



# Working Committee Meeting

Neches Regional Flood  
Planning Group

July 13, 2021

# Agenda

- Task 1 – Planning Area Description
- Task 2A – Existing Flood Risk
- Task 3A – Evaluation and Recommendations on Floodplain Management Practices
- Task 3B – Flood Mitigation and Floodplain Management Goals



# Task 1 – Planning Area Description

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## Goals:

Describe Region

Inventory and  
Assess Existing  
Infrastructure

Funded or  
Ongoing Flood  
Mitigation  
Projects

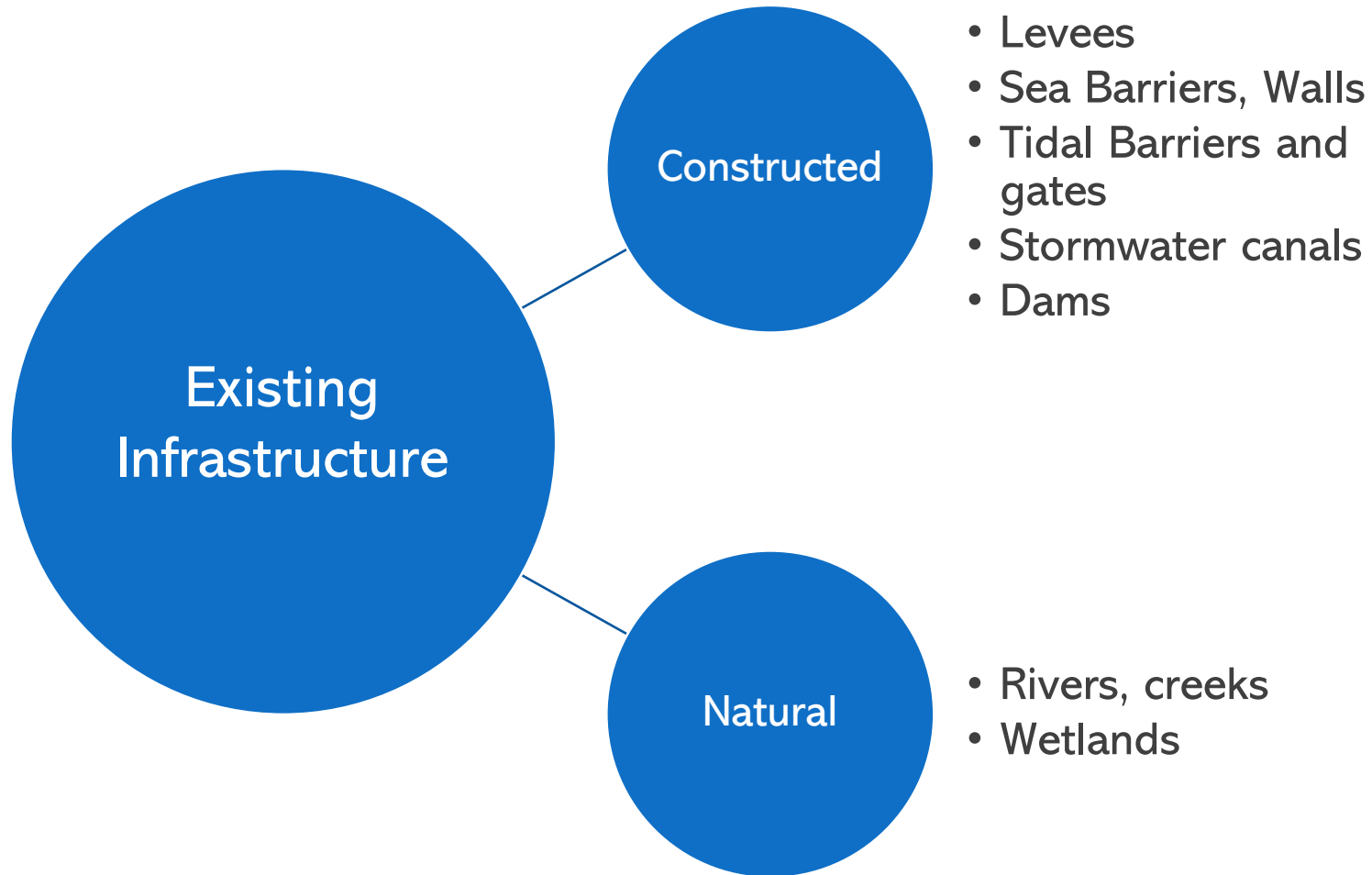
# Describe Region

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- Social and Economic Character
  - Development
  - Population
  - Economic Activity
  - Economic Sectors at Risk
- Political Subdivisions
  - Flood-related authorities
  - Extent of regulations and development codes
- Areas of Flood Risk
  - Flood-Prone Areas
  - Types of Major Flood Risk
  - Agriculture & Natural Resources at Risk
- Historical Flood Events
  - Key Historical Events
  - Fatalities
  - Loss of Property

# Inventory & Assess Existing Infrastructure

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## Location

- Maps
- Geodatabases

## Condition

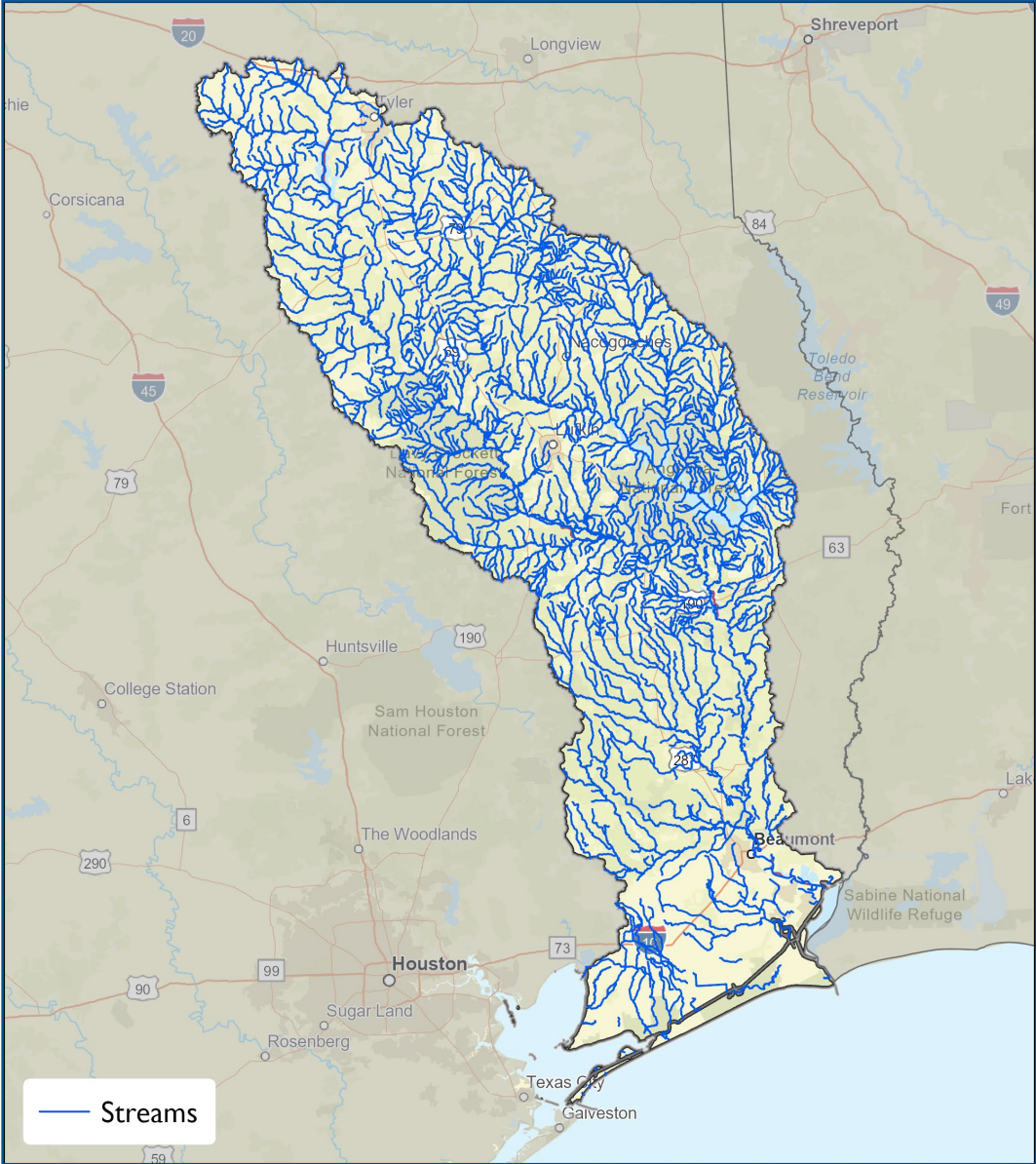
- Functional
- Non-functional
- Deficient

## Functionality

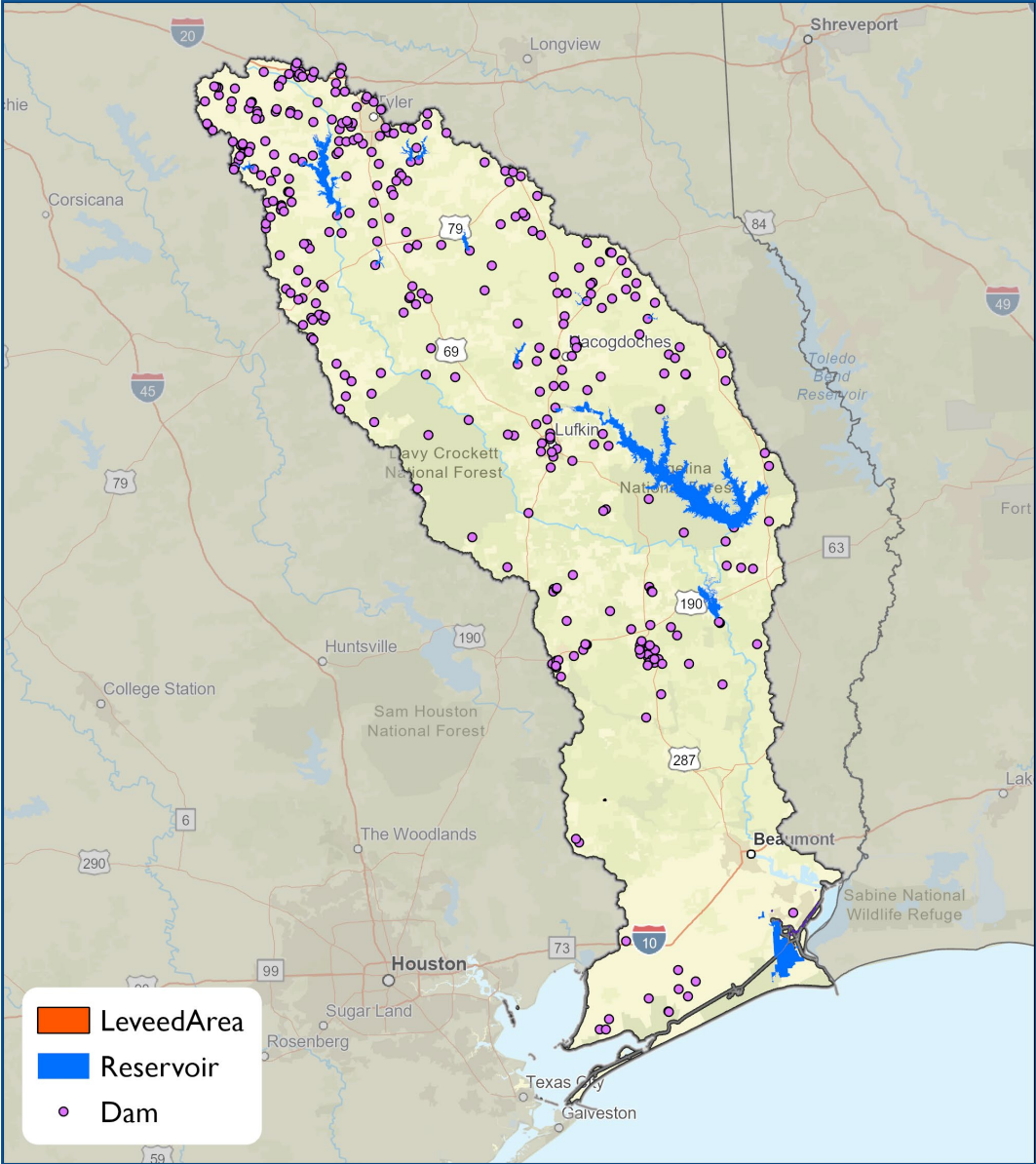
- Level of Service
  - 2-yr, 10-yr, 25-yr, 50-yr, 100-yr, 500-yr



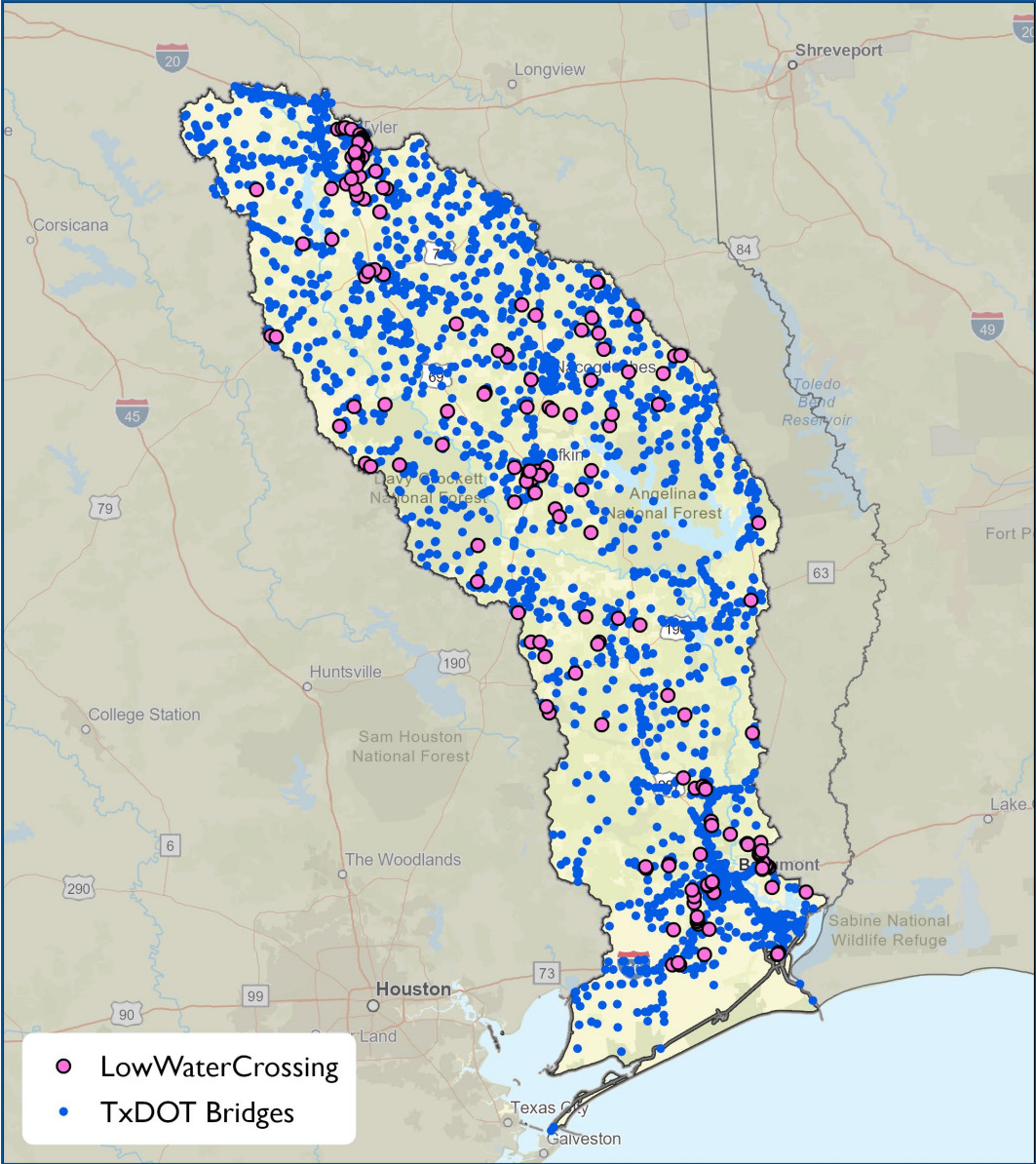
# Natural Features



# Large Structural Features



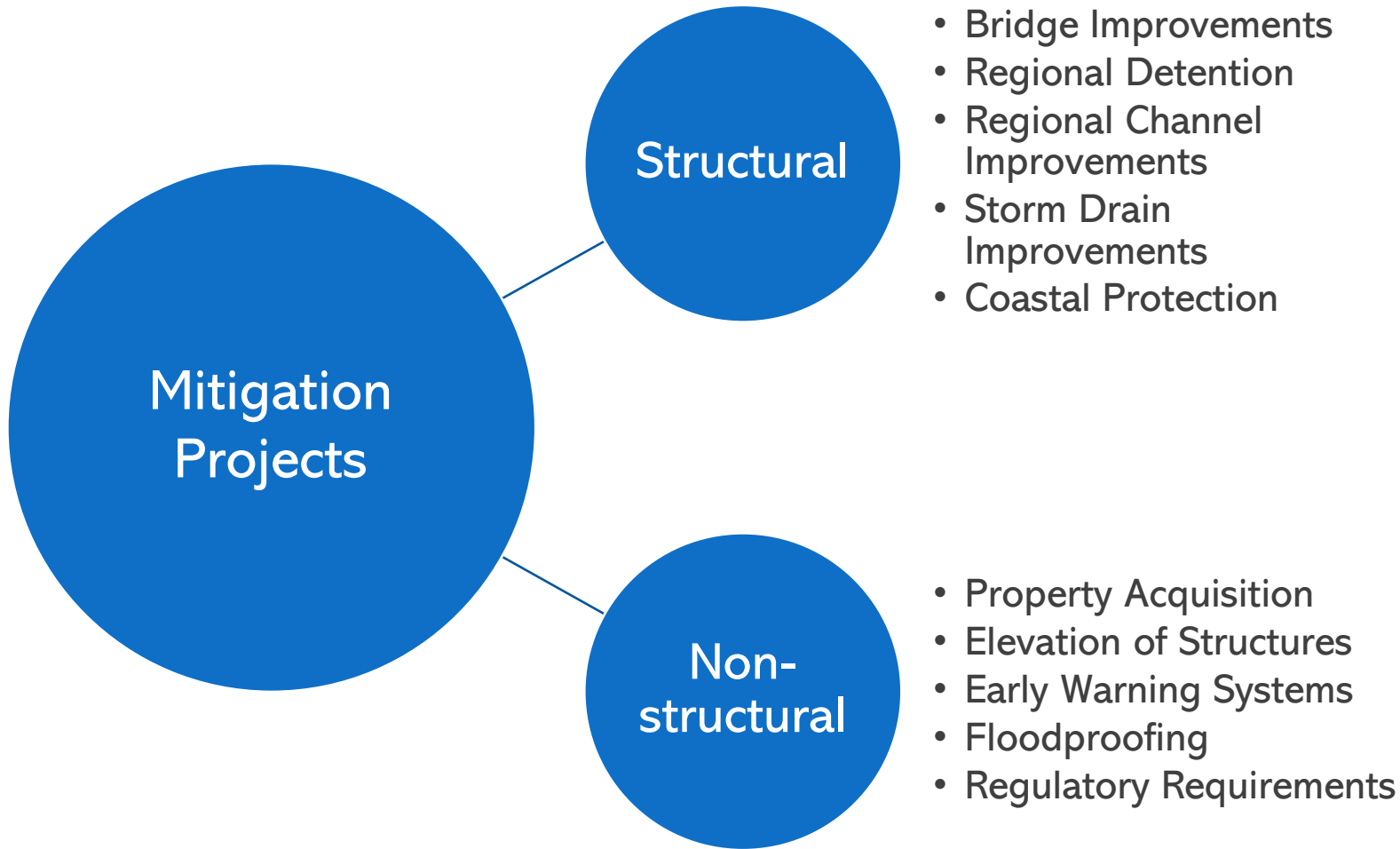
# Other Stormwater Infrastructure





# Funded or Ongoing Mitigation Projects

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## Location

- Maps
- Geodatabases

## Funding Source

- Local
- Grant/loan Program

## Anticipated Benefits

- Structures Removed
- Damages Reduced

# Data Collection

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## Get Involved!

We are looking for your help to develop the first-ever flood plan for the Canadian-Upper Red Region. Please use the links below to provide your input.



### Put it on the Map

Use the interactive map to help us identify areas of flood risk in your region.

[See the interactive map](#)



### Take the Survey

Take the survey to provide input on flooding issues and floodplain management goals specific to your region.

[Take the Survey](#)



### Upload Data

Help us collect data to strengthen this plan.

[Upload Data](#)

## Interactive Webmap

- Flood Prone Areas
- Flood Management Projects

## Survey Questionnaire

- Based on user profile
  - Community official/stakeholder
  - Public

## Data Upload

- Limited to 100 MB
- Secure File Transfer Link for larger files

# Survey

## Public Survey

- 16 Questions
  - General Information
  - Flood Prone Areas
  - Floodplain Management



### Take the Survey

Take the survey to provide input on flooding issues and floodplain management goals specific to your region.

Take the Survey

## Community Official Survey

- 54 Questions
  - General Information
  - Inventory
  - Flood Prone Areas
  - Floodplain Management
  - Flood Planning
  - Funding
  - Flood Response
- Data Upload/GIS

# Discussion – Data Collection

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- Survey Questions Input
- Stakeholder List
- Outreach
- Survey Collection Timeline





# Task 2A – Existing Condition Flood Risk

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Flood Hazard  
Analysis

Flood Exposure  
Analyses

Vulnerability  
Analyses



# TWDB Floodplain Quilt

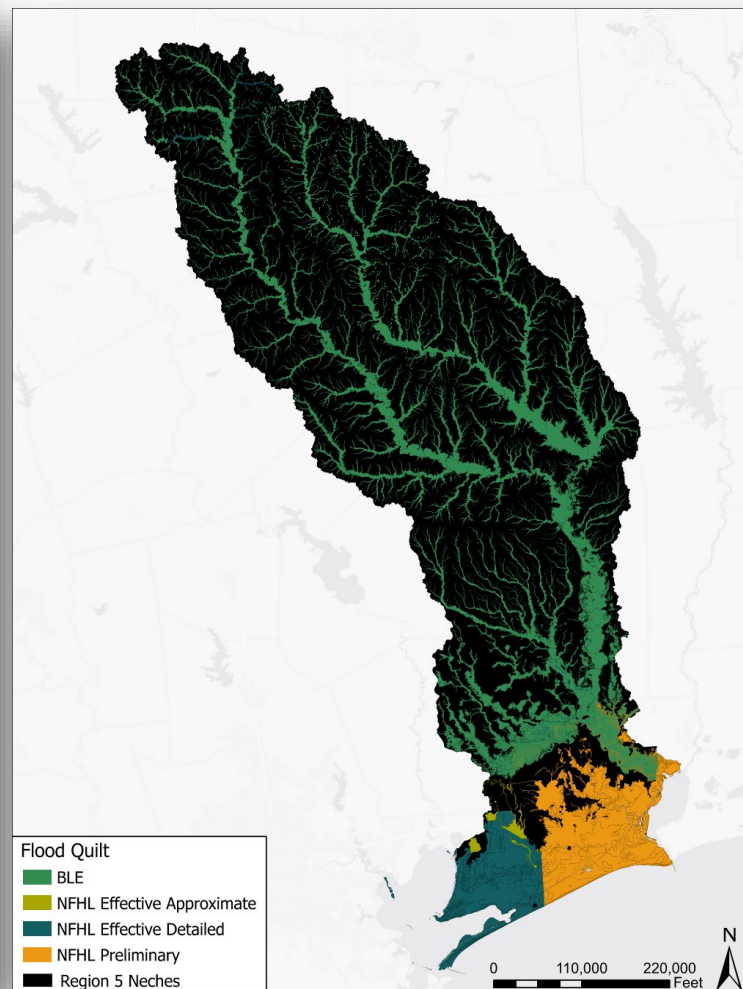
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## Put it on the Map

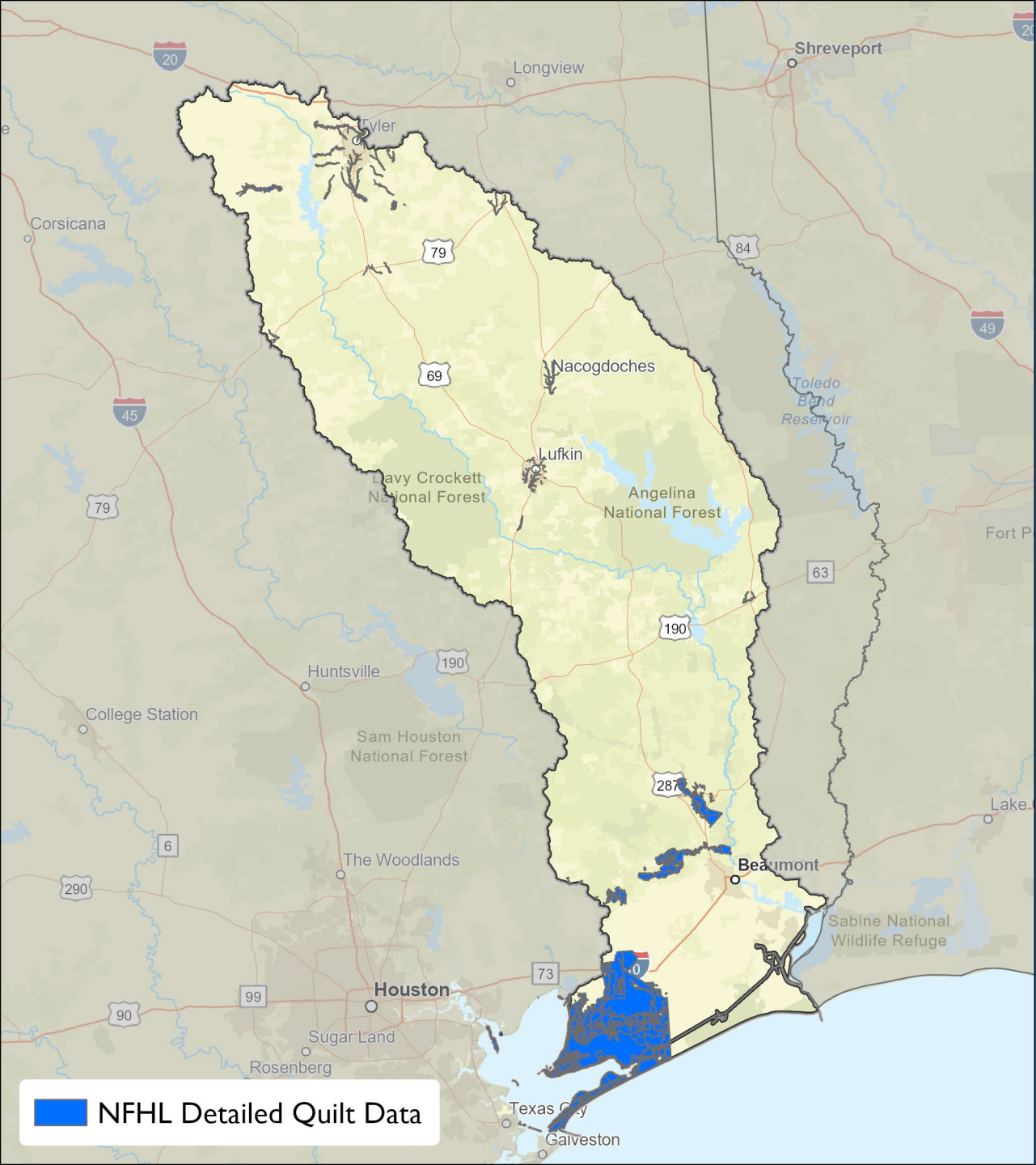
Use the interactive map to help us identify areas of flood risk in your region.

[See the interactive map](#)



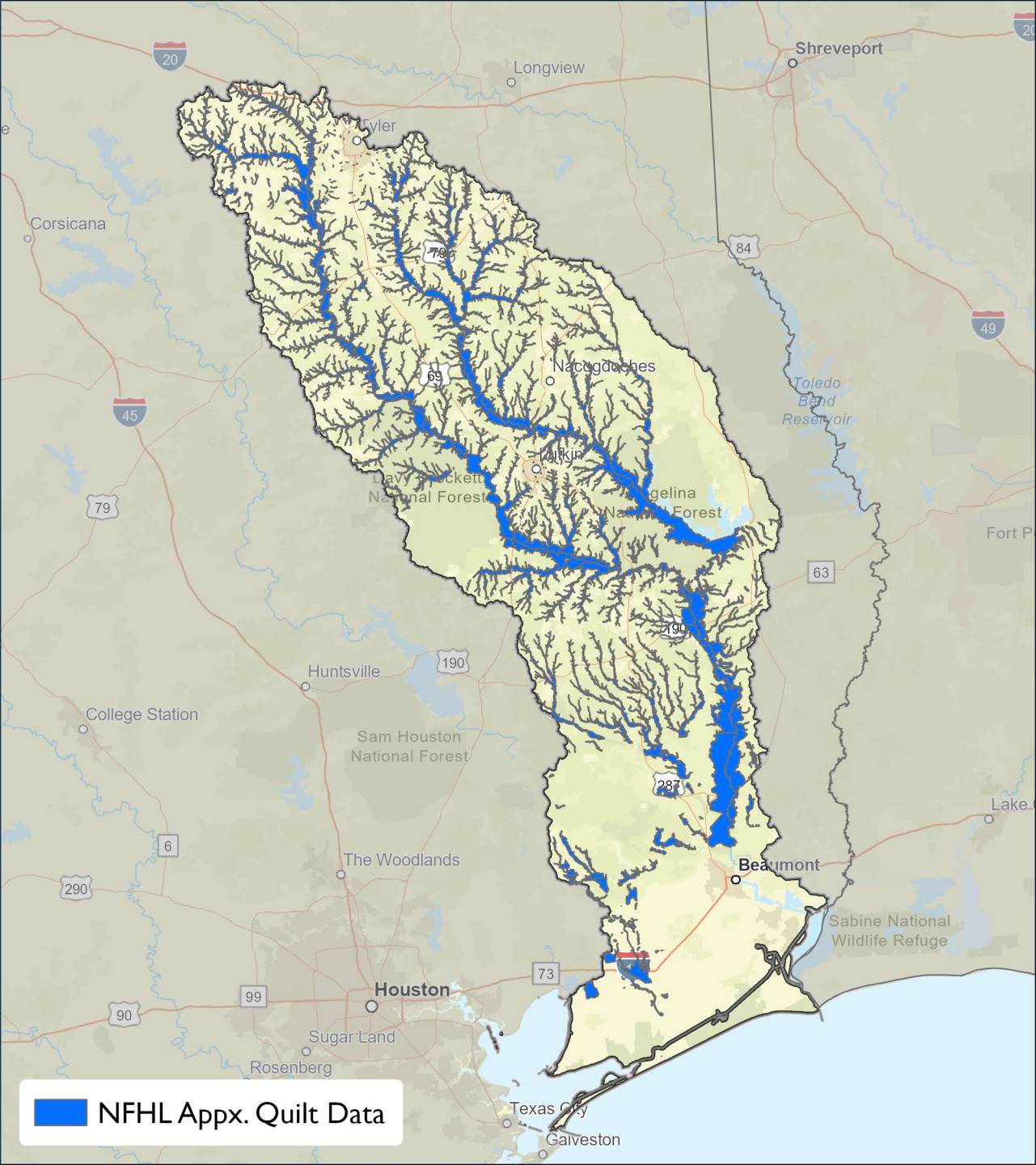
- 100-year & 500-year floodplain data
- Sources
  - National Flood Hazard Layer (NFHL)
  - Base Level Engineering (BLE)
  - *Coarse Fathom data to be released July*

# NFHL Detailed



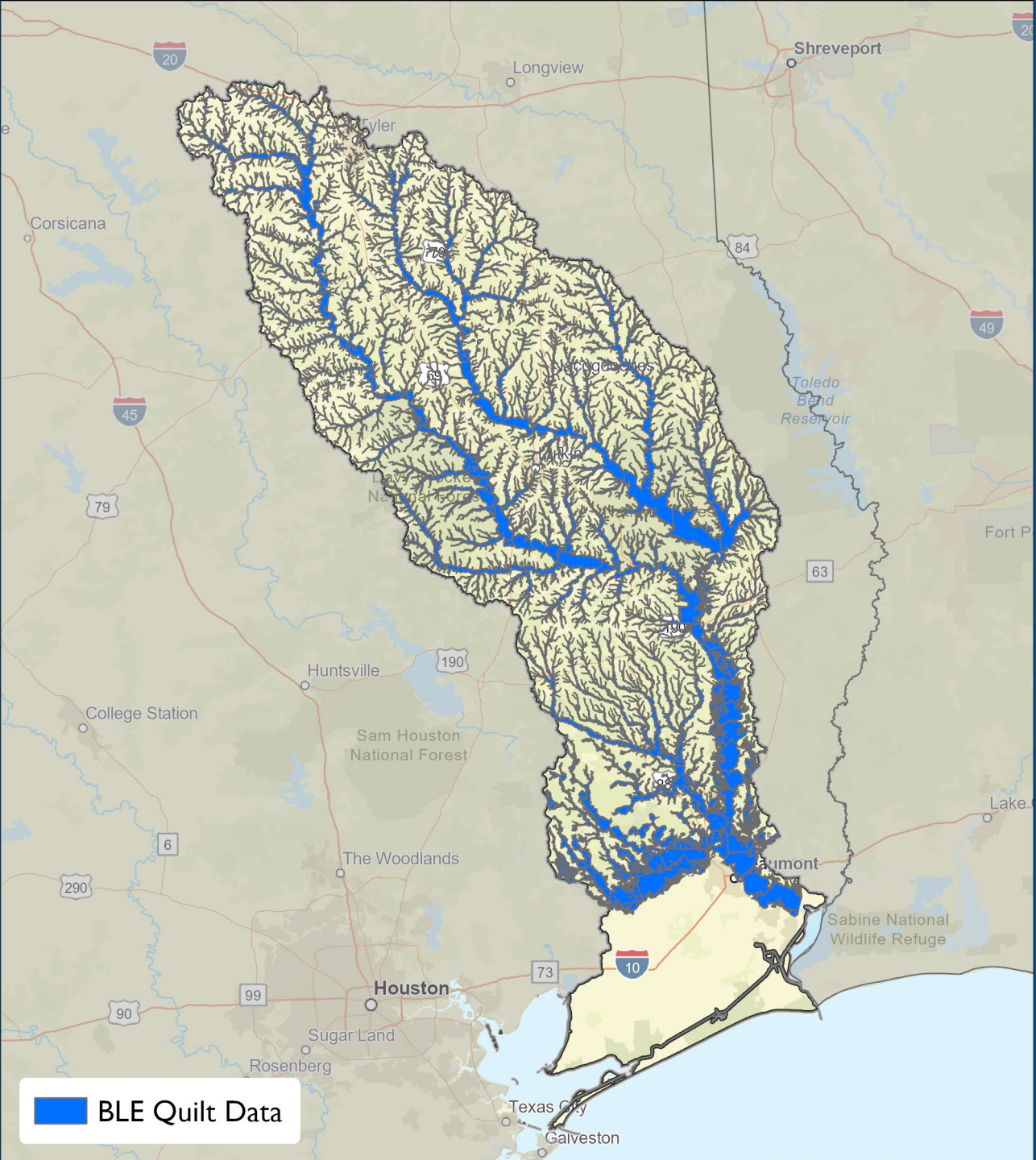


# NFHL Approximate

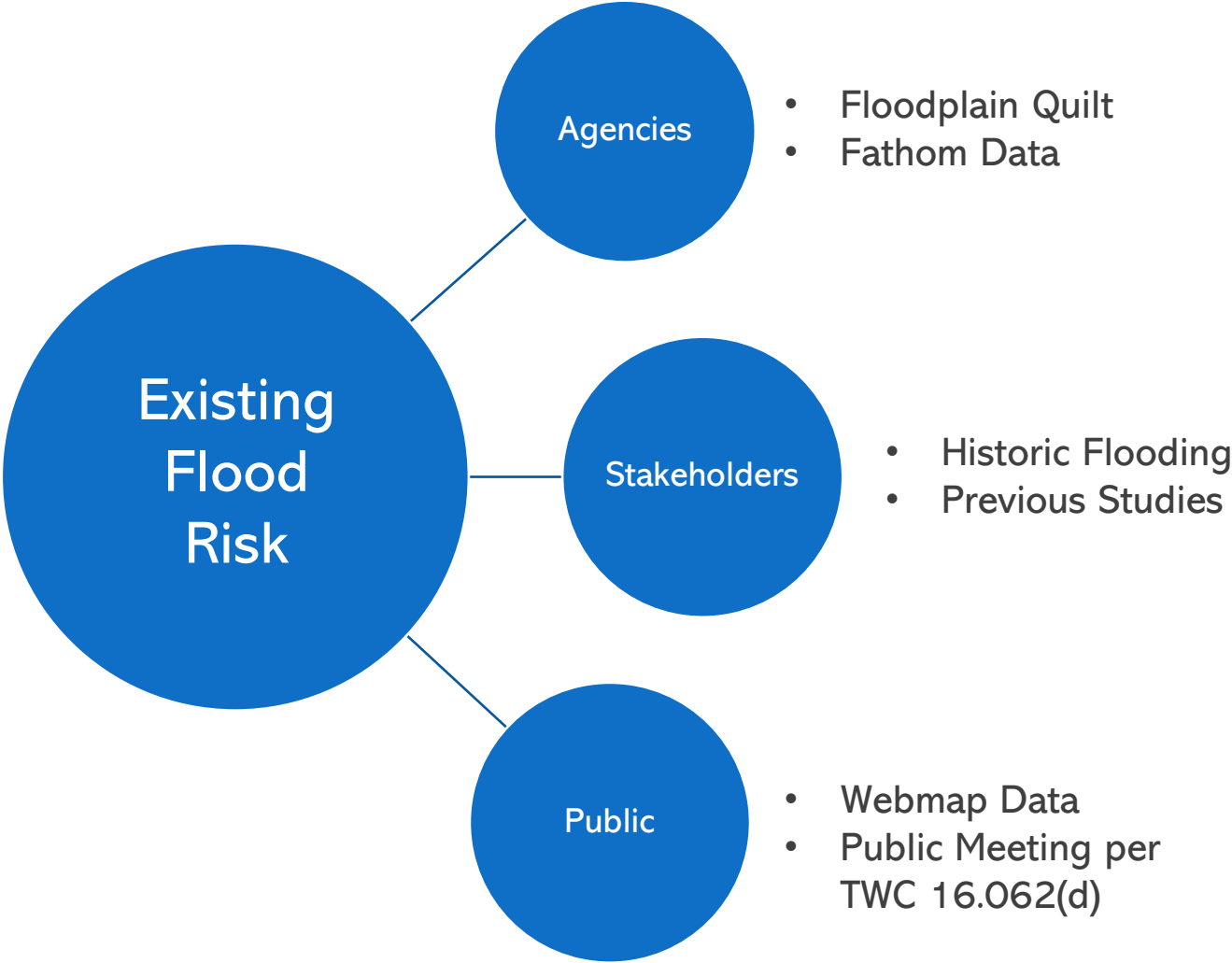




# BLE

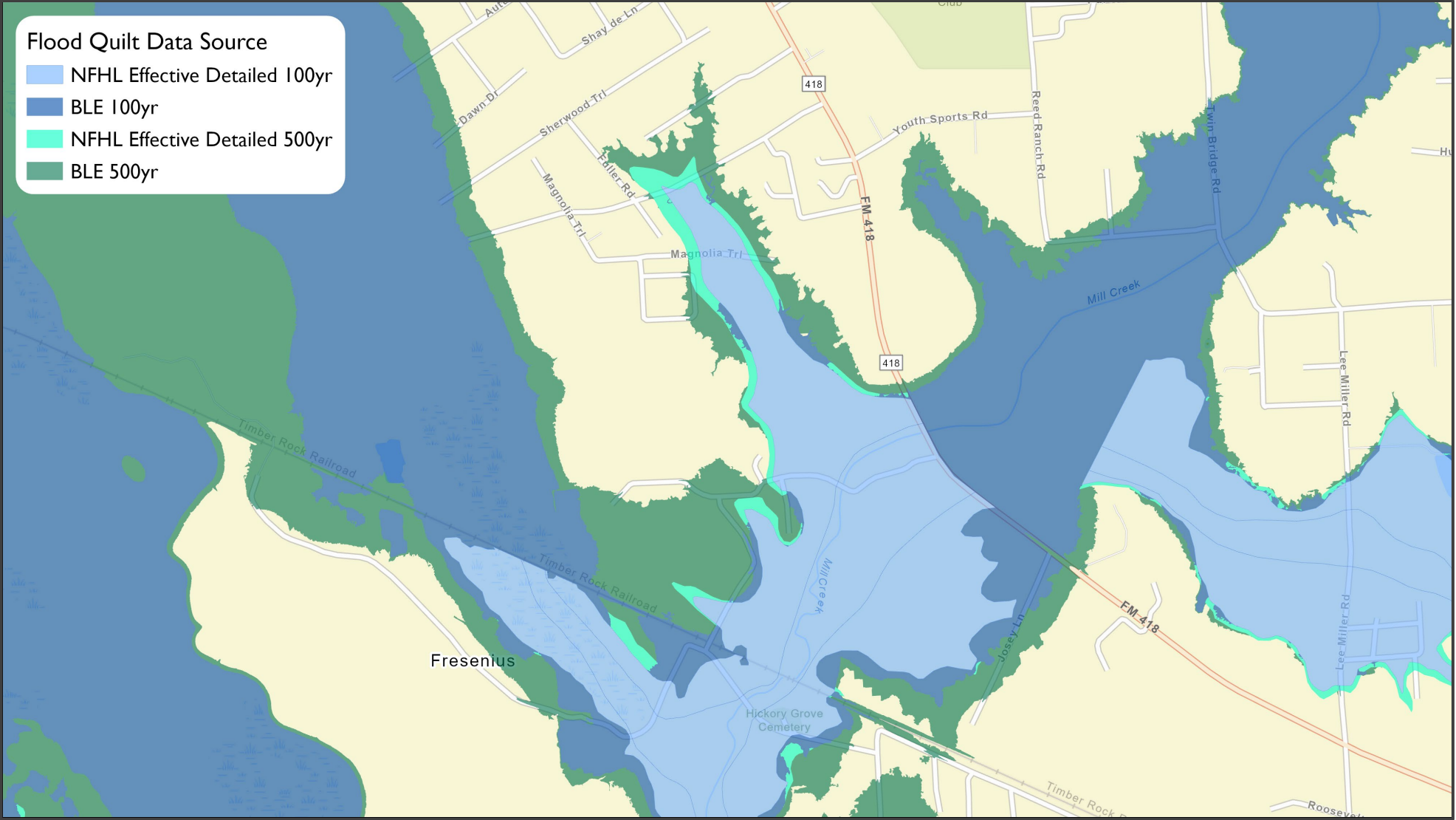


# Existing Flood Hazard Analysis





# Quilt Data Hierarchy

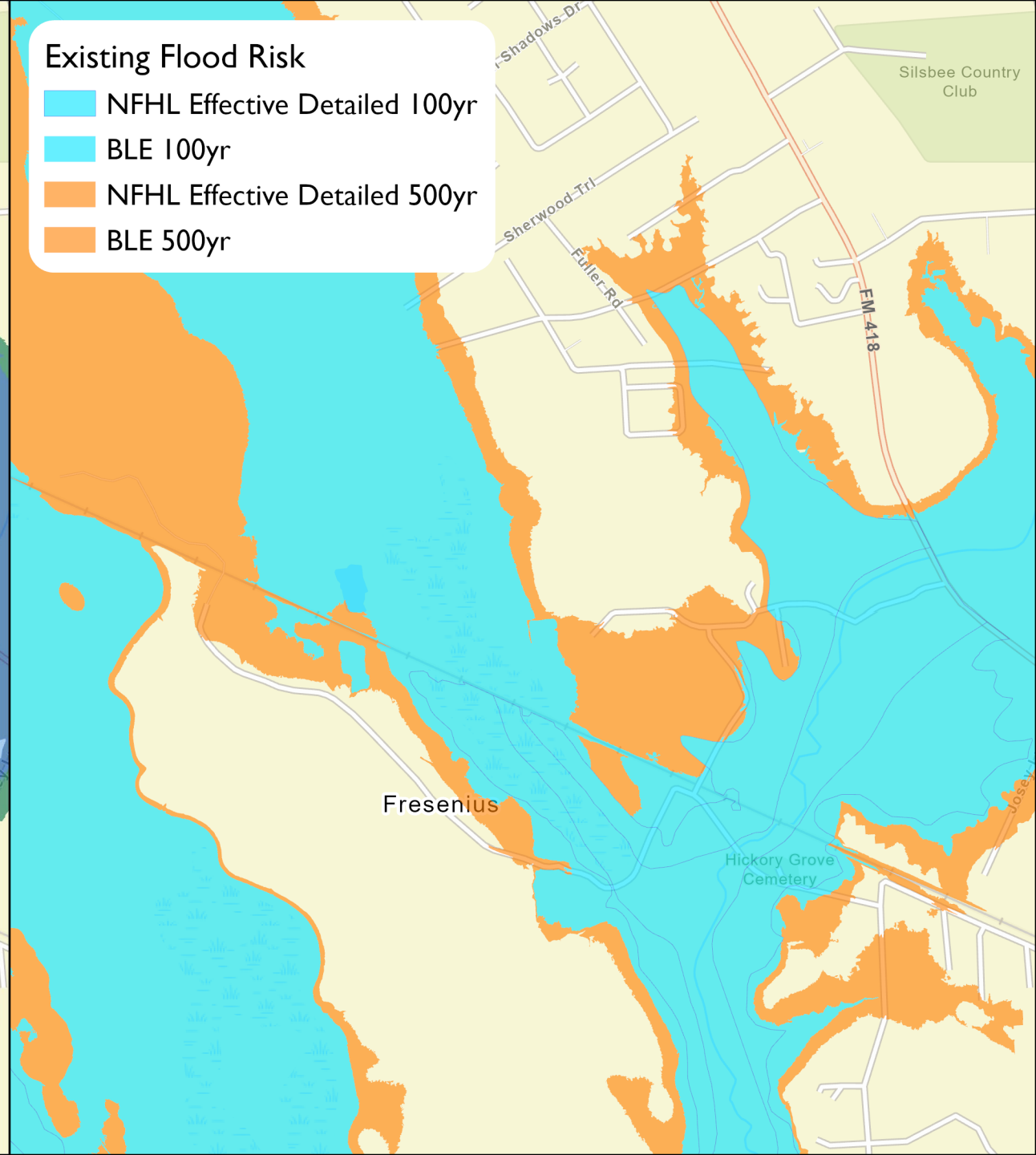
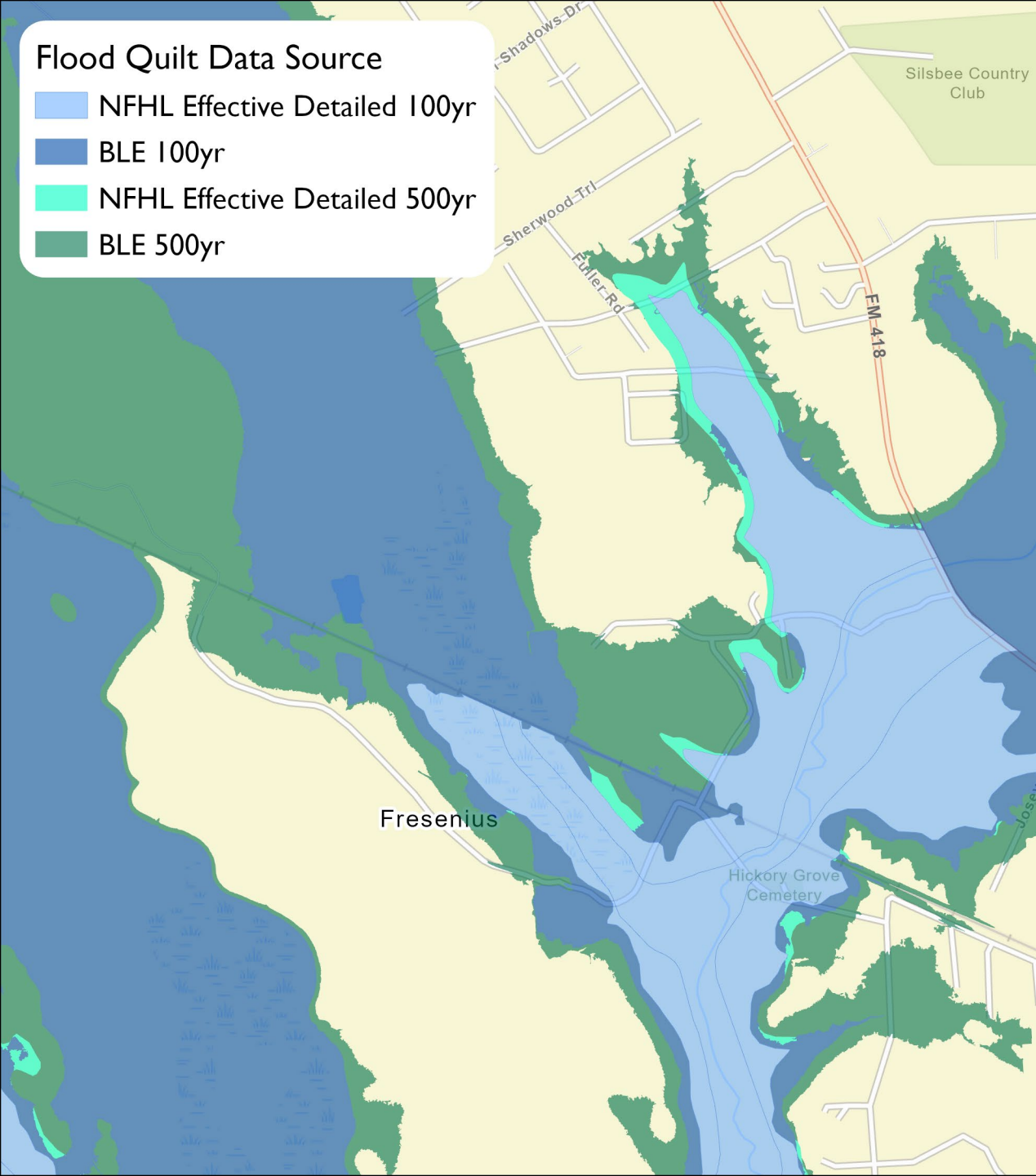


### Flood Quilt Data Source

- NFHL Effective Detailed 100yr
- BLE 100yr
- NFHL Effective Detailed 500yr
- BLE 500yr

### Existing Flood Risk

- NFHL Effective Detailed 100yr
- BLE 100yr
- NFHL Effective Detailed 500yr
- BLE 500yr



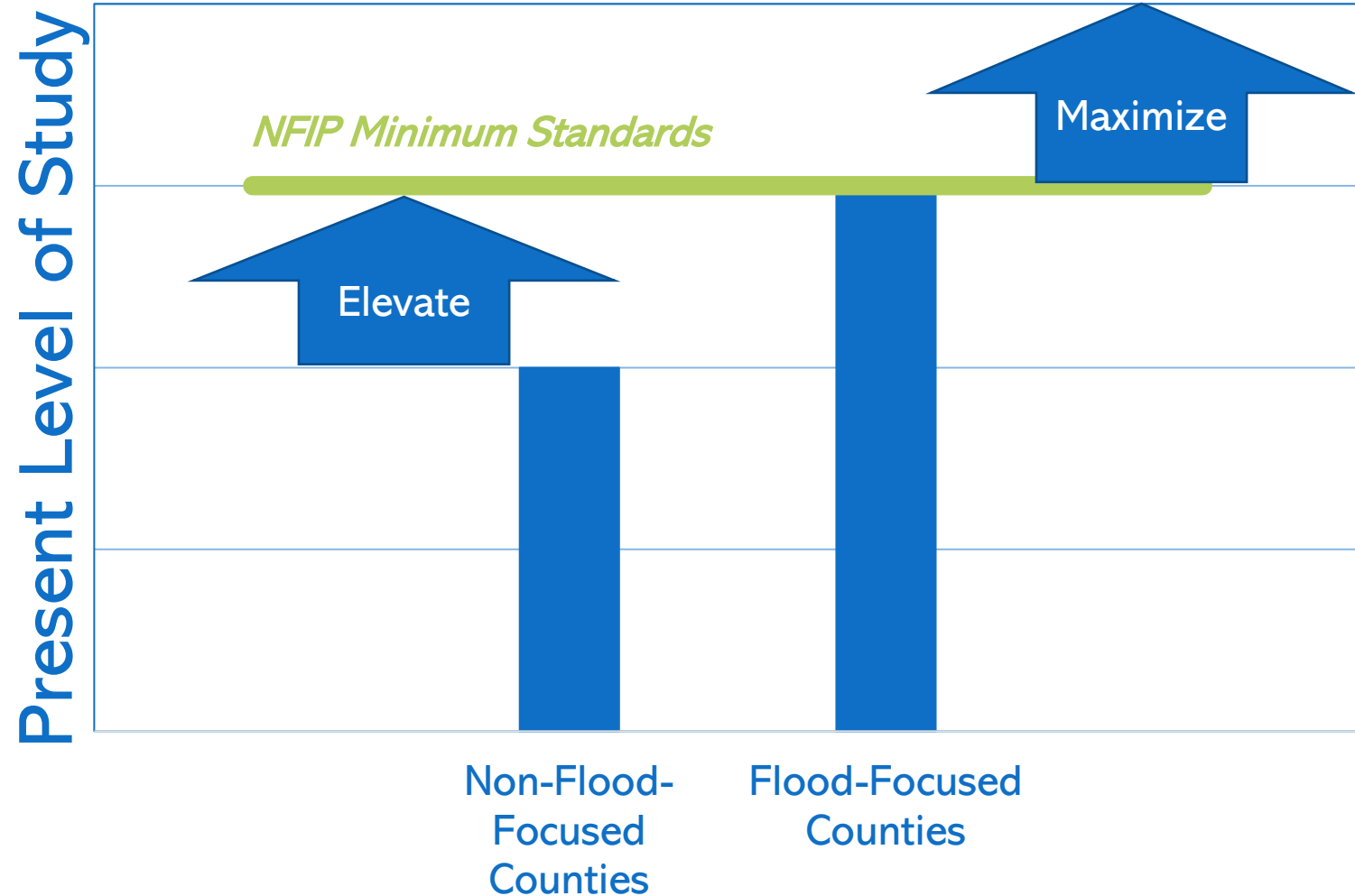
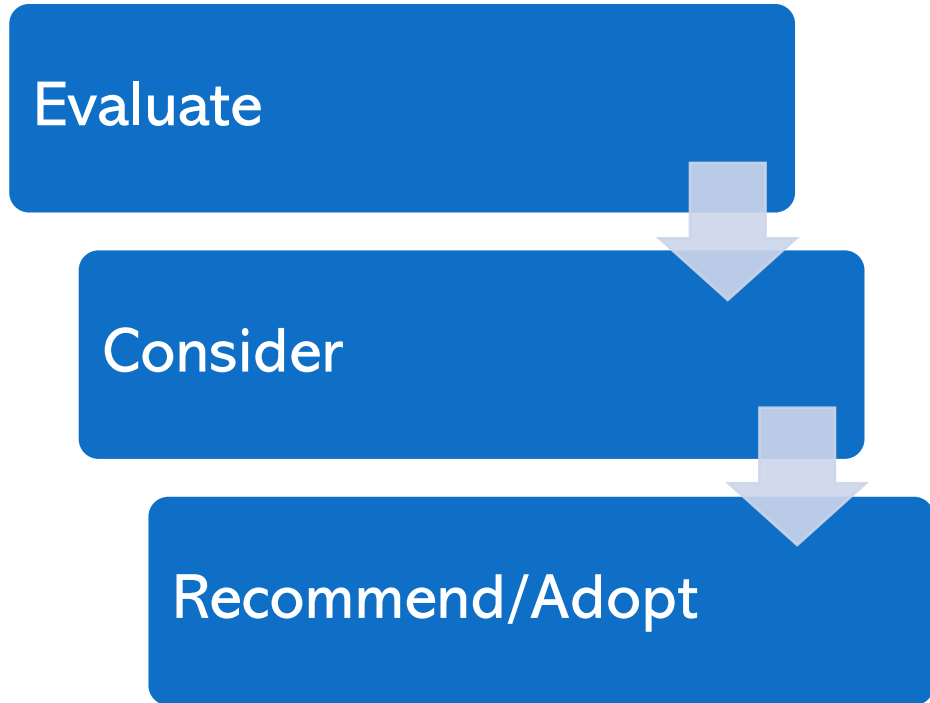


# Discussion – Existing Flood Hazard

- Review Preliminary Existing Flood Hazard
- Additional Floodplain Data
- Date and Format of Existing Flood Risk Public Meeting



# Task 3A – Floodplain Management Practices



# Evaluate

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Entity	Floodplain management regulations	Adopted minimum regulations	NFIP Participant	Higher Standards Adopted	Floodplain Management Practices	Level of enforcement of practices	Existing Stormwater or Drainage Fee
County 1	Yes	Yes	Yes	No	Moderate	Moderate	Yes
City 1	No	No	No	No	Low	Low	No
Special Purpose District	Unknown	No	No	No	None	None	No

# Floodplain Management Practices/Standards

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- Where possible, apply consistently across the region
  - Entire Region
  - Specified Areas (HUC-8s)
- Coastal vs Non-Coastal
- Urban vs Rural
- Detailed vs Approximate Floodplains





# Recommend vs Adopt

- Recommend
  - No pre-requisite
  - All FMEs, FMSs, and FMPs can be considered in the RFP
- Adopt
  - Minimum standards must be adopted by entities in order for FMEs, FMSs, and FMPs to be considered for inclusion in the RFP
- RFPGs do not have the authority to enact or enforce floodplain management, land use, or other infrastructure design standards

# Examples Floodplain Management and Infrastructure Flood Protection Standards

Infrastructure	Type/Condition	Flood Protection Standard
Residential and Commercial Buildings	New Construction	FFE 1.0' above 100-YR WSE
	Pre-Existing (Retrofit)	
	Coastal New Construction	FFE 1.0' above the highest elevation of either the riverine or coastal BFE including the combined riverine and coast effects
	Coastal Pre-Existing (Retrofit)	
Storm Drainage Systems	New Construction	Convey 25-year flow underground and 100-year in the right-of-way
	Pre-Existing (Retrofit)	
	Coastal New Construction	
	Coastal Pre-Existing (Retrofit)	

# Example Freeboard Requirements

Infrastructure	Type/Condition	Minimum	Most Stringent
Residential Buildings	New Construction	Equal to BFE	500-year plus 2 feet
	Pre-Existing (Retrofit)	Equal to BFE	No Substantial Improvements allowed without 500-year plus 2 feet
	Coastal New Construction	Equal to BFE	500-year plus 3 feet
	Coastal Pre-Existing (Retrofit)	Equal to BFE	500-year plus 3 feet
Commercial Buildings	New Construction	Equal to BFE	500-year plus 2 feet
	Pre-Existing (Retrofit)	Equal to BFE	500-year plus 2 feet
	Coastal New Construction	Equal to BFE	500-year plus 3 feet
	Coastal Pre-Existing (Retrofit)	Equal to BFE	500-year plus 3 feet

# Task 3B – Flood Mitigation and Floodplain Management Goals

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- “Protect against loss of life and property”
- When possible, goals should apply to the full flood planning region
- RFBPG’s overarching flood mitigation and floodplain management goals



Specific  
&  
Achievable



Reduce  
Residual  
Risk



Recommended  
or  
Required



Short Term (10 year)  
&  
Long Term (30 year)



Regionwide  
or  
Subregional



# Example of Regional Flood Plan Goals

Short Term (10 year)	Long Term (30 year)
Remove 50% of the existing structures from 1% annual chance floodplain in the region by 2033.	Remove 95% of the existing structures from 1% annual chance floodplain in the region by 2053.
By 2033, 25% of all communities have adopted higher than NFIP-minimum standards.	By 2053, 50% of all communities have adopted higher than NFIP-minimum standards.
By 2033, RFPG adopts minimum stormwater infrastructure design standards applicable across the region.	

# Planning Schedule

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## July

- Consider Approval of:
  - Survey
  - Existing Flood Risk Technical Approach
- Discuss date and format of Existing Flood Risk Public Meeting
- Discuss Floodplain Management and Regional Goals

## August

- Plan Public Meeting on Existing Flood Risk
- Discuss technical approach on defining future flood risk.
- RFPG to decide on:
  - Floodplain Management Standards
  - Regional Goals

## September

- RFPG to discuss process to identify FMEs, FMSs, and FMPs
- Discuss date and format of Public Meeting on FMEs, FMSs, and FMPs

# Neches Regional Flood Plan Community Officials Survey

## Neches Regional Flood Plan

In the wake of historic flooding in Texas, the 2019 Texas Legislature passed legislation to create Texas' first-ever regional and state flood planning process. The Region 5 Neches Regional Flood Planning Group (RFPG) was established by the Texas Water Development Board (TWDB) on October 1, 2020. The RFPG is responsible for developing the first regional flood plan by January 2023, which will culminate in the first-ever state flood plan for Texas.

Short on time? The survey allows for incomplete responses. Fill out as many questions as you have information for. Please also provide feedback on the flooding areas and flood projects in your region by using the Map.

## Introduction

**Tell us about yourself and your community.**

### Phone number

### Email

## 1. Which of the following best describes you?

Select only one.

- I am the floodplain manager for a community participating in the National Flood Insurance Program (NFIP).
- I am a public-sector employee with flood-related responsibilities.
- I am an elected or appointed official with flood-related responsibilities.
- I am a person interested in the regional flood planning process.
- Other (describe)

## 2. What type of entity do you represent?

Select only one.

- Myself/General Public
- County
- Municipality
- Industrial Interests
- Agricultural Interests
- Environmental Interests
- Small Business Interests

# Neches Regional Flood Plan Community Officials Survey

- Electrical Utilities
- Water Utilities
- Water Districts
- River Authorities
- Flood Districts
- State/Federal
- Other (please specify)

### 3. What is the name of your entity?

### 4. What is your job title?

### 5. In which county is your entity located?

- Anderson
- Angelina
- Chambers
- Cherokee
- Galveston
- Hardin
- Harris
- Henderson
- Houston
- Jasper
- Jefferson
- Liberty
- Nacogdoches
- Newton
- Orange
- Polk
- Rusk
- Sabine
- San Augustine
- Shelby
- Smith
- Trinity
- Tyler



Van Zandt

**6. In which city is your entity located?**

- Anahuac
- Athens
- Beaumont
- Bridge City
- Diboll
- Groves
- Hardin
- Henderson
- Hudson
- Jacksonville
- Jasper
- Lindale
- Lufkin
- Lumberton
- Nacogdoches
- Nederland
- Orange
- Overton
- Palestine
- Port Arthur
- Port Neches
- Rusk
- San Augustine
- Silsbee
- Tyler
- Vidor
- Whitehouse
- Woodville

**7. Are you aware of any other jurisdiction beyond cities and counties with flood-related responsibilities in your area, such as a drainage district, levee district, flood control district, etc?**

- Yes
- No

**8. If yes, please provide the name of the entity, the name of the contact person, contact information for that entity.**

## Inventory

**The Regional Flood Plan will develop an inventory of natural features and major flood infrastructure within the region. The following section will help us identify and evaluate key features in your community.**

**9. Does your entity maintain GIS datasets or other digital inventories for any of the following natural features in your jurisdiction**

Select all that apply.

If so, please provide this information by utilizing the Upload Data engagement tool on the homepage to provide any supporting data and documentation.

- Rivers, creeks, tributaries, and functioning floodplains
- Wetlands
- Sink holes
- Alluvial fans
- Vegetated dunes
- No digital inventory of natural features
- Other (please specify)

**10. Does your entity maintain GIS datasets or other digital inventories of the following constructed features in your jurisdiction?**

Select all that apply. If so, please provide this information by utilizing the Upload Data engagement tool on the homepage to provide any supporting data and documentation.

- Levees
- Sea barriers, walls and revetments
- Tidal barriers and gates
- Stormwater tunnels
- Stormwater canals
- Flood protection dams
- Detention/retention ponds
- Weirs
- Storm drain systems
- No digital inventory of constructed features
- Other (please specify)

**11. If available, provide a link to the location of the data on your entity's website.**

**12. What percentage of the following infrastructure or natural feature within your jurisdiction would you consider non-functional?**

Non-functional: The infrastructure is not providing its intended or design level of service.

Stormwater tunnels

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

Stormwater canals

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

Flood protection dams

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

Weirs

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

# Neches Regional Flood Plan Community Officials Survey

## Storm drain systems

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Levees

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Sea barriers, walls, revetments

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Tidal barriers and gates

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Rivers, creeks, tributaries, and functioning floodplains

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

# Neches Regional Flood Plan Community Officials Survey

## Wetlands

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Sink Holes

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Alluvial fans

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Vegetated dunes

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

### **13. What is the main reason your infrastructure is non-functional?**

Please indicate the reason the infrastructure is non-functional.

#### Stormwater tunnels

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system



# Neches Regional Flood Plan Community Officials Survey

## Stormwater canals

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system

## Flood protection dams

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system

## Weirs

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system

## Storm drain systems

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system

## Levees

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system

## Sea barriers, walls, revetments

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system

# Neches Regional Flood Plan Community Officials Survey

## Tidal barriers and gates

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system

## Rivers, creeks, tributaries, and functioning floodplains

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system

## Wetlands

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system

## Sink holes

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system

## Alluvial fans

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system

## Vegetated dunes

- N/A
- Lack of adequate standards during original construction
- Inherited due to ownership change or annexation
- Impacts from development
- Inadequate budget to construct proper system

**14. What percentage of the following infrastructure or natural feature within your jurisdiction would you consider deficient?**

Deficient: The infrastructure or natural feature is in poor structural or non-structural condition and needs replacement, restoration, or rehabilitation.

Stormwater tunnels

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

Stormwater canals

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

Flood protection dams

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

Weirs

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

# Neches Regional Flood Plan Community Officials Survey

## Storm drain systems

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Levees

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Sea barriers, walls, revetments

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Tidal barriers and gates

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Rivers, creeks, tributaries, and functioning floodplains

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

# Neches Regional Flood Plan Community Officials Survey

## Wetlands

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Sink Holes

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Alluvial fans

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%

## Vegetated dunes

- N/A
- 0%
- 25%
- 50%
- 75%
- 100%



## 15. What is the main reason your infrastructure is deficient?

Please indicate the reason the infrastructure is deficient.

### Stormwater tunnels

- N/A
- Lack of adequate standards during original construction
- Infrastructure has reached its useful life
- Impacts from development
- Damage from flood or other natural event
- Inadequate budget to maintain system

### Stormwater canals

- N/A
- Lack of adequate standards during original construction
- Infrastructure has reached its useful life
- Impacts from development
- Damage from flood or other natural event
- Inadequate budget to maintain system

### Flood protection dams

- N/A
- Lack of adequate standards during original construction
- Infrastructure has reached its useful life
- Impacts from development
- Damage from flood or other natural event
- Inadequate budget to maintain system

### Weirs

- N/A
- Lack of adequate standards during original construction
- Infrastructure has reached its useful life
- Impacts from development
- Damage from flood or other natural event
- Inadequate budget to maintain system

### Storm drain systems

- N/A
- Lack of adequate standards during original construction
- Infrastructure has reached its useful life
- Impacts from development
- Damage from flood or other natural event
- Inadequate budget to maintain system

# Neches Regional Flood Plan Community Officials Survey

## Levees

- N/A
- Lack of adequate standards during original construction
- Infrastructure has reached its useful life
- Impacts from development
- Damage from flood or other natural event
- Inadequate budget to maintain system

## Sea barriers, walls, revetments

- N/A
- Lack of adequate standards during original construction
- Infrastructure has reached its useful life
- Impacts from development
- Damage from flood or other natural event
- Inadequate budget to maintain system

## Tidal barriers and gates

- N/A
- Lack of adequate standards during original construction
- Infrastructure has reached its useful life
- Impacts from development
- Damage from flood or other natural event
- Inadequate budget to maintain system

## Rivers, creeks, tributaries, and functioning floodplains

- N/A
- Lack of adequate standards during original construction
- Infrastructure has reached its useful life
- Impacts from development
- Damage from flood or other natural event
- Inadequate budget to maintain system

## Sink Holes

- N/A
- Lack of adequate standards during original construction
- Infrastructure has reached its useful life
- Impacts from development
- Damage from flood or other natural event
- Inadequate budget to maintain system

# Neches Regional Flood Plan Community Officials Survey

## Alluvial fans

- N/A
- Lack of adequate standards during original construction
- Infrastructure has reached its useful life
- Impacts from development
- Damage from flood or other natural event
- Inadequate budget to maintain system

## Vegetated dunes

- N/A
- Lack of adequate standards during original construction
- Infrastructure has reached its useful life
- Impacts from development
- Damage from flood or other natural event
- Inadequate budget to maintain system

### **Flood Prone Areas**

**The Regional Flood Plan will identify flood hazards and vulnerability in the region. The following section will help us identify who and what might be harmed by flooding in your community.**

**16. Provide a list of historical flood events that have affected your jurisdiction. Please provide as much information as possible, such as the date(s), specific location(s) (if appropriate), newspaper articles, the financial value of damages (if known), number of swift water rescues, injuries and/or fatalities (if known). Identify areas on the web map, and/or upload historical information through the upload data page.**

**You may provide written feedback here.**

## Floodplain Management

**The Regional Flood Plan will consider how current floodplain management practices and regulations impact flood risks. The following section will help us evaluate these practices and identify specific flood mitigation and management goals appropriate for this region.**

### **17. Does your community participate in the following programs?**

Select all that apply

- National Flood Insurance Program (NFIP)
- Community Rating System (CRS)
- Do not participate but interested in National Flood Insurance Program (NFIP)
- Do not participate but interested in Community Rating System (CRS)
- I don't know
- Do not participate in either program and not currently interested (Please Describe)

### **18. Does your community participate in the following floodplain management activities?**

Select all that apply

- Development review/regulation
- Floodplain or drainage capital projects
- Local assistance with home elevation
- Acquisition of repetitive loss properties
- Flood risk communication campaigns and public outreach
- Flood warning systems (Examples: flashers or staff gages)
- Emergency alert systems
- Priority evacuation areas
- Identification of vulnerable populations
- Programmed operations & maintenance
- Reactive maintenance following complaints or damages after a storm
- Programmed inspection/repair/rehab
- Asset inventory and comprehensive condition assessments
- Ordinance enforcement
- None of the above
- Other (please specify)

**Does your community have any of the following floodplain management regulations and policies?**

**Select all that apply.**

### **19. Development standards**

- Floodplain ordinance
- Drainage ordinance
- Stormwater management ordinances
- Building standards for flood proofing and flood protection
- Consideration for fully developed or future conditions land use
- Zoning/land use regulations
- None of the above
- Other (please specify)

### **20. Infrastructure engineering design standards or Drainage Criteria Manual**

- Roadway
- Crossings (bridges and culverts)
- Storm drainage systems
- Detention facilities
- Dams
- Levees/Floodwalls
- None of the above
- Other (please specify)

### **21. Higher standards**

- Freeboard
- Detention policy
- Fill restrictions
- None of the above
- Other (please specify)

### **22. What future conditions scenarios are required to be evaluated for flood protection projects in your jurisdiction?**

Please utilize the Upload Data engagement tool on the homepage to provide any supporting data and documentation.

- Existing development



## Neches Regional Flood Plan Community Officials Survey

- Projected development over a future time horizon
- Fully developed areas
- 0.2% ACE or 500-year Floodplain as a proxy
- We do not use future conditions considerations for flood protection projects.
- Other (please specify)

### 23. Identify the resources your jurisdiction uses to predict future land use and development.

Please utilize the Upload Data engagement tool on the homepage to provide any supporting data and documentation.

- TX Demographic Center Population Projections
- Future Land Use Plan from Comprehensive Plan
- Annexation Plans
- Utility CCNs
- Public Improvement Districts
- Texas Enterprise Zones
- Transportation Plans
- None of the above
- Other (please specify)

### 24. Which of the following best describes how your community enforces its Floodplain Management practices?

Select one

- We actively enforce the entire floodplain management ordinance, perform many inspections throughout construction process, issue fines, violations, and Section 1316s where appropriate, and enforce substantial damage and substantial improvement.
- We enforce much of the ordinance, perform limited inspections and are limited in issuance of fines and violations.
- We provide permitting of development in the floodplain, may not perform inspections, may not issue fines or violations.
- We do not currently enforce floodplain management regulations.
- Additional comments on enforcement:

**The Regional Flood Plan Group (RFPG) will consider recommending or adopting consistent minimum standards across the entire region. "Recommended" standards would not require the communities to adopt the minimum standards to have projects included in the Regional Flood Plan and to be eligible for funding. "Adopted" standards would require the communities to adopt the minimum standards to have projects included in the Regional Flood Plan and to be eligible for funding. Recommended and Adopted standards can consider the unique needs of urban vs. rural, geographic needs, or other subregions defined by the RFPG.**

**25. Should the Regional Flood Planning Group (RFPG) “recommend” consistent minimum flood risk management standards across the entire Region?**

These standards would be considered regional best practices, but would not be required to be adopted by local communities to participate in the Plan and be eligible for funding.

**Yes (please describe)**

**No (please describe)**

**26. What are some minimum flood risk management standards the Regional Flood Planning Group (RFPG) should consider recommending?**

Select all that apply

- Participation in the NFIP or equivalent standards
- Regulate development in the FEMA floodplain or other floodplain designation identified by the RFPG
- Establish higher standards for development or freeboard (additional feet above) known floodplain, Examples: Future Conditions BFE (base flood elevation), Feet above Existing BFE, 0.2% ACE (500-year floodplain) BFE, Feet Above street or curb
- Establish infrastructure protection standards, Minimum design criteria for Buildings, critical facilities (hospitals, schools, fire stations, etc.), roadways, drainage infrastructure (culverts, bridges, storm drain, detention facilities, dams, or levees), property acquisition, and open space
- The RFPG should not recommend minimum flood risk management standards.
- Other (please specify)

**27. Should the Regional Flood Planning Group (RFPG) “adopt” consistent minimum flood risk management standards across the entire Region?**

These standards would be required to be adopted by local communities to participate in the Plan and be eligible for funding.

**Yes (please describe)**

**No (please describe)**

**28. What are some minimum flood risk management standards the Regional Flood Planning Group (RFPG) should consider adopting?**

Select all that apply

- Participation in the NFIP or equivalent standards
- Regulate development in the FEMA floodplain or other floodplain designation identified by the RFPG
- Establish higher standards for development or freeboard (additional feet above) known floodplain, Examples: Future Conditions BFE (base flood elevation), Feet above Existing BFE, 0.2% ACE (500-year floodplain) BFE, Feet Above street or curb
- Establish infrastructure protection standards, Minimum design criteria for Buildings, critical facilities (hospitals, schools, fire stations, etc.), roadways, drainage infrastructure (culverts, bridges, storm rain, detention facilities, dams, or levees), property acquisition, and open space
- The RFPG should not adopt minimum flood risk management standards.
- Other (please specify)

**29. Please provide any additional thoughts on minimum flood risk management standards for the Regional Flood Planning Group (RFPG) should consider.**

**30. What are the top 3 priorities the Regional Flood Planning Group (RFPG) should include in the establishment of regional goals?**

Select up to 3

- Implement protective standards and policies
- Identify and communicate flood risk
- Quantify potential reduction in risk to life and property
- Restore failing/aging infrastructure
- Implement flood warning and response mechanisms
- Provide or enhance inter-jurisdictional cooperation
- Other (please specify)

**31. Are there certain areas within the region that have especially unique circumstances that warrant their own sub-regional goals?**

For example, the RFPGs may wish to consider the unique needs of coastal vs. inland, urban vs. rural areas, areas with detailed vs. approximate floodplain mapping and modeling, or upstream vs. downstream areas.

**Yes (please describe)**

**No**

**32. Do you have any suggestions in the categories of Legislative, Regulatory/Administrative, or Revenue Generation that could help the region in the areas of floodplain management, flood mitigation planning, and mitigation, and/or reducing flooding impacts to life and property?**

**Legislative**

**Regulatory/Administrative**

**Revenue Generation**

**Flood Planning**

**The Regional Flood Plan will identify potential study needs and potentially feasible flood management strategies and projects. The following section will help us incorporate the needs of your community.**

**33. What types of local and regional flood planning information does your jurisdiction have?**

Check all that apply and utilize the Upload Data engagement tool on the homepage to provide any supporting data and documentation.

- Hazard Mitigation Plan
- Master Drainage Plans/Stormwater Drainage Plans

## Neches Regional Flood Plan Community Officials Survey

- Flood Protection Plans
- Flood Studies/Flood Risk Assessments
- Watershed Plans
- CRS Plan
- Floodplain Management Plan
- Flood risk screening tools
- Models, including hydrology, hydraulics or any available screening level models
- None of the above

### **34. What additional relevant planning documents or information does your jurisdiction have?**

Check all that apply and utilize the Upload Data engagement tool on the homepage to provide any supporting data and documentation.

- Flood disaster reports
- Coastal resiliency master plans
- Transportation plans
- Substantial Damage Estimation (SDE) forms
- Emergency Action Plans (flood-related portions)
- Other information relevant to the RFPG
- None of the above

### **35. Are there priority areas in your community with no inundation maps or detailed studies that could benefit from a flood study? If yes, please describe the reason for the need.**

- No or limited inundation maps
- Outdated maps in need of updated study
- Need maps to identify flooding for urban areas, low lying areas, and/or streets.
- No areas in need of study

Please use the [web map](#) to identify specific areas.

### **36. Is there funding in your community for the necessary flood studies?**

- No funding identified
- Partial local funding available
- Full funding identified
- Full funding secured
- Other (please specify)

**37. Have grants or loans been secured for all or a portion of this funding?**

**Yes (please describe)**

**No**

**38. Identify the resources your jurisdiction uses to identify how physical changes to the land might affect future flood risk.**

Please provide this information by utilizing the Upload Data engagement tool on the homepage to provide any supporting data and documentation.

- Subsidence studies
- Sea level rise studies
- Analysis of sedimentation of flood control structures
- Studies on geomorphic changes
- Watershed studies with future conditions analysis
- None of the above
- Other (please specify)

**39. What has your jurisdiction done to address flooding concerns?**

- Nothing yet
- Performed existing drainage system maintenance
- Performed project identification and planning activities
- Performed more detailed analyses of areas to identify the source of the flooding
- Upgraded existing drainage infrastructure
- Constructed new drainage systems
- Wetland/floodplain/open space restoration/preservation
- Implemented and enforced drainage design criteria/floodplain management policies
- Other (please specify)

**40. What, if any, major infrastructure or flood mitigation projects are currently under development?**

Select all of the projects that apply. If so, please provide this information by utilizing the Upload Data engagement tool on the homepage to provide any supporting data and documentation.

- Levees
- Sea barriers, walls and revetments
- Tidal barriers and gates



# Neches Regional Flood Plan Community Officials Survey

- Stormwater tunnels
- Stormwater canals
- Flood protection dams
- Detention/retention ponds
- Weirs
- Storm drain systems
- Other (please specify)

## 41. What is the current status of the major infrastructure or flood mitigation projects currently under development?

- Project identified
- Project in conceptual planning phase
- Project in feasibility analysis phase
- Project in Preliminary Design
- Project in Final Design
- Project in Construction
- Other (please specify)

## 42. Describe the project location(s) using the [web map](#) feature.

Please utilize the [Upload Data](#) engagement tool on the homepage to provide any supporting data and documentation.

## 43. Is there funding in your community for the necessary engineering evaluations and/or design and construction of proposed flood mitigation projects?

Select one

- No funding identified
- Partial funding available
- Full funding identified
- Full funding secured
- Other (please specify)

## 44. Have grants or loans been secured for all or a portion of this funding?

- Yes
- No
- N/A

**45. Are there non-structural flood mitigation projects in your community with funding needs? If so, what level of funding is there in your community for these projects?**

- No non-structural flood mitigation projects are needed in my community
- There is a need to identify non-structural flood mitigation projects in my community
- Projects are identified with no funding identified
- Projects are identified with partial funding available
- Projects are identified with full funding identified
- Projects are identified with full funding secured
- Other (please specify)

**Funding**

**Flood studies (evaluations), management strategies, and projects identified in the Regional Flood Plan will be eligible for TWDB funding through grants and loans. The following section will help us understand the current funding mechanisms in your community and identify the proposed role of State financing.**

**46. Which of the following describes your local funding sources for flood management activities?**

Select all that apply

- General Fund
- Bond Program
- Stormwater utility or Drainage fee
- Special Tax Districts
- Impact Fees
- Permitting Fees
- Ad Valorem Tax
- I don't know
- No current dedicated funding but interested
- We do not have a local funding source for flood management activities
- Other (please specify)

**47. Have you ever applied for Federal or State grants or loan programs?**

If yes, please select which ones below.

- Flood Infrastructure Fund (FIF) [TWDB]
- Building Resilient Infrastructure and Communities Program (BRIC) [FEMA]

## Neches Regional Flood Plan Community Officials Survey

- Hazard Mitigation Grant Program (HMGP) [FEMA, TDEM]
- Pre-Disaster Mitigation (PDM) [FEMA, TDEM]
- Flood Mitigation Assistance (FMA) [FEMA, TWDB]
- U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS)
- Community Development Block Grant-Disaster Recovery (CDBG-DR) [HUD, GLO]
- U.S. Army Corps of Engineers Small Continuing Authorities Program (USACE CAP)
- Cooperating Technical Partners Program (CTP) [TWDB]
- State Water Implementation Fund for Texas (SWIFT) [TWDB]
- Flood Protection Planning Grant [TWDB]
- Texas Water Development Fund (DFund) [TWDB]
- Clean Water State Revolving Fund (CWSRF) [TWDB]
- I don't know
- Other (please specify)

### **48. If you have not considered applying for Federal or State grant/loan programs, please state main reasons below?**

## Flood Response

**The Regional Flood Plan will document the existing flood response preparations in the region. The following section will help us understand the practices your community uses for emergency response.**

### **49. Select the flood response measures your jurisdiction uses for emergency response:**

Select all that apply

- Public Emergency Alert System (i.e. reverse 911)
- Flood warning signs
- Flood warning signs with flashing lights
- Flood gauges
- Rain/stream gauges with alerts
- Public-facing website
- Portable/temporary traffic message boards
- Coordination with TxDOT message boards
- Flood forecasting tool
- Crew(s) set up barricades or close gates
- Automatic low water crossing gates

## Neches Regional Flood Plan Community Officials Survey

- Outdoor siren/message speaker system
- Swift water rescue team
- Cameras
- None of the above
- Other (please specify)

### **50. If your jurisdiction plans to implement changes or additions to the emergency response system over the next five years, select the measures that you anticipate implementing:**

- Public Emergency Alert System (i.e. reverse 911)
- Flood warning signs
- Flood warning signs with flashing lights
- Flood gauges
- Rain/stream gauges with alerts
- Public-facing website
- Portable/temporary traffic message boards
- Coordination with TxDOT message boards
- Flood forecasting tool
- Crew(s) set up barricades or close gates
- Automatic low water crossing gates
- Outdoor siren/message speaker system
- Swift water rescue team
- Cameras
- None of the above
- Other (please specify)

### **51. Does your community have staff dedicated to flood response activities during emergency situations?**

- No
- Yes (Please describe)

### **52. Are the staff embedded within the emergency operations center (or similar centralized location) during the event?**

- No
- Yes (Please describe)

**53. Indicate the entities with whom you coordinate actions related to flood events (preparation, response, recovery and cleanup).**

Select all that apply.

	<b>Before</b>	<b>During</b>	<b>After</b>	<b>N/A</b>
Flood Control District	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
City	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
County	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
USACE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TxDOT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NOAA/NWS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
local dam owner/operator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
local levee owner/operator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TDEM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ag Extension Agents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brush/bulk debris contractor (on-call)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consultant engineer (on-call)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
local or regional assistance through existing MOUs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**54. Any suggestions/recommendations to improve flood response?**

**Thank you for participating in the Flood Planning process.**