Region 2 Lower Red-Sulphur-Cypress Regional Flood Planning Group
Public Meeting
June 15, 2023
2:00 pm
at
Northeast Texas Community College
Community Room – (Hum 101)
2886 FM 1735, Chapel Hill Road
Mount Pleasant, TX 75455
and
Via teleconference/webinar
Use the following information to register for the meeting:
https://us06web.zoom.us/meeting/register/tZYlfu-grDsuH9CuCY7w-vhNI2xSaOUyxrGf
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.

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 on May 4, 2023

Presentations

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

Technical Consultant Update

8. Technical Presentation by Halff Associates, Inc.
    - Presentation of the Draft Amended Regional Flood Plan (Draft Plan can be downloaded at www.texasfloodregion2.org)
        - Accept Public Comments on the Draft Regional Flood Plan
        - Review Previously Submitted Public Comments
        - Task 12 Status update for additional FMSs, FMEs, or FMPs
        - *Consider recommending additional FMSs, FMEs, or FMPs
        - *Consider recommending the Amended Regional Flood Plan for submission to TWDB
    - Schedule and Remaining Activities

Other Business

9. Update from Planning Group Sponsor
10. Consider date and agenda items for next meeting
11. 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 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 , 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, or by contacting Paul Prange at 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. If you wish to be notified electronically of RFPG activities, please submit a request to 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
May 4, 2023
2:00 p.m.
at
Ark-Tex Council of Governments Office, 4808 Elizabeth Street, Texarkana, TX 75503
and Via Zoom Webinar/Teleconference

Roll Call:

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

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

Quorum:

Quorum: **Yes**
Number of voting members or alternates representing voting members present: **6**
Number required for quorum per current voting membership of **11**: **6**

Other Meeting Attendees: **

Paul Prange – ATCOG
Joshua McClure – Halff Associates Team
Parker Moore – Halff Associates Team
David Rivera – Halff Associates Team
Jake Madewell – TWDB
James Bronikowski - 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 2:16 p.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 RFPG introduced themselves, establishing that a quorum had been met. Six voting members were present along with five non-voting members.

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 meetings held Thursday, December 15, 2022
Reeves Hayter opened the floor for discussion and approval of the minutes from the previous meetings. A motion was made by Andy Endsley and was seconded by Greg Carter to approve the minutes as amended. The motion carried unanimously.

AGENDA ITEM NO. 6: *Discuss and Consider Section2 Terms of Office, to assign term limits to all voting members of the Region 2 Lower Red-Sulphur-Cypress Regional Flood Planning Group
Reeves Hayter announced that the terms of the current voting members will expire on July 10, 2023. The terms of the voting members need to be staggered with one more than half of the terms expiring in two years and the other terms in five years. Mr. Hayter read the names of each voting member and a Paul Prange drew lots to assign terms of non-present voting members, while voting members who were present, drew their own lots. The terms were assigned as follows: Preston Ingram - 2 years; Andy Endsley -5 years; Greg Carter – 5 years; Laura-Ashley Overdyke – 2 years; Casey Johnson – 5 years; Dustin Henslee – 5 years; Troy Hudson – 5 years; Reeves Hayter – 2 years; Kelly Mitchell – 2 years; David Weidman – 2 years; and Susan Whitfield – 2 years.

PRESENTATIONS

AGENDA ITEM NO. 7: Texas Water Development Board Update:
Reeves Hayter turned the floor over to Anita Machiavello, who announced the proposed amendments of the regional state flood planning rules are published in the Texas Register and are open for public comment through May 22, 2023. Ms. Machiavello also announced that the TWDB is seeking additional guidance on methods for ranking FMSs in the 2024 State Flood Plan. Ms. Machiavello then introduced a new TWDB Planner, Jake Madewell, who will soon become the new Region 2 contact at TWDB. Mr. Madewell provided a brief self-introduction. Reeves Hayter thanked Ms. Machiavello and Mr. Madewell.

AGENDA ITEM NO. 8: Region 1 Canadian-Upper Red Regional Flood Planning Group Updates:
Reeves Hayter asked for any updates relating to Region 1 flood planning activities. Region 1 liaison, Randy Whiteman, was not present and Parker Moore did not have any updates available for the flood planning group.

TECHNICAL CONSULTANT UPDATE

AGENDA ITEM NO. 9: Technical Presentation by Halff Associates, Inc.

- **TWDB Ranking Criteria Response Update**
- **Revised Regional Flood Plan Submitted**
- **Task 12 Update**
    1. **Status of FMEs and FMPs**
    2. ***RFPG2 to Consider vote for inclusion of FMEs, FMSs, and FMPs in the Amended Regional Flood Plan**
- **Schedule**

Reeves Hayter turned the floor over to Parker Moore who announced that Joshua McClure would conduct a virtual presentation. Mr. McClure announced that the Revised Flood Plan was submitted to TWDB on April 14, 2023, and briefly discussed the comments. Mr. McClure then began discussion of the Task 12 update (additional funding for conducting FMEs) and announced that 3 FME candidates were removed from consideration as FMPs which include: Cowhorn Creek East (City of Texarkana), City of Atlanta Storm Drain Improvements, and Pecan to Waggoner Creek (City of Nash). However, these will remain as FMEs in the Amended Flood Plan.

David Rivera discussed in detail the Anderson Creek WWTP Flood Study sponsored by the City of DeKalb, to evaluate the need for a levee to protect the WWTP during the 100-Year flood event. This project would meet the ”No Negative Impact” requirement of TWDB and Mr. Rivera commented that this FME could be elevated to a FMP.

David Rivera discussed the Pig Branch Watershed Culvert Study FME in the City of Bonham to alleviate existing and potential flood damages for various crossings. Existing conditions models have been completed and will focus on culvert upgrades and channel improvements, potential mitigation options are being investigated, and FMP feasibility is still pending due to unknown factors. “No Negative Impact” determination is currently unknown, however Mr. Rivera recommended to continue the FME analysis.

David Rivera discussed the Hunt County, TX Project for County Road 1051 which is being performed utilizing separate funding to conduct a Countywide Drainage Study. The Project proposes to construct two new bridge crossings, raise the road elevation, and perform side channel improvements to reduce flooding. Mr. Rivera stated that the BCA is in progress, “No Negative Impacts” are anticipated, the Level of Service: 10-Year, and all FMP data and other TWDB requirements will be provided to the Region 2 Flood Planning Group.

Joshua McClure discussed the City of Hooks Infrastructure Study to address flooding along several creeks and announced that a field visit had been conducted on February 16th, BLE models have been updated to verify flooding issues, and that "No Negative Impact" determination is currently unknown. Mr. McClure announced that he is working closely with the City of Hooks and TexAmericas Center to develop a strategy to help reduce flooding by utilizing two detention ponds in order to remove dozens of structures from the floodplain. FMP inclusion into the Flood Plan will be contingent on cooperation with TexAmericas Center

Parker Moore discussed the City of Paris, Big Sandy Creek Improvements to reduce the risk of flooding along streams. Existing conditions models have been obtained, three alternatives have been incorporated into one project, "No Negative Impact" determination is pending downstream assessment and detention availability, and FMP Feasibility is dependent upon no increased discharges downstream. Brief discussion took place between Reeves Hayter and the Technical Consultants.

Joshua McClure discussed the City of Texarkana Gauges Project to install solar/battery powered rainfall and flow monitoring gauges in various flood-prone areas. Preliminary locations have been established and a meeting has been conducted with the City of Texarkana. This FMP would meet the "No Negative Impact" requirement.

Joshua McClure presented the Task 12 Update and asked the Region 2 Flood Planning Group to Consider a vote for the following FMEs to be included as FMPs in the Amended Flood Plan: Anderson Creek Water Treatment Plant (City of DeKalb); Pig Branch Watershed Study (City of Bonham); County Road 1051 Project (Hunt County); City of Hooks Infrastructure Project; Big Sandy Creek Improvements (City of Paris); and the City of Texarkana Gauges Project. Reeves Hayter announced that these six new FMPs are in addition to the three original FMPs that have been included in the Region 2 Flood Plan and asked for a motion to accept the new FMPs. A motion was made by Dustin Henslee and was seconded by David Weidman. The motion carried unanimously.

Joshua McClure announced the schedule of upcoming deliverables which included: May 4, 2023-RFPG2 Meeting to recommend FMPs and new FMEs for inclusion in the plan, and provide update on the amended plan; June 1, 2023 – Submit Amended RFP for public comment (Minimum 14 days before vote); June 15,2023 – Public Meeting to Review and Approve Amended RFP; June 29, 2023 – Public Comment Period closes; July 14, 2023 – Amended RFP Due to TWDB. Brief discussion took place between Mr. McClure and Reeves Hayter regarding unexpended funds remaining in Round 1, to potentially conduct a couple of additional FMEs for consideration during the Round 2 planning process. Mr. Hayter asked Anita Machiavello about utilizing Task 12 funds for public outreach and Ms. Machiavello stated that Task 13 funds can be used to enhance the regional flood plan with RFPG approval. Mr. Hayter asked that this item be placed on the next meeting agenda for discussion.

OTHER BUSINESS

AGENDA ITEM NO. 10: Update from Planning Group Sponsor

Reeves Hayter turned the floor over to Paul Prange who announced that ATCOG has no updates for the group at this time.

AGENDA ITEM NO. 11: 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 Region 2 Flood Planning Group Board of Directors Meeting on Thursday, June 15, 2023, at a time and location to be determined and via webinar/teleconference.

AGENDA ITEM NO. 12: Adjourn

Reeves Hayter called for the meeting to be adjourned. The meeting was adjourned at 3:25 p.m.

Approved by the Region 2 Lower Red-Sulphur-Cypress RFPG at a meeting held on 6/15/2023.

_____

Reeves Hayter, CHAIR

Draft Amended Regional Flood Plan Presentation

Regional Flood Planning Group 2 Meeting

Lower Red-Sulphur-Cypress

June 15, 2023

halff

FREESE AND NICHOLS

MTG engineers & surveyors

H2O PARTNERS

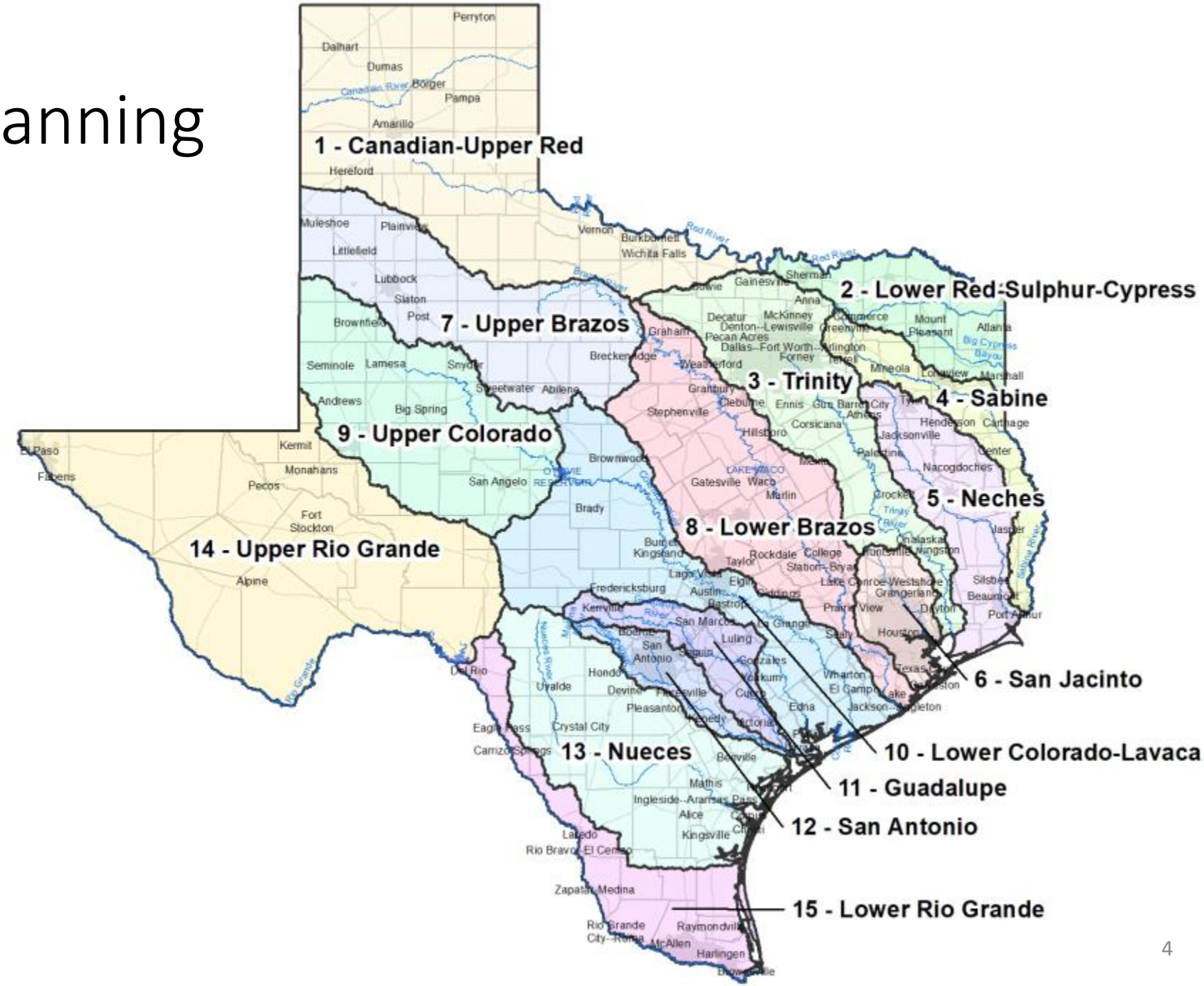
Agenda

- Amended Regional Flood Plan
  - Summary of changes in the amended plan
  - Summary of Regional Flood Plan
  - Summary of new FMPs and impacts
- Consider Approval of Amended RFP
- Schedule

Summary of Changes to Amended RFP

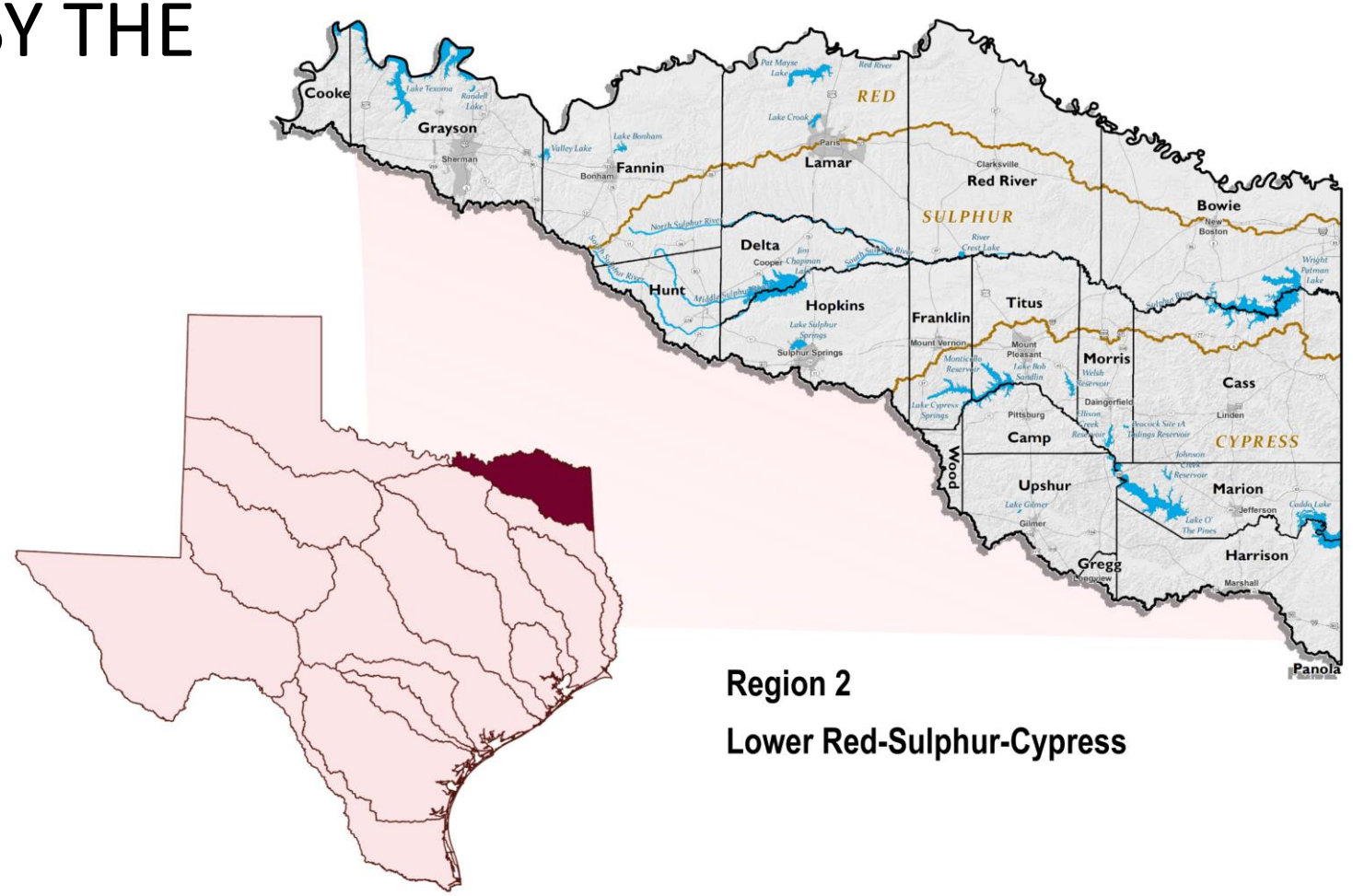
- Updated chapters to account for Task 12 FMPs
- Updated maps and tables

Flood Planning Regions



LOWER RED, SULPHUR, CYPRESS REGION, BY THE NUMBERS

- 20 COUNTIES
- 9,188 SQUARE MILES
- ~22% within the 1% annual chance flood event



Regional Flood Planning Overview

- Task 1 – Planning Area Description Task 2A – Existing Condition Flood Risk Analyses
- Task 2B – Future Condition Flood Risk Analyses
- Task 3A – Evaluation and Recommendations on Floodplain Management Practices
- Task 3B – Flood Mitigation and Floodplain Management Goals
- Task 4A – Flood Mitigation Needs Analysis
- Task 4B – Identification and Evaluation of Potential Flood Management Evaluations and
- Potentially Feasible Flood Management Strategies and Flood Mitigation Projects
- Task 4C – Prepare and Submit Technical Memorandum

Regional Flood Planning Overview

- Task 5 – Recommendation of Flood Management Evaluations and Flood Management Strategies and Associated Flood Mitigation Projects
- Task 6A – Impacts of Regional Flood Plan
- Task 6B – Contributions to and Impacts on Water Supply Development and the State Water Plan
- Task 7 – Flood Response Information and Activities
- Task 8 – Administrative, Regulatory, and Legislative Recommendations
- Task 9 – Flood Infrastructure Financing Analysis
- Task 10 – Public Participation and Plan Adoption
- Task 11 – Outreach and Data Collection to Support Tasks 1 – 9
- Task 12 – Perform Identified Flood Management Evaluations, Identify, Evaluate, and Recommend Additional Flood Mitigation Projects
- Task 13 – Preparation and Adoption of the Amended Regional Flood Plan

Region 2 Voting Members

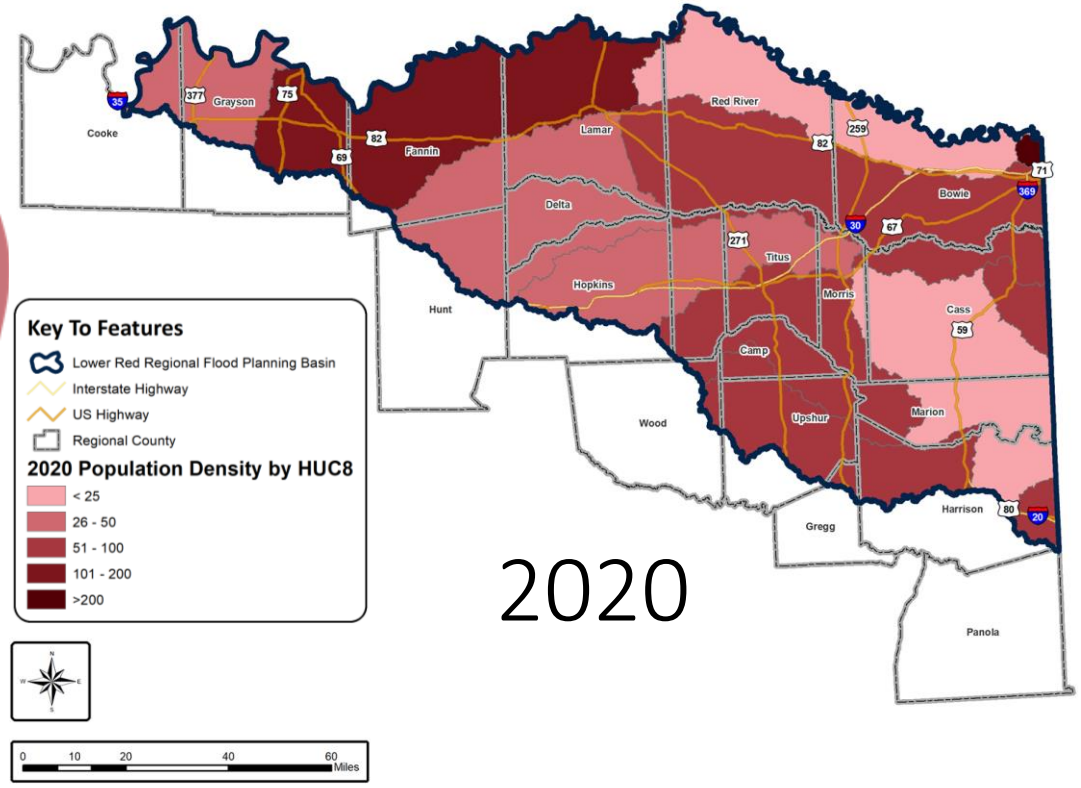
Member	Interest Category
Preston Ingram (William)	Agricultural interests
Andy Endsley	Counties
W. Greg Carter	Electric generating utilities
Laura-Ashley Overdyke	Environmental interests
Casey Johnson	Industries
Dustin Henslee	Municipalities
Troy Hudson	Public
R Reeves Hayter	River authorities
Kelly Mitchell	Small business
David Weidman	Water districts
Susan Whitfield	Water utilities

Region 2 Non-Voting Members

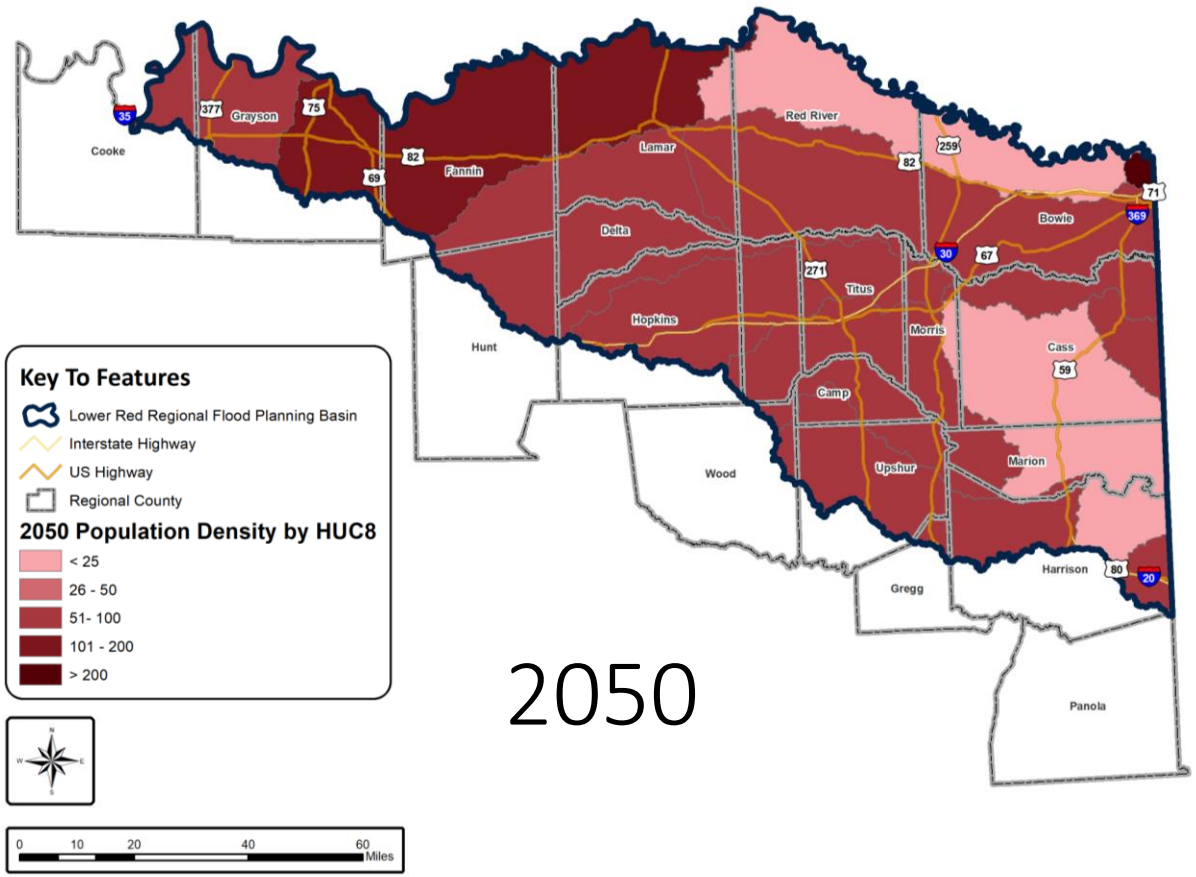
Member	Organization
Randy Whiteman	Region 1 Canadian-Upper Red RFPG Liaison
James (Clay) Shipes	Texas Parks and Wildlife Department
Andrea Sanders	Texas Division of Emergency Management
Darrell Dean	Texas Department of Agriculture
Tony Resendez	Texas State Soil and Water Conservation Board
Trey Bahm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

Chapter 1

Population – Current and Projected



2020



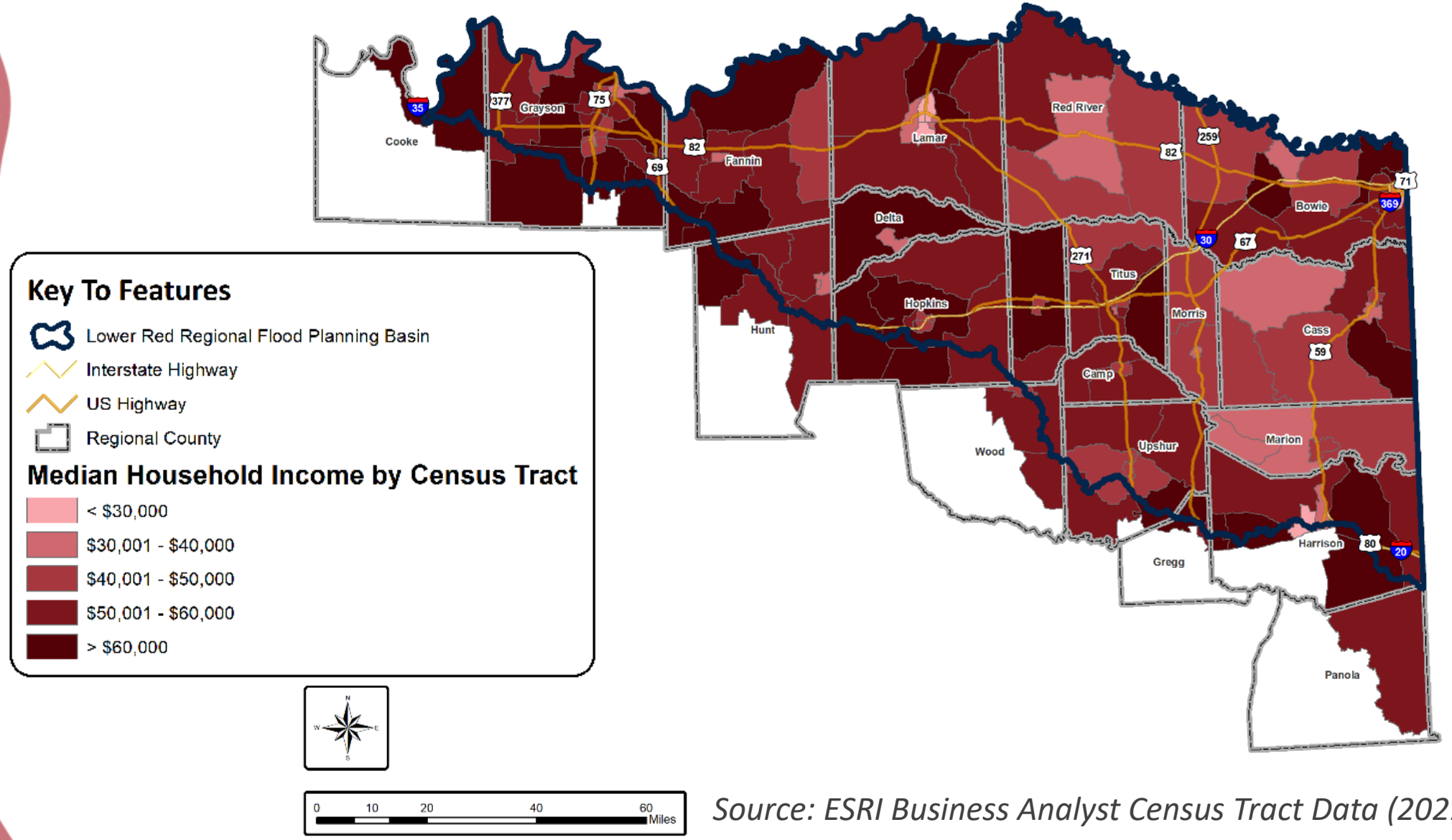
2050

Total Population
2020: 531,083
2050: 659,637
24% Increase

Major Cities with Populations Greater than 25,000 in 2020		
Community	County	Population 2020
Sherman	Grayson	43,522
Texarkana	Bowie	38,007
Denison	Grayson	27,340
Paris	Lamar	27,230

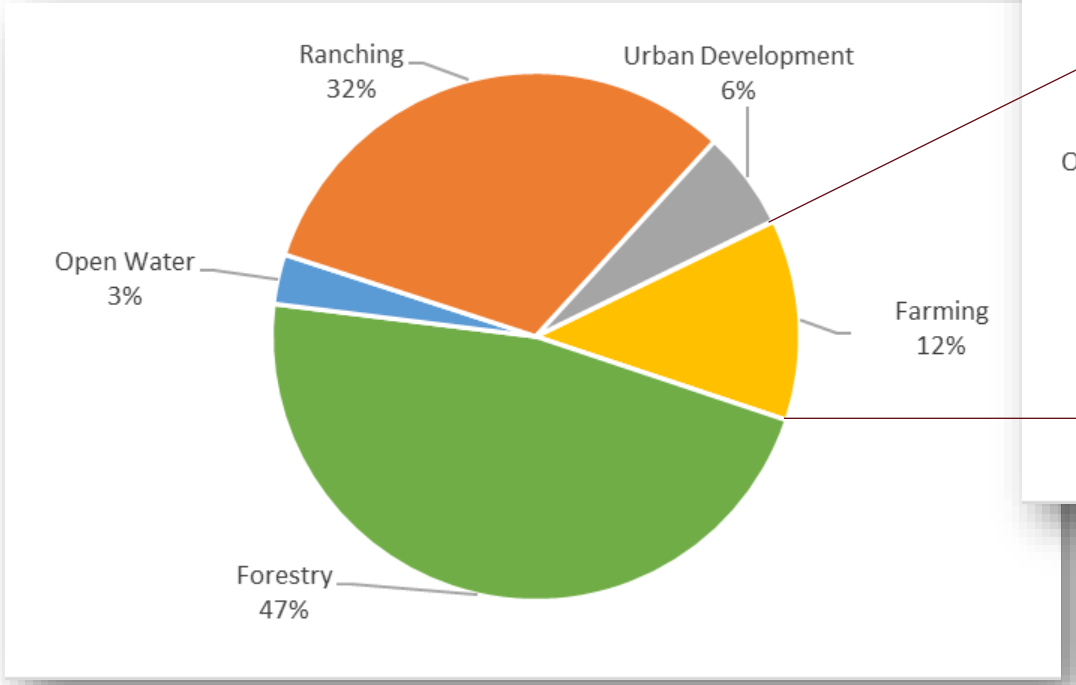
Major Cities with Populations Greater than 25,000 in 2050		
Community	County	Population 2050
Sherman	Grayson	50,692
Texarkana	Bowie	43,229
Denison	Grayson	33,805
Paris	Lamar	29,770
Bonham	Fannin	30,000

Yearly Median Household Income by Census Tract

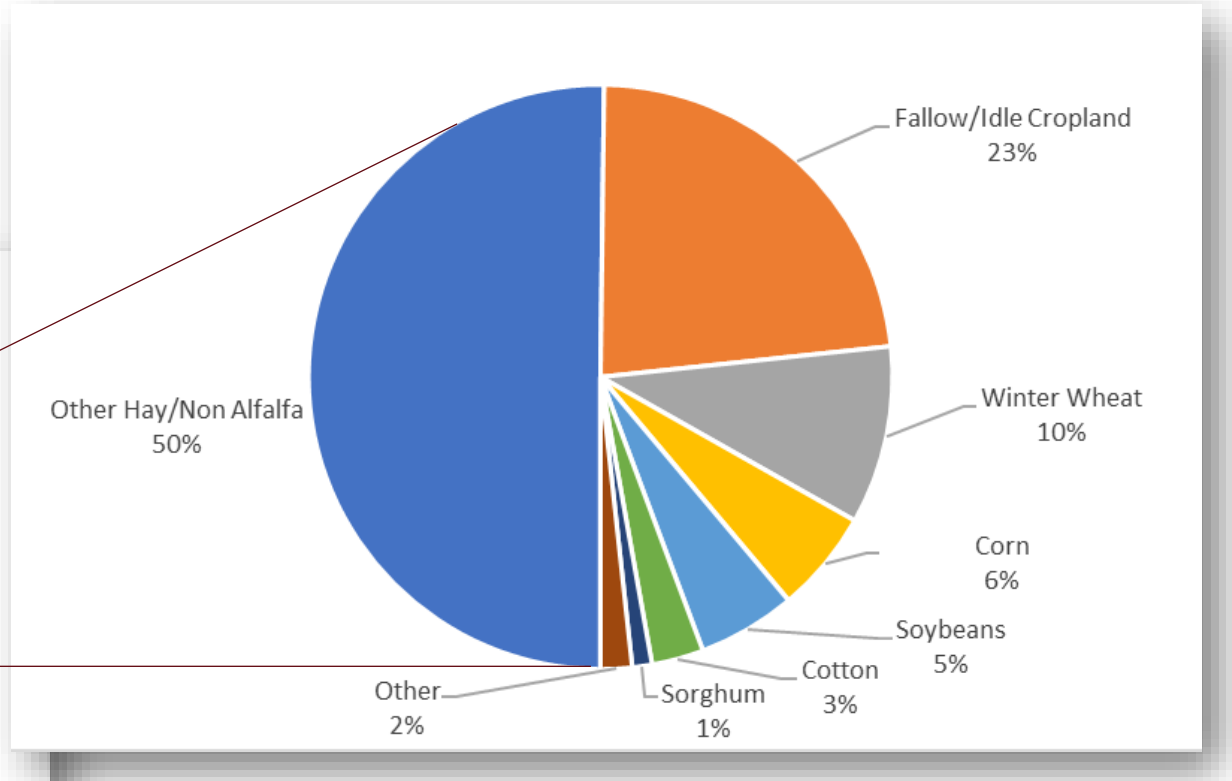


Source: ESRI Business Analyst Census Tract Data (2021)

USDA National Agricultural Statistics Service (NASS) CropScape Land Cover For Lower Red Sulphur Cypress Region

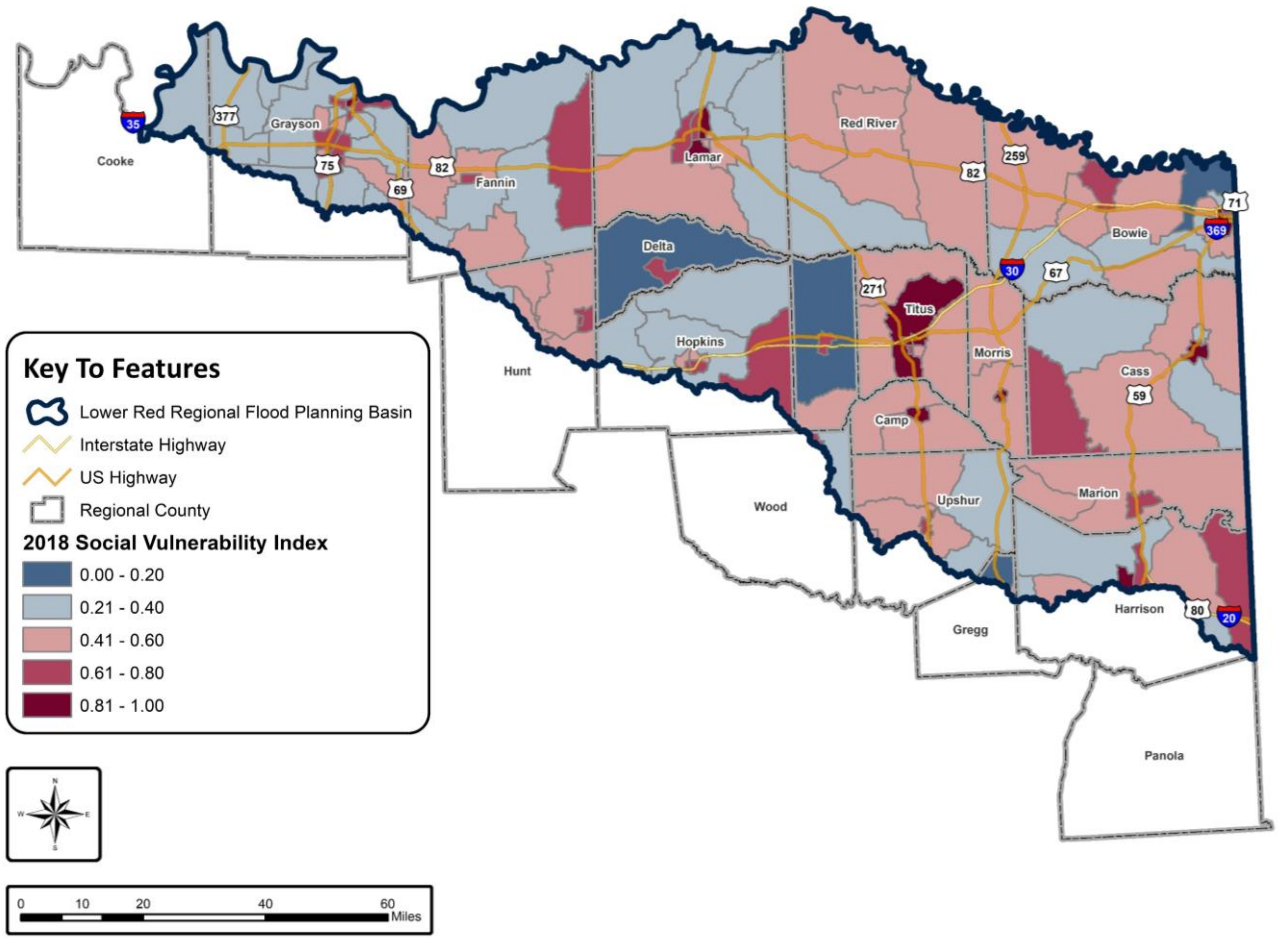


Land Cover for Region



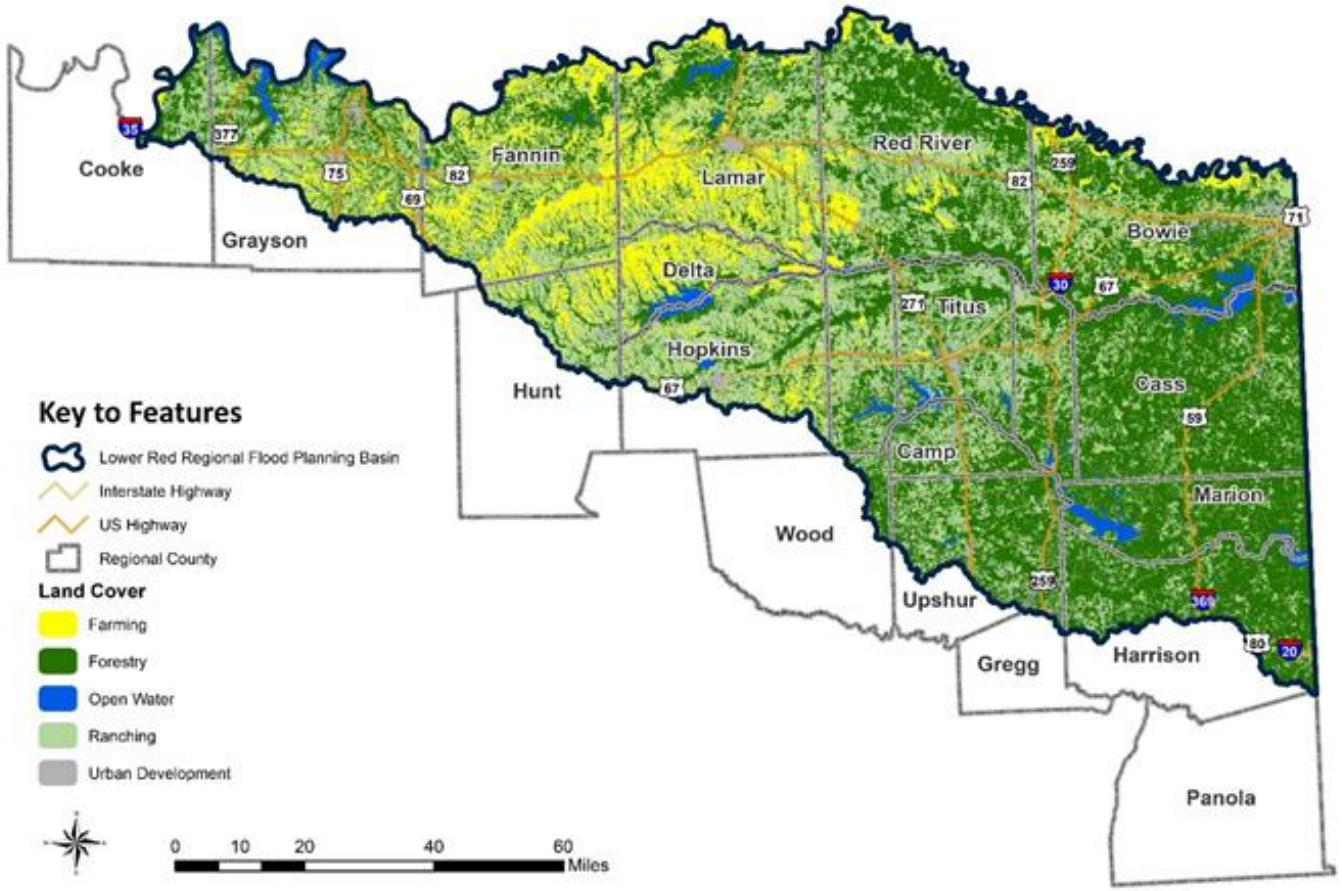
CropScape Breakdown of Farming Land in Region

Social Vulnerability Index



The communities that are at a greater risk of incurring loss due to having the highest SVI (0.81-1.00) fall within, **Grayson, Lamar, Titus, Camp, Morris, Harrison, Cass and Bowie County**.

Economic Activity



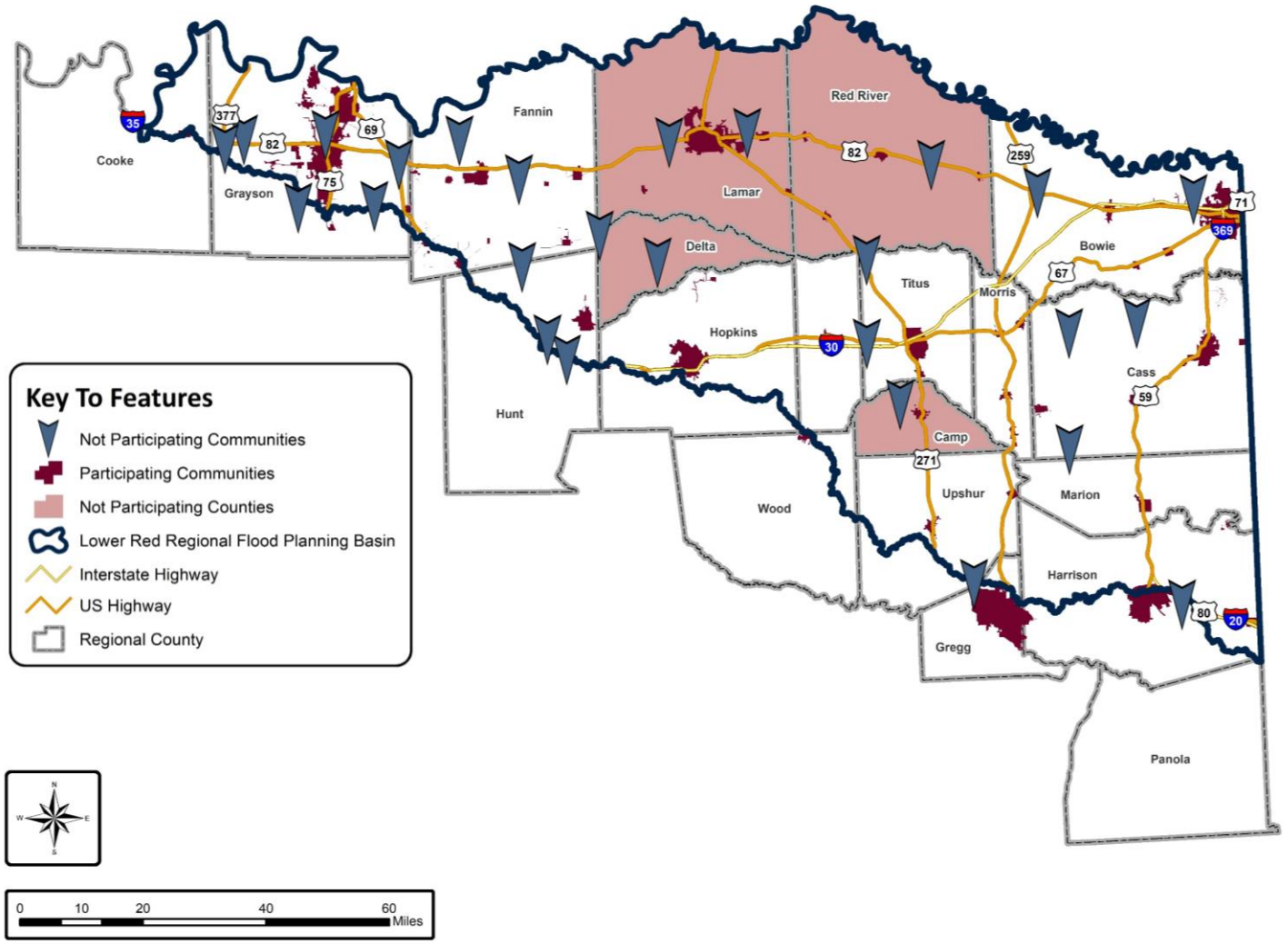
Forestry and timber are the largest economic activity in the Region

Political Subdivisions Within Region 2

Type	Number of Jurisdictions	NFIP Participants
Cities	86	60
Counties	20	16
COGs	4	N/A
River Authorities	3	N/A
Water Districts	3	N/A
Water Supply & Utility Districts (MUDs, FWSDs, MWDs, SUDs)	17	N/A
Flood Control Entities (WCIDs, LIDs)	10	N/A
Other	5	N/A

Source: TWDB Data Hub

NFIP Participation



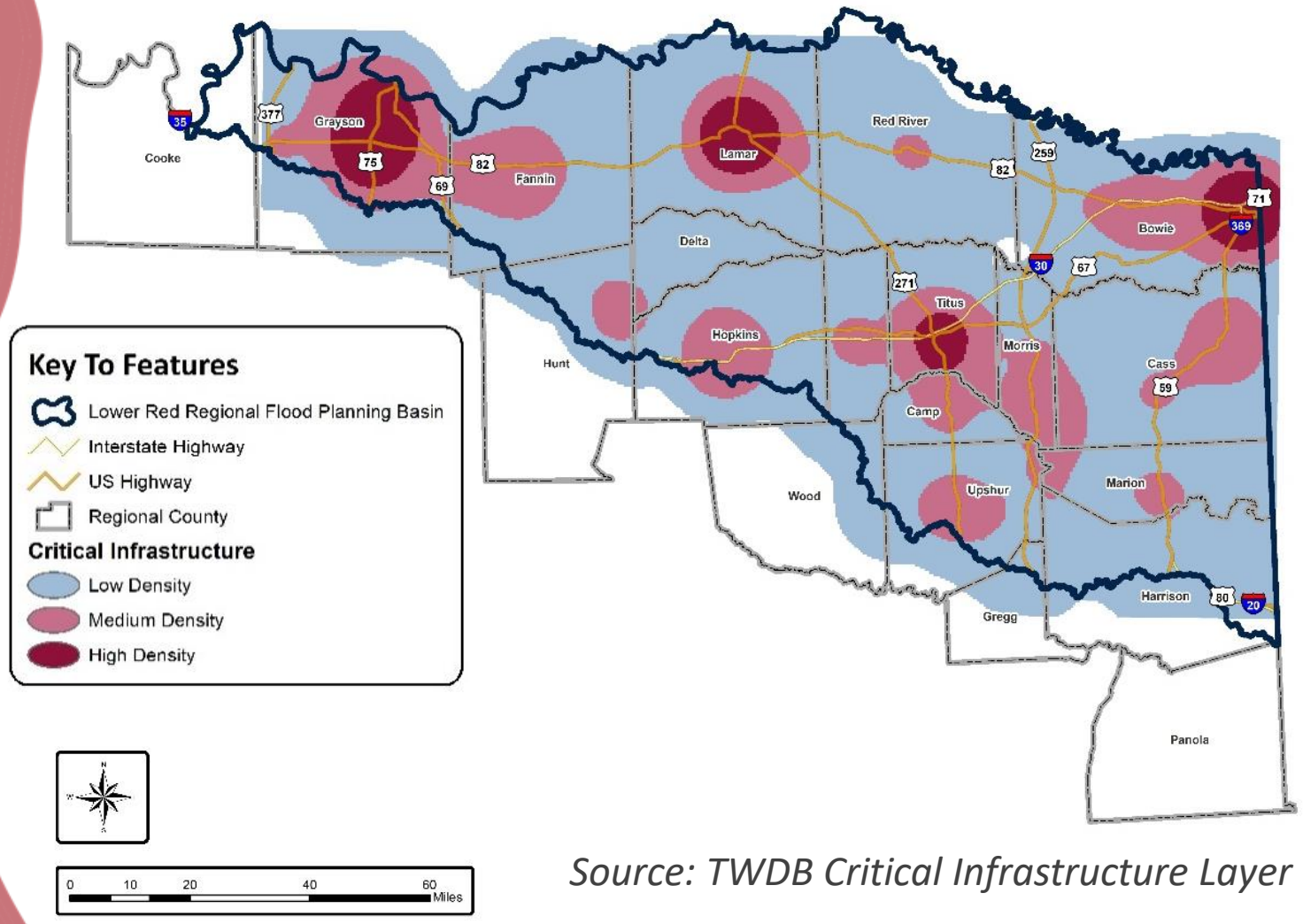
70%

of Cities Participate in NFIP

80%

of Counties Participate in NFIP

Critical Facilities

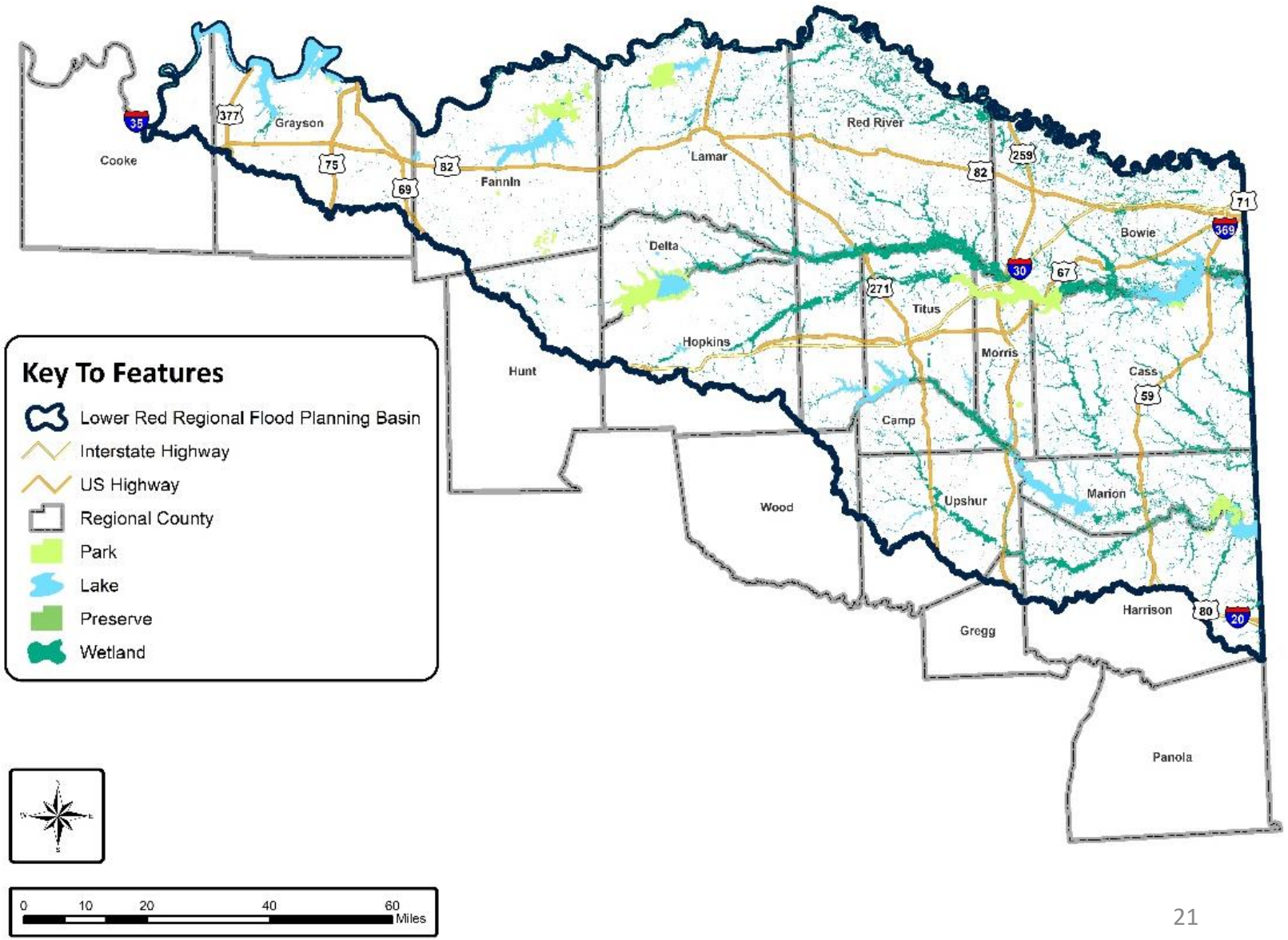


Critical Facility	Totals
Assisted Living Facilities, Nursing Homes	100
Emergency Shelter	246
Fire Station	164
Hospital	25
Police Station	90
Power Generating Facility	18
School (K-12, College, Trade)	268
Water/Wastewater Treatment Plants	122

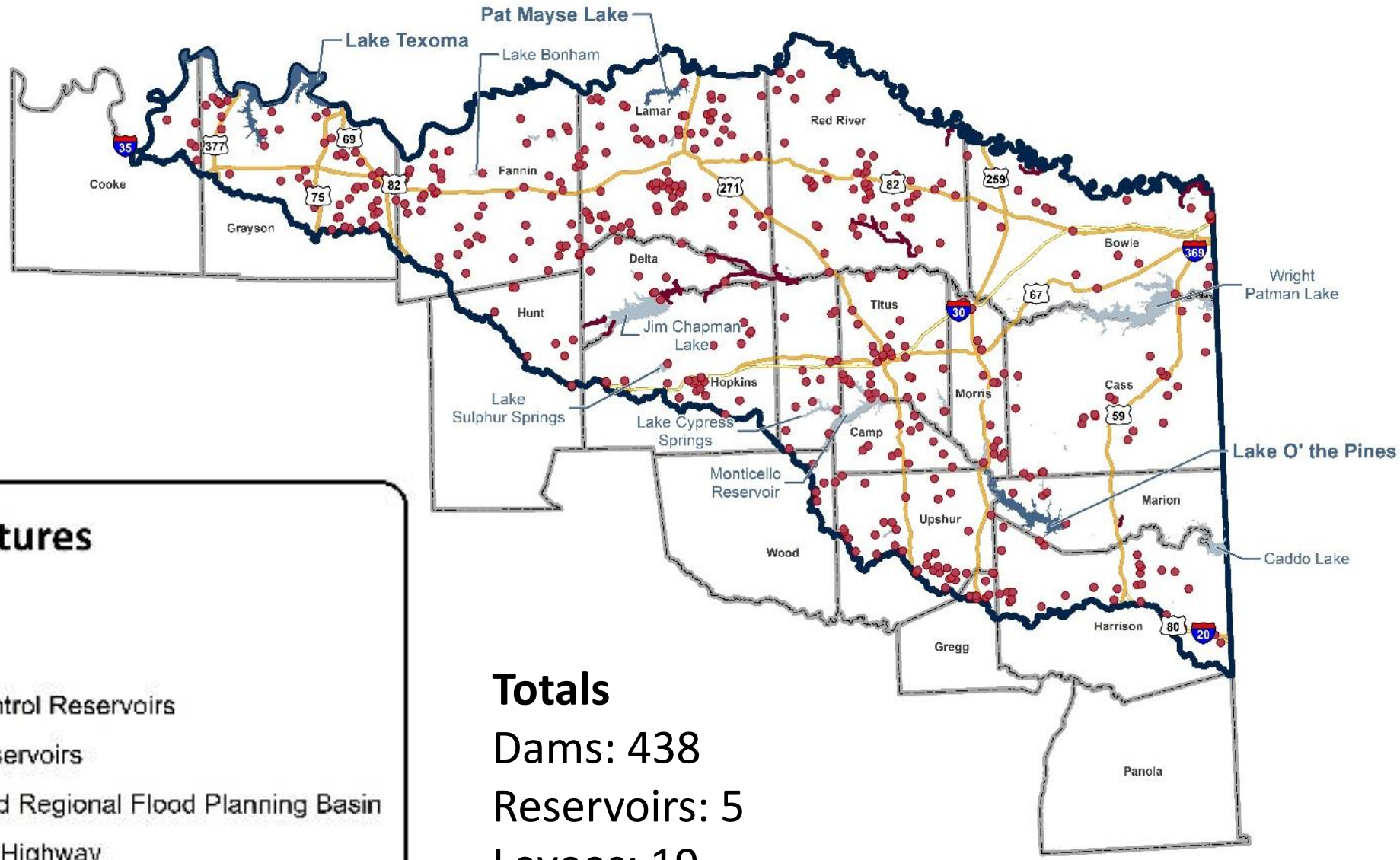
Source: TWDB Critical Infrastructure Layer

Natural Flood Infrastructure

- Lakes: 166,556 acres
- Parks: 84,035 acres
- Preserves: 77,021 acres
- Total Lakes Parks and Preserves: 327,613 acres
- Total Wetlands: 432,913 acres
- Total Natural Flood Infrastructure: 760,526 acres (1,188 Sq. Miles)



Constructed Flood Infrastructure/ Structural Flood Protection



Key To Features

- Dam
- Levee
- Flood Control Reservoirs
- Other Reservoirs
- Lower Red Regional Flood Planning Basin
- Interstate Highway
- US Highway
- Regional County

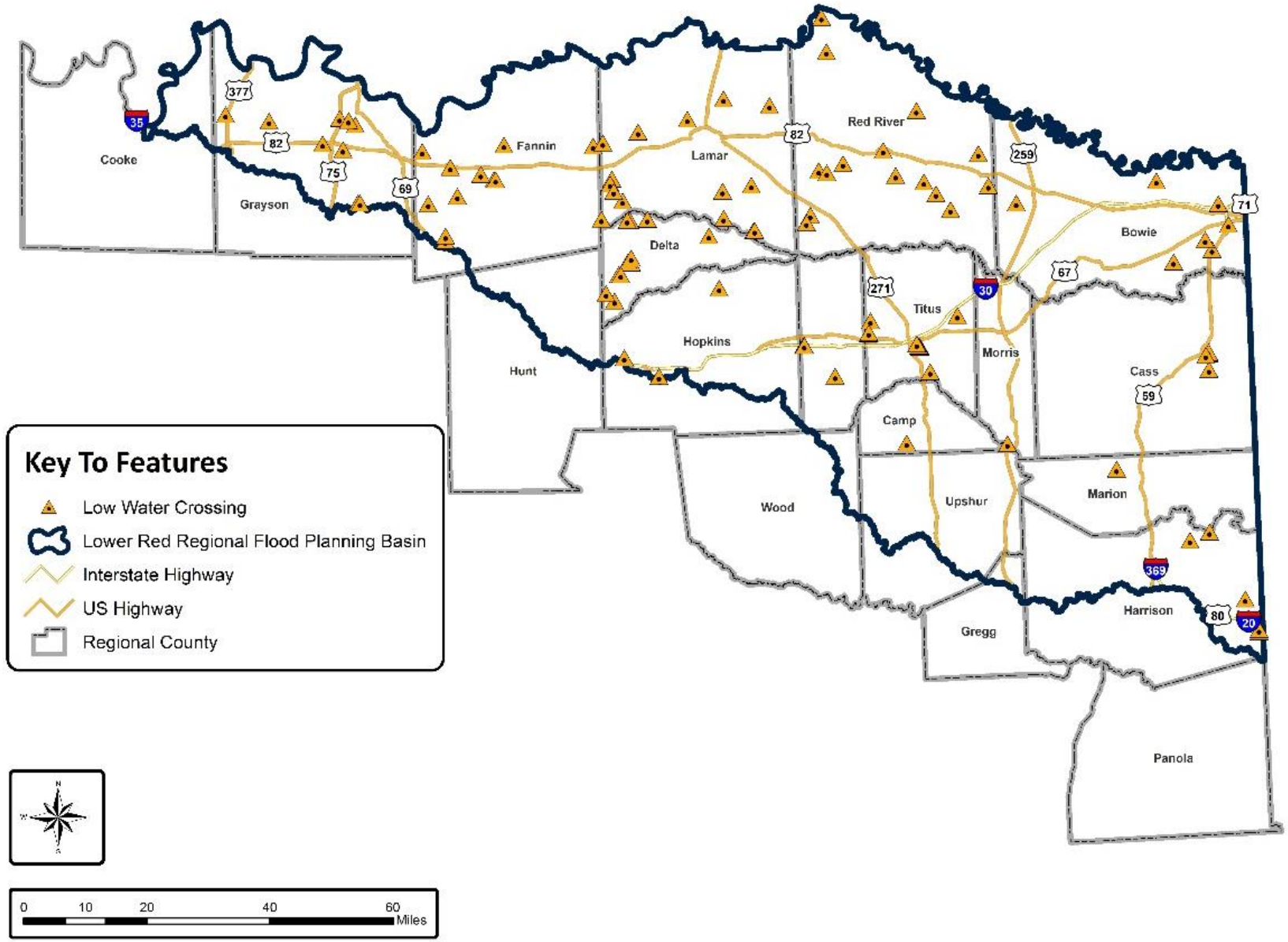
Totals

Dams: 438

Reservoirs: 5

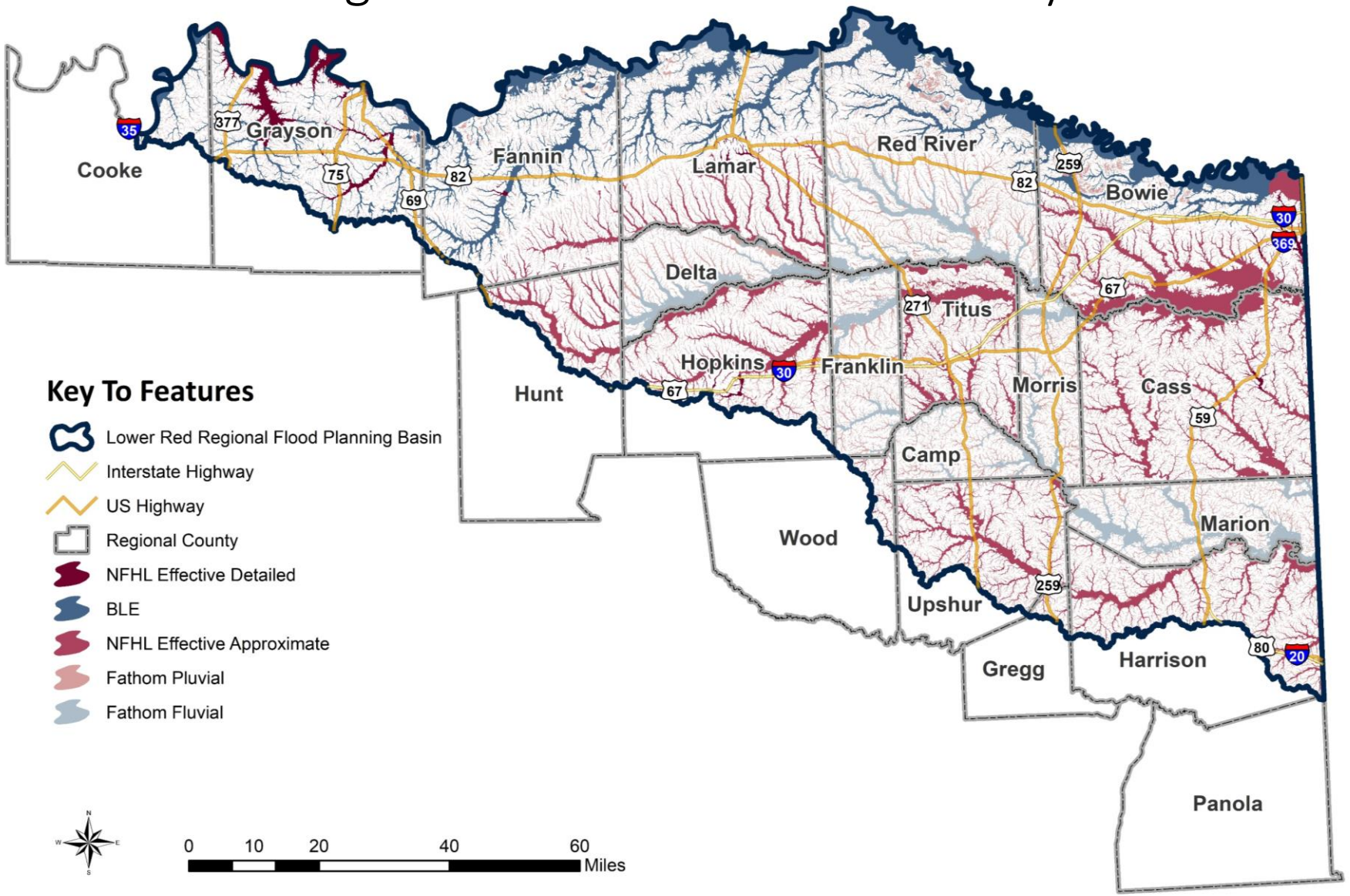
Levees: 19

Low Water Crossings



Chapter 2 - Existing Conditions Flood Risk Analysis

Existing 1% & 0.2% Flood Risk Area by Data Source



Existing Conditions Impact by 1% & 0.2% Flood Risk Area

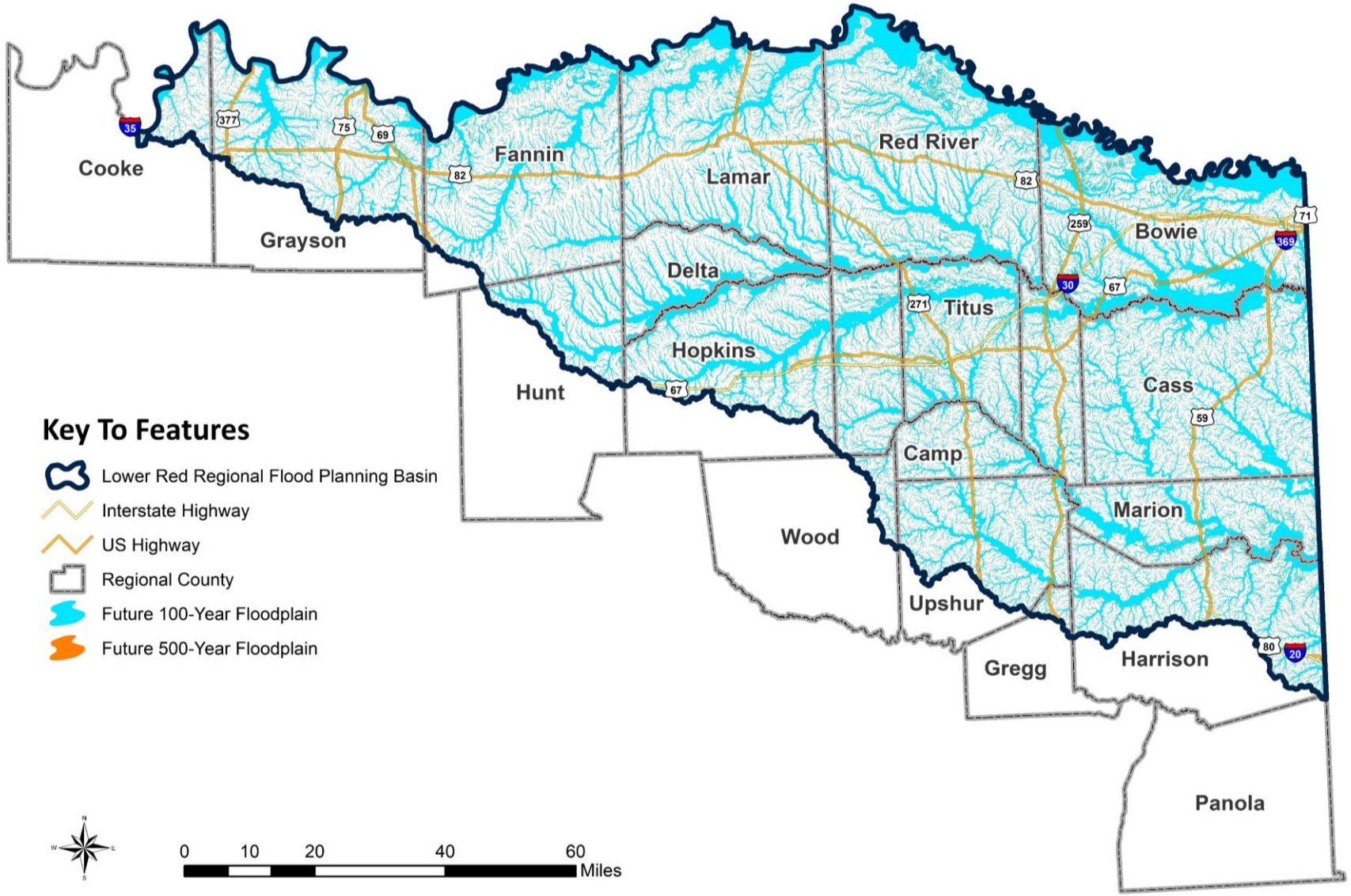
Area in Flood Planning Region (sq mi)	1% Annual Chance Flood Risk[1]							
	Area in Floodplain (sq mi)	Number of Structures in Floodplain[2]	Residential Structures in Floodplain[2]	Population[2]	Roadway Stream Crossings (#)	Roadways Segments (miles)	Agricultural Areas (sqmi)	Critical Facilities (#)
9,160	2,821	13,438	8,069	20,723	2,882	1,924	283	160

Area in Flood Planning Region (sq mi)	0.2% Annual Chance Flood Risk[1]							
	Area in Floodplain (sq mi)	Number of Structures in Floodplain[2]	Residential Structures in Floodplain[2]	Population[2]	Roadway Stream Crossings (#)	Roadways Segments (miles)	Agricultural Areas (sqmi)	Critical Facilities (#)
9,160	2,936	15,023	9,081	23,805	2,927	2,063	299	166

[2]Population based on Night population values

Chapter 2 - Future Conditions Flood Risk Analysis

Future 1% & 0.2% Flood Risk Area



Future Conditions Impact by 1% & 0.2% Flood Risk Area

Area in Flood Planning Region (sq mi)	1% Annual Chance Flood Risk[1]							
	Area in Floodplain (sq mi)	Number of Structures in Floodplain[2]	Residential Structures in Floodplain[2]	Population[2]	Roadway Stream Crossings (#)	Roadways Segments (miles)	Agricultural Areas (sqmi)	Critical Facilities (#)
9,160	2,936	15,023	9,081	23,805	2,927	2,063	299	166

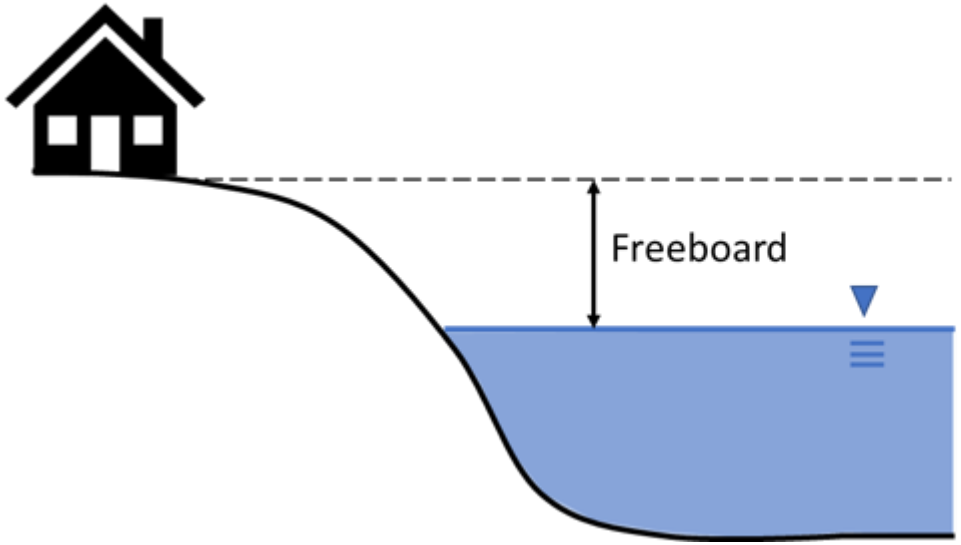
Area in Flood Planning Region (sq mi)	0.2% Annual Chance Flood Risk[1]							
	Area in Floodplain (sq mi)	Number of Structures in Floodplain[2]	Residential Structures in Floodplain[2]	Population[2]	Roadway Stream Crossings (#)	Roadways Segments (miles)	Agricultural Areas (sqmi)	Critical Facilities (#)
9,160	3,299	23,624	14,821	40,935	3,371	3,010	325	208

[2]Population based on Night population values

Chapter 3 - Floodplain Management Practices & Flood Protection Goals

Recommended Floodplain Management Standards

Type/Condition	Infrastructure	Recommended Standard
New Construction or Redevelopment	Residential Properties	Finished floor elevation (FFE) 1-ft above BFE (BFE = Base Flood Elevation, 100-yr flood)
	Commercial Properties	
	Critical Facilities	FFE above 500-yr or 2-ft above 100-yr which ever is lowest



Lowest Floor Elevation (LFE)

Base Flood Elevation (BFE) = 100-yr water surface elevation

Recommended Floodplain Management Standards

Type/Condition	Infrastructure	Recommended Standard*
New Construction or Redevelopment	Roadways	TxDOT Hydraulic Design Manual (Sep/2019) Chapter 10
	Culverts Bridges	TxDOT Hydraulic Design Manual (Sep/2019) Chapter 4, Section 6
	Private Storm Drainage Systems (New Site Development)	TxDOT Hydraulic Design Manual (Sep/2019) Chapter 10
	Detention Facilities	Multi-stage Detention - detain to existing conditions peak discharge for 2-, 25- and 100-yr storm events
	Mapping Coverage	Developers building in a Zone A or unmapped areas must provide an engineering study establishing BFE, and demonstrate no adverse impacts downstream.

** Standards do not apply to existing structures.*

Goals Summary

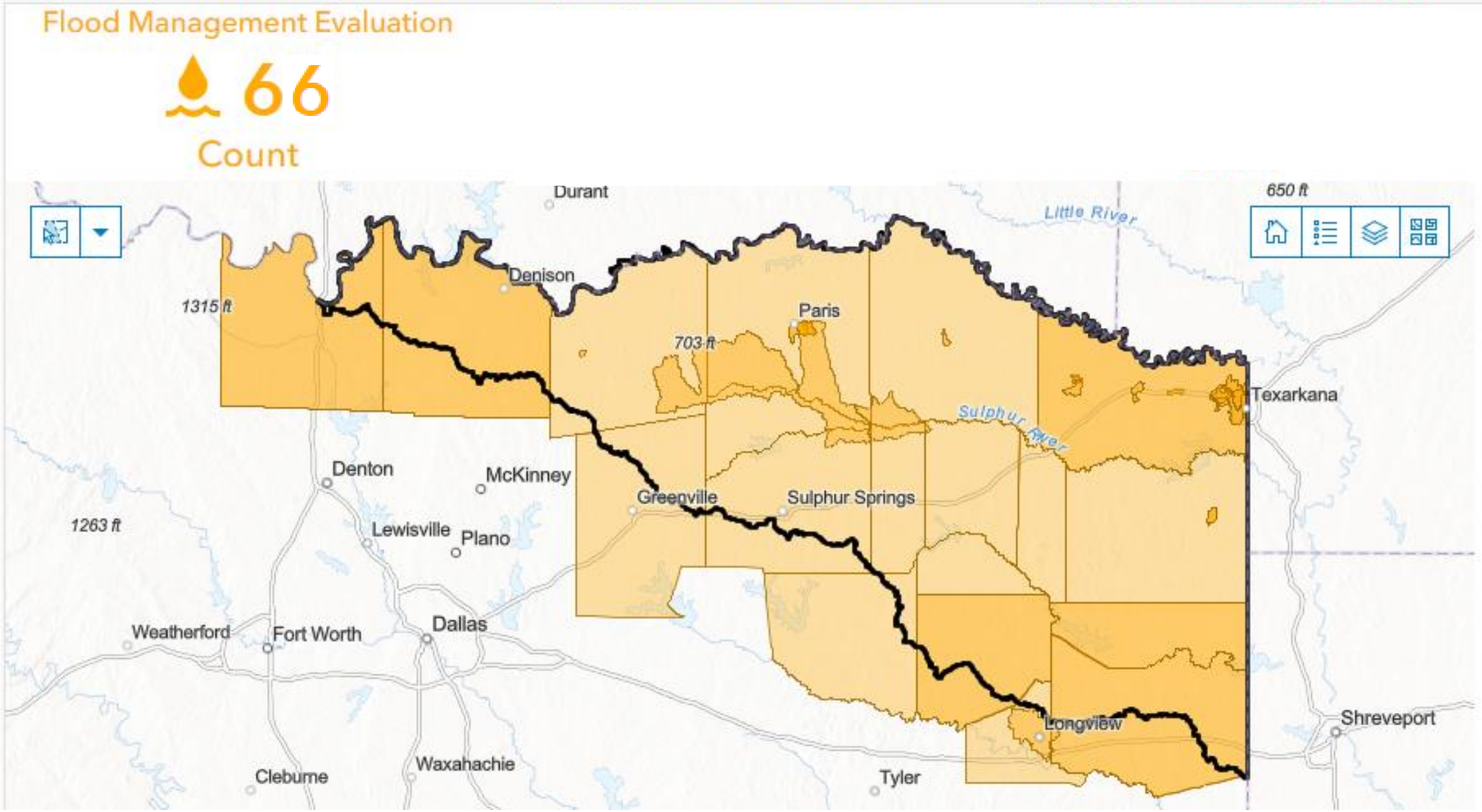
Goal Category	Goal	Short Term Goal (2033)	Long Term Goal (2053)
Education and Outreach	For each planning cycle, hold public outreach and education activities (in multiple locations within the region) to improve awareness of flood hazards and benefits of flood planning.	3	3
Flood Warning and Readiness	Support the development of a community coordinated warning and emergency response program (including flood gauges) that can detect the flood threat and provide timely warning of impending flood danger.	Identify potential areas where flood warning systems would be beneficial	Implement a minimum of 1 flood warning system
Flood Studies and Analysis	Increase the coverage of flood hazard data by completing studies to reduce areas identified as having current gaps in flood mapping by X percent.	25%	90%

Goals Summary

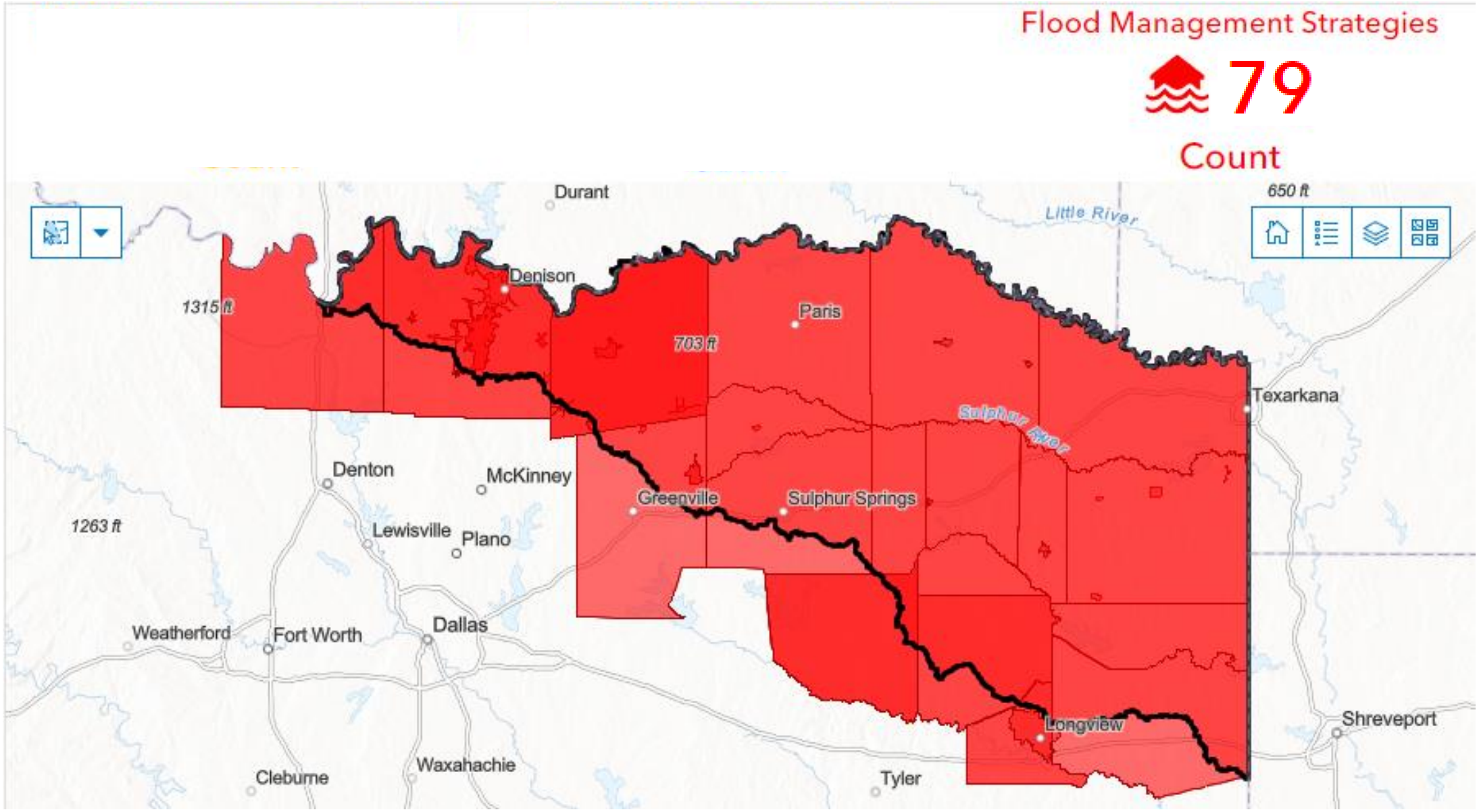
Goal Category	Goal	Short Term Goal (2033)	Long Term Goal (2053)
Flood Prevention	Reduce the percentage of communities that do not have floodplain standards that meet or exceed the NFIP minimum standards by X%.	25%	90%
	Support the development of minimum stormwater infrastructure design standards applicable across Region 2.	Creation of an integrated stormwater management manual to serve as a guide/foundation for local governments.	Help local governments to adopt and implement the stormwater management manual.
Non-Structural Flood Infrastructure	Reduce the number of NFIP repetitive-loss properties by X%, including purchase or floodproofing of vulnerable properties.	10%	50%
	Identify at least X non-structural flood mitigation projects in the Region.	1	3
Structural Flood Infrastructure	Improve the level of service for X% of vulnerable roadway segments and low water crossings located within the existing and future 1% annual chance floodplain.	10%	50%
	Repair, rehabilitate, or replace X% of aged stormwater infrastructure at high risk of failure and where failure would increase flood risks.	10%	50%

Chapter 4B – Identification of Potential Flood Mitigation Actions

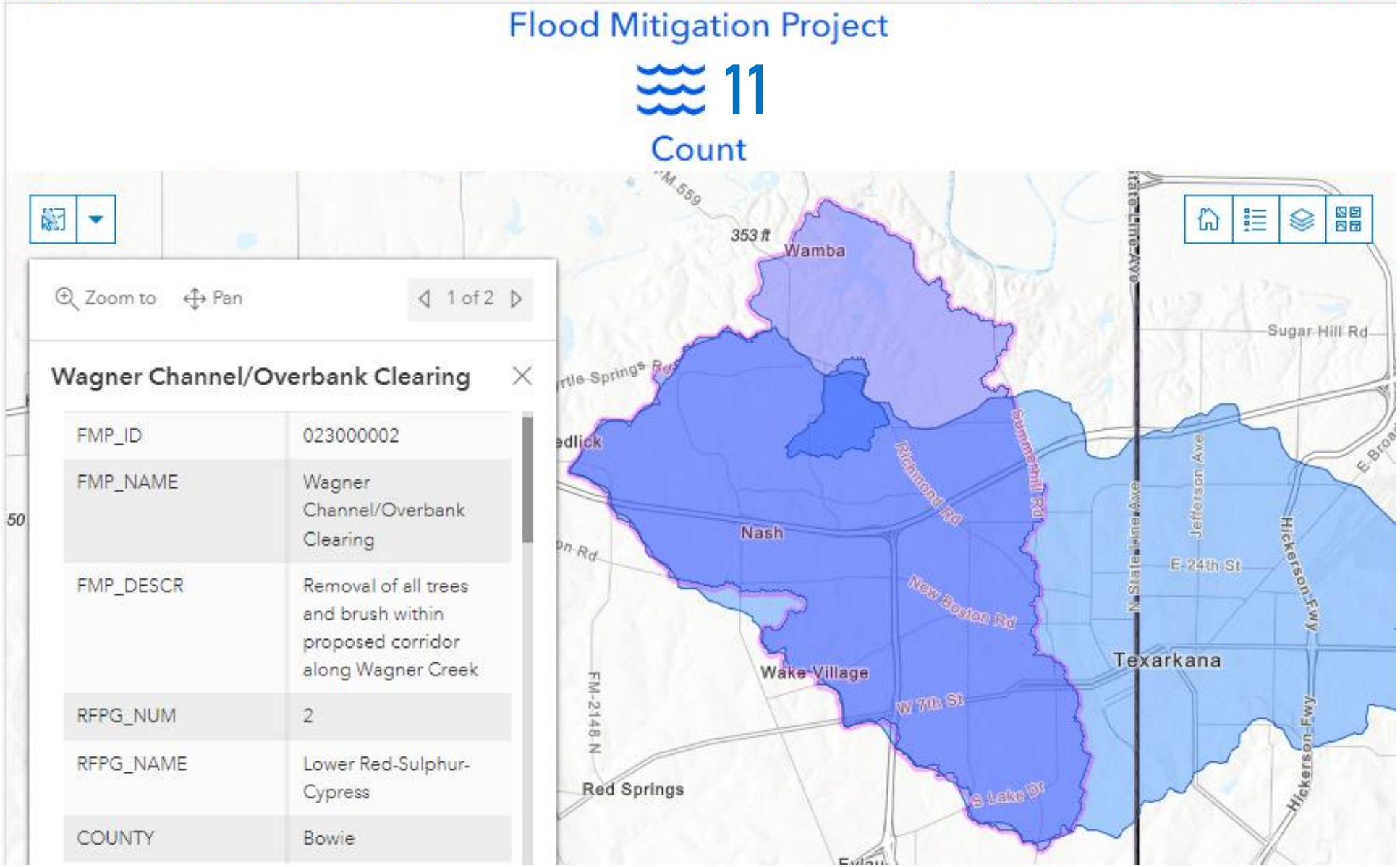
Task 4B – Identifying Potential Actions



Task 4B – Identifying Potential Actions



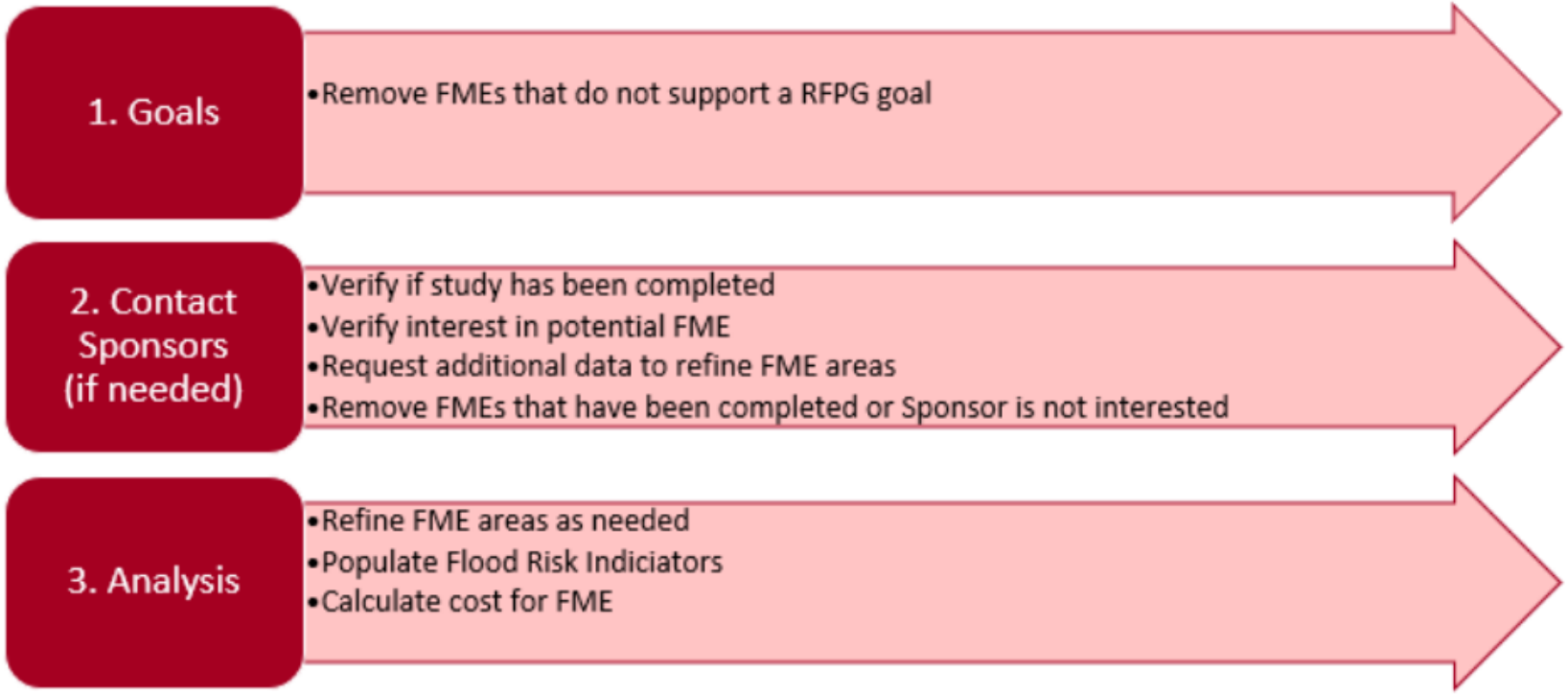
Task 4B – Identifying Potential Actions



Chapter 5
Recommendation of FME, FMP, and FMS

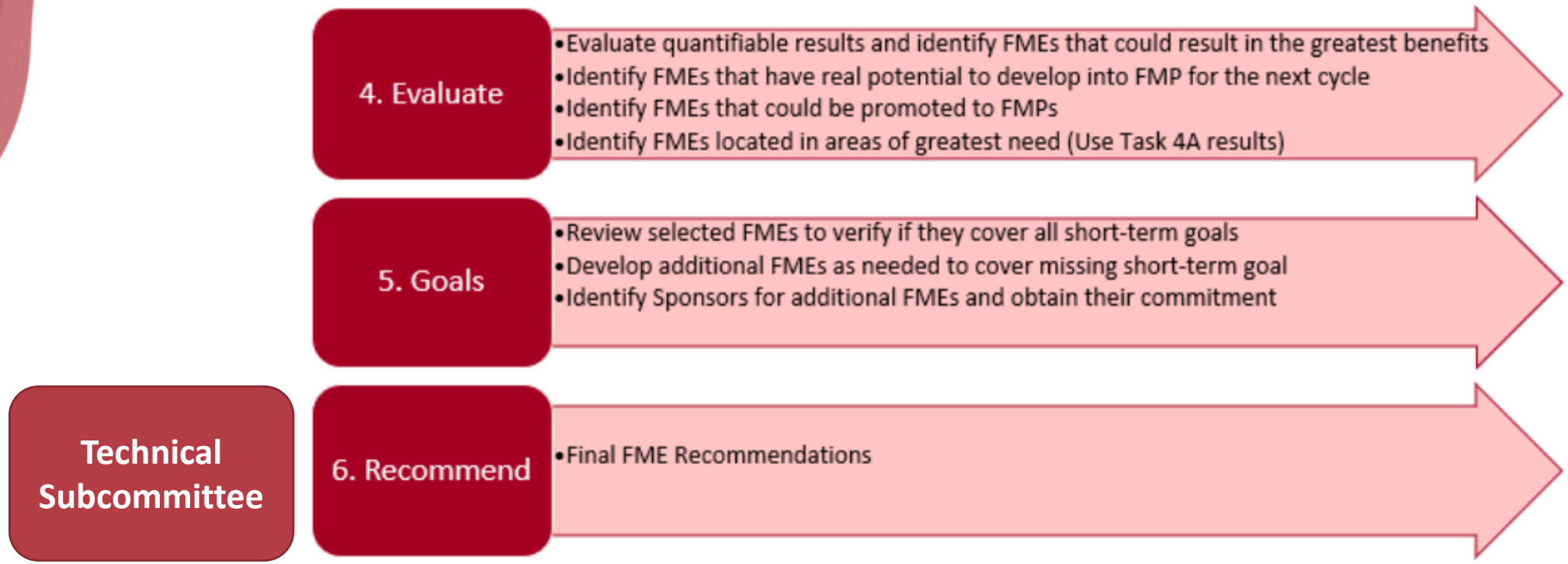
Process for Recommending FMEs

"Not every conceivable FME will be recommended. The RFPG and technical consultant must decide which identified potential FME will be recommended."



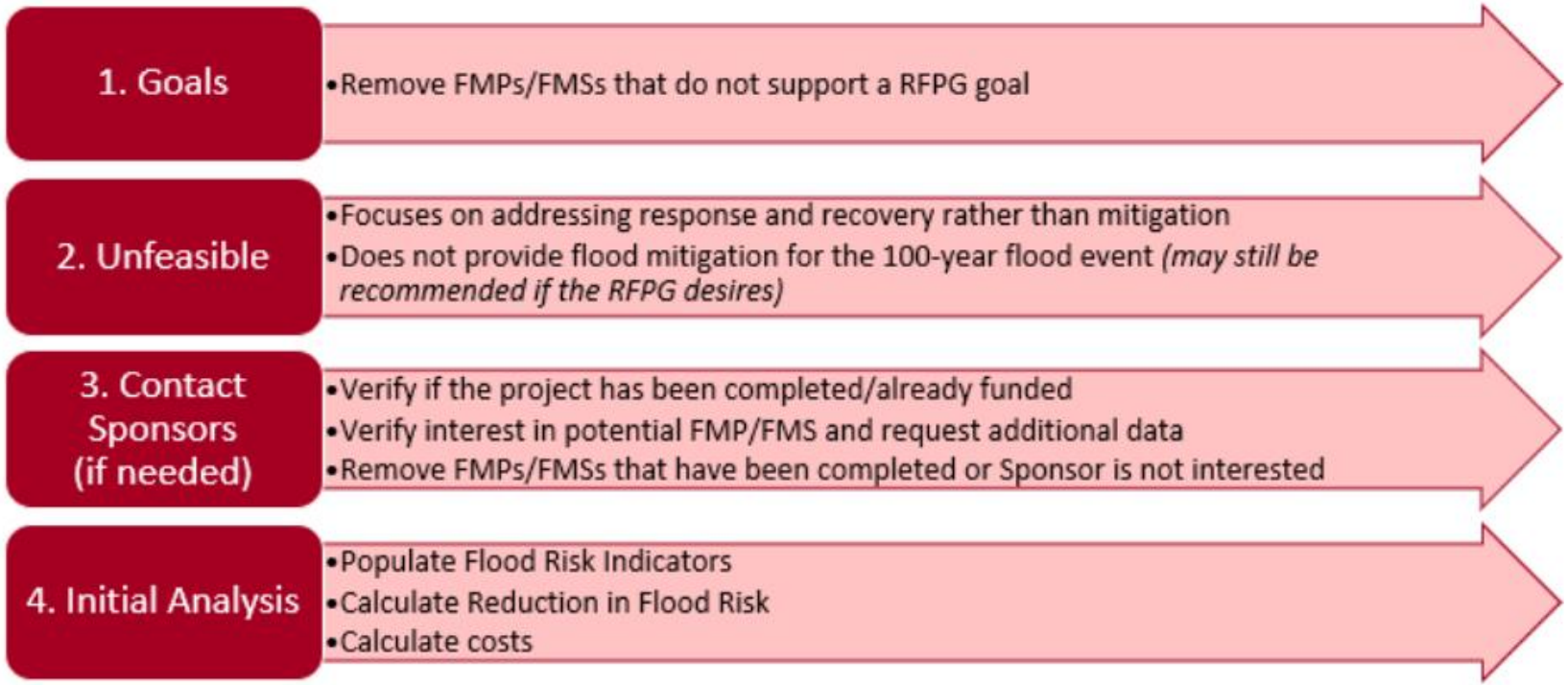
Process for Recommending FMEs

"Recommend FMEs that the RFPG determines are most likely to result in identification of potentially feasible FMSs and FMPs"



Process for Recommending FMPs

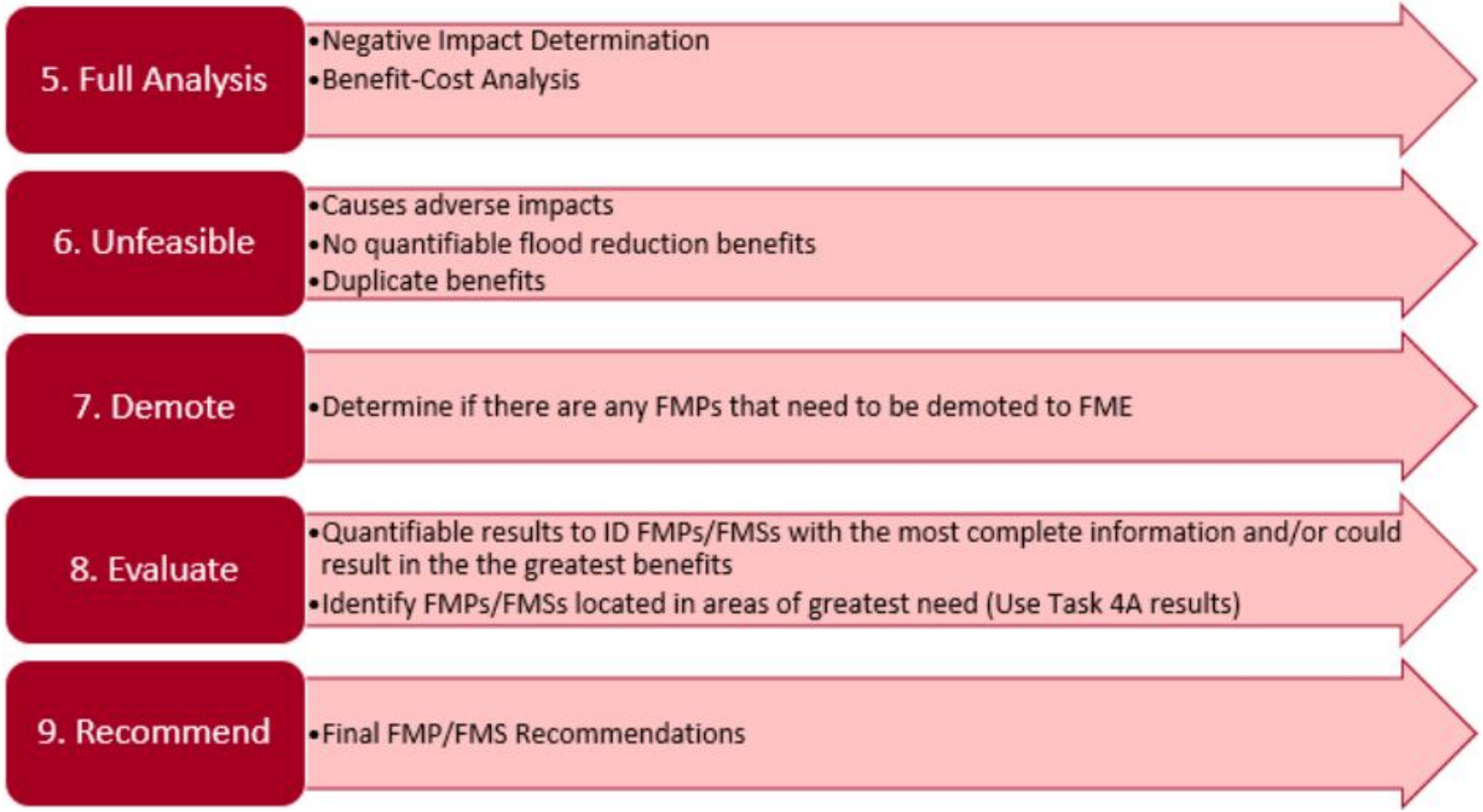
"The RFPGs will recommend specific FMPs in the regional flood plan. The primary function of each recommended FMP must be flood risk reduction and they must include quantifiable flood risk reduction benefits."



Process for Recommending FMPs

"The RFPGs will recommend specific FMPs in the regional flood plan. The primary function of each recommended FMP must be flood risk reduction and they must include quantifiable flood risk reduction benefits."

Technical Subcommittee



Technical Subcommittee - Guidance

Contact Non-NFIP communities before recommending a Floodplain Mapping FME

No need to confirm Sponsor support for all other FMXs

Do not recommend if FMX area < 50% within Region 2

Willing to accept Level of Service < 100-yr

Willing to accept Benefit/Cost Ratio < 1

Technical Subcommittee Meeting #2 - March 28, 2022

Region 2 - Potential FME's								Subcommittee Agrees/Disagrees	
FME ID	FME Name	Description	Counties	Study Type	Sponsor	Technical Consultant Recommendation (Y/N)	Reason for NOT Recommending Action	Agree	Disagree
21000001	Cooke County FIS	Update County maps to Zone AE	Cooke	Watershed Planning	Cooke County	N	Less than 50% within Region 2		
21000002	Grayson County FIS	Update remainder of county to Zone AE	Grayson	Watershed Planning	Grayson County	Y			
21000005	Lamar County FIS	Update County maps to Zone AE	Lamar	Watershed Planning	Lamar County	Y/?	Pending confirmation from Sponsor		
21000035	Cowhorn West Creek	Arroyo Street additional modeling to address flooding	Bowie	Watershed Planning	City of Texarkana	Y			
21000029	De Kalb Flood Control Levee System	Flood control levee system to reduce flood risk for De Kalb and surronding entities along Red River	Bowie	Project Planning	City of DeKalb	Y			
21000030	City of Hooks Infrastructure	Widen ditches to increase volume capacity of flash flood waters	Bowie	Project Planning	City of Hooks	Y			
21000021	City of Clarksville Deleware Creek	Debris, Vegetation Removal, and Channelization	Red River	Preparedness	City of Clarksville	Y			
21000039	City of Atlanta High School Lane Project/Phase No. 2	Perform channel improvements between Hwy 77 & Main St	Cass	Other	City of Atlanta	Y			

Reasons for Not Recommending FME

Region 2 - Potential FME's

FME ID	FME Name	Description	Counties	Study Type	Sponsor	Technical Consultant Recommendation (Y/N)	Reason for NOT Recommending Action
21000001	Cooke County FIS	Update County maps to Zone AE	Cooke	Watershed Planning	Cooke County	N	Less than 50% within Region 2
21000036	Cowhorn Creek	Creek crosses interstate near St. Michaels and existing flooding risk upstream of interstate	Bowie	Watershed Planning	City of Texarkana	N	Sponsor indicated action is not needed
21000043	City of Paris Big Sandy Cr Tribs 4 and 6 Improvements Phase 2	Channel improvements in the upper portion of Tributary 4	Lamar	Other	City of Paris	N	3 separate FMEs were combined into 1
21000055	City of Longview Property Buyout	Purchase properties in floodplain areas to reserve them from development	Gregg	Other	City of Longview	N	Project area outside of Region 2

Reasons for Not Recommending FMS

Region 2 - Potential FMS's							Subcommitee Agrees/Disagrees		
FMS ID	FMS Name	Description	Project Type	Sponsor	Technical Consultant Recommendation (Y/N)	Reason for NOT Recommending Action	Agree	Disagree	Meeting Notes
22000015	Cooke County NFIP Involvement	Application to join NFIP or adoption of equivalent standards	NFIP/CRS	Cooke County	N	< 50% within Region 2	X		Make sure TC coordinates with Adjacent regions so they can include them in their plans.
22000033	Bowie County Integrated Stormwater Management Manual	Create and implement an integrated stormwater management manual that contains minimum stormwater infrustructure design standards	Regulatory and Guidance	Bowie County	N	Recommended a region wide stormwater manual vs. per county	X		
22000054	City of Avery Storm Drainage Maintenance	Develop protocol for cleaning debris from ditches and drains within Avery to protect existing and new buildings	Preventive Maintenance Programs	City of Avery	Y	Not a capital type project.		X	SC decided not to recommend.
22000063	Fannin County Stream Maintenance	Regular maintenance, such as sediment and debris clearance, is needed so that the stream or waterway may carry out its designed function.	Preventive Maintenance Programs	Fannin County	Y	Not a capital type project.		X	SC decided not to recommend.

Evaluation of FMPs

Region 2 - Potential FMP's

						Flood Risk Indicators									
FMP ID	FMP Name	Description	Counties	Project Type	Sponsor	Area (sq.mi) in 100yr (1% annual chance) Floodplain	Area (sq.mi) in 500yr (0.2% annual chance) Floodplain	Estimated structures at 100yr flood risk (#)	Residential structures at 100yr flood risk (#)	Estimated Population at 100-year flood risk	Critical facilities at 100yr flood risk (#)	Low water crossings at flood risk (#)	Estimated road closures (#)	Estimated length of roads at 100yr flood risk (Miles)	Estimated farm & ranch land at 100yr flood risk (acres)
23000001	Ferguson Park Feasibility Study	Improvements to existing culverts and channelization	Bowie	Infrastructure (channels, ditches, ponds, pipes, etc.)	City of Texarkana	3.02	3.33	251	247	1100	5	6	715	22.63	20.89
23000002	Wagner Creek	Channel/Over bank Clearing	Bowie	Regional Channel Improvements	City of Texarkana	3.01	3.32	250	247	1099	5	6	715	22.66	20.65
23000003	Stream WC-2	Independence Circle & Lexington Place Bridge Improvements	Bowie	Infrastructure (channels, ditches, ponds, pipes, etc.)	City of Texarkana	0.076	0.08	4	22	70	0	0	25	0.426	0.299

FMP: Requirements

- Detailed hydrologic and hydraulic (H&H) modeling results
- Solutions to mitigate the 1% annual chance flood (lower level of service is acceptable)
- Quantifiable flood risk reduction benefits
- Associated benefits and costs (BCA)
- Demonstrate **No Negative Impacts**

Task 12 Update

- Consider vote for the following FMEs for inclusion as FMPs in Amended Flood Plans
  - Anderson Creek Treatment Plant (City of De Kalb) – **Not needed**
  - Pig Branch Watershed (City of Bonham) – **No acceptable project identified**
  - County Road 1051 (Hunt County)
  - City of Hooks Infrastructure – Now called TexAmericas Detention 1 and 2
    - Still requires Tex-Americas Center concurrence
  - Big Sandy Creek Improvements (City of Paris) **No acceptable project identified**
  - City of Texarkana Gauges

Task 12 Update

Not recommended. Current levee provides 100-yr level of service.

Table 5.3 Summary of Recommended FMPs

FMP ID	FMP Name	FMP Type	FMP Description	Cost
23000001	Ferguson Park Improvements	Infrastructure (channels, ditches, ponds, pipes, etc.)	Improvements to existing culverts and channelization	$11,983,000
23000002	Wagner Creek	Regional Channel Improvements	Channel/Overbank Clearing	$978,000
23000003	Stream WC-2	Infrastructure (channels, ditches, ponds, pipes, etc.)	Independence Circle & Lexington Place Bridge Improvements	$540,000
23000004	Anderson Creek WWTP Levee Improvements	Flood Walls / Levees	Ring levee improvements to provide a 100-year level of protection to the WWTP facility.	$300,000
23000005	TexAmericas Detention Pond #1	Infrastructure (channels, ditches, ponds, pipes, etc.)	Proposed Wet Detention Pond	$9,545,000
23000006	TexAmericas Detention Pond #2	Infrastructure (channels, ditches, ponds, pipes, etc.)	Proposed Wet Detention Pond	$20,539,000
23000011	City of Texarkana Gauges	Flood Early Warning Systems, including stream gauges and monitoring stations	Install ten combination rain and flood gauges and two rain gauges to better understand flood risks and improve mitigation.	$374,000
23000014	CR-1051 Drainage Improvements	Low Water Crossings or Bridge Improvements	Two bridge installations, raising portions of the road, and minor channel and side ditch grading improvements	$8,197,000
			Total	**$52,456,000**

Consider changes to recommendations of FMPs, FMSs, and FMEs.

Chapter 6- Impacts of Regional Flood Plan and impacts to State Water Plan

Chapter 6A – Key Assumptions

- Assumed entire plan was implemented
  - Does not reflect the interim goals
- Assumed maximum effectiveness
  - Actual benefits will decrease if slowly implemented
- Complex relationships between actions not considered
- Impacts to deaths, injuries, environment, erosion, sedimentation, etc. are qualitative due to lack of quantitative data on benefits

Summary of Recommended Flood Management Strategies (FMSs)

FMS Types	FMS Descriptions	# of FMSs Identified	# of FMSs Recommended	Total Cost of Recommended FMSs
Education and Outreach	Turn Around, Don't Drown Campaigns; Flood Safety Education	5	3	$250,000
Flood Measurement and Warning	Flood Gauges, Early Alert Systems, Flood Warning Systems	4	3	$750,000
Property Acquisition and Structural Elevation	City of Sadler Lift Station Flood-Proofing	2	1	$100,000
Regulatory and Guidance	NFIP Participation, Stormwater Management Criteria Development, Floodplain Management Staff Acquisition and Training	57	31	$3,400,000
Preventive Maintenance Programs	Storm Drainage Clearing, Annual Maintenance Programs	11	0	N/A
	Total	79	38	$4,500,000

FMS Summary of Impacts

Flood Exposure	Existing Conditions		Future Conditions (no RFP)		Future Conditions with RFP Implemented		Protected through RFP FMSs	
	1% ACE	0.2% ACE	1% ACE	0.2% ACE	1% ACE	0.2% ACE	1% ACE	0.2% ACE
Exposed Structures	13,438	15,023	15,023	23,624	13,438	15,023	1,585	8,601
Exposed Population	20,723	23,805	23,805	40,935	20,723	23,805	3,082	17,130
Exposed Area (Square Miles)	2,821	2,936	2,936	3,299	2,821	2,936	115	363
Exposed LWC	266	270	266	284	266	270	-	14

Summary of Flood Management Evaluations (FMEs)

FME Types	FME Descriptions	# of FMEs Identified	# of FMEs Recommended	Total Cost of Recommended FMEs
Preparedness	Gauges, Barriers, Debris/Vegetation Removal and Channelization	10	9	$3,175,000
Project Planning	Previously Identified Drainage Projects and Flood Studies	23	11	$6,875,000
Watershed Planning	FIS Studies, Watershed Studies	20	19	$26,550,000
Other	Property Acquisition and Buyout Programs	7	5	$1,250,000
	Total	65	45	$37,850,000

FME Summary of Exposures

Flood Mitigation FME Exposures	
Structures	5,831
Population	32,443
Ag Land (Acres)	942
Critical Facilities	73
Road Length (miles)	151

Summary of Recommended Flood Mitigation Projects (FMPs)

FMP ID	FMP Name	FMP Type	FMP Description	Cost
23000005	TexAmericas Detention Pond #1	Infrastructure (channels, ditches, ponds, pipes, etc.)	Proposed Wet Detention Pond	$9,545,000
23000006	TexAmericas Detention Pond #2	Infrastructure (channels, ditches, ponds, pipes, etc.)	Proposed Wet Detention Pond	$20,539,000
23000011	City of Texarkana Gauges	Flood Early Warning Systems, including stream gauges and monitoring stations	Install ten flood gauges and two rain gauges to better understand flood risks and improve mitigation.	$374,000
23000014	CR-1051 Drainage Improvements	Low Water Crossings or Bridge Improvements	Two bridge installations, raising portions of the road,	$8,197,000

Summary of Recommended Flood Mitigation Projects (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	$11,983,000
023000002	Wagner Creek	Regional Channel Improvements	Channel/Overbank Clearing	$978,000
023000003	Stream WC-2	Infrastructure (channels, ditches, ponds, pipes, etc.)	Independence Circle & Lexington Place Bridge Improvements	$540,000
			Total	$52,156,000

FMP Summary of Impacts

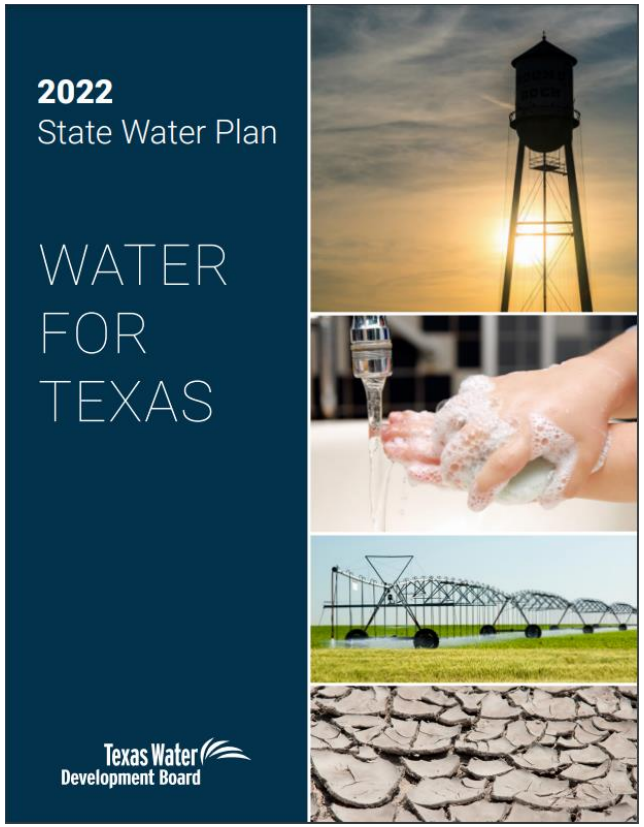
Flood Exposure	Existing Conditions		After FMP Implementation		Exposure Reduction from FMPs	
	1% ACE	0.2% ACE	1% ACE	0.2% ACE*	1% ACE	0.2% ACE*
Exposed Structures	13,438	15,023	13,239	N/A	199	N/A
Exposed Population	20,723	23,805	19,689	N/A	1,034	N/A

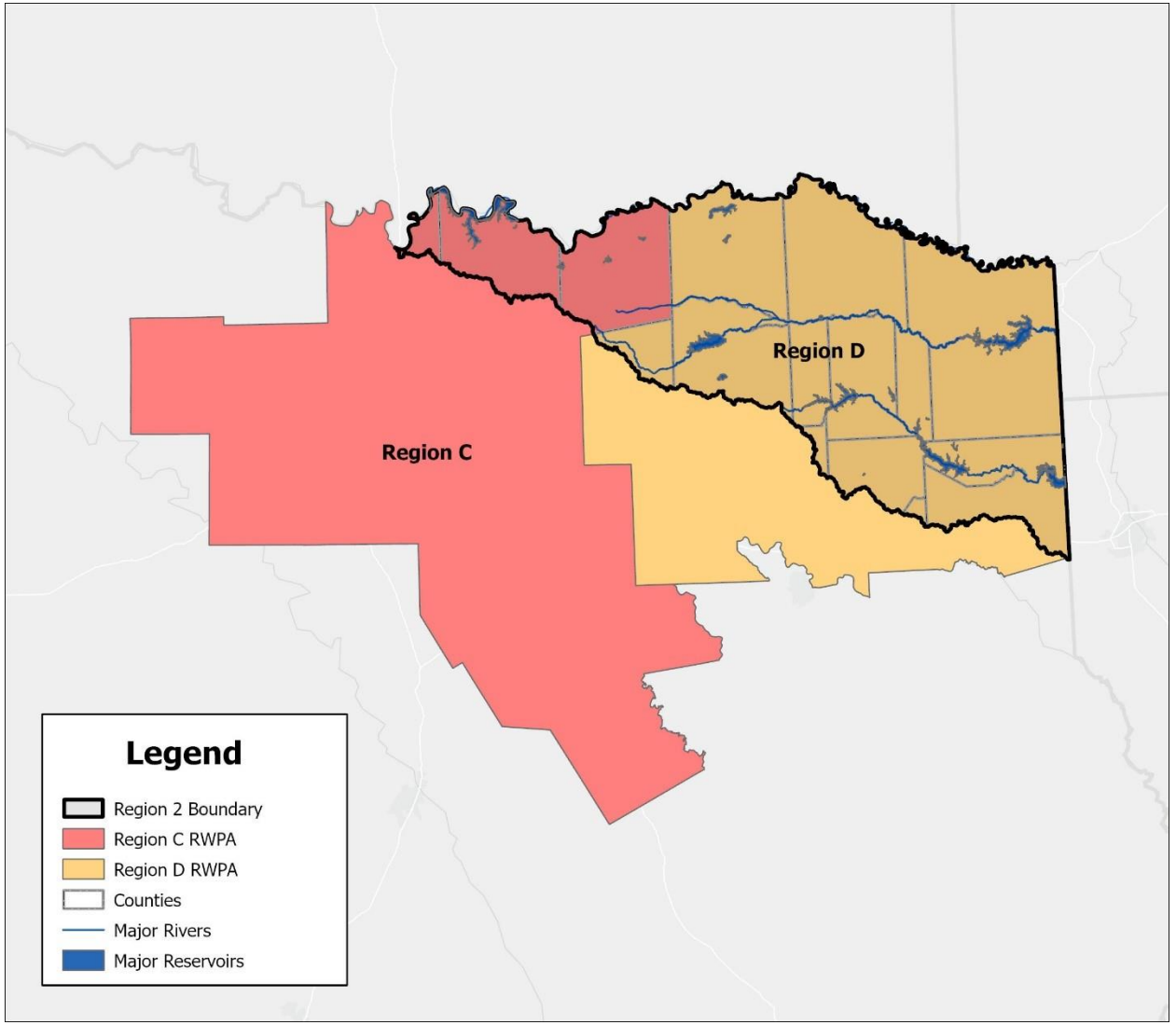
*** 0.2% ACE impacts were not provided by FMP sponsor**

Task 6B - Contributions/Impacts on State Water Plan

Analyze impacts of State Flood Plan on State Water Plan

- None of the recommended actions will have a measurable impact on:
  - Water supply
  - Water availability





Chapter 7– Flood Response Information and Activities

A list of entities involved

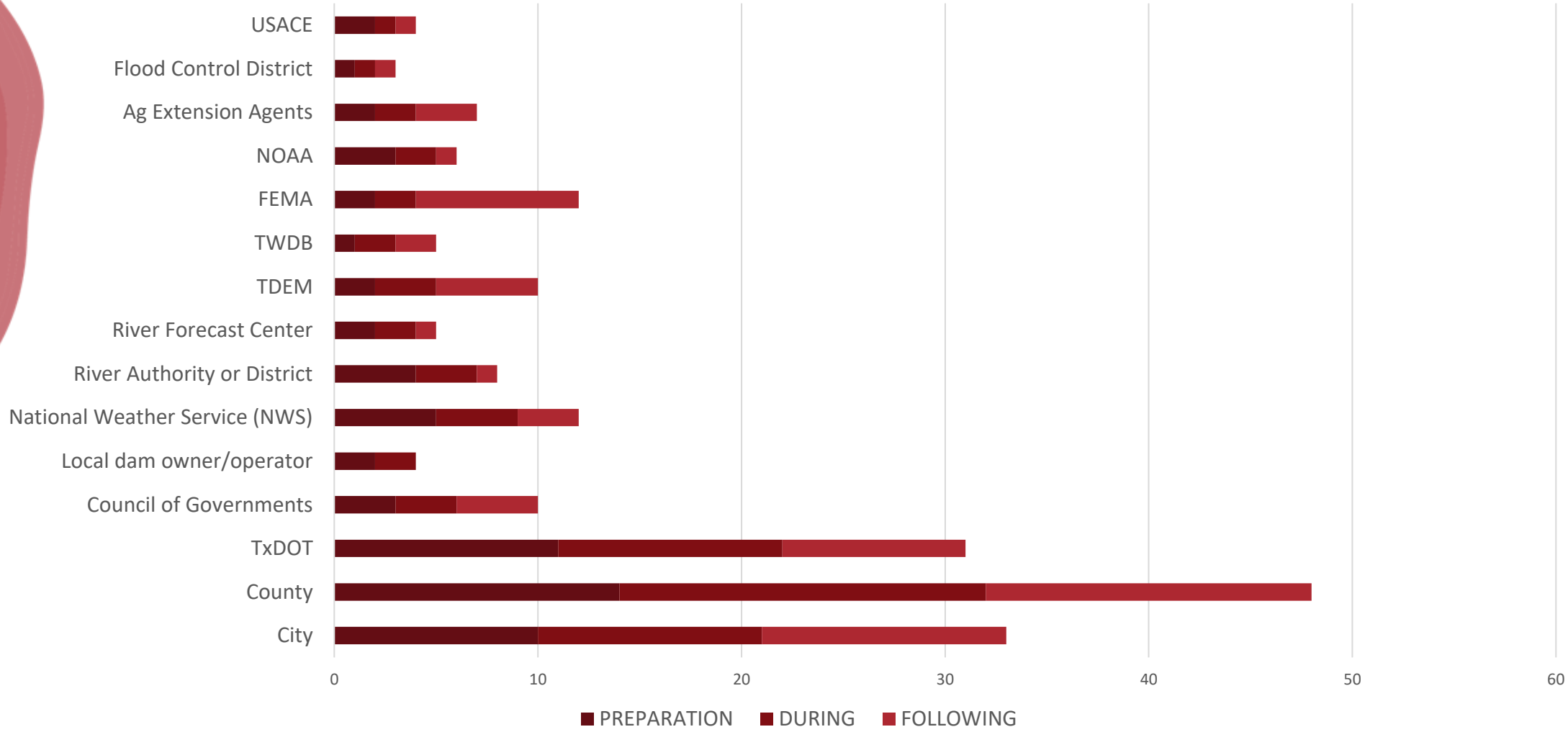
A summary of the roles and responsibilities of various entities

Actions taken or planned for recovery from past flood disasters in the region

ENTITIES INVOLVED

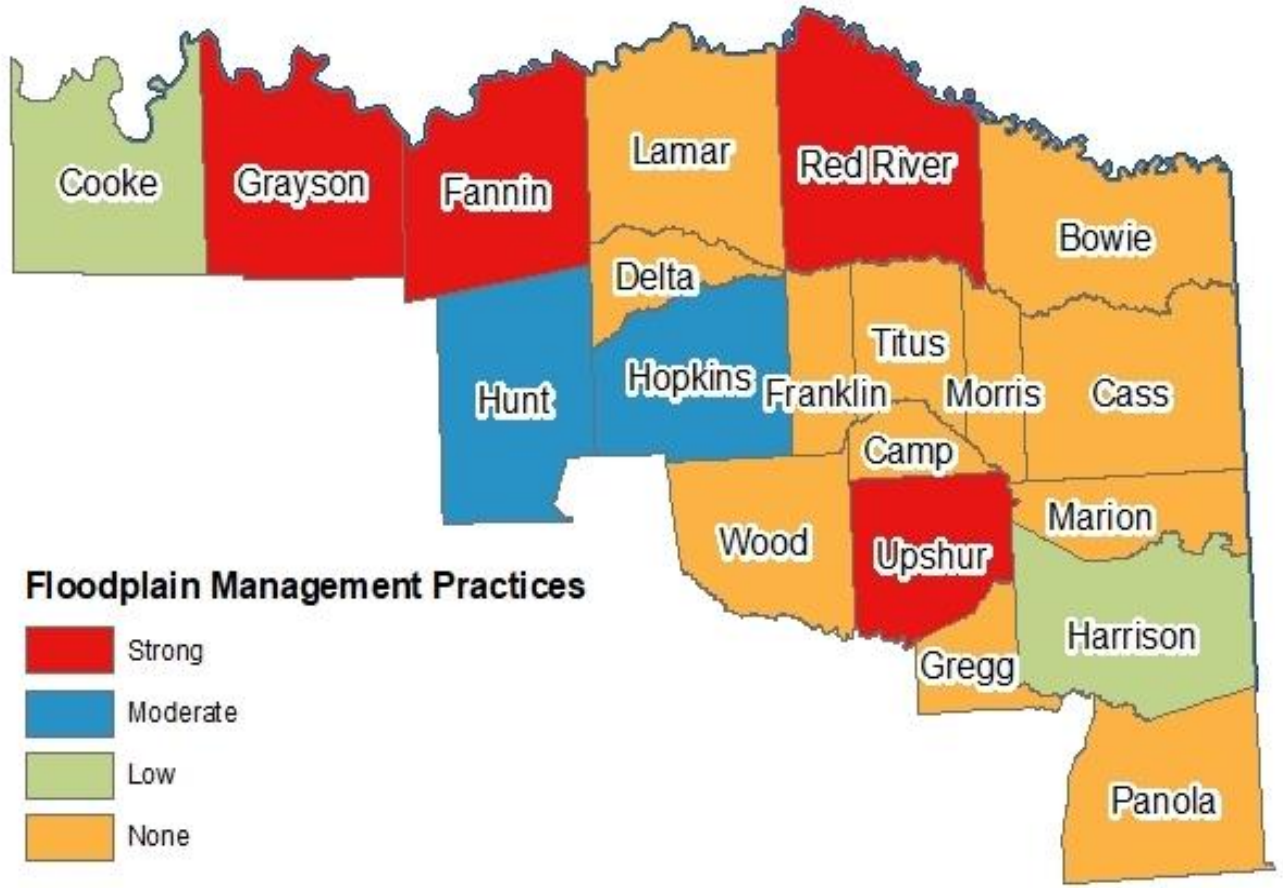
Ag Extension Agents
City
County
Council of Government
TWDB
FEMA
Flood control district
Local dam owner/operator
Local levee owner/operator
National Weather Service (NWS)
NOAA
River Authority or District
River Forecast Center
TDEM
TxDOT
USACE

Indicate the entities with whom you coordinate flood response.

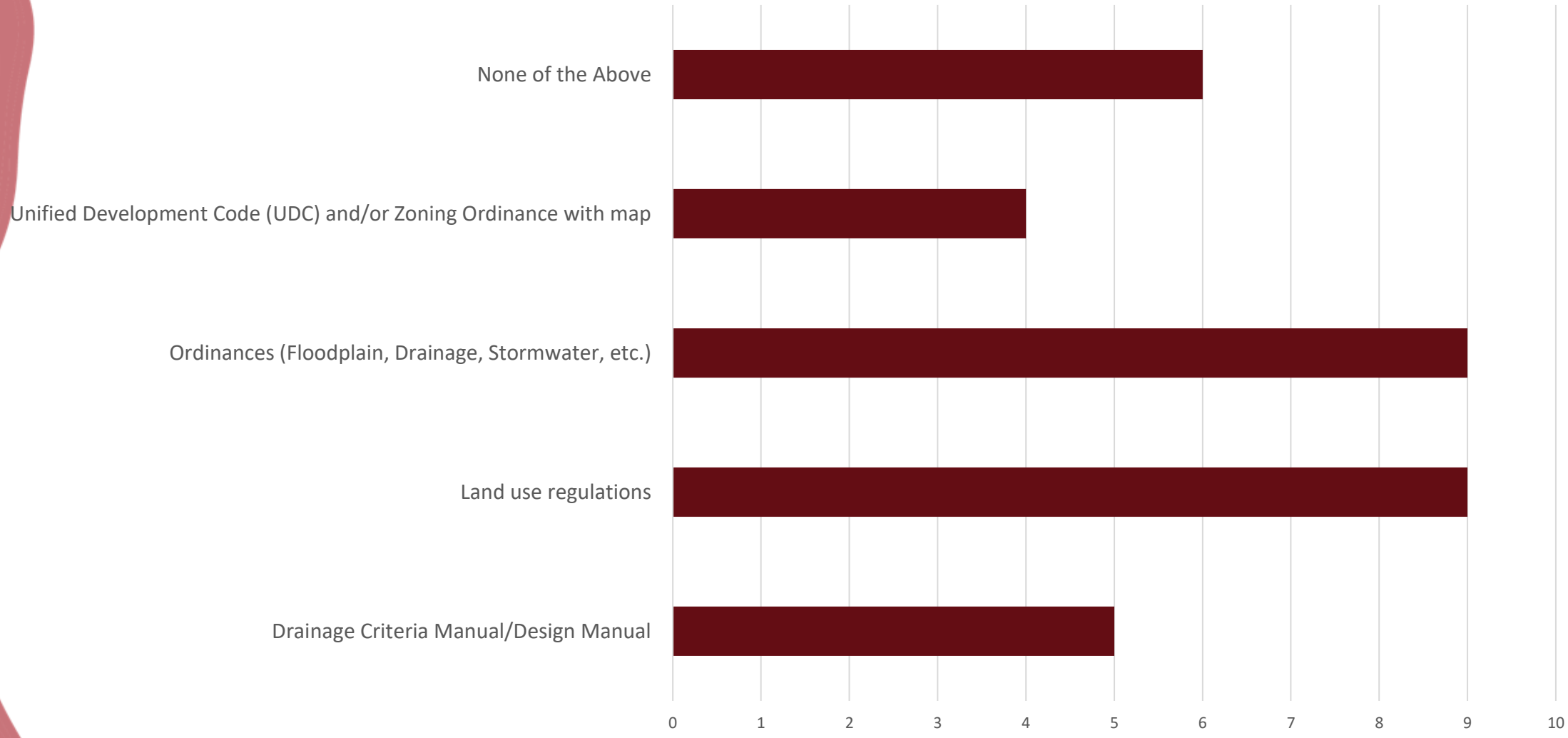


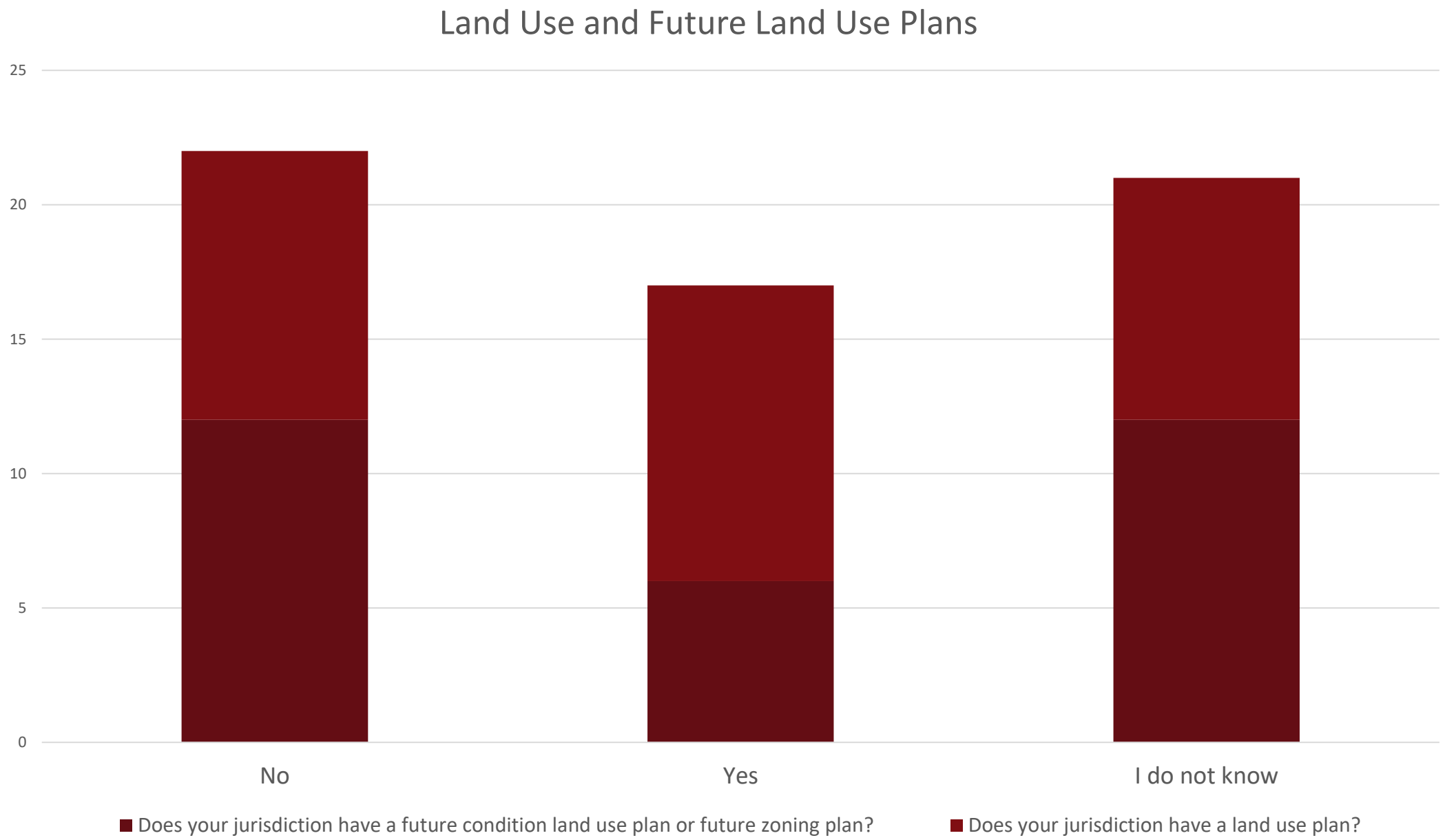
Floodplain Management Practices

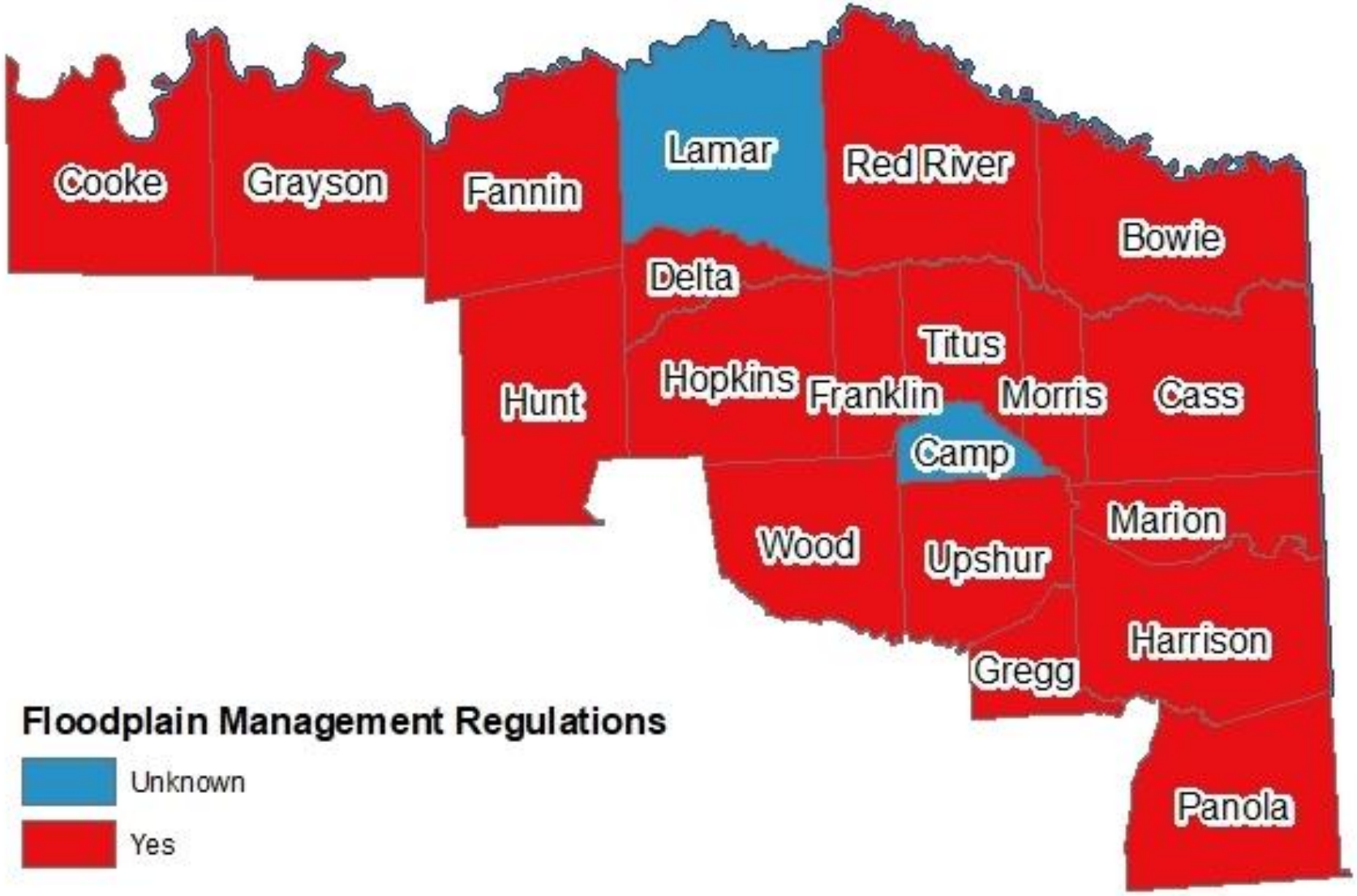
- Best practices for keeping your community safe include the adoption of higher standards



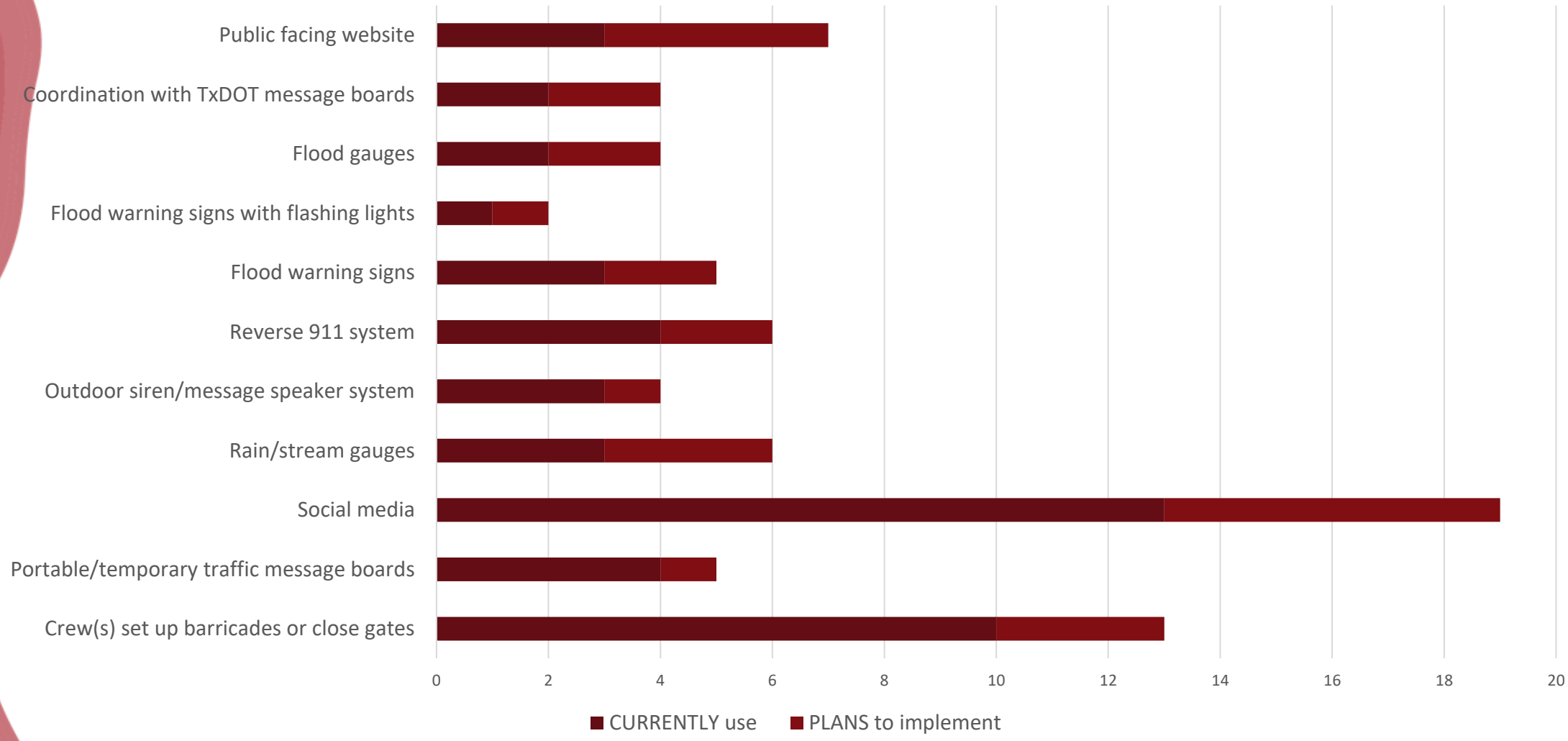
What regulations and/or development codes does your jurisdiction have in place to manage existing and future flood risk for developments?



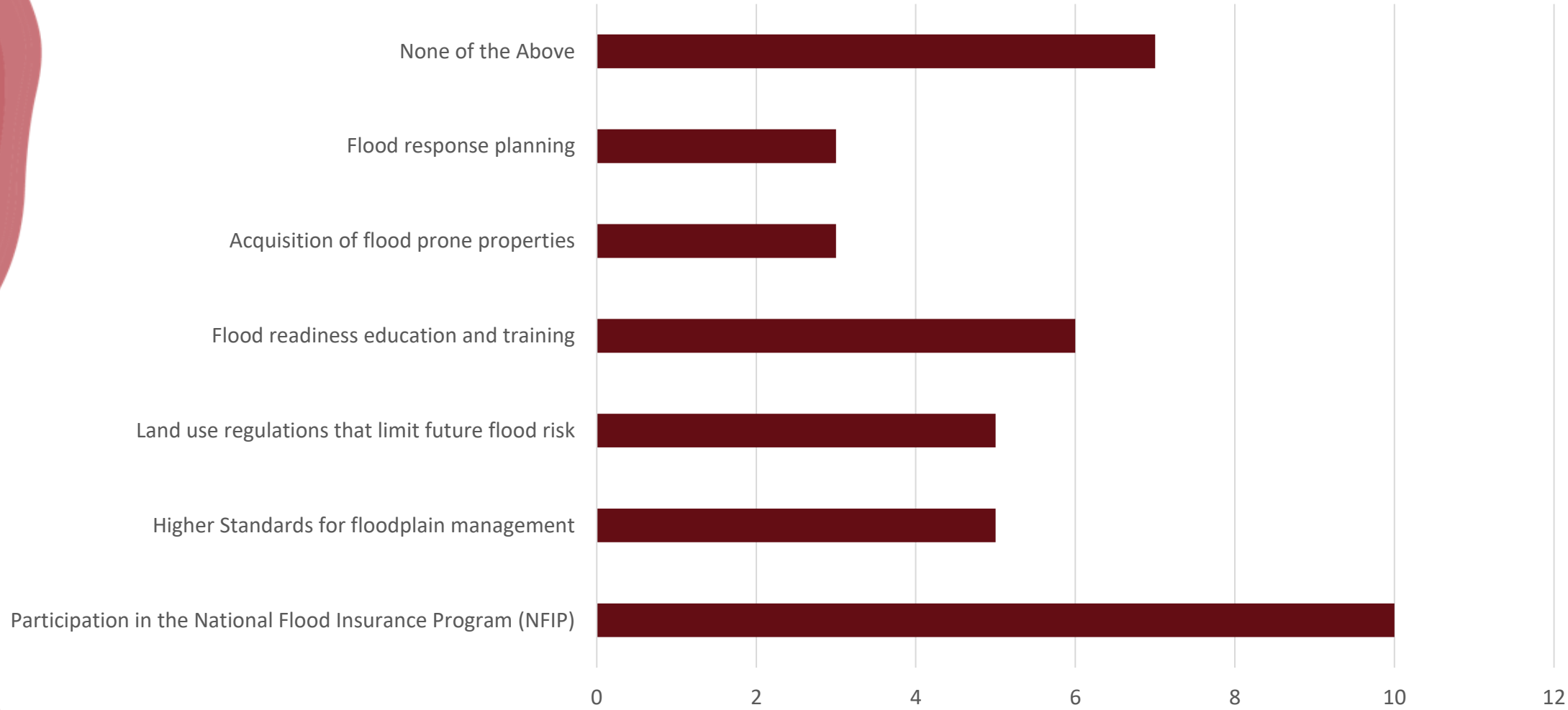

Land Use and Future Land Use Plans
25
20
15
10
5
0
No
Yes
I do not know
Does your jurisdiction have a future condition land use plan or future zoning plan?
Does your jurisdiction have a land use plan?

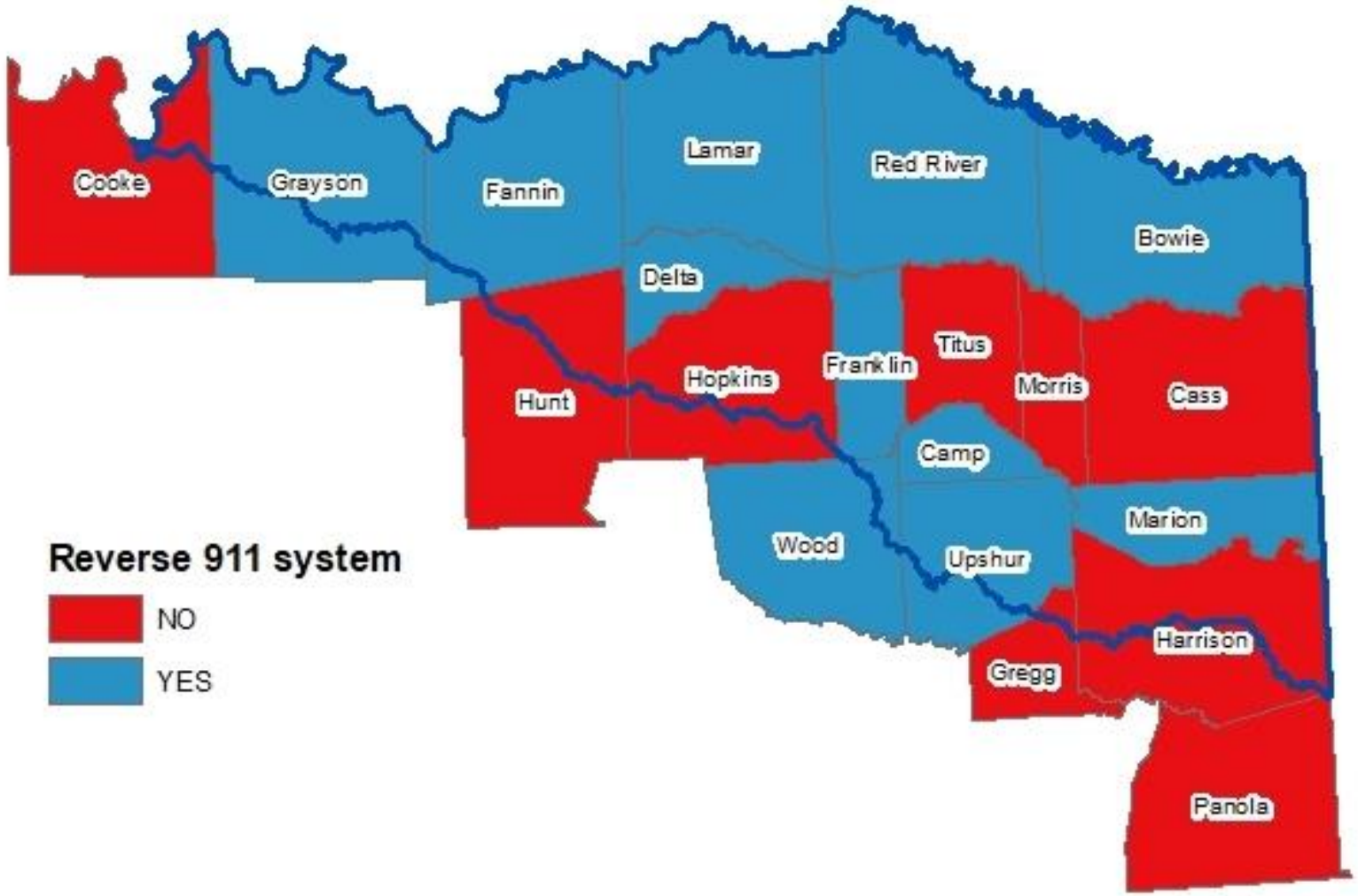

Cooke
Grayson
Fannin
Lamar
Red River
Bowie
Delta
Titus
Hopkins
Franklin
Morris
Cass
Hunt
Camp
Marion
Wood
Upshur
Harrison
Gregg
Panola
Floodplain Management Regulations
Unknown
Yes

Select the flood response measures your jurisdiction CURRENTLY uses or PLANS to implement for emergency response



Measures your jurisdiction is taking to promote resilience within flood-prone areas.





Reverse 911 System

Can provide data to residents of flood dangers in their area.

Chapter 8 - Legislative, Administrative, and Regulatory Recommendations

Legislative Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.1.1	Increase state funding to counties to maintain drainage and stormwater infrastructure in unincorporated areas.	Counties have floodplain and drainage related responsibilities in the State of Texas without a current way to fund projects.
8.1.2	Develop state strategies to aid in acquiring federal funds.	Entities in Texas do not qualify for some federal funding programs due to minimal or no state participation, such as FEMA's Building Resilient Infrastructure and Communities (BRIC) Grant.
8.1.3	Develop and allocate State funding to assist dam owners with the costs associated with repairing, maintaining, and upgrading dam structures, as well as decommissioning studies, where applicable.	A number of privately-owned dams that were originally constructed in rural areas are now surrounded by developments. Therefore, the potential impact of flood damages resulting from dam failure has increased significantly. Often, the cost of maintenance is far too high for a private entity to take on.
8.1.4	Provide funding and/or technical assistance to develop regulatory floodplain maps.	Several entities who have outdated maps or no mapping at all are not able to fund the projects necessary to update or create those maps.

Legislative Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.1.5	Provide additional grant funding to the RFPGs to enable them to continue to function during the interim timeframe between planning cycles	In the interim of the planning cycles, not only could RFPGs continue adding FMEs, FMPs, and/or FMSs to the Regional Flood Plan, but they could also implement RFPG-sponsored flood management activities, outreach, and stay informed on regional flood-related occurrences.
8.1.6	Establish a levee safety program similar to the dam safety program.	Levees are often constructed to protect a specific commodity; however, they do not have a safety program like dams do, despite being an equal flood risk.
8.1.7	Extend Local Government Code, Title 13, Subtitle A, Chapter 552 to allow counties the opportunity to establish and collect drainage utilities/fees in the unincorporated areas.	Counties have floodplain- and drainage-related responsibilities in the State of Texas. Currently, counties do not have the ability to establish and collect stormwater utility fees, thus limiting their ability to fund stormwater or drainage projects, despite having the responsibility to do so.
8.1.8	Provide for alternative sources of funding. Expand eligibility for and use of funding for stormwater and flood mitigation solutions (Local, State, Federal, Public/Private Partnerships, etc.)	Flood mitigation studies/projects do not generate revenue, which makes them more challenging to fund at the local level.

Regulatory or Administrative Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.2.1	Review and revise as necessary all state infrastructure entities (i.e. TxDOT) standards and practices for legislative and regulatory compliance with stormwater best practices.	State entities should be cognizant of the drainage and stormwater standards in the areas where they are active. State entities should be held to the same standards that the local entities uphold.
8.2.2	Develop resources for and educate city and county officials regarding the respective entities' ability/authorization to establish and enforce higher development standards.	City and county officials are often unaware of their authority to establish and enforce stormwater regulations. (Texas Local Government Code Title 7, Subtitle B.; Texas Water Code Chapter 16, Section 16.315) Flooding and drainage component of city and county officials' training is often inadequate for their level of responsibility.
8.2.3	Provide measures to encourage and allow jurisdictions to work together towards regional flood mitigation solutions.	Flooding does not recognize jurisdictional boundaries. Allowing and encouraging entities to work together towards common flood mitigation goals would be beneficial to all involved.
8.2.4	Develop a publicly available, statewide database and tracking system to document flood-related fatalities.	In order to more accurately address the health, safety, and welfare of the public, high flood-risk areas should be tracked and reported. Doing so would increase awareness of the area, both so the public could be cognizant of the risks, and so elected officials and decision-makers could institute solutions to reduce the risk in those areas.

Regulatory or Administrative Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.2.5	Develop a publicly available, statewide database and tracking system to document dam inspection reports and conditions.	The RFPG cannot easily identify why the standard inspection reports of dams across the state are not publicly available or at least easily requested. TXDOT has a database for crossings due for repair or improvement. There should be a similar database for dams.
8.2.6	Revise the scoring criteria for funding associated with stormwater and flood-related projects that benefit agricultural activities.	The traditional benefit-cost analysis tools prevent agricultural projects from competing with municipal benefit-cost ratios.
8.2.7	Provide financial or technical assistance to smaller/rural jurisdictions.	The former Office of Rural Affairs/Texas Department of Rural Affairs was intended to assist and work with rural entities, however the department was disbanded. Actions such as maintaining a department specifically for smaller/rural entities, incentivizing consultants to pursue work for smaller or rural entities or adjusting BCAs to rank small/rural entities equally are all ideas towards this goal.

Regulatory or Administrative Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.2.8	Simplify all funding application processes.	Current funding applications require significant time and resources to prepare a project for consideration, as well as complete the application itself, especially for jurisdictions with limited resources. Thus, jurisdictions that need the funding the most typically do not apply for current opportunities, despite having need.
8.2.9	Address the concern of “takings” with regards to floodplain development regulations, comprehensive plans, land use regulations and zoning ordinances.	Jurisdictions should be allowed to regulate development in a responsible manner that reduces future flood risk exposure without the fear of legal action by property owners.

Flood Planning Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.3.1	Update the scope of work, guidance documents, rules, checklists, etc. based on the adjustments made to these planning documents during the first cycle of planning.	During the first cycle of the State Flood Plan, multiple amendments and additions to the TWDB documents and the TWDB's interpretation of its documents occurred. Moving forward, the TWDB documents provided at the onset of each new planning cycle should reflect what is ultimately required of the RFPGs.
8.3.2	Develop a fact sheet and/or other publicity measures to encourage entities to participate in the Regional Flood Planning effort.	Many entities were unaware of the Regional and State Flood Plan efforts despite the RFPG outreach efforts. Some entities are still requesting information regarding the Flood Planning process and do not understand the benefits of participating. Other entities did not want to participate due to perceived lack of benefits.
8.3.3	Host "lessons learned" discussions with RFPG members, sponsors and technical consultants following the submittal of the final regional plans.	Opening dialogue among these participants to discuss proposed improvements to the regional planning process will streamline and improve future regional flood planning cycles.

Flood Planning Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.3.4	Develop an amendment process similar to the Regional Water Planning Process to efficiently amend their approved regional flood plans to incorporate additional recommended FMEs, FMPs and FMSs. Include language to allow the RFPG to advance the recommended FMEs to FMPs based on the results provided at the conclusion of an FME.	Amending the Regional Flood Plan, as seen with the Technical Memorandum Addendum, can be an extensive process. Amendments to move FMEs to FMPs and incorporate new flood management solutions should have a quicker turn-around time in order to efficiently include them in the Regional Flood Plan. Recommend utilizing the Regional Water Planning Process amendment process as a go-by.
8.3.5	Implement an invoice review and advancement request process that provides for timely reimbursements.	Several regions experienced extensive delays in their billing cycles which can delay planning efforts.

Flood Planning Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.3.6	Include the reimbursement of costs for audio and visual (A/V) equipment expenses required to support hybrid and/or virtual meetings for the Regional Flood Planning Group Grants	Many RFPGs have had to rent or purchase A/V equipment in order to uphold the Texas Open Meetings Act (TOMA) guidelines while supporting hybrid meetings. Given the area spanned by the regions and today's technology, RFPG members prefer to offer hybrid meetings to reduce travel time and to increase the opportunity for public participation in the regional flood planning process. Expenses accrued to maintain TOMA standards – set in place by the State – should be eligible for reimbursement.
8.3.7	Reduce the amount of information required to escalate potentially feasible flood mitigation evaluations (FMEs) to flood mitigation projects (FMPs).	Some data currently requested for FMPs is more detailed than traditional planning level data. TWDB recommended leaving those cells blank in Table 13, which would likely result in lower scoring for the project, and a lower probability to garner funding. QED, certain FMPs were submitted as FMEs or FMSs despite having sufficient data to produce a project.

Flood Planning Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.3.8	Revise the criteria for the “No Adverse Impact” Certification required for FMPs.	The current criteria gives thresholds for increases in flow, water surface elevation, and inundation extents. Though good to consider, the current criteria does not allow for projects that exceed these thresholds but account for the impact through design or downstream accommodations.
8.3.8	Clarify the phrase “flood-related authorities or entities”, who that includes, and what that entails.	The phrase is used in the TWDB planning documents multiple times and is a central part of multiple tasks. TWDB originally provided the RFPG with a list of entities that were thought to have flood-related responsibilities. During outreach efforts, many of those entities informed the RFPG that they did not have flood responsibilities and did not believe they should be part of the flood planning effort. Therefore, the RFPG removed these entities from the plan. Clarification is requested regarding the intent of this phrase.

Flood Planning Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.3.9	Streamline the data collection requirements, specifically those identified in Task 1. Focus on collecting the data that was most useful to the regional flood plan development.	This first round of planning proved that very few entities have the data requested as part of the Flood Planning process readily available in a GIS format. Of those entities who did have GIS data, most were unable to share that information. Furthermore, some of this data was not used or was used minimally to develop potentially feasible and recommended FMEs, FMPs and FMSs.
8.3.10	Provide applicable data sources and a methodology to determine infrastructure functionality and deficiencies in the next cycle of the Flood Planning Process. Consider the lack of readily available local data when developing the methodology.	Most entities do not have information regarding the functionality and deficiency of their infrastructure. Some fields required by the TWDB-required tables in the Regional Flood Plans are based on data that is not available to entities without extensive field work.
8.3.11	Review and revise the geodatabase submittal attributes and elements.	Normalizing the geodatabase with relationships would allow for cross-referencing of data elements and attributes. More domains for attributes need to be developed.

Flood Planning Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.3.12	Reconsider the use of Social Vulnerability Index (SVI) to evaluate community resiliency.	In Region 2, many of the communities with the lowest SVI (presumably most able to recover from a flood) had the lowest populations and the least number of taxpayers. As a result, the communities cannot plan, regulate, or recover from flooding as well as larger communities with higher SVIs.
8.3.13	Use FEMA's Social Vulnerability Index (SVI) when available instead of the CDC's SVI in future planning cycles.	FEMA's SVI is reasoned to be more relevant to flood resiliency and risk than the CDC's SVI. SVI should not be the primary component considered when allocating funding.
8.3.14	Use consistent HUC reporting requirements throughout the TWDB-required tables.	The RFPG Guidance requires HUC-8 in some tables, HUC-10 in other tables, HUC-12 in yet other tables. Some tables require multiple HUCs to be provided. The RFPG recommends that the TWDB require HUC-8 in all TWDB-required tables for consistency and to correspond to FEMA's base level watershed planning granularity.

Flood Planning Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.3.15	Develop a statewide bridge inventory with bridge deck elevations.	The availability of statewide LiDAR provides the opportunity to more accurately describe the risk at riverine crossings (i.e. overtopping elevation). The creation of a statewide database would further simplify this data.
8.3.16	Improve upon flood risk identification and exposure process with regards to building footprints and population at risk.	While the building footprints are helpful, without the first floor elevations of each structure, it is difficult to determine the actual extent of flood risk per structure. If structure is sufficiently elevated above the BFE, for example, the footprint still shows the structure in the floodplain and the corresponding population is considered “at risk” though the structure meets NFIP standards. This overestimates the population at risk quantification.

Flood Planning Recommendations

ID	Specific Recommendation Statements	Reason for Recommendation
8.3.1	Update the scope of work, guidance documents, rules, checklists, etc. based on the adjustments made to these planning documents during the first cycle of planning.	During the first cycle of the State Flood Plan, multiple amendments and additions to the TWDB documents and the TWDB's interpretation of its documents occurred. Moving forward, the TWDB documents provided at the onset of each new planning cycle should reflect what is ultimately required of the RFPGs.
8.3.2	Develop a fact sheet and/or other publicity measures to encourage entities to participate in the Regional Flood Planning effort.	Many entities were unaware of the Regional and State Flood Plan efforts despite the RFPG outreach efforts. Some entities are still requesting information regarding the Flood Planning process and do not understand the benefits of participating. Other entities did not want to participate due to perceived lack of benefits.
8.3.3	Host "lessons learned" discussions with RFPG members, sponsors and technical consultants following the submittal of the final regional plans.	Opening dialogue among these participants to discuss proposed improvements to the regional planning process will streamline and improve future regional flood planning cycles.

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[1]. Flood Mitigation Actions include Flood Management Evaluation (FME), Flood Mitigation Strategy (FMS), and Flood Mitigation Project (FMP)[2].

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[2]	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 Results

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

19% Sponsor response rate (8 of 42)
(as of 8/31/2022)

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

Sponsors who have responded to survey

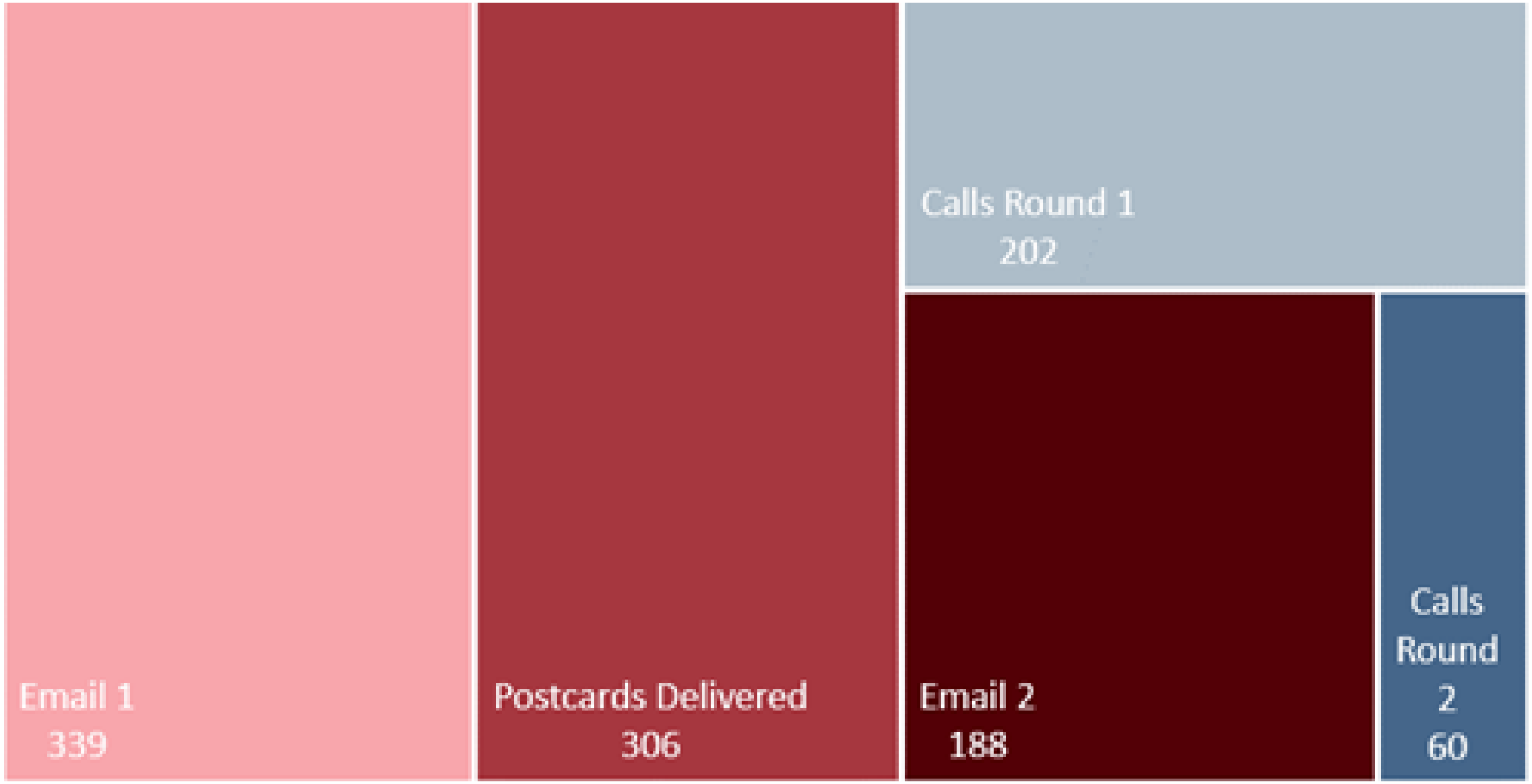
Sponsor	Number of Recommended FMEs, FMSs, and/or FMPs
City of Paris	2
Cooke County	1
Red River County	1
Red River Valley Association	1
Texarkana	7
ATCOG	4
Hopkins County	2
Lamar County	1

Flood Infrastructure Financing Survey - Ongoing Efforts

Increase Sponsor response rate	RFPG is available for calls to address Sponsor questions	Chapter 9 can be edited during the public comment period
• Followed up via phone calls	• Any edits or additions will be incorporated into the Amended Plan	• August 1st RFP Draft submittal • Continue to receive responses after submittal • Update statistics on survey

Chapter 10- Public Participation and Plan Adoption


ER RED-SULPHUR-CYPRESS
EGIONAL FLOOD
ANNING 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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Postcards Delivered
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Email 2
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Calls Round 2
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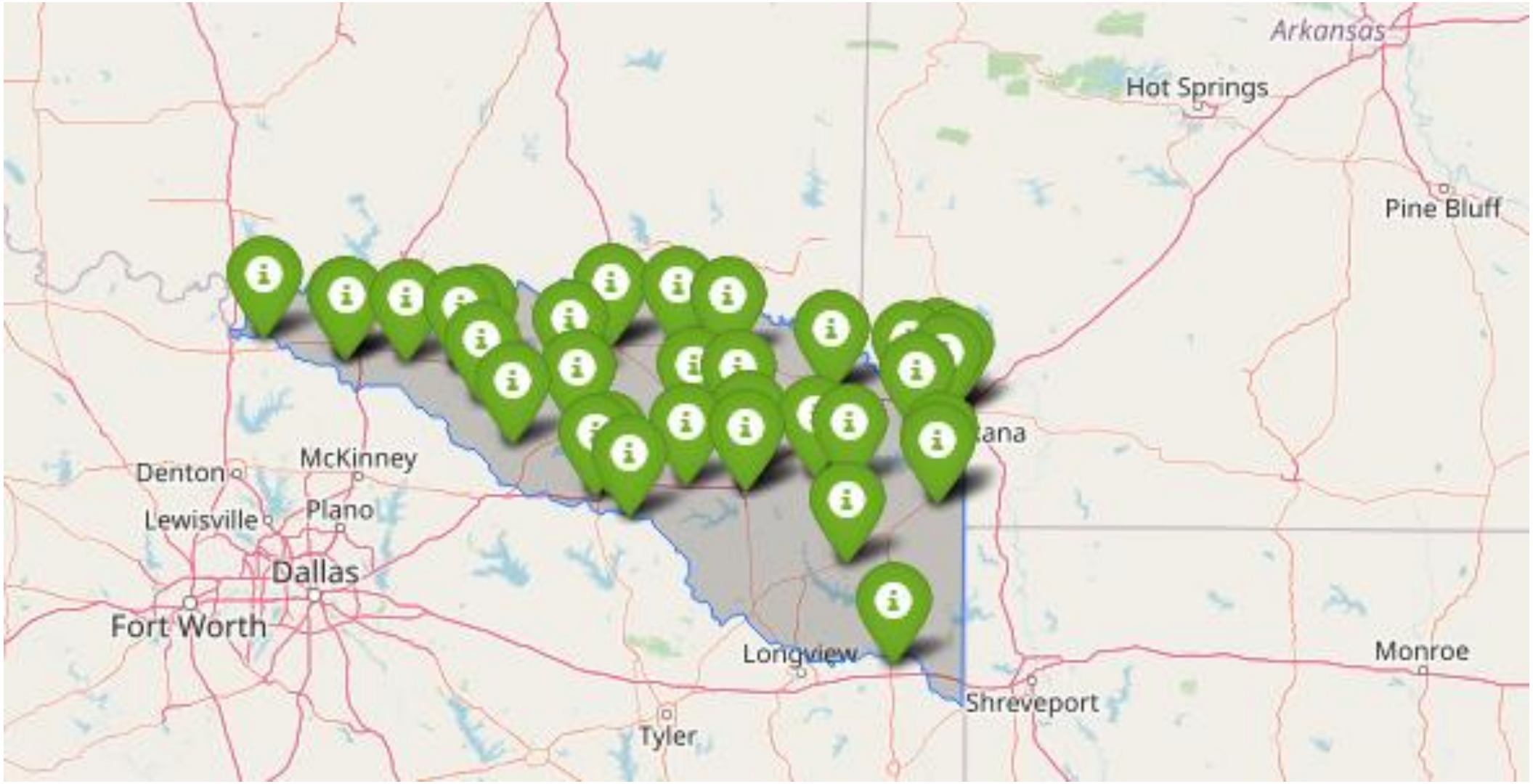
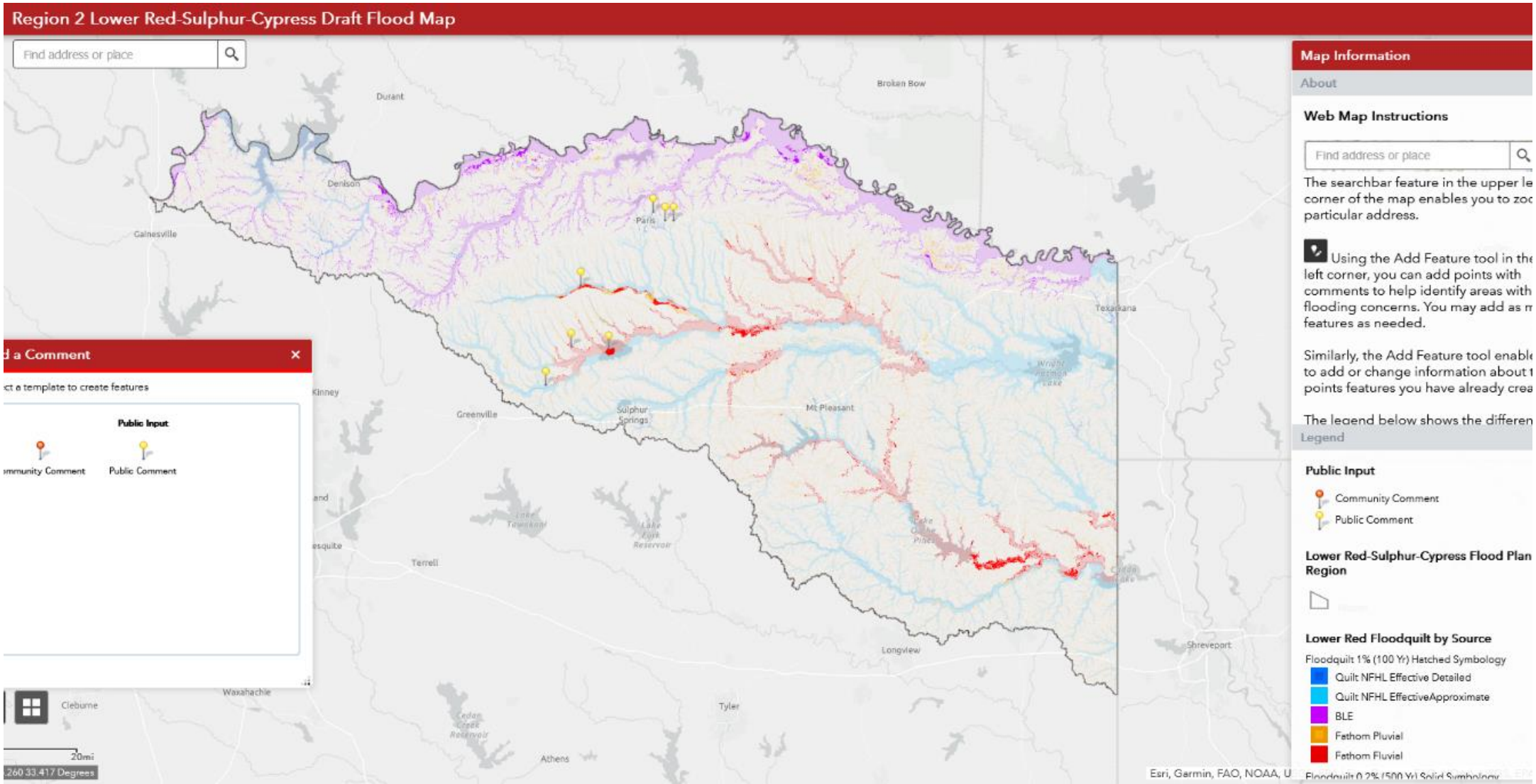

Arkansas
Hot Springs
Pine Bluff
Denton
McKinney
Lewisville
Plano
Dallas
Fort Worth
Longview
Monroe
Shreveport
Tyler


Region 2 Lower Red-Sulphur-Cypress Draft Flood Map
Find address or place
Durant
Broken Bow
Denison
Paris
Gainesville
Texarkana
Kinney
Greenville
Sulphur Springs
Mt Pleasant
Terrell
Longview
Shreveport
Tyler
Athens
Waxahachie
Cleburne
20mi
Esri, Garmin, FAQ, NOAA, U
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Map Information
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Web Map Instructions
Find address or place
The searchbar feature in the upper le
corner of the map enables you to zoo
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 m
features as needed.
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to add or change information about t
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Legend
Public Input
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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 EffectiveApproximate
BLE
Fathom Pluvial
Fathom Fluvial

Comments?

Schedule and Outstanding Issues

- June 15 – Public Meeting, Review and Approve Amended RFP
- July 1 – Public comment period closes
- July 14, 2023 - Amended RFP Due to TWDB
  - Add references to Chapter 7
  - Correct Chapters 5 and 6 to reflect 7 recommended FMPs
  - Add index of changes
  - Finalize tables and databases
  - Prepare models for upload
  - Add RFPG and public comments to Chapter 10 and Appendices

Consider approval of the Amended Regional Flood Plan for submittal to TWDB