

Updates on Flood Infrastructure Fund (FIF) and Texas's First Ever Statewide Regional Flood Planning Effort

23rd Water Quality Management & Planning Conference

May 19, 2021



Memorial Day flood 2015. Shoal Creek, House Park, Austin, Texas



1935 Flood, Downtown Austin, Texas

Reem Zoun, PE, CFM

Director, Flood Planning

reem.zoun@twdb.texas.gov

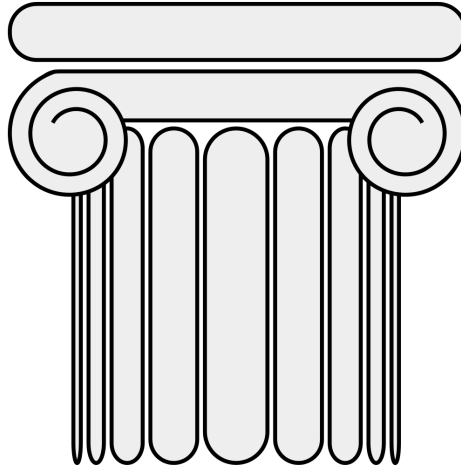
512-475-1546

Why Flood Planning?

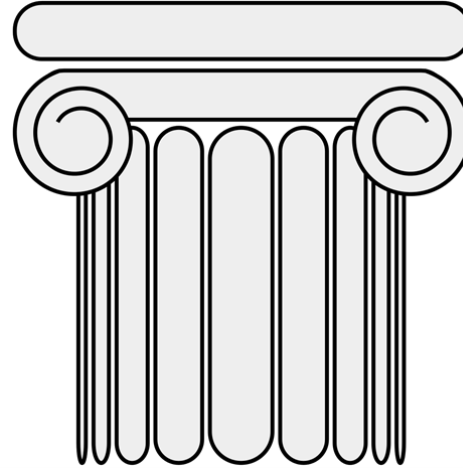
- Long history of flooding
- SB 8 passed in 2019 requiring a statewide flood plan based on regional flood plans
- Flood preparation and protection \$\$ goes much further than recovery efforts



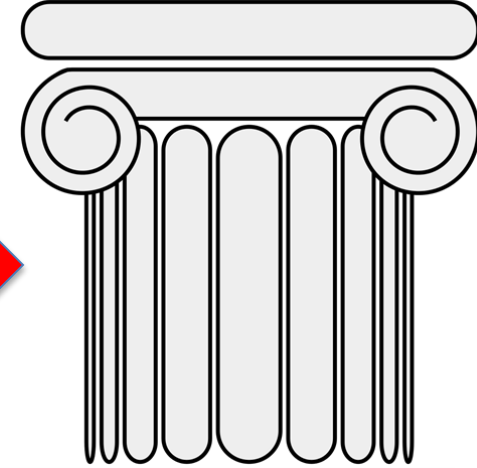
Mapping



Planning



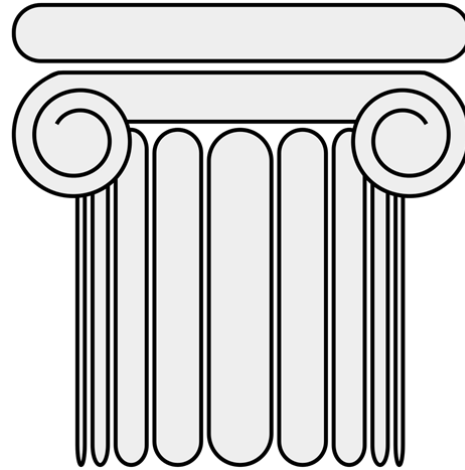
Mitigation



TWDB Flood Risk Reduction Efforts

Flood Mitigation Financial Assistance

Mitigation



SB 500 Appropriations

- Includes Flood Infrastructure Fund (FIF): \$793 million
 - Approved by voters on November 5, 2019
- Includes \$47M for flood planning and flood risk mapping
- 285 applications, over \$2B for FIF

Flood Infrastructure Fund (FIF) Program Structure

- Eligible projects are divided into 4 categories
- Each category offers **grant** for a percentage of the total project costs based on several factors
- Remainder of project costs offered as **loan with 0% interest**, or may be contributed as local contribution or in-kind services
- All projects must meet certain Minimum Standards (benefit-cost ratio, NFIP participation, etc.)

Project Categories

Category 1

Flood protection planning for watersheds

Category 2

Planning, Acquisition, Design, and Construction/Rehabilitation

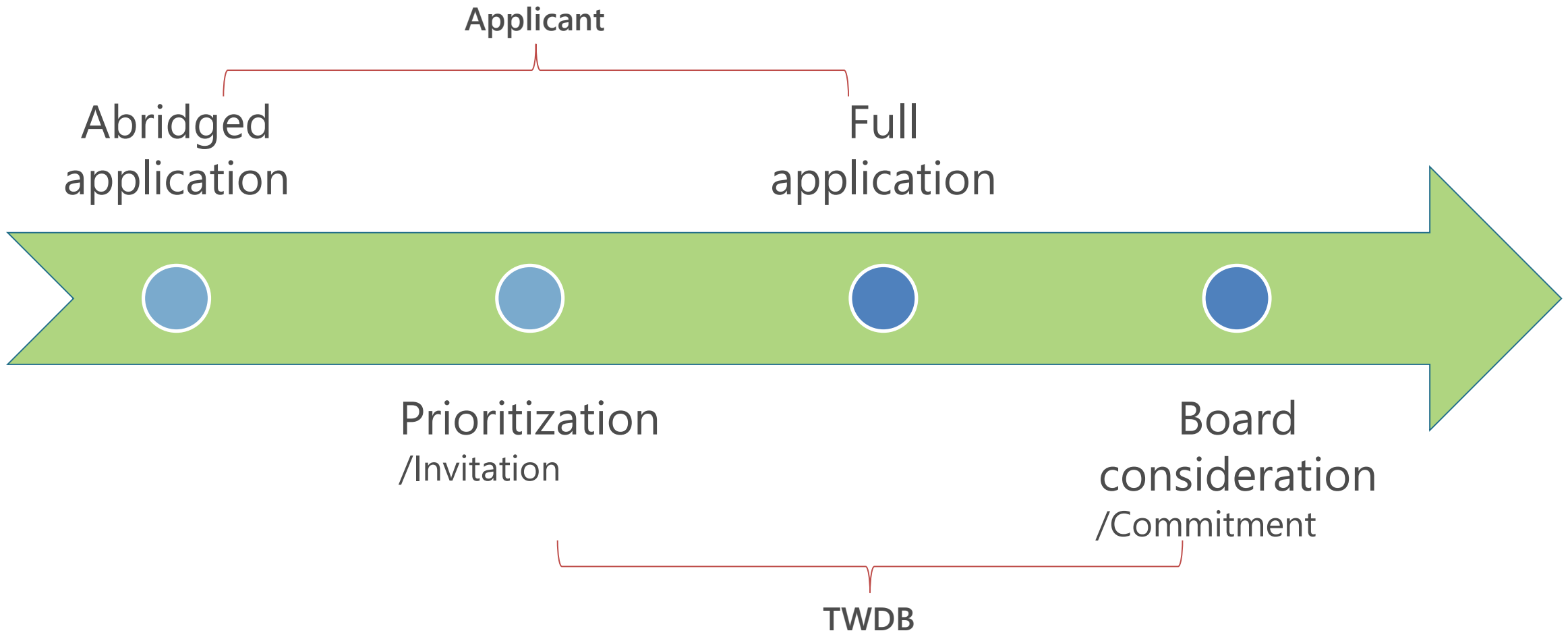
Category 3

Matching funds for federal awards (FEMA)

Category 4

Measures immediately effective in protecting life and property

Funding Cycle





Flood Infrastructure Fund Committed Projects

Clear Filters

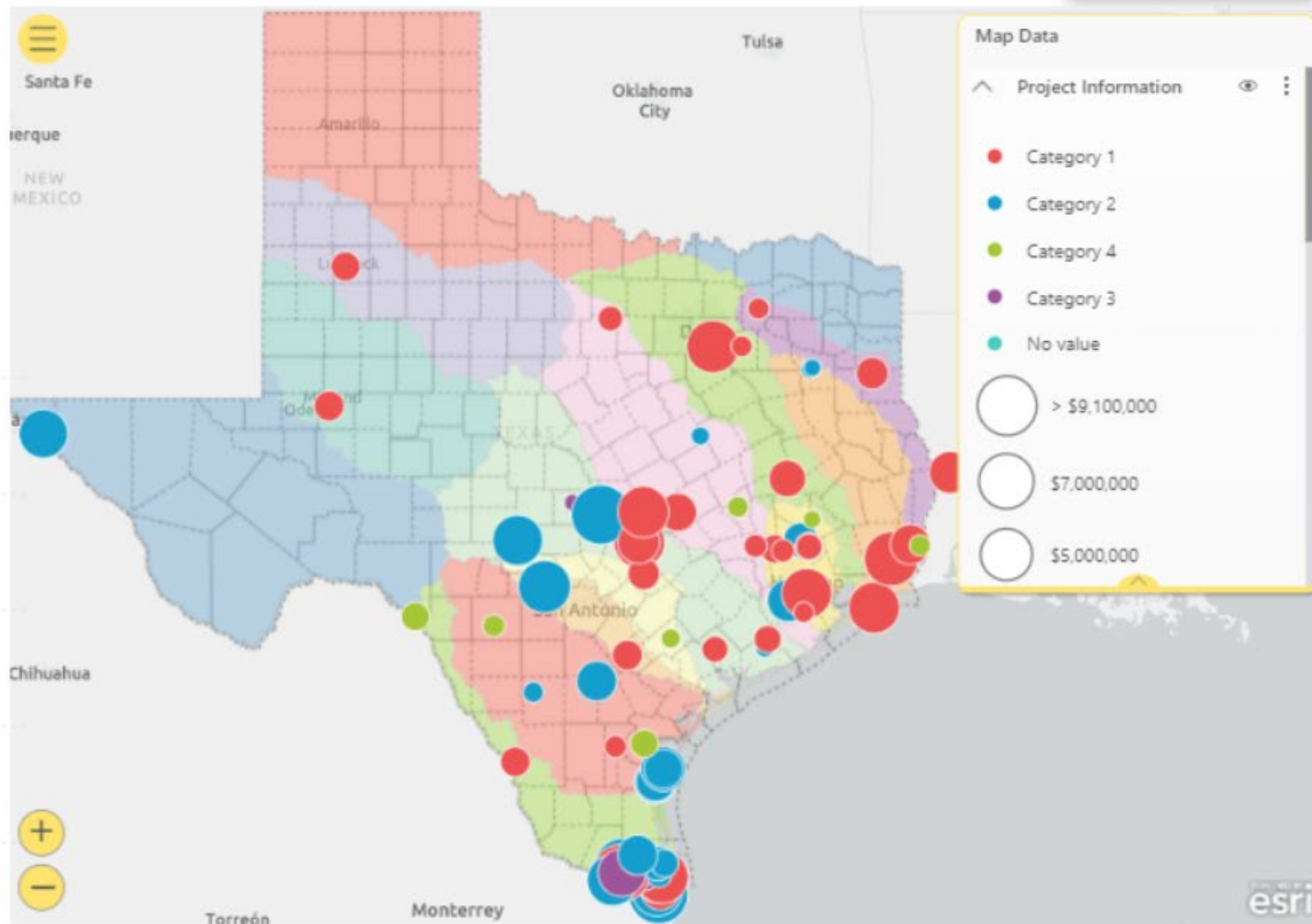
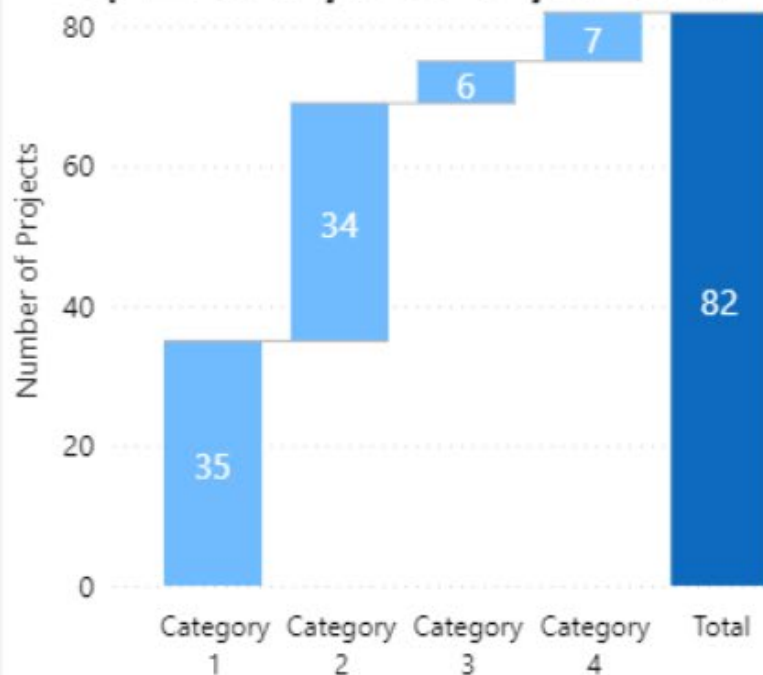
Project Details

Committed Projects

82

Committed Amount

\$207,597,504

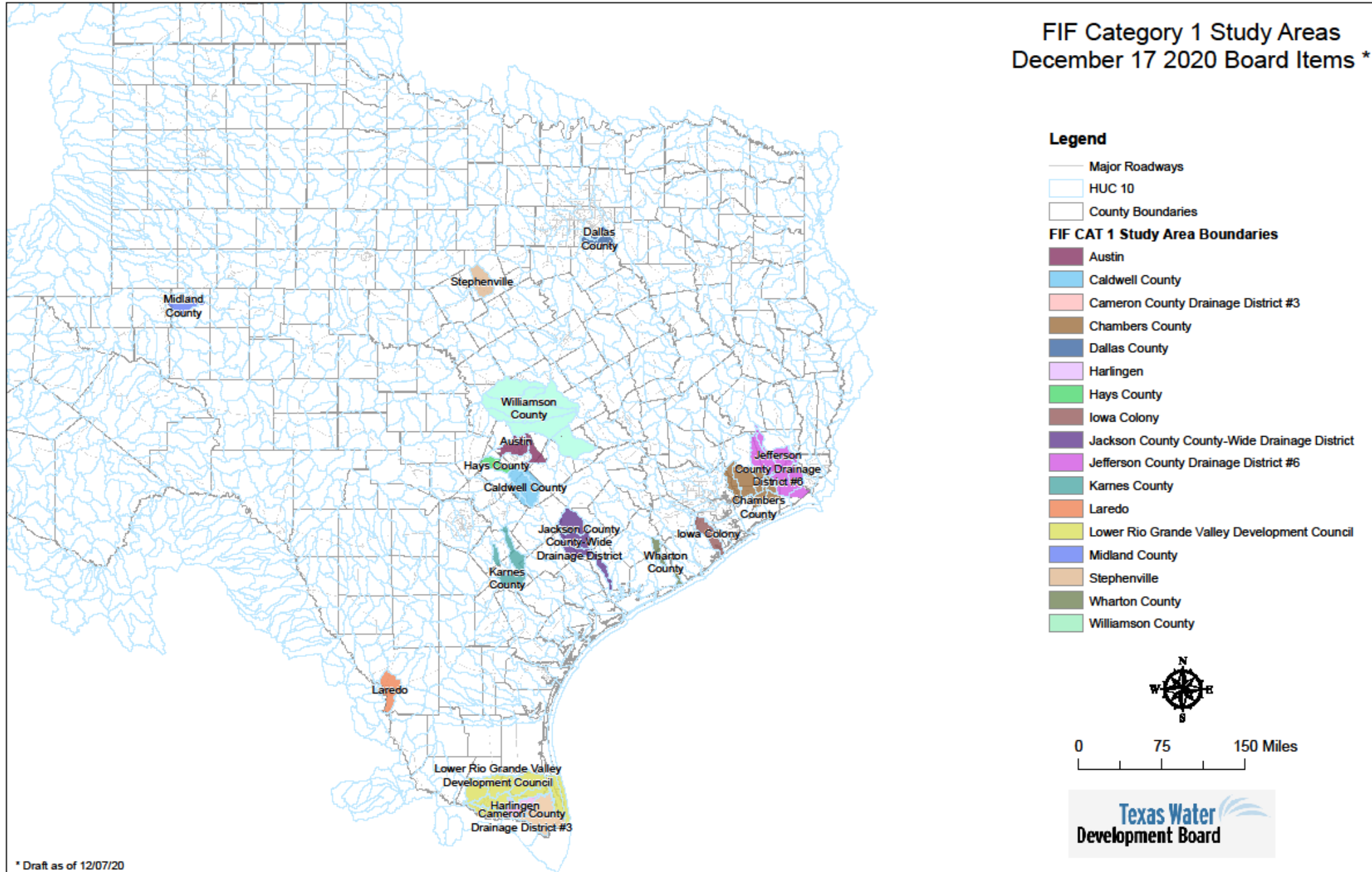


Current FIF Status

- Project funding commitment to date
 1. Category 1: 35 projects, \$61,902,985
 2. Category 2: 47 projects, \$225,323,108
 3. Category 3: 6 projects, \$5,685,412
 4. Category 4: 7 projects, \$2,783,829
- Total Amount committed: 96 projects, \$295,695,334

- 17 studies
- Total project cost ~ \$64M
- Grant amount ~ \$44.5M

FIF Category 1 Study Areas December 17 2020 Board Items *





FIF Category 1 Project Areas January 28 2021 Board Items

The following projects share boundaries:


- SJRA Sedimentation and SJRA Lake Conroe
- Waller County Spring Creek and SJRA Spring Creek


Legend


 HUC10 Boundaries


 County Boundaries


FIF CAT1 Project Area Boundaries


 Bastrop County


 Brownsville


 SJRA - Sedimentation

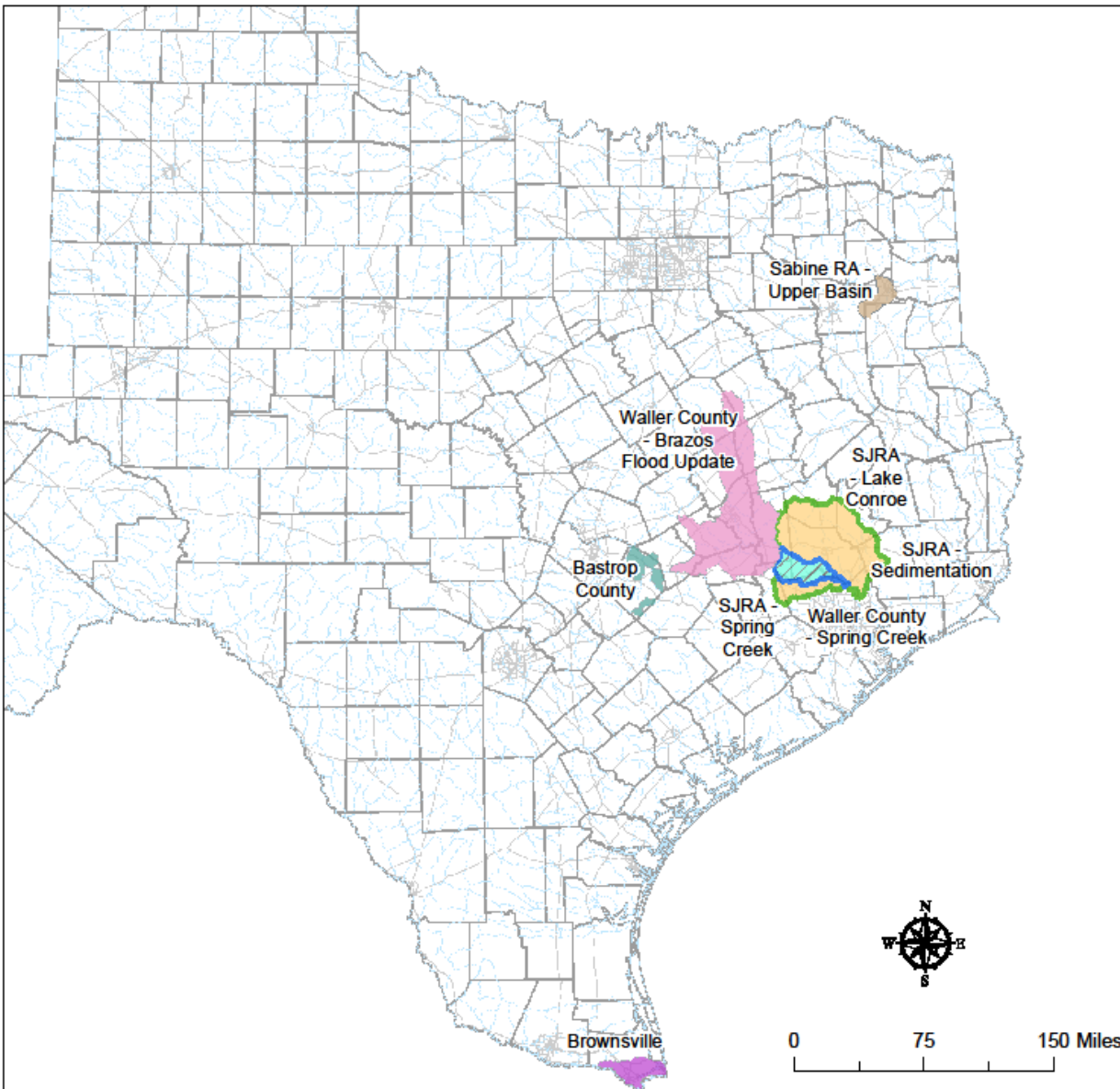
 SJRA - Lake Conroe

 SJRA - Spring Creek

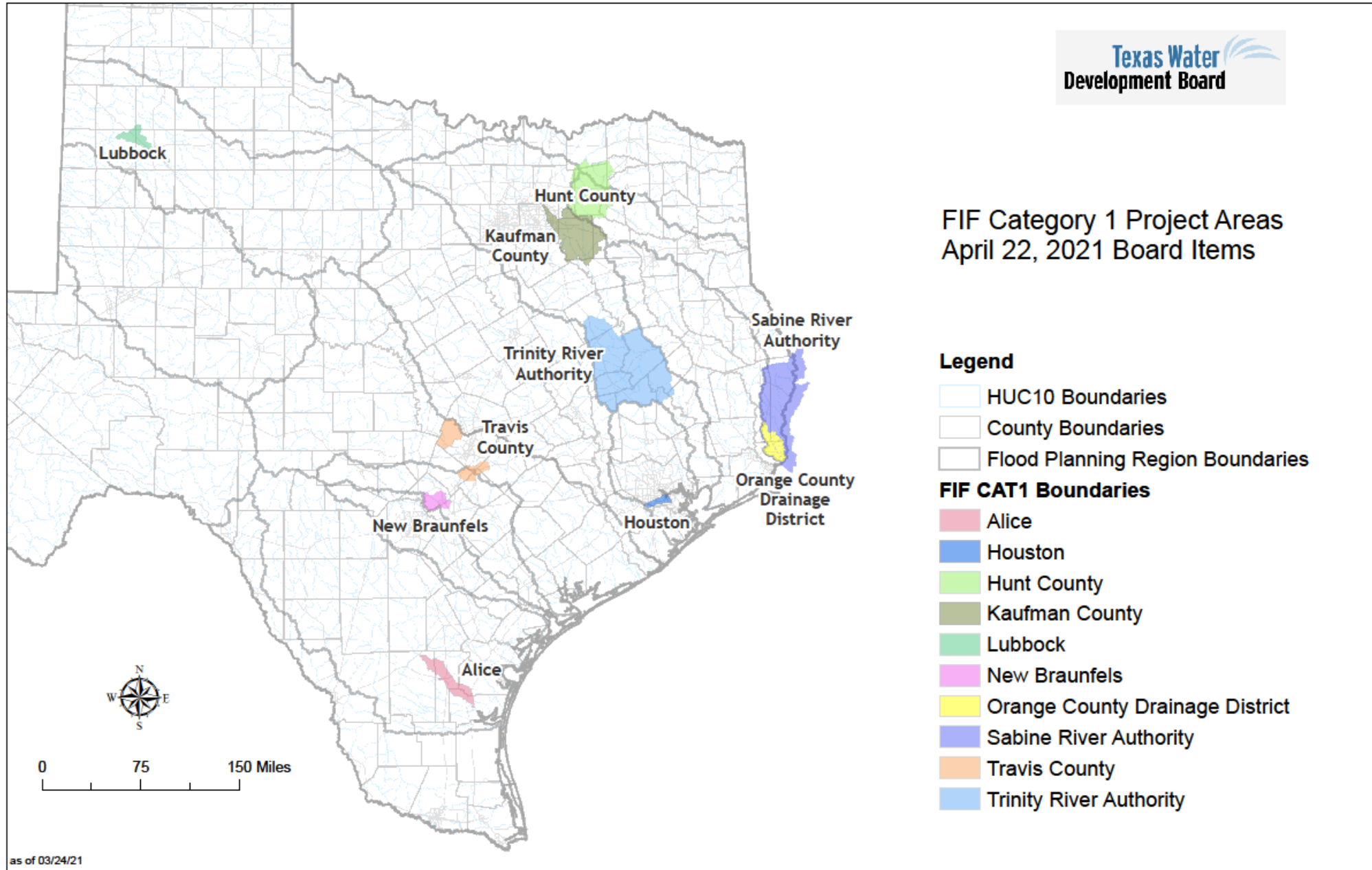
 Sabine River Authority - Upper Basin

 Waller County - Brazos Flood Update

 Waller County - Spring Creek



- 8 studies
- Total project cost ~ \$7.27M
- Grant amount ~ \$4.96M
- Loan amount \$135K



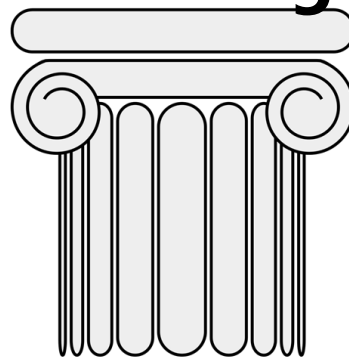
- 10 studies
- Total project cost ~ \$15.9M
- Grant amount ~ \$12.1M

Next steps

- Still working through the prioritized list of 285 projects approved by Board in September 2020
- 172 invited so far, more invitations planned this summer
- Current plan: continue until full amount approved by voters is committed
- **Next invitation for application open in summer 2021**

Regional and State Flood Planning

Planning

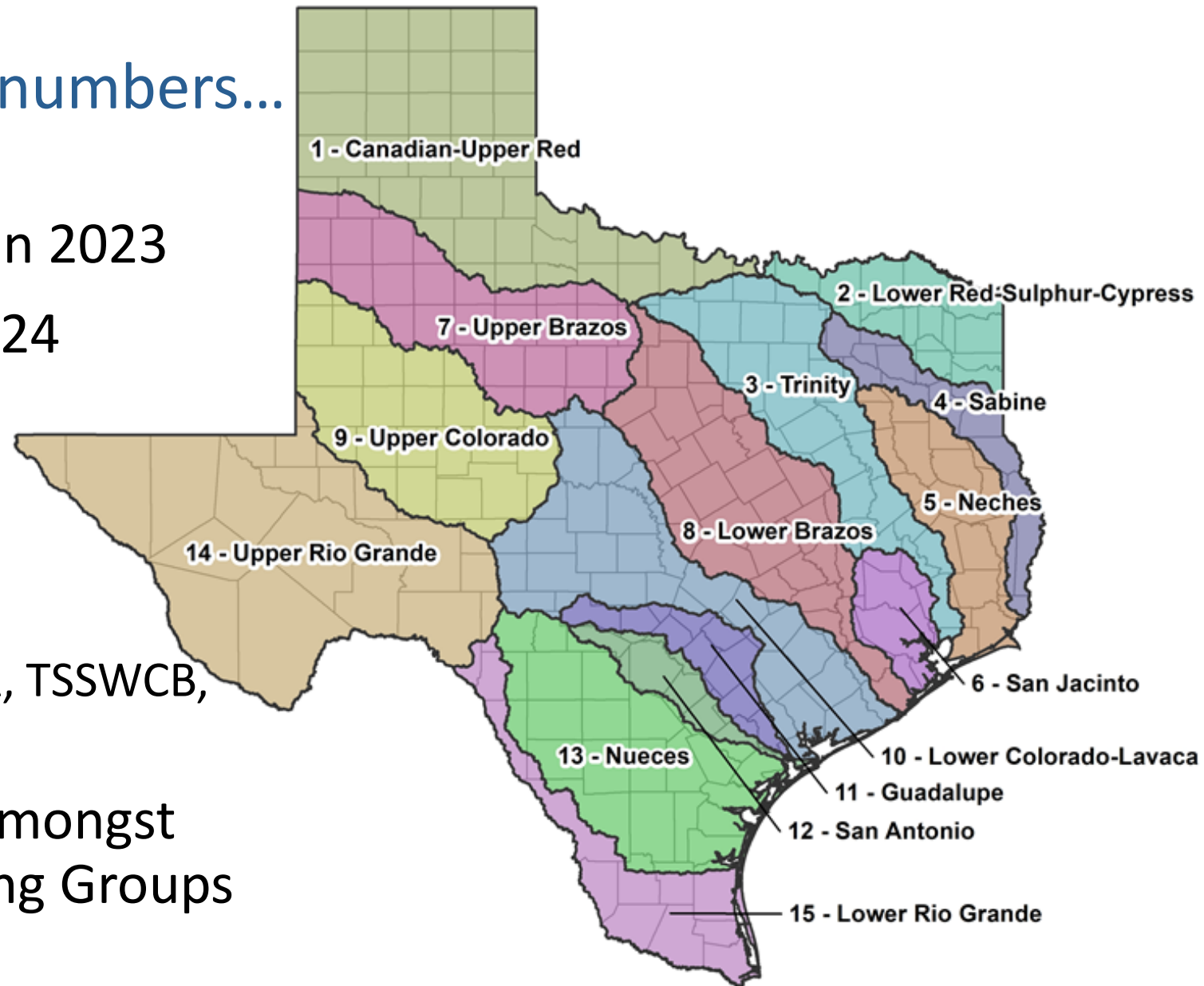


Purpose

- SB 8 directs TWDB to develop a state flood plan, which must:
 - provide for orderly preparation for and response to flood conditions **to protect against the loss of life and property;**
 - be a guide to state and local flood control policy; and
 - contribute to water development where possible.
- ‘Prevention is better than cure’ – applies to flood risk as well
 - Preventing creation of new risks – water needs space to flow!
 - Reducing the risk for those who are already in harms way
- We rarely fully mitigate flood risk, we reduce the risk and we prepare for it. There will always be **residual risk**. Understanding this is important.

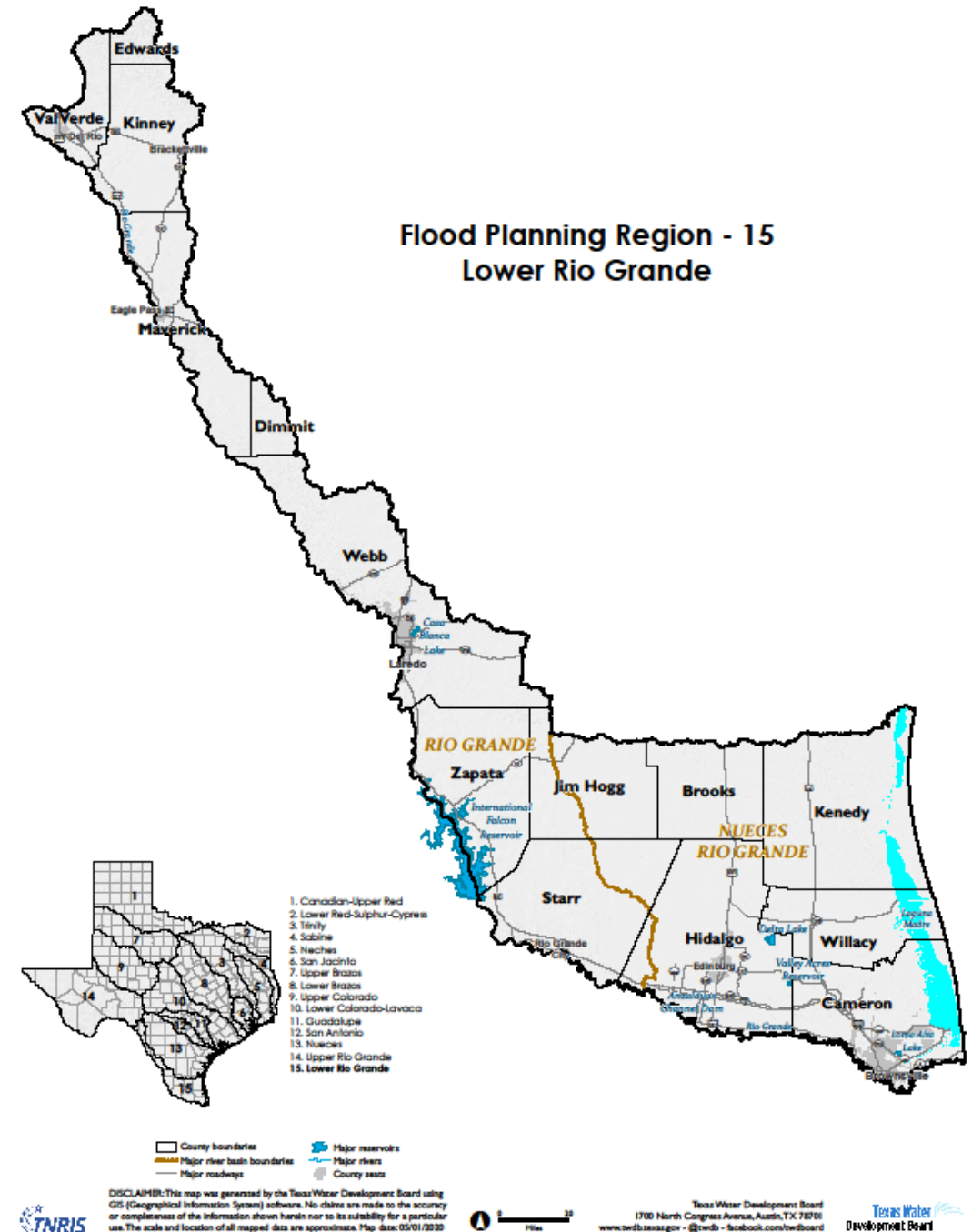
Texas Flood Planning, by the numbers...

- 15 Regional Flood Plans by Jan 2023
- 1 State Flood Plan by Sept 2024
- 177 Initial Voting Members
 - 12 in each of the 15 regions
- 150 Non-voting members
 - TWDB, GLO, TCEQ, TPWD, TDA, TSSWCB, TDEM
- \$19.5M has been allocated amongst the 15 Regional Flood Planning Groups



Region 15 -Lower Rio Grande Flood Planning Region

- **Population Estimate (2019):** 936,558
- **Approximate Area:** 43,204 square miles
- **Approximate Stream Miles:** 5,300
- **Approximate NFIP Claims (1975-2019):** \$173,104,689
- **Contacts**
 - Planning Group Chair: [David Garza](#), (956) 361-8209
 - Planning Group Sponsor Contact: Hidalgo County Drainage District No. 1, [Jaime Salazar](#), (956) 292-7080
 - TWDB Contact: [Megan Ingram](#), (512) 475-1590
 - TWDB Contact (temporary alternate): [Morgan White](#), (512) 475-3754



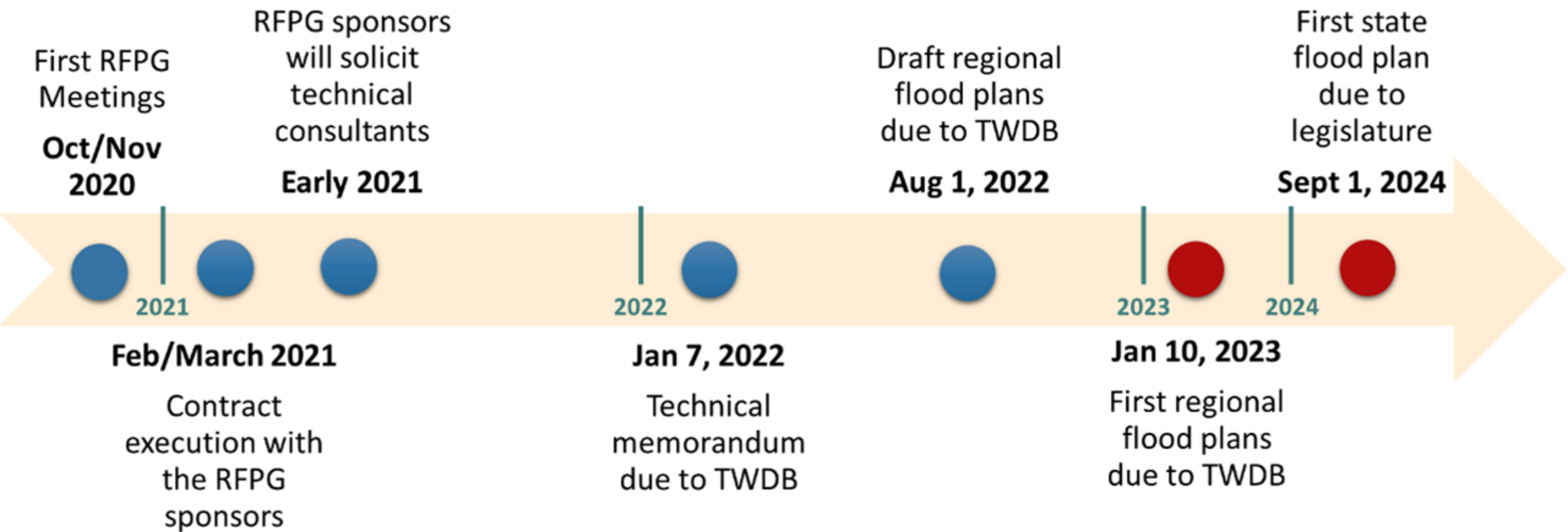
Key Milestones

- **Summer 2019:** listening tour for preliminary feedback on implementation of SB 8
- **December 20, 2019:** Proposed regional and state flood planning rules authorized for publication in the *Texas Register*
 - ✓ **319 pages of written public comments from 45 entities.**
- **April 9, 2020:** Regional Flood Planning Areas designated by the board
- **May 21, 2020:** Final flood planning rules adopted by the board
- **May 21, 2020 – July 17, 2020:** Regional flood planning group (RFPG) initial members solicitation
 - ✓ **Over 600 nominations. Over 1500 docs.**
- **October 1, 2020:** Designation of initial RFPG members by the Board

Key Milestones (continued)

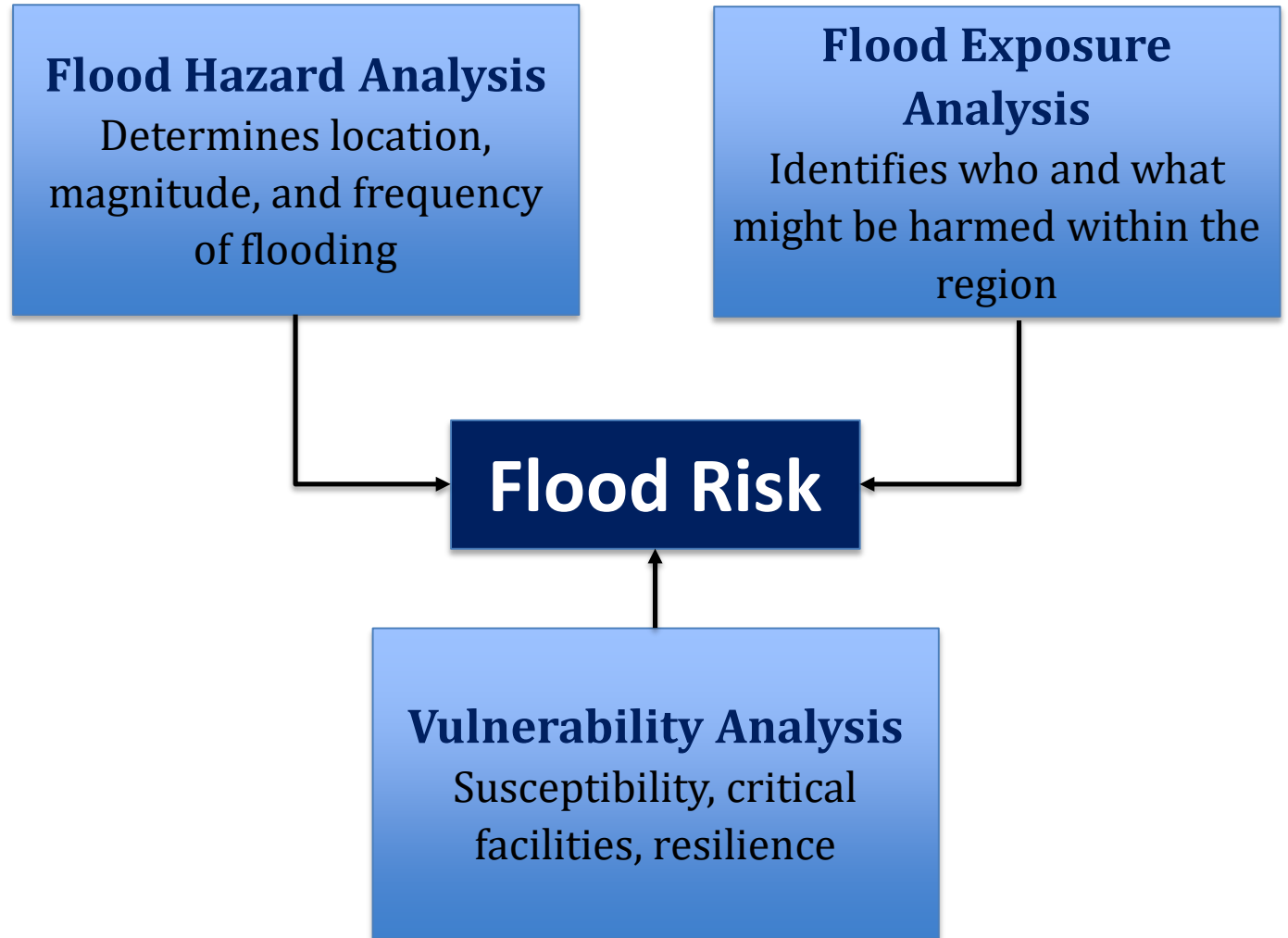
- **October 2020 – May 6, 2021:** Over 88 RFPG meetings held!
- **March 18 - April 1, 2021:** Draft flood planning guidelines posted for public comment
 - ✓ 56 pages of comments by 23 entities & individuals.
- **March 30 - April 17, 2021:** Contract execution with the 15 RFPGs for a total of \$19.5M (TWDB & RFPG Sponsors)
- **April 30, 2021:** Flood planning guidelines published
- **[anticipated] February – May 2021:** RFPGs select technical consultants

Flood Planning Timeline



Deliverables: Regional Flood Plan Components

- Identify existing infrastructure
- Identify proposed or ongoing flood mitigation projects
- Identify specific flood risk
- Existing Condition Flood Risk Analyses
- Future Condition Flood Risk Analyses



Deliverables: Regional Flood Plan Components

(continued)

- Set protection goals and recommend flood management standards
- Identify and Recommend Flood Management Evaluations (FMEs)
- Identify and Recommend Flood Mitigation Projects (FMPs)
 - ✓ Structural and non-structural
 - ✓ Permittable, constructible and implementable
- Identify and Recommend Flood Management Strategies (FMSs)
- Focus both on
 - ✓ Reducing existing flood risks to life and property and
 - ✓ Floodplain management in general to avoid increasing flood risk in the future by keeping future populations out of the way of flood flows

Flood Planning Guidelines

- Final guidelines posted on TWDB website on April 30th, 2021.
<https://www.twdb.texas.gov/flood/planning/planningdocu/2023/index.asp>
- [Technical Guidelines for Regional Flood Planning](#) provides technical guidelines and submittal requirements for each scope item and additional technical guidance regarding population estimates, hydraulic and hydrologic modeling, benefit-cost ratio analysis, etc.
- [Data Submittal Guidelines for Regional Flood Planning](#) provides data submittal guidelines for regional flood planning.
- Benefit-Cost Analysis Input Tool and Instructions

Flood Planning Data HUB

Resources ▾ GDB Template Floodplain Quilt ▾ What's New TWDB Flood Planning Contacts

GIS Resources

Texas Flood Planning

The following GIS resources have been gathered to assist the Texas Regional Flood Planning Groups (RFPGs). Many of the referenced layers are intended for cartographic purposes. Before using layers for engineering or modeling, check the intended use on the original site.



Critical Infrastructure



Flood Infrastructure



Flood Risk



Hydrology



Jurisdiction Boundaries



Parks



Population



Property



Terrain

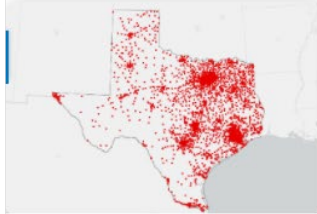


Transportation

Resources ▾ GDB Template Floodplain Quilt ▾ What's New TWDB Flood Planning Contacts

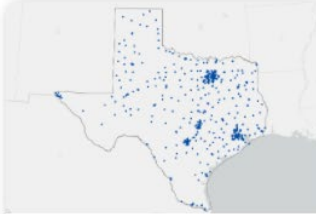
Critical Infrastructure

Hospitals, Schools, Fire Stations, Shelters, Electric and Gas Lines



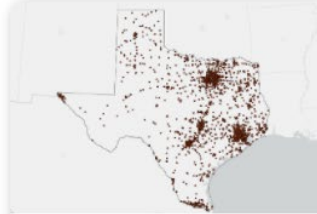
Fire Stations (HIFLD)

Filtered for Texas.



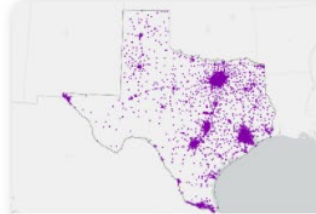
Hospitals (HIFLD)

Filtered for Texas.




National Shelter System (HIFLD)


Filtered for Texas



Schools (TEA)



Natural Gas Pipelines



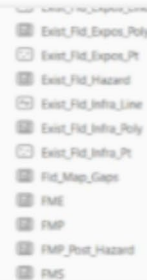
Electric Power Transmission

Geodatabase Template

Last updated: April 28, 2021

The TWDB generated template GIS geodatabases with multiple feature classes and tables for the Regional Flood Planning Groups (RFPGs). Each planning group must fill the template geodatabase with relevant regional flood planning data.

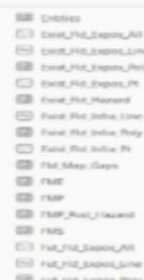
The following template file geodatabases are populated with feature classes and fields to match the specifications in [Exhibit D Data Submittal Guidance Document](#). Feature classes are empty except for the Entities feature class which has been prepopulated to include the Counties, Municipalities, various types of Water Districts, Flood Districts, and Councils of Government (COGs) which intersect the flood planning region. A table of feature classes is available [here](#).



Exist_Fld_Expos_Poly
Exist_Fld_Expos_Pt
Exist_Fld_Hazard
Exist_Fld_Infra_Line
Exist_Fld_Infra_Poly
Exist_Fld_Infra_Pt
Fld_Map_Gaps
FME
FMP
FMP_Post_Hazard
FMS

Region 01 Geodatabase Template

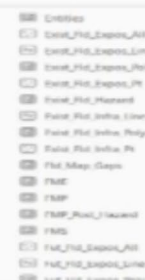
Template gdb with structure specified in Exhibit D. Entities feature class is populated.



Entities
Exist_Fld_Expos_Alt
Exist_Fld_Expos_Line
Exist_Fld_Expos_Poly
Exist_Fld_Expos_Pt
Exist_Fld_Hazard
Exist_Fld_Infra_Line
Exist_Fld_Infra_Poly
Exist_Fld_Infra_Pt
Fld_Map_Gaps
FME
FMP
FMP_Post_Hazard
FMS
FMS_Fld_Expos_Alt
FMS_Fld_Expos_Line
FMS_Fld_Expos_Poly

Region 02 Geodatabase Template

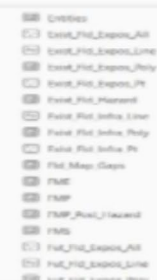
Template gdb with structure specified in Exhibit D. Entities feature class is populated.



Entities
Exist_Fld_Expos_Alt
Exist_Fld_Expos_Line
Exist_Fld_Expos_Poly
Exist_Fld_Expos_Pt
Exist_Fld_Hazard
Exist_Fld_Infra_Line
Exist_Fld_Infra_Poly
Exist_Fld_Infra_Pt
Fld_Map_Gaps
FME
FMP
FMP_Post_Hazard
FMS
FMS_Fld_Expos_Alt
FMS_Fld_Expos_Line
FMS_Fld_Expos_Poly

Region 03 Geodatabase Template

Template gdb with structure specified in Exhibit D. Entities feature class is populated.



Entities
Exist_Fld_Expos_Alt
Exist_Fld_Expos_Line
Exist_Fld_Expos_Poly
Exist_Fld_Expos_Pt
Exist_Fld_Hazard
Exist_Fld_Infra_Line
Exist_Fld_Infra_Poly
Exist_Fld_Infra_Pt
Fld_Map_Gaps
FME
FMP
FMP_Post_Hazard
FMS
FMS_Fld_Expos_Alt
FMS_Fld_Expos_Line
FMS_Fld_Expos_Poly

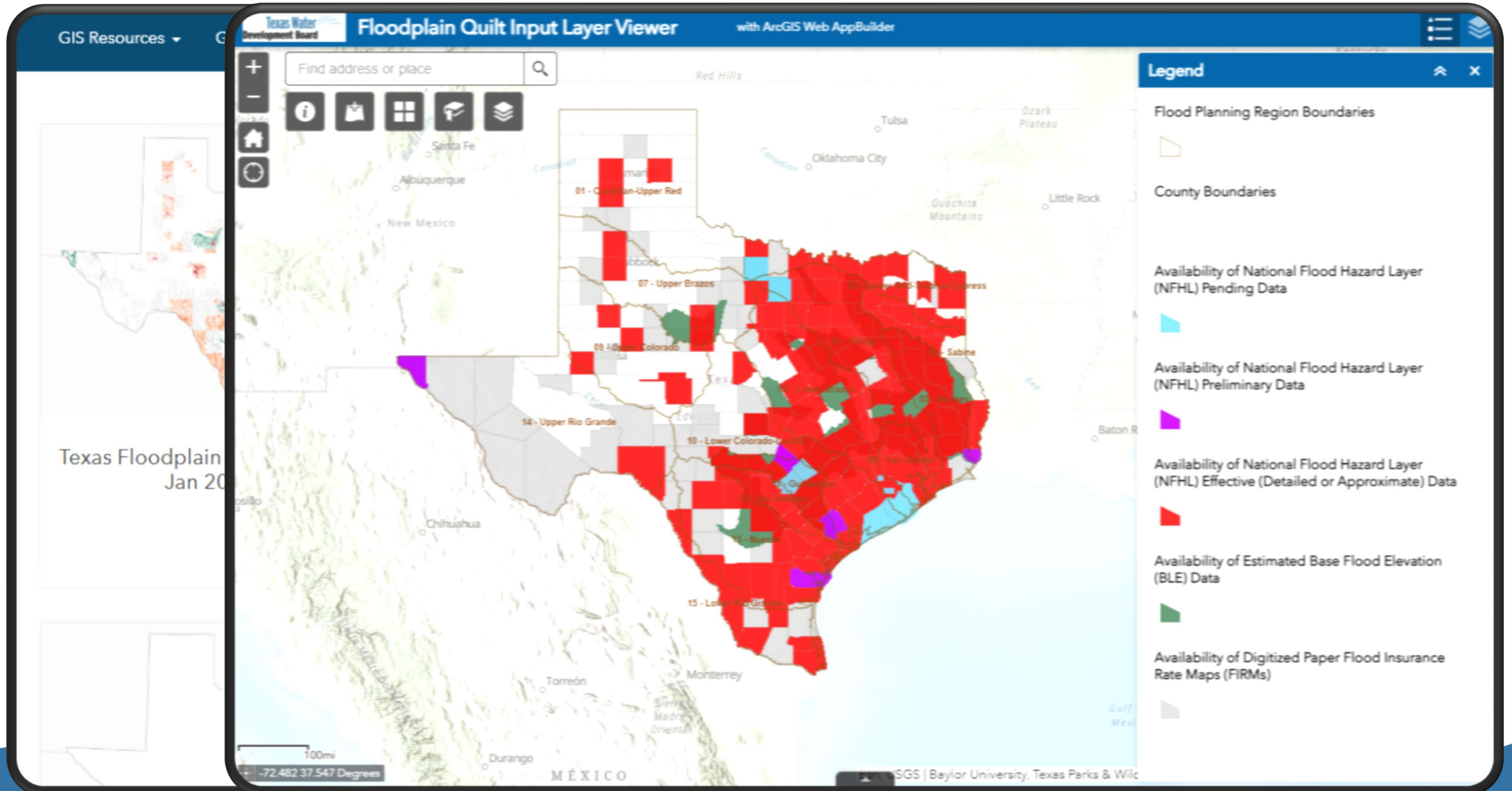
Region 04 Geodatabase Template

Template gdb with structure specified in Exhibit D. Entities feature class is populated.

Geodatabase Template

<https://twdb-flood-planning-resources-twdb.hub.arcgis.com/pages/fpr-templates>

Draft Floodplain Quilt



← → ↻ twdb.texas.gov/flood/planning/regions/index.asp

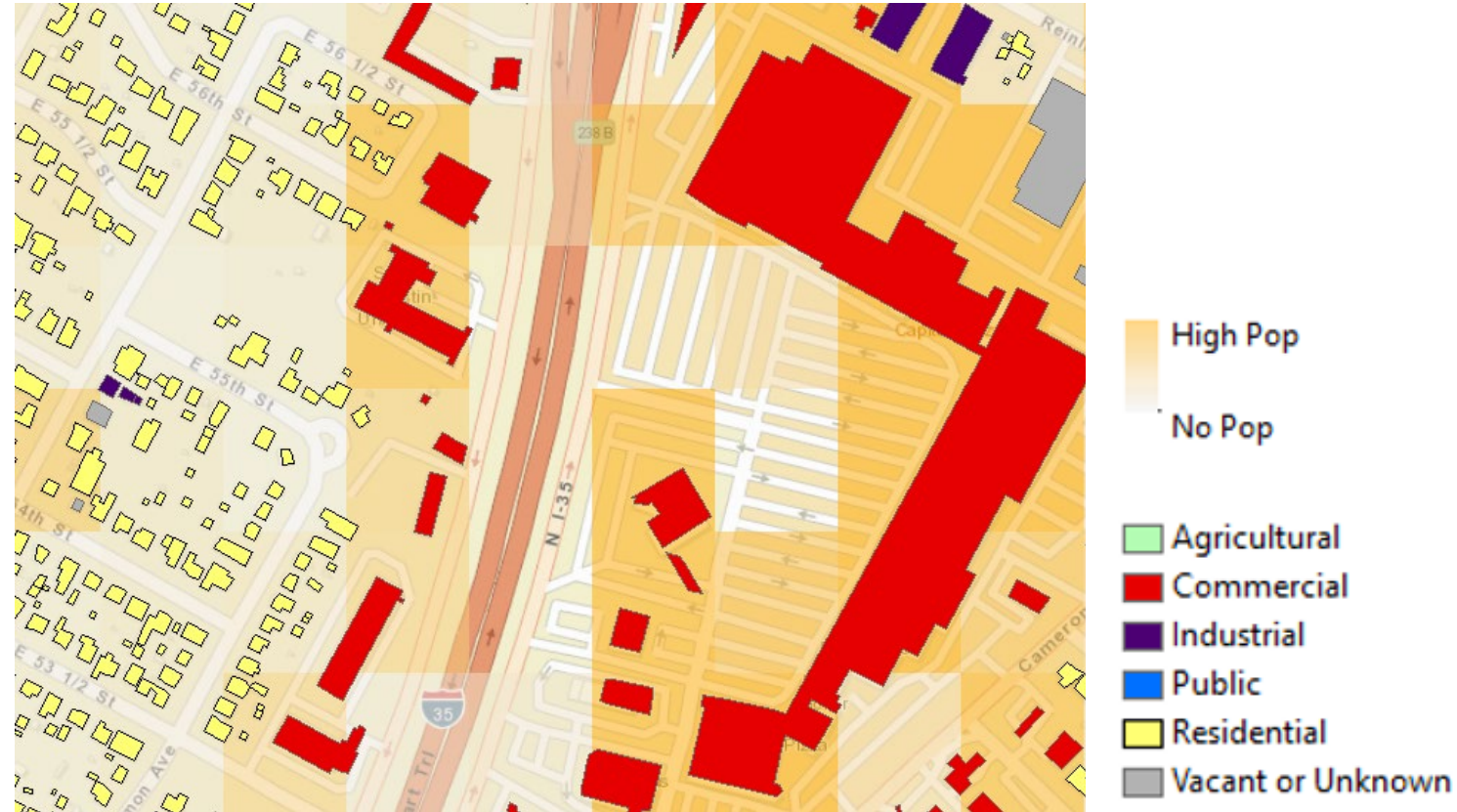
← → ↻ twdb.texas.gov/flood/planning/regions/index.asp

Upcoming Flood Data Projects

- Processed Building Data:
 - ~10million buildings from TNRIS
 - Night and Day population from LandScan USA
 - Social Vulnerability Index from CDC
- Interactive Flood Planning Data Viewer
- Future Imperviousness Model

Night Population


Day Population









Ongoing Collaboration

- Texas Flood Organizing Group
 - Monthly meeting
 - Program/project updates
 - a. FEMA
 - b. GLO
 - c. NWS
 - d. TAMU
 - e. TDEM
 - f. TWDB
 - g. TxDOT
 - h. USACE
 - i. USGS
 - j. UT Austin
 - k. UT Center for Space Research
- Texas/ Iowa Follow Up, TDIS steering committee
- For regional flood planning
 - GLO, USACE, TDIS







Connect with us:      

Home Board Financial Assistance Water Planning Groundwater Surface Water Flood Conservation Innovative Water GIS Data

Flood Planning

The 2019 Texas Legislature and Governor Abbott greatly expanded the TWDB's role in flood planning. The TWDB will be administering a new state and regional flood planning process with flood planning regions based on river basins. The initial regional flood planning groups were formed on October 1, 2020; the first regional flood plans will be due in January 2023, and the first state flood plan will be due September 1, 2024.



 [Sign up for emails on TWDB's new flood programs](#)

[Flood Infrastructure Fund and other project financial assistance programs](#)

Recent News

- [Flood Planning Region Boundaries](#) (4/09/20)
- [Regional and State Flood Planning Rules](#) (5/21/20)
- [Designation of Initial Voting Members of Regional Flood Planning Groups \(RFPGs\)](#) (10/01/20)
- [Request for Applications Posted for Regional Flood Planning Grants](#) (11/20/20)
- [Open Solicitation for Vacant RFPG Member Positions](#) (11/24/20)

What to Do? Before, During, and After a Flood

Flood Infrastructure Fund (FIF)

Flood Planning

- Flood Planning Group Meeting Schedule
- 1st Planning Cycle Documents (2020-2023)
- Planning Group Information
- New Members Resources
- Frequently Asked Questions
- Flood Planning Useful Links and Resources
- Flood Planning Data

Flood Financial Assistance Programs

National Flood Insurance Program (NFIP)

Floodplain Management Training

Community Resources

Flood Science and Community Assistance Staff

Flood Planning Staff

Questions?

Reem Zoun, PE, CFM

Director, Flood Planning

512 475 1546

reem.zoun@twdb.texas.gov