

Task 3: Floodplain Management Practices and Flood Protection Goals

Task 3A – Evaluation and Recommendations on Floodplain Management Practices (361.35)

The Trinity Regional Flood Planning Group (RFPG) solicited local entity and public input in the development of floodplain management practices and flood protection goals for the Trinity region. During the Trinity Region's Summer 2021 data collection effort, 90 communities and counties provided feedback on these specific topics, which represents 28 percent of the region. Public input included written and oral comments at the planning group meetings in June, August and September 2021, as well as interactive polling. In addition, the recommended floodplain management practices were posted to www.trinityrfpg.org and an email was sent to the distribution list encouraging interested parties to provide input and feedback by October 27, 2021. The North Central Texas Council of Governments also sent a similar email to its distribution list encouraging participation.

The region's data collection effort included requests for local floodplain ordinances and court orders. Section 3A of this report focuses on cities and counties as these are the entities with the ability to adopt and enforce floodplain ordinances and court orders. As of September 16, 2021, Region 3 received 48 floodplain management documents from the data collection effort. Additional research resulted in the identification and collection of five additional ordinances on entity websites. The Texas Water Development Board (TWDB) provided floodplain ordinances, as well as a summary of the Texas Floodplain Management Association's (TFMA's) 2018-19 Higher Standards Survey results by those entities who participated.

3A.1 Extent to which Current Floodplain Management and Land Use Practices Impact Flood Risks

Floodplain management and land use practices were examined by looking at regulations, policies, and trends in the region. The purpose of these management practices is to help with protection of life and property. Floodplain management and land use practices vary from one entity to another. Most communities in the region follow rules and policies of the Federal Emergency Management Agency (FEMA) who manages the National Flood Insurance Program (NFIP) where the minimum standards for development in and around the floodplain can be found.

In 1968, Congress established the NFIP through the National Flood Insurance Act of 1968 to provide federally subsidized flood insurance protection (FEMA, 1968). The program has been updated multiple times since then to strengthen the program, provide fiscal soundness and better inform the public of flood risk by the publication of insurance rate maps. Title 44 of the Code of Federal Regulations (44 CFR) includes the rules and regulations of the program. 44 CFR Part 60 establishes the minimum criteria that

FEMA requires for NFIP participation, which includes identifying special flood hazard areas within the community (CFR, 2011).

The Biggert-Waters Flood Insurance Reform Act of 2012 authorized and funded the national mapping program, as well as rate increases to transition the NFIP into a fiscally sound program (PL 112-141, 2012). The increases in flood insurance rates were intended to move the program to full actuarial rates that reflect the flood risk as opposed to subsidized rates. In 2019, five federal regulatory agencies issued a joint final rule regarding Biggert-Waters that required regulated lending agencies to accept private flood insurance that meets specific criteria defined in the Act (OCC, 2019). Private flood insurance providers offer more coverage options compared to the NFIP, including higher dollar amounts for maximum building coverage, a shorter waiting period for policies to become effective, and competitive rates (National Flood Insurance, 2020). However, private flood insurance is not backed by the federal government which means the money needed for flood repairs may be at risk when a policy holder files a claim. The private flood insurance option provides competition in the market where consumers can shop around and compare rates. Whereas the NFIP option rate for a particular property remains the same no matter the provider, which eliminates the need to shop around for a better rate.

Cities and counties work with FEMA to create and update Flood Insurance Rate Maps (FIRMs) and the flood water surface elevations to define special flood hazard areas (SFHA) along rivers, streams, lakes and coastal areas. Communities that participate in the NFIP are required to use the Flood Insurance Rate Maps and flood water surface elevations provided in their floodplain permitting processes. Insurance agents use FIRMs to determine flood risk, which determines the flood insurance policy rate for individual properties.

Cities and counties have the authority to establish their own policies, standards, and practices to manage land use in and around areas of flood risk. NFIP participating communities have the responsibility and authority to restrict development in the SFHA so that is reasonably safe from flooding. They can adopt and enforce higher standards than the FEMA NFIP minimum standards to further reduce flood risk to people and property. FEMA supports and encourages entities to establish higher standards to reduce flood risk to life and property.

Residents and businesses in cities and counties who participate in the NFIP program have the opportunity to purchase NFIP flood insurance to reduce the economic impacts of floods (FEMA Flood Insurance, 2021). Renters also have the opportunity to purchase NFIP “contents only” flood insurance policies to cover the cost of their belongings in the event of flood damage. NFIP participation also makes the community eligible for disaster assistance following a flood event (FEMA Floodplain Management, 2021).

3A.1.a. Existing Population and Property

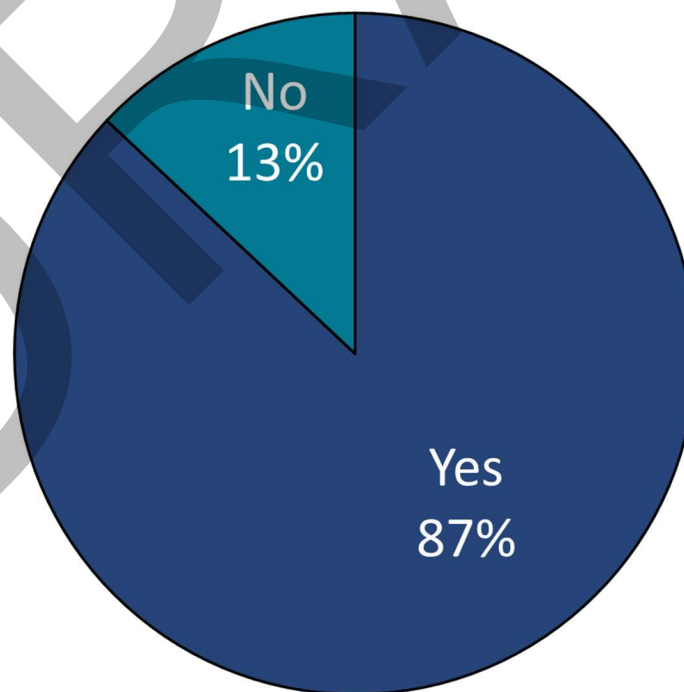
Multiple resources were considered in determining the extent to which current floodplain management and land use practices impact flood risk to existing population and property. Cities and counties have the ability to establish floodplain regulation and permitting by ordinance or court order, respectively. Not all entities with flood responsibilities are eligible to participate in the NFIP program. Only cities and counties are eligible to participate in the NFIP program. Therefore, the tables and figures included in this

section of the report are limited to cities and counties. Appendix X1 includes the list of all cities and counties within the Trinity Region with information regarding their floodplain management programs.

Communities that participate in the National Flood Insurance Program (NFIP) are required to have a floodplain ordinance or court order that meets or exceeds the NFIP minimum standards (FEMA Flood Insurance Rules & Regs, 2021). As of October 2020, 288 cities and counties in the Trinity region participate in the NFIP and have floodplain ordinances that meet or exceed the NFIP minimum standards (FEMA, 2021). Approximately 87 percent of the communities in the Trinity region have floodplain ordinances that meet the criteria. All of the counties within the Trinity Region participate in the NFIP. However, 40 cities within the region do not participate in the NFIP. Of those 40 entities, the RFPG found 5 entities who have adopted minimum regulations pursuant to Texas Water Code Section 16.3145 that appear to meet or exceed the NFIP minimum standards. Thus, the Trinity Region has a total of 293 entities (89%) with floodplain regulations that meet or exceed the NFIP minimum standards. Figure 3.1 shows the percentage of entities within the region that participate in the NFIP.

In support of the NFIP, the 77th Texas Legislature amended Subchapter 1, Chapter 16 of the Texas Water Code with the addition of Section 16.3145 that states, “the governing body of each city and county shall adopt ordinances or orders, as appropriate, necessary for the city or county to be eligible to participate in the National Flood Insurance Program, not later than January 1, 2001.” (TWDB, 2001) One of the TWDB’s Flood Infrastructure Fund (FIF) requirements is that the area served by the proposed study or project must have and enforce floodplain regulations that meet or exceed the NFIP minimum standards (TWDB FIF, 2021).

Figure 3.1 Percentage of NFIP Participating Entities in Region



Higher Standards

The NFIP establishes minimum standards that a city or county must meet to be eligible to participate in the NFIP. The minimum standards require buildings to be constructed at or above the base flood elevation, provide for floodproofing as an option for nonresidential buildings, and mandate provisions specific to the elevation and anchoring of manufactured houses (CFR, 1976). The base flood elevation is the anticipated water surface level that has a 1 percent chance of being equaled or exceeded in any given year (FEMA Glossary, 2021). In many cases, minimum standards may be based on maps that were developed with outdated topography, rainfall, and runoff data. Therefore, adopting minimum standards based on these sources may result in protection from flood damages that is less than the NFIP intends.

According to the TWDB Exhibit C guidance document, the term “higher” standard is defined as freeboard, detention requirements or fill restrictions. FEMA defines freeboard as additional height above the base flood elevation that provides a factor of safety when determining the minimum elevation of the lowest floor (FEMA Glossary, 2021). The Texas Floodplain Management Association (TFMA) performs a Higher Standards Survey every year of cities and counties to document which entities have adopted higher development standards. According to the TFMA Higher Standards Survey results for 2019-2020, 104 entities within the Trinity region self-reported as having freeboard one or more feet above the base flood elevation for current and/or fully developed conditions (TFMA, 2020).

The RFPG performed a data collection effort in Summer 2021. A question was included regarding the description of the higher standards required by the entity. The Base Flood Elevation (BFE) is the elevation of surface water resulting from a flood that has a 1 percent chance, of occurring in any given year (FEMA BFE, 2021). The BFE is typically shown on FEMA FIRMs (maps) and in associated Flood Insurance Studies and/or models. However, the BFE can be based on localized data developed by the community that may not be incorporated into a FEMA mapping product. The survey response options included in the data collection question:

- At or above current base flood elevations
- BFE + 1 foot (current 1% ACE conditions)
- BFE + 1 foot (future 1% ACE conditions)
- BFE + 2 feet (current 1% ACE conditions)
- BFE + 2 feet (future 1% ACE conditions)
- BFE + 3 feet (current 1% ACE conditions)
- Blank / unknown

In a few instances, the number provided in the survey response differed from the number provided in the TFMA response. In these situations, the RFPG reviewed the floodplain ordinances to determine the appropriate response. The RFPG also searched and reviewed online ordinances for missing communities. Otherwise, the information provided in Table 3.1 relies heavily on self-reported information to provide a summary of the entities with higher standards associated with freeboard at or above the base flood elevation. Figure 3.2 demonstrates the freeboard requirements for the cities within the region. Figure 3.3 shows the freeboard requirements for each of the counties in the Trinity Region. The county freeboard requirements are effective in areas outside city boundaries. In some cases, extra territorial

jurisdictions (ETJs) may be required to follow the city freeboard requirements depending on the specifics included in the city's ordinance.

Table 3.1: Summary of Freeboard Requirements for Communities in Trinity Region

Freeboard	Current 1% ACE Conditions	Future 1% ACE Conditions
At or above current base flood elevations	72	4
BFE + 1 foot	25	9
BFE + 1.5 feet	1	1
BFE + 2 feet	164	42
BFE + 3 feet	9	3
Total	271	59

Note: Based on Trinity Data Collection Survey Results as of September 16, 2021

Figure 3.2: City Freeboard Requirements

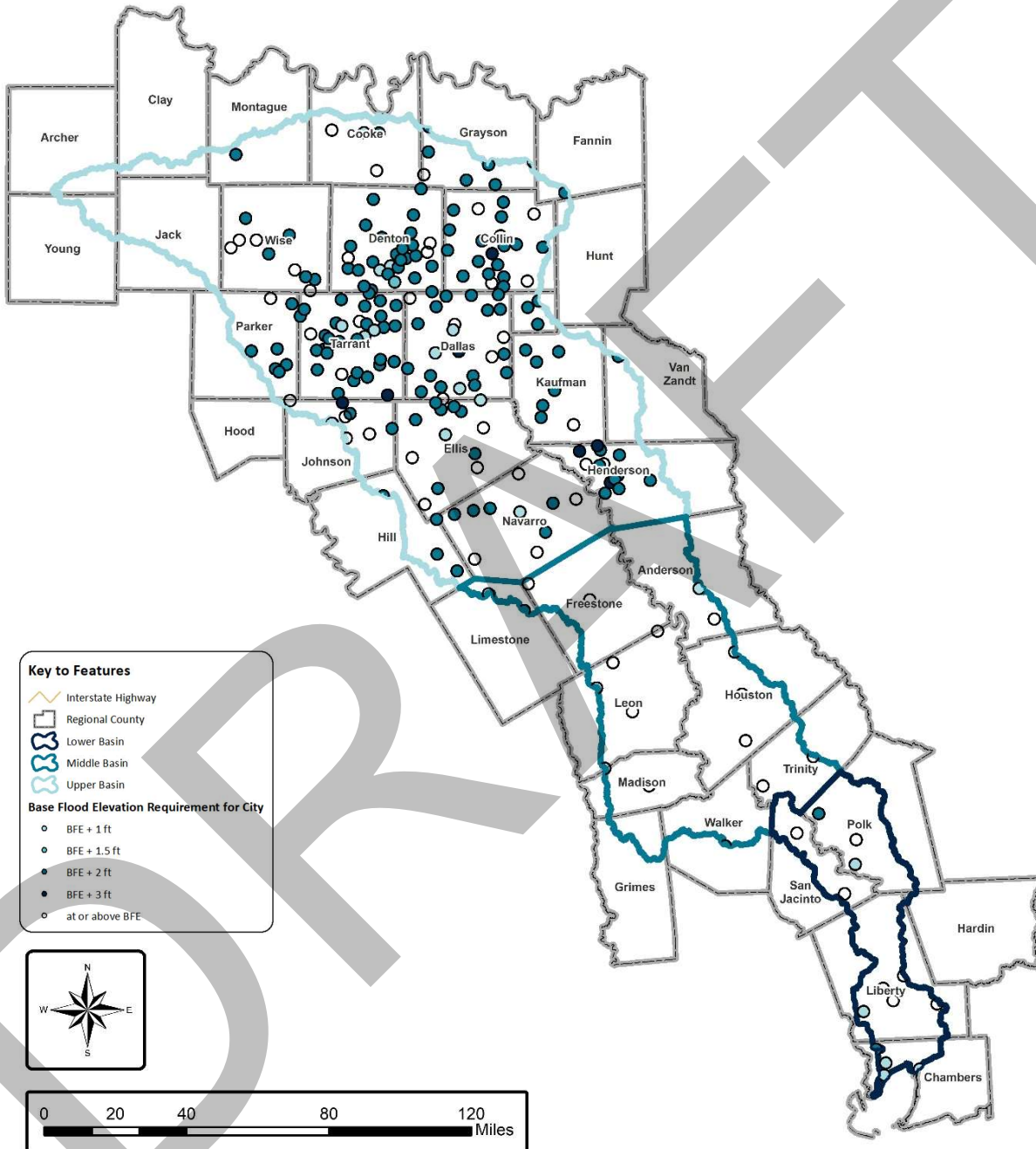
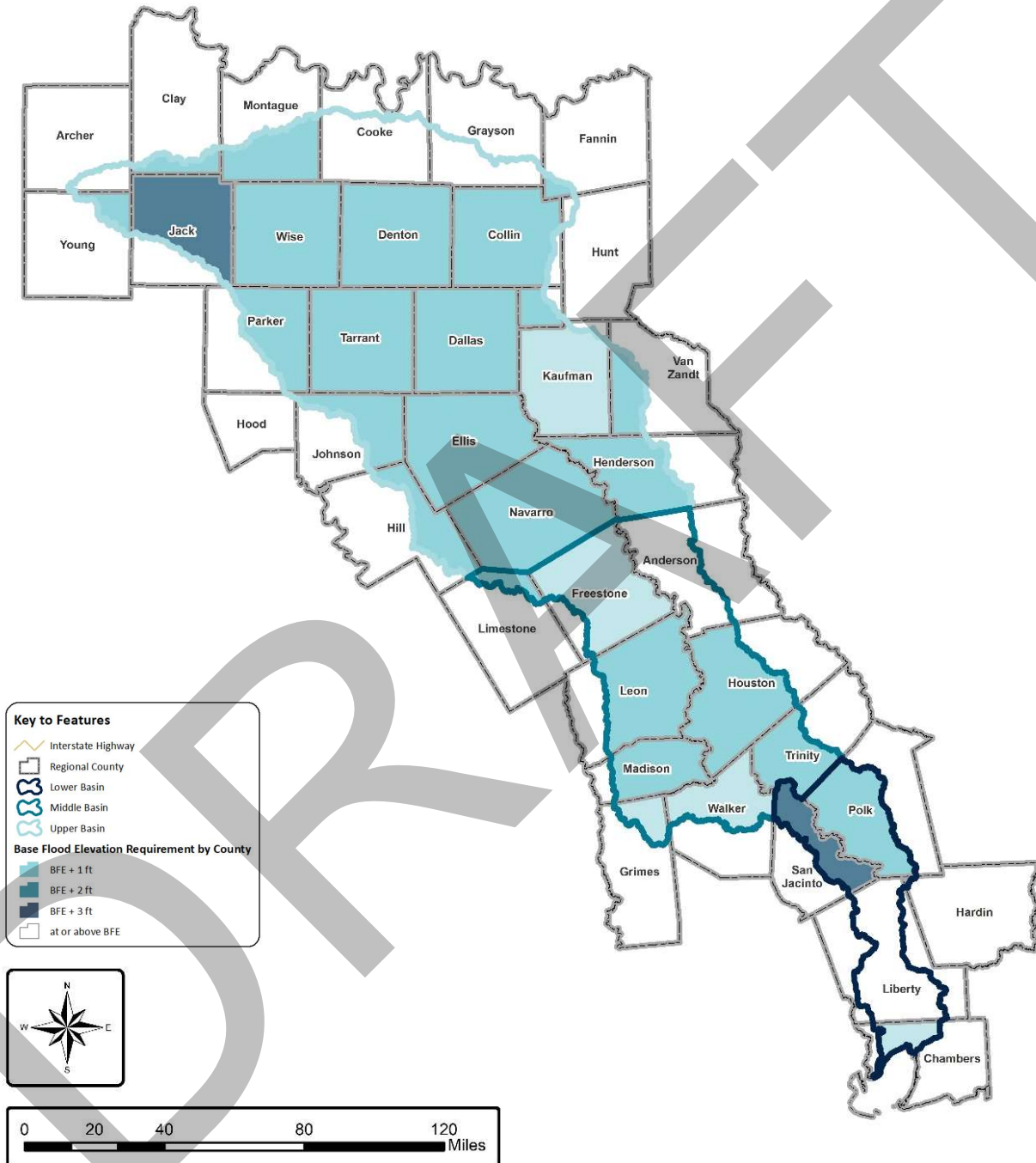


Figure 3.3: County Freeboard Requirements



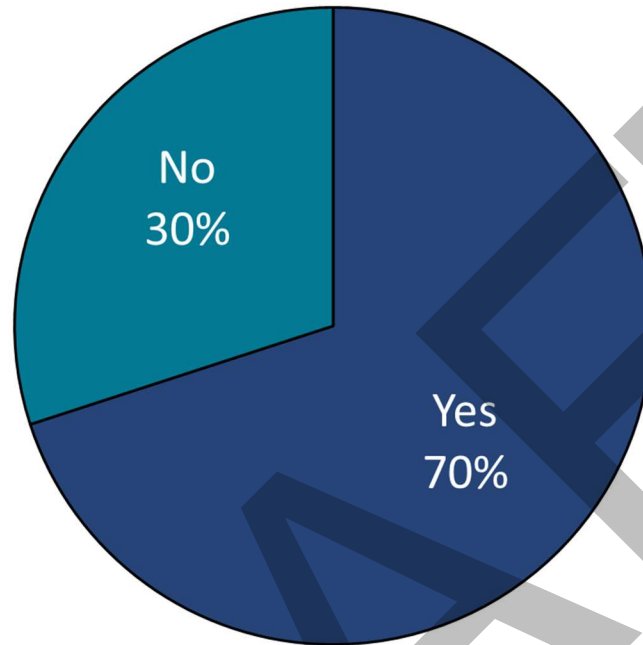
Of the entities that require freeboard, the majority use the base flood elevation plus two feet for current conditions. Fewer entities have future 1% annual chance event (ACE) condition information. However, those that do tend to require two feet above the base flood elevation as well.

In addition, the North Central Texas Council of Governments (NCTCOG) developed and continues to oversee the integrated Stormwater Management (iSWM) program that recognizes cities and counties who achieve water quality protection, streambank protection and flood mitigation while meeting construction and post-construction requirements for TCEQ stormwater permits (NCTCOG iSWM, 2021). (NCTCOG spans a 16-county area that overlaps much of the Trinity Region in the Upper Basin from Parker County on the west side to Hunt County on the east side and from Wise County on the north side to Navarro County on the south side.) Based on the level to which a city or county participates in the program, the entity can apply for and obtain regional recognition for its effort with a bronze, silver or gold certification. NCTCOG maintains an inventory of the iSWM participants and the elements of the iSWM program that each entity includes. The iSWM program includes detention structure discharge criteria, flood mitigation/downstream assessments, and/or finished floor elevations that are relevant to the TWDB's definition of higher standards for this regional flood plan. The NCTCOG information was considered in determining the number of entities within the region with higher standards as defined by the TWDB.

In 2017, NCTCOG hosted two Countywide Watershed Management roundtable discussions and presentations (NCTCOG Countywide Watershed Standards, 2017). NCTCOG also performed a survey of the 16 counties within their area. The discussion and input resulted in the development of a document that specifies 13 regionally recommended standards for new development within county-regulated areas. The document includes a sample resolution that counties can use to enact their authority to regulate development within the floodplains. Some higher standards include requiring freeboard for fully developed conditions, maintaining valley storage, protecting against erosive velocities, and matching pre-development site runoff.

In all, 231 of the 328 cities and counties require some form of higher standards. Figure 3.4 demonstrates that more than two-thirds of the region's entities require some form of higher standards, whether it be elevation requirements, detention requirements and/or fill restrictions.

Figure 3.4 Percentage of Entities that Require Higher Standards (includes survey responses as of September 16, 2021 and additional RFPG research)



Within the NFIP, FEMA manages the Community Rating System (CRS) program. The CRS program is a voluntary program in which cities and counties can participate (FEMA CRS, 2021), (FEMA CRS Manual, 2021). The more flood risk reduction activities in which an entity participates, the more points it earns. The points translate to a CRS score that ultimately provides residents and businesses within the jurisdiction the opportunity to receive a discount on flood insurance premiums. The flood insurance savings encourages residents and businesses to purchase flood insurance to protect buildings and contents.

Twenty entities within the region participate in the CRS program (FEMA, 2021). These communities have a CRS class ranging between 5 and 10 and represent a 25 percent to 0 percent savings on flood insurance premiums, respectively. Per TWDB Technical Guidance, these communities qualify as having “Strong” floodplain management standards. The list of CRS participating entities is provided in Table 3.2.

Table 3.2: Trinity Region Cities and Counties Participating in Community Rating System (CRS) Program

Entity	CRS Class	% Discount for Structures within Special Flood Hazard Area	% Discount for Structures Located Outside the Special Flood Hazard Area
Arlington, City of	6	20	10
Benbrook, City of	7	15	5
Burleson, City of	9	5	5
Carrollton, City of	6	20	10
Coppell, City of	8	10	5
Dallas, City of	5	25	10
Denton, City of	8	10	5
Denton County	10	0	0
Duncanville, City of	8	10	5
Flower Mound, City of	8	10	5
Fort Worth, City of	8	10	5
Garland, City of	7	15	5
Grand Prairie, City of	5	25	10
Haltom City, City of	8	10	5
Hurst, City of	8	10	5
Lewisville, City of	9	5	5
North Richland Hills, City of	7	15	5
Plano, City of	8	10	5
Richardson, City of	8	10	5
Richland Hills, City of	8	10	5

Source: FEMA CIS Report as of October 1, 2020

Part of the Summer 2021 data collection effort included a question that asked survey participants to select the description that best represented their impression of their enforcement of their floodplain regulations. TWDB Exhibit C Guidance document described enforcement activities as the following:

- high – actively enforces the entire ordinance, performs many inspections throughout construction process, issues fines, violations, and Section 1316s where appropriate, and enforces substantial damage and substantial improvement;
- moderate – enforces much of the ordinance, performs limited inspections and is limited in issuance of fines and violations;
- low – provides permitting of development in the floodplain, may not perform inspections, may not issue fines or violations;
- none – does not enforce floodplain management regulations.

Approximately 56 percent of the participants who responded to this question described their level of enforcement as being moderate or high activity. The remaining participants have a low, none or unknown activity with regards to enforcing the floodplain regulations and have a significant opportunity to improve the effectiveness of their ordinance or court order by increasing the enforcement of their existing floodplain ordinances. Table 3.3 summarizes the survey participant responses.

Table 3.3: Survey Participant Level of Enforcement of Floodplain Regulations (based on September 16, 2021 survey responses)

Level of Enforcement	Number of Responses	Percent
High Activity	24	26%
Moderate Activity	28	30%
Low Activity	14	15%
None	11	13%
I do not know	15	16%
Total	92	100%

The TWDB guidance defines the existing floodplain management practices as

- Strong (significant regulation that exceed NFIP standards with enforcement, or community belongs to the Community Rating System)
- Moderate (some higher standards, such as freeboard, detention requirements or fill restrictions)
- Low (regulations meet the minimum NFIP standards)
- None (no floodplain management practices in place)

The Trinity Region rated each community and county using these definitions. Accordingly, entities participating in the CRS program received a “Strong” classification for floodplain management practices. Entities that have higher standards but responded to the survey as having low levels of enforcement

were typically categorized as having “Moderate” floodplain management practices unless the entity participated in the CRS program which automatically results in a “Strong” classification. For those entities who reported that they require construction to be at or above base flood elevation, the floodplain management practice was typically classified as “Low”. In the event that an entity had some form of higher standards as determined from other resources but did not respond to the survey or responded with “I do not know” with regards to enforcement, the floodplain management practices were categorized as “Low” unless the level of enforcement or elevation above base flood warranted a different classification. In some instances, an entity responded that its level of enforcement was “None” even though it has adopted some form of higher standards. In these situations, the floodplain management practices were ranked as “None”. Table 3.4 summarizes the results of the floodplain management practices. TWDB-Required Table 6 is included in Appendix X1 and provides details considered for each community and county in determining the appropriate description of overall floodplain management practices.

Table 3.4: Floodplain Management Practices for All Communities and Counties in the Region (based on survey responses as of September 16, 2021)

Description	Number of Communities and Counties	Percent
Strong	35	11%
Moderate	23	7%
Low	228	69%
None	42	13%
Total	328	100%

Local Government Code, Title 13, Subtitle A, Chapter 552 authorizes cities to establish stormwater utilities and assess stormwater utility fees, also referred to as drainage utility fees. Only cities have the authority to establish and assess stormwater utility fees. Western Kentucky 2020 data was used as the primary source for identifying cities with stormwater utilities (Western Kentucky, 2020). The Summer 2021 data collection effort also included two questions regarding stormwater utilities. The responses to these questions were considered more accurate and were confirmed in the event that the Western Kentucky data differed from the survey responses. In all, only 62 (or 22 percent) of the 288 cities within the region have established stormwater utilities.

One of the questions in the Trinity data collection effort in Summer 2021 asked about sources of revenue and specific stormwater utility rates, if applicable. Seventeen cities responded that they have stormwater utilities and provided their rates as of July 2021. The rates provided ranged from \$1.66 to \$13.59 per equivalent residential unit (ERU). One community responded that it has established a stormwater utility but was in the process of developing the rate.

3A.1.b. Future Population and Property

Existing floodplain ordinances and court orders with higher standards may continue to protect future population and property as long as they are enforced. Future floodplain maps and models are anticipated to be updated with higher resolution data, best available data, and advanced modeling techniques in the years to come. The combination of applying higher standards and best available data should translate into life and property savings in the future.

Areas without flood maps and models or with outdated maps and models are at greater danger of increased flood risk in terms of future population and property development within the floodplain. Entities need comprehensive and updated maps to direct development away from flood-prone areas. Local floodplain regulations with higher standards need to be adopted and enforced to better reduce the flood risk to future population and property.

The Trinity Region encourages those cities and counties without floodplain ordinances or court orders to develop, adopt, implement and enforce floodplain regulations that at least meet the NFIP minimum standard.

Some cities and counties have already developed watershed studies that include existing and future flood conditions. Sometimes the future conditions are a period of time into the future, often 30 years. In other cases, the future flood conditions are based on fully developed land conditions. Entities who currently apply future flood conditions as part of their design criteria essentially apply a factor of safety to better protect today's developments from future flood risks.

In the Upper Basin area of the Trinity watershed, communities along the West Fork and Elm Fork of the Trinity River participate in the NCTCOG's Corridor Development Certificate (CDC) Program (NCTCOG CDC, 2021). The CDC program is a regional approach to maintain flood capacity within the Trinity River. The CDC flood model includes current conditions and future (year 2055) conditions flood discharges that must be considered for evaluating proposed projects within the Trinity River corridor. The three primary criteria (NCTCOG CDC Criteria Manual, 2021) of the CDC program that proposed new development in the corridor must meet are:

1. Water surface elevations do not increase for the 1% ACE flood elevation and no significant increase for the Standard Project Flood elevation
2. Valley storage must be maintained in the 1% ACE floodplain with a maximum loss of 5.0% in the Standard Project Flood plain
3. Channel and flood plain velocities cannot be increased

According to the U.S. Army Corps of Engineers, the Standard Project Flood (SPF) is the flood that may be anticipated from the most severe combination of meteorological and hydrologic conditions that are reasonably characteristic of the region (USACE Engineering Manual, 1965). The SPF flood discharges are typically 40 to 60 percent of the probable maximum flood for the basin. USACE defines the probable maximum flood as the flood resulting from the most extreme combination of meteorological and hydrological conditions that are reasonably possible for the area (USACE, 1970). The SPF represents the "standard" degree of flood control project should be designed to protect life and property.

When a project is proposed within the CDC area, the applicant submits a CDC permit to the appropriate county or city. Once the floodplain administrator determines that the proposed project generally meets the CDC requirements, as well as its local requirements, the floodplain administrator forwards the application to the CDC reviewers, including state and federal agencies. The U.S. Army Corps of Engineers performs detailed model analyses to confirm the proposed project meets the CDC requirements. Other CDC participants have the opportunity to review the application and supporting documentation and ask questions or raise any concerns they might have. Once the model is deemed acceptable and all concerns have been addressed to the city or county's satisfaction, the county or city may issue the CDC permit.

NCTCOG is actively working with additional jurisdictions to expand the CDC program to other branches of the Trinity River, as well as the main stem of the Trinity River downstream of where the flood model currently ends just south of I-20 and east of Hutchins, TX. The future conditions considered in the model and the expansion of the program to other areas will provide valuable flood risk information for future property, people and infrastructure, as well as existing property, people and infrastructure.

3A.2 Future Flood Hazard Exposure

Future flood hazard exposure is assessed in Section 2B of this report. This section of the report focuses on the potential impact that floodplain management and land use practices may have in the future. Cities and counties that have and enforce floodplain regulations reduce the future flood hazard impact. As of September 16, 2021, the RFPG data collection effort revealed 34 entities have these regulations, but have a low, no or unknown activity with regards to enforcement. The RFPG supports and encourages entities' abilities to enforce their regulations. The TWDB has developed a sample Flood Damage Prevention Ordinance that communities can use as a starting point in developing their own floodplain ordinances. (TWDB NFIP, 2021)

Cities and counties that implement future land use plans consider areas of anticipated population growth and development within their communities. However, the existing and future floodplains are not necessarily a component in developing the future land use plan. (Land use planning is addressed in Section 1.XX of this report in more detail.) Incorporating the existing and future floodplains will provide cities and counties with additional direction as to where population and development should be directed to avoid flood risk to people and property.

It is challenging to define future floodplains with complete certainty. However, one should anticipate that the future floodplains will be different from existing floodplains in some areas within the region. The maps and models are regularly being updated with new topography, survey, precipitation, runoff, and other data as development occurs in and around floodplains and the watershed. One should anticipate that the base flood elevations will increase in the future due to a number of conditions that are presented in Section 2B. Cities and counties that require future conditions in the evaluation and modeling of proposed projects and seek to minimize the allowable increases in water surface elevations will reduce future flood hazard to new and existing developments.

One factor of safety that can be implemented today to reduce future flood hazard exposure is freeboard. Freeboard is the term used for the additional height provided above the base flood elevation as discussed in Section 3A.1.

Even if the base flood elevation changes in the future, freeboard can result in allowing the structure to remain above the future flood water surface if higher as is often the case.

The RFPG supports the use of freeboard in local floodplain ordinances and court orders. Ideally, the RFPG recommends cities and counties to adopt and enforce a minimum freeboard requirement of one foot above the base flood elevation based on future 1 percent Annual Chance Event conditions, where possible.

Another higher standard that can be implemented today that will limit future flood hazard exposure is maintaining valley storage, which is also referred to as prohibiting fill without equivalent, compensatory excavation. Maintaining valley storage aids in maintaining “no rise” in water surface elevations. Reducing a river or streams valley storage tends to increase downstream flooding. Currently, a property within the floodplain holds a certain volume of water during a flood event. After the proposed project is completed, the property must still hold the same volume of floodwater. The shape may be different, but the volume remains the same. Maintaining valley storage allows a property owner to move dirt around on the property while still containing the volume of floodwaters prior to the earthwork activity. If the existing soil is not suitable for construction, then soil can be replaced with appropriate soils. Typically, this is a one-to-one match meaning that for every amount of dirt brought into the floodplain, an equal amount of dirt is removed. Although, some communities may have differing requirements on the amount of material removed and replaced. Maintaining valley storage allows floodplains to function similar to preconstruction and store the floodwaters.

Detention and retention ponds are often required to mitigate the impacts that impervious surfaces and more efficient drainage infrastructure have on the runoff from a developed property. The standard engineering design requirement in the Upper Basin area within the NCTCOG area (NCTCOG ISWM Site Development Manual, 2006) is to manage runoff so that it discharges from the developed property at the existing rate that it leaves the property in its natural state. Incorporating this requirement mitigates increased runoff in the future, which in turn can reduce future flood hazard exposure for adjacent properties. However, detention does not mitigate the increases in runoff volume associated with development activity that cumulatively can increase flood risk for properties farther downstream. These design criteria could be applied in other areas of the Trinity Region.

3A.3 Consideration of Recommendation or Adoption of Minimum Floodplain Management and Land Use Practices

The RFPG is required to consider the possibility of recommending or adopting consistent minimum floodplain management standards and land use practices for the entire region. The difference being that recommended practices encourage entities with flood control responsibilities to establish minimum floodplain management standards over the next several years whereas the adoption of minimum standards requires entities to have adopted the minimum standards before their flood management

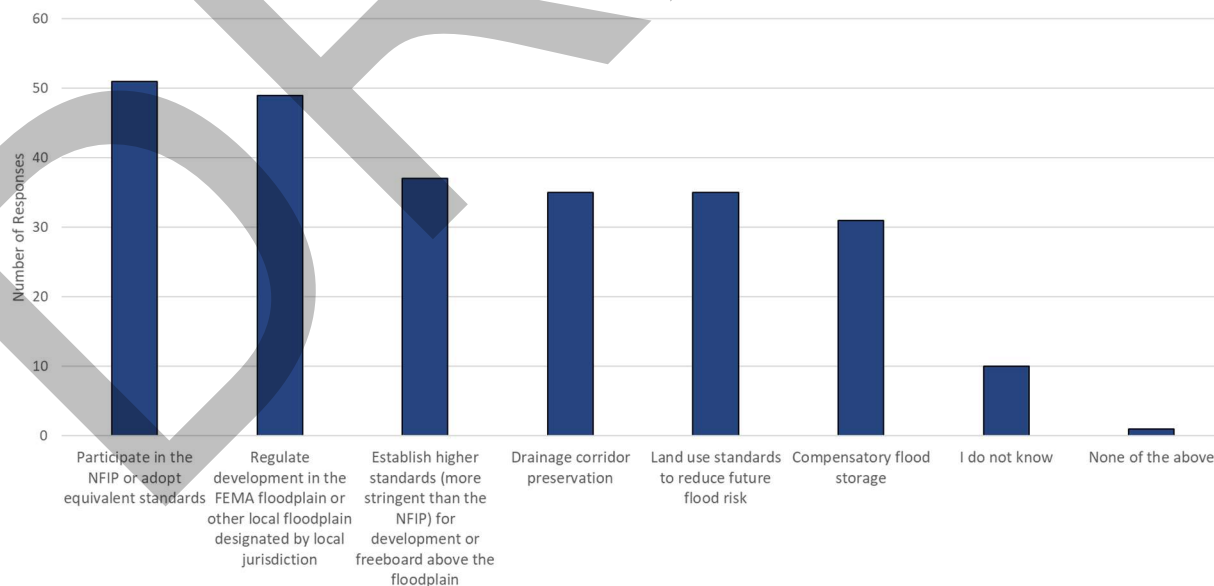
evaluations (FMEs), flood management strategies (FMSs), and flood mitigation projects (FMPs) could be considered for potential inclusion in the regional flood plan. The RFPG solicited local input to assist it in making a decision on this subject.

Several questions were included in the data collection effort in Summer 2021 regarding region-wide minimum floodplain management standards. Survey participants were asked if they thought the RFPG should **recommend** consistent minimum standards across the region. As of September 16, 2021, 95 entities responded to this question. Table 3.5 summarizes participant responses regarding the question of recommending region-wide minimum floodplain management practices. Figure 3.5 shows the survey responses in support of specific management practices for potential consideration by the RFPG. (Participants were able to select multiple responses.)

Table 3.5: Survey Responses for Potentially Recommending Consistent Minimum Floodplain Management Standards (as of September 16, 2021)

Description	Number of Responses	Percent
Yes	58	61%
No	12	13%
I don't know	25	26%
Total	95	100%

Figure 3.5 Survey Responses in Support of Potential Recommended Minimum Floodplain Management Standards (as of September 16, 2021)



61 percent of the survey participants support the idea of recommending consistent minimum floodplain management standards for the Trinity region. The survey participants showed significant support for entities to participate in the NFIP or adopt equivalent standards. Survey participants also expressed significant interest in local entities regulating development in the FEMA floodplain or other local floodplain designated by the local jurisdiction. Figures 3.6 and 3.7 show the percent support of these two potential recommended minimum standards as of September 16, 2021.

Figure 3.6 Survey Participants in Support of Recommending All Entities Participate in the NFIP or Adopting Equivalent Standards (as of September 16, 2021)

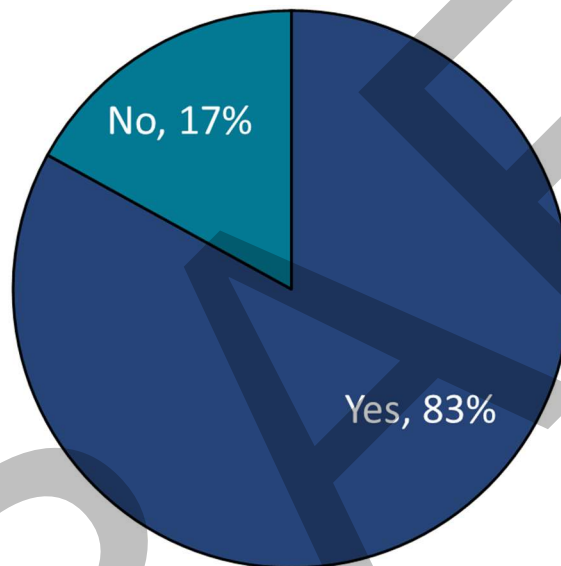
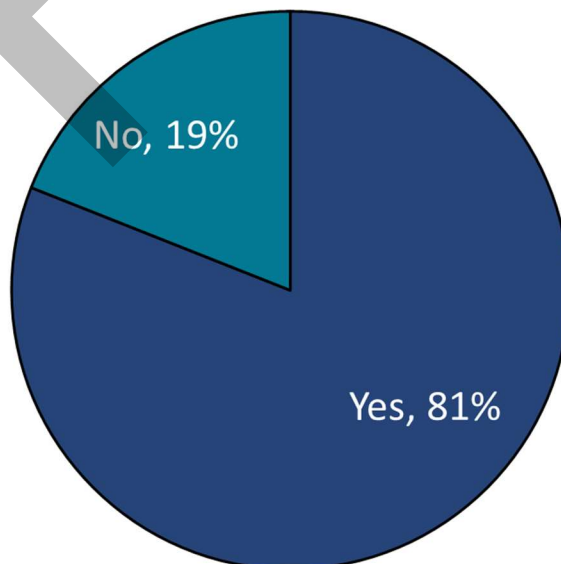


Figure 3.7 Survey Participants in Support of Recommending the Regulation of Development in the FEMA Floodplain or Other Local Floodplain (as of September 16, 2021)

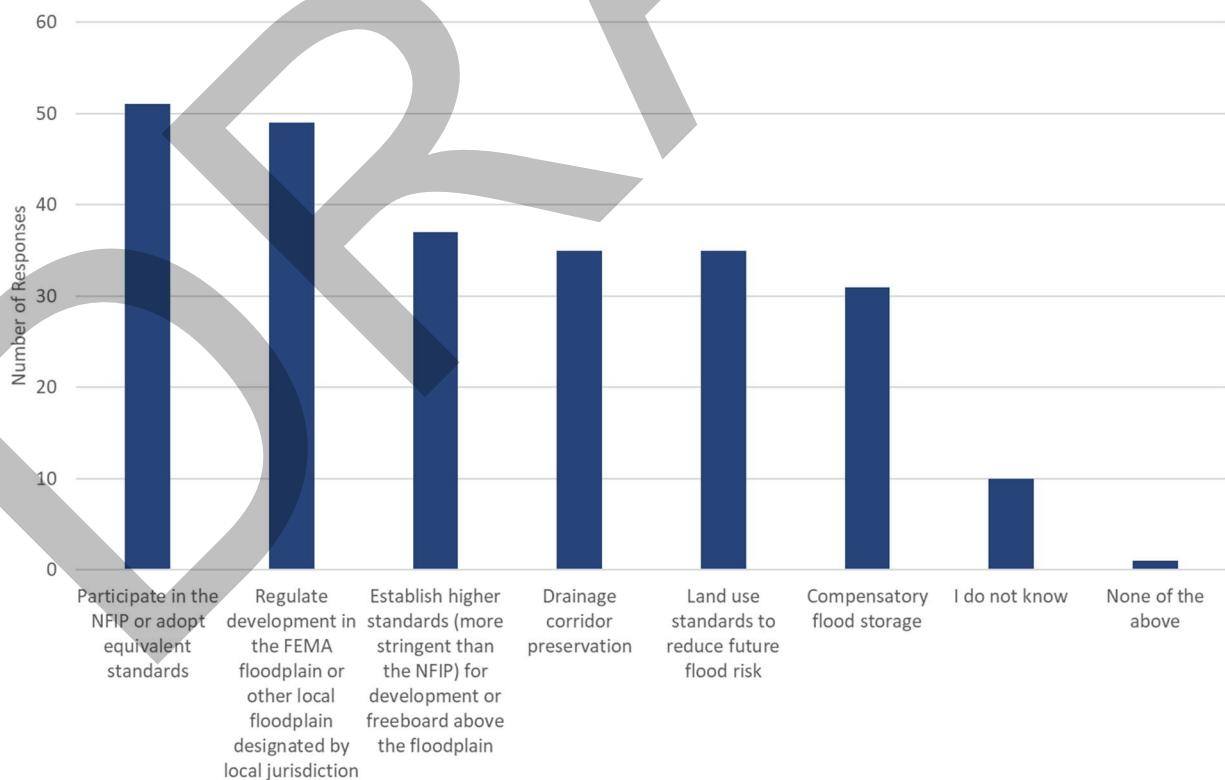


The Summer 2021 data collection also asked survey participants their opinion on whether the RFPG should adopt consistent minimum standards across the entire region. The survey question went on to clarify that such a requirement would only allow the RFPG to consider including flood mitigation solutions for those entities who currently meet the adopted/required minimum standards. Again, 95 entities responded to the question but were less committed to the idea of requiring consistent minimum standards for a flood mitigation solution to be included in the regional flood plan. Table 3.6 summarizes the participant responses, and Figure 3.8 shows the number of survey participants supporting specific standards.

Table 3.6: Survey Responses for Potentially Adopting (Requiring) Consistent Minimum Floodplain Management Standards (as of September 16, 2021)

Description	Number of Responses	Percent
Yes	47	49%
No	13	14%
I don't know	35	37%
Total	95	100%

Figure 3.8 Survey Responses for Potential Adopted (Required) Minimum Floodplain Management Standards (as of September 16, 2021)



In contrast, less than half of the survey participants supported the concept of requiring consistent minimum floodplain management standards. Those potential required region-wide minimum standards that received the most support included the same top two potential standards in the consideration for recommended standards. However, more participants responded with “I do not know” or did not respond.

The RFPG considered all of the information gathered and analyzed in this chapter. The RFPG held a public meeting on September 23, 2021 to consider the question of recommending or adopting (requiring) minimum standards for this plan. The RFPG approved the following recommended region-wide floodplain management standards for this plan:

1. Participate in the NFIP or adopt equivalent standards
2. Regulate development in the FEMA floodplain or other local floodplain designated by local jurisdiction
3. Establish higher standards (more stringent than the NFIP) for development or freeboard above the floodplain
4. Drainage corridor preservation
5. Land use standards to reduce future flood risk
6. Compensatory flood storage

In addition, the recommended standards were summarized in a memorandum, posted to the RFPG website, and distributed by email to the list of interested parties informing them of the decision and soliciting feedback by October 27, 2021. A copy of the memo and the email notification are included in Appendix X2.

As in other chapters of this report, the TWDB requires a detailed table of existing floodplain management practices with the region. The TWDB-required Table 6 has been populated for all cities and counties within the Trinity Region and is included in Appendix X1.

Task 3B – Flood Mitigation and Floodplain Management Goals (361.36)

A critical component of the inaugural State Flood Plan process is the development of flood mitigation and floodplain management goals. As such, the Trinity Regional Flood Planning Group (RFPG) spent a significant amount of time and resources exploring values and measurable goals that the region should aspire to reach.

As set out in the Guidance Principles in 31 TAC §362.3, the overarching intent of the region's goals must be "to protect against the loss of life and property." This is further defined to:

1. Identify and reduce the risk and impact to life and property that already exists, and
2. Avoid increasing or creating new flood risk by addressing future development within the areas known to have existing or future flood risk.

The goals, when implemented, must demonstrate progress towards the fundamental goal set forth by the state. This section summarizes the results of the RFPG efforts and the initial flood mitigation and floodplain management goals for the Trinity region.

3B.1 Flood Mitigation and Floodplain Management Goal Categories

The RFPG selected seven overarching goal categories. These categories are further defined to clarify the general focus and resulting benefits of each specific, measurable goal and to create a one-to-one connection with the Flood Management Strategy (FMS) types as outlined in TWDB Data Submittal Guidelines. The selected specific goals guide the development of the Flood Management Strategies (FMSs), Flood Management Evaluations (FMEs), and Flood Mitigation Projects (FMPs) for the Trinity Flood Planning Region. They build upon TWDB regional flood planning guidance and provide a comprehensive framework for future strategy development focused on reducing flood risk to people and property, while not negatively affecting neighboring areas. The seven overarching goal categories include:

1. Improving Flood Warning & Public Safety
2. Improving Flood Analyses
3. Reducing Property Damage & Loss
4. Floodplain Preservation
5. Flood Infrastructure Improvement
6. Expanding Flood Education & Outreach
7. Expand Funding

The seven categories are further discussed in detail later in this chapter.

To determine the overarching goals and the specific and attainable goals, the RFPG provided multiple opportunities for discussion and public input:

1. June 24, 2021 RFPG Meeting – Discussed legislative and TWDB Guidance and conducted interactive goal setting exercise to determine the RFPG's overarching goals and values.

2. August 19, 2021 RFPG Meeting – Presented a refined list of potential specific goals for discussion based upon feedback received during the June meeting using interactive polling. Established the Goals Subcommittee to narrow the list of potential goals for consideration in this plan.
3. August 31, 2021 RFPG Subcommittee Meeting – Refined the overarching and specific goals and set measurable indicators.
4. September 23, 2021 RFPG Meeting – Considered and approved the draft goals as refined by the Goals Subcommittee and added a seventh overarching goal with specific goals. Requested the consultants distribute the draft goals to the list of interested parties and request input for an additional 30 days. The goals were distributed on September 27 with a request for comments to be submitted by October 27.
5. November 18, 2021 RFPG Meeting

Appendix X3 includes documents showing the RFPG’s progression of refining the goals for the Trinity Region.

3B.2 Goals

The seven overarching goal categories are detailed below and include specific goal statements that are achievable, measurable, and time specific. Per TWDB requirements and guidelines, the goals selected by the RFPG must be specific and achievable and include the information listed below:

- Description of the goal
- Term of the goal set at 10 years (short-term) and 30 years (long-term)
- Extent or geographic area to which the goal applies
- Residual risk that remains after the goal is met
- Measurement method that will be used to quantify goal attainment
- Association with the overarching goal categories

The specific goals associated with each overarching goal listed below were reviewed and approved by the RFPG on September 23, 2021 during the RFPG Meeting.

Goal Category 1. Improving Flood Warning & Public Safety

Goal category 1 intends to improve the dissemination of information regarding early flood recognition and danger, emergency response procedures, and post-flood recovery actions to protect the public.

Table 3.7 includes two detailed goals to accomplish this goal category that also aligns with the TWDB’s fundamental goal of protecting against the loss of life by keeping the public informed, prepared, and aware of flood risk.

Table 3.7 Goal Category 1: Improving Flood Warning & Public Safety Specific Goal Statements

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the number of communities with flood warning programs that can detect flood threats and provide timely warning of impending flood danger.	Initiated ¹	Maintained ²
B	Improve safety at low water crossings by adding warning systems/signage or improving low water crossings in high-risk areas.	100 total crossings	300 total crossings

¹ Initiated means to establish and/or begin a program or project.

² Maintained means to keep the equipment in working condition.

Communicating flood risk and appropriate flood response to the public often involves multiple entities and departments within those entities. Flood warnings may be issued via television, radio, websites, electronic message boards, roadway signage and other measures. Flood warning programs could include a variety of measures, such as rain gauges, stream gauges, stage gauges, emergency action plans, and others. Potential low water crossing safety measures might include Turn Around Don't Drown signs, barricades, flashing lights, and automated gates to name a few. Advanced technology can be used to report readings from rain and stream gauge equipment to the entity's website to inform the public of real-time flood risks during and following storm events.

Goal Category 2. Improving Flood Analyses

Goal category 2 intends to increase the number and extent of regional flood planning studies (FMEs) and analyses. By accomplishing this, the studies will be used to identify flood risk and better prepare communities for implementing flood mitigation projects. Table 3.8 provides details on the three specific goal statements that support this goal category, as well as the TWDB's fundamental goal of protecting against the loss of life and property by utilizing the best available data when performing flood analyses.

Table 3.8 Goal Category 2: Improving Flood Analyses Specific Goal Statements

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the availability of flood hazard data that uses the best available land use and precipitation data to reduce gaps in floodplain mapping.	25% gap reduction	95% gap reduction
B	Increase the number of entities that conduct detailed studies of localized/urban flooding impacts within the Trinity Region.	Establish a baseline measurement	30% ¹
C	Increase the number of communities that utilize latest and most appropriate precipitation and land use data as a basis for design criteria and flood prevention regulations.	Establish a baseline measurement	30% ¹

¹ After the baseline measurement is established, the specific item to be measured will be defined.

Goal Category 3. Reducing Property Damage & Loss

Increase the number and extent of protective regulatory measures and programs to limit future risk and reduce flood damage in the flood planning region. Table 3.9 includes three specific goal statements that aim to protect property and people, which aligns with the TWDB's fundamental goal of protecting against the loss of life and property by reducing current flood risk and providing more flood risk awareness to the public.

Table 3.9 Goal Category 3: Reducing Property Damage & Loss Specific Goal Statements

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the number of entities that have floodplain standards that meet or exceed the NFIP-minimum standards.	5 new cities/towns	25 additional cities/towns
B	Reduce the number of structures within the 1% floodplain (i.e. through structural projects, property buyouts, acquisitions, and/or relocations).	5% ¹	10% ¹
C	Reduce the vulnerability of agriculture, ranching and forestry to flood-related losses.	Establish a baseline measurement	30% ²

¹ Percentage shown is the percent of total structures based on the count presented in this plan.

² After the baseline measurement is established, the specific item to be measured will be defined.

Goal Category 4. Floodplain Preservation

Maintain the natural and beneficial functions of floodplains by preservation and conservation programs. In other words, allow floodplains to reduce flood risk by slowing runoff and storing floodwaters as intended (FEMA Benefits of Natural Floodplains, 2021). Table 3.10 provides information on three goal

statements that directly supports the TWDB’s fundamental goal of protecting against the loss of life and property by reducing current and future flood risk in low-lying areas.

Table 3.10 Goal Category 4: Floodplain Preservation Specific Goal Statements

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the acreage of publicly protected natural areas for flood and ecosystem purposes to reduce future impacts of flooding.	Establish a baseline measurement	10% ¹
B	Increase the number of entities that designate the 1% annual chance floodplain on Future Land Use plans that serve as the basis for zoning regulations.	20 new entities	50 new entities
C	Avoid new exposure to flood hazards by adopting comprehensive plans or subdivision regulations that direct development away from the floodplain.	Establish a baseline measurement	10% ¹

¹ After the baseline measurement is established, the specific item to be measured will be defined.

Publicly protected natural areas may include dedicated or deed-restricted parks, wetlands, preservations, forests, and other similar areas.

Future land use plans or comprehensive plans provide a guide for communities in determining where and what types of future development will occur in accordance with the community’s long-range goals (Gary D. Taylor, 2019). These plans consider existing physical factors, such as topography, infrastructure, and development. Topography should include rivers and creeks and their associated floodplains.

Cities and counties have the authority to establish subdivision regulations that govern the platting process of property, including the identification and designation of floodplains (LGC, 2017) and (LGC, 2021). Subdivision rules can apply to Extraterritorial Jurisdictions (ETJs) if designated in the city ordinance.

Goal Category 5. Flood Infrastructure Improvement

Reduce flood risk and mitigate flood hazards to life and property through the maintenance and rehabilitation of existing infrastructure and implementation of new flood infrastructure projects. Two specific goal statements are included in Table 3.11, both of which directly support the TWDB’s fundamental goal of protecting against the loss of life and property by reducing current flood risk.

Table 3.11 Goal Category 5: Flood Infrastructure Improvement Specific Goal Statements

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the number of nature-based practices as part of flood risk reduction projects.	Establish a baseline measurement	30% ¹
B	Improve flood infrastructure and maintain streams and drainage channels to protect agricultural lands from flooding.	Establish a baseline measurement	10% ¹

¹ After the baseline measurement is established, the specific item to be measured will be defined.

Nature-based practices often involve geomorphic assessments to understand the specific site conditions and to select the most appropriate flood infrastructure improvement, including stream restoration or erosion solution. Geomorphologic studies also aide in identifying the locations for needed improvements. Chapter 2 includes a discussion of geomorphology. Nature-based solutions may include strategically placed plantings, wood/logs, stakes, geotextile fabric, boulders, or other materials (USDA, 2021). In some cases, a combination of traditional engineered solutions can be used with certain nature-based components.

Goal Category 6. Expanding Flood Education & Outreach

Increase the amount of flood education and outreach opportunities to improve awareness of flood hazards and promote future participation throughout the flood planning region (FPR). Flood education and outreach is critical to protecting people and property. The goal category aligns with TWDB's fundamental goal of reducing loss of life and property by helping people understand and avoid flood risk. Table 3.12 includes three specific goal statements to meet the goal category.

Table 3.12 Goal Category 6: Expanding Flood Education & Outreach Specific Goal Statements

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Improve the participation of community stakeholder entities in the regional flood planning process.	35% ¹	90% ¹
B	Increase the number of local entities that host annual public outreach and education activities to improve awareness of flood hazards, benefits of flood planning, and procedures associated with emergency response associated with flooding.	Establish a baseline measurement	50 total
C	Increase the number of communities that work cooperatively as part of an overall floodplain management program.	5 total	25 total

¹ Percentage shown is the percent of total stakeholder participation.

Public education and outreach may incorporate a variety of methods from publishing newsletter articles to hosting booths at in-person events. Communities that participate in FEMA’s Community Rating System (CRS) program typically have significant public outreach elements in their stormwater programs as they receive credit for doing so. The CRS program is described in Section 3A of this plan. Topics that might be covered in public education programs could include the following:

- Risks associated with driving through floodwaters,
- Understanding/reading floodplain maps,
- Being aware of the risks associated with living near rivers, creeks, and dams,
- Being aware that the flood risks can be located in low-lying areas and away from streams,
- Offering amenities for with flood risk projects,
- Need and advantages of having dedicated funding,
- And more.

One of the key messages that is often misunderstood by the public is that anyone who lives in a community or county that participates in the NFIP can purchase FEMA flood insurance. Flood insurance is available to residential owners and renters, as well as commercial buildings. Flood insurance is required by mortgage companies if a house is located within the 1 percent ACE floodplain. Houses outside the floodplain are also eligible for flood insurance and at a lower rate because the risk of flooding is lower.

Goal Category 7. Expand Funding

Funding, or lack thereof, is a constant struggle for communities. Most communities have more stormwater needs and flood-related issues to address than they have funding to do so. Goal 7 directly supports the fundamental goal of reducing loss of life and property by expanding funding options for implementing FMEs, FMSs and FMPs. Table 3.13 provides two detailed goal statements aimed at expanding funding for stormwater and flood-related needs.

Table 3.13 Goal Category 7: Expand Funding Specific Goal Statements

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Expand eligibility for and use of funding programs (Local, State, Federal, Public/Private Partnerships, etc.)	Establish a baseline measurement	TBD ¹
B	Increase communities with dedicated stormwater funding mechanisms.	10% ²	30% ²

¹ After the baseline measurement is established, the specific item to be measured will be defined.

² Percentage shown is the percent of total structures based on the count presented in this plan.

Several existing funding programs might be appropriate to add stormwater and flood-related solutions as eligible activities for consideration. In addition to traditional state and federal funding opportunities that could potentially be expanded, local communities have the authority to establish and collect stormwater utility fees (also known as drainage utility fees) to support stormwater-related needs within

the community (LGC, 2009). Stormwater utilities generate dependable revenue that can be used as local matching funds for state and federal grants to broaden the reach of such programs.

3B.3 Benefits and Residual Risk after Goals are Met

The selected goal statements were developed in a manner to set the stage for specific actions that can be quantified and measured in future regional and state flood planning cycles. Future data collection efforts or implementation of FMEs, FMSs, and/or FMPs may be used to establish baseline data. The established baselines will be used for future measurements to determine progress towards achieving the goals. Implementation efforts will also demonstrate progress towards the overall purpose and intent of the regional flood planning process and will result in various benefits to individuals, communities, and the region as a whole.

Beyond protecting against the loss of life and property, the goals offer several benefits, including protecting infrastructure, water supply, and the environment and sustainability. The types of benefits to be realized with implementation of the Trinity Regional Flood Plan are presented below in Table 3.14. They are further explained in the previous section.

Table 3.14. Flood Planning Goals and Benefits

Types of Benefits	Overarching Goal Categories						
	Goal 1: Flood Warning & Public Safety	Goal 2: Improving Flood Analyses	Goal 3: Reducing Property Damage & Loss	Goal 4: Floodplain Preservation	Goal 5: Flood Infrastructure Improvement	Goal 6: Flood Education & Outreach	Goal 7: Funding
Protect against the loss of life	●	●	◐	◐	●	◐	●
Protect against the loss of property	◐	●	●	◐	●	◐	●
Protect infrastructure	●	●	●		●		●
Protect the environment	◐	◐	●	●			●
Protect water supply			◐	●	◐		●
Sustain the economy	●	◐	●		◐		●
Design for co-benefits *			◐	●	●		●
Increase public awareness	●	●				●	●
Build community support	●	●				●	◐

● Benefit

◐ Potential Benefit

* Single project with multiple benefits, i.e. improves floodplain protection and water supply, increases recreation opportunities, habitat preservation, etc.

If the goals are fully achieved, then the residual risk should be minimal. However, residual risks should be anticipated for each of the overarching goal categories. Overall, the goal categories fall into one or more of the following residual risks:

1. Storm events exceeding the design capacity of the infrastructure.
2. Time and budget limitations.
3. Human behavior.
4. Funding limitations for maintenance.
5. Policy and regulation changes.

Goal Category 1: Flood Warning and Public Safety residual risk depends on public response to flood warnings. Drivers may choose to ignore flood warning signs or barricaded roads for a variety of reasons. Despite an entity's best effort, risk will remain at low water crossings.

Goal Category 2: Reducing residual risk associated with Improving Flood Analyses involves technology that is always changing and improving. Due to the change and updates to terrain, land use, precipitation, and other data, the risk associated with the floodplains may change over time. While a new development may be constructed outside the 1 percent ACE floodplain, future improvements in technology and other data may change the floodplain boundary resulting in some structures being located within the floodplain.

Goal Category 3: Reducing Property Damage and Loss residual risk depends on the local community's floodplain management policies and political leaders. Getting every community within the Trinity Region to adopt and enforce NFIP minimum standards, let alone higher standards, may prove to be challenging. The lack of local enforcement of floodplain regulations also creates risk.

Goal Category 4: Floodplain Preservation allows floodplains to serve their natural and intended purpose to mitigate floods. Residual risk depends on people stepping back and allowing space for flooding to remain in natural areas.

Goal Category 5: Flood Infrastructure Improvements can only be expected to perform based on the design capacity. In other words, if any storm that exceeds the design capacity was to occur, the infrastructure will still be at risk. Most community stormwater collection systems are not designed to collect the 1 percent annual chance event due to cost constraints. Even if the system was designed for that storm, a larger storm would still overwhelm the system. Likewise, storm intensities can overwhelm stormwater collection systems resulting in flooded roadways, bridges, culverts, and other damages. Also, routine maintenance of infrastructure is required to maintain the design capacity. Maintenance is sometimes overlooked due to budget, staff, and time constraints.

Goal Category 6: Flood Education & Outreach primarily provides benefits when implemented. The primary risks associated with public education and outreach are misunderstandings and lack of attention. Misunderstandings happen when the public becomes confused about the message, possibly due to its length or complex nature.

Goal Category 7: Funding residual risk includes lack of funding for design and construction of flood mitigation projects that results in delayed or shelved projects leaving the area(s) at risk. Lack of funding for maintenance may result in unanticipated infrastructure failure that costs much more to repair than had it been maintained. Local entities have more stormwater and flood-related needs than they have funding to accomplish.

3B.4 Consideration of Minimum Recommended Flood Protection Goal

The RFPG is tasked with identifying specific and achievable flood protection goals specifically addressing risks to life and property. Table 3.14 includes the RFPG's selected overarching goals and the goals' relation to the TWDB's fundamental goal with a benefit or co-benefit to protect life and property. The selected goals are more fully described in Section 3B.2.

3B.5 Goals Applicable to HUC-8 Watersheds

The RFPG discussed whether to apply goals differentially across the Upper, Middle and Lower regions of the Trinity River Watershed, given their differences in flood risk. The group also considered if any of the above goals should be applied to specific HUC-8 areas. In the end, the RFPG determined that the goals are universal in nature and each selected goal applies to each entity within the entire Flood Planning Region (FPR). Therefore, no regional or HUC-8 watershed distinctions are recommended.

3B.6 Short-Term Goals (10 years) and Long-Term Goals (30-years)

The selected goals guide the preparation of recommendations for FMSs, FMEs, and FMPs in this plan. They build upon TWDB's regional flood planning guidance and provide a comprehensive framework for future strategy development focused on reducing flood risk to people and property, while not negatively affecting neighboring areas.

Tables 3.7 through 3.13 include the short-term and long-term measurements towards accomplishing the specific goal statements. As this is the first regional flood plan prepared for the Trinity Region, the short-term goal for several of these statements will be to establish a baseline from which to measure future successes. The measurements of other goals are stated in these tables. Also, the TWDB-required Table 11 is included in Appendix X4 with similar details as the above referenced tables.

APPENDIX X1: TWDB-Required Table 6

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DRAFT TWDB-Required Table 6
(incorporates survey responses as of September 16, 2021)

Entity ¹	Floodplain management regulations (Yes/ No/ Unknown) ¹	Adopted minimum regulations pursuant to Texas Water Code Section 16.3145? (Yes/ No) ¹	NFIP Participant (Yes/ No) ¹	Higher Standards Adopted (Yes/ No) ²	Floodplain Management Practices (Strong/Moderate/ Low/None) ²	Level of enforcement of practices (High/ Moderate/ Low/ None) ^{2,3}	Existing Stormwater or Drainage Fee (Yes/No) ²	Web Link to entity regulations ²
Addison	Yes	Yes	Yes	Yes	Low	Unknown	Yes	TWDB provided PDF
Aledo	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	No	
Allen	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	Yes	https://library.municode.com/tx/allen/codes/land_development_code?nodeId=CO-2016-0001
Alvarado	Yes	Yes	Yes	No	Low	Unknown	No	https://library.municode.com/tx/alvarado/codes/code_of_ordinances?nodeId=CO-2016-0001
Ames	Yes	Yes	Yes	No	Low	Unknown	No	No ordinance found
Anahuac	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Anderson County	Yes	Yes	Yes	Yes	Low	Low Activity	No	
Anna	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	No	
Annetta	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Annetta South	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Archer County	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Argyle	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Arlington	Yes	Yes	Yes	Yes	Strong	High Activity	Yes	https://p1cdn4static.civiclive.com/UserFiles/Servers/Server_14481062/File/CityofArlington/Ordinances/Ordinance%20List.pdf
Athens	Yes	Yes	Yes	Yes	Moderate	Low Activity	No	https://library.municode.com/tx/athens/codes/code_of_ordinances?nodeId=CO-2016-0001
Aubrey	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Aurora	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Azle	Yes	Yes	Yes	Yes	Low	Unknown	Yes	https://cityofazle.org/DocumentCenter/View/48/Subdivision-Ordinance?bidId=1
Balch Springs	Yes	Yes	Yes	Yes	Low	Moderate Activity	No	https://library.municode.com/tx/balch_springs/codes/code_of_ordinances?nodeId=CO-2016-0001
Bardwell	Yes	Yes	Yes	Yes	Low	I do not know	No	
Barry	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Bartonville	Yes	Yes	Yes	Yes	Low	Unknown	No	
Baytown	Yes	Yes	Yes	Yes	Low	Unknown	Yes	TWDB provided PDF
Beach City	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Bedford	Yes	Yes	Yes	Yes	Moderate	Low Activity	Yes	https://library.municode.com/tx/bedford/codes/code_of_ordinances?nodeId=CO-2016-0001
Benbrook	Yes	Yes	Yes	Yes	Strong	Moderate Activity	Yes	
Blooming Grove	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Blue Mound	Yes	Yes	Yes	Yes	Low	Unknown	No	
Blue Ridge	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Bowie	Yes	Yes	Yes	Yes	None	None	No	https://library.municode.com/tx/bowie/codes/code_of_ordinances?nodeId=CO-2016-0001
Boyd	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Briaroaks	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Bridgeport	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Buffalo	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Burleson	Yes	Yes	Yes	Yes	Strong	High Activity	No	https://library.municode.com/tx/burleson/codes/code_of_ordinances?nodeId=CO-2016-0001
Callisburg	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Caney City	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Canton	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	No	
Carrollton	Yes	Yes	Yes	Yes	Strong	Unknown	No	
Cedar Hill	Yes	Yes	Yes	Yes	Low	Unknown	No	
Celina	Yes	Yes	Yes	Yes	Strong	High Activity	Yes	https://www.celina-tx.gov/868/City-Ordinances
Centerville	Yes	Yes	Yes	Yes	Low	I do not know	No	

DRAFT TWDB-Required Table 6
(incorporates survey responses as of September 16, 2021)

Chambers County	Yes	Yes	Yes	Yes	Low	Unknown	No	
Chico	Yes	Yes	Yes	Yes	Low	Unknown	No	
Clay County	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Cockrell Hill	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Coldspring	Yes	Yes	Yes	No	Low	Unknown	No	No ordinance found
Colleyville	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Collin County	Yes	Yes	Yes	Yes	Low	Unknown	No	
Collinsville	Yes	Yes	Yes	Yes	Low	Unknown	No	
Cooke County	Yes	Yes	Yes	Yes	Low	Moderate Activity	No	
Coolidge	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Coppell	Yes	Yes	Yes	Yes	Strong	High Activity	Yes	https://www.coppelltx.gov/442/Floodplain-Information
Copper Canyon	Yes	Yes	Yes	Yes	Low	Unknown	No	
Corinth	Yes	Yes	Yes	Yes	Strong	High Activity	Yes	https://library.municode.com/tx/corinth , https://www.cityofcorinth.com/engi
Corsicana	Yes	Yes	Yes	Yes	Strong	High Activity	No	
Cottonwood	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Cove	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Crandall	Yes	Yes	Yes	No	Low	Unknown	No	No ordinance found
Cresson	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Crockett	Yes	Yes	Yes	Yes	Low	Moderate Activity	No	https://library.municode.com/tx/crockett/codes/code_of_ordinances?nodeId=
Cross Roads	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Cross Timber	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Crowley	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Dallas	Yes	Yes	Yes	Yes	Strong	Moderate Activity	Yes	
Dallas County	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	No	https://www.dallascounty.org/Assets/uploads/docs/public-works/Floodplain-M
Dalworthington Gard	Yes	Yes	Yes	Yes	Low	Unknown	No	
Dawson	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Dayton	Yes	Yes	Yes	Yes	Low	Unknown	No	
Dayton Lakes	Yes	Yes	Yes	No	Low	Unknown	No	No ordinance found
Decatur	Yes	Yes	Yes	Yes	Strong	High Activity	No	https://library.municode.com/tx/decatur/codes/code_of_ordinances?nodeId=
Denton	Yes	Yes	Yes	Yes	Strong	Unknown	Yes	
Denton County	Yes	Yes	Yes	Yes	Strong	Moderate Activity	No	
DeSoto	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Devers	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
DISH	Yes	Yes	Yes	Yes	Low	Moderate Activity	No	
Double Oak	Yes	Yes	Yes	Yes	Low	Unknown	No	
Duncanville	Yes	Yes	Yes	Yes	Strong	Unknown	Yes	
Edgecliff Village	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Elkhart	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Ellis County	Yes	Yes	Yes	Yes	Low	Unknown	No	
Enchanted Oaks	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Ennis	Yes	Yes	Yes	Yes	Low	Unknown	No	
Eules	Yes	Yes	Yes	Yes	Low	Unknown	No	
Eustace	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Everman	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Fairfield	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Fairview	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Fannin County	Yes	Yes	Yes	Yes	None	None	No	

DRAFT TWDB-Required Table 6
(incorporates survey responses as of September 16, 2021)

Farmers Branch	Yes	Yes	Yes	Yes	Low	Unknown	No	
Farmersville	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Fate	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Ferris	Yes	Yes	Yes	Yes	Low	Low Activity	No	TWDB provided PDF
Flower Mound	Yes	Yes	Yes	Yes	Strong	Unknown	Yes	
Forest Hill	Yes	Yes	Yes	Yes	Strong	High Activity	Yes	
Forney	Yes	Yes	Yes	Yes	Low	Unknown	No	https://www.forneytx.gov/AgendaCenter/ViewFile/Item/6037?fileID=7819
Fort Worth	Yes	Yes	Yes	Yes	Strong	Moderate Activity	Yes	https://codelibrary.amlegal.com/codes/ftworth/latest/ftworth_tx/0-0-0-10704
Freestone County	Yes	Yes	Yes	No	Low	Unknown	No	
Frisco	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Frost	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Gainesville	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Garland	Yes	Yes	Yes	Yes	Strong	High Activity	Yes	https://z2.franklinlegal.net/franklin/Z2Browser2.html?showset=garlandgdcset
Glenn Heights	Yes	Yes	Yes	No	Low	Moderate Activity	Yes	TWDB provided PDF
Goodrich	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Grand Prairie	Yes	Yes	Yes	Yes	Strong	Unknown	Yes	
Grandview	Yes	Yes	Yes	No	Low	Unknown	No	No ordinance found
Grapeland	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Grapevine	Yes	Yes	Yes	Yes	Strong	High Activity	Yes	
Grayson County	Yes	Yes	Yes	Yes	Low	Unknown	No	
Grimes County	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Groveton	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Gun Barrel City	Yes	Yes	Yes	Yes	Low	Unknown	No	
Gunter	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Hackberry	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Haltom City	Yes	Yes	Yes	Yes	Strong	Unknown	Yes	
Hardin	Yes	Yes	Yes	Yes	Low	I do not know	No	
Hardin County	Yes	Yes	Yes	Yes	Low	I do not know	No	TWDB provided PDF
Haslet	Yes	Yes	Yes	Yes	Low	Unknown	No	
Heath	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Henderson County	Yes	Yes	Yes	Yes	Strong	High Activity	No	https://www.henderson-county.com/home/showpublisheddocument/244/635
Hickory Creek	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Highland Park	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Highland Village	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Hill County	Yes	Yes	Yes	Yes	Low	Unknown	No	
Hood County	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Houston County	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Howe	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Hubbard	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Hudson Oaks	Yes	Yes	Yes	No	Low	Unknown	Yes	TWDB provided PDF
Hunt County	Yes	Yes	Yes	Yes	Low	Unknown	No	
Huntsville	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Hurst	Yes	Yes	Yes	Yes	Strong	Low Activity	Yes	https://library.municode.com/tx/hurst/codes/code_of_ordinances?nodeId=PT
Hutchins	Yes	Yes	Yes	Yes	Low	Unknown	No	
Irving	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Italy	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Itasca	Yes	Yes	Yes	Yes	Low	Unknown	No	

DRAFT TWDB-Required Table 6
(incorporates survey responses as of September 16, 2021)

Jack County	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Jacksboro	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Jewett	Yes	Yes	Yes	Yes	Low	Low Activity	No	
Johnson County	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	No	
Joshua	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Justin	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Kaufman	Yes	Yes	Yes	Yes	Low	Unknown	No	
Kaufman County	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	No	
Keene	Yes	Yes	Yes	Yes	Low	High Activity	Yes	https://codelibrary.amlegal.com/codes/keene/latest/keene_tx/0-0-0-5751
Keller	Yes	Yes	Yes	Yes	Low	High Activity	Yes	
Kemp	Yes	Yes	Yes	Yes	Low	I do not know	No	
Kenefick	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Kennedale	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Kerens	Yes	Yes	Yes	Yes	Low	Low Activity	No	
Krugerville	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Krum	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Lake Bridgeport	Yes	Yes	Yes	Yes	None	None	No	
Lake Dallas	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Lake Worth	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Lakeside	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Lakewood Village	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Lancaster	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	Yes	
Lavon	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Leon County	Yes	Yes	Yes	Yes	Low	Low Activity	No	
Leonard	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Lewisville	Yes	Yes	Yes	Yes	Strong	Unknown	Yes	
Liberty	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Liberty County	Yes	Yes	Yes	Yes	Low	I do not know	No	https://www.co.liberty.tx.us/upload/page/4898/Liberty%20County%20Flood%
Limestone County	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Lindsay	Yes	Yes	Yes	Yes	Strong	High Activity	No	
Little Elm	Yes	Yes	Yes	Yes	Low	I do not know	Yes	https://library.municode.com/tx/little_elm/ordinances/code_of_ordinances?n
Livingston	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Log Cabin	Yes	Yes	Yes	Yes	Low	Unknown	No	
Lovelady	Yes	Yes	Yes	Yes	Low	I do not know	No	
Lowry Crossing	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	No	http://www.lowrycrossingtexas.org/wp-content/uploads/2016/11/Ord-208-FE
Lucas	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Mabank	Yes	Yes	Yes	Yes	Low	Unknown	No	
Madison County	Yes	Yes	Yes	Yes	Low	Low Activity	No	
Madisonville	Yes	Yes	Yes	Yes	Low	Low Activity	No	
Malakoff	Yes	Yes	Yes	Yes	Low	Unknown	No	
Malone	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Mansfield	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	Yes	https://codelibrary.amlegal.com/codes/mansfieldtx/latest/mansfield_tx/0-0-0-
Maypearl	Yes	Yes	Yes	Yes	None	None	No	
McKinney	Yes	Yes	Yes	Yes	Strong	High Activity	Yes	https://library.municode.com/tx/mckinney/codes/code_of_ordinances?nodeId
McLendon-Chisholm	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Melissa	Yes	Yes	Yes	Yes	Low	Unknown	No	
Mertens	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF

DRAFT TWDB-Required Table 6
(incorporates survey responses as of September 16, 2021)

Mesquite	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	Yes	
Mexia	Yes	Yes	Yes	No	Low	Unknown	Yes	TWDB provided PDF
Midlothian	Yes	Yes	Yes	Yes	Low	Unknown	No	
Mildred	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Milford	Yes	Yes	Yes	No	Low	Unknown	No	No ordinance found
Mont Belvieu	Yes	Yes	Yes	Yes	Strong	High Activity	No	https://library.municode.com/tx/mont_belvieu/codes/code_of_ordinances?nc
Montague County	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Muenster	Yes	Yes	Yes	No	Low	Unknown	No	
Murphy	Yes	Yes	Yes	No	Low	Unknown	Yes	TWDB provided PDF
Navarro County	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
New Fairview	Yes	Yes	Yes	No	Low	Unknown	No	No ordinance found
New Hope	Yes	Yes	Yes	Yes	Low	I do not know	No	
Normangee	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
North Richland Hills	Yes	Yes	Yes	Yes	Strong	Unknown	Yes	
Northlake	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Oak Leaf	Yes	Yes	Yes	Yes	Strong	High Activity	No	
Oak Point	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Oak Ridge (Cooke Co)	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Oak Ridge (Kaufman)	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Oakwood	Yes	Yes	Yes	Yes	None	None	No	
Old River-Winfree	Yes	Yes	Yes	No	Low	Unknown	No	No ordinance found
Onalaska	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	No	
Ovilla	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Palestine	Yes	Yes	Yes	Yes	Low	Unknown	No	
Palmer	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Pantego	Yes	Yes	Yes	Yes	Low	Unknown	No	
Paradise	Yes	Yes	Yes	Yes	Low	Unknown	No	
Parker	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Parker County	Yes	Yes	Yes	Yes	Low	Unknown	No	
Payne Springs	Yes	Yes	Yes	Yes	None	None	No	
Pecan Hill	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Pelican Bay	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Pilot Point	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Plano	Yes	Yes	Yes	Yes	Strong	High Activity	Yes	
Point Blank	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Polk County	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	No	TWDB provided PDF
Ponder	Yes	Yes	Yes	Yes	Low	Unknown	No	https://www.pondertx.com/sites/default/files/fileattachments/town_council/
Powell	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Princeton	Yes	Yes	Yes	Yes	Low	Unknown	Yes	TWDB provided PDF
Prosper	Yes	Yes	Yes	Yes	Low	Unknown	Yes	TWDB provided PDF
Red Oak	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	Yes	https://www.redoaktx.org/470/Development-Services
Reno	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Retreat	No	No	No	No	None	I do not know	No	No ordinance found
Rhome	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Rice	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Richardson	Yes	Yes	Yes	Yes	Strong	Unknown	Yes	
Richland	Yes	Yes	Yes	Yes	None	None	No	

DRAFT TWDB-Required Table 6
(incorporates survey responses as of September 16, 2021)

Richland Hills	Yes	Yes	Yes	Yes	Strong	Moderate Activity	Yes	https://library.municode.com/tx/richland_hills/codes/code_of_ordinances?no
River Oaks	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	Yes	
Riverside	Yes	Yes	Yes	No	Low	Unknown	No	No ordinance found
Roanoke	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Rockwall	Yes	Yes	Yes	Yes	Low	Unknown	No	
Rockwall County	Yes	Yes	Yes	Yes	Low	Unknown	No	
Rowlett	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Royse City	Yes	Yes	Yes	Yes	Low	Unknown	No	
Runaway Bay	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Sachse	Yes	Yes	Yes	Yes	Strong	High Activity	Yes	https://z2.franklinlegal.net/franklin/Z2Browser2.html?showset=sachseset
Saginaw	Yes	Yes	Yes	Yes	Strong	High Activity	Yes	
San Jacinto County	Yes	Yes	Yes	Yes	Low	Unknown	No	
Sanctuary	Yes	Yes	Yes	No	Low	Unknown	No	No ordinance found
Sanger	Yes	Yes	Yes	Yes	Strong	High Activity	No	https://z2codes.franklinlegal.net/franklin/Z2Browser2.html?showset=sangerse
Sansom Park	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Scurry	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Seagoville	Yes	Yes	Yes	Yes	Low	Unknown	No	
Seven Points	Yes	Yes	Yes	Yes	Low	Unknown	No	
Shady Shores	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Shepherd	Yes	Yes	Yes	Yes	Low	Low Activity	No	http://nebula.wsimg.com/f52cac7993bb7eab6ed0ab61d2382782?AccessKeylc
Southlake	Yes	Yes	Yes	Yes	Low	High Activity	Yes	
Springtown	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
St. Jo	Yes	Yes	Yes	No	Low	Unknown	No	No ordinance found
St. Paul	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Star Harbor	Yes	Yes	Yes	Yes	Low	Unknown	No	
Streetman	No	No	No	No	None	None	No	No ordinance found
Sunnyvale	Yes	Yes	Yes	Yes	Low	High Activity	No	www.townofsunnyvale.org
Tarrant County	Yes	Yes	Yes	Yes	Low	Unknown	No	
Teague	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Terrell	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
The Colony	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Tioga	Yes	Yes	Yes	Yes	Low	I do not know	No	
Tool	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Trenton	Yes	Yes	Yes	No	Low	Unknown	No	No ordinance found
Trinidad	Yes	Yes	Yes	Yes	Low	Unknown	No	
Trinity	Yes	Yes	Yes	Yes	Low	I do not know	No	
Trinity County	Yes	Yes	Yes	No	Low	Unknown	No	
Trophy Club	Yes	Yes	Yes	Yes	Low	Unknown	Yes	TWDB provided PDF
University Park	Yes	Yes	Yes	Yes	Low	Unknown	Yes	
Valley View	Yes	Yes	Yes	Yes	Low	I do not know	No	
Van Alstyne	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Van Zandt County	Yes	Yes	Yes	Yes	Low	Unknown	No	
Venus	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Walker County	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	No	
Watauga	Yes	Yes	Yes	No	Low	Unknown	Yes	TWDB provided PDF
Waxahachie	Yes	Yes	Yes	Yes	Strong	High Activity	No	https://library.municode.com/tx/waxahachie/codes/code_of_ordinances?nod
Weatherford	Yes	Yes	Yes	Yes	Low	Unknown	Yes	

DRAFT TWDB-Required Table 6
(incorporates survey responses as of September 16, 2021)

Westlake	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Weston	Yes	Yes	Yes	No	Low	Low Activity	No	TWDB provided PDF
Westover Hills	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Westworth Village	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
White Settlement	Yes	Yes	Yes	Yes	Low	Unknown	Yes	TWDB provided PDF
Whitewright	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Willow Park	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Wills Point	Yes	Yes	Yes	Yes	Low	Unknown	No	TWDB provided PDF
Wilmer	Yes	Yes	Yes	Yes	Low	I do not know	No	
Wise County	Yes	Yes	Yes	Yes	Low	Unknown	No	
Wortham	Yes	Yes	Yes	No	Low	Unknown	No	TWDB provided PDF
Wylie	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	No	https://library.municode.com/tx/wylie/codes/code_of_ordinances?nodeId=PT
Young County	Yes	Yes	Yes	Yes	Moderate	Moderate Activity	No	http://www.co.young.tx.us/upload/page/2091/docs/Policies/Flood Damage F
Alma	No	No	No	No	None	Unknown	No	No ordinance found
Alvord	No	No	No	No	None	Unknown	No	No ordinance found
Angus	No	No	No	No	None	Unknown	No	No ordinance found
Annetta North	Yes	Yes	No	No	Low	Unknown	No	https://annettanorth.com/assets/files/ord/2018-2.pdf
Bedias	No	No	No	No	None	Unknown	No	No ordinance found
Bynum	No	No	No	No	None	Unknown	No	No ordinance found
Carl's Corner	No	No	No	No	None	Unknown	No	No ordinance found
Combine	No	No	No	No	None	None	No	No ordinance found; https://www.combinetx.com/Documents%20Center/Per
Coyote Flats	No	No	No	No	None	Unknown	No	No ordinance found
Dorchester	No	No	No	No	None	Unknown	No	No ordinance found
Draper	No	No	No	No	None	Unknown	No	No ordinance found
Emhouse	No	No	No	No	None	Unknown	No	No ordinance found
Eureka	No	No	No	No	None	Unknown	No	No ordinance found
Garrett	No	No	No	No	None	None	No	https://cityofgarrett.com/ordinances
Goodlow	No	No	No	No	None	Unknown	No	No ordinance found
Grays Prairie	No	No	No	No	None	Unknown	No	No ordinance found
Hebron	No	No	No	No	None	Unknown	No	No ordinance found
Iola	No	No	No	No	None	I do not know	No	No ordinance found
Kirvin	No	No	No	No	None	Unknown	No	No ordinance found
Latexo	No	No	No	No	None	Unknown	No	No ordinance found
Leona	No	No	No	No	None	Unknown	No	No ordinance found
Midway	No	No	No	No	None	Unknown	No	No ordinance found
Mobile City	No	No	No	No	None	Unknown	No	No ordinance found
Mustang	No	No	No	No	None	Unknown	No	No ordinance found
Navarro	Yes	Yes	Yes	Yes	Moderate	Unknown	No	Navarro-County-HazMAP-5-29-15-website-version (cityofcorsicana.com)
Nevada	No	No	No	No	None	Unknown	No	No ordinance found
Newark	Yes	Yes	No	Yes	Low	Low Activity	No	https://z2codes.franklinlegal.net/franklin/Z2Browser2.html?showset=newarks
Oak Grove	No	No	No	No	None	Unknown	No	No ordinance found
Oak Valley	No	No	No	No	None	Unknown	No	No ordinance found
Penelope	No	No	No	No	None	Unknown	No	No ordinance found
Post Oak Bend	No	No	No	No	None	Unknown	No	No ordinance found
Providence Village	No	No	No	No	None	Unknown	No	No ordinance found
Road Runner	No	No	No	No	None	Unknown	No	No ordinance found
Rosser	No	No	No	No	None	Low Activity	No	No ordinance found

DRAFT TWDB-Required Table 6
(incorporates survey responses as of September 16, 2021)

Seven Oaks	No	No	No	No	None	None	No	https://polkcountyoem.com/graphics/content/PolkCountyMitigationPlan_1-31
Talty	Yes	Yes	No	Yes	Moderate	Unknown	No	http://www.talypsytx.com/page/ordinances (2009-009 Ordinance for flood d
Tehuacana	No	No	No	No	None	Unknown	No	No ordinance found
Tom Bean	Yes	Yes	No	No	Low	Unknown	No	Ordinances – City of Tom Bean (tombeantx.gov) https://tombeantx.gov/search
Whitesboro	Yes	Yes	No	Yes	Moderate	Unknown	No	https://codelibrary.amlegal.com/codes/whitesboro/latest/whitesboro_tx/0-0-1

Notes:

- ¹ At a minimum, the RFPs must list all counties, cities and communities in the region with flood related authority in the region and identify whether entity they have any established floodplain management practices.
- ² RFPs are not required to provide information for these fields and may choose to leave these fields blank.
- ³ "Unknown" in Level of Enforcement indicates that the community did not respond to the survey question.

APPENDIX X2: Floodplain Management Practices Memo and Email

DRAFT

Griffin, Stephanie

From: Trinity Regional Flood Planning Group <info@trinityrfpg.org>
Sent: Monday, September 27, 2021 9:59 AM
To: Griffin, Stephanie
Subject: Feedback Needed: Proposed Flood Protection Goals and Recommended Floodplain Management Standards



We Need Your Feedback on
Proposed Flood Protection Goals and
Recommended Floodplain Management
Standards for the Trinity River Basin!



As part of the Trinity Regional Flood Planning Group's (Trinity RFPG) work to develop the first-ever Regional Flood Plan for the Trinity River Basin, **we are seeking your feedback within the next 30 days** on two important items discussed during the group's most recent (Sept. 23) public meeting, including **draft flood protection goals** and **recommended floodplain management standards** for the region.

Feedback on the following hyperlinked documents should be submitted **no later than October 27, 2021, via email to info@trinityrfpg.org** with the subject line "Feedback on Draft Goals or Recommended Floodplain Management Standards":

(1) Draft Specific Flood Protection Goals ([click link at left to view](#))

For background purposes, Texas Water Development Board (TWDB) technical guidelines for regional flood planning state that the overarching goal of all regional flood plans must be "to protect against the loss of life and property." The purpose of the proposed Trinity RFPG goals, linked above, is to identify specific and achievable flood mitigation and floodplain management goals that, when implemented, will demonstrate progress towards this overarching goal. These goals will guide the overall approach and recommendations in the Trinity Regional Flood Plan.

These draft goals will be considered for approval during the next public meeting of the Trinity RFPG in November 2021.

(2) Recommended Floodplain Management Standards ([click link at left to view](#))

Per TWDB technical guidelines, the goal of this task is for RFPGs to make recommendations regarding forward-looking floodplain management and land use recommendations, and economic development practices and strategies, that should be implemented by entities within the flood planning region. These recommendations may include minimum floodplain management and land use standards, and should focus on how best to address potential changes over time related to anticipated development, associated population growth and other relevant man-made causes that can affect the 1% annual chance floodplain and associated flood risks.

Please note that *recommending* such standards is an alternative to the more

stringent option of *adopting* standards that each regional entity would be required to adopt prior to having its sponsored Flood Management Evaluations (FMEs), Flood Management Strategies (FMS's) or Flood Mitigation Projects (FMPs) included in the Regional Flood Plan. At this time, the Trinity RFPG has approved the *recommended* Floodplain Management Standards linked above, but has not *adopted* such standards.

Although already approved at the Sept. 23 public meeting, these standards can be modified at any time prior to adoption of the Regional Flood Plan. The Trinity RFPG welcomes feedback from regional stakeholders or interested parties to improve the current recommendations.

Thank you for your participation in this important, new regional flood planning effort!

Contact us at info@trinityrfpg.org, or for more information, visit www.trinityrfpg.org or follow us on [Twitter](#) for the latest news and updates about the regional flood planning effort. You can also find more information about the state and regional flood planning process on the Texas Water Development Board [website](#).

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You are receiving this email because you opted in via our website.

Our mailing address is:

Trinity Regional Flood Planning Group (c/o Cooksey Communications)
5525 N MacArthur Blvd Ste 530
Irving, TX 75038-2625

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DRAFT

MEMORANDUM

TO: Interested Parties of the Region 3 Trinity Regional Flood Planning Group (RFPG) **DATE:** September 24, 2021

FROM: Stephanie Griffin **AVO:** 43791.001 000800

EMAIL: sgriffin@halff.com

SUBJECT: Region-wide Floodplain Management Standards for Trinity Regional Flood Plan

On September 23, 2021, the Trinity RFPG held a public meeting in a hybrid setting during which the consultant team presented the results of the data collection effort related to the topics of potentially recommending and potentially adopting region-wide floodplain management standards.

The Trinity RFPG is required to consider the possibility of recommending or adopting consistent minimum floodplain management standards and land use practices for the entire region. While **recommended** practices encourage entities with flood control responsibilities to establish minimum floodplain management standards, the **adoption** of minimum standards requires that entities adopt the minimum standards before their floodplain management evaluations (FMEs), floodplain management strategies (FMSs), and/or floodplain mitigation projects (FMPs) could be considered for potential inclusion in the regional flood plan.

The RFPG approved the following **recommended** region-wide floodplain management standards:

1. Participate in the NFIP or adopt equivalent standards
2. Regulate development in the FEMA floodplain or other local floodplain designated by local jurisdiction
3. Establish higher standards (more stringent than the NFIP) for development or freeboard above the floodplain
4. Drainage corridor preservation
5. Land use standards to reduce future flood risk
6. Compensatory flood storage

The Trinity RFPG did not adopt any region-wide floodplain management standards.

APPENDIX X3: Progression of Refining Goals

DRAFT

Ch. 3 Introduction & Overview

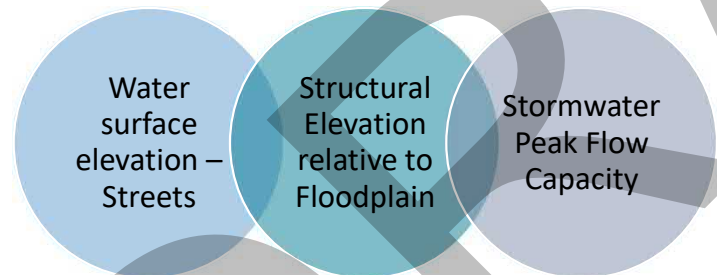
Floodplain Management Practices & Flood Protection Goals

Standards vs. Goals

Standards

Establish consistent protocols for floodplain management that can be universally applied

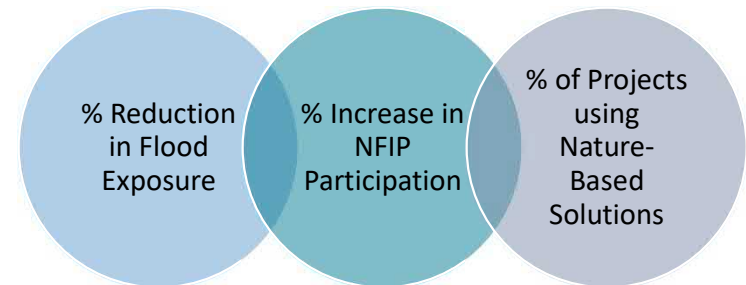
Examples:



Goals

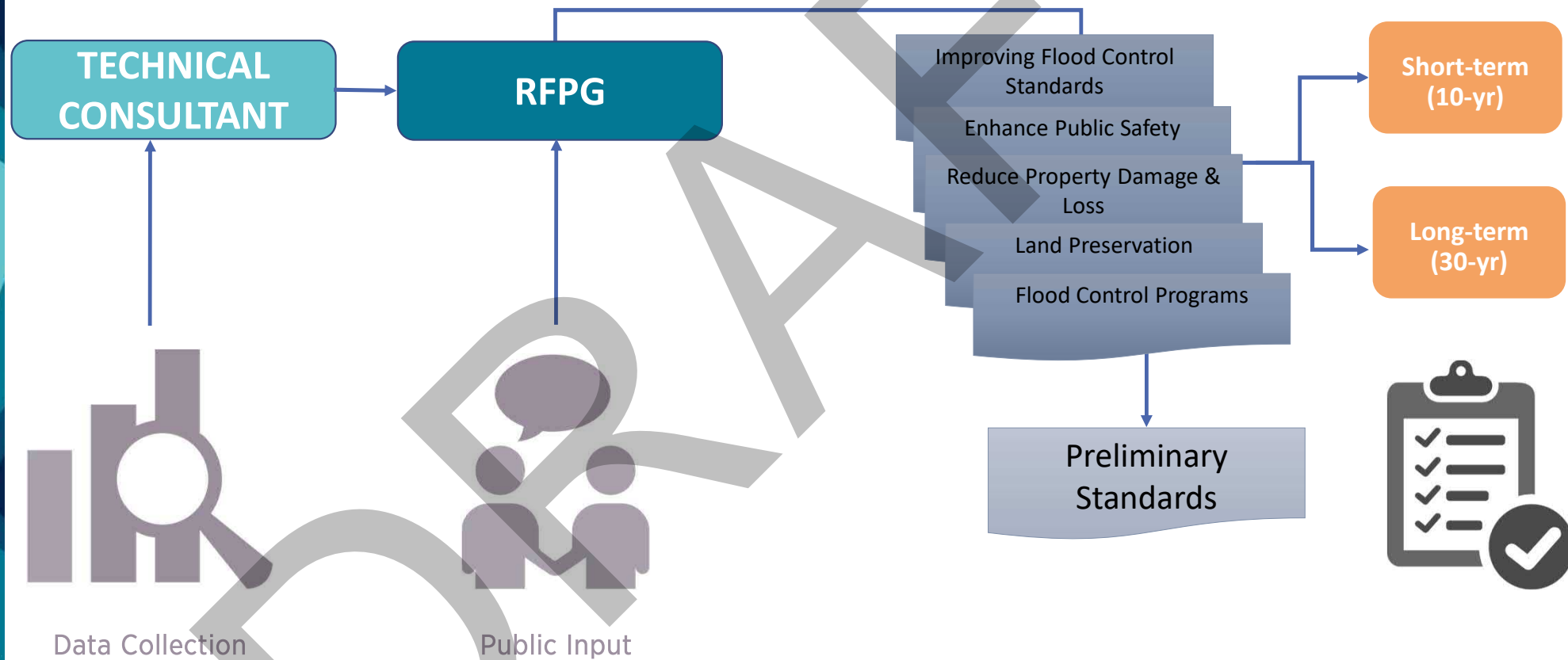
Set specific timelines and goalposts to implement proven flood mitigation measures, reducing future risk for people and property.

Examples:



Must be measurable and have a timeframe!

Goal Setting Process



TWDB Guidance - The Givens

**What does TWDB
hope to achieve with
this plan?**



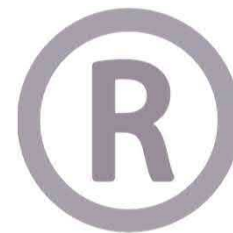
Goals Must Be:



Specific &
Achievable



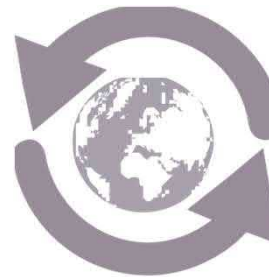
Reduce Residual
Risk



Recommended
or
Required



Short-term (10 years)
&/or
Long-Term (30 years)



Regionwide
Or Subregional

POLL EVERYWHERE

We will be using remote audience engagement tool **Poll Everywhere** during today's meeting. Please participate using one of the following methods:

Please choose one word that describes your top priority for the Regional Flood Planning Effort.

Start the presentation to see live content. For screen share software, share the entire screen. Get help at pollev.com/app

48

Please choose one word that describes your top priority for the Regional Flood Planning Effort.



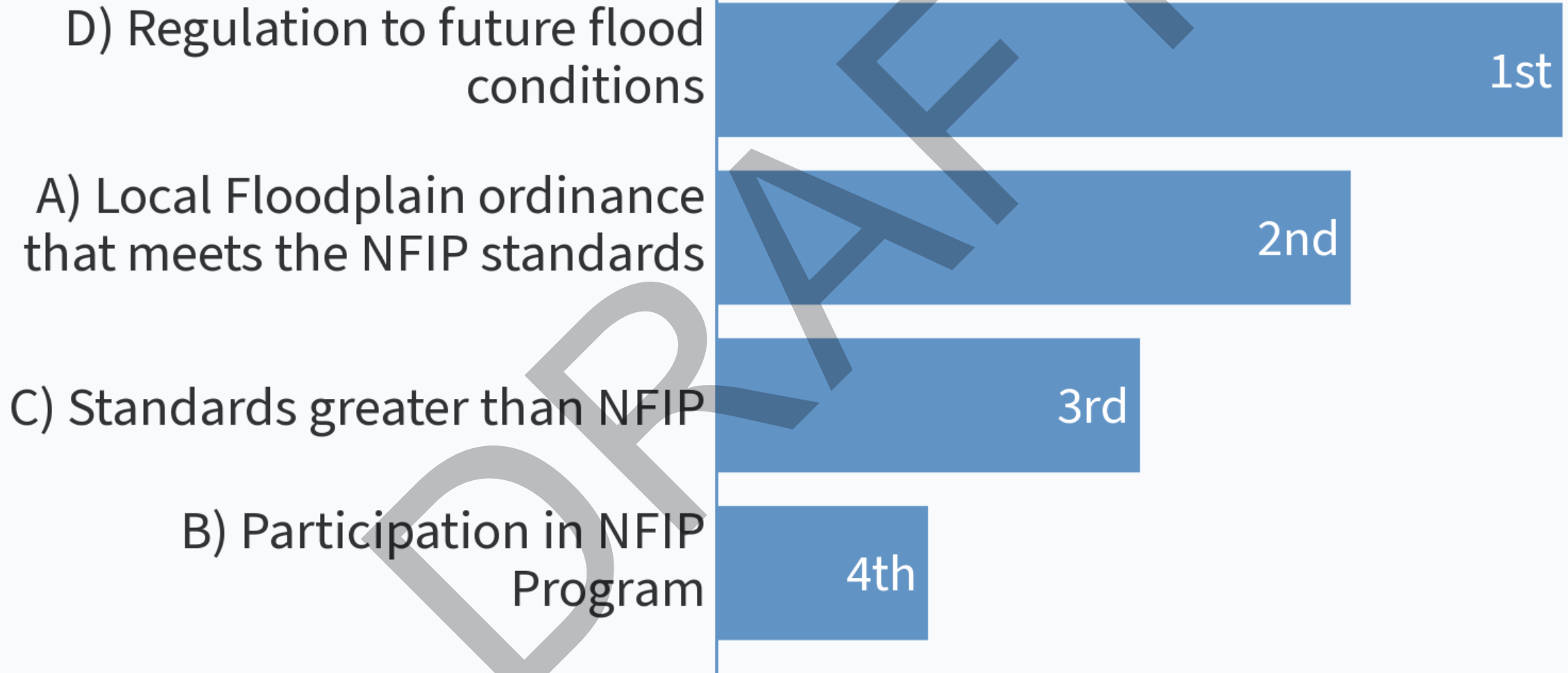
A word cloud visualization of responses to the survey question. The words are arranged in a circular pattern, with 'risk' being the largest and most central word. Other prominent words include 'mitigation', 'management', 'coordination', 'consistency', 'protection', 'data', 'funding', 'proactive', 'resiliency', 'rural', and 'reduction'. The words are in various colors including green, blue, purple, and red.

consistency risk mitigation
protection data
funding management
coordination
reduction resiliency rural
reduction.

Improving Flood Control Standards

- A) Local Floodplain ordinance that meets the NFIP standards
- B) Participation in NFIP Program
- C) Standards greater than NFIP
- D) Regulation to future flood conditions

Improving Flood Control Standards



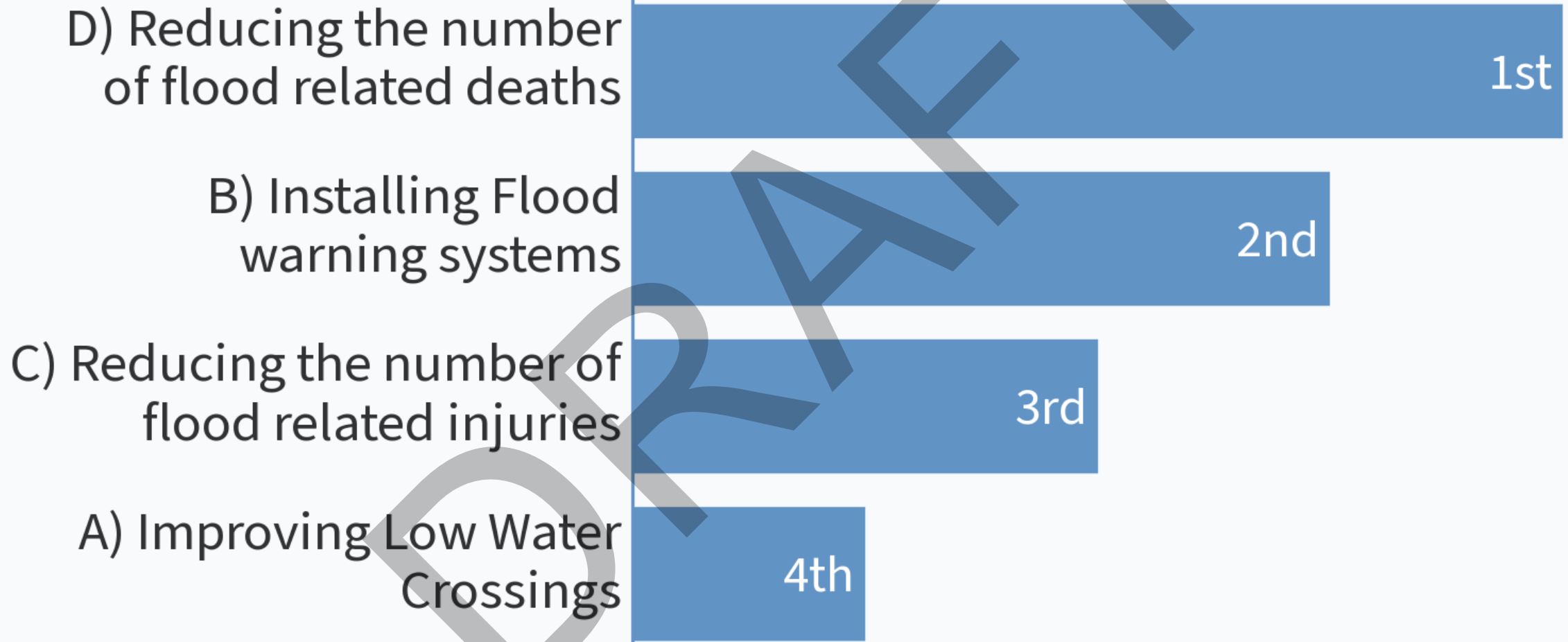
Enhancing public safety

- A) Improving Low Water Crossings
- B) Installing Flood warning systems
- C) Reducing the number of flood related injuries
- D) Reducing the number of flood related deaths

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Enhancing public safety



Reducing Property Damage and Loss

- A) Avoiding new development in floodprone areas
- B) Reducing flood risk to existing structures
- C) Reducing flood risk to agricultural and ranching areas

Reducing Property Damage and Loss

A) Avoiding new development in floodprone areas

1st

B) Reducing flood risk to existing structures

2nd

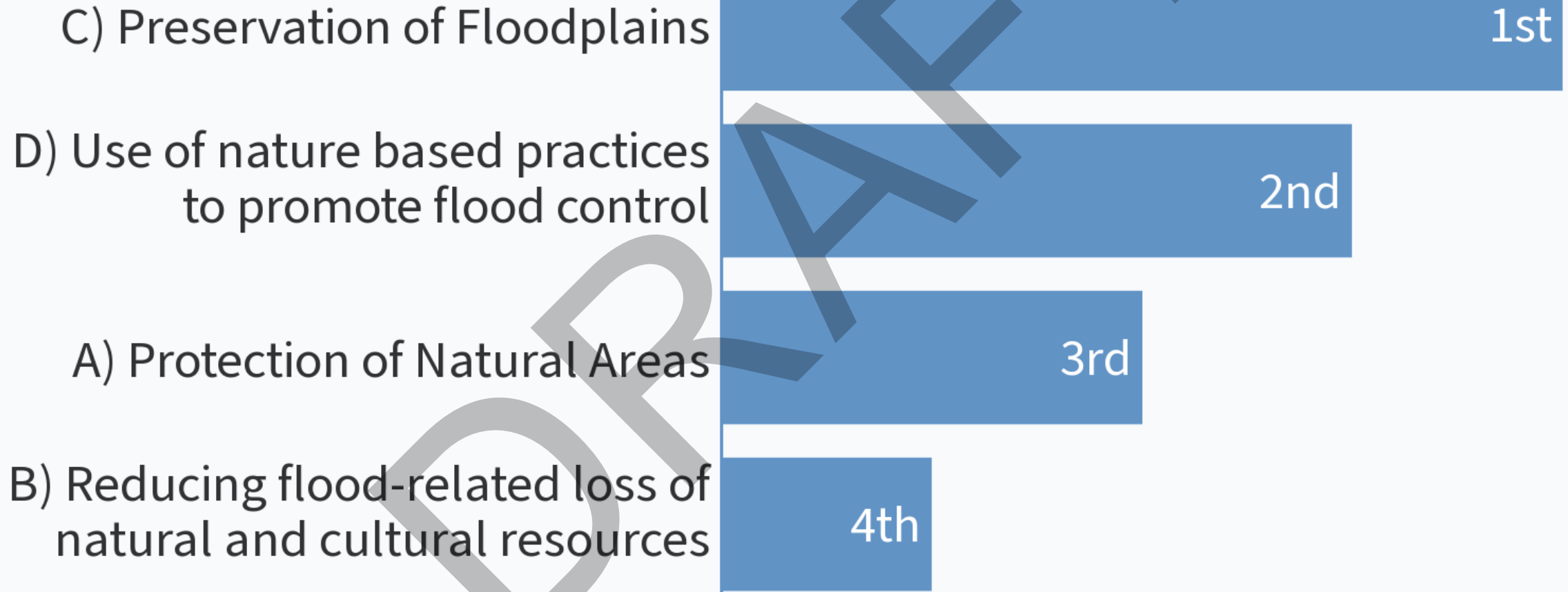
C) Reducing flood risk to agricultural and ranching areas

3rd

Land Protection

- A) Protection of Natural Areas
- B) Reducing flood-related loss of natural and cultural resources
- C) Preservation of Floodplains
- D) Use of nature based practices to promote flood control

Land Protection



Flood Control Programs

- A) Increasing flood hazard data coverage (maps and models)
- B) Continuous funding mechanism
- C) Asset management plans

Flood Control Programs

A) Increasing flood hazard data coverage (maps and models)

1st

B) Continuous funding mechanism

2nd

C) Asset management plans

3rd

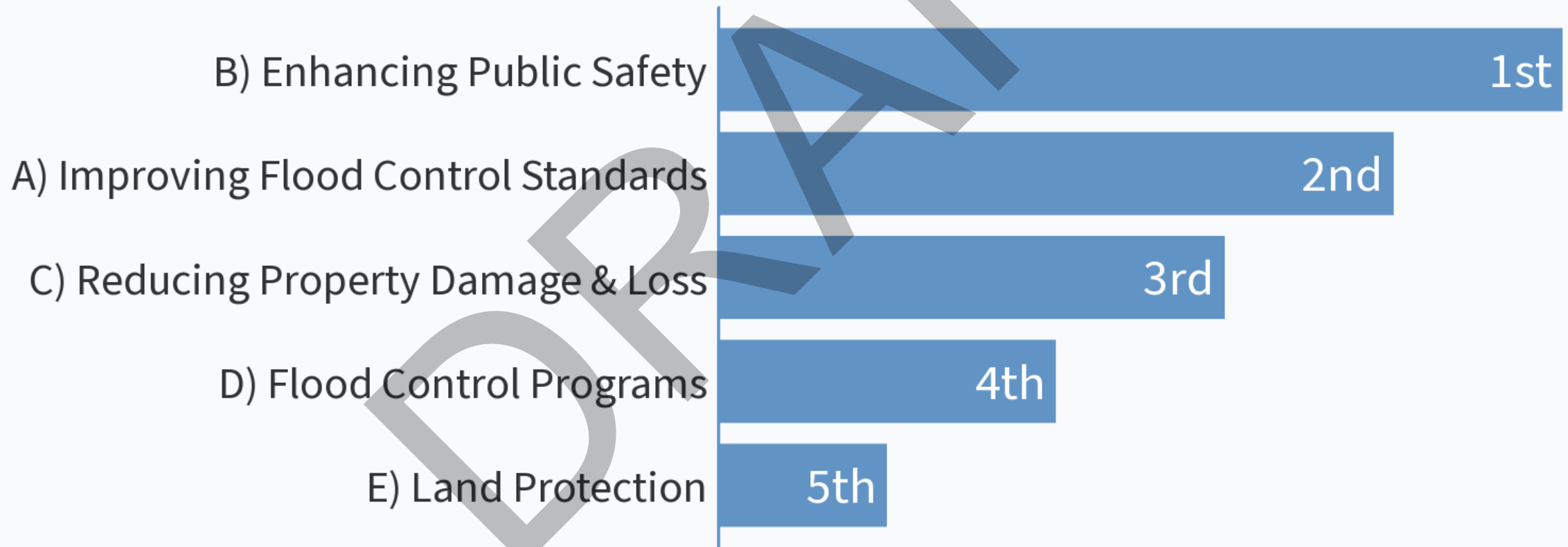
From the goal categories discussed, please rank the categories you believe will yield the highest value for this planning effort

- A) Improving Flood Control Standards
- B) Enhancing Public Safety
- C) Reducing Property Damage & Loss
- D) Flood Control Programs
- E) Land Protection

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From the goal categories discussed, please rank the categories you believe will yield the highest value for this planning effort



Please share some of your thoughts and ideas!



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Please share some of your thoughts and ideas!



“ Funding to
undeveloped areas for
data ”

“ Emphasis in reaching
non public sector
stakeholder throughout
the process ”

What will we do with your input?

At our August meeting, we will present you with draft goals for your approval that incorporate the feedback today, the results of our research and the TWDB's guidance for measurable plan goals

Example Goals				
Goal	Term of Goal	Target Year	Applicable to	Overarching Goal
50% of the region's population is part of a municipality that has a dedicated funding mechanism for drainage projects.	Short Term	2033	Entire Region	Protect against the loss of life and property
Consider and incorporate nature-based practices in flood risk reduction projects.	Short Term	2033	Entire Region	Protect against the loss of life and property
Enroll 50% of non-participating communities into the National Flood Insurance Program.	Short Term	2033	Entire Region	Protect against the loss of life and property

Ch. 3 Goals Discussion/ Determination

Floodplain Management Practices & Flood Protection Goals

The following are suggested ideas for discussion on August 19th.
Please come prepared to discuss.

DRAFT

Task 3-Goals

Purpose and Intent

The purpose of this task is to identify flood mitigation and floodplain management goals for the Trinity region. The overarching intent of the goals is “to protect against the loss of life and property” set out in Guidance Principles in 31 TAC §362.3 to 1) identify and reduce the risk and impact to life and property that already exists, and 2) avoid increasing or creating new flood risk by addressing future development within the areas known to have existing or future flood risk.

Overarching Goals

The overarching goals are intended to guide the development of the Flood Management Strategies (FMSs), Flood Management Evaluations (FMEs), and Flood Mitigation Projects (FMPs) for the Trinity Regional Flood Planning region. They build upon TWDB regional flood planning guidance and provide a comprehensive organization structure for future strategy development to adequately provide for the preservation of life and property, while not negatively affecting neighboring areas. These proposed six overarching goals include:

- Improving Flood Warning & Public Safety
- Improving Flood Analysis
- Reducing Property Damage & Loss
- Protecting the Floodplain
- Flood Infrastructure Improvement
- Expanding Flood Education & Outreach

The overarching goals are further detailed below and include specific goal statements which are measurable and achievable.

Benefits

Once the regional flood plan is complete, realization of the goals will occur through the implementation of the associated FMSs, FMEs, and FMPs established in this plan. Implementation of the goals will demonstrate progress towards the overall purpose and intent of this regional flood planning study and will provide a series of benefits to individuals, communities, and the overall flood planning region as a whole. The benefits are set in Table 3.X, below.

Table 3.X, Flood Planning Goals and Benefits

Example Goals							
Overarching Goal	Goal 1: Flood Warning & Public Safety	Goal 2: Improving Flood Analyses	Goal 3: Reducing Property Damage & Loss	Goal 4: Protecting the Floodplain	Goal 5: Flood Infrastructure Improvement	Goal 6: Flood Education & Outreach	Legend:
Protect against the loss of life	●	●	◐	◐	●	◐	<p>◐ Potential benefit</p> <p>● Benefit</p> <p>* Single project with multiple benefits, i.e. improves floodplain protection and water supply, increases recreation opportunities, habitat preservation, etc.</p>
Protect against the loss of property	◐	●	●	◐	●	◐	
Protect infrastructure	●	●	●		●		
Protect the environment	●	◐	●	●			
Protect water supply			◐	●	◐		
Sustain the economy	●	◐	●		◐		
Design for co-benefits*			◐	●	●		
Increase public awareness	●	●				●	
Build community support	●	●				●	

Specific Goal Statements

Goal 1. Improving Flood Warning & Public Safety

Improve the dissemination of information regarding early flood recognition and danger, emergency response procedures, and post-flood recovery actions.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the number of communities with warning and emergency response programs that can detect the flood threat and provide timely warning of impending flood danger.	Initiated	Maintained
B	Improve regional standards for data sharing and warning systems	TBD	TBD
C	Reduce the number of low-water crossings with no warning system by ----%	TBD	TBD
D	Reduce 5-year moving average of flood related fatalities in the flood planning region by __% by 2033	TBD%	TBD%

Goal 2. Improving Flood Analyses

Increase the number and extent of regional flood planning studies (FMEs) and analyses to better prepare communities for implementing flood mitigation projects.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the number of entities which utilize/adopt Atlas 14 (Volume 11) revised rainfall amounts as part of revisions to design criteria and flood prevention regulations by X. (region specific)	TBD	TBD
B	Increase the coverage of flood hazard data in the FPR by reducing the current gaps in floodplain mapping by ____%.	TBD	TBD
C	Increase utilization of the new base level engineering (BLE) data (pending) by regional entities in the FPR by X.	TBD	TBD
D	Increase the number of communities that perform detailed studies of localized/urban flooding impacts by X%	TBD	TBD

Goal 3. Reducing Property Damage & Loss

Increase the number and extent of protective regulatory measures and programs to limit future risk and reduce flood damage in the flood planning region.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the number of communities who adopt floodplain standards equal to or greater than the NFIP minimum by X%	TBD	TBD
B	Increase the number of participating Community Rating System (CRS) communities in the FPR by X.	TBD	TBD
C	Increase the number of entities that have a dedicated municipal drainage charge, drainage district fee, or other continuous funding mechanism by X, to implement future FMEs and FMPs.	TBD	TBD
D	Increase the number of communities at have adopted regulations to reduce the risk from localized flooding by X.	TBD	TBD
E	Reduce the number of counties that do not have floodplain standards that meet or exceed the NFIP-minimum standards by X.	TBD	TBD
F	Increase the number of communities which designate their level of enforcement of floodplain management as "high activity" by X percent per each cycle. (incremental increase in level of enforcement)	TBD	TBD
G	Increase the number of communities which regulate to one or more feet above the BFE for future 100-year conditions by X per each cycle.	TBD	TBD
H	Increase the number of communities in the Flood Plain Region that designate the 1% annual chance floodplain on the entity's future land use plan by X.	TBD	TBD
I	Increase the number of communities in the FPR that provide regional detention as part of an overall floodplain management program by X.	TBD	TBD
J	Reduce exposure of existing structures in the current 1% annual chance floodplain by elevating or floodproofing X% of structures by X.	TBD%	TBD%

Goal 4. Protecting the Floodplain

Reduce the amount of existing and future vulnerable properties within the FPR.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Reduce the number of vulnerable properties (i.e. through property buyouts, acquisitions, and/or relocations) by X%.	TBD%	TBD%
B	Increase the acreage of publicly protected natural areas by X % as part of property buyouts and acquisitions to reduce future impacts of flooding.	TBD	TBD
C	Reduce the number of repetitive-loss properties in the FPR by X.	TBD	TBD
D	Avoid new exposure to flood hazards by adopting land use and subdivision regulations that direct development away from the floodplain in X communities.	TBD	TBD

Goal 5. Flood Infrastructure Improvement

Reduce future vulnerability to existing structures through improved elevation and other flood proofing programs and initiatives. Reduce flood risk and mitigate flood hazards to life and property through the implementation of flood infrastructure projects.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Reduce the number of vulnerable critical facilities located within the existing and future 1% annual chance floodplain by X.	TBD	TBD
B	Reduce the number of low water crossings located within the existing and future 1% annual chance floodplain by X%.	TBD	TBD
C	Increase the number of nature-based practices as part of flood risk reduction projects by X.	TBD%	TBD%

Goal 6. Expanding Flood Education & Outreach

Increase the amount of flood education and outreach opportunities to improve awareness of flood hazards and future participation throughout the flood planning region (FPR).

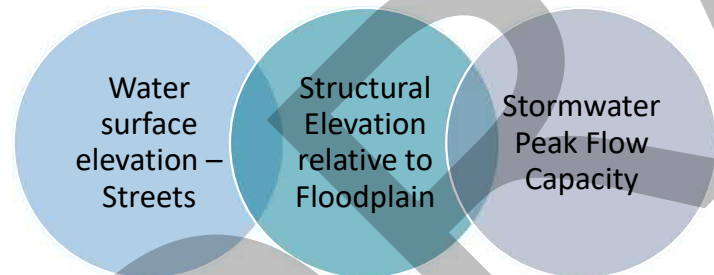
Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the number of public stakeholder participants in the regional flood planning process by X percent per each flood planning cycle.	TBD%	TBD%
B	Increase the number of community stakeholder entities participating in the regional flood planning process by X percent per each cycle.	TBD%	TBD%
C	Increase the number of public outreach and education activities to improve awareness of flood hazards and benefits of flood planning in the FPR by X.	TBD	TBD

Standards vs. Goals

Standards

Establish consistent protocols for floodplain management that can be universally applied

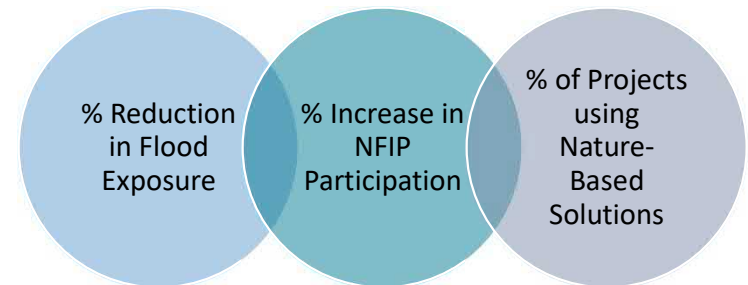
Examples:



Goals

Set specific timelines and goalposts to implement proven flood mitigation measures, reducing future risk for people and property.

Examples:



Must be measurable and have a timeframe!

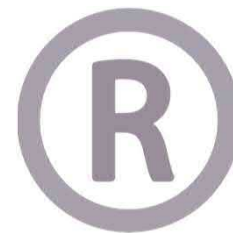
Goals Must Be:



Specific &
Achievable



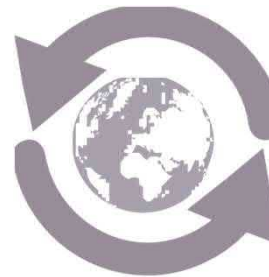
Reduce Residual
Risk



Recommended
or
Required



Short-term (10 years)
&/or
Long-Term (30 years)



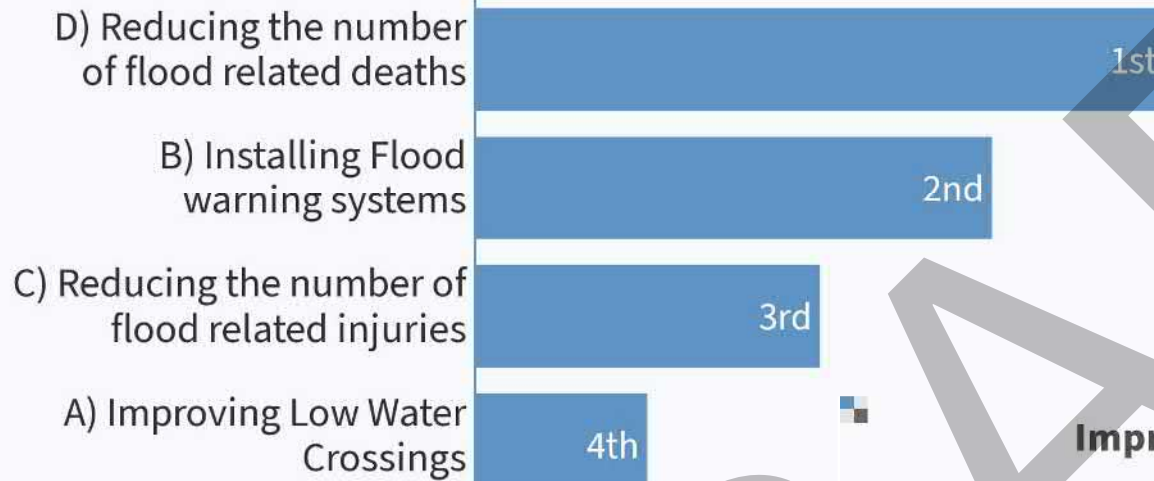
Regionwide
Or Subregional

Please choose one word that describes your top priority for the Regional Flood Planning Effort.



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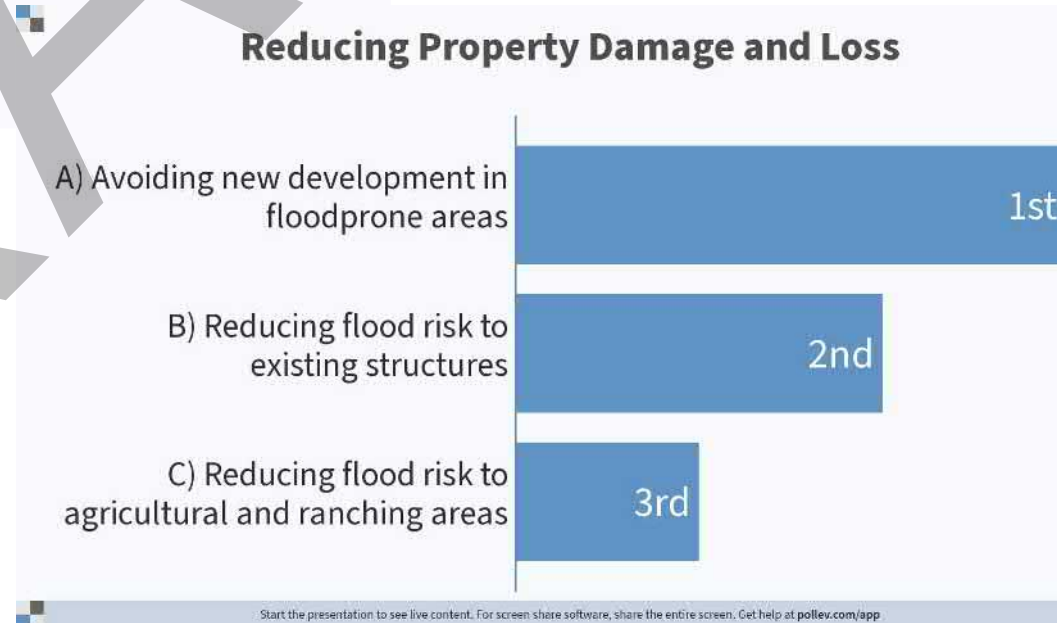
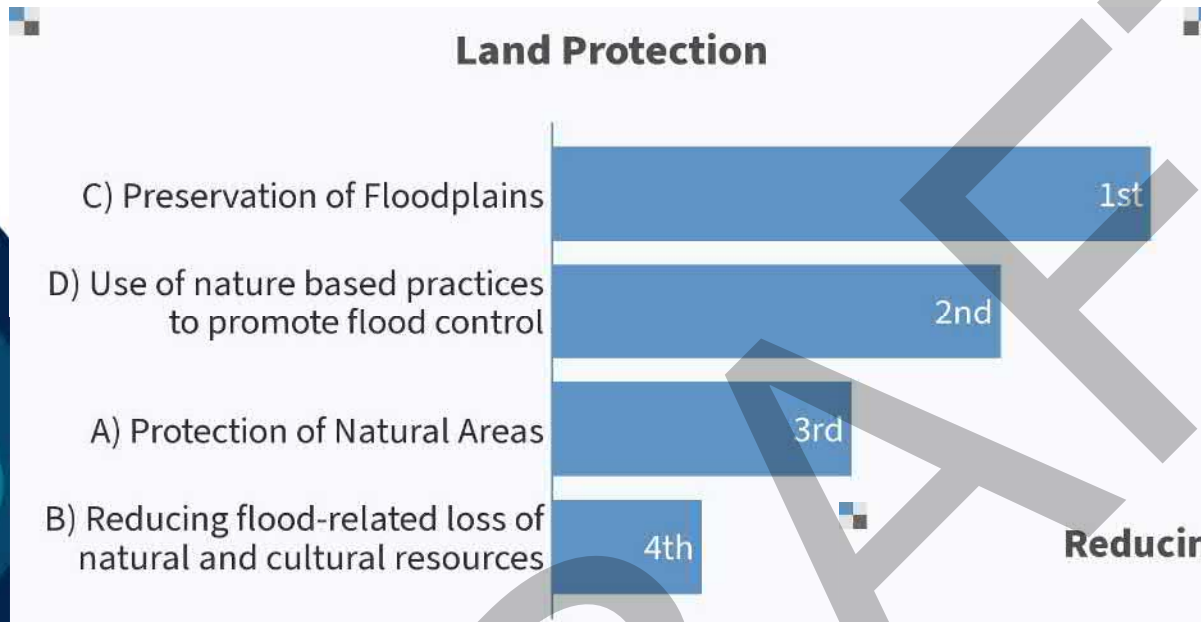
Enhancing public safety



Improving Flood Control Standards



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Flood Control Programs

A) Increasing flood hazard data coverage (maps and models)

1st

B) Continuous funding mechanism

2nd

C) Asset management plans

3rd

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Please share some of your thoughts and ideas!

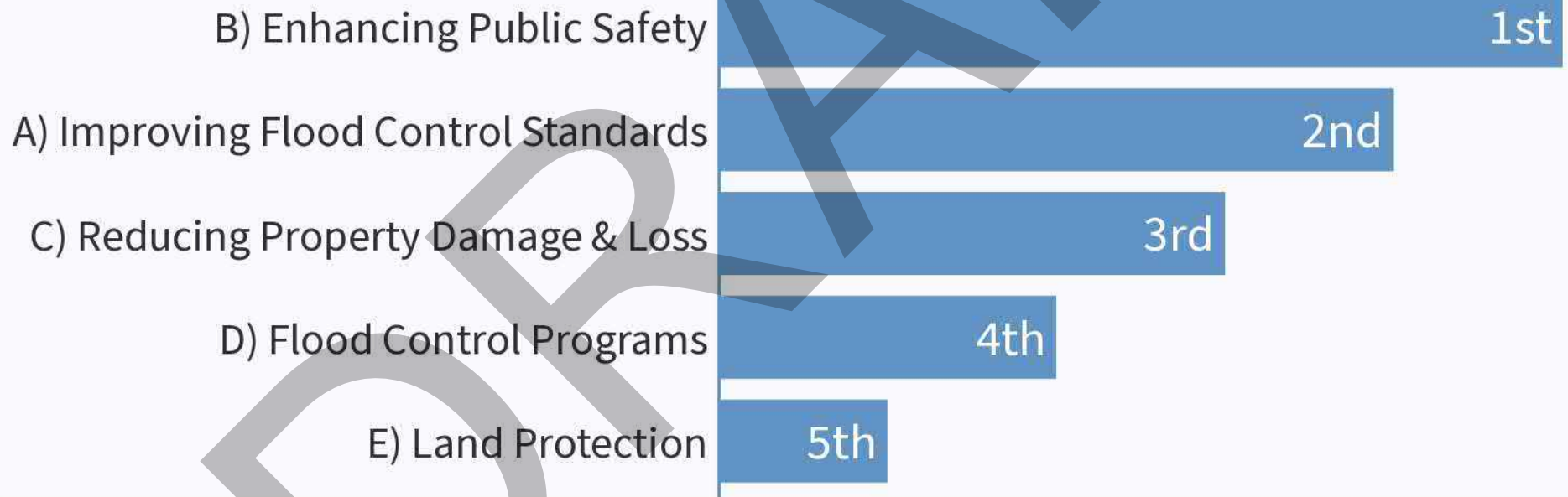


“ Funding to undeveloped areas for data ”

“ Emphasis in reaching non public sector stakeholder throughout the process ”

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From the goal categories discussed, please rank the categories you believe will yield the highest value for this planning effort



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Here's What We Heard

Below are overarching goals based on your guidance in our last meeting. The table below helps describe how they will help communities achieve the plan's objectives.

Example Goals							
Overarching Goal	Goal 1: Flood Warning & Public Safety	Goal 2: Improving Flood Analyses	Goal 3: Reducing Property Damage & Loss	Goal 4: Protecting the Floodplain	Goal 5: Flood Infrastructure Improvement	Goal 6: Flood Education & Outreach	Legend:
Protect against the loss of life	●	●	◐	◐	●	◐	◐ Potential benefit ● Benefit * Single project with multiple benefits, i.e. improves floodplain protection and water supply, increases recreation opportunities, habitat preservation, etc.
Protect against the loss of property	◐	●	●	◐	●	◐	
Protect infrastructure	●	●	●		●		
Protect the environment	●	◐	●	●			
Protect water supply			◐	●	◐		
Sustain the economy	●	◐	●		◐		
Design for co-benefits*			◐	●	●		
Increase public awareness	●	●				●	
Build community support	●	●				●	

Goal 1. Improving Flood Warning and Public Safety

A Increase the number of communities with warning and emergency response programs that can detect the flood threat and provide timely warning of impending flood danger.

B Improve regional standards for data sharing and warning systems

C Reduce the number of low-water crossings with no warning system by ----%

Reduce 5-year moving average of flood related fatalities in the flood planning region by __% by 2033

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Goal 1. Improving Flood Warning and Public Safety

A Increase the number of communities with warning and emergency response programs that can detect the flood threat and provide timely warning of impending flood danger.

1st

C Reduce the number of low-water crossings with no warning system by ----%

2nd

B Improve regional standards for data sharing and warning systems

3rd

Reduce 5-year moving average of flood related fatalities in the flood planning region by ___% by 2033

4th

Goal 2. Improving Flood Analysis

A Increase the number of entities which utilize/adopt Atlas 14 (Volume 11) revised rainfall amounts as part of revisions to design criteria and flood prevention regulations by X. (region specific)

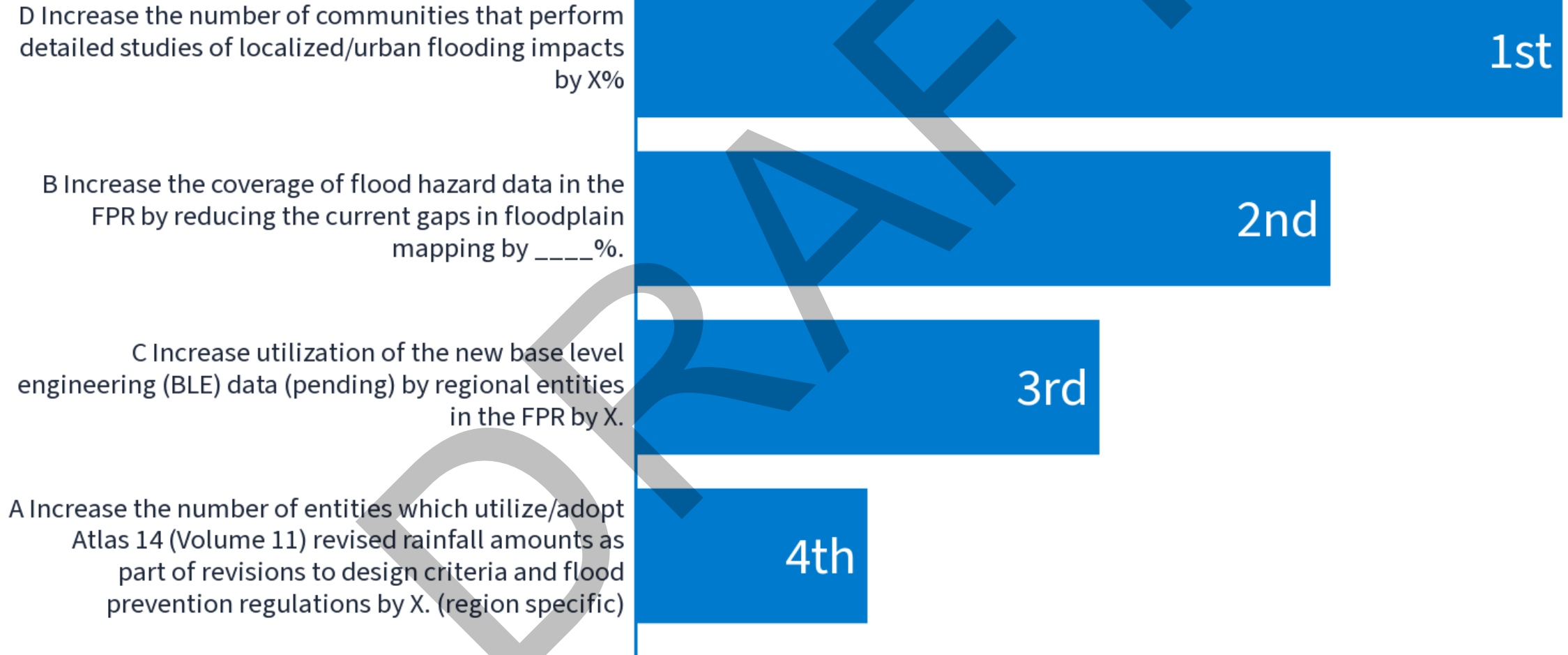
B Increase the coverage of flood hazard data in the FPR by reducing the current gaps in floodplain mapping by ____%.

C Increase utilization of the new base level engineering (BLE) data (pending) by regional entities in the FPR by X.

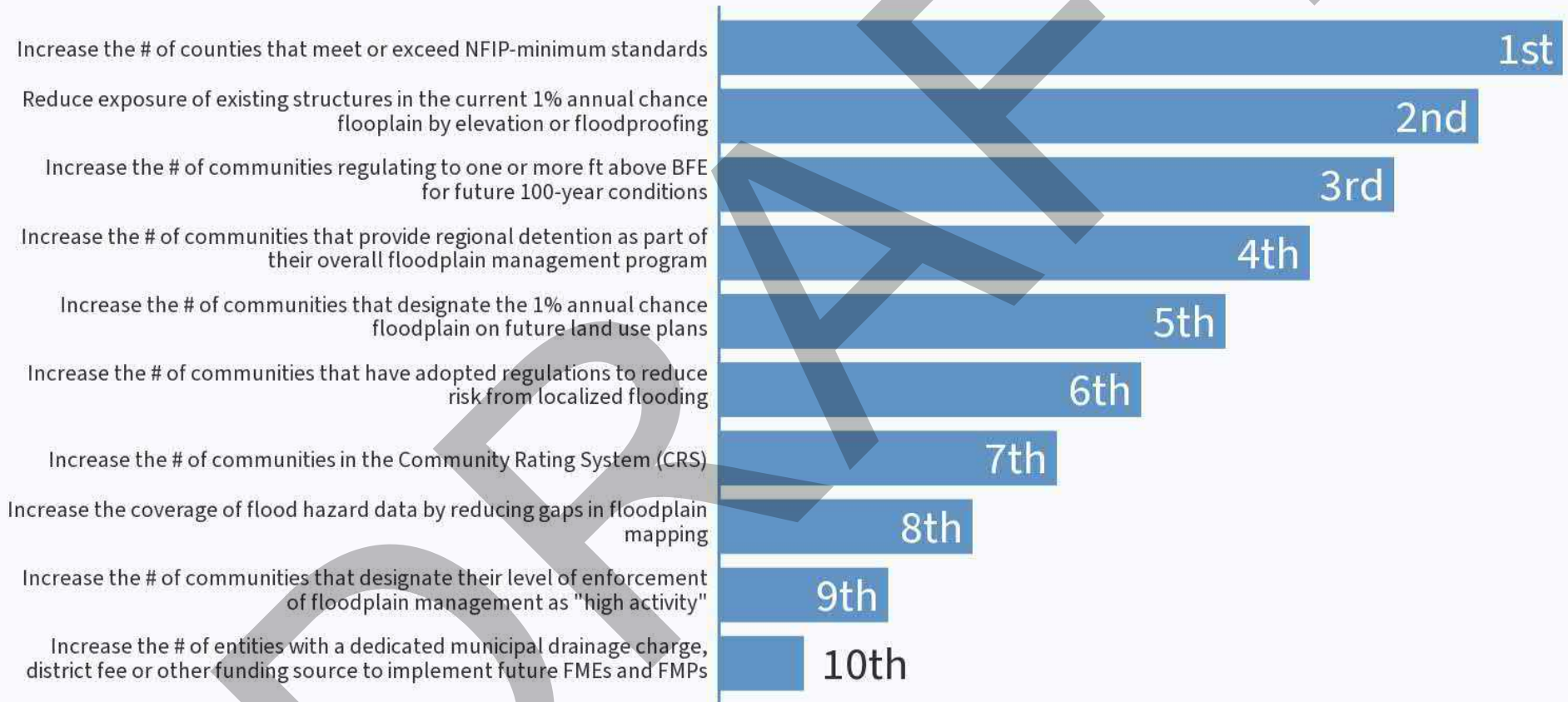
D Increase the number of communities that perform detailed studies of localized/urban flooding impacts by X%

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Goal 2. Improving Flood Analysis

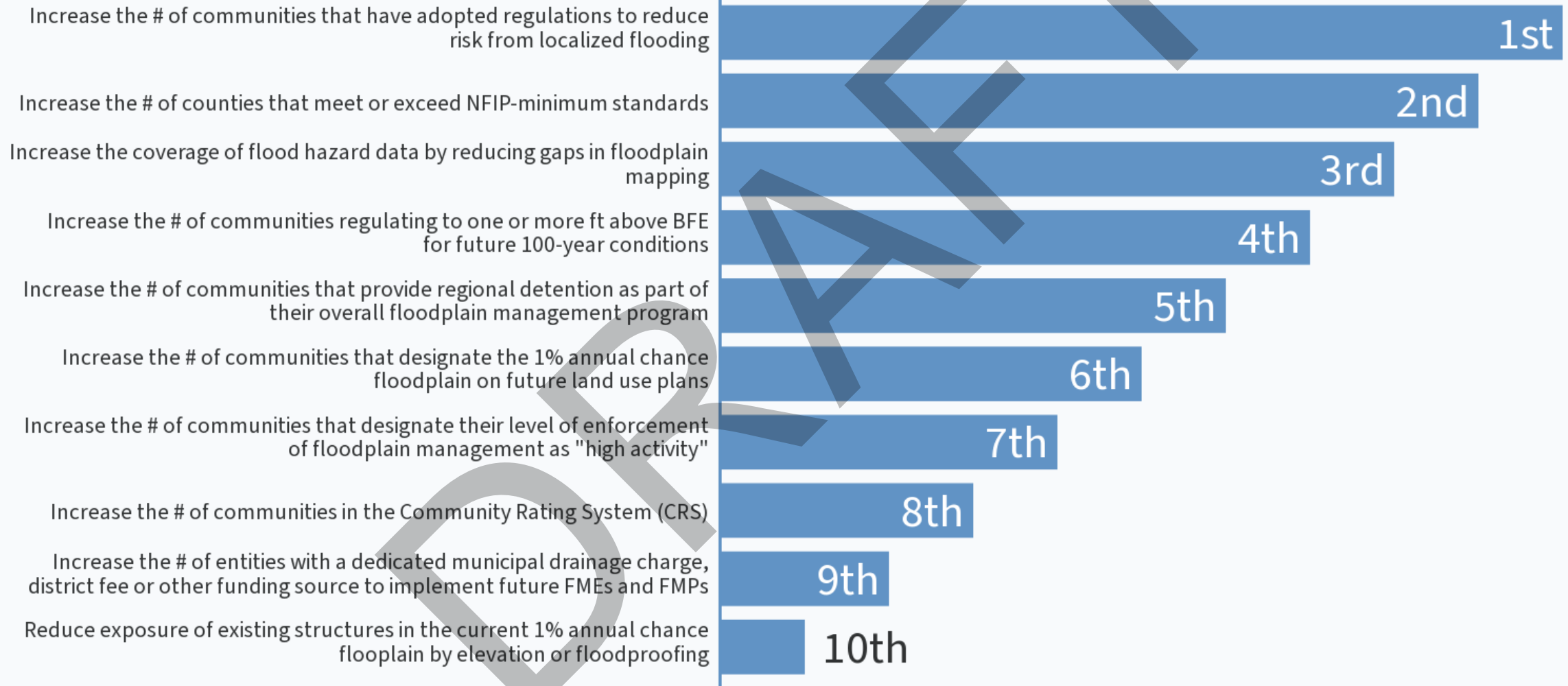


Goal 3: Reducing Property Damage and Loss



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Goal 3: Reducing Property Damage and Loss

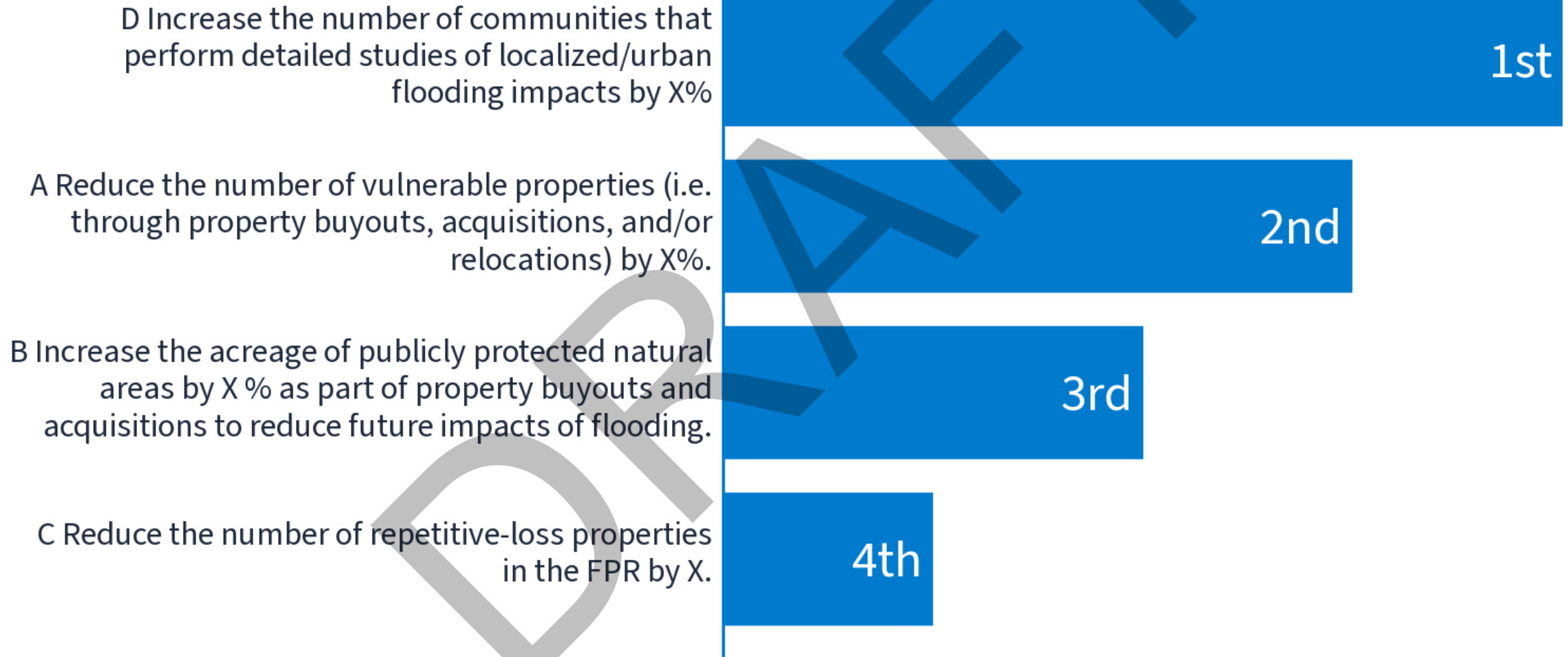


Goal 4. Protecting the Floodplain

- A Reduce the number of vulnerable properties (i.e. through property buyouts, acquisitions, and/or relocations) by X%.
- B Increase the acreage of publicly protected natural areas by X % as part of property buyouts and acquisitions to reduce future impacts of flooding.
- C Reduce the number of repetitive-loss properties in the FPR by X.
- D Increase the number of communities that perform detailed studies of localized/urban flooding impacts by X%

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Goal 4. Protecting the Floodplain



Goal 5. Flood Infrastructure Improvement

A Reduce the number of vulnerable critical facilities located within the existing and future 1% annual chance floodplain by X.

B Reduce the number of low water crossings located within the existing and future 1% annual chance floodplain by X%.

C Increase the number of nature-based practices as part of flood risk reduction projects by X.

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Goal 5. Flood Infrastructure Improvement

A Reduce the number of vulnerable critical facilities located within the existing and future 1% annual chance floodplain by X.

1st

B Reduce the number of low water crossings located within the existing and future 1% annual chance floodplain by X%.

2nd

C Increase the number of nature-based practices as part of flood risk reduction projects by X.

3rd

Goal 6. Expanding Flood Education & Outreach

A Increase the number of public stakeholder participants in the regional flood planning process by X percent per each flood planning cycle.

B Increase the number of community stakeholder entities participating in the regional flood planning process by X percent per each cycle.

C Increase the number of public outreach and education activities to improve flood hazard awareness and benefits of flood planning by X percent.

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Goal 6. Expanding Flood Education & Outreach

C Increase the number of public outreach and education activities to improve flood hazard awareness and benefits of flood planning by X percent.

1st

B Increase the number of community stakeholder entities participating in the regional flood planning process by X percent per each cycle.

2nd

A Increase the number of public stakeholder participants in the regional flood planning process by X percent per each flood planning cycle.

3rd

Specific Goal Statements

Goal 1. Improving Flood Warning & Public Safety

Improve the dissemination of information regarding early flood recognition and danger, emergency response procedures, and post-flood recovery actions.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the number of communities with flood warning programs that can detect flood threats and provide timely warning of impending flood danger.	Initiated	Maintained
B	Improve safety at low water crossings by adding warning systems/signage or improving low water crossings in high-risk areas	100 crossings	300 crossings

Goal 2. Improving Flood Analyses

Increase the number and extent of regional flood planning studies (FMEs) and analyses to better prepare communities for implementing flood mitigation projects.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the coverage of flood hazard data in the FPR by performing detailed studies using the best available land use and precipitation data to reduce gaps in floodplain mapping.	25% gap reduction	100% gap reduction
B	Increase the number of detailed studies of localized/urban flooding impacts within the FPR.	5	25
C	Increase the number of studies that utilize latest and most appropriate precipitation and land use data as part of revisions to design criteria and flood prevention regulations.	10	50

Goal 3. Reducing Property Damage & Loss

Increase the number and extent of protective regulatory measures and programs to limit future risk and reduce flood damage in the flood planning region.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the number of entities that have floodplain standards that meet or exceed the NFIP-minimum standards.	5	25
B	Reduce the number of structures within the 1% floodplain (i.e. through structural projects, property buyouts, acquisitions, and/or relocations).	5%	10%
C	Reduce the number of vulnerable Critical Facilities located in the existing 1% annual chance floodplain.	20	50
D	Reduce the financial impact of flood-related agricultural losses	\$2,000,000	\$20,000,000
E	Increase the number of entities that have a dedicated municipal drainage charge (stormwater utility fee), drainage district fee, or other continuous funding mechanism to implement future FMEs and FMPs.	10	50
F	Increase the number of communities that implement regional detention as part of an overall floodplain management program.	5	25
G	Increase the number of communities that have adopted regulations to reduce the risk from localized/urban flooding.	3	10

Goal 4. Floodplain Preservation

Maintain the natural and beneficial functions of floodplains by preservation and conservation programs.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the acreage of publicly protected natural areas to reduce future impacts of flooding.	5%	10%
B	Increase the number of entities that designate the 1% annual chance floodplain on the entity's future land use plan.	20	50
C	Avoid new exposure to flood hazards by adoption of comprehensive plans or subdivision regulations that direct development away from the floodplain.	20 entities	50 entities

Goal 5. Flood Infrastructure Improvement

Reduce flood risk and mitigate flood hazards to life and property through the maintenance and rehabilitation of existing infrastructure and implementation of new flood infrastructure projects.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Develop a program and schedule for the maintenance of high hazard dams and levees within the FPR.	10%	50%
B	Increase the number of nature-based practices as part of flood risk reduction projects.	20	50
C	Improve flood infrastructure by maintaining streams and drainage channels to protect agricultural lands from flooding.	5 stream miles	50 stream miles

Goal 6. Expanding Flood Education & Outreach

Increase the amount of flood education and outreach opportunities to improve awareness of flood hazards and maximize future participation throughout the flood planning region (FPR).

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Improve the participation of community stakeholder entities in the regional flood planning process.	35%	90%
B	Increase the number of local entities that host public outreach and education activities each year to improve awareness of flood hazards and benefits of flood planning in the FPR.	20	50

Region 3 Trinity RFPG: Draft Specific Goal Statements

As Reviewed and Revised by Region 3 RFPG on 08/31/21

Goal 1. Improving Flood Warning & Public Safety

Improve the dissemination of information regarding early flood recognition and danger, emergency response procedures, and post-flood recovery actions.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the number of communities with flood warning programs that can detect flood threats and provide timely warning of impending flood danger.	Initiated	Maintained
B	Improve safety at low water crossings by adding warning systems/signage or improving low water crossings in high-risk areas	100 crossings	300 crossings

Goal 2. Improving Flood Analyses

Increase the number and extent of regional flood planning studies (FMEs) and analyses to better prepare communities for implementing flood mitigation projects.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the availability of flood hazard data that uses the best available land use and precipitation data to reduce gaps in floodplain mapping.	25% gap reduction	95% gap reduction
B	Increase the number of entities that conduct detailed studies of localized/urban flooding impacts within the FPR.	Establish a baseline measurement	30%
C	Increase the number of communities that utilize latest and most appropriate precipitation and land use data as a basis for design criteria and flood prevention regulations.	Establish a baseline measurement	30%

Goal 3. Reducing Property Damage & Loss

Increase the number and extent of protective regulatory measures and programs to limit future risk and reduce flood damage in the flood planning region.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the number of entities that have floodplain standards that meet or exceed the NFIP-minimum standards.	5	25
B	Reduce the number of structures within the 1% floodplain (i.e. through structural projects, property buyouts, acquisitions, and/or relocations).	5%	10%
C	Reduce the vulnerability of agriculture, ranching and forestry to flood-related losses.	Establish a baseline measurement	30%

Goal 4. Floodplain Preservation

Maintain the natural and beneficial functions of floodplains by preservation and conservation programs.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the acreage of publicly protected natural areas for flood and ecosystem purposes to reduce future impacts of flooding.	Establish a baseline measurement	10%
B	Increase the number of entities that designate the 1% annual chance floodplain on Future Land Use plans that serve as the basis for zoning regulations	20	50
C	Avoid new exposure to flood hazards by adopting comprehensive plans or subdivision regulations that direct development away from the floodplain.	Establish a baseline measurement	10%

Goal 5. Flood Infrastructure Improvement

Reduce flood risk and mitigate flood hazards to life and property through the maintenance and rehabilitation of existing infrastructure and implementation of new flood infrastructure projects.

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Increase the number of nature-based practices as part of flood risk reduction projects.	Establish a baseline measurement	30%
B	Improve flood infrastructure and properly maintain streams and drainage channels to protect agricultural lands from flooding	Establish a baseline measurement	10%

Goal 6. Expanding Flood Education & Outreach

Increase the amount of flood education and outreach opportunities to improve awareness of flood hazards and future participation throughout the flood planning region (FPR).

Goals	Specific Goal Statements	Short Term (2033)	Long Term (2053)
A	Improve the participation of community stakeholder entities in the regional flood planning process.	35%	90%
B	Increase the number of local entities that host annual public outreach and education activities to improve awareness of flood hazards, benefits of flood planning, and procedures associated with emergency response associated with flooding.	Establish a baseline measurement	50
C	Increase the number of communities that work cooperatively as part of an overall floodplain management program.	5	25

APPENDIX X4: TWDB-Required Table 11

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Goal ID	RFPG No.	RFPG Name	Goal	Term of Goal	Target Year	Applicable To	Residual Risk	How will the Goal be Measured	Overarching Goal	Associated Goal IDs
03000001	3	Trinity	Increase the number of communities with flood warning programs that can detect flood threats and provide timely warning of impending flood danger.	Short Term (10 year)	2033	Entire RFPG	Drivers may choose to ignore flood warning signs or barricaded roads for a variety of reasons.	Initiated	Goal 1: Improving Flood Warning & Public Safety	03000002
03000002	3	Trinity	Increase the number of communities with flood warning programs that can detect flood threats and provide timely warning of impending flood danger.	Long Term (30 year)	2053	Entire RFPG	Drivers may choose to ignore flood warning signs or barricaded roads for a variety of reasons.	Maintained	Goal 1: Improving Flood Warning & Public Safety	03000001
03000003	3	Trinity	Improve safety at low water crossings by adding warning systems/signage or improving low water crossings in high-risk areas.	Short Term (10 year)	2033	Entire RFPG	Drivers may choose to ignore flood warning signs or barricaded roads for a variety of reasons.	100 total crossings	Goal 1: Improving Flood Warning & Public Safety	03000004
03000004	3	Trinity	Improve safety at low water crossings by adding warning systems/signage or improving low water crossings in high-risk areas.	Long Term (30 year)	2053	Entire RFPG	Drivers may choose to ignore flood warning signs or barricaded roads for a variety of reasons.	300 total crossings	Goal 1: Improving Flood Warning & Public Safety	03000003
03000005	3	Trinity	Increase the availability of flood hazard data that uses the best available land use and precipitation data to reduce gaps in floodplain mapping.	Short Term (10 year)	2033	Entire RFPG	Due to the change and updates to terrain, land use, precipitation, and other data, the risk associated with the floodplains may change over time.	25% gap reduction	Goal 2: Improving Flood Analyses	03000006
03000006	3	Trinity	Increase the availability of flood hazard data that uses the best available land use and precipitation data to reduce gaps in floodplain mapping.	Long Term (30 year)	2053	Entire RFPG	Due to the change and updates to terrain, land use, precipitation, and other data, the risk associated with the floodplains may change over time.	95% gap reduction	Goal 2: Improving Flood Analyses	03000005
03000007	3	Trinity	Increase the number of entities that conduct detailed studies of localized/urban flooding impacts within the Trinity Region.	Short Term (10 year)	2033	Entire RFPG	Due to the change and updates to terrain, land use, precipitation, and other data, the risk associated with the floodplains may change over time.	Establish a baseline measurement	Goal 2: Improving Flood Analyses	03000008
03000008	3	Trinity	Increase the number of entities that conduct detailed studies of localized/urban flooding impacts within the Trinity Region.	Long Term (30 year)	2053	Entire RFPG	Due to the change and updates to terrain, land use, precipitation, and other data, the risk associated with the floodplains may change over time.	30%	Goal 2: Improving Flood Analyses	03000007
03000009	3	Trinity	Increase the number of communities that utilize latest and most appropriate precipitation and land use data as a basis for design criteria and flood prevention regulations.	Short Term (10 year)	2033	Entire RFPG	Due to the change and updates to terrain, land use, precipitation, and other data, the risk associated with the floodplains may change over time.	Establish a baseline measurement	Goal 2: Improving Flood Analyses	03000010
03000010	3	Trinity	Increase the number of communities that utilize latest and most appropriate precipitation and land use data as a basis for design criteria and flood prevention regulations.	Long Term (30 year)	2053	Entire RFPG	Due to the change and updates to terrain, land use, precipitation, and other data, the risk associated with the floodplains may change over time.	30%	Goal 2: Improving Flood Analyses	03000009
03000011	3	Trinity	Increase the number of entities that have floodplain standards that meet or exceed the NFIP-minimum standards.	Short Term (10 year)	2033	Entire RFPG	Getting every community within the Trinity Region to adopt and enforce NFIP minimum standards, let alone higher standards, may prove to be challenging. The lack of local enforcement of floodplain regulations also creates risk.	5 new cities/towns	Goal 3: Reducing Property Damage & Loss	03000012
03000012	3	Trinity	Increase the number of entities that have floodplain standards that meet or exceed the NFIP-minimum standards.	Long Term (30 year)	2053	Entire RFPG	Getting every community within the Trinity Region to adopt and enforce NFIP minimum standards, let alone higher standards, may prove to be challenging. The lack of local enforcement of floodplain regulations also creates risk.	25 additional cities/towns	Goal 3: Reducing Property Damage & Loss	03000011
03000013	3	Trinity	Reduce the number of structures within the 1% floodplain (i.e. through structural projects, property buyouts, acquisitions, and/or relocations).	Short Term (10 year)	2033	Entire RFPG	Getting every community within the Trinity Region to adopt and enforce NFIP minimum standards, let alone higher standards, may prove to be challenging. The lack of local enforcement of floodplain regulations also creates risk.	5%	Goal 3: Reducing Property Damage & Loss	03000014
03000014	3	Trinity	Reduce the number of structures within the 1% floodplain (i.e. through structural projects, property buyouts, acquisitions, and/or relocations).	Long Term (30 year)	2053	Entire RFPG	Getting every community within the Trinity Region to adopt and enforce NFIP minimum standards, let alone higher standards, may prove to be challenging. The lack of local enforcement of floodplain regulations also creates risk.	10%	Goal 3: Reducing Property Damage & Loss	03000013

Goal ID	RFPG No.	RFPG Name	Goal	Term of Goal	Target Year	Applicable To	Residual Risk	How will the Goal be Measured	Overarching Goal	Associated Goal IDs
03000015	3	Trinity	Reduce the vulnerability of agriculture, ranching and forestry to flood-related losses.	Short Term (10 year)	2033	Entire RFPG	Getting every community within the Trinity Region to adopt and enforce NFIP minimum standards, let alone higher standards, may prove to be challenging. The lack of local enforcement of floodplain regulations also creates risk.	Establish a baseline measurement	Goal 3: Reducing Property Damage & Loss	03000016
03000016	3	Trinity	Reduce the vulnerability of agriculture, ranching and forestry to flood-related losses.	Long Term (30 year)	2053	Entire RFPG	Getting every community within the Trinity Region to adopt and enforce NFIP minimum standards, let alone higher standards, may prove to be challenging. The lack of local enforcement of floodplain regulations also creates risk.	30%	Goal 3: Reducing Property Damage & Loss	03000015
03000017	3	Trinity	Increase the acreage of publicly protected natural areas for flood and ecosystem purposes to reduce future impacts of flooding.	Short Term (10 year)	2033	Entire RFPG	Residual risk depends on people stepping back and allowing space for flooding to remain in natural areas.	Establish a baseline measurement	Goal 4: Floodplain Preservation	03000018
03000018	3	Trinity	Increase the acreage of publicly protected natural areas for flood and ecosystem purposes to reduce future impacts of flooding.	Long Term (30 year)	2053	Entire RFPG	Residual risk depends on people stepping back and allowing space for flooding to remain in natural areas.	10%	Goal 4: Floodplain Preservation	03000017
03000019	3	Trinity	Increase the number of entities that designate the 1% annual chance floodplain based on Future Land Use plans that serve as the basis for zoning regulations	Short Term (10 year)	2033	Entire RFPG	Residual risk depends on people stepping back and allowing space for flooding to remain in natural areas.	20 new entities	Goal 4: Floodplain Preservation	03000020
03000020	3	Trinity	Increase the number of entities that designate the 1% annual chance floodplain based on Future Land Use plans that serve as the basis for zoning regulations	Long Term (30 year)	2053	Entire RFPG	Residual risk depends on people stepping back and allowing space for flooding to remain in natural areas.	50 new entities	Goal 4: Floodplain Preservation	03000019
03000021	3	Trinity	Avoid new exposure to flood hazards by adopting comprehensive plans or subdivision regulations that direct development away from the floodplain.	Short Term (10 year)	2033	Entire RFPG	Residual risk depends on people stepping back and allowing space for flooding to remain in natural areas.	Establish a baseline measurement	Goal 4: Floodplain Preservation	03000022
03000022	3	Trinity	Avoid new exposure to flood hazards by adopting comprehensive plans or subdivision regulations that direct development away from the floodplain.	Long Term (30 year)	2053	Entire RFPG	Residual risk depends on people stepping back and allowing space for flooding to remain in natural areas.	10%	Goal 4: Floodplain Preservation	03000021
03000023	3	Trinity	Increase the number of nature-based practices as part of flood risk reduction projects.	Short Term (10 year)	2033	Entire RFPG	If any storm that exceeds the design capacity was to occur, the infrastructure will still be at risk.	Establish a baseline measurement	Goal 5: Flood Infrastructure Improvement	03000024
03000024	3	Trinity	Increase the number of nature-based practices as part of flood risk reduction projects.	Long Term (30 year)	2053	Entire RFPG	If any storm that exceeds the design capacity was to occur, the infrastructure will still be at risk.	30%	Goal 5: Flood Infrastructure Improvement	03000023
03000025	3	Trinity	Improve flood infrastructure and maintain streams and drainage channels to reduce flood risk to agricultural lands.	Short Term (10 year)	2033	Entire RFPG	If any storm that exceeds the design capacity was to occur, the infrastructure will still be at risk.	Establish a baseline measurement	Goal 5: Flood Infrastructure Improvement	03000026
03000026	3	Trinity	Improve flood infrastructure and maintain streams and drainage channels to reduce flood risk to agricultural lands.	Long Term (30 year)	2053	Entire RFPG	If any storm that exceeds the design capacity was to occur, the infrastructure will still be at risk.	10%	Goal 5: Flood Infrastructure Improvement	03000025
03000027	3	Trinity	Improve the participation of community stakeholder entities in the regional flood planning process.	Short Term (10 year)	2033	Entire RFPG	The primary risks associated with public education and outreach are misunderstandings and lack of attention.	35%	Goal 6: Expanding Flood Education & Outreach	03000028
03000028	3	Trinity	Improve the participation of community stakeholder entities in the regional flood planning process.	Long Term (30 year)	2053	Entire RFPG	The primary risks associated with public education and outreach are misunderstandings and lack of attention.	90%	Goal 6: Expanding Flood Education & Outreach	03000027
03000029	3	Trinity	Increase the number of local entities that host annual public outreach and education activities to improve awareness of flood hazards, benefits of flood planning, and procedures associated with emergency response associated with flooding.	Short Term (10 year)	2033	Entire RFPG	The primary risks associated with public education and outreach are misunderstandings and lack of attention.	Establish a baseline measurement	Goal 6: Expanding Flood Education & Outreach	03000030

Goal ID	RFPG No.	RFPG Name	Goal	Term of Goal	Target Year	Applicable To	Residual Risk	How will the Goal be Measured	Overarching Goal	Associated Goal IDs
03000030	3	Trinity	Increase the number of local entities that host annual public outreach and education activities to improve awareness of flood hazards, benefits of flood planning, and procedures associated with emergency response associated with flooding.	Long Term (30 year)	2053	Entire RFPG	The primary risks associated with public education and outreach are misunderstandings and lack of attention.	50 total	Goal 6: Expanding Flood Education & Outreach	03000029
03000031	3	Trinity	Increase the number of communities that work cooperatively as part of an overall floodplain management program.	Short Term (10 year)	2033	Entire RFPG	The primary risks associated with public education and outreach are misunderstandings and lack of attention.	5 total	Goal 6: Expanding Flood Education & Outreach	03000032
03000032	3	Trinity	Increase the number of communities that work cooperatively as part of an overall floodplain management program.	Long Term (30 year)	2053	Entire RFPG	The primary risks associated with public education and outreach are misunderstandings and lack of attention.	25 total	Goal 6: Expanding Flood Education & Outreach	03000031
03000033	3	Trinity	Expand eligibility for and use of funding for stormwater and flood mitigation solutions (Local, State, Federal, Public/Private Partnerships, etc.).	Short Term (10 year)	2033	Entire RFPG	Lack of funding for maintenance may result in unanticipated infrastructure failure that costs much more to repair than had it been maintained.	Establish a baseline measurement	Goal 7: Expand Funding	03000034
03000034	3	Trinity	Expand eligibility for and use of funding for stormwater and flood mitigation solutions (Local, State, Federal, Public/Private Partnerships, etc.).	Long Term (30 year)	2053	Entire RFPG	Lack of funding for maintenance may result in unanticipated infrastructure failure that costs much more to repair than had it been maintained.	TBD	Goal 7: Expand Funding	03000033
03000035	3	Trinity	Increase communities with dedicated stormwater funding mechanisms.	Short Term (10 year)	2033	Entire RFPG	Lack of funding for maintenance may result in unanticipated infrastructure failure that costs much more to repair than had it been maintained.	10%	Goal 7: Expand Funding	03000036
03000036	3	Trinity	Increase communities with dedicated stormwater funding mechanisms.	Long Term (30 year)	2053	Entire RFPG	Lack of funding for maintenance may result in unanticipated infrastructure failure that costs much more to repair than had it been maintained.	30%	Goal 7: Expand Funding	03000035