NOTICE OF OPEN MEETING OF THE SAN ANTONIO REGIONAL FLOOD PLANNING GROUP

TECHNICAL SUBCOMMITTEE

Region 12
8/11/2026
2:30 PM

TAKE NOTICE that a meeting of the Technical Subcommittee of the San Antonio Regional Flood Planning Group as established by the Texas Water Development Board will be held on Tuesday, August 11, 2026, at 2:30 PM, in-person at the San Antonio River Authority, located at 100 E. Guenther St and virtually at https://meet.goto.com/142440357.

Agenda:

1. (2:30 PM) Roll Call
2. Public Comments – limit 3 minutes per person
3. Review and Discussion on Chapter 1
4. Discussion on Task 7 and Task 8
5. Public Comments – limit 3 minutes per person
6. Date and Potential Agenda Items for Next Meeting
7. Adjourn

If you wish to provide written comments prior to or after the meeting, please email your comments to nfuentes@sariverauthority.org or physically mail them to the attention of Noah Fuentes at San Antonio River Authority, 100 E. Guenther St., San Antonio, TX, 78204 and include “Region 12 San Antonio Regional Flood Planning Group Technical Subcommittee Meeting” in the subject line.

Additional information may be obtained from: Noah Fuentes, (210) 302-3228, nfuentes@sariverauthority.org, San Antonio River Authority, 100 E. Guenther St., San Antonio, TX, 78204.

1

Planning Area Description

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1 Planning Area Description

The goal of this chapter is to describe the flood planning region, inventory and assess natural features and constructed major flood infrastructure and describe proposed or ongoing flood mitigation projects in the region.

1.1 Background

In 2019, the 86th Texas Legislature adopted changes to the Texas Water Code Section (§)16.061 that established the regional and state flood planning process. Regional Flood Plans (RFPs) for 15 flood planning regions across the state were compiled in the first ever State Flood Plan (SFP) in 2024. The current flood planning cycle will result in the 2029 SFP. The Texas Water Development Board (TWDB) oversees the development of each RFP and compiles the SFP. The TWDB is also charged with providing funding for investments in flood science and mapping efforts to support development of the RFPs.

The investments and planning efforts represent an important step in Texas flood planning, because it:

- Maintains a bottom-up grass roots outreach and stakeholder engagement in flood planning
- Identifies the current and future flood risk within the flood planning region
- Identifies flood mitigation actions to help address the identified flood risk

RFPs are required to be based on the best available science, data, models, and flood risk mapping. When complete, the RFPs will focus both on reducing existing risk to life and property as well as on enhancing floodplain management to avoid increasing flood risk in the future. The RFPs must be submitted to the TWDB by January 10, 2028. The TWDB will then compile these RFPs into a single SFP and present it to the Texas Legislature in 2029. Since the completion of the first SFP in 2024 concurrent SFPs will be developed on a five year cycle.

The TWDB established a Regional Flood Planning Group (RFPG) for each of the 15 regions in the state. Each RFPG has a local sponsor that contracts directly with the TWDB for the completion of the RFP. The San Antonio RFPG selected the San Antonio River Authority (SARA) to be the SAFPR sponsor. The Texas Legislature allocated funding for flood planning which is administered through the TWDB. The funding allows each RFPG to procure their own technical assistance to develop the RFPs. HDR Engineering, Inc.

(HDR) was selected through a competitive process to assist the San Antonio RFPG in the development of the 2028 San Antonio RFP.

The San Antonio RFPG is made up of stakeholders residing in and representing various interest categories within the SAFPR. This leads to a bottom-up approach to flood planning. The San Antonio RFPG's responsibilities include directing the work of the technical consultant, soliciting and considering public input, identifying specific flood risks, and identifying and recommending flood management evaluations, strategies, and projects to reduce flood risk in their region. To ensure a diversity of perspectives, members represent a wide variety of stakeholders potentially affected by flooding. Interest categories include:

1. Agriculture
2. Counties
3. Electric-Generating Utilities
4. Environmental
5. Flood Districts
6. Industries
7. Municipalities
8. Nonprofit (category added by the San Antonio RFPG)
9. Public
10. River Authorities
11. Small Business
12. Water Districts
13. Water Utilities

Table 1-1 lists the members of the San Antonio RFPG for the current (second) flood planning cycle. The San Antonio RFPG is led by an executive committee, members are identified in the Table below with an asterisk by their name. The existing members vote for new planning group members when a vacancy occurs or terms expire.

Table 1-1. San Antonio RFPG Members

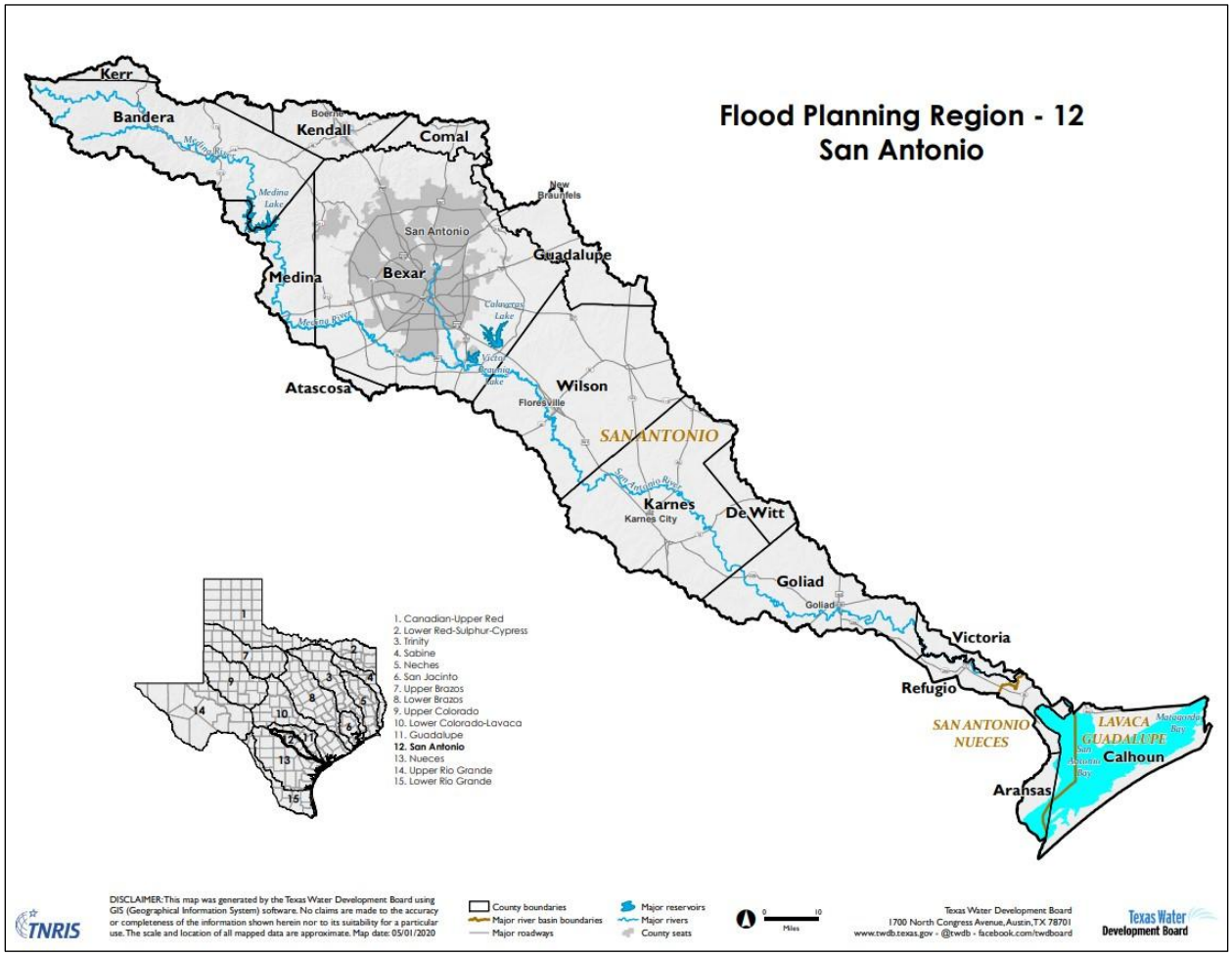
Member Name	Interest Category	Organization
Voting Members		
Derek Boese*	River Authorities	San Antonio River Authority

Member Name	Interest Category	Organization
Cara Tackett*	Industries	Pape-Dawson Engineers
David Wegmann*	Counties	Bexar County
Deborah (Debbie) Reid*	Environmental	Greater Edwards Aquifer Alliance
Nefi Garza*	Flood Districts	Tetra Tech
Brian Yanta	Agricultural	Goliad County
Juan Sandoval	Electric-generating Utilities	CPS Energy
Jeffrey Carroll	Municipalities	City of Boerne
Sabrina Santiago	Municipalities	City of San Antonio
Suzanne Scott	Nonprofit	Nature Conservancy
James (Jim) Smyle	Public	The Vetiver Network International
Jose Reyes	Small Business	Maestas & Associates, LLC
David Mauk	Water Districts	Bandera County River Authority and Groundwater District
Donovan Burton	Water Utilities	San Antonio Water System
Non-Voting Members		
Carly Rotzler	—	Texas Parks and Wildlife Department
Fernando Perez	—	Texas Division of Emergency Management
Jami McCool	—	Texas Department of Agriculture
Jarod Bowen	—	Texas State Soil and Water Conservation Board
Kris Robles	—	General Land Office
Sarah Magana	—	Texas Water Development Board
Susan Roberts	—	Texas Commission on Environmental Quality

*Executive Committee member

The SAFPR, also known as the FPR 12, consists of parts of Aransas, Atascosa, Bandera, Bexar, Calhoun, Comal, DeWitt, Goliad, Guadalupe, Karnes, Kendall, Kerr, Medina, Refugio, Victoria, and Wilson Counties. The SAFPR encompasses approximately 4,410 square miles (Figure 1-1) and is bounded on the west and south by FPR 13 (Nueces), on the north by FPR 11 (Guadalupe), and on the east by the Gulf of America (previously known as the Gulf of Mexico). In 2025, this region had a population of approximately 2,411,076 based on TWDB population projections and discussed further in 1.5 Socioeconomic Characteristics.

Figure 1-1. TWDB SAFPR



Source: TWDB, Flood Planning website, https://www.twdb.texas.gov/flood/planning/index.asp

1.2 Goal and Purpose of the 2023 San Antonio Regional Flood Plan

All RFPs were developed according to 39 guiding principles (see 31 TAC §362.3). The 2028 San Antonio RFP focuses on the following:

- Identifying both existing and future condition flood risks within the SAFPR;
- Evaluating flood hazard, flood exposure to life and property, and community vulnerability;
- Identifying and evaluating potentially feasible flood management strategies and flood mitigation projects; and
- Presenting recommended strategies and projects that minimize residual flood risk and provide effective and economical management of flood risk to people, properties, and communities as well as associated environmental benefits, among other information.

1.3 San Antonio Regional Flood Planning

Table 1-2 lists the counties considered in the development of the SAFPR, Region 12 RFP. Portions of Atascosa (FPR 13), Aransas (FPR 13), Kerr (FPR 11), Medina (FPR 13), and Refugio (FPR 13) Counties are also located within the SAFPR. As these counties were a small portion of the overall SAFPR and are largely located in adjacent FPRs, they were not considered during the development of the San Antonio RFP as they are unlikely to enact county-wide actions specific to the SAFPR.

Table 1-2. Counties within the SAFPR

County	County	County	County
Aransas County	Calhoun County	Guadalupe County	Medina County
Atascosa County	Comal County	Karnes County	Refugio County
Bandera County	DeWitt County	Kendall County	Victoria County
Bexar County	Goliad County	Kerr County	Wilson County

Table 1-3 lists the municipalities considered in the development of the SAFPR.

Table 1-3. Municipalities within the SAFPR

Municipality	Municipality	Municipality	Municipality
City of Alamo Heights	City of Falls City	City of La Coste	City of Santa Clara
City of Austwell	City of Floresville	City of Leon Valley	City of Schertz
City of Balcones Heights	City of Garden Ridge	City of Live Oak	City of Seadrift
City of Bandera	City of Goliad	City of Marion	City of Selma
City of Boerne	City of Grey Forest	City of New Berlin	City of Shavano Park
City of Bulverde	City of Helotes	City of New Braunfels	City of Somerset
City of Castle Hills	City of Hill Country Village	City of Nordheim	City of St. Hedwig
City of Castroville	City of Hollywood Park	City of Olmos Park	City of Stockdale
City of China Grove	City of Karnes City	City of Poth	City of Terrell Hills
City of Cibolo	City of Kenedy	City of Runge	City of Universal City
City of Converse	City of Kirby	City of San Antonio	City of Von Ormy
City of Elmendorf	City of La Vernia	City of Sandy Oaks	City of Windcrest
City of Fair Oaks Ranch	—	—	—

Table 1-4 lists the 53 other entities outside the county and municipality categories that were considered in the development of the San Antonio RFP. The San Antonio Water System (SAWS) and the Unincorporated Community of Tivoli were not included in the list of municipalities provided by the TWDB, and have been included in the list of other entities.

Table 1-4. Other Flood or Water-Related Entities within the SAFPR

Entity	Type
Bandera County River Authority and Groundwater District	River Authority

Entity	Type
Guadalupe-Blanco River Authority	River Authority
Nueces River Authority	River Authority
San Antonio River Authority	River Authority
Upper Guadalupe River Authority	River Authority
San Antonio Water System	Other
Alamo Area Council of Governments	Other
Edwards Aquifer Authority	Other
Bandera County FWSD 1	Other
Bexar-Medina-Atascosa Counties WCID 1	Other
Bexar County WCID 10	Other
Canyon Regional Water Authority	Other
Cibolo Canyon Conservation and Improvement District 1	Other
Cibolo Creek Municipal Authority	Other
Coastal Bend Council of Governments	Other
Comal County WCID 6	Other
Crosswinds at South Lake Special Improvement District	Other
East Central SUD	Other
Ecleto Creek Watershed District	Other
Escondido Watershed District	Other
Espada Development District	Other
Falcon Point WCID 1	Other
Flying L PUD	Other
Golden Crescent Regional Planning Commission	Other
Green Valley SUD	Other
Hondo Creek Watershed Improvement District	Other

Entity	Type
Johnson Ranch MUD	Other
Kendall County WCID 2	Other
Kendall County WCID 2A	Other
Kendall County WCID 3	Other
Kendall County WCID 4	Other
La Salle WCID 1-A	Other
La Salle WCID 1-B	Other
Lerin Hills MUD	Other
Medina County FWSD 1	Other
Medina County WCID 1	Other
Northeast Medina County WCID 1	Other
Port O'Connor MUD	Other
Refugio County Drainage District 1	Other
Refugio County Navigation District	Other
Refugio County WCID 1	Other
Refugio County WCID 2	Other
San Antonio MUD 1	Other
Victoria County Navigation District	Other
West Side Calhoun County Navigation District	Other
Westside 211 Special Improvement District	Other
Wilson County FWSD 1 of Wilson County Texas	Other
Victoria ISD	Other
Hunt ISD	Other
Center Point ISD	Other
Kerrville ISD	Other

Entity	Type
The Nature Conservancy	Other
Unincorporated Community of Tivoli	Other

Notes: FWSD = Fresh Water Supply District; MUD = Municipal Utility District; PUD = Planned Unit Development; SUD = Special Utility District; WCID = Water Control and Improvement District; ISD = Independent School District

The SAFPR includes an area that drains to the San Antonio River and associated tributaries. The San Antonio River originates from springs fed by the Edwards Aquifer in central Bexar County. The Medina River starts at the top of the river basin in Bandera County and joins the San Antonio River along with Cibolo, Leon, and Salado Creeks and numerous tributaries. The river confluences with the Guadalupe River before the combined rivers discharge into San Antonio Bay.

The SAFPR includes five of the 12 ecoregions identified by Texas Parks and Wildlife Department (TPWD), including the Blackland Prairie, Edwards Plateau, Post Oak Savannah, South Texas Plains, and the Gulf Prairies and Marshes, as shown in Figure 1-2[1].

[1] Service, T.A. (2021). Texas Ecoregions. Retrieved from Texas Parks and Wildlife Department: https://tpwd.texas.gov/education/hunter-education/online-course/wildlife-conservation/texas-ecoregions.

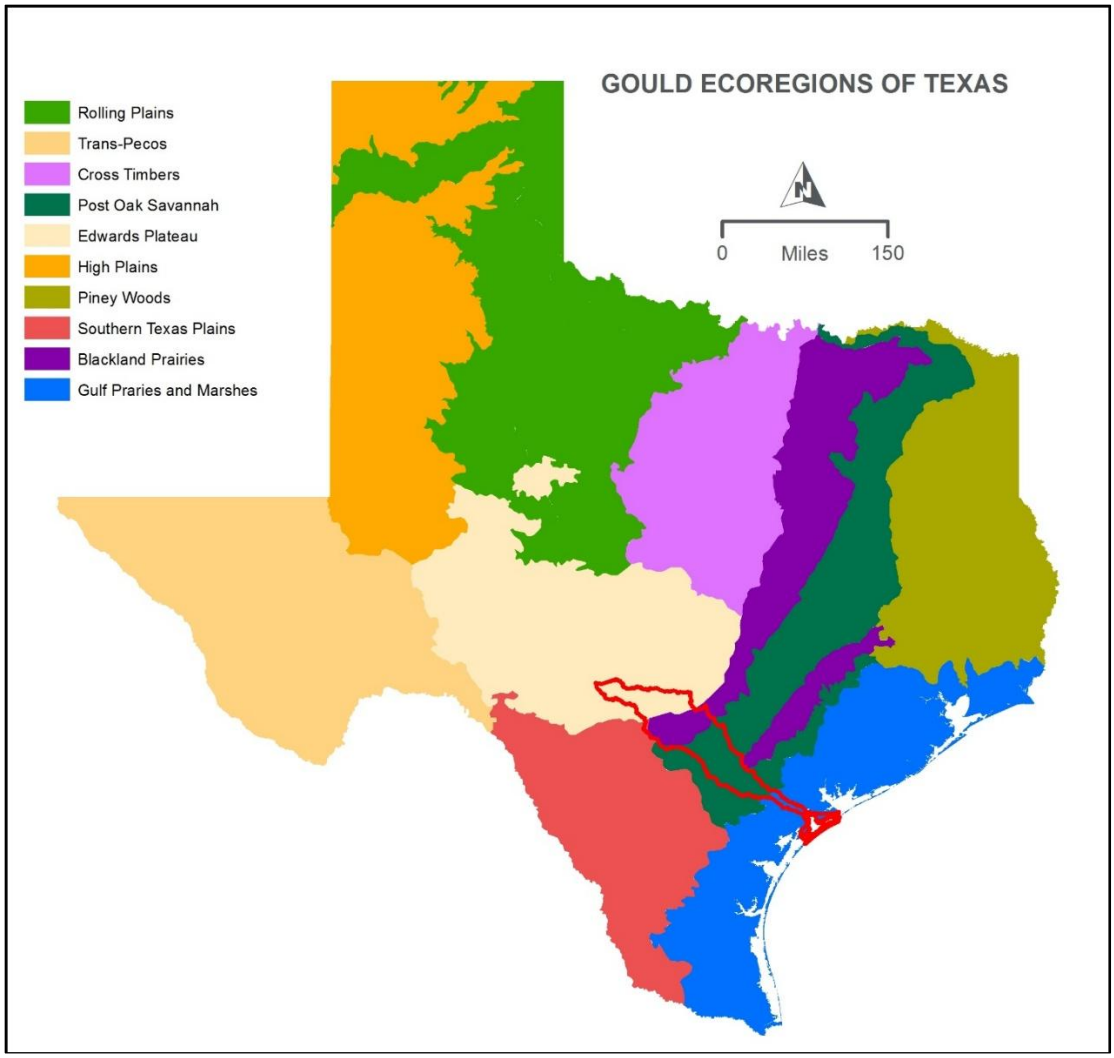


Figure 1-2. Ecoregions within the SAFPR

Source: Texas Parks and Wildlife Department, 2022, https://tpwd.texas.gov/education/hunter-education/online-course/wildlife-conservation/texas-ecoregions

The SAFPR is dominated by limestone, rocky clay, and sand-based, sandy-loam, highly alkaline soils, which restrict the species of trees that flourish here. The surface of the Blackland Prairie portion of the SAFPR is dominated by limestone and heavy clay soils with an average rainfall of 34 inches. The Edwards Plateau mostly contains clay loam soil which turns into rocky clay or solid limestone beneath the surface with an average rainfall of 25 inches per year. The Post Oak Savannah is primarily clay loam to clay with an average rainfall of 34 inches, leading into the South Texas Plains, which has alkaline to slightly acidic clays and clay loams soil and an average rainfall of 26 inches per year. Lastly, the Gulf Prairies and Marshes is the southeast portion

of the SAFPR, containing sand-based soil with typically high salt content and an average rainfall of 40 inches per year. The variation in soil types across the SAFPR influences flooding by affecting how quickly water infiltrates, ponds, or runs off, with clay-rich soils generally producing greater runoff and flood potential, while sandy soils allow for more infiltration and reduced flooding. The SAFPR is a productive agricultural region, with most farming and ranching occurring southeast of San Antonio and some ranching activity occurring northwest of San Antonio. Although fewer individuals are exposed to flood hazards in rural areas, the impact of flooding on agriculture and ranching can be severe. Floods can delay planting and ruin crops, kill livestock, and damage barns or other structures, causing significant economic hardship to farmers and ranchers.

Ranchland and farmland are the predominant use of working lands across the SAFPR, as shown in Figure 1-3. Together, ranchland and farmland account for 69 percent of the total land area, with ranchland being 60 percent and farmland being 9 percent.

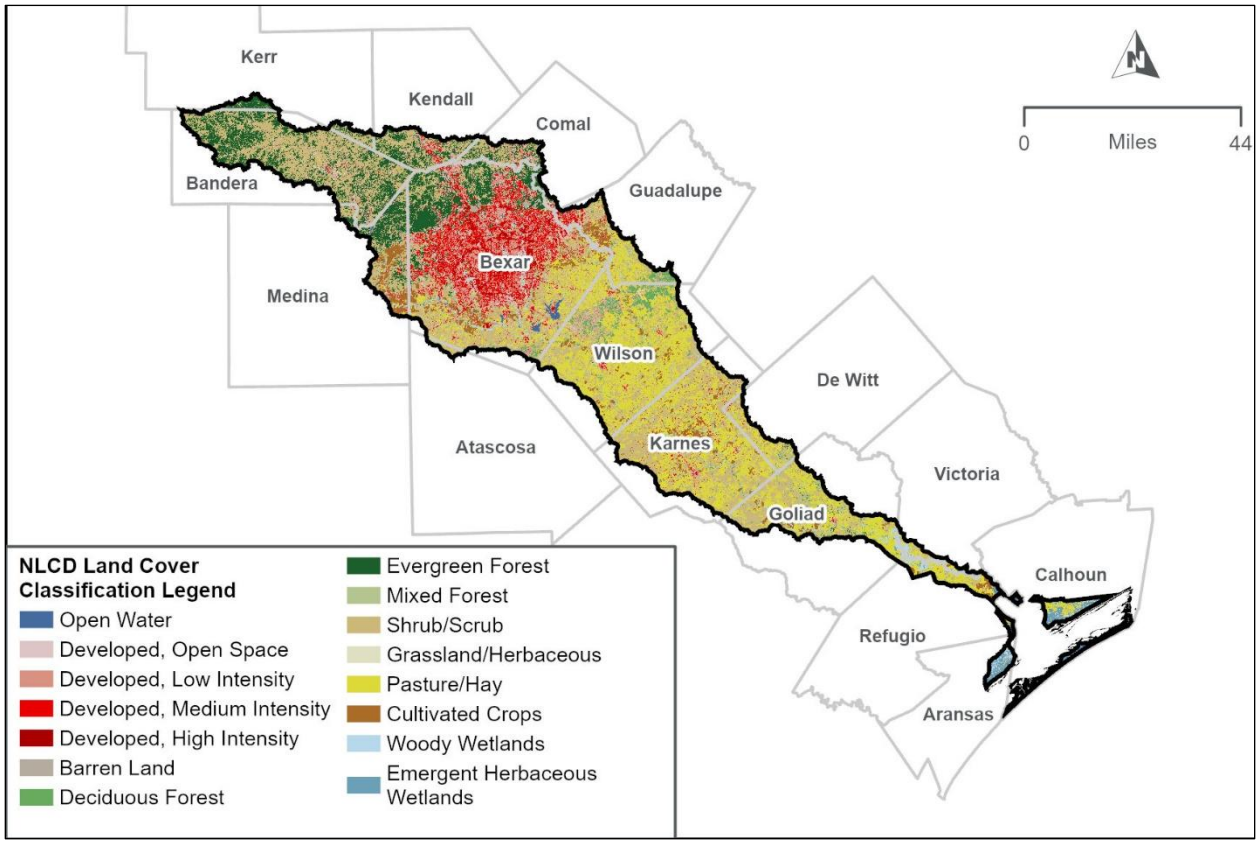


Figure 1-3. SAFPR Land Cover

Source: National Land Cover Database, 2024, https://www.usgs.gov/centers/eros/science/national-land-cover-database

As shown in Figure 1-4, the predominate vegetative cover types by land area are shrubland (36 percent), grassland/pasture (24 percent), developed areas of varying development intensities (16 percent), and evergreen forest (12 percent). The other types of vegetative cover present in the SAFPR combined make up 12 percent of the total area.

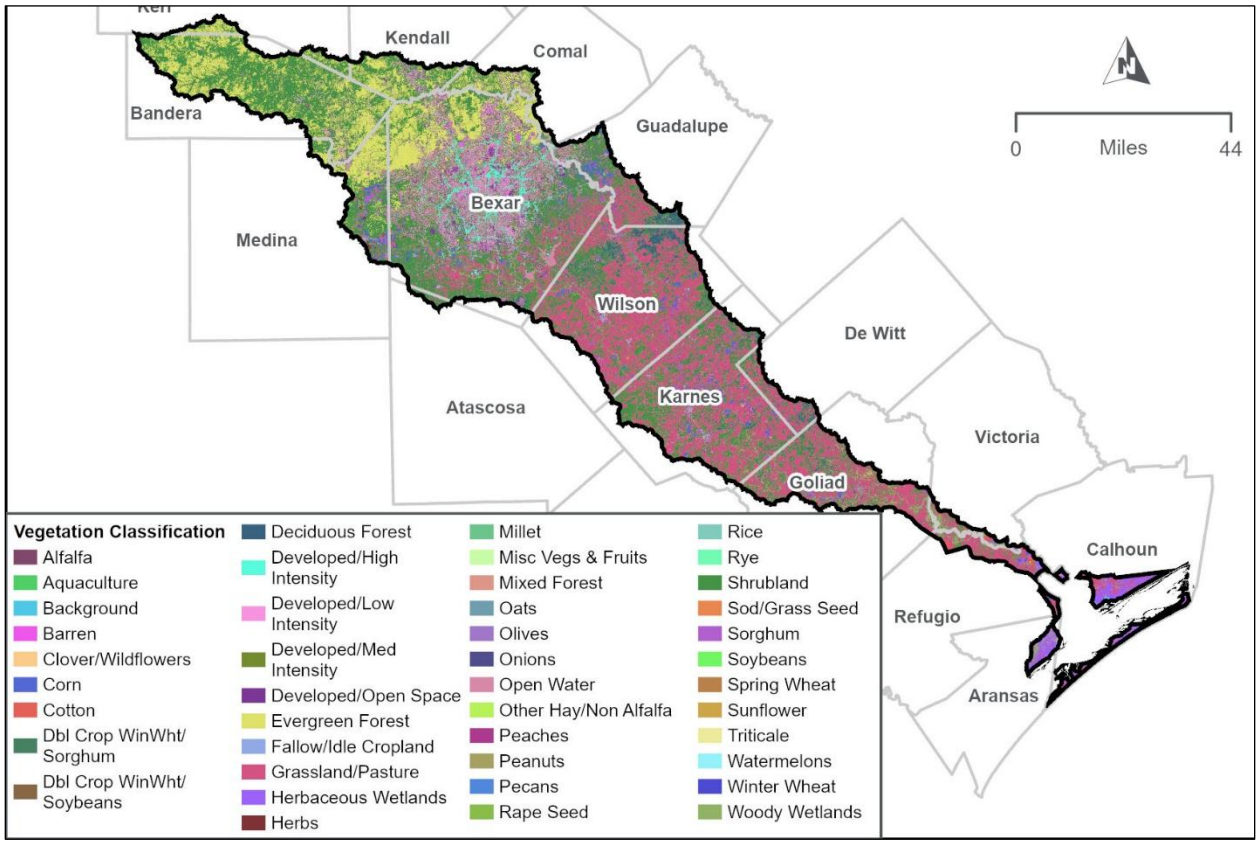


Figure 1-4. SAFPR Vegetation Cover

Source: Cropland Data Layer, 2024, https://www.nass.usda.gov/Research_and_Science/Cropland/Release/

1.4 Conservation Easements

The SAFPR contains conservation lands to enable landowners to protect natural resources for future generations while maintaining private ownership. Conservation lands within the SAFPR are predominately located within the Edwards Plateau region (Figure 1-5).

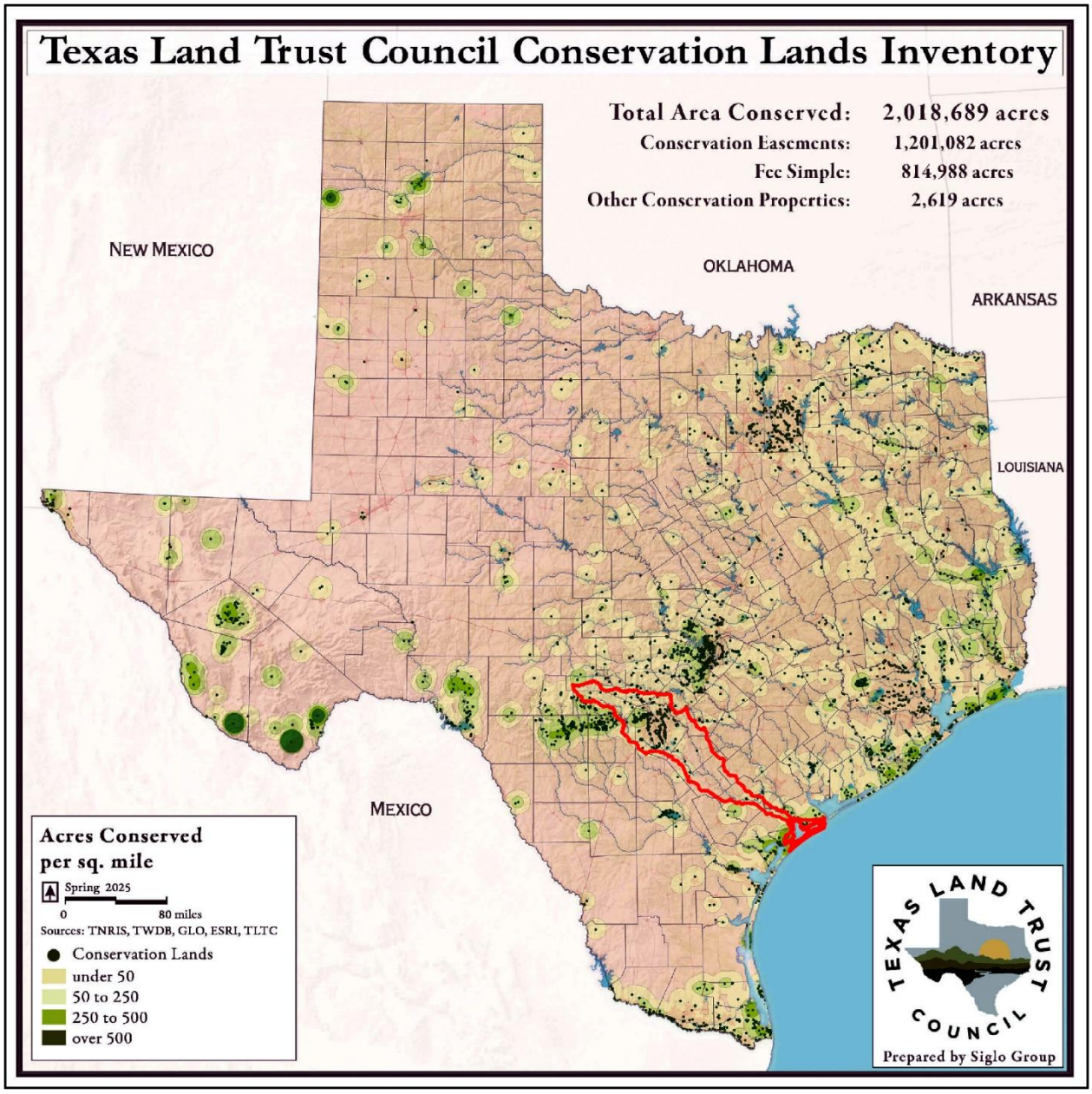


Figure 1-5. SAFPR Conservation Easements

Source: Texas Land Trust Council, Conservation Lands, 2025, https://texaslandtrustcouncil.org/what-we-do/conservation-lands-inventory/

1.5 Socioeconomic Characteristics

Outside of the San Antonio metropolitan area in Bexar County, the SAFPR is largely rural. Despite its rural nature, significant growth is occurring in the portions of Comal, Guadalupe, Kendall, and Wilson Counties. Based on the TWDB Regional Water Planning population projections, the five counties listed above (Bexar, Comal, Guadalupe, Kendall, Wilson) contain almost 98 percent of the total population of the SAFPR. The City of San Antonio (CoSA)

and its encompassing suburbs contain roughly 81 percent of the region's population. The next largest group of cities within the SAFPR include Boerne, Selma, Cibolo, Converse, Schertz, and Universal City. Many smaller cities are located within the rural portions of the planning region.

Projected population trends indicate that while some areas of the region are expected to experience growth, others may see population declines. The overall population is forecast to increase by approximately 50 percent between 2025 and 2055, growing from 2,411,076 to 3,608,117, see Figure 1-6. This significant amount of growth will lead to extensive development, adding housing and businesses to support the growing population. As the region experiences population growth, more people will be exposed to flooding, with a greater possibility of flooding being extreme as permeable land surfaces are replaced with impermeable surfaces associated with development.

The cities with the highest projected growth as a percentage of 2025 population are Boerne, Elmendorf, Castroville, Cibolo, and Selma, see Table 1-5.

Table 1-5. Cities with Highest Projected Growth, 2025–2055

City	2025 Population	2055 Population	% Growth
Elmendorf	3,072	8,447	175%
Boerne	20,107	54,621	172%
Selma	11,884	24,805	109%
Castroville	4,671	8,525	83%
Cibolo	24,478	40,872	67%

Source: TWDB, Population Projections for Regional Water Planning

Seven counties are projected to grow by about 20 percent or more between 2025 and 2055. Comal County is the fastest growing county within the SAFPR, with a projected growth of 151 percent over the next 30 years, see Table 1-6.

Table 1-6. Counties with Highest Projected Growth, 2025–2055

County	2025 Population	2055 Population	% Growth
Comal	34,958	87,631	151%
Guadalupe	57,626	121,736	111%
Kendall	9,526	19,451	104%
Medina	8,338	12,531	50%
Bexar	2,205,014	3,258,808	48%
Wilson	45,020	57,754	28%
Atascosa	691	824	19%

Source: TWDB, Population Projections for Regional Water Planning

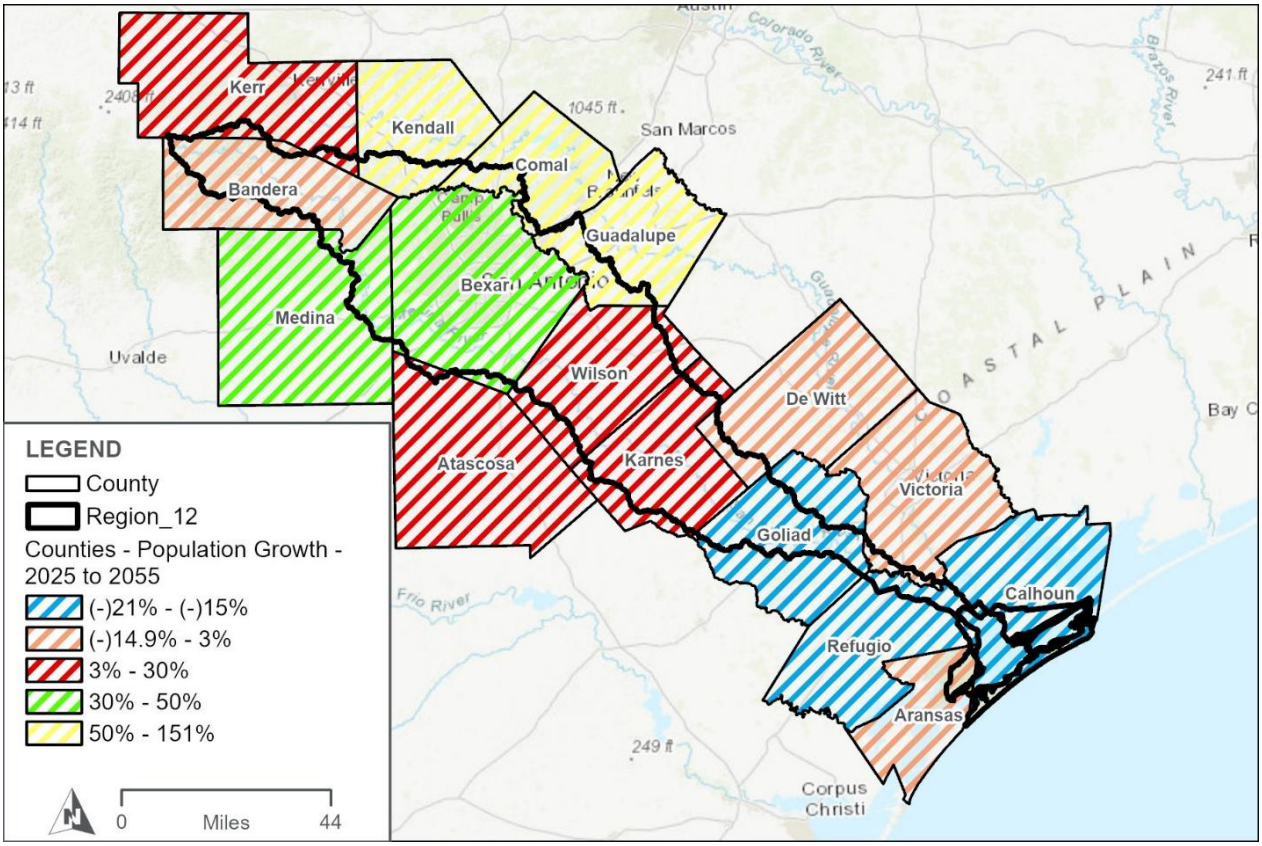


Figure 1-6. SAFPR Population Growth, 2025–2055

Source: TWDB, Population Projections for Regional Water Planning

The SAFPR area has an economic base centered on trades and services, manufacturing, mining, agriculture, and livestock production. All sectors of the economy have experienced growth in recent years. Table 1-7 provides a county-by-county summary of economic activity in the key sectors most significantly affecting the economy of the SAFPR. A strong trades and services sector, including a thriving tourism industry in San Antonio, accounts for approximately 80 percent of regional economic activity. Fabricated metal products, industrial machinery, and food processing form the core of the manufacturing sector, which accounts for approximately 11 percent of regional economic activity. Oil and gas production dominate the mining sector and, together, represent approximately 9 percent of the regional economic activity. Beef cattle, corn, and grain sorghum are the dominant agricultural enterprises. The agricultural sector, including both livestock and crops, accounts for less than 1 percent of regional economic activity.

Trades and services are the leading economic activities within the SAFPR, largely centered around tourism in the San Antonio area. Other counties with large trades and services sectors include Comal, Guadalupe, and Victoria Counties.

In 2022, manufacturing facilities contributed more than $25 billion in sales within the region. The leading manufacturing counties within the region for which data are available are Bexar, Guadalupe, and Comal. Significant economic activity associated with manufacturing also occurs in Victoria County, although data is withheld to avoid disclosures for individual producers.

This region has many sand and gravel quarries, and is also rich in petroleum products, including oil and natural gas. Much of the stone quarried is used in cement production. The leading cement producing area within the SAFPR is Bexar County. Most of the stone, gravel, and sand mining activities are located within Bexar, Comal, and Victoria Counties. The region also derives a significant portion of its mining income from oil and gas activities. All but Comal and Kendall Counties have some economic activity derived from oil and gas. The leading oil and gas producing counties within the SAFPR are Karnes, DeWitt, and Atascosa.

Much of the cropland within the SAFPR is farmed using dryland techniques, with Medina and Atascosa Counties being the areas with the most irrigated cropland. The leading agricultural producing counties within the SAFPR, by market value of product, are Bexar, Victoria, Medina, and Refugio. The major crops grown within the region include corn and grain sorghum, with wheat, soybeans and cotton also being grown.

Table 1-7. County Economic Activity within the SAFPR

County	Trades & Services Economic Activity ($Millions)	Manufacturing Economic Activity ($Millions)	Market Value of all Livestock ($Millions)	Market Value of All Crops ($Millions)	Value of Oil Production ($Millions)	Value of Gas Production ($Millions)	Total ($Millions)
Atascosa	1,717	263	49	16	1,891	149	4,084
Bexar	157,508	16,354	25	48	4	0	173,939
Comal	9,145	2,035	4	1	0	0	11,185
DeWitt	1,028	64	28	3	4,053	1,493	6,668
Goliad	88	0	18	4	14	28	153
Guadalupe	4,915	5,773	69	25	67	0	10,849
Karnes	838	94	33	6	10,917	2,051	13,969
Kendall	3,366	466	13	1	0	0	3,846
Medina	1,554	143	46	37	7	0	1,787
Refugio	222	0	10	28	185	123	568
Victoria	4,890	0	26	46	125	39	5,126
Wilson	1,225	112	134	13	258	9	1,751
Total	**186,496**	**25,304**	**455**	**228**	**17,521**	**3,891**	**233,895**

Source: United States Department of Commerce 2022 and 2022 Census of Agriculture County Profiles
Notes: Determined by using the number of barrels produced as reported to the Texas Railroad Commission times $94.53/barrel (average price for 2022), and by using the cubic feet produced as reported to the Texas Railroad Commission times $6.61/mcf (average price for 2022).

Major types of livestock produced within the area include cattle and calves, beef cattle, sheep and lambs with some areas also producing large quantities of poultry. The leading livestock producing counties within the SAFPR, by market value, are Wilson, Guadalupe, Atascosa, and Medina.

The median annual household income within the SAFPR ranges from $110,498 in Kendall County to $58,016 in Refugio County, a difference of $52,482. The average household median income of the region is $76,666, or slightly above the state average of $76,292. Approximately eight counties have a median household income value less than the state average. The region also contains several counties that have relatively high median household incomes, with Comal, Guadalupe, Kendall, and Wilson Counties greater than $90,000. These four counties are also projected to have the some of the fastest growth rates within the SAFPR.

Median household income levels can be affected by many factors, including education levels, opportunity of employment, and location. Overall, the higher median income within the region indicates the average individual affected by floods may be at a financial advantage compared to their state counterparts; however, it is important to remember that several counties have low median income values. Residents in these counties may have a harder time recovering from a flood event.

1.6 Flood-Prone Areas and Major Flood Risks

Flood risk areas identify where the greatest risks are due to flooding. The 10, 1 and 0.2 percent flood risk areas were compiled for all waterways for the entire region. These compiled flood risk areas helped facilitate conversations with local stakeholders during data collection. The development of these flood risks areas and data sources used are described in further detail in Chapter 2 Flood Risk Analysis. Figure 1-7 through Figure 1-10 provide a region-wide depiction of the 1 and 0.2 percent annual chance flood event flood hazard area with additional data that was used to assess the flood-prone areas and major flood risk to the SAFPR. Additional data shown on the figures were Public Comment, LWC locations, NWS data. The SAFPR was sub-divided into four subregions to show greater detail.

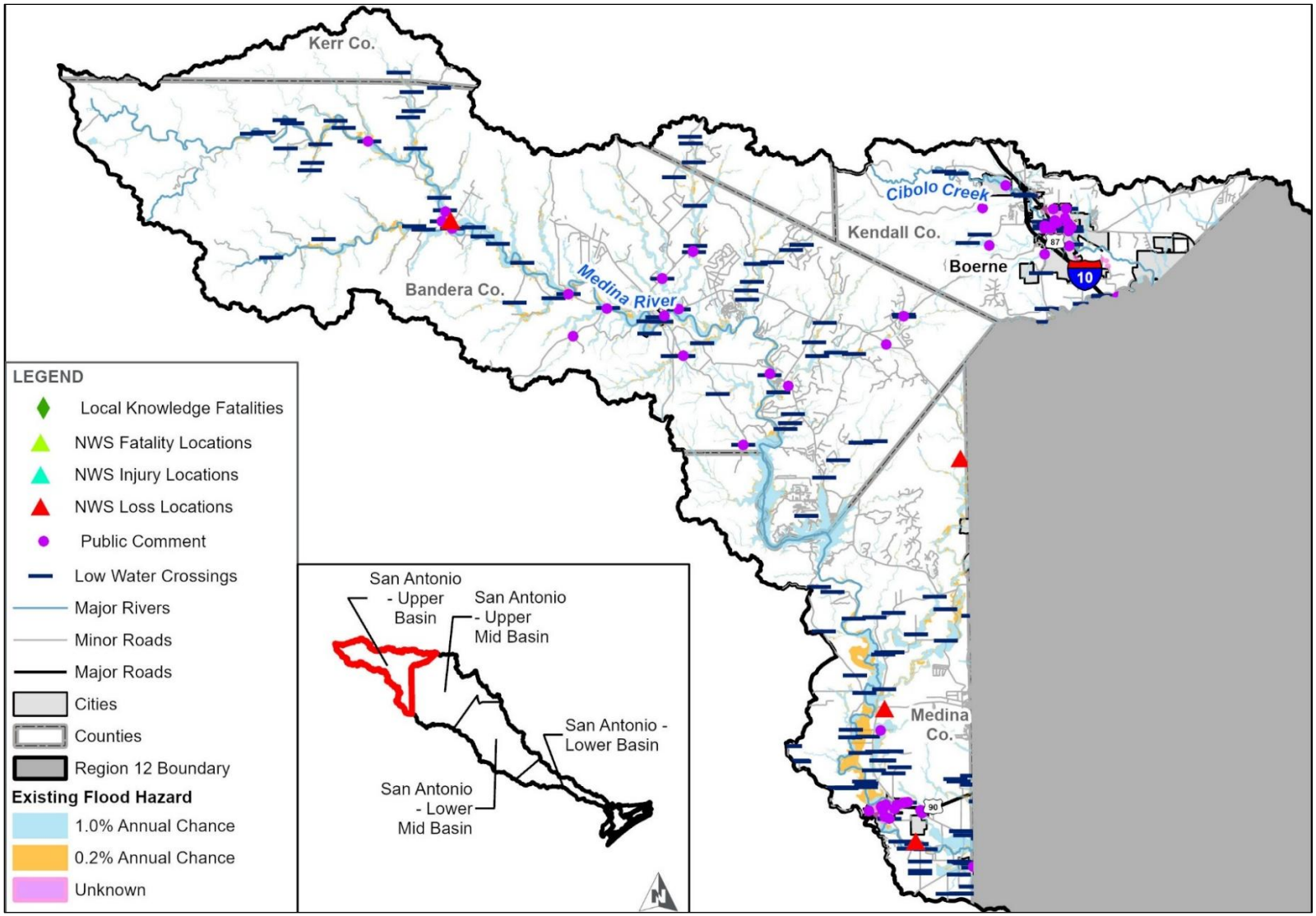


Figure 1-7. SAFPR Flood-Prone Areas – Upper Basin

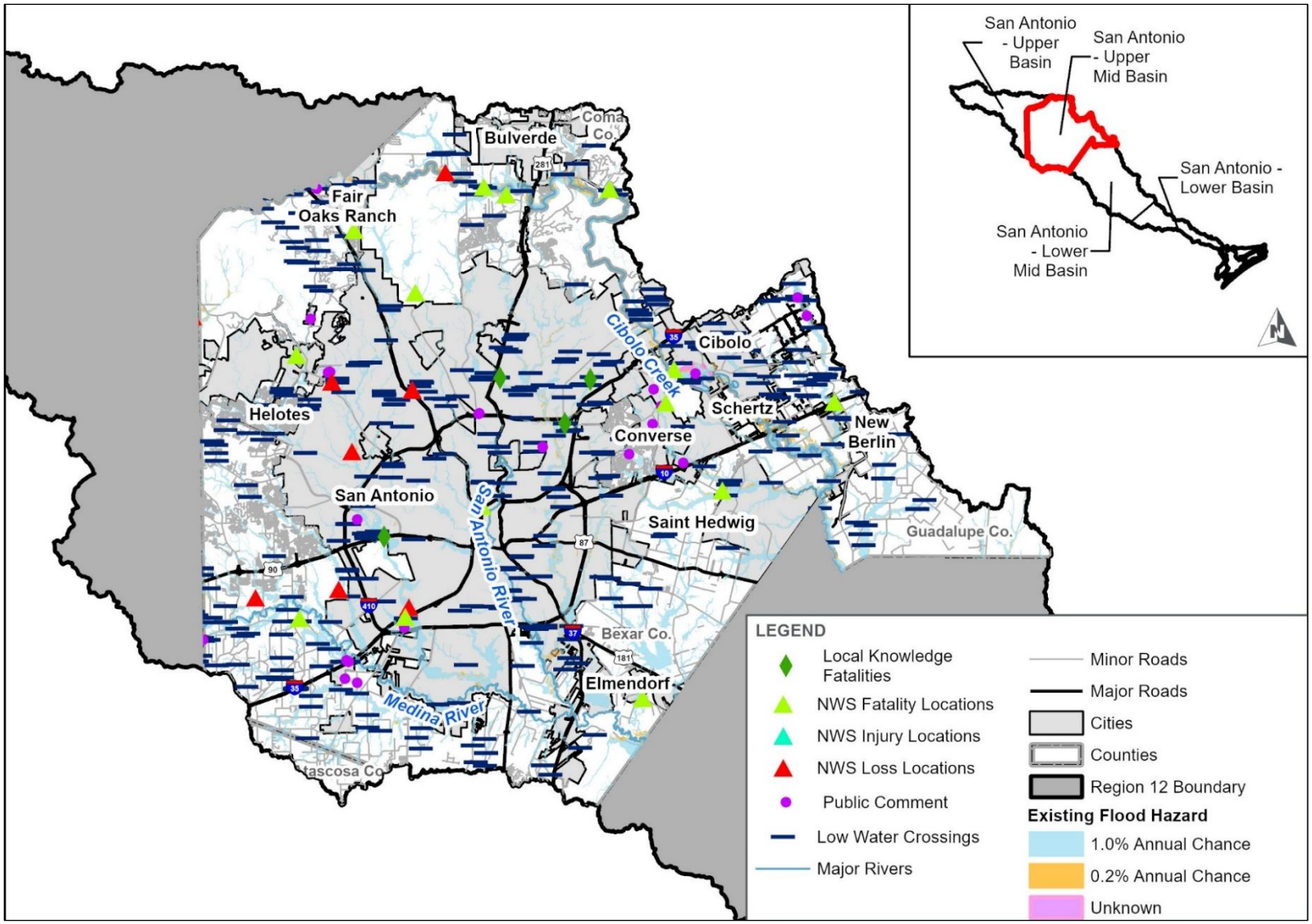


Figure 1-8. SAFPR Flood-Prone Areas – Upper Mid Basin

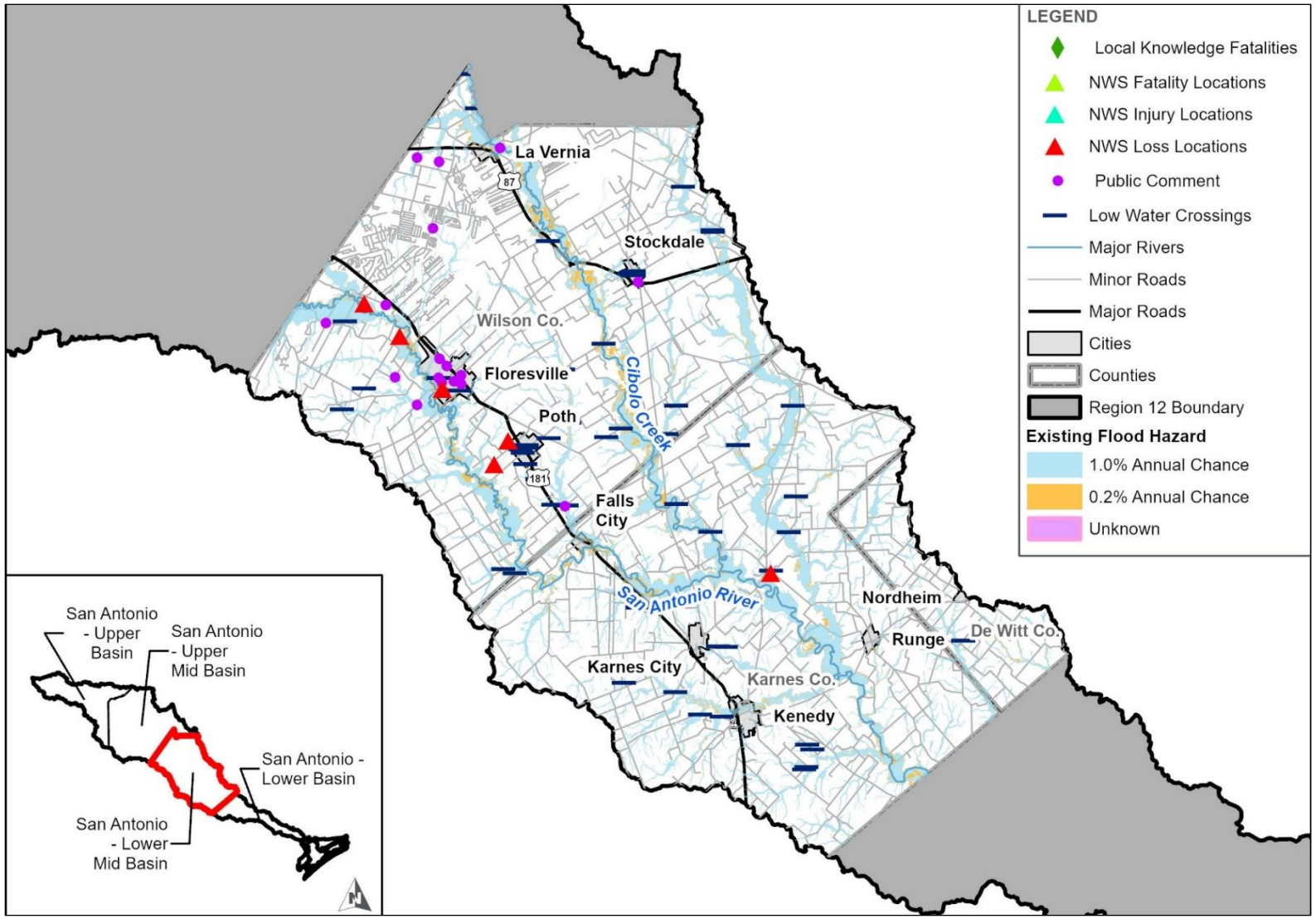


Figure 1-9. SAFPR Flood-Prone Areas – Lower Mid Basin

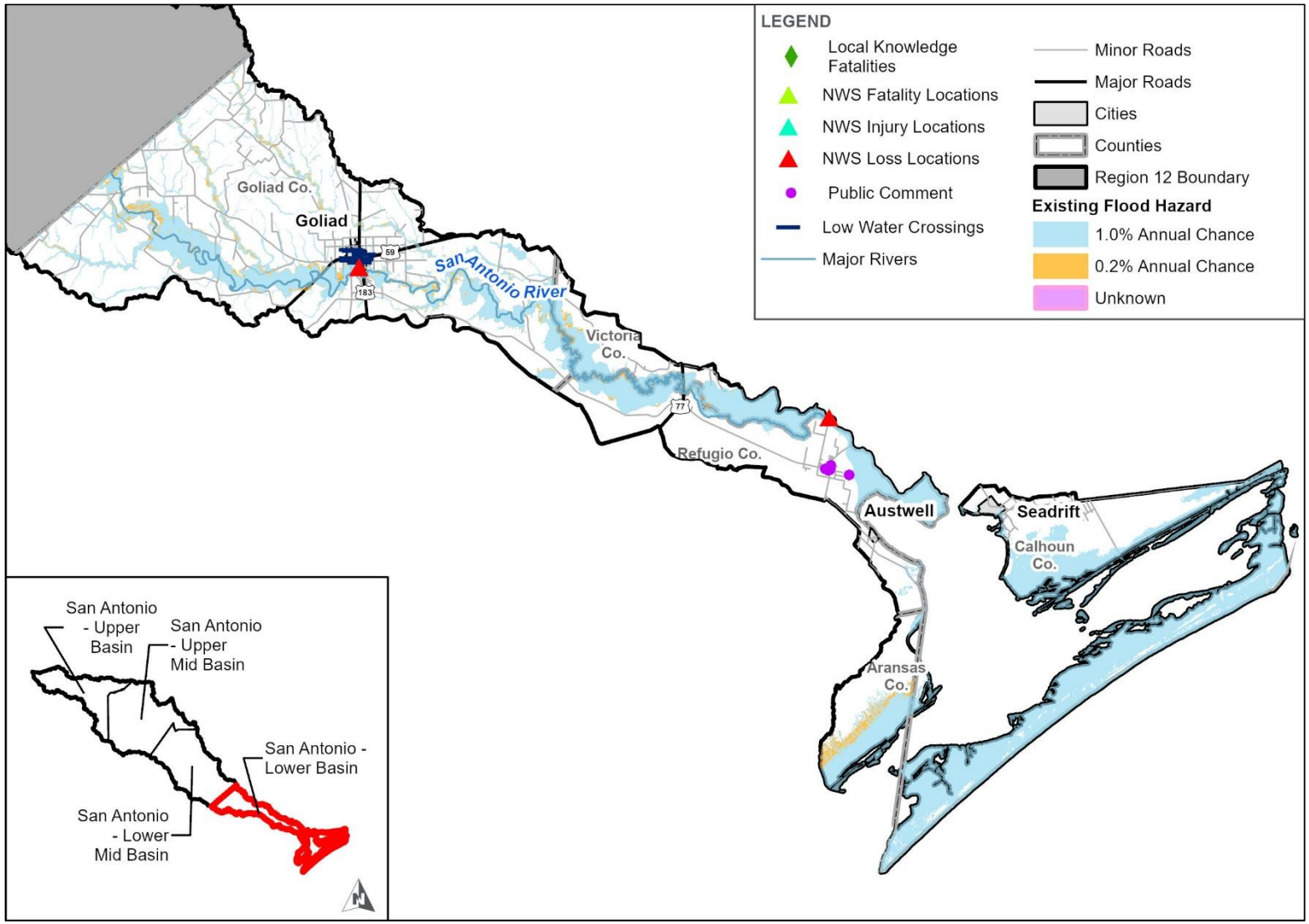


Figure 1-10. SAFPR Flood-Prone Areas – Lower Basin

1.6.1 Additional Flood-Prone Areas

Flood-prone areas and areas of flood risk were identified based on the location of low water crossing, streamflow gages, historic flooding, and/or local knowledge. Additional flood-prone areas were added based on the following:

- Local Knowledge (Stakeholders / Citizens)
- Low Water Crossings
- Streamflow gages (USGS)
- Historical Flood Data (NWS and FEMA)

1.6.1.1 Local Knowledge

The bottom-up approach to flood planning relies heavily on local knowledge of flood risk and flood prone areas. Stakeholders provide valuable insight regarding flood concerns within their local communities. Data collected during the outreach efforts included not only local knowledge of flood-prone areas, but also flood infrastructure, historical flooding, flood maps/models, flood management practices, project financing, emergency planning, flood mitigation projects, and other flood-focused needs. Additionally, an interactive online comment map was used to allow stakeholders the opportunity to identify flood-prone areas for consideration in the San Antonio RFP. Since the cause and recurrence of flooding within these areas is uncertain, separate flood hazard areas have been developed and are listed with “unknown” flood frequency in this analysis. Points that were outside of the 10, 1, and 0.2 percent annual chance storm event flood hazard area were delineated as possible flood-prone areas based on the descriptions included in the comments. For more information on the unknown flood frequency and its inclusion in the flood hazard area, see Chapter 2 Flood Risk Analysis.

As noted later in the 1.6.1.4.1 National Weather Service Flood Data section, additional local knowledge was collected on the location of the 15 fatalities in Bexar County from the 2025 Central Texas Flash Floods. Fatality locations were also received from the City of San Antonio, the agency recorded known fatalities at LWC since 1995. The fatality locations from the various sources were verified and any duplicate entries were removed. All of these locations are shown in Figure 1-7 through Figure 1-10 in addition to the National Weather Service (NWS) floods.

1.6.1.2 Low Water Crossings

LWCs are considered potential flood-prone areas due to their inherent life loss risk potential during flood conditions. LWCs are defined as where a creek spills and conveys flow over a road that is low enough to be subject to frequent flooding during storm events. These areas can experience life threatening flow velocities and depths of water that are likely to sweep vehicles off the roadway.

A total of 596 LWCs have been identified within the SAFPR. These LWCs are from TNRIS and were last updated in March 2025. The TNRIS data includes locations monitored by the Bexar Flood Website[2], Bexar County Highwater Alert Lifesaving Technology (HALT)[3], and San Antonio Flood Emergency (SAFE) Route System[4]. Community feedback was used to identify additional problematic LWCs not already included in the TNRIS data.

1.6.1.3 Streamflow Gage Data

United States Geological Survey (USGS) gage information was used to identify flood-prone areas and evaluate historical flood events. A few key locations were identified along the major rivers and tributaries within the basin. The gages in these locations were evaluated for crucial historical flood events, which are summarized in Table 1-8.

1.6.1.4 Historical Flooding

Historic flood events provide insight regarding the location of flood-prone areas within the basin. Table 1-8 provides a list and brief description of historical flood events within the basin.

Table 1-8. List of Historical Floods

Flood Event	Description
2026 Central and South Texas Summer Flash Floods	In July of 2026, multiple rounds of heavy rainfall fell over several days in Central and South Texas. Multiple rivers and counties in the SAFPR and surrounding areas saw heavy flooding. Places in the adjacent FPRs, Kerr / Guadalupe Counties (FPR 11) and Uvalde / Real Counties (FPR 13) saw over 20 inches of rain. Upstream sections of the Guadalupe River did not crest as high as they did during the 2025 floods. The flooding claimed at least 3 lives in the surrounding areas to the SAFPR.

[2] https://www.bexarflood.org/#!/main/map

[3] https://www.bexar.org/2728/HALT-High-Water-Detection

[4] https://gis.sanantonio.gov/OEM/SAFE/index.html

Flood Event	Description
2025 Central Texas Summer Flash Floods	In June and July 2025 several flash floods affected the Central Texas area causing many deaths and significant damage. On June 12, 2025, San Antonio was hit by severe storms that led to 3 to 8 inches of rain falling resulting in 13 deaths, particularly in the Perrin Beitel area. On July 4, a catastrophic flash flood hit the Texas Hill Country, particularly devastating areas in Bandera County and Kerr County (mainly in FPR 11). The Guadalupe River surged over 26 feet in just 45 minutes, claiming at least 135 lives, including 27 children and staff at Camp Mystic. Following the summer flash floods another flash flood hit the City of San Antonio on the evening of August 31st. About 2 inches of rain was reported to have fallen around the San Antonio International Airport. The flash flooding resulted in 2 fatalities near Salado Creek.
2024 Spring Storms and Floods	Severe weather, including large hail, damaging winds, heavy rainfall, and flash flooding, impacted the state from April 26 - June 5, 2024, especially during the month of May. The Governor of Texas issued a disaster proclamation for these events. Region 12 Counties affected include Bandera, Bexar, Calhoun, Comal, DeWitt, Karnes, Kerr, Kendall, Guadalupe, and Wilson.
2021 Summer Coastal Flash Floods	In summer 2021, a series of storms hit the Texas Mid Coastal Counties, causing flash flooding. Victoria and Karnes County USGS gages along the San Antonio River saw record discharge amounts. As a result of this flash flooding, the NWS reports 1 injury and 1 death in Victoria. On July 6th heavy rains swept through San Antonio and Bexar County leading to flash flooding in some areas and several high-water rescues.
2017 Hurricane Harvey	Hurricane Harvey is one of the most expensive storms on record, costing an estimated $250 million in damages to FPR 12 counties, which were not in the direct path of the storm.
April 2016 North American Storm Complex Floods	The April 2016 North American storm complex was a major storm system that resulted from an upper-level low in the United States stalling over Texas and producing record breaking rain and floods. Historical USGS gage discharge rates were recorded in Karnes and Victoria Counties along the San Antonio River. The NWS reports 2 flash flood related casualties recorded during this year within the region.

Flood Event	Description
2015 October Flood	In October 2015, a tornado and large storm ravaged Central Texas. The Wilson County USGS gage on Cibolo Creek saw record discharge amounts. As a result of this flash flooding, the NWS reports 1 death each in Bexar and Comal Counties.
2015 Memorial Day Flood	In May 2015, a slow-moving storm swept Oklahoma and Texas, causing flash flooding throughout the region. Bandera and Victoria County USGS gages along the Medina and San Antonio Rivers recorded historical discharge rates. As a result of this flash flooding, the NWS reports 1 death each in Bexar and Medina Counties.
2013 May Floods	May 2013 brought flash floods that affected the whole region. Historical discharge rates were recorded along the San Antonio River in Bexar and Karnes Counties. The NWS reports that flash floods resulted in 3 casualties in Bexar and Guadalupe Counties.
2010 June Floods from Hurricane Alex	Flash floods hit Central Texas in June 2010 in the after math of Hurricane Alex, making it one of the more costly events the region has endured. An estimated $20 million in damages were reported for Bexar, Comal, and Guadalupe Counties. As a result of this flood, the NWS reports 1 death in Comal County.
2007 Water Year	During a 6-month period in March to September 2007, nearly continuous flooding occurred in Texas. In August, Tropical Storm Erin hit the region's coastal counties. The year 2007 was one of the costliest ever recorded for flood damage. Just in FPR 12, the NWS reports $20 million in damages. From June through August, the NWS reports historical USGS gage discharge rates for the San Antonio River and Cibolo Creek in Bexar and Wilson Counties. The NWS reports that FPR 12 had 10 fatalities within this 6-month period.
2005 Hurricane Rita	Hurricane Rita was the most intense hurricane to pass through the Gulf of America (previously known as the Gulf of Mexico) and caused severe coastal flooding. According to the Alamo Area Council of Governments Regional Mitigation Action Plan, it caused severe coastal flooding and led to emergency declarations in Atascosa, Bandera, Bexar, Comal, Guadalupe, Karnes, Kerr, Medina, and Wilson Counties.
2004 November Storms	November 2004 turned out to be the wettest November on record for many Texas communities as a train of storms swept across the state. The region was hit by a costly flash flood that resulted in 2 deaths in Bexar County and set historic peak discharge rates at the USGS gage on Salado Creek in Bexar County.

Flood Event	Description
2002 Tropical Storm Fay	In July 2002, flash floods hit the region due to Tropical Storm Fay. Historical USGS discharge rates were recorded all across the region: Medina River in Bandera County, Salado Creek in Bexar County, and San Antonio River in Karnes and Goliad Counties. As a result of these floods, the NWS reports 5 deaths from Bexar and Kendall Counties. Later that year, in November, the NWS reports that extreme flash flooding resulted in 18 injuries in Bexar County.
2001 Floods	In August 2001, Atascosa, Bexar, Comal, Guadalupe, Karnes, Kerr, and Wilson Counties encountered severe flash flooding. Water was reported 6 inches over the 500-year floodplain mark along State Highway 123 in Wilson County. Floods caused an estimated $2 million in damages.
1998 October Flood from Hurricane Madeline	As a result of Hurricane Madeline South Central Texas experienced record-breaking rainfall in October 1998, making it the costliest flood event for the region. The NWS reports $446 million in damages across the region. The NWS reports 11 casualties in Bexar County and 4,040 injuries total for the region, most of them being in Bexar, Comal, Guadalupe, and De Witt Counties. Historical USGS gage discharge rates were recorded throughout the region, from Medina River in Bandera County all the way down to the coast on the San Antonio River in Goliad. Per SARA, the completion of the San Antonio River Flood Tunnels in January 1998 significantly reduced the impacts of these flash floods in San Antonio.
1997 June Flash Flood	Heavy rainfall in June 1997 caused flash flooding in South Central Texas. As a result, the NWS reports 4 casualties and 115 injuries across Bexar, Medina, Bandera, Guadalupe, Comal, and Kendall Counties. Historical USGS gage discharge rates were recorded along the Medina River in Bandera and Bexar Counties. The town of Bandera in Bandera County was completely cut off due to flooding, a state helicopter had to rescue people from flooded cars and trees in the surrounding areas. This is one of the more costly events for the region, with the NWS reporting $29 million in damages resulting from this event.
1990 July Flood	July 1990 was known as the "wettest" July in San Antonio. One of the largest USGS gage discharge rates was recorded for San Antonio River in Bexar County.

Flood Event	Description
1987 Gulf Tropical Storm Floods	The June 1987 Gulf Coast tropical storm hit the Texas coast and caused widespread flooding throughout the state. The upper counties of the region were hit hard, setting historical USGS gage discharge rates for the Medina River in Bandera and Bexar Counties.
1978 Hurricane Amelia	Hurricane Amelia hit Texas and stalled over the region's upper counties. This storm devastated Bandera County and surrounding areas. Due to this event, the USGS gage on the Medina River in Bandera County recorded the highest discharge rate and water level ever recorded for the region, at 281,000 cubic feet per second and 50 feet.
1967 Hurricane Beulah	Hurricane Beulah hit Texas in September 1967. The storm caused Goliad County to record the highest flow discharge of 138,000 cubic feet per second, the second highest recorded discharge in FPR 12.
1946 San Antonio Flood	A September flood hit Bexar and Karnes Counties in 1946. This event set a historical USGS discharge rate along the San Antonio River in Karnes County. As a result, SARA reports 4 casualties in San Antonio.
1921 San Antonio Flood	On September 9, 1921, a tropical depression stalled just north of San Antonio, and within hours flooded the creek networks in San Antonio. Due to this event, SARA reports a total of $3.7 million in damages and more than 51 casualties in San Antonio. This flood sparked construction of the Olmos Dam.
1919 Texas Coastal Storm Surge	On September 14th of 1919, the deadliest hurricane to affect the Coastal Bend of Texas made landfall between Baffin Bay and Corpus Christi. The category 3 hurricane created a storm surge that affected the whole Texas coast into Louisiana which resulted in an estimated 600 to 1,000 deaths. Damage was estimated at 20 million dollars, which correlates to nearly 300 million dollars in 2025. In the San Antonio Basin, the storm surge elevation reached 11-16 ft in the Aransas County area.
1913 October Flood	A record rainfall of more than 7 inches in 24 hours caused major flooding along the San Antonio River. The CoSA reports flooding along San Pedro and Alazan Creeks. Historical USGS gage levels were recorded in Goliad and Karnes Counties.

Source: CoSA, SARA, NWS

1.6.1.4.1 National Weather Service Flood Data

The National Weather Service (NWS) has documented fatalities, injuries, and property damage as the result of past flood events since 1996. These statistics are compiled from information contained in Storm Data, a database comprising information from NWS forecast offices in the 50 states, Puerto Rico, Guam, and the Virgin Islands. The Centers for Disease Control and Prevention is the official government source of cause of death in the United States, including weather-related fatalities.

A summary of flood damage data gathered from the NWS can be seen in Table 1-9 and Table 1-10 reports flood damage in dollars, injuries, and fatalities by year and county, respectively. To generate Table 1-9 and Table 1-10, data was collected from the NWS and filtered to highlight damage raw yearly damage data in Texas was downloaded from the NWS website. Then, a filter on counties was used so that only damage data from SAFPR counties remain in the dataset. Finally, types of damages that are non-essential to this study, such as wind and fire damage, were filtered out, leaving only damages from Coastal Flood, Flash Flood, Flood, and Storm Surge/Tide. The fatalities, injuries, and damage estimates found under "Hurricane/Tropical Cyclone" events are attributed only to the wind, so these events were excluded.

The NWS data was downloaded in December 2024. As noted in the Table 1-8 List of Historic Floods, central Texas experienced devastating floods during 2025 resulting in 15 fatalities in Bexar County. As of October 2025, the NWS website has not updated their dataset to include these past flood events, so the data presented in this RFP does not reflect the damages, injuries and fatalities since December 2024. The 15 fatalities in SAFPR from 2025 are documented under the Local Knowledge section.

Table 1-9. SAFPR Yearly Losses associated with Flooding as reported by the National Weather Service, since 1996

Flood Year	Damages	Injuries	Fatalities
1996	$76,000	2	1
1997	$32,173,000	115	6
1998	$452,054,000	4,063	17
1999	$446,000	0	0
2000	$1,208,000	8	1
2001	$4,969,000	63	1

Flood Year	Damages	Injuries	Fatalities
2002	$2,160,000	22	5
2003	$528,000	0	0
2004	$1,572,000	1	4
2005	$0	0	0
2006	$2,000,000	0	0
2007	$21,920,000	1	10
2008	$255,000	0	0
2009	$0	0	0
2010	$20,900,000	0	4
2011	$0	0	0
2012	$110,000	0	0
2013	$100,000	0	4
2014	$200,000	0	0
2015	$1,455,000	0	4
2016	$250,000	0	2
2017	$254,020,000	0	1
2018	$50,000	0	0
2019	$5,000	0	0
2020	$2,055,000	0	0
2021	$ 765,000	1	3
2022	$0	0	0
2023	$0	0	0
2024[a]	$10,000	0	0
Total	**$ 799,281,000**	**4,276**	**63**

Source: NWS

Table 1-10. SAFPR Total County Losses associated with Flooding as reported by the National Weather Service, since 1996

Counties	Percentage of County Area in FPR 12	Damages	Injuries	Fatalities
Aransas	13	$203,368,500	0	0
Atascosa	1	$1,237,000	0	0
Bandera	66	$7,783,000	26	5
Bexar	97	$ 44,340,000	852	31
Calhoun	27	$32,535,000	0	0
Comal	17	$272,518,000	920	6
De Witt	9	$43,265,000	1,120	0
Goliad	39	$25,000	0	1
Guadalupe	24	$52,053,000	829	8
Karnes	80	$4,584,000	170	0
Kendall	19	$6,846,000	20	6
Kerr	5	$1,263,000	22	3
Medina	15	$17,148,000	59	2
Refugio	13	$20,000	0	0
Victoria	5	$22,736,000	1	1
Wilson	82	$89,656,000	257	0
Total	**—**	**$799,281,000**	**4,276**	**63**

Source: NWS

The NWS only started associating locations to the past flood events starting in 2007. Data collected from past flood events are shown in the following figures below; Figure 1-11 property damage, Figure 1-12 fatalities, and Figure 1-13 injuries.

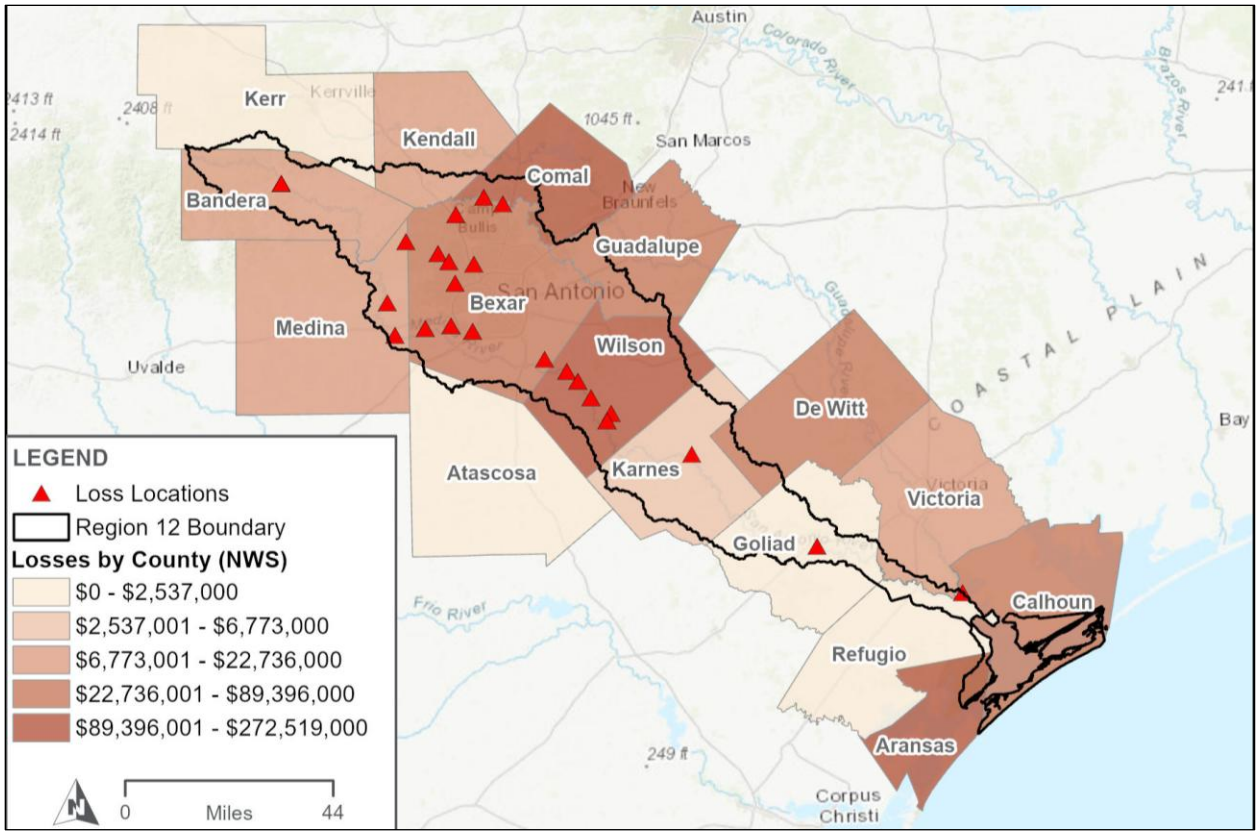


Figure 1-11. National Weather Service Property Damage from Flooding, since 2007

Source: NWS

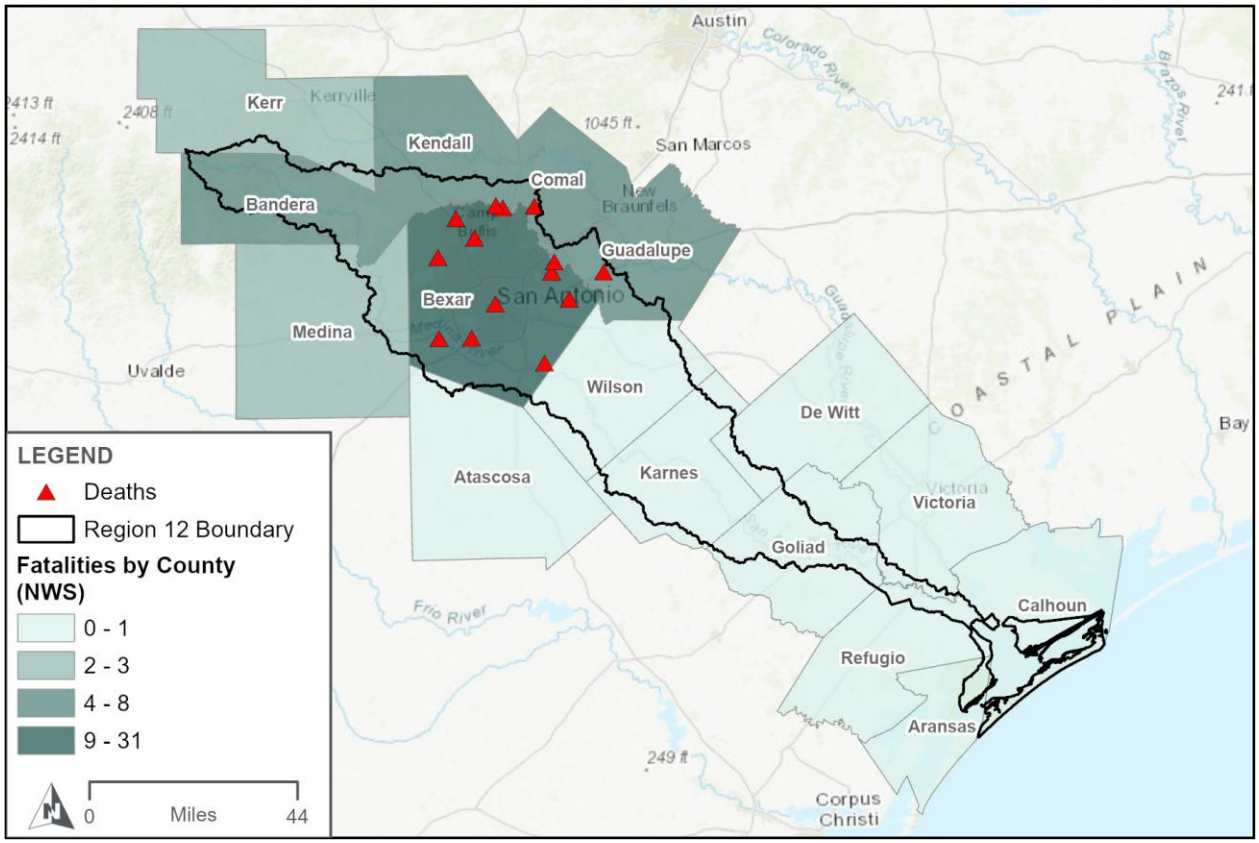


Figure 1-12. National Weather Service Fatalities from Flooding, since 2007

Source: NWS

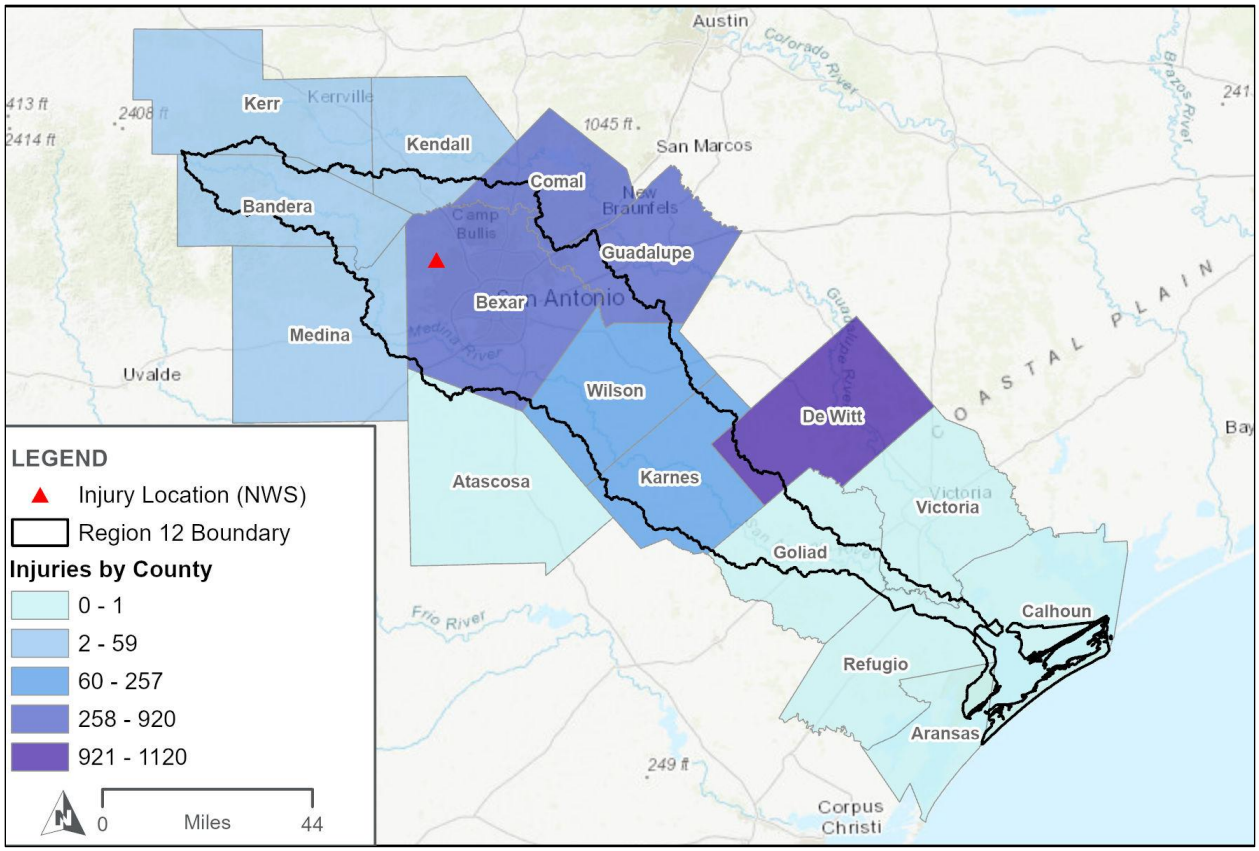


Figure 1-13. National Weather Service Injuries from Flooding, since 2007

Source: NWS

1.6.1.4.2 FEMA Flood Damage Data

FEMA flood assistance data through its various funding programs was obtained in September 2025 through the FEMA website presenting in Figure 1-14.

Table 1-11 includes flood-related damages by county. Unlike the gross damage data in Table 1-9 and Table 1-10, data in Table 1-11 is summarized from various federal programs. FEMA funding assistance of five federal programs is summarized by county: Public Assistance Funded Project Summaries, Individuals and Households Program – Valid Registrations, Individual Assistance Housing Registrants – Large Disasters, Housing Assistance Program, and National Flood Insurance Program Claims. These datasets are from different programs that start in different years for the various counties.

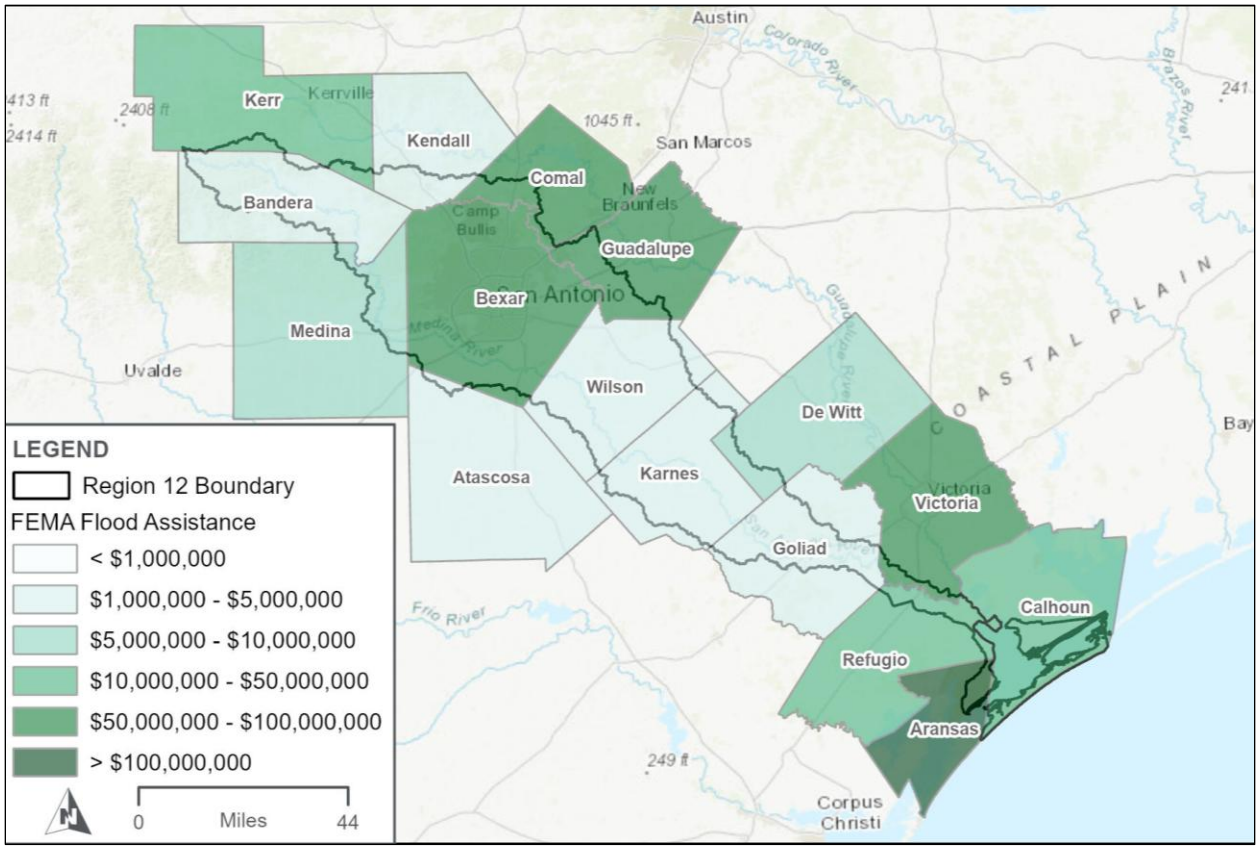


Figure 1-14. FEMA Flood Assistance through various Funding Programs

Source: FEMA - [OpenFEMA Data Sets | FEMA.gov]

Table 1-11. FEMA Funding for Flood Related Damages by Program (starting dates vary by county and program)

Counties	Public Assistance Funded Project Summaries	Individuals and Households Program – Valid Registrations		Individual Assistance Housing Registrants – Large Disasters	Housing Assistance Program		National Flood Insurance Program	Total FEMA Assistance
	Federal Obligated Amount	Flood Damage Amount	Repair Amount	Real Property Damage Amount Observed by FEMA	Owners Total Damage	Renters Approved Amount	Building Claim Amount	
Aransas	$79,544,414	$7,328,541	$12,592,160	$7,829,502	$43,973,365	$6,487,298	$48,634,483	$206,389,763
Atascosa	$335,690	$94,935	$410,367	$33,340	$651,293	$516,621	$361,930	$2,404,175
Bandera	$237,908	$0	$66,987	$14,255	$79,434	$50,588	$3,602,445	$4,051,617
Bexar	$228,248	$2,045,533	$4,421,731	$773,245	$7,071,876	$27,347,011	$28,539,410	$70,427,054
Calhoun	$19,265,348	$627,546	$3,659,808	$550,244	$8,155,686	$1,715,882	$6,638,105	$40,612,619
Comal	$1,081,709	$585,521	$357,560	$55,716	$936,510	$1,279,043	$49,286,533	$53,582,591
De Witt	$1,552,871	$484,243	$502,309	$188,916	$1,267,525	$504,572	$4,515,353	$9,015,789
Goliad	$280,282	$22,554	$656,313	$95,926	$1,369,518	$224,607	$470,293	$3,119,494
Guadalupe	$806,346	$1,206,238	$2,322,284	$32,557	$3,879,297	$1,270,873	$77,698,518	$87,216,114
Karnes	$128,924	$4,580	$623,137	$53,312	$1,027,749	$155,674	$193,292	$2,186,668

Counties	Public Assistance Funded Project Summaries	Individuals and Households Program – Valid Registrations		Individual Assistance Housing Registrants – Large Disasters	Housing Assistance Program		National Flood Insurance Program	Total FEMA Assistance
	Federal Obligated Amount	Flood Damage Amount	Repair Amount	Real Property Damage Amount Observed by FEMA	Owners Total Damage	Renters Approved Amount	Building Claim Amount	
Kendall	$280,442	$118,970	$86,026	$15,474	$181,004	$163,824	$2,721,957	$3,567,697
Kerr	$0	$9,109,780	$4,279,675	$8,733	$9,319,478	$1,255,229	$14,182,609	$38,155,505
Medina	$1,375,651	$1,421,149	$987,079	$43,046	$1,352,113	$254,158	$3,099,459	$8,532,655
Refugio	$30,546,767	$195,479	$2,816,461	$775,170	$7,195,819	$1,038,675	$1,514,089	$44,082,461
Victoria	$25,863,602	$2,070,202	$6,594,668	$1,532,987	$15,539,253	$8,518,267	$9,206,850	$69,325,829
Wilson	$1,161,884	$0	$100,085	$20,641	$258,904	$184,137	$1,043,644	$2,769,295
Totals	**$162,690,085**	**$25,315,271**	**$40,476,649**	**$12,023,064**	**$102,258,827**	**$50,966,460**	**$251,708,969**	**$645,439,324**

1.7 Political Subdivisions with Flood-Related Authority

Under the Texas Water Code, a political subdivision with flood-related authority is a local government entity, such as a county, municipality, drainage district, river authority, or groundwater conservation district. Political subdivisions are important to flood planning because they are the governmental entities that have the legal authority, jurisdiction, and responsibility to plan, fund, implement, operate, and maintain flood risk reduction projects. Since flood hazards often cross jurisdictional boundaries, effective flood planning requires coordination among entities.

A list of existing political subdivisions within the SAFPR that have flood-related authority is provided in Table 6 Existing Floodplain Management Practices in Appendix A. In the SAFPR, most eligible entities participate in the National Flood Insurance Program (NFIP). Political subdivisions participating in the National Flood Insurance Program (NFIP) are required under Texas Water Code §16.315 to adopt a floodplain management ordinance and designate a floodplain administrator. The administrator is responsible for interpreting and administering the local ordinance, reviewing proposed development for compliance, and ensuring the community remains in compliance with NFIP standards. These responsibilities help protect the integrity and function of the local floodplain, reduce flood risk to people and property, and promote resilient, sustainable development. The TWDB provided a list of the NFIP participants within the SAFPR; a total of 63 entities were identified, including 16 counties and 47 cities. Further evaluation of these entities and their floodplain management practices is discussed in detail in Chapter 3 Floodplain Management Practices and Flood Protection Goals.

1.8 Flood Risk Local Regulation and Development Codes

Using policies and regulations to reduce the exposure of people and properties to flood risk are forms of nonstructural flood control. By encouraging or requiring communities to avoid developing in flood-prone areas altogether or to take precautions such as increasing building elevations, preserving overflow areas through buffering, and avoiding sensitive natural areas such as wetlands, communities can reduce the likelihood and extent of damages to existing and new development. Local regulations and development codes pertaining to flooding include:

- **Floodplain Ordinances:** Floodplain ordinances regulate development and the impact new development has on a community's floodplain. Community regulations are typically based on FEMA-provided flood hazard information but can also be based on other local sources of data.

Participation in the NFIP requires a community to have adopted a floodplain ordinance with minimum requirements established by FEMA.

- **Building Standards:** Building standards may include considerations for structures located within a floodplain, including minimum finish floor elevations and flood proofing requirements. NFIP requirements also set standards for property owners seeking to renovate structures in a floodplain, including those that experience repetitive or severe flood losses.
- **Drainage Design Standards:** Adopted drainage design standards set the minimum requirements for stormwater management that must be met prior to the approval of construction plans. Drainage criteria within the SAFPR are typically adopted by municipalities but are also used by counties.
- **Zoning and Land Use Policies:** Planning and zoning ordinances regulate acceptable types of land uses within a community to promote appropriate development, safety, and general welfare. Some communities use zoning and land use ordinances to establish open space requirements, conservation easements, and minimum setbacks from creeks and wetlands to preserve floodplain function and promote sustainable and resilient development.
- **Local and Regional Flood Plans:** Local and regional flood plans analyze a community's flood risk and present how that entity will improve its resiliency. Drainage master plans describe a community's physical and institutional planning environment and establish interjurisdictional roles and responsibilities when many drainage entities are present. Capital Improvement Plans (CIP) identify capital project alternatives for an entity, provide economic analysis for alternatives, and often rank alternatives based on feasibility.

Local regulations and development codes, as well as their prevalence within the SAFPR, are discussed in detail in Chapter 3 Floodplain Management Practices and Flood Protection Goals.

1.9 Existing Local and Regional Flood Plans and Studies

Table 1-12 provides a list of ongoing and previous flood plans and studies considered by the San Antonio RFPG to be relevant to the development of the San Antonio RFP.

Table 1-12. Previous and Ongoing Local and Regional Relevant Flood Plans and Studies

Previous and Relevant Flood Study	Description	Jurisdictions Covered	Counties	Year
TWDB Base Level Engineering	BLE is an efficient modeling and mapping approach that aims to provide technically credible flood hazard data at various geographic scales such as community, county, watershed, and/or state level. This data are meant to complement the current effective FIRM data, but not replace it. The TWDB is currently modeling and mapping the whole state with 1D or 2D BLE. Expected completion date is contingent on many factors including federal funding availability, partnering agency involvement, and evolving prioritizations.	Texas Wide	Aransas, Atascosa, Bandera, Bexar, Calhoun, Comal, DeWitt, Goliad, Guadalupe, Karnes, Kendall, Kerr, Medina, Refugio, Victoria, Wilson	Ongoing
Zarzamora and Lucas Creek PER	A Preliminary Engineering Study/Report is being conducted by Bexar County on the Zarzamora and Lucas Creeks to find alternatives to the flooding issues along each creek. Alternatives proposed include channel improvements, bridge upgrades and riparian wetland enhancements.	Bexar County	Bexar	Ongoing

GLO River Basin Flood Study	In September 2020, the Texas General Land Office (GLO) initiated the Combined River Basin Flood Studies planning process to collect, analyze, and communicate flood risk information to help decision makers with protecting Texans from future floods. The GLO website provides information on the Combined River Basin Flood Studies[a]	Karnes, Refugio, and Aransas Counties	Karnes, Refugio, Aransas	Ongoing
Holistic Watershed Master Plans	The San Antonio River Authority (SARA) has worked with partner agencies since 2009 to complete Watershed Master Plans for the Upper San Antonio River, Leon Creek, Salado Creek, Medina River, Lower San Antonio River, and Cibolo Creek watersheds. The Watershed Master Plan Viewer displays[b] data produced in the various Master Plan reports, as well as other useful reference data. It is intended to be used as a visualization tool to assist the public, stakeholders, and decision makers in understanding both watershed issues and potential solutions.	All jurisdictions within Bexar, Karnes, Wilson, and Goliad Counties	Bexar, Goliad, Karnes, Wilson	Ongoing
GLO COG MOD Kendall County Drainage Improvements	Texas General Land Office Councils of Governments (COGs) Method of Distribution (MOD) Approved Regional Mitigation Fund Projects. The county will improve flood and drainage on roadways and river crossings, improve public facilities and create a master drainage plan. The GLO website provides information on the Regional Mitigation Program[b]	Kendall County	Kendal	Ongoing

Concepcion PER / Alternative Analysis	The City of San Antonio has conducted multiple studies to analyze flood mitigation alternatives along Concepcion Creek. A Preliminary Engineering Study was completed in February 2021. An alternatives analysis was completed in March 2023. A second alternatives analysis was completed in November 2025. Each study proposes various mitigation actions including channel improvements, storm drain improvements, a large drainage tunnel, and detention ponds.	City of San Antonio	Bexar	2021, 2023, 2025
Wilson County HMAP	The Wilson County Hazard Mitigation Action Plan (HMAP) is a multi-jurisdictional plan covering one (1) County, four (4) cities, four (4) independent school districts. The hazard mitigation plan goal is to identify hazard vulnerabilities on people and property that exist today and in the foreseeable future, hazards including flooding and dam failure. The HMAP prioritizes mitigation actions based on hazards which can present the greatest risk.	Wilson County, City of Floresville, City of La Vernia, City of Poth, City of Stockdale	Wilson	2025
Bandera County HMAP	The Bandera County Hazard Mitigation Plan is a multi-jurisdictional plan covering one (1) County, one (1) city, three (3) independent school districts, and one (1) water district. The hazard mitigation plan goal is to identify hazard vulnerabilities on people and property that exist today and in the foreseeable future, hazards including flooding and dam failure. The HMAP prioritizes mitigation actions based on hazards which can present the greatest risk.	Bandera County, Bandera City	Bandera	2024

Karnes County FIF Study	Flood Study for Karnes County to find alternatives to some of the most flood vulnerable areas. Funded through the TWDB Flood Infrastructure Fund (FIF).	Karnes County	Karnes	2023
Kendall, Comal, and Calhoun County HMAPs	Kendall, Comal, and Calhoun County each produced their own Hazard Mitigation Plans in 2023. The hazard mitigation plan goal is to identify hazard vulnerabilities on people and property that exist today and in the foreseeable future, hazards including flooding and dam failure. The HMAP prioritizes mitigation actions based on hazards which can present the greatest risk.	Kendall, Comal, and Calhoun Counties	Kendall, Comal, Calhoun	2023
Castroville Drainage Master Plan	In response to local flooding concerns, the City of Castroville developed a Drainage Master Plan to assess flood risk within the community and to identify opportunities to plan, design, and construct improvements.	City of Castroville	Medina	2022
City of Boerne Drainage Master Plan	The City of Boerne updated their drainage master plan and updated their development code. Results identified structures and roadways at risk to flooding during frequent storm events. Total project costs included more than $60.5 million, removed approximately 67% of structures from the 100-year floodplain, and provided 100-year level of service to eight roadways and increased mobility for several others.	City of Boerne	Kendall	2021

Upper Cibolo Risk MAP Study	Floodplain physical map revisions based on updated hydrologic and hydraulic analysis within the San Antonio River Basin in the Upper Cibolo watershed. The results are being incorporated into the draft National Flood Hazard Layer (NFHL).	City of Bulverde, City of Boerne, City of Fair Oaks Ranch, City of San Antonio, Bandera County, Bexar County, Comal County, Kendall County	Bandera, Bexar, Comal, Kendall	2021
Lower San Antonio Risk MAP Study	Floodplain physical map revisions based on updated hydrologic and hydraulic analysis within the San Antonio River Basin in the Upper Cibolo watershed. The results are being incorporated into the draft National Flood Hazard Layer (NHFL).	City of Floresville, City of Kenedy, City of Runge, City of Northeim, City of Goliad, City of Falls City, City of Karnes, City of Poth, City of San Antonio, Bexar County, Dewitt County, Wilson County, Karnes County, Goliad County	Bexar, Guadalupe, DeWitt, Wilson, Karnes, Goliad	2021
San Geronimo Risk MAP Study	Floodplain physical map revisions based on updated hydrologic and hydraulic analysis within the San Antonio River Basin in the San Geronimo watershed. The results are being incorporated into the draft National Flood Hazard Layer (NHFL).	City of San Antonio, Bandera County, Bexar County, Medina County	Bandera, Bexar, Medina	2021
Coastal Resiliency Master Plan	Developed by the Texas GLO, the 2019 Texas Coastal Resiliency Master Plan is the second installment of a statewide plan to protect and promote a vibrant and resilient Texas coast that supports and sustains a strong economy and healthy environment for all who live, work, play, or otherwise benefit from the natural resources and infrastructure along the Texas coast.	All jurisdictions within the Texas coastal counties	Aransas, Refugio	2020

Aransas County Multi-Jurisdictional Floodplain Management Plan	The focus of the mitigation action plan is to reduce future losses within Aransas County by identifying mitigation strategies based on a detailed hazard risk analysis, including both an assessment of regional hazards and vulnerability. The mitigation strategies seek to identify potential loss-reduction opportunities. The goal of this effort is to work towards more disaster-resistant and resilient communities throughout Aransas County.	Aransas County	Aransas	2020
Calaveras Risk MAP Study	Floodplain physical map revisions based on updated hydrologic and hydraulic analysis within the San Antonio River Basin in the Calaveras watershed. The results have been incorporated into the preliminary NFHL. FEMA's Flood Datasets are available through the Map Service Center[d]. Flood risk data can be viewed on the SARA Risk MAP Viewer[e].	City of China Grove, City of Elmendorf, City of San Antonio, Bexar County, Wilson County	Bexar, Wilson	2019
Bandera County River Authority and Groundwater District Flood Plan	The BCRAGD Flood Plan defines lines of communication, personnel assignments, safety, special flood conditions and post-flood operations for Bandera County.	All jurisdictions within the BCRAGD	Bandera	2019

Development of Flood Warning Tool Set for Medina River, Bandera County (TWDB Final Report: Contract No. 1600012035)	The study area encompassed a 23-mile reach of the Medina River from the confluence of Winans Creek to English Crossing Road above Medina Lake. The USGS developed a HEC-RAS model, which applied data from existing streamflow-gaging stations and installed two additional "stage only" streamflow gaging stations along the headwaters of the North and West Prongs of the Medina River. A flood atlas, consisting of a library of flood-inundation maps for a range of streamflow conditions, was developed and included on the USGS FIMP website[f]. The flood inundation maps depict estimates of the areal extent and depth of flooding corresponding to selected water levels (stages) at the USGS streamflow-gaging station 08178880 Medina River at Bandera, Texas.	All jurisdictions within BCRAGD	Bandera	2019
Aransas County Texas Multi-Jurisdictional HMAP	This plan covers 2 counties, 8 cities, and 2 school districts. The purpose of the plan is to minimize or eliminate long-term risks to human life and property from known hazards, and to break the cycle of high cost disaster response and recovery within the planning area.	Aransas County	Aransas	2019

Medina Risk MAP Study	Floodplain physical map revisions based on updated hydrologic and hydraulic analysis within the San Antonio River Basin in the Medina River watershed. The results have been incorporated into the effective NFHL. FEMA's Flood Datasets are available through the Map Service Center[g]. Flood risk data can be viewed on the SARA Risk MAP Viewer[e].	City of Bandera, City of Castroville, Kerr County, Bandera County, Medina County	Bandera, Kendall, Kerr, Medina	2018
Hazard Identification, Risk Assessment and Consequence Analysis	The HIRA is the first step in evaluating natural and technological hazards that exist. It serves as a basis for the development plans, public education programs, and responder training and exercises. It also lays a foundation to begin mitigation efforts to minimize these identified potential threats.	Bexar County, City of San Antonio	Bexar	2017
City of San Antonio Local Drainage Master Plan	In 2016, SARA teamed with CoSA to develop a Drainage Master Plan of previously documented potential projects within city limits in order to identify candidates for the 2017 bond program.	City of San Antonio	Bexar	2016
Bexar Risk MAP Study – Ft Sam Tributary, Airport Tributary, and UNT 1 to Martinez A	Floodplain physical map revisions based on updated H&H analysis within the San Antonio River Basin in the Medina River watershed. The results have been incorporated into the effective NFHL. FEMA's Flood Datasets are available through the Map Service Center[g]. Flood risk data can be viewed on the SARA Risk MAP Viewer[e].	City of San Antonio, City of Terrell Hills, Bexar County	Bexar	2015

Upper Woodlawn Lake Watershed	A Drainage Study was completed for the Upper Woodlawn Lake Watershed by the City of San Antonio in September 2012 to identify high-risk flood areas within the urban area and along Alazan Creek (Seeling Channel) and develop/prioritize potential capital improvement projects to reduce flood risk within high-risk areas. Potential flood mitigation improvements included urban storm drain upgrades, new bypass storm drain systems and channel/bridge improvements along Seeling Channel.	City of San Antonio	Bexar	2012
Holistic Watershed Master Plans	SARA has worked with partner agencies since 2009 to complete Watershed Master Plans for the Upper San Antonio River, Leon Creek, Salado Creek, Medina River, Lower San Antonio River, and Cibolo Creek watersheds. The Master Plans have two primary objectives: identify needs and opportunities related to flood risk, water quality issues, low impact development, stream restoration, nature-based park planning, mitigation banking, and conservation easements; and develop and assess proposed projects to address the identified needs and preserve identified opportunities. The Watershed Master Plan Viewer[h] displays data produced in the various Master Plan reports, as well as other useful reference data. It is intended to be used as a visualization tool to assist the public, stakeholders, and decision-makers in understanding both watershed issues and potential solutions.	All jurisdictions within Bexar, Karnes, Wilson, and Goliad Counties	Bexar, Goliad, Karnes, Wilson	2009–2015

Bexar, Wilson, Karnes, and Goliad County-Wide 2010 Flood Insurance Studies	The FEMA NFHL data was digitized and updated with new terrain, survey, hydrologic, and hydraulic data. FEMA's Flood Datasets are available through the Map Service Center[g].	All jurisdictions within Bexar, Wilson, Karnes, and Goliad Counties	Bexar, Wilson, Karnes, Goliad	2010
Alamo Area Council of Governments (AACOG) Regional Muti-Hazard Mitigation Plan	In 2005, CoSA and Bexar County participated in the development of the Alamo Area Council of Government's (AACOG) Regional Multi-Hazard Mitigation Plan. This plan looked at a range of hazards and provided some basic risk and vulnerability information for those identified.	All jurisdictions within AACOG Area	Bexar, Kerr, Kendall, Comal, Bandera, Guadalupe, Medina, Atascosa, Wilson, Karnes	2005

[a] Map Service Center, https://msc.fema.gov/portal/advanceSearch
[b] Watershed Master Plan Viewer, https://experience.arcgis.com/experience/d9e510a7bfbb456fa3243c9f7ba20766
[c] Regional Mitigation Program - GLO, https://www.glo.texas.gov/disaster-recovery/mitigation/regional-mitigation
[d] Map Service Center, https://msc.fema.gov/portal/advanceSearch
[e] SARA Risk MAP Viewer, https://www.arcgis.com/apps/webappviewer/index.html?id=0b13614f13124257bfe589a459ba84fe
[f] USGS FIMP website, https://www.usgs.gov/mission-areas/water-resources/science/flood-inundation-mapping-fim-program
[g] FEMA Map Service Center, https://msc.fema.gov/portal/advanceSearch
[h] Watershed Master Plan Viewer, https://www.sariverauthority.org/wp-content/uploads/2024/02/WMP_MapUserGuide-2.pdf
Notes: BCRAGD = Bandera County River Authority and Groundwater District; FIMP = Flood Inundation Mapping Program; GLO = General Land Office; H&H = hydrologic and hydraulic; HEC-RAS = Hydrologic Engineering Center River Analysis System; HIRA = Hazard Identification Risk Assessment; HMAP = Hazard Mitigation Action Plan; HMP = Hazard Mitigation Plan; MAP = Mapping, Assessment, and Planning

1.10 Agricultural and Natural Resources Impacted by Flooding

1.10.1 Farming

Flooding or excess precipitation may cause delays in, and reduction of, crop harvest and may erode sediment and nutrients, resulting in partial or sometimes complete crop loss. The impact that flooding has on farming depends on factors, including crop type, stage of the growing or harvesting season when the flood event occurs, and magnitude of flooding. The numerous crop types grown within the SAFPR have varying resiliency to excess precipitation and prolonged ground inundation. Permanent crops, such as trees, tend to be more resilient to excess precipitation and ground inundation than row crops, such as corn or cotton. Within the SAFPR, row crops comprise most of the farming production. Heavy rain before planting can delay planting or prevent planting for the season. Additionally, flood damages can occur after crops such as cotton or hay have been harvested but not bailed or processed.

1.10.2 Ranching

Ranching activities within the SAFPR are also impacted by flooding. Livestock can be swept away, drowned, or injured by flash floods. After a flood, livestock can be particularly susceptible to certain types of parasites and diseases. Excessive rain may cause an increase in vectors, including flies and mosquitoes, and cases of foot rot, which is a foot disease of cattle, sheep, and goats[5]. Flood events may also result in delays in building back livestock herds and flood damages to livestock silage can reduce livestock head counts.

1.10.3 Wildlife and Ecological Resources

The SAFPR contains numerous resources, such as wildlife, that can be affected by flood events. As with livestock, wildlife can be injured or killed by flash floods. Severe flood conditions can degrade stream health and affect ecosystems within the region.

However, in some ways, flooding can be a benefit for fields, wetlands, and riparian areas if limited in depth, duration, and velocity. However, typically within this region where flash floods are common, flooding causes erosion of

[5] https://www.mla.com.au/research-and-development/dealing-with-natural-disasters/flood-recovery/, accessed July 1, 2026.

sediment and nutrients, which may cause nutrient overgrowth and algal blooms in water bodies as well as nutrient deficiencies in agricultural lands.

1.11 Assessment of Existing Infrastructure

Understanding the SAFPR's existing natural and structural flood infrastructure provides context in identifying strategies and flood planning recommendations throughout the planning process. This section details the natural and constructed infrastructure within the SAFPR. Applicable natural features and constructed infrastructure are summarized in Table 1-13 along with the condition of each feature. This information is also included in the SAFPR's geographic information system (GIS) geodatabase, Appendix A Table 2, and Appendix B Map 1 and 2.

Existing flood infrastructure within the SAFPR are owned and managed by numerous entities, including both governmental entities and individual property owners. Flood infrastructure may include nonstructural measures such as natural area preservation, buyout of repetitive flood loss properties, or flood warning systems, and includes major public infrastructure like flood control dams. The TWDB Flood Data Hub[6] provides data to assist with identifying flood management infrastructure. The SAFPR's geodatabase was populated with available information from the TWDB as well as other state and federal sources. The multiple data sources were reviewed and amended to include one data point per location if duplication occurred across datasets.

Table 1-13. Natural Features and Constructed Major Flood Infrastructure

Flood Infrastructure	Source/Description	General Condition
Natural Features[a]		
Rivers, tributaries, and functioning floodplains	National Hydrography Dataset	Functional
Functioning floodplains	Floodplains from TWDB compiled "flood quilt"	Functional
Wetlands	National Wetland Inventory	Functional
Sinkholes	National Hydrography Dataset	Functional
Alluvial fans	None Identified	N/A
Playa lakes	None Identified	N/A

[6] https://www.twdb.texas.gov/flood/planning/data.asp, accessed September 20, 2025.

Flood Infrastructure	Source/Description	General Condition
Constructed Major Infrastructure		
Levees	United States Army Corps of Engineers	Deficient
Stormwater tunnels	CoSA	Functional
Flood tunnel	CoSA	Functional
Dams that provide flood protection	Texas Commission on Environmental Quality, National Resources Conservation Service, and SARA	Functional/Nonfunctional/ Unknown
Detention and retention ponds	Numerous sources, including Texas Commission on Environmental Quality and individual municipalities and counties	Unknown
Storm drain systems	Individual municipalities and counties	Unknown
Nature-based solutions	CoSA	Functional
Flood early warning systems	SARA	Functional
Bridges	TxDOT	Functional

[a] 31 TAC §361.31 states that RFPs must include a general description of the location, condition, and functionality of natural features and constructed major infrastructure within the FPR. Several of these do not exist within the SAFPR, including vegetated dunes; sea barriers, walls, and revetments; and tidal barriers and gates.
Notes: N/A = not applicable

1.11.1 Natural Features

Urbanization and overuse of rangeland can reduce the permeability of soil, making land less efficient at detaining stormwater and infiltrating rainfall into the soil profile. In more urbanized areas, drainage infrastructure is designed to collect and concentrate stormwater, which can increase the velocity and intensity of runoff, leading to higher and faster flood flow peaks, stream degradation, and reduced stormwater quality.

As land fragmentation in some areas of the SAFPR increases due to urbanization, oil and gas development, and other factors, focused land

management efforts will be necessary to continue to receive the flood control benefits provided by open land. The United States Army Corps of Engineers' (USACE) Engineering with Nature program[7] aims to bring natural and engineered processes together to deliver more efficient and sustainable projects. Local, state, and federal governments manage local, state, and regional parks and lands as well as wildlife management areas within the SAFPR that form part of the region's natural infrastructure.

Left in their natural state, open lands are typically efficient at managing rainfall but even the most open land can become overwhelmed with floods if enough water concentrates in one area at once. Rainfall is slowed by vegetation, which allows runoff to infiltrate into the soil. Rangeland performs this function effectively. However, rainfall on cropland may pool and runoff more quickly, by comparison. Well-designed parklands in more urban areas can attain nearly the same rate of stormwater capture and detention as lands in undeveloped areas. For engineered natural features to effectively achieve flood mitigation, they are often designed to form part of an interconnected network of open space containing predominantly natural areas, which is known as low impact development (LID)[8] or green infrastructure. These practices can be defined as replicating natural processes to capture stormwater runoff where even small changes in developed areas can lessen downstream flooding.

1.11.1.1 Rivers, Tributaries, and Functioning Floodplains

Streams and rivers and their associated floodplains have the natural flood storage capacity to contribute significantly to overall flood control and management. The natural hydrologic features operate as a single, integrated, natural system. When this system is disrupted, effects can cascade through the watershed, resulting in increased flood risk. Floodplain maintenance in an undeveloped state provides rivers and streams the ability to store the maximum volume of floodwater and reduce flood peak volumes. Preservation of a natural, integrated system of waterways and floodplains also serves a valuable function in urban areas.

With a length of approximately 240 miles, the San Antonio River is a tributary of the Guadalupe River and the primary stream within the SAFPR. The San Antonio River's watershed drains an area of approximately 4,194 square miles. It flows generally southeast through Bexar, Wilson, Karnes, Goliad, and Refugio Counties before emptying into the Guadalupe River right before the

[7] https://ewn.erdc.dren.mil/, accessed July 1, 2026.

[8] https://lowimpactdevelopment.org/, accessed July 1, 2026.

combined rivers discharge into the San Antonio Bay. Other significant rivers and streams within the SAFPR include the Medina River, Cibolo Creek, and Salado Creek.

The SAFPR's lakes, reservoirs, parks, and preserves serve as important components of the ecosystem, encompassing a wide variety of plants, animals, and physical features that are imperative for the continued ecological health of the region. These types of natural flood infrastructure are generally located in or close to floodplain areas throughout the basin, with higher concentrations being located along or close to major rivers and tributaries where they are able to retain water during flood events.

1.11.1.2 Karst Features

Recharge-related sinkhole and discharge-related flooding are associated with karst topography. Rapid urban development on karst usually increases the mass on the land surface, which increases the chance of collapse through sinkholes. Even if no sinkholes are visible in a karst region, continuing karstic development in urban areas can affect building foundations and long-term stability of infrastructure. Additionally, impervious paved surfaces in urban areas can block infiltration, altering native groundwater flow paths. In some situations, karst features can rapidly infiltrate surface flood waters and provide flood reduction capabilities. If karst features are used as flood management, water quality control measures should be implemented simultaneously to prevent groundwater contamination from any surface water pollutants.

1.11.2 Constructed Flood Infrastructure

Major constructed flood infrastructure ranges from dams and levees to municipal drainage systems, which consist of constructed channels and storm drain systems. It also includes nature-based solutions (NBS), flood early warning systems, and bridges.

1.11.2.1 Reservoirs

Impounded water features such as reservoirs serve many purposes, including flood risk reduction, recreation, and water supply for municipal, industrial, irrigation, and fire protection purposes. The three major reservoirs (greater than 5,000 acre-feet storage capacity) located within the SAFPR are shown in Table 1-14.

Table 1-14. Major Reservoirs within the SAFPR

Reservoir	Location
Calaveras Lake	Bexar County, 20 miles southeast of downtown San Antonio
Medina Lake	Medina and Bandera County, approximately 12 miles southeast of the City of Bandera
Victor Braunig Lake	Bexar County, 17 miles south of downtown San Antonio

1.11.2.2 Dams

Additional dams on smaller tributaries exist across the SAFPR and were identified from several sources, including the Texas State Soil and Water Conservation Board (TSSWCB), Texas Commission on Environmental Quality (TCEQ), and USACE. Several dams were designed and constructed by the Natural Resources Conservation Service (NRCS), formerly the Soil Conservation Service (SCS). These smaller dams provide detention benefits throughout the region. As an example, the dams along the San Antonio River provide more combined storage than the Olmos Dam. All identified dams included as part of the SAFPR's infrastructure inventory are listed below in Table 1-15.

Table 1-15. Dams within the SAFPR

Dam Name	Dam Name	Dam Name
711 Ranch Lake Dam	Escondido Creek WS SCS Site 5 Dam	Pawelek Lake No 1 Dam
Alamo Angus Ranch Lake Dam	Escondido Creek WS SCS Site 6 Dam	Pawelek Lake No 2 Dam
Alkek Lake No 1 Dam	Escondido Creek WS SCS Site 7 Dam	Purple Sage Ranch Lake Dam
Alkek Lake No 2 Dam	Escondido Creek WS SCS Site 8 Dam	Randy Robertson Dam
Armstrong Lake Dam	Escondido Creek WS SCS Site 9 Dam	Red Berry Estates Dam
Army Residence Community Dam	Gabe Lake Dam	Riley Lake Dam

Dam Name	Dam Name	Dam Name
Baker Lake Dam	Gallant Lake Dam	River Ranch Lake Dam
Ballasetal Lake Dam	Garrison Ranch Lake Dam	Rock Cliff Dam
Berry Lake Dam	Grothaus Lake Dam	Salado Creek WS NRCS Site 15r Dam
Blue Wing Lake Dam	Gutierrez Ranch Dam	Salado Creek WS SCS Site 1 Dam
Boazman Lake Dam	H and K Lake Dam	Salado Creek WS SCS Site 10 Dam
Bobby Hollub Gss	Hadfield Lake Dam	Salado Creek WS SCS Site 11 Dam
Boerne Public Park Dam	Harmark Lake Dam	Salado Creek WS SCS Site 12 Dam
Breakie Dam	Heimsath Cemetery Lake Dam	Salado Creek WS SCS Site 13a Dam
Brewington Creek Ranch Dam	Hensley Lake Dam	Salado Creek WS SCS Site 13b Dam
Brooklyn Street Lock and Dam	Hidden Springs Dam	Salado Creek WS SCS Site 2 Dam
Calaveras Creek Dam	Hondo Creek WS SCS Site 1 Dam	Salado Creek WS SCS Site 4 Dam
Calaveras Creek WS SCS Site 10 Dam	Hondo Creek WS SCS Site 2 Dam	Salado Creek WS SCS Site 5 Dam
Calaveras Creek WS SCS Site 3 Dam	Hondo Creek WS SCS Site 3 Dam	Salado Creek WS SCS Site 6 Dam
Calaveras Creek WS SCS Site 5 Dam	Ikins Lake Dam No 1	Salado Creek WS SCS Site 7 Dam
Calaveras Creek WS SCS Site 6 Dam	Ikins Lake Dam No 2	Salado Creek WS SCS Site 8 Dam
Calaveras Creek WS SCS Site 7 Dam	Jc Webb Dam	Salado Creek WS SCS Site 9 Dam

Dam Name	Dam Name	Dam Name
Calaveras Creek WS SCS Site 8 Dam	Johnson Lake Dam	San Geronimo Creek Recharge Dam
Calaveras Creek WS SCS Site 9 Dam	Kelso Dam	SCENIC RANCH DAM
Canvasback Lake Dam	Kilroy Lake Dam	Schoenfeld Dam
Cassin Lake Dam	Kirby Lake Dam	Schuchart Lake Dam
Chandler Dam	Korth Lake Dam	Scott Lake Dam
Circle Dot Dam	Kotzur Lake Dam	Seale Ranch Lake Dam
Clearwater Ranch Dam	Lake Oz Dam	Silver Spring Dam
Color Spot Nurseries Dam	Lakeview Estates Dam	Singing Hills Unit 1 Detention Dam
Connally Lake No 1 Dam	Langford Dam	Smith Investment Lake No 1 Dam
Connally Lake No 2 Dam	Lions Park Lake Dam	Smith Investment Lake No 3 Dam
Crea Brothers Lake Dam	Love Creek Dam	Solana Ridge Detention Pond Dam
Dagen Lake Dam	Luckey Lake Dam	Stormwater Evaporation Pond
Dawson Ranch Dam No 2	Madrona Dam	Tessman Lake Dam
Dawson Ranch Dam No 4	Madrona Ranch Lake Dam	Thompson Lake Dam
Dawson Ranch Dam No1	Martinez Creek WS SCS Site 1 Dam	Twin Lakes Dam No 1
Denman Park Dam	Martinez Creek WS SCS Site 2 Dam	Tx No Name No 16 Dam
Diamond S Ranch Dam	Martinez Creek WS SCS Site 3 Dam	Tx No Name No 17 Dam
Dryzmalla Lake Levee	Martinez Creek WS SCS Site 4 Dam	Tx No Name No 18 Dam

Dam Name	Dam Name	Dam Name
Dye Lake Dam	Martinez Creek WS SCS Site 5 Dam	Tx No Name No 19 Dam
Eagle Creek Ranch Dam No 1	Martinez Creek WS SCS Site 6a Dam	Tx No Name No 6 Dam
Eagle Creek Ranch Dam No 2	Masters Lake Dam	Upper Cibolo Creek WS SCS Site 1 Dam
Ecleto Creek WS NRCS Site 3 Dam	Medina Diversion Lake Dam	Upper Cibolo Creek WS SCS Site 2 Dam
Ecleto Creek WS NRCS Site 9a Dam	Medina Lake Dam	Upper Cibolo Creek WS SCS Site 3 Dam
Ecleto Creek WS SCS Site 10 Dam	Mitchell Lake Dam	Upper Cibolo Creek WS SCS Site 4 Dam
Ecleto Creek WS SCS Site 4 Dam	Montague Lake Dam	Victor Braunig Dam
Ecleto Creek WS SCS Site 6 Dam	Mosher Big Lake Dam	Walton Lake Dam
Elmendorf Lake Dam	Mosher Little Lake Dam	Water Turkey Lake Dam
Escondido Creek WS SCS Site 1 Dam	New Espada Lake Dam	White Lake Dam
Escondido Creek WS SCS Site 10 Dam	New Langford Lake Dam	White Lake Dam
Escondido Creek WS SCS Site 11 Dam	Nieschwietz Lake Dam	White Ranch Lake Dam
Escondido Creek WS SCS Site 12 Dam	Okeefe Dam	Wildlake Dam
Escondido Creek WS SCS Site 13 Dam	Old Langford Lake Dam	Woodlawn Lake Dam
Escondido Creek WS SCS Site 2 Dam	Olinick Dam	Youngblood Lake Dam
Escondido Creek WS SCS Site 3 Dam	Olmos Dam	—

Dam Name	Dam Name	Dam Name
Escondido Creek WS SCS Site 4 Dam	Or Mitchell Lake 1 Dam	—

Notes: WS = Watershed

1.11.2.3 Weirs

Weirs are low-lying blockades, similar to dams; however, instead of stopping water significantly, these structures are used to slow down or alter the water flow for various purposes. Weir structures constructed for flood control purposes were identified throughout the SAFPR.

1.11.2.4 Levees

Levees are man-made embankments that artificially contain flood flows to a restricted floodplain. More than 1 million Texans and $127 billion worth of property are protected by levees, including 51 USACE levee systems.

Within SAFPR, there are eight levee systems. Three levees are part of the Guadalupe River levee system, four levees are part of the Refugio County levee system, and one levee is located in Victoria and Calhoun Counties.

1.11.2.5 Stormwater Management Systems

Stormwater management systems serve to manage both the quantity and quality of the water that drains into natural waterways. The TCEQ regulates the discharge of municipal separate storm sewer systems (MS4) through the permits administered under the Texas Pollutant Discharge Elimination System, known as Phase I (large and medium) or Phase II (small) MS4 permits. To be subject to MS4 permit requirements, a municipality must own and operate storm drainage infrastructure. Phase I MS4 requirements apply to incorporated cities that have populations exceeding 100,000 as of the 1990 census. Phase II MS4 requirements apply to all smaller “urbanized” areas, defined by the Bureau of the Census as containing 50,000 persons or more using either the 2000 or 2010 Census. San Antonio and all communities within the SAFPR boundaries are under Phases I and II MS4 permit requirements. Just based on population size and without the consideration of the storm drain ownership, no other communities met the TCEQ MS4 requirements.

1.11.2.6 Flood Tunnels

Flood tunnels are used to convey large quantities of flood water through an underground tunnel to reduce flood risk. These tunnels are typically used in

densely populated areas where the existing stormwater system is near capacity. Within the SAFPR, two flood tunnels currently protect the downtown area of the CoSA. These tunnels run beneath the city along San Pedro Creek and the San Antonio River.

1.11.2.7 Nature-Based Solutions

Nature Based Solutions (NBS) include preserving the natural ecosystem. In more developed urban areas where preservation is no longer possible, reconstruction and restoration may be used. One prime example of this in the SAFPR is the Mission Reach, an 8-mile stretch of the San Antonio River which has become a riparian woodland ecosystem.

1.11.2.8 Flood Early Warning Systems

Flood early warning systems (FEWS) monitor hydrologic and hydraulic parameters such as discharge, heavy precipitation, and water surface elevation to provide critical information about risk levels to information preparedness measures by entities to respond to potential flood events. When certain thresholds are reached or surpassed, alerts will be sent to designated personnel to help ensure entities are warned in a timely manner and provide better preparedness for decision making. These systems provide valuable insight and are designed to give more reliable and timely data during events that are rapidly changing. A key example of this in the SAFPR is the NextGen Flood Warning System currently being developed. The NextGen Flood Warning System is a regional safety network developed by Bexar County, the City of San Antonio, and the San Antonio River Authority that uses advanced sensor technology, predictive flood modeling, real-time alerts, and automated road-closure gates to protect motorists from dangerous low water crossings.

1.11.2.9 Bridges

Bridges are utilized to provide transportation across the span of low points such as streams and floodplains for vehicles and pedestrians. Bridges are designed to safely convey flow for varying flood events, however the design criteria for bridges can vary depending on the governing entity. Bridges are located across the SAFPR.

1.11.3 Assessment of Condition, Functionality, and Confidence of Existing Infrastructure

The general location, description, level of service (LOS), functionality, deficiency, and owning/operating entities for each identified natural flood mitigation feature and major constructed flood infrastructure are summarized

in Table 1-13 and the geographic information system (GIS) geodatabase. Additional information for significant or deficient/nonfunctional features or infrastructure are detailed in subsequent sections.

In this planning cycle, the TWDB developed an Infrastructure Toolkit User Guide. The guide provides an overview and classification assistance to improve the assessment of flood infrastructure and its condition and functionality in the region. The classification methodology detailed in the guide was utilized by the SAFPR to classify the condition, functionality, and confidence of existing infrastructure in the region as defined below.

- Functionality:
  - Functional infrastructure is defined as serving its intended design LOS.
  - Nonfunctional infrastructure is defined as not providing its intended or design LOS.
- Condition:
  - Nondeficient infrastructure is defined as being in good structural or nonstructural condition and does not require replacement, restoration, or rehabilitation.
  - Deficient is defined as infrastructure or natural features in poor structural or nonstructural condition that need replacement, restoration, or rehabilitation.
- Confidence:
  - High confidence infrastructure level is defined where official studies have been performed by a reputable agency to confirm the condition or functionality rating.
  - Low confidence infrastructure level is defined where no studies, reports, or analysis are available to confirm or deny the condition or functionality rating.

1.11.3.1 Nonfunctional or Deficient

Information compiled and responses provided through stakeholder outreach has been limited to date. Two explanations for nonfunctional and deficient infrastructure include lack of funding for a stormwater utility and higher design standards adopted since the construction of existing stormwater drainage systems. Many municipalities lack a dedicated funding source for stormwater projects, operations, and maintenance; however, Texas state law does provide a mechanism for municipalities to establish a dedicated revenue source for drainage through the implementation of a stormwater utility fee. Additionally, older infrastructure was often built to lower historic design standards, leaving legacy systems unequipped to handle modern flood control criteria.

1.11.3.2 Dam Safety Assessment

In 2019, the Association of State Dam Safety Officials estimated the cost to rehabilitate all nonfederal dams in Texas at approximately $5 billion. The TSSWCB estimates approximately $2.1 billion is needed to repair or rehabilitate dams included in the Small Watershed Programs. A dam is classified as high hazard if its failure could cause significant loss of life, serious damage to structures, or disruption to important public utilities or transportation facilities. A dam's hazard classification is not an assessment of condition. The TCEQ maintains condition data for nonfederal dams as part of the Texas Dam Safety Program; however, information about the condition of many dams is not publicly available. Of the 7,200 nonfederal dams in Texas, more than 3,200 are exempt from dam safety requirements, representing almost half of nonfederal dams. Of the 169 dams located within the SAFPR, 8 do not meet the TCEQ requirements: Escondido Creek Watershed (WS) SCS Sites 1, 4, and 12, Upper Cibolo Creek WS SCS Sites 2 and 4, Cassin Lake Dam, Okeefe Dam, and Mosher Big Lake Dam. Note that the San Antonio River Authority currently has Flood Mitigation Projects (FMP) in the San Antonio RFP that will address the nonfunctional dams on Escondido Creek. Figure 1-15 shows the dams located within the SAFPR.

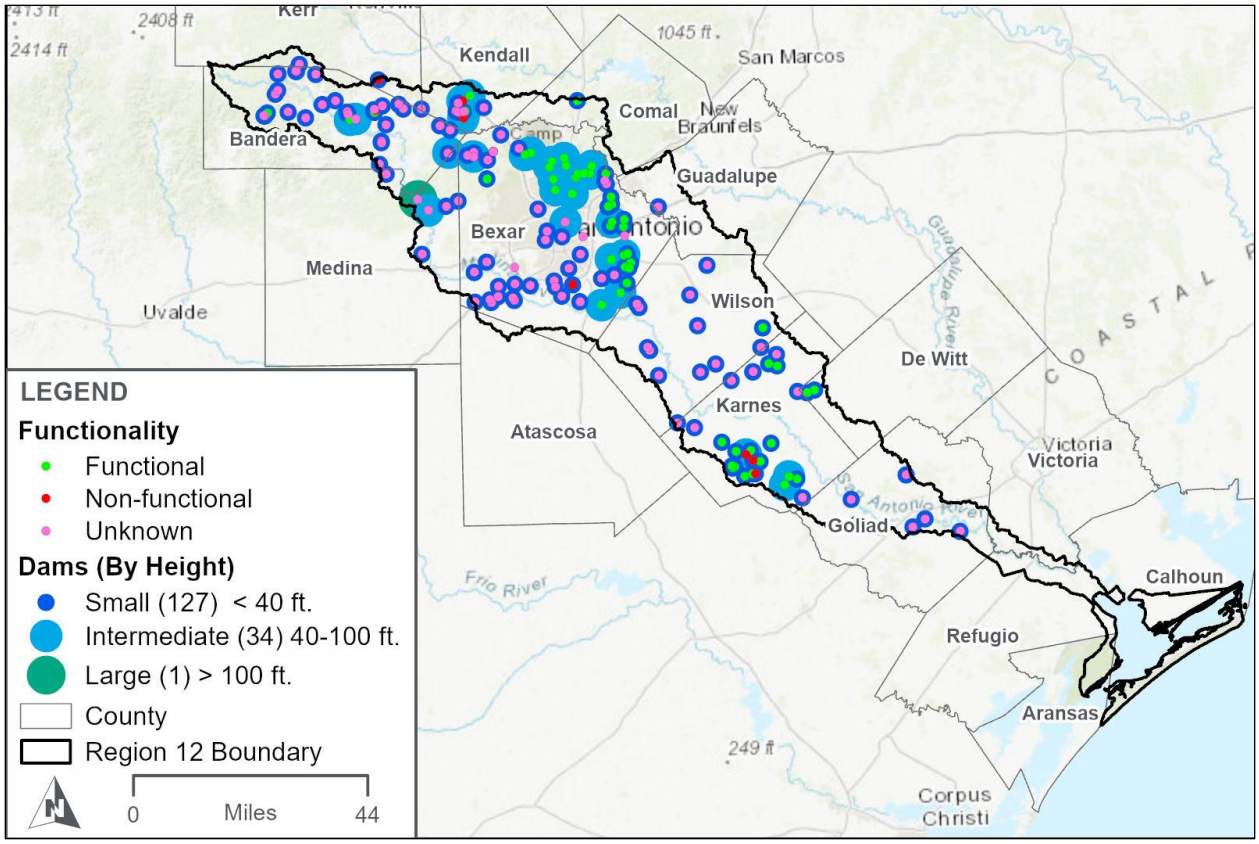


Figure 1-15. Dams Located within the SAFPR

Source: USACE, National Inventory of Dams, https://nid.usace.army.mil/#/

1.12 Proposed or Ongoing Flood Mitigation Projects

To reduce historical flood risk and improve deficient/nonfunctional infrastructure is done by implementing flood mitigation projects. The SAFPR currently has proposed and ongoing flood mitigation projects that are funded and ready to begin. An assessment of proposed and ongoing flood mitigation projects within the SAFPR includes a general description of the location, source of funding, and anticipated benefits. Proposed or ongoing flood mitigation projects within the SAFPR including:

- New structural flood mitigation projects currently under construction,
- Nonstructural flood mitigation projects currently being implemented, and
- Structural and nonstructural flood mitigation projects with dedicated funding to construct and the expected year of completion.

The data for this section are derived from a couple primary sources: existing TWDB Fund (DFund), GLO, TxDOT, CoSA and stakeholder survey. Gaps and limitations exist within the data. Overall, it only represents a small number

of communities within the basin and limited data was provided on individual projects. Additional information for proposed or ongoing flood mitigation projects are detailed in subsequent sections. A summary of proposed and ongoing flood mitigation projects is provided in Appendix A with an associated map showing their respective locations Map 3 Proposed or Ongoing Flood Mitigation Projects in Appendix B.

1.12.1 Structural Projects under Construction

Through the TWDB Dfund program one project is currently underway in the SAFPR, that is the Lake Medina Dam modifications. The CoSA funds projects through local bonds and a capital improvements program. Current CoSA projects include a wide range of drainage improvements, creek improvements, stream crossing upgrades, storm drain improvements, detention ponds. TXDOT has several ongoing road projects that include bridge rehabilitation/replacements, and culvert and storm drainage work. The GLO has two ongoing studies for the SAFPR including Marcelinas Study and San Antonio Bay study. Since this data was collected in the fall of 2025 projects may have already been completed by the time this San Antonio RFP is submitted.

1.12.2 Implementation of Nonstructural Flood Mitigation Projects

Some of the top goals noted through stakeholder outreach has been implementing protective standards and policies, identifying and communicating flood risk, restoring failing infrastructure, and implementing flood warnings and responses. In response to the devastating July 2025 floods, the Texas Legislature passed several bills aimed at improving Texas' preparedness for future flood events including Senate Bill 3 (SB3). SB3 relates to adding outdoor warning sirens in flash flood-prone areas. Thirty counties in Texas are able to receive state funding for these sirens, the counties within the SAFPR are Bandera, Bexar, Comal, Guadalupe, Kendall, and Kerr. The state is working to implement SB 3 on a highly accelerated timeline, however at this time the locations of these sirens have not been released.

Table 2. Summary of Existing Major Flood Infrastructure and Natural Features by County

County	Watersheds[A]	Feature Name	Infrastructure Type	Feature Count	Description	Natural or Constructed[B]	Level of Service (2-year, 10-year, 25-year, 50-year, 100-year, 500-year, Unknown)	Functionality (Functional, Non-functional, Unknown)	Functionality Confidence	Deficiency (Deficient, Non-deficient, Unknown)	Condition Confidence
Aransas	12-02-0000000106	Varies	Pond	15	Varies	Natural	Unknown	Functional	High	Unknown	None
Aransas	12-02-0000000106	Varies	Stormwater Channel	5	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Aransas	12-02-0000000106	Varies	Tributary	23	Varies	Natural	Unknown	Unknown	None	Unknown	None
Aransas	12-02-0000000002,12-02-0000000106	Varies	Wetland	328	Varies	Natural	Unknown	Unknown	None	Unknown	None
Atascosa	12-02-0000000044	Varies	Bridge	2	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Atascosa	12-02-0000000044,12-02-0000000109	Varies	Roadway Stream Crossing	31	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Atascosa	12-02-0000000044,12-02-0000000109	Varies	Sinkhole	8	Varies	Natural	Unknown	Functional	High	Unknown	None
Atascosa	12-02-0000000044,12-02-0000000109	Varies	Tributary	44	Varies	Natural	Unknown	Unknown	None	Unknown	None
Bandera	12-02-0000000006,12-02-0000000023,12-02-0000000027,12-02-0000000029,12-02-0000000030,12-02-0000000031,12-02-0000000062,12-02-0000000063,12-02-0000000064,12-02-0000000070	Varies	Bridge	28	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Bandera	12-02-0000000023,12-02-0000000029,12-02-0000000030	Varies	Dam	3	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Bandera	12-02-0000000030	Varies	Dam	1	Varies	Constructed	Unknown	Non-functional	High	Deficient	High
Bandera	12-02-0000000006,12-02-0000000008,12-02-0000000019,12-02-0000000023,12-02-0000000026,12-02-0000000027,12-02-0000000029,12-02-0000000030,12-02-0000000061,12-02-0000000062,12-02-0000000064,12-02-0000000070	Varies	Dam	20	Varies	Constructed	Unknown	Unknown	None	Deficient	Low
Bandera	12-02-0000000023,12-02-0000000024,12-02-0000000029	Varies	Dam	3	Varies	Constructed	Unknown	Unknown	None	Non-deficient	Low
Bandera	12-02-0000000024,12-02-0000000062,12-02-0000000070	Varies	Dam	5	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Bandera	12-02-0000000019,12-02-0000000023,12-02-0000000027,12-02-0000000029,12-02-0000000063	Varies	Gauge	5	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Bandera	12-02-0000000062,12-02-0000000063	Varies	Gauge	2	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Bandera	12-02-0000000027	Varies	LWC	1	Varies	Constructed	Unknown	Non-functional	Low	Deficient	High
Bandera	12-02-0000000006,12-02-0000000008,12-02-0000000024,12-02-0000000025,12-02-0000000026,12-02-0000000027,12-02-0000000029,12-02-0000000030,12-02-0000000031,12-02-0000000061,12-02-0000000062,12-02-0000000068	Varies	LWC	27	Varies	Constructed	Unknown	Non-functional	Low	Non-deficient	High
Bandera		Varies	LWC	43	Varies	Constructed	Unknown	Non-functional	Low	Unknown	None

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County	Watersheds[A]	Feature Name	Infrastructure Type	Feature Count	Description	Natural or Constructed[B]	Level of Service (2-year, 10-year, 25-year, 50-year, 100-year, 500-year, Unknown)	Functionality (Functional, Non-functional, Unknown)	Functionality Confidence	Deficiency (Deficient, Non-deficient, Unknown)	Condition Confidence
Bandera	12-02-0000000062	Varies	Park or Open Space	1	Varies	Natural	Unknown	Unknown	None	Unknown	None
Bandera		Varies	Pond	41	Varies	Natural	Unknown	Functional	High	Unknown	None
Bandera	12-02-0000000029,12-02-0000000064,12-02-0000000068	Varies	Reservoir	3	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Bandera		Varies	River	386	Varies	Natural	Unknown	Unknown	None	Unknown	None
Bandera		Varies	Roadway Stream Crossing	451	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Bandera		Varies	Tributary	1411	Varies	Natural	Unknown	Unknown	None	Unknown	None
Bandera	12-02-0000000019	Varies	Weir	1	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Bandera	12-02-0000000006,12-02-0000000008,12-02-0000000019,12-02-0000000024,12-02-0000000025,12-02-0000000026,12-02-0000000027,12-02-0000000029	Varies	Wetland	40	Varies	Natural	Unknown	Unknown	None	Unknown	None
Bexar	12-02-0000000004,12-02-0000000009,12-02-0000000011,12-02-0000000013,12-02-0000000014,12-02-0000000016,12-02-0000000017,12-02-0000000041,12-02-0000000047,12-02-0000000072,12-02-0000000073,12-02-0000000074,12-02-0000000102,12-02-0000000104	Varies	Bridge	43	Varies	Constructed	Unknown	Functional	High	Deficient	High
Bexar		Varies	Bridge	2258	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Bexar	12-02-0000000014,12-02-0000000016,12-02-0000000041,12-02-0000000104	Varies	Bridge	4	Varies	Constructed	Unknown	Non-functional	High	Deficient	High

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Table 2. Summary of Existing Major Flood Infrastructure and Natural Features by County

County	Watersheds[A]	Feature Name	Infrastructure Type	Feature Count	Description	Natural or Constructed[B]	Level of Service (2-year, 10-year, 25-year, 50-year, 100-year, 500-year, Unknown)	Functionality (Functional, Non-functional, Unknown)	Functionality Confidence	Deficiency (Deficient, Non-deficient, Unknown)	Condition Confidence
Bexar	12-02-0000000016,12-02-0000000104	Varies	Bridge	3	Varies	Constructed	Unknown	Non-functional	High	Non-deficient	High
Bexar	12-02-0000000003,12-02-0000000010,12-02-0000000011,12-02-0000000012,12-02-0000000015,12-02-0000000018,12-02-0000000072,12-02-0000000099,12-02-0000000104	Varies	Dam	32	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Bexar	12-02-0000000017	Varies	Dam	1	Varies	Constructed	Unknown	Non-functional	High	Deficient	High
Bexar		Varies	Dam	29	Varies	Constructed	Unknown	Unknown	None	Deficient	Low
Bexar	12-02-0000000014,12-02-0000000109	Varies	Dam	2	Varies	Constructed	Unknown	Unknown	None	Non-deficient	Low
Bexar	12-02-0000000004,12-02-0000000010,12-02-0000000022,12-02-0000000075,12-02-0000000104	Varies	Dam	7	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Bexar		Varies	Gauge	25	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Bexar	12-02-0000000016,12-02-0000000081,12-02-0000000099	Varies	Gauge	3	Varies	Constructed	Unknown	Functional	High	Unknown	None
Bexar	12-02-0000000004,12-02-0000000009,12-02-0000000015,12-02-0000000017,12-02-0000000018,12-02-0000000047	Varies	Gauge	7	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Bexar		Varies	LWC	84	Varies	Constructed	Unknown	Non-functional	Low	Non-deficient	High
Bexar		Varies	LWC	197	Varies	Constructed	Unknown	Non-functional	Low	Unknown	None
Bexar		Varies	Park or Open Space	397	Varies	Natural	Unknown	Unknown	None	Unknown	None
Bexar		Varies	Pond	133	Varies	Natural	Unknown	Functional	High	Unknown	None
Bexar	12-02-0000000010,12-02-0000000012,12-02-0000000015,12-02-0000000018,12-02-0000000104	Varies	Reservoir	14	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Bexar		Varies	River	621	Varies	Natural	Unknown	Unknown	None	Unknown	None
Bexar	12-02-0000000010	Varies	Roadway Stream Crossing	1	Varies	Constructed	Unknown	Non-functional	None	Unknown	None
Bexar		Varies	Roadway Stream Crossing	2725	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Bexar	12-02-0000000004,12-02-0000000016,12-02-0000000018,12-02-0000000044,12-02-0000000047,12-02-0000000109	Varies	Sinkhole	20	Varies	Natural	Unknown	Functional	High	Unknown	None
Bexar		Varies	Storm Drain System	8779	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Bexar	12-02-0000000016,12-02-0000000073	Varies	Storm Drain System	8	Varies	Constructed	Unknown	Functional	Low	Deficient	Low
Bexar		Varies	Storm Drain System	965	Varies	Constructed	Unknown	Functional	Low	Unknown	None

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Table 2. Summary of Existing Major Flood Infrastructure and Natural Features by County

County	Watersheds[A]	Feature Name	Infrastructure Type	Feature Count	Description	Natural or Constructed[B]	Level of Service (2-year, 10-year, 25-year, 50-year, 100-year, 500-year, Unknown)	Functionality (Functional, Non-functional, Unknown)	Functionality Confidence	Deficiency (Deficient, Non-deficient, Unknown)	Condition Confidence
Bexar	12-02-0000000073	Varies	Stormwater Channel	2	Varies	Constructed	Unknown	Functional	High	Deficient	Low
Bexar	12-02-0000000004,12-02-0000000009,12-02-0000000013,12-02-0000000014,12-02-0000000015,12-02-0000000016,12-02-0000000017,12-02-0000000047,12-02-0000000073,12-02-0000000074,12-02-0000000075	Varies	Stormwater Channel	37	Varies	Constructed	Unknown	Functional	High	Non-deficient	Low
Bexar		Varies	Stormwater Channel	6042	Varies	Constructed	Unknown	Functional	High	Unknown	None
Bexar		Varies	Stormwater Channel	323	Varies	Constructed	Unknown	Functional	Low	Non-deficient	Low
Bexar	12-02-0000000075	Varies	Stormwater Channel	1	Varies	Constructed	Unknown	Unknown	None	Deficient	Low
Bexar		Varies	Stormwater Channel	241	Varies	Constructed	Unknown	Unknown	None	Non-deficient	Low
Bexar		Varies	Stormwater Channel	446	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Bexar		Varies	Stormwater Channel	601	Varies	Natural	Unknown	Functional	High	Non-deficient	Low
Bexar	12-02-0000000011	Varies	Stormwater Channel	1	Varies	Natural	Unknown	Functional	Low	Non-deficient	Low
Bexar	12-02-0000000013,12-02-0000000014	Varies	Stormwater Channel	2	Varies	Natural	Unknown	Unknown	None	Non-deficient	Low
Bexar	12-02-0000000014,12-02-0000000016	Varies	Stormwater Tunnel	2	Varies	Constructed	Unknown	Functional	High	Non-deficient	Low
Bexar		Varies	Tributary	2486	Varies	Natural	Unknown	Unknown	None	Unknown	None
Bexar	12-02-0000000015,12-02-0000000016,12-02-0000000017,12-02-0000000021,12-02-0000000070	Varies	Weir	14	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Bexar	12-02-0000000004,12-02-0000000009,12-02-0000000010,12-02-0000000015,12-02-0000000016,12-02-0000000047,12-02-0000000048,12-02-0000000073,12-02-0000000075,12-02-0000000081,12-02-0000000097,12-02-0000000104	Varies	Wetland	24	Varies	Natural	Unknown	Unknown	None	Unknown	None
Calhoun	12-02-0000000002	Varies	Bridge	5	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Calhoun	12-02-0000000002	Varies	Levee	1	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Calhoun	12-02-0000000002,12-02-0000000106	Varies	Pond	101	Varies	Natural	Unknown	Functional	High	Unknown	None
Calhoun	12-02-0000000085	Varies	River	1	Varies	Natural	Unknown	Unknown	None	Unknown	None

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Table 2. Summary of Existing Major Flood Infrastructure and Natural Features by County

County	Watersheds[A]	Feature Name	Infrastructure Type	Feature Count	Description	Natural or Constructed[B]	Level of Service (2-year, 10-year, 25-year, 50-year, 100-year, 500-year, Unknown)	Functionality (Functional, Non-functional, Unknown)	Functionality Confidence	Deficiency (Deficient, Non-deficient, Unknown)	Condition Confidence
Calhoun	12-02-0000000002	Varies	Roadway Stream Crossing	31	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Calhoun	12-02-0000000002	Varies	Stormwater Channel	115	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Calhoun	12-02-0000000001,12-02-0000000002,12-02-0000000106	Varies	Tributary	363	Varies	Natural	Unknown	Unknown	None	Unknown	None
Calhoun	12-02-0000000001,12-02-0000000002,12-02-0000000106,12-02-0000000107	Varies	Wetland	1346	Varies	Natural	Unknown	Unknown	None	Unknown	None
Comal	12-02-0000000094,12-02-0000000096,12-02-0000000097,12-02-0000000099,12-02-0000000102	Varies	Bridge	26	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Comal	12-02-0000000094	Varies	Dam	1	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Comal	12-02-0000000096,12-02-0000000099	Varies	LWC	4	Varies	Constructed	Unknown	Non-functional	Low	Non-deficient	High
Comal	12-02-0000000094,12-02-0000000096,12-02-0000000097,12-02-0000000099	Varies	LWC	20	Varies	Constructed	Unknown	Non-functional	Low	Unknown	None
Comal	12-02-0000000100	Varies	Park or Open Space	1	Varies	Natural	Unknown	Unknown	None	Unknown	None
Comal	12-02-0000000099	Varies	Pond	2	Varies	Natural	Unknown	Functional	High	Unknown	None
Comal	12-02-0000000094,12-02-0000000095,12-02-0000000096,12-02-0000000097,12-02-0000000099,12-02-0000000102	Varies	River	30	Varies	Natural	Unknown	Unknown	None	Unknown	None
Comal	12-02-0000000094,12-02-0000000096,12-02-0000000097,12-02-0000000099,12-02-0000000102	Varies	Roadway Stream Crossing	187	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Comal	12-02-0000000097	Varies	Storm Drain System	3	Varies	Constructed	Unknown	Functional	Low	Unknown	None
Comal	12-02-0000000097	Varies	Stormwater Channel	2	Varies	Constructed	Unknown	Unknown	None	Non-deficient	Low
Comal	12-02-0000000094,12-02-0000000096,12-02-0000000097,12-02-0000000099	Varies	Tributary	252	Varies	Natural	Unknown	Unknown	None	Unknown	None
Comal	12-02-0000000097	Varies	Wetland	1	Varies	Natural	Unknown	Unknown	None	Unknown	None
De Witt	12-02-0000000034,12-02-0000000077,12-02-0000000079	Varies	Bridge	22	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
De Witt	12-02-0000000034	Varies	Dam	2	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
De Witt	12-02-0000000077	Varies	LWC	1	Varies	Constructed	Unknown	Non-functional	Low	Unknown	None
De Witt	12-02-0000000034,12-02-0000000077	Varies	Pond	3	Varies	Natural	Unknown	Functional	High	Unknown	None
De Witt	12-02-0000000028,12-02-0000000034,12-02-0000000038,12-02-0000000077,12-02-0000000079,12-02-0000000080	Varies	River	45	Varies	Natural	Unknown	Unknown	None	Unknown	None

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County	Watersheds[A]	Feature Name	Infrastructure Type	Feature Count	Description	Natural or Constructed[B]	Level of Service (2-year, 10-year, 25-year, 50-year, 100-year, 500-year, Unknown)	Functionality (Functional, Non-functional, Unknown)	Functionality Confidence	Deficiency (Deficient, Non-deficient, Unknown)	Condition Confidence
De Witt	12-02-0000000028,12-02-0000000034,12-02-0000000077,12-02-0000000079	Varies	Roadway Stream Crossing	98	Varies	Constructed	Unknown	Unknown	None	Unknown	None
De Witt	12-02-0000000034	Varies	Storm Drain System	1	Varies	Constructed	Unknown	Functional	Low	Unknown	None
De Witt	12-02-0000000028,12-02-0000000034,12-02-0000000077,12-02-0000000079	Varies	Tributary	135	Varies	Natural	Unknown	Unknown	None	Unknown	None
De Witt	12-02-0000000034,12-02-0000000077	Varies	Wetland	3	Varies	Natural	Unknown	Unknown	None	Unknown	None
Goliad	12-02-0000000032,12-02-0000000033,12-02-0000000042,12-02-0000000065,12-02-0000000066,12-02-0000000067,12-02-0000000078,12-02-0000000079,12-02-0000000080,12-02-0000000082,12-02-0000000083	Varies	Bridge	56	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Goliad	12-02-0000000032,12-02-0000000080,12-02-0000000082	Varies	Dam	3	Varies	Constructed	Unknown	Unknown	None	Deficient	Low
Goliad	12-02-0000000065	Varies	Dam	1	Varies	Constructed	Unknown	Unknown	None	Non-deficient	Low
Goliad	12-02-0000000082	Varies	Dam	1	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Goliad	12-02-0000000082	Varies	Gauge	1	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Goliad	12-02-0000000082	Varies	LWC	8	Varies	Constructed	Unknown	Non-functional	Low	Unknown	None
Goliad	12-02-0000000082	Varies	Park or Open Space	1	Varies	Natural	Unknown	Unknown	None	Unknown	None
Goliad	12-02-0000000032,12-02-0000000033,12-02-0000000065,12-02-0000000078,12-02-0000000079,12-02-0000000080,12-02-0000000082,12-02-0000000083	Varies	Pond	25	Varies	Natural	Unknown	Functional	High	Unknown	None
Goliad	12-02-0000000032,12-02-0000000033,12-02-0000000040,12-02-0000000042,12-02-0000000065,12-02-0000000066,12-02-0000000067,12-02-0000000077,12-02-0000000078,12-02-0000000079,12-02-0000000080,12-02-0000000082,12-02-0000000083	Varies	River	118	Varies	Natural	Unknown	Unknown	None	Unknown	None
Goliad	12-02-0000000032,12-02-0000000033,12-02-0000000040,12-02-0000000042,12-02-0000000065,12-02-0000000066,12-02-0000000067,12-02-0000000078,12-02-0000000079,12-02-0000000080,12-02-0000000082,12-02-0000000083	Varies	Roadway Stream Crossing	218	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Goliad	12-02-0000000080,12-02-0000000083	Varies	Storm Drain System	6	Varies	Constructed	Unknown	Functional	Low	Unknown	None

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Goliad	12-02-0000000032,12-02-0000000033	Varies	Stormwater Channel	10	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Goliad	12-02-0000000032,12-02-0000000033,12-02-0000000040,12-02-0000000042,12-02-0000000065,12-02-0000000066,12-02-0000000067,12-02-0000000077,12-02-0000000078,12-02-0000000079,12-02-0000000080,12-02-0000000082,12-02-0000000083	Varies	Tributary	707	Varies	Natural	Unknown	Unknown	None	Unknown	None
Goliad	12-02-0000000032,12-02-0000000033,12-02-0000000042,12-02-0000000065,12-02-0000000066,12-02-0000000067,12-02-0000000077,12-02-0000000078,12-02-0000000079,12-02-0000000080,12-02-0000000082,12-02-0000000083	Varies	Wetland	150	Varies	Natural	Unknown	Unknown	None	Unknown	None
Guadalupe	12-02-0000000057,12-02-0000000087,12-02-0000000100,12-02-0000000101,12-02-0000000102	Varies	Bridge	53	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Guadalupe	12-02-0000000102	Varies	Dam	1	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Guadalupe	12-02-0000000102	Varies	Gauge	1	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Guadalupe	12-02-0000000102	Varies	Gauge	1	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Guadalupe	12-02-0000000100	Varies	LWC	2	Varies	Constructed	Unknown	Non-functional	Low	Deficient	None
Guadalupe	12-02-0000000089,12-02-0000000100,12-02-0000000101,12-02-0000000102,12-02-0000000105	Varies	LWC	8	Varies	Constructed	Unknown	Non-functional	Low	Non-deficient	High
Guadalupe	12-02-0000000087,12-02-0000000089,12-02-0000000100,12-02-0000000101,12-02-0000000102	Varies	LWC	49	Varies	Constructed	Unknown	Non-functional	Low	Unknown	None
Guadalupe	12-02-0000000102	Varies	Park or Open Space	1	Varies	Natural	Unknown	Unknown	None	Unknown	None
Guadalupe	12-02-0000000057,12-02-0000000087,12-02-0000000100,12-02-0000000101,12-02-0000000102	Varies	Pond	7	Varies	Natural	Unknown	Functional	High	Unknown	None
Guadalupe	12-02-0000000057,12-02-0000000087,12-02-0000000089,12-02-0000000100,12-02-0000000101,12-02-0000000102,12-02-0000000105	Varies	River	65	Varies	Natural	Unknown	Unknown	None	Unknown	None
Guadalupe	12-02-0000000100,12-02-0000000102	Varies	Roadway Stream Crossing	14	Varies	Constructed	Unknown	Unknown	None	Deficient	None
Guadalupe	12-02-0000000100	Varies	Roadway Stream Crossing	1	Varies	Constructed	Unknown	Unknown	None	Non-deficient	None
Guadalupe	12-02-0000000057,12-02-0000000087,12-02-0000000089,12-02-0000000100,12-02-0000000101,12-02-0000000102,12-02-0000000105	Varies	Roadway Stream Crossing	267	Varies	Constructed	Unknown	Unknown	None	Unknown	None

[A] Leave blank if too many for text field length (254 characters).

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[C] Required, as applicable.

Table 2. Summary of Existing Major Flood Infrastructure and Natural Features by County

County	Watersheds[A]	Feature Name	Infrastructure Type	Feature Count	Description	Natural or Constructed[B]	Level of Service (2-year, 10-year, 25-year, 50-year, 100-year, 500-year, Unknown)	Functionality (Functional, Non-functional, Unknown)	Functionality Confidence	Deficiency (Deficient, Non-deficient, Unknown)	Condition Confidence
Guadalupe	12-02-0000000087,12-02-0000000100,12-02-0000000105	Varies	Sinkhole	24	Varies	Natural	Unknown	Functional	High	Unknown	None
Guadalupe	12-02-0000000087	Varies	Storm Drain System	1	Varies	Constructed	Unknown	Functional	Low	Unknown	None
Guadalupe	12-02-0000000102	Varies	Stormwater Channel	3	Varies	Constructed	Unknown	Functional	Low	Unknown	None
Guadalupe	12-02-0000000100	Varies	Stormwater Channel	1	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Guadalupe	12-02-0000000057,12-02-0000000086,12-02-0000000087,12-02-0000000089,12-02-0000000100,12-02-0000000101,12-02-0000000102,12-02-0000000105	Varies	Tributary	823	Varies	Natural	Unknown	Unknown	None	Unknown	None
Guadalupe	12-02-0000000087,12-02-0000000101	Varies	Wetland	2	Varies	Natural	Unknown	Unknown	None	Unknown	None
Karnes		Varies	Bridge	113	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Karnes	12-02-0000000035,12-02-0000000036,12-02-0000000037,12-02-0000000039,12-02-0000000059,12-02-0000000060	Varies	Dam	15	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Karnes	12-02-0000000035,12-02-0000000036	Varies	Dam	3	Varies	Constructed	Unknown	Non-functional	High	Non-deficient	High
Karnes	12-02-0000000049,12-02-0000000059,12-02-0000000066,12-02-0000000090,12-02-0000000111	Varies	Dam	7	Varies	Constructed	Unknown	Unknown	None	Deficient	Low
Karnes	12-02-0000000034	Varies	Dam	1	Varies	Constructed	Unknown	Unknown	None	Non-deficient	Low
Karnes	12-02-0000000028,12-02-0000000036,12-02-0000000038,12-02-0000000049,12-02-0000000090	Varies	Gauge	5	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Karnes	12-02-0000000049,12-02-0000000090	Varies	Gauge	2	Varies	Constructed	Unknown	Functional	High	Unknown	None
Karnes	12-02-0000000037,12-02-0000000049,12-02-0000000090	Varies	Gauge	3	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Karnes	12-02-0000000035,12-02-0000000036,12-02-0000000056,12-02-0000000059,12-02-0000000060,12-02-0000000090	Varies	LWC	8	Varies	Constructed	Unknown	Non-functional	Low	Non-deficient	High
Karnes	12-02-0000000035,12-02-0000000037,12-02-0000000039,12-02-0000000053,12-02-0000000060,12-02-0000000090	Varies	LWC	11	Varies	Constructed	Unknown	Non-functional	Low	Unknown	None
Karnes	12-02-0000000005,12-02-0000000034,12-02-0000000036,12-02-0000000037,12-02-0000000038,12-02-0000000039,12-02-0000000049,12-02-0000000053,12-02-0000000056,12-02-0000000059,12-02-0000000060,12-02-0000000090,12-02-0000000111	Varies	Pond	35	Varies	Natural	Unknown	Functional	High	Unknown	None

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Table 2. Summary of Existing Major Flood Infrastructure and Natural Features by County

County	Watersheds[A]	Feature Name	Infrastructure Type	Feature Count	Description	Natural or Constructed[B]	Level of Service (2-year, 10-year, 25-year, 50-year, 100-year, 500-year, Unknown)	Functionality (Functional, Non-functional, Unknown)	Functionality Confidence	Deficiency (Deficient, Non-deficient, Unknown)	Condition Confidence
Karnes	12-02-0000000035,12-02-0000000036,12-02-0000000037,12-02-0000000039,12-02-0000000053,12-02-0000000090	Varies	Reservoir	18	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Karnes		Varies	River	336	Varies	Natural	Unknown	Unknown	None	Unknown	None
Karnes		Varies	Roadway Stream Crossing	668	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Karnes	12-02-0000000028,12-02-0000000034,12-02-0000000035,12-02-0000000036,12-02-0000000038,12-02-0000000039,12-02-0000000077,12-02-0000000090,12-02-0000000111	Varies	Storm Drain System	15	Varies	Constructed	Unknown	Functional	Low	Unknown	None
Karnes		Varies	Tributary	1121	Varies	Natural	Unknown	Unknown	None	Unknown	None
Karnes	12-02-0000000028,12-02-0000000034,12-02-0000000035,12-02-0000000036,12-02-0000000037,12-02-0000000038,12-02-0000000039,12-02-0000000040,12-02-0000000042,12-02-0000000053,12-02-0000000056,12-02-0000000060,12-02-0000000066,12-02-0000000077,12-02-0000000090	Varies	Wetland	63	Varies	Natural	Unknown	Unknown	None	Unknown	None
Kendall	12-02-0000000091,12-02-0000000095,12-02-0000000096	Varies	Bridge	39	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Kendall	12-02-0000000091	Varies	Dam	2	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Kendall	12-02-0000000091	Varies	Dam	2	Varies	Constructed	Unknown	Non-functional	High	Non-deficient	High
Kendall	12-02-0000000091,12-02-0000000095	Varies	Dam	6	Varies	Constructed	Unknown	Unknown	None	Deficient	Low
Kendall	12-02-0000000095	Varies	Gauge	1	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Kendall	12-02-0000000095	Varies	Gauge	1	Varies	Constructed	Unknown	Functional	High	Unknown	None
Kendall	12-02-0000000095	Varies	Gauge	1	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Kendall	12-02-0000000091,12-02-0000000095	Varies	LWC	10	Varies	Constructed	Unknown	Non-functional	Low	Non-deficient	High
Kendall	12-02-0000000091,12-02-0000000095	Varies	LWC	13	Varies	Constructed	Unknown	Non-functional	Low	Unknown	None
Kendall	12-02-0000000062,12-02-0000000091	Varies	Park or Open Space	2	Varies	Natural	Unknown	Unknown	None	Unknown	None
Kendall	12-02-0000000061,12-02-0000000062,12-02-0000000091,12-02-0000000095	Varies	Pond	13	Varies	Natural	Unknown	Functional	High	Unknown	None
Kendall	12-02-0000000091	Varies	Reservoir	3	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Kendall	12-02-0000000061,12-02-0000000062,12-02-0000000091,12-02-0000000095,12-02-0000000096	Varies	River	78	Varies	Natural	Unknown	Unknown	None	Unknown	None
Kendall	12-02-0000000095	Varies	Roadway Stream Crossing	2	Varies	Constructed	Unknown	Non-functional	None	Unknown	None

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Table 2. Summary of Existing Major Flood Infrastructure and Natural Features by County

County	Watersheds[A]	Feature Name	Infrastructure Type	Feature Count	Description	Natural or Constructed[B]	Level of Service (2-year, 10-year, 25-year, 50-year, 100-year, 500-year, Unknown)	Functionality (Functional, Non-functional, Unknown)	Functionality Confidence	Deficiency (Deficient, Non-deficient, Unknown)	Condition Confidence
Kendall	12-02-0000000061,12-02-0000000062,12-02-0000000091,12-02-0000000095,12-02-0000000096	Varies	Roadway Stream Crossing	179	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Kendall	12-02-0000000095	Varies	Storm Drain System	1	Varies	Constructed	Unknown	Functional	Low	Unknown	None
Kendall	12-02-0000000061,12-02-0000000062,12-02-0000000091,12-02-0000000095,12-02-0000000096	Varies	Tributary	349	Varies	Natural	Unknown	Unknown	None	Unknown	None
Kerr	12-02-0000000030	Varies	Dam	1	Varies	Constructed	Unknown	Non-functional	High	Deficient	High
Kerr	12-02-0000000024,12-02-0000000061	Varies	Dam	2	Varies	Constructed	Unknown	Unknown	None	Deficient	Low
Kerr	12-02-0000000024,12-02-0000000030	Varies	LWC	4	Varies	Constructed	Unknown	Non-functional	Low	Unknown	None
Kerr	12-02-0000000024	Varies	Pond	1	Varies	Natural	Unknown	Functional	High	Unknown	None
Kerr	12-02-0000000007,12-02-0000000008,12-02-0000000019,12-02-0000000024,12-02-0000000030,12-02-0000000061	Varies	River	43	Varies	Natural	Unknown	Unknown	None	Unknown	None
Kerr	12-02-0000000024,12-02-0000000030,12-02-0000000061	Varies	Roadway Stream Crossing	20	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Kerr	12-02-0000000007,12-02-0000000008,12-02-0000000019,12-02-0000000024,12-02-0000000030,12-02-0000000061	Varies	Tributary	225	Varies	Natural	Unknown	Unknown	None	Unknown	None
Medina	12-02-0000000020,12-02-0000000068,12-02-0000000069,12-02-0000000070,12-02-0000000075,12-02-0000000076,12-02-0000000108,12-02-0000000110	Varies	Bridge	35	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Medina	12-02-0000000064,12-02-0000000069,12-02-0000000108	Varies	Dam	5	Varies	Constructed	Unknown	Unknown	None	Deficient	Low
Medina	12-02-0000000020	Varies	Dam	1	Varies	Constructed	Unknown	Unknown	None	Non-deficient	Low
Medina	12-02-0000000069,12-02-0000000108	Varies	Gauge	2	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Medina	12-02-0000000068,12-02-0000000069	Varies	Gauge	3	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Medina	12-02-0000000108	Varies	LWC	1	Varies	Constructed	Unknown	Non-functional	Low	Deficient	High
Medina	12-02-0000000069,12-02-0000000108,12-02-0000000110	Varies	LWC	6	Varies	Constructed	Unknown	Non-functional	Low	Non-deficient	High
Medina	12-02-0000000020,12-02-0000000069,12-02-0000000076,12-02-0000000108,12-02-0000000110	Varies	LWC	54	Varies	Constructed	Unknown	Non-functional	Low	Unknown	None
Medina	12-02-0000000020	Varies	Park or Open Space	2	Varies	Natural	Unknown	Unknown	None	Unknown	None
Medina	12-02-0000000064,12-02-0000000069,12-02-0000000070,12-02-0000000108	Varies	Pond	12	Varies	Natural	Unknown	Functional	High	Unknown	None
Medina	12-02-0000000064,12-02-0000000068	Varies	Reservoir	2	Varies	Constructed	Unknown	Unknown	None	Unknown	None

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Table 2. Summary of Existing Major Flood Infrastructure and Natural Features by County

County	Watersheds[A]	Feature Name	Infrastructure Type	Feature Count	Description	Natural or Constructed[B]	Level of Service (2-year, 10-year, 25-year, 50-year, 100-year, 500-year, Unknown)	Functionality (Functional, Non-functional, Unknown)	Functionality Confidence	Deficiency (Deficient, Non-deficient, Unknown)	Condition Confidence
Medina	12-02-0000000020,12-02-0000000064,12-02-0000000068,12-02-0000000069,12-02-0000000070,12-02-0000000075,12-02-0000000076,12-02-0000000108,12-02-0000000110	Varies	River	128	Varies	Natural	Unknown	Unknown	None	Unknown	None
Medina	12-02-0000000020,12-02-0000000064,12-02-0000000068,12-02-0000000069,12-02-0000000070,12-02-0000000075,12-02-0000000076,12-02-0000000108,12-02-0000000110	Varies	Roadway Stream Crossing	155	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Medina	12-02-0000000020,12-02-0000000069,12-02-0000000108	Varies	Sinkhole	12	Varies	Natural	Unknown	Functional	High	Unknown	None
Medina	12-02-0000000110	Varies	Storm Drain System	4	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Medina	12-02-0000000069,12-02-0000000108	Varies	Storm Drain System	4	Varies	Constructed	Unknown	Functional	Low	Unknown	None
Medina	12-02-0000000108	Varies	Stormwater Channel	17	Varies	Constructed	Unknown	Functional	Low	Non-deficient	Low
Medina	12-02-0000000069,12-02-0000000108,12-02-0000000110	Varies	Stormwater Channel	14	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Medina	12-02-0000000020	Varies	Stormwater Channel	2	Varies	Natural	Unknown	Functional	High	Non-deficient	Low
Medina	12-02-0000000020,12-02-0000000064,12-02-0000000068,12-02-0000000069,12-02-0000000070,12-02-0000000075,12-02-0000000076,12-02-0000000108,12-02-0000000110	Varies	Tributary	528	Varies	Natural	Unknown	Unknown	None	Unknown	None
Medina	12-02-0000000108	Varies	Weir	1	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Medina	12-02-0000000069,12-02-0000000075,12-02-0000000110	Varies	Wetland	3	Varies	Natural	Unknown	Unknown	None	Unknown	None
Refugio	12-02-0000000033,12-02-0000000085,12-02-0000000106	Varies	Bridge	21	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Refugio	12-02-0000000085	Varies	Gauge	1	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Refugio	12-02-0000000085,12-02-0000000106	Varies	Levee	7	Varies	Constructed	Unknown	Non-functional	Low	Deficient	Low
Refugio	12-02-0000000084,12-02-0000000085,12-02-0000000106	Varies	Pond	58	Varies	Natural	Unknown	Functional	High	Unknown	None
Refugio	12-02-0000000033,12-02-0000000084,12-02-0000000085,12-02-0000000106	Varies	River	56	Varies	Natural	Unknown	Unknown	None	Unknown	None
Refugio	12-02-0000000033,12-02-0000000084,12-02-0000000085,12-02-0000000106	Varies	Roadway Stream Crossing	27	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Refugio	12-02-0000000084,12-02-0000000085,12-02-0000000106	Varies	Stormwater Channel	23	Varies	Constructed	Unknown	Unknown	None	Unknown	None

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Table 2. Summary of Existing Major Flood Infrastructure and Natural Features by County

County	Watersheds[A]	Feature Name	Infrastructure Type	Feature Count	Description	Natural or Constructed[B]	Level of Service (2-year, 10-year, 25-year, 50-year, 100-year, 500-year, Unknown)	Functionality (Functional, Non-functional, Unknown)	Functionality Confidence	Deficiency (Deficient, Non-deficient, Unknown)	Condition Confidence
Refugio	12-02-0000000033,12-02-0000000084,12-02-0000000085,12-02-0000000106	Varies	Tributary	293	Varies	Natural	Unknown	Unknown	None	Unknown	None
Refugio	12-02-0000000033,12-02-0000000084,12-02-0000000085,12-02-0000000106	Varies	Wetland	394	Varies	Natural	Unknown	Unknown	None	Unknown	None
Victoria	12-02-0000000084,12-02-0000000085	Varies	Bridge	9	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Victoria	12-02-0000000032,12-02-0000000033,12-02-0000000084,12-02-0000000085	Varies	Pond	6	Varies	Natural	Unknown	Functional	High	Unknown	None
Victoria	12-02-0000000033,12-02-0000000084,12-02-0000000085	Varies	River	17	Varies	Natural	Unknown	Unknown	None	Unknown	None
Victoria	12-02-0000000032,12-02-0000000033,12-02-0000000084,12-02-0000000085	Varies	Roadway Stream Crossing	17	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Victoria	12-02-0000000033,12-02-0000000085	Varies	Stormwater Channel	22	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Victoria	12-02-0000000032,12-02-0000000033,12-02-0000000084,12-02-0000000085	Varies	Tributary	120	Varies	Natural	Unknown	Unknown	None	Unknown	None
Victoria	12-02-0000000032,12-02-0000000033,12-02-0000000084,12-02-0000000085	Varies	Wetland	172	Varies	Natural	Unknown	Unknown	None	Unknown	None
Wilson		Varies	Bridge	110	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Wilson	12-02-0000000089	Varies	Bridge	1	Varies	Constructed	Unknown	Functional	Low	Non-deficient	Low
Wilson	12-02-0000000093	Varies	Bridge	1	Varies	Constructed	Unknown	Non-functional	High	Non-deficient	High
Wilson	12-02-0000000058	Varies	Dam	1	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Wilson	12-02-0000000043,12-02-0000000050,12-02-0000000051,12-02-0000000055,12-02-0000000060,12-02-0000000086	Varies	Dam	7	Varies	Constructed	Unknown	Unknown	None	Deficient	Low
Wilson	12-02-0000000005,12-02-0000000086	Varies	Dam	2	Varies	Constructed	Unknown	Unknown	None	Non-deficient	Low
Wilson	12-02-0000000012	Varies	Dam	2	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Wilson	12-02-0000000052,12-02-0000000086	Varies	Gauge	2	Varies	Constructed	Unknown	Functional	High	Non-deficient	High
Wilson	12-02-0000000058	Varies	LWC	1	Varies	Constructed	Unknown	Non-functional	Low	Deficient	High
Wilson	12-02-0000000005,12-02-0000000043,12-02-0000000048,12-02-0000000049,12-02-0000000050,12-02-0000000052,12-02-0000000057,12-02-0000000058,12-02-0000000093,12-02-0000000098,12-02-0000000103	Varies	LWC	19	Varies	Constructed	Unknown	Non-functional	Low	Non-deficient	High
Wilson	12-02-0000000043,12-02-0000000051,12-02-0000000052,12-02-0000000086,12-02-0000000093	Varies	LWC	15	Varies	Constructed	Unknown	Non-functional	Low	Unknown	None
Wilson	12-02-0000000051,12-02-0000000052,12-02-0000000054	Varies	Park or Open Space	3	Varies	Natural	Unknown	Unknown	None	Unknown	None

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Table 2. Summary of Existing Major Flood Infrastructure and Natural Features by County

County	Watersheds[A]	Feature Name	Infrastructure Type	Feature Count	Description	Natural or Constructed[B]	Level of Service (2-year, 10-year, 25-year, 50-year, 100-year, 500-year, Unknown)	Functionality (Functional, Non-functional, Unknown)	Functionality Confidence	Deficiency (Deficient, Non-deficient, Unknown)	Condition Confidence
Wilson	12-02-0000000005,12-02-0000000012,12-02-0000000043,12-02-0000000048,12-02-0000000049,12-02-0000000051,12-02-0000000052,12-02-0000000058,12-02-0000000059,12-02-0000000060,12-02-0000000092,12-02-0000000093,12-02-0000000098	Varies	Pond	28	Varies	Natural	Unknown	Functional	High	Unknown	None
Wilson		Varies	River	187	Varies	Natural	Unknown	Unknown	None	Unknown	None
Wilson		Varies	Roadway Stream Crossing	761	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Wilson	12-02-0000000012,12-02-0000000048,12-02-0000000051	Varies	Sinkhole	14	Varies	Natural	Unknown	Functional	High	Unknown	None
Wilson	12-02-0000000005,12-02-0000000043,12-02-0000000048,12-02-0000000049,12-02-0000000054,12-02-0000000058	Varies	Storm Drain System	10	Varies	Constructed	Unknown	Functional	Low	Unknown	None
Wilson	12-02-0000000049	Varies	Stormwater Channel	3	Varies	Constructed	Unknown	Unknown	None	Unknown	None
Wilson		Varies	Tributary	1242	Varies	Natural	Unknown	Unknown	None	Unknown	None
Wilson	12-02-0000000005,12-02-0000000050,12-02-0000000051,12-02-0000000103	Varies	Wetland	9	Varies	Natural	Unknown	Unknown	None	Unknown	None

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Table 3. Summary of Proposed or Ongoing Flood Mitigation Projects*

Existing Project ID	RFPG No.	RFPG Name	Project Name	Description	Cycle 1 FMP or FMS ID	County	Watersheds	Project Status	Project Cost	Dedicated Funding for Construction (Yes/No)	Source of Funding	Expected Year of Completion	Anticipated Benefit
12-06-0000000001	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 155201011		Karnes	12-02-0000000038	Ongoing	1033607	Y	TXDOT	2023	BRIDGE REPLACEMENT
12-06-0000000002	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 142201009		Karnes	12-02-0000000060	Ongoing	1790674	Y	TXDOT	2021	BRIDGE REPLACEMENT
12-06-0000000003	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 008802062		Goliad	12-02-0000000082	Ongoing	27547360	Y	TXDOT	2027	BRIDGE REPLACEMENT
12-06-0000000004	12	San Antonio	TXDOT ROAD PROJECTS - CONVERT NON-FREEWAY	TXDOT_ID: 002407059		Bexar	12-02-0000000075,12-02-0000000076,12-02-0000000081,12-02-0000000110	Ongoing	58298680	Y	TXDOT		CONVERT NON-FREEWAY
12-06-0000000005	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 001608039		Bexar	12-02-0000000004	Ongoing	7565462	Y	TXDOT		BRIDGE REPLACEMENT
12-06-0000000006	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 112101022		Karnes	12-02-0000000036	Ongoing	1973266	Y	TXDOT	2023	BRIDGE REPLACEMENT
12-06-0000000007	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 100902018		Wilson	12-02-0000000098	Ongoing	2659368	Y	TXDOT		BRIDGE REPLACEMENT
12-06-0000000008	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 094302012		De Witt	12-02-0000000079	Ongoing	1020000	Y	TXDOT		BRIDGE REPLACEMENT
12-06-0000000009	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 014304072		Wilson	12-02-0000000093	Ongoing	2928952	Y	TXDOT		BRIDGE REPLACEMENT
12-06-0000000010	12	San Antonio	TXDOT ROAD PROJECTS - CONVERT NON-FREEWAY	TXDOT_ID: 002408138		Bexar	12-02-0000000073,12-02-0000000075	Ongoing	8826295	Y	TXDOT		CONVERT NON-FREEWAY
12-06-0000000011	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE MAINTENANCE	TXDOT_ID: 010005001		Karnes	12-02-0000000043,12-02-0000000049	Ongoing	1013126	Y	TXDOT	2023	BRIDGE MAINTENANCE
12-06-0000000012	12	San Antonio	Lake Medina Dam Modifications	Modify the Lake Medina Dam to address safety issues. Install and test post-tension anchors in the abutment sections of the dam.		Medina,Bandera	12-02-0000000064,12-02-0000000068,12-02-0000000069	Ongoing	4000000	Y	TWDB DFUND		IMPROVES STABILITY OF DAM
12-06-0000000013	12	San Antonio	Marcelinas Study	Marcelinas Study		Karnes,Wilson	12-02-0000000043,12-02-0000000049,12-02-0000000050,12-02-0000000053,12-02-0000000056,12-02-0000000111	Ongoing	85,600	Y	TX GLO	2026	Unknown
12-06-0000000014	12	San Antonio	San Antonio Bay	San Antonio Bay		Aransas,Calhoun	12-02-0000000002	Ongoing	136,400	Y	TX GLO	2026	Unknown
12-06-0000000015	12	San Antonio	TXDOT ROAD PROJECTS - CONVERT NON-FREEWAY	TXDOT_ID: 245203111		Bexar	12-02-0000000104,12-02-0000000105	Ongoing	2.46E+08	Y	TXDOT		CONVERT NON-FREEWAY
12-06-0000000016	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 225501088		Bexar	12-02-0000000047	Ongoing	1500000	Y	TXDOT	2028	BRIDGE REPLACEMENT
12-06-0000000017	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 091512532		Bexar	12-02-0000000004	Ongoing	1905786	Y	TXDOT	2022	BRIDGE MAINTENANCE

* Currently under construction, being implemented; and or with dedicated construction funding

Table 3. Summary of Proposed or Ongoing Flood Mitigation Projects*

Existing Project ID	RFPG No.	RFPG Name	Project Name	Description	Cycle 1 FMP or FMS ID	County	Watersheds	Project Status	Project Cost	Dedicated Funding for Construction (Yes/No)	Source of Funding	Expected Year of Completion	Anticipated Benefit
12-06-0000000018	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 036609035		Wilson	12-02-0000000005	Ongoing	8552986	Y	TXDOT	2028	BRIDGE REPLACEMENT
12-06-0000000019	12	San Antonio	TXDOT ROAD PROJECTS - CULVERT & STORM DRAINAGE WORK	TXDOT_ID: 001710294		Bexar	12-02-0000000014,12-02-0000000016	Ongoing	12000000	Y	TXDOT	2027	INSTALL/UPGRADE DRAINAGE STRUCTURE(S)
12-06-0000000020	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE MAINTENANCE	TXDOT_ID: 112201033		Karnes	12-02-0000000049	Ongoing	186570	Y	TXDOT	2024	BRIDGE MAINTENANCE
12-06-0000000021	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE WIDENING OR REHABILITATION	TXDOT_ID: 099102013		Karnes	12-02-0000000053	Ongoing	402500	Y	TXDOT	2030	BRIDGE REPLACEMENT
12-06-0000000022	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 091545056		Medina	12-02-0000000069	Ongoing	718847.8	Y	TXDOT	2023	BRIDGE REPLACEMENT
12-06-0000000023	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 091626023		Goliad	12-02-0000000080	Ongoing	1200000	Y	TXDOT	2025	BRIDGE REPLACEMENT
12-06-0000000024	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 091547039		Bandera	12-02-0000000063	Ongoing	2766308	Y	TXDOT	2023	BRIDGE REPLACEMENT
12-06-0000000025	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 091514047		Guadalupe, Wilson	12-02-0000000089	Ongoing	661914.8	Y	TXDOT	2021	BRIDGE REPLACEMENT
12-06-0000000026	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE WIDENING OR REHABILITATION	TXDOT_ID: 091512690		Bexar	12-02-0000000011	Ongoing	672000	Y	TXDOT	2025	BRIDGE REPLACEMENT
12-06-0000000027	12	San Antonio	TXDOT ROAD PROJECTS - CULVERT & STORM DRAINAGE WORK	TXDOT_ID: 021506041		Kendall	12-02-0000000096	Ongoing	1323000	Y	TXDOT	2021	INSTALL/UPGRADE DRAINAGE STRUCTURE(S)
12-06-0000000028	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 091514046		Wilson	12-02-0000000051	Ongoing	581756.1	Y	TXDOT	2021	BRIDGE REPLACEMENT
12-06-0000000029	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 034804063		Karnes	12-02-0000000056	Ongoing	8000000	Y	TXDOT	2025	BRIDGE REPLACEMENT
12-06-0000000030	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 155201012		Karnes	12-02-0000000038	Ongoing	889513.8	Y	TXDOT	2020	REPLACE BRIDGE AND APPROACHES
12-06-0000000031	12	San Antonio	TXDOT ROAD PROJECTS - BRIDGE REPLACEMENT	TXDOT_ID: 025306041		Bexar	12-02-0000000017	Ongoing	4700000	Y	TXDOT	2020	BRIDGE REPLACEMENT
12-06-0000000032	12	San Antonio	Barbara Drive Drainage Phase 3	COSA 2022 Bond Program		Bexar	12-02-0000000014	Ongoing	16399064	Y	City of San Antonio	2028	Drainage Improvement
12-06-0000000033	12	San Antonio	Brookside Outfall (Esma Rdwy Area Ph2)	COSA 2022 Bond Program		Bexar	12-02-0000000017	Ongoing	8548995	Y	City of San Antonio	2027	Drainage Improvement
12-06-0000000034	12	San Antonio	Eisenhauer-Northwood-Devonshire Ph IA	COSA 2022 Bond Program		Bexar	12-02-0000000004	Ongoing	11362612	Y	City of San Antonio	2027	Drainage Improvement
12-06-0000000035	12	San Antonio	Elmira Area Drainage	COSA 2022 Bond Program		Bexar	12-02-0000000016	Ongoing	6300000	Y	City of San Antonio	2029	Drainage Improvement
12-06-0000000036	12	San Antonio	Evans Rd DrainPh1 (E Elm Creek-Masonwood)	COSA 2022 Bond Program		Bexar	12-02-0000000011	Ongoing	8450000	Y	City of San Antonio	2027	Drainage Improvement

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Table 3. Summary of Proposed or Ongoing Flood Mitigation Projects*

Existing Project ID	RFPG No.	RFPG Name	Project Name	Description	Cycle 1 FMP or FMS ID	County	Watersheds	Project Status	Project Cost	Dedicated Funding for Construction (Yes/No)	Source of Funding	Expected Year of Completion	Anticipated Benefit
12-06-0000000037	12	San Antonio	Fox Run Area Drain (FoxPeakDr & FoxCreek)	COSA 2022 Bond Program		Bexar	12-02-0000000099,12-02-0000000102	Ongoing	1000000	Y	City of San Antonio	2026	Drainage Improvement
12-06-0000000038	12	San Antonio	Frio City Road Outfall Phase 1	COSA 2022 Bond Program		Bexar	12-02-0000000016	Ongoing	11743610	Y	City of San Antonio	2028	Drainage Improvement
12-06-0000000039	12	San Antonio	Gardendale Drainage (Wurzbach-Bluemel)	COSA 2022 Bond Program		Bexar	12-02-0000000014	Ongoing	3477464	Y	City of San Antonio	2027	Drainage Improvement
12-06-0000000040	12	San Antonio	George Rd LWC (HuntersBow-NW MilitaryHwy)	COSA 2022 Bond Program		Bexar	12-02-0000000014	Ongoing	3832750	Y	City of San Antonio	2027	Drainage Improvement
12-06-0000000041	12	San Antonio	Lower French Creek Drainage	COSA 2022 Bond Program		Bexar	12-02-0000000041	Ongoing	6734694	Y	City of San Antonio	2027	Drainage Improvement
12-06-0000000042	12	San Antonio	Marbach Rd Area Drainage	COSA 2022 Bond Program		Bexar	12-02-0000000073,12-02-0000000075	Ongoing	15800000	Y	City of San Antonio	2029	Drainage Improvement
12-06-0000000043	12	San Antonio	N New Braunfels (Austin Hwy-Larkwood) Design	COSA 2022 Bond Program		Bexar	12-02-0000000009,12-02-0000000014	Ongoing	2000000	Y	City of San Antonio		Drainage Improvement
12-06-0000000044	12	San Antonio	Oak Haven Area Drainage (Kentwood Ph 2)	COSA 2022 Bond Program		Bexar	12-02-0000000011	Ongoing	7900000	Y	City of San Antonio	2027	Drainage Improvement
12-06-0000000045	12	San Antonio	Peggy Dr Area Drainage (Eastgate Subdivision)	COSA 2022 Bond Program		Bexar	12-02-0000000013	Ongoing	20683290	Y	City of San Antonio	2027	Drainage Improvement
12-06-0000000046	12	San Antonio	Perennial Drive Area Drainage	COSA 2022 Bond Program		Bexar	12-02-0000000003,12-02-0000000011	Ongoing	2816342	Y	City of San Antonio	2026	Drainage Improvement
12-06-0000000047	12	San Antonio	Seeling Drainage Phase 4	COSA 2022 Bond Program		Bexar	12-02-0000000016	Ongoing	15011707	Y	City of San Antonio	2027	Drainage Improvement
12-06-0000000048	12	San Antonio	South Pine Roadway Drainage Phase 2	COSA 2022 Bond Program		Bexar	12-02-0000000017	Ongoing	11271390	Y	City of San Antonio	2028	Drainage Improvement
12-06-0000000049	12	San Antonio	Southwell North Area Drainage	COSA 2022 Bond Program		Bexar	12-02-0000000073	Ongoing	6060000	Y	City of San Antonio	2027	Drainage Improvement
12-06-0000000050	12	San Antonio	Valley Hi Area Drain-Medina Base Ph1	COSA 2022 Bond Program		Bexar	12-02-0000000075	Ongoing	5748100	Y	City of San Antonio	2027	Drainage Improvement
12-06-0000000051	12	San Antonio	W Broadview Dr & Oakwood Dr Drainage Ph1	COSA 2022 Bond Program		Bexar	12-02-0000000016	Ongoing	10602003	Y	City of San Antonio	2028	Drainage Improvement
12-06-0000000052	12	San Antonio	Wilcox Avenue Area Drainage	COSA 2022 Bond Program		Bexar	12-02-0000000017,12-02-0000000074	Ongoing	15553140	Y	City of San Antonio	2028	Drainage Improvement
12-06-0000000053	12	San Antonio	Pinn Rd LWC Safety Improvements	COSA Future Project ID: 230002		Bexar	12-02-0000000073	Ongoing	500000	Y	City of San Antonio	2025	Low Water Crossing & Safety
12-06-0000000054	12	San Antonio	Concepcion Creek Phase 1A	COSA Future Project ID: 237301		Bexar	12-02-0000000017	Ongoing	9500000	Y	City of San Antonio		Drainage & Flood Control
12-06-0000000055	12	San Antonio	Judson and Lookout LWC - Design Only	COSA Future Project ID: 252701		Bexar	12-02-0000000009	Ongoing	1000000	Y	City of San Antonio		Low Water Crossing & Safety
12-06-0000000056	12	San Antonio	Castleridge/Slick Ranch Floodplain Improvements	COSA Future Project ID: 257601		Bexar	12-02-0000000073	Ongoing	12700000	Y	City of San Antonio	2025	Channel Improvements
12-06-0000000057	12	San Antonio	D10 Drainage Improvements - Fox Run (Fox Head)	COSA Future Project ID: 276901		Bexar	12-02-0000000099	Ongoing	805000	Y	City of San Antonio	2025	Drainage & Flood Control

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Table 3. Summary of Proposed or Ongoing Flood Mitigation Projects*

Existing Project ID	RFPG No.	RFPG Name	Project Name	Description	Cycle 1 FMP or FMS ID	County	Watersheds	Project Status	Project Cost	Dedicated Funding for Construction (Yes/No)	Source of Funding	Expected Year of Completion	Anticipated Benefit
12-06-0000000058	12	San Antonio	Westside Creek - Apache Creek (Remediation)	COSA Future Project ID: 286201		Bexar	12-02-0000000016	Ongoing	4660000	Y	City of San Antonio	2025	Low Water Crossing & Safety
12-06-0000000059	12	San Antonio	Carolwood Drainage Improvements	COSA Future Project ID: 286601		Bexar	12-02-0000000014	Ongoing	850000	Y	City of San Antonio	2025	Drainage & Flood Control
12-06-0000000060	12	San Antonio	Las Palmas Drainage Improvements	COSA Future Project ID: 289701		Bexar	12-02-0000000016	Ongoing	880000	Y	City of San Antonio	2026	Drainage & Flood Control
12-06-0000000061	12	San Antonio	Palm Heights Drainage Improvements	COSA Future Project ID: 290801		Bexar	12-02-0000000017	Ongoing	1000000	Y	City of San Antonio	2025	Drainage & Flood Control
12-06-0000000062	12	San Antonio	Leon Creek at Grisson Road PER	COSA Future Project ID: 293201		Bexar	12-02-0000000041	Ongoing	300000	Y	City of San Antonio		Drainage Studies & Reports
12-06-0000000063	12	San Antonio	Red Berry Dam	COSA Future Project ID: 297701		Bexar	12-02-0000000004	Ongoing	3000000	Y	City of San Antonio	2026	Low Water Crossing & Safety
12-06-0000000064	12	San Antonio	Laddie Place Fancing	COSA Future Project ID: 297801		Bexar	12-02-0000000016	Ongoing	453100	Y	City of San Antonio	2025	Low Water Crossing & Safety
12-06-0000000065	12	San Antonio	Alamodome Pump Station Replacement	COSA Future Project ID: 298101		Bexar	12-02-0000000014	Ongoing	650000	Y	City of San Antonio	2026	Drainage & Flood Control
12-06-0000000066	12	San Antonio	Westside Creeks Betterment	COSA Future Project ID: 298001		Bexar	12-02-0000000016	Ongoing	250000	Y	City of San Antonio		Drainage Studies & Reports
12-06-0000000067	12	San Antonio	Garcia Creek Channel Stabilization	Excessive velocities and increasing runoff fromupstream developement is accelerating channel instabilities, resulting in near vertical earthen channel banks and incising of the channel and downstream headwall. Proposed improvements consist of reconstruction of the downstream concrete ribbon, construction of stilling basin to dissipate energy from culvert discharge, stabalize segments of channel with soft and hard amoring solutions, and cunstructing grade control structures along channel banks.		Medina	12-02-0000000108	Ongoing	799747	N	City of Castroville	2030	Reduction of mass wasting which currently place the surrounding resiential properties and structures at risk.

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Table 3. Summary of Proposed or Ongoing Flood Mitigation Projects*

Existing Project ID	RFPG No.	RFPG Name	Project Name	Description	Cycle 1 FMP or FMS ID	County	Watersheds	Project Status	Project Cost	Dedicated Funding for Construction (Yes/No)	Source of Funding	Expected Year of Completion	Anticipated Benefit
12-06-0000000068	12	San Antonio	Austwell Drainage Improvements	Excavate base, treat surface, install prime coat, textile, crown and base, regrade ditch and outfall structure, and install piping.		Refugio	12-02-0000000106	Ongoing	11622800	Y	Refugio County Road, Drainage, Lift Station, and Wastewater Treatment Plant Improvements (GLO Grant)	2030	Drainage & Flood Control
12-06-0000000069	12	San Antonio	Calhoun County Drainage and Road Improvements	The county shall demolish and replace culverts, improve ditches and outfalls, and restore roadway.		Calhoun	12-02-0000000001,12-02-0000000002,12-02-0000000085,12-02-0000000106,12-02-0000000107	Ongoing	1175769	Y	Calhoun County Drainage and Road Improvements (GLO Grant)	2030	Drainage & Flood Control
12-06-0000000070	12	San Antonio	Karnes City Water System Improvements	The city shall install pipe and gate valves, reconnect and install fire hydrants, repair trench, and reconnect meters.		Karnes	12-02-0000000035,12-02-0000000037,12-02-0000000053,12-02-0000000056	Ongoing	2134900	Y	Karnes City Water System Improvements (GLO Grant)	2030	Drainage & Flood Control
12-06-0000000071	12	San Antonio	Aransas County Master Drainage Plan	Gather data, update the base model and create a master drainage plan for future projects and related activities.		Aransas	12-02-0000000002,12-02-0000000106	Ongoing	10281500	Y	Aransas County Road and Drainage Improvements (GLO Grant)	2030	Drainage & Flood Control
12-06-0000000072	12	San Antonio	City of Nordheim Road and Drainage Improvements	The city shall stabilize base, repair pavement, grade ditches, install culverts, riprap, swales and flumes, tie-in streets, and repair driveways.		De Witt	12-02-0000000077	Ongoing	1385400	Y	City of Nordheim Road and Drainage Improvements (GLO Grant)	2030	Drainage & Flood Control

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Table 3. Summary of Proposed or Ongoing Flood Mitigation Projects*

Existing Project ID	RFPG No.	RFPG Name	Project Name	Description	Cycle 1 FMP or FMS ID	County	Watersheds	Project Status	Project Cost	Dedicated Funding for Construction (Yes/No)	Source of Funding	Expected Year of Completion	Anticipated Benefit
12-06-0000000073	12	San Antonio	Guadalupe County Drainage Improvements	The county will increase water flow conveyance, drainage and infrastructure resiliency at three locations. The work will consist of removing and replacing culverts, installing headwalls, relocating utilities, and removing and replacing roadway. The three locations are Pioneer Road at Cottonwood Creek South, Old Seguin Rd at Nash, and Laubach Road at Geronimo Creek Tributary 6.		Guadalupe	12-02-0000000057,12-02-0000000086,12-02-0000000087,12-02-0000000089,12-02-0000000100,12-02-0000000101,12-02-0000000102,12-02-0000000105	Ongoing	1850700	Y	Guadalupe County Drainage Improvements (GLO Grant)	2030	Drainage & Flood Control
12-06-0000000074	12	San Antonio	Karnes County Countywide Road Improvements	The county shall replace undersized low water crossings that are subject to roadway flooding during frequent rainfall events 1. CR 127: Remove and replace the existing culverts with a small bridge, relocate utilities, grade channel, install erosion controls, dewater site, and excavate and reconstruct the street. 2. CR 184 and CR 207: Remove and replace the existing culverts, install headwalls and aprons, install guardrail and crash cushions, relocate utilities, grade channel, install erosion controls, dewater site, and excavate and reconstruct the street		Karnes		Ongoing	2197900	Y	Karnes County Countywide Road Improvements (GLO County)	2030	Drainage & Flood Control
12-06-0000000075	12	San Antonio	City of Seadrift Water System Improvements	The city shall improve its infrastructure through an increase in water storage and pumping capacity. The project will include installing an elevated storage tank, booster pump and controls, and water line.		Bandera		Ongoing	1736200	Y	City of Seadrift Water System Improvements (GLO Grant)	2030	Drainage & Flood Control
12-06-0000000076	12	San Antonio	Damage Center 3- Zarzamora Creek	The proposed earthen channel would begin upstream of the pedestrian bridge and end approximately 780 feet downstream of Ingram Road	121000082	Bexar	12-02-0000000016	Ongoing	32730102	Y	City of San Antonio	2026	Drainage & Flood Control
12-06-0000000077	12	San Antonio	Urban Watershed Master Plan (Leon, Salado, and Upper San Antonio)	Watershed master plan of the Leon, Salado, and Upper San antonio watersheds		Medina,Bexar,Bandera,Karnes,Wilson		Ongoing	550000	N	San Antonio River Authority and FEMA	2026	Drainage & Flood Control

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Table 3. Summary of Proposed or Ongoing Flood Mitigation Projects*

Existing Project ID	RFPG No.	RFPG Name	Project Name	Description	Cycle 1 FMP or FMS ID	County	Watersheds	Project Status	Project Cost	Dedicated Funding for Construction (Yes/No)	Source of Funding	Expected Year of Completion	Anticipated Benefit
12-06-0000000078	12	San Antonio	2D BLE Medina Watershed	2D BLE modeling of the Medina Watershed		Medina,Bexar,Bandera,Kendall,Kerr,Atascosa		Ongoing	340000	N	San Antonio River Authority	2026	Floodplain mapping for future planning and flood mitigation

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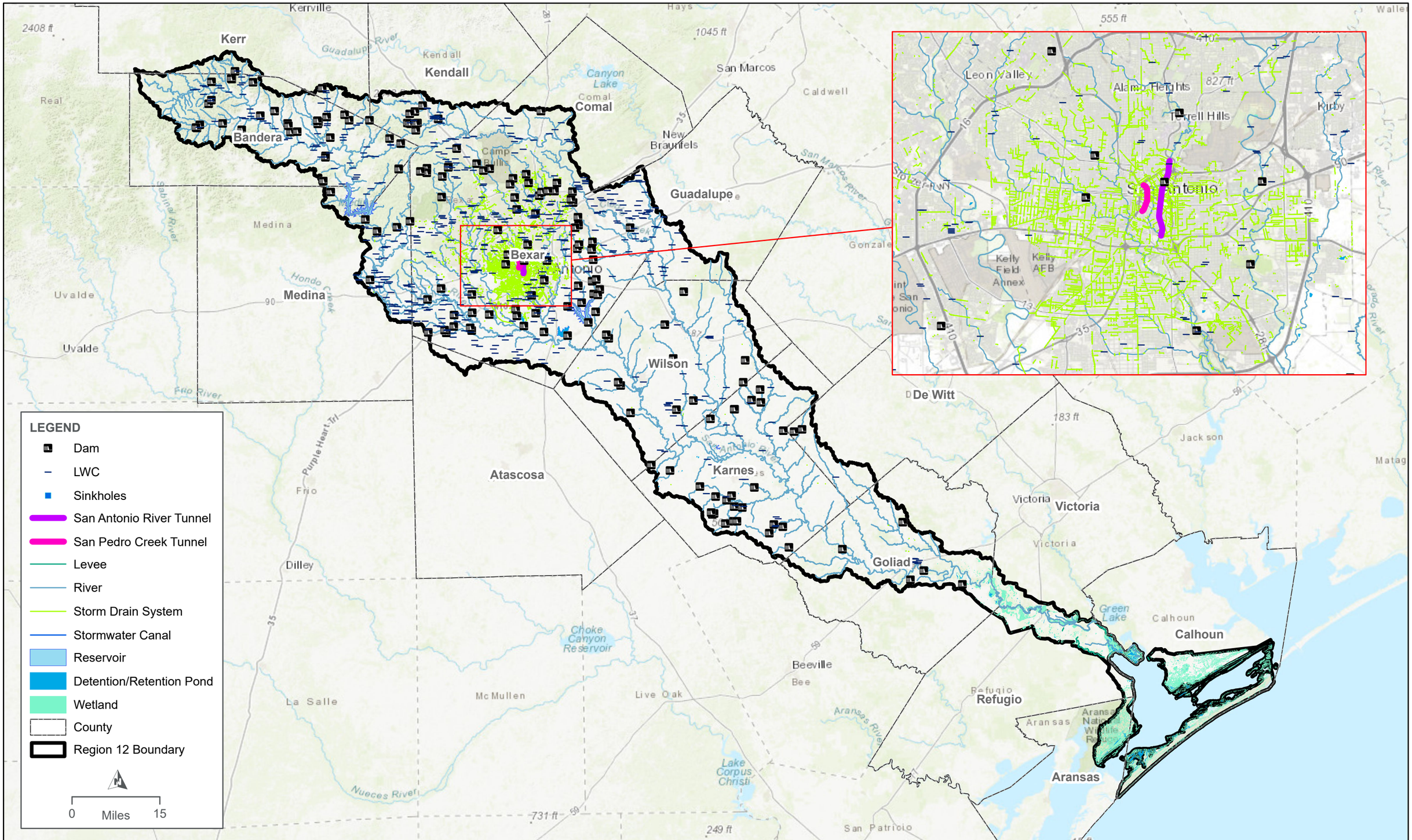

REGION 12 - MAP 1 - EXISTING FLOOD INFRASTRUCTURE

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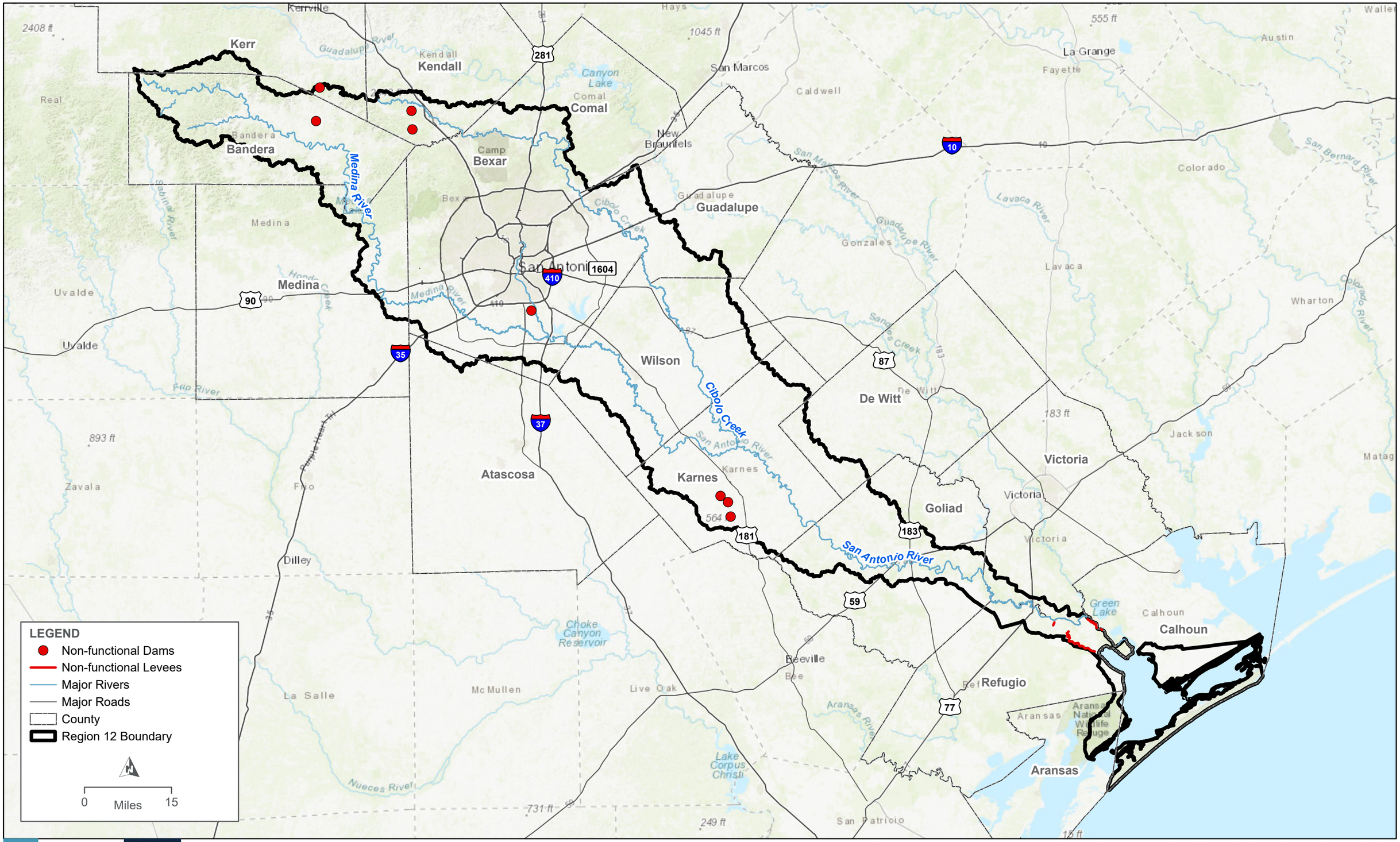

REGION 12 - MAP 2 - NON-FUNCTIONAL OR DEFICIENT INFRASTRUCTURE

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San Antonio Regional Flood Plan Updates

Chapter 1

Chapter 7

Flood Response Information and Activities

Updated Data

- Eight additional entities with flood-related authority were added
  - Victoria ISD
  - Hunt ISD
  - Center Point ISD
  - Kerrville ISD
  - The Nature Conservancy
  - Unincorporated Community of Tivoli
  - Edwards Aquifer Authority
  - San Antonio Water System
- SAFPR now falls with TDEM Regions 5 and 6 (updated from Region 6)
- Several counties have updated HMPs
- 162 dams updated to 169 dams
- 71 dams with EAPs updated to 73 dams with EAPs

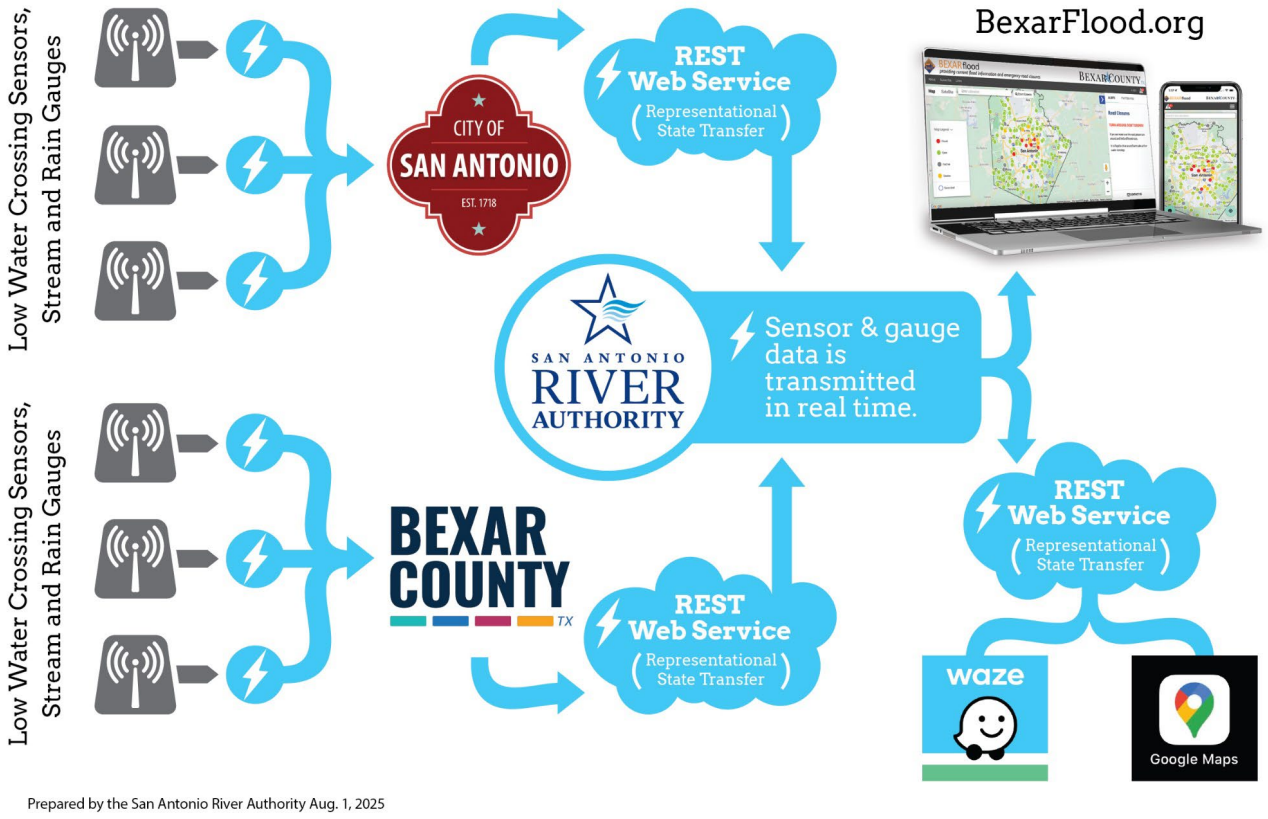
New Regional Flood Warning Initiative

- SARA’s regional NextGen Flood Warning System
  - Expanded flood monitoring across Bexar and neighboring counties
  - Integration of stream gauges, rainfall data, and low-water crossing sensors
  - Development of advanced hydraulic models
  - Testing of AI-assisted flood forecasting tools
  - Enhanced public notification and emergency response coordination
  - Long-term operations and maintenance program
  - Flooded roads assessment and coordination with TxDOT
- Benefits
  - Improves flood warning lead times
  - Reduces risk at low-water crossings
  - Strengthens regional flood resilience and emergency preparedness

New Regional Flood Warning Initiative

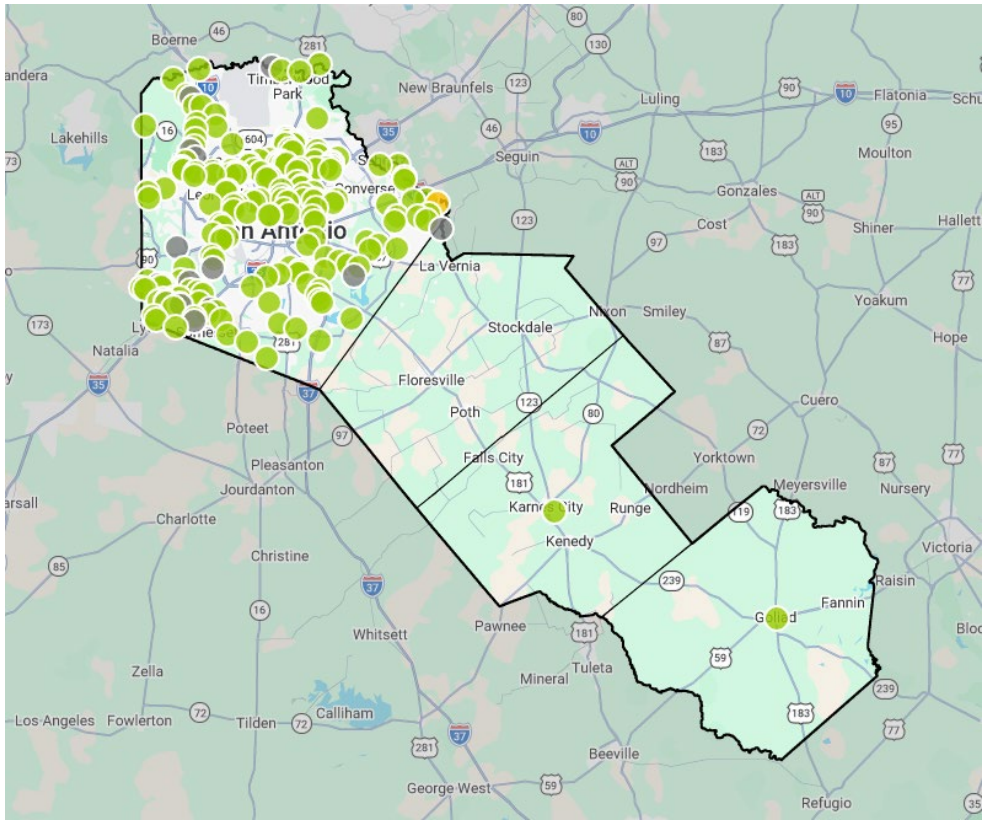
- NextGen Flood Warning System operation
  - Uses data from low-water crossing sensors and stream and rain gauges
  - Data sent to SARA
  - Notifications sent out and information distributed to the community

- Source: https://www.sariverauthority.org/blog-news/when-rivers-rise-fast-nextgen-flood-warning-system-a-smarter-safer-future/



BexarFlood.org

- Previously just Bexar County
- Expanded area includes additional counties
  - Wilson County
  - Karnes County
  - Goliad County



Flood Warning and Funding

- Senate Bill 3 (SB 3)
  - Established requirements for flood warning sirens in flash flood-prone areas
  - Created grant program to help local governments install and operate these systems
  - TWDB responsible for guidance and implementation
- Senate Bill (SB 5)
  - Companion legislation to SB 3
  - Appropriated $50 million in grant funding
  - Includes flood warning systems, sirens, rain gauges, flood gauges, and other related equipment necessary for flood monitoring and public notification

*Note: Halff is assisting TWDB with review and program management for SB3/SB5

SB 5 Eligible Counties in SAFPR

- Bandera
- Bexar
- Comal
- Guadalupe
- Kendall
- Kerr

Chapter 8

Administrative, Regulatory and Legislative Recommendations

Chapter 8 Recommendations

- Legislative recommendations considered necessary to facilitate floodplain management and flood mitigation planning and implementation
- Other regulatory or administrative recommendations considered necessary to facilitate floodplain management and flood mitigation planning and implementation
- Any other recommendations that the San Antonio RFPG believes are needed and desirable to achieve its regional flood mitigation and floodplain management goals
- Recommendations regarding potential, new revenue-raising opportunities, including potential new municipal drainage utilities or regional flood authorities that could fund the development, operation, and maintenance of floodplain management or flood mitigation activities within the SAFPR

Potential Legislative Recommendations

- Authorize counties to establish drainage utilities and assess drainage or stormwater fees.
- Provide incentives for local governments to establish dedicated drainage funding and invest in local flood reaction.
- Provide dedicated funding and policy direction for TxDOT and local road and bridges.
- Require or encourage TxDOT projects to use best available current flood maps.
- Clarify and expand county regulatory authority.
- Funding and grant programs to support various initiatives
  - FEWS
  - O&M activities
  - Conservation easements
  - RFPG flood planning
  - Models and maps

Regulatory and Administrative Recommendations

- Provide Exhibits C and D with the scope of work.
- Provide technical and financial assistance to smaller and rural jurisdictions for flood studies, funding applications, data development and project formulation.
- Promote, incentivize and provide training and technical resources for NBS.
- Provide funding and process support for multi-jurisdictional cooperation on FMXs.
- Review and update TxDOT and other state infrastructure standards to improve flood safety, NNI, future conditions, etc.
- Clarify the process, investment requirements and responsible agencies for converting BLE to FIRMs.

Flood Planning Recommendations

- Reduce or clarify requirements for potentially feasible FMPs.
- Develop stand-alone scoring criteria for NBS.
- Develop a simplified amendment process for regional flood plans, including advancement of recommended FMXs.
- Expand consideration and priority for FMEs that establish initial FEMA effective floodplains.
- Use project scoring that is equitable to sponsors regardless of community size, population, land area or urban/rural status.
- Maintain future population projections to show current growth trends.
- Encourage the use of Future Conditions Floodplains for FPA assessment of risk to new developments. Encourage Communities to use FC for long term planning.

Funding Opportunities

- Create and maintain dedicated revenue mechanisms for flood mitigation, drainage and maintenance.
- Enhance the ability of counties to collect revenues dedicated to flood mitigation (Stormwater utilities, Increase County Road and Bridge Fee limit above $10 established in 1991, etc.)
- Provide indirect funding for funding-application preparation, planning level studies and initial project development in communities with limited capacity.
- Create programs for O&M of drainage, culvert, stormwater, flood mitigation and natural infrastructure assets.

Upcoming Schedule

2026 Technical Committee / RFPG Meetings

Month	Technical Reviews / Approvals	RFPG Knowledge Sharing	Other Deliverables
September	• Chapter 2 and 3	• GLO RBFS • SARA Watershed Master Plans	
October	• Chapter 7 and 8	• Final results Task 4C effort	• Sponsor send FMX information by October 1st • Small Communities, October 23rd - 50% Draft Alternatives Identified Due to TWDB
November	• Chapter 4 - Identification of FMXs	• Small Communities Contract - Task 5B - Update to RFPG	
December	No Meeting	–	–

2027 Technical Committee / RFPG Meetings

Month	Technical Reviews / Approvals	RFPG Knowledge Sharing	Concurrent Tasks / Efforts
January	No Meeting	–	–
February	• Chapter 9 and 10 • Review/Recommendation /Approval of all the new FMXs	–	• Small Communities, February 26th - 90% Draft Report Due to TWDB
March	• Chapters 5, 6, 11	• Small Communities Contract – Draft Report – Final Update to RFPG	–
April	• Approve Draft RFP	–	• Small Communities, April 26th - 100% Final Report Due to RFPG
May	No Meeting	–	• Draft RFP Due May 26th

Comments Submitted on behalf of RFPG

The TWDB released a couple of guidance documents this summer. Based on conversations with the San Antonio RFPG comments were submitted on behalf of the group.

- TWDB Flood Infrastructure Fund Draft IUP 2026-2027

https://www.twdb.texas.gov/financial/programs/fif/index.asp

- TWDB Draft Nature-Based Solutions for Flood Resilience in Texas Guidance Manual

https://www.twdb.texas.gov/flood/planning/planningdocu/2028/index.asp

Comments Submitted on behalf of San Antonio RFPG

The TWDB released a couple of guidance documents this summer. Based on conversations with the San Antonio RFPG during meetings these comments were submitted on behalf of the group.

TWDB Flood Infrastructure Fund Draft IUP 2026-2027

Comments Due June 12, 2026

https://www.twdb.texas.gov/financial/programs/fif/index.asp

1. FMP Grant Qualifier, Nature-Based calculation

The San Antonio RFPG requests a clear, unified definition for the Percent Nature-Based Solution (by cost) calculation to ensure consistency in methodology across applications. At the same time, we recognize that certain unique projects may not fit within a standardized approach; for these cases, we recommend preserving flexibility so that the RFPGs can adjust the methodology as appropriate. This comment has also been submitted to the TWDB Flood Planning department for their Regional Flood Planning guidance documents.

2. TWDB FIF Incentives for Nature-Based Solutions

The San Antonio RFPG strongly encourages the submittal of more nature-based Flood Management Strategy (FMS) projects for TWDB FIF funding. To incentivize this, the RFPG recommends introducing an additional grant percentage for FMS category projects that incorporate Nature-Based Solutions, similar to the existing incentives provided in the FMP category.

TWDB Draft Nature-Based Solutions for Flood Resilience in Texas Guidance Manual

Comments Due Friday, July 24, 2026

https://www.twdb.texas.gov/flood/planning/planningdocu/2028/index.asp

1. The Guidance Manual mentions the need for stakeholder training on NBS, but does the TWDB anticipate doing their own training to accompany this document?

2. Consider clarifying that the authority to adopt and enforce ordinances and regulations varies among municipalities, counties, and other local governments under Texas law. Acknowledging these differences would provide more realistic implementation guidance and improve the applicability of the recommendations across different jurisdictions.

3. Some planning and funding programs require projects that incorporate nature-based solutions (NBS) to report the percentage of the project that is considered NBS, typically based on total project cost. However, both the TWDB State and Regional Flood Planning process and the Flood Infrastructure Fund (FIF) currently do not further define total project costs and leave this calculation to engineering judgment. Total project costs can include capital and non-capital costs depending on the project. Noncapital costs can significantly influence the reported NBS percentage, even though these costs may not accurately reflect the physical implementation of nature-based solutions. The San Antonio RFPG recommends that the Guidance Document establish a standardized definition and methodology for calculating the NBS percentage, or at minimum mention that this is an inconsistency one should look out for when doing this calculation. This would help promote consistency in how the calculation is applied across the state, improve comparability among projects, and ensure that the reported NBS percentage accurately reflects a project's nature-based components.