees are located within Region 2 to provide flood protection, although only eight are accredited by the Federal Emergency Management Agency (FEMA). Maintaining these critical infrastructures is crucial to protecting life and property within Region 2.

Severe flooding can impact people, property, critical facilities, infrastructure, agricultural production, and other items in Region 2. The exposure analysis revealed that around 21,000 people within Region 2 would be displaced during a 1 percent annual chance flood event, with just over 8,000 homes impacted. The loss of transportation infrastructure was estimated, along with water and wastewater treatment facilities. The impacts of flooding on socially vulnerable populations and a community's ability to recover were also assessed in Chapter 2.



As for future condition flood risk, the RFPG considered a variety of factors that could exacerbate flood risk, including:

- future land use/land cover
- population growth
- sea level change
- land subsidence
- changes in the floodplain
- major geomorphic changes
- sedimentation

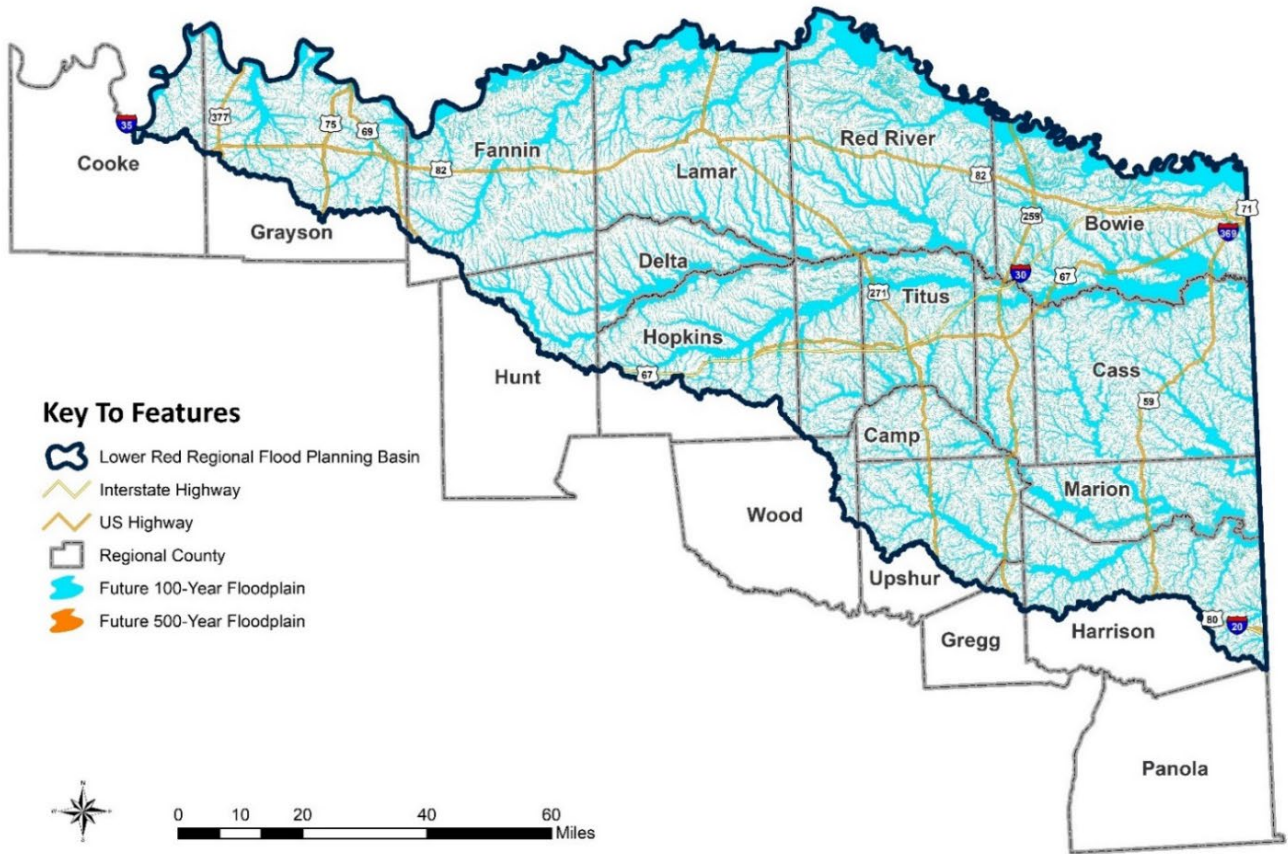
Some entities include future conditions in their mapping and modeling. However, the assumptions and methods vary from one entity to another. The few future flood studies that were available in Region 2 were incorporated into the future floodplain quilt. Where future studies were unavailable, it was necessary to develop a method of estimating future flood risks that met the TWDB requirements. A sensitivity analysis was performed based on future studies in the North Texas and North Louisiana areas. Based on this analysis, the future 1 percent annual chance floodplain could be conservatively estimated using the existing 0.2 percent annual chance floodplain. Unfortunately, no such proxy was available for the future 0.2 percent annual chance floodplain. Using the same sensitivity analysis of available future conditions studies, it was determined that the mean difference between existing and future conditions was a 22-foot offset in the floodplain width. This was applied to the existing 0.2 percent annual chance floodplain to approximate the future 0.2 percent floodplain. Due to the coarse estimating required in this process, the RFPG would have preferred not to provide future conditions floodplain data, especially for the 0.2 percent annual floodplain. *Figure ES.3* shows the future flood risk area for Region 2. The resulting future conditions 1 percent and 0.2 percent flood risk areas shown in the future floodplain quilt resulted in generally larger mapped areas than the existing conditions floodplain quilt.

The potential future flood exposure and vulnerability analysis consisted of two scenarios:

1. Estimated the structure count of buildings, critical facilities, infrastructure systems, population, and agriculture potentially exposed to flooding by overlaying the future conditions floodplain quilt developed for Region 2.
2. Estimated additional exposure and vulnerability by identifying areas of existing and known flood hazard and future flood hazard areas where development might occur within the next 30 years if the current land development practices in Region 2 continue.

If measures are not taken to mitigate future flooding, the future floodplain will impact 57 percent more structures and 72 percent more people than existing conditions while only adding 12 percent more land area. The more significant effects are seen in the more developed cities, but some impacts will occur over the entire region.

Figure ES.3 Region 2 Future Conditions Floodplain Quilt





## Identification and Selection of Recommended Floodplain Management and Flood Mitigation Actions

To address the identified flood risks, the RFPG’s Technical Consultant Team developed potential actions to reduce flood risk. Those actions included flood management evaluations (FMEs), flood mitigation projects (FMPs), and flood management strategies (FMSs). FMEs consist of watershed studies or additional evaluations needed to determine the viability of a project. FMPs are structural or non-structural projects to mitigate flood risk. The FMS category is intended to capture other types of solutions, such as ordinances, flood early warning systems, and buyouts.

The RFPG established a Technical Subcommittee to review the lists of potentially feasible floodplain management or flood mitigation actions and recommend to the RFPG those actions that should be considered for inclusion in this regional flood plan. The subcommittee met multiple times over several months and reviewed each potential action.

The screening process removed any potential FMEs, FMPs, and/or FMSs that did not support an RFPG goal. If a potential sponsor indicated that a potential action had already been completed or was no longer a priority, the potential action was removed from further consideration. The RFPG considered potential FMEs that were most likely to result in FMPs, FMEs, and FMSs evaluations required a “No Negative Impact” determination for the action to be considered for inclusion in this plan. Cost estimates were prepared for each potential action, as appropriate. Benefit-cost ratios were also developed for potential FMPs and FMSs. In situations where the TWDB-required information was needed for a potential project to remain in the plan, the potential FMP was moved to the list of FMEs.

The Technical Subcommittee recommended the lists of FMEs, FMPs, and FMSs to the RFPG to be ultimately adopted for inclusion in this plan:

- 342 FMEs
- 7 FMPs
- 136 FMSs.

Table ES.2 summarizes the types and counts of potential and recommended FMEs. Table ES.3 includes information on each of the recommended FMPs. Table ES.4 summarizes the types and counts of potential and recommended FMSs.

**Table ES.2 Summary of Recommended FMEs**

FME Types	FME Descriptions	Number of FMEs Identified	Number of FMEs Recommended	Total Cost of Recommended FMEs
Preparedness	Gauges, Barriers, Debris/Vegetation Removal and Channelization	10	10	\$3,275,000
Project Planning	Previously Identified Drainage Projects and Flood Studies	23	13*	\$15,425,000
Watershed Planning	FIS Studies, Watershed Studies	26	14*	\$19,231,000
Other	Property Acquisition and Buyout Programs	7	5	\$5,818,000
<b>Total</b>		66	42	\$43,749,000

**Table ES.3 Summary of Recommended FMPs**

FMP ID	FMP Name	FMP Type	FMP Description	Cost
023000001	Ferguson Park Improvements	Infrastructure (channels, ditches, ponds, pipes, etc.)	Improvements to existing culverts and channelization	\$13,629,000
023000002	Wagner Creek	Regional Channel Improvements	Channel/Overbank Clearing	\$1,325,000
023000003	Stream WC-2	Infrastructure (channels, ditches, ponds, pipes, etc.)	Independence Circle & Lexington Place Bridge Improvements	\$659,000
<b>Total</b>				<b>\$15,613,000</b>

**Table ES.4 Summary of Recommended FMSs**

FMS Types	FMS Descriptions	Number of FMSs Identified	Number of FMSs Recommended	Total Cost of Recommended FMSs
<b>Education and Outreach</b>	Turn Around, Don't Drown Campaigns; Flood Safety Education	5	3	\$250,000
<b>Flood Measurement and Warning</b>	Flood Gauges, Early Alert Systems, Flood Warning Systems	4	3	\$750,000
<b>Property Acquisition and Structural Elevation</b>	Infrastructure flood-proofing, Land acquisition to protect open space.	2	1	\$100,000
<b>Regulatory and Guidance</b>	NFIP Participation, Stormwater Management Criteria Development, Floodplain Management Staff Acquisition and Training	57	31	\$3,400,000
<b>Preventive Maintenance Programs</b>	Storm Drainage Clearing, Annual Maintenance Programs	11	0	N/A
<b>Total</b>		<b>79</b>	<b>38</b>	<b>\$4,500,000</b>

Ultimately, the RFPG agreed with the subcommittee’s recommendations and approved the recommended actions at its April 2022 RFPG meetings.

### **Cost of the Recommended Plan**

Following the selection of recommended actions to mitigate flood risk, the RFPG’s Technical Consultant Team initiated an email survey to potential sponsors regarding the recommended actions for the entity. A one-page summary was developed for each recommended action and sent to the potential sponsor. The RFPG inquired whether or not the sponsor agreed with the information presented and confirmed the potential sponsor’s continued interest in the action. For those actions that were of interest to the sponsors, the RFPG inquired how the entity might fund the action, such as with grants, loans, stormwater utility fees, general budget, or something else. If a potential sponsor did not respond, the RFPG assumed the entity was interested and would need a grant

for 100 percent of the action’s cost. Overall, the estimated cost to implement the recommended FMEs, FMPs, and FMSs in this plan is \$63.9 million. Once all of the FMEs are conducted and FMPs developed, this number is expected to increase by order of magnitude.

### *Public Participation and Outreach*

In its inaugural regional flood planning effort, the RFPG developed a website and an extensive public outreach plan. The website provides information on the planning effort, such as meeting notices, meeting materials, and draft chapters. Multiple data collection or surveys have been accessible through the website. In addition, Constant Contact was used to notify interested parties of upcoming meetings, surveys, and other RFPG-related activities.

Most of the RFPG meetings have been held in a hybrid fashion allowing the planning group members and the public to participate remotely. The physical meeting location has moved around Region 2 to encourage local, in-person participation.

The Draft Regional Flood Plan was presented at the September 1, 2022, Region Flood Planning Group meeting in Mount Pleasant, Texas. This meeting also served as the official public hearing. It provided entities and the public with the opportunity to submit oral and or written comments on the 2023 Draft Regional Flood Plan. Written comments were also accepted 30 days prior and 30 days following the public hearing. These comments were addressed and included as an appendix in the final Region 2 Lower Red-Sulphur-Cypress Regional Flood Plan submitted to the TWDB in January 2023.

## **Texas Administrative Code (TAC) Guiding Principles And Required Statements**

Following Title 31 TAC §361.20, the draft and final Region 2 Lower Red-Sulphur-Cypress Regional Flood Plans conformed with the guidance principles established in Title 31 TAC §362.3. The RFPG performed a “No Negative Impact” assessment for each potentially feasible FMP and FMS. Those that had or appeared to have a potential negative impact were removed from further consideration and not included as recommended FMPs or FMSs. Chapter 10 includes a table of the 39 regional flood planning principles and where they are addressed in this plan.

The draft and final Region 2 Lower Red-Sulphur-Cypress Regional Flood Plans were developed following the TWDB’s scope of work and Technical Guidance documents incorporating all of these principles. The requirements are discussed in Chapters 1 through 10, the appendices, and/or included in the TWDB-required tables or GIS schema.

## **Statements Regarding Texas Open Meetings Act (TOMA) And Public Information Act Requirements**

The Region 2 Lower Red-Sulphur-Cypress Regional Flood Planning Group posted meeting notices and materials per the Texas Open Meetings Act. Meeting notices were posted on the RFPG website at <https://texasfloodregion2.org/> and with the Secretary of State. Before the RFPG website development, the meetings were posted on the TWDB’s website and with the Secretary of State.

The Region 2 Lower Red-Sulphur-Cypress Regional Flood Planning Groups recognizes that it is subject to the Public Information Act and is required to fulfill requests for information that is not protected by another law. As such, the RFPG and the Technical Consultant Team encouraged entities to only provide information to the planning process that the entity deemed was publicly available information. As of June 2022, the RFPG nor the Technical Consultant team had received a public request for information. The Technical Consultant Team received general comments and questions regarding the regional flood planning process and meetings and responded to each request. Appendix XX includes a summary of the questions and comments received as of June 2022.