

## Update from Consultant Team

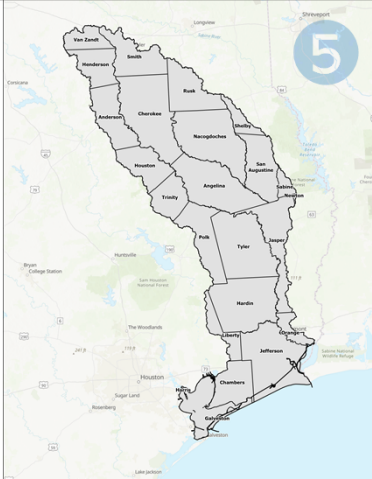
Neches Regional Flood Planning Group

October 14, 2021

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## Regional Flood Plan Updates

- Task 3B: Flood Management Goals
- Task 4A: Flood Mitigation Needs
- Task 4B: FMPs, FMEs, FMPs
- RFPG Member Action Items



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## Task 3B – Significance of Goals 5


1. RFPG to identify flood mitigation and floodplain management goals along with target years by which to meet those goals.
2. Guides the overall approach of identifying, evaluating, and recommending FMEs, FMSs, and FMPs.
3. By establishing S.M.A.R.T. goals, allows for RFPG to track progress towards overall goal of RFP:

“To protect against the loss of life and property”


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## Task 3B – Floodplain Protection Goals 5


Category 1: Improve Flood Mitigation Projects  
 Category 2: Expand Funding  
 Category 3: Improve Data




Specific & Achievable




Reduce Residual Risk



Recommended or Required

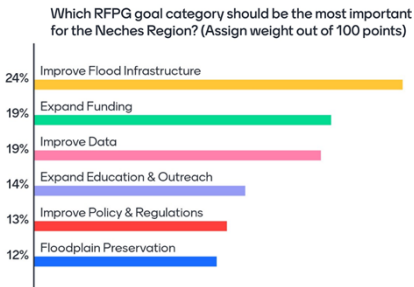


Short-term (30 years) &/or Long-Term (30 years)



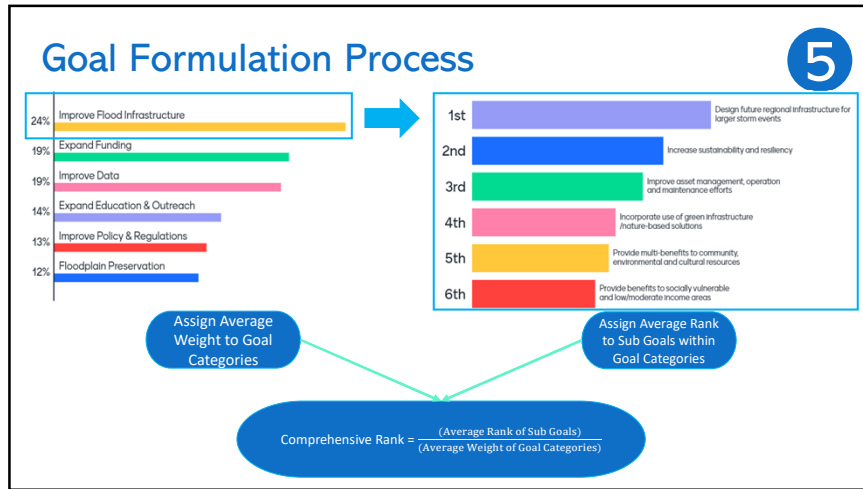
Regionwide Or Subregional

Which RFPG goal category should be the most important for the Neches Region? (Assign weight out of 100 points)

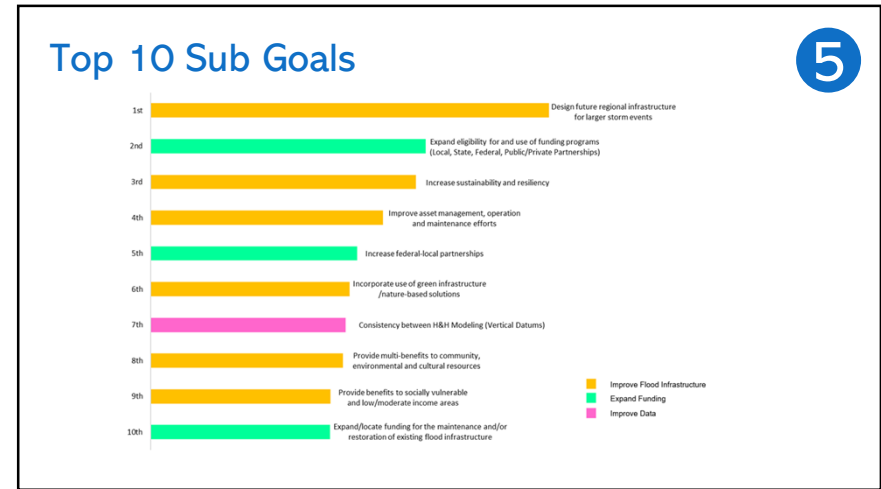


Goal Category	Percentage
Improve Flood Infrastructure	24%
Expand Funding	19%
Improve Data	19%
Expand Education & Outreach	14%
Improve Policy & Regulations	13%
Floodplain Preservation	12%

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### Category 1 – Improve Flood Infrastructure

- RFPG Input
  - Reduce existing flood risk and mitigate future flood hazard to life and property by constructing new infrastructure projects.

Goal ID	Goal	Short-Term Goal	Long-Term Goal
1A	Increase the number of regional infrastructure projects designed for larger storm events.	Initiated	Maintained

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### Category 1 – Improve Flood Infrastructure

- RFPG Input
  - The preservation and restoration of the natural and beneficial resources within existing floodplains should be considered in the development of flood risk reduction projects.

Goal ID	Goal	Short-Term Goal	Long-Term Goal
1B	By 2033, RFPGs will consider and incorporate nature-based practices and floodplain preservation in their flood risk reduction projects. (LID, FEMA Nature-Based Solutions guide)	Initiated	Maintained

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## Category 1 – Improve Flood Infrastructure 5

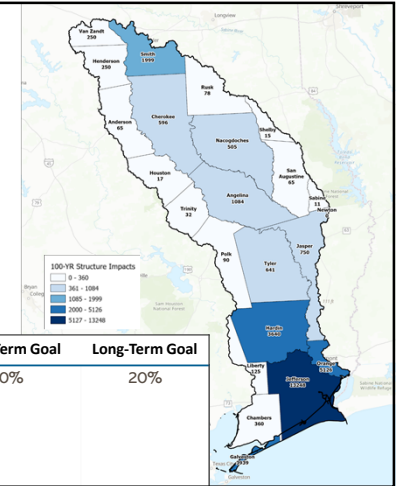
- RFPG Input
  - Impacts to critical facilities can impact a community's ability to respond to and recover from flood related events
- 368 Critical Structures located within 100yr (Lower Neches)
- Critical Facilities
  - Emergency Facilities
  - Energy Producing Facilities
  - Medical Facilities
  - Schools
  - Public Infrastructure

Goal ID	Goal	Short-Term Goal	Long-Term Goal
1C	Reduce the number of critical facilities in the 100-year floodplain by XX%.	15%	25%

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## Category 1 – Improve Flood Infrastructure

- 32,394 Structures in 100-YR Floodplain



Goal ID	Goal	Short-Term Goal	Long-Term Goal
1D	Reduce exposure of existing structures in the current 100-year floodplain by elevating, acquiring, relocating, or otherwise providing flood protection to XX% of structures.	10%	20%

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## Category 2 – Expand Funding 5

- RFPG Input
  - Entities within the region can implement more capital improvement/flood mitigation projects if more grant funding from State and/or Federal sources can be secured.

Goal ID	Goal	Short-Term Goal	Long-Term Goal
2A	Increase the amount of State/Federal funding for flood mitigation projects and strategies awarded within the Neches Region by XX%.	25%	75%

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## Category 2 – Expand Funding 5

- RFPG Input
  - By establishing a dedicated funding source for the operation and maintenance of existing storm drainage systems, communities and entities within the region can expect to see an increase in the sustainability and resiliency of their flood infrastructure.

Goal ID	Goal	Short-Term Goal	Long-Term Goal
2B	Increase percentage of communities with dedicated funding sources for operations & maintenance for storm drainage systems to XX% of communities.	50%	75%

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## Category 2 – Expand Funding

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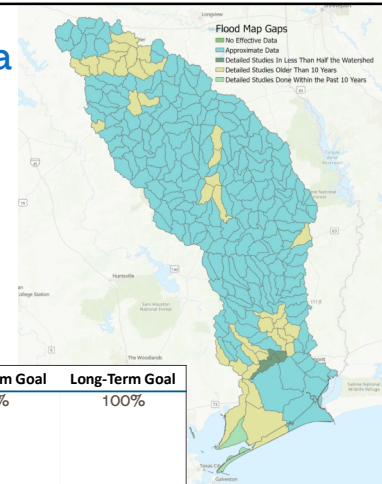
- RFPG Input
  - The implementation of a stormwater utility charge can provide a source of funding and/or capital for communities and districts to execute significant maintenance items and capital improvement projects.

Goal ID	Goal	Short-Term Goal	Long-Term Goal
2C	XX% of the region's population is part of an entity that has a dedicated drainage charge, fee, or other continuous funding mechanism for the maintenance and/or restoration of flood infrastructure.	50%	

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## Category 3 – Improve Data

- RFPG Input
  - Updated flood hazard data impacts a community's ability to better understand flood risk and prevent future flood risk.
- Studies at HUC 12 level
  - 82.5% Approximate Information
  - 14.8% Detailed > 10 years
  - 1.5% Detailed ≤ 10 years
  - 1.2% No data



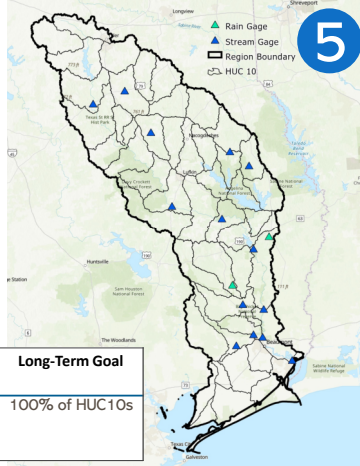
Goal ID	Goal	Short-Term Goal	Long-Term Goal
3A	Increase the coverage of flood hazard data across the region by completing detailed studies that utilize identified methodology in XX% of the areas identified as having current gaps in flood mapping.	50%	100%

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## Category 3 – Improve Data

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- RFPG Input
  - Stream gages can help predict flood events, which allow communities to better safeguard lives and protect property.
- 13 USGS Active Gages
- 3 additional SE Texas Rain Gages
  - 2 Rain gages
  - 1 Tidal stream gage



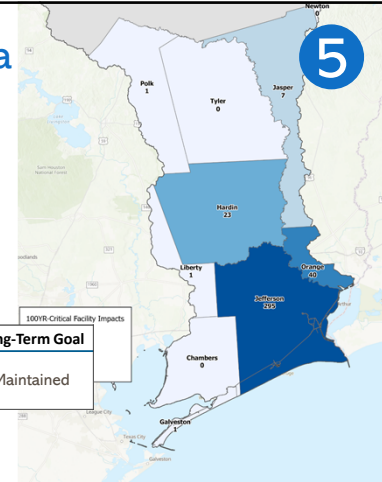
Goal ID	Goal	Short-Term Goal	Long-Term Goal
3B	Increase the number of stream gages across the Neches basin.	50% of HUC10s	100% of HUC10s

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## Category 3 – Improve Data

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- Critical Infrastructure Database will contain information on:
  - Spatial Location
  - Type of Critical Infrastructure (Hospital, School, Fire Station, etc.)
  - Level of Flood Exposure (100-YR, 500-YR)



Goal ID	Goal	Short-Term Goal	Long-Term Goal
3C	Develop and maintain critical infrastructure database.	Initiated	Maintained

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## Task 3B – Floodplain Protection Goals 5

Transfer to Mentimeter to vote

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## Task 4A & 4B Overview 5

**4A**  
Flood Mitigation Needs Analysis

- Identify areas where the greatest flood risk knowledge gaps exist
- Identify areas of the greatest known flood risk

**4B**  
FMEs FMSs FMPs

- Identify and evaluate potential:
  - FMEs – Flood Management Evaluation
  - FMSs – Flood Management Strategy
  - FMPs – Flood Mitigation Project

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## Task 4A - Process 5

- Considerations:
  - Areas prone to flooding that threaten life and property
  - Current floodplain management policies
  - Inadequate mapping/modeling
  - Emergency need
  - Identified flood mitigation projects
  - Historic flood events
  - In progress mitigation projects
  - Other planning group priorities

Supported by Task 2A & 2B

Identify Greatest Known Flood Risk

FMPs FMSs

Identify Flood Risk Knowledge Gaps

FMEs

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## Task 4A – Flood Risk Knowledge Gaps 5

- Identify knowledge gaps and areas with emergency need
- “Gap” defined by lack of data or outdated study
  - 13.6% of region has outdated detailed studies (older than 10 years)

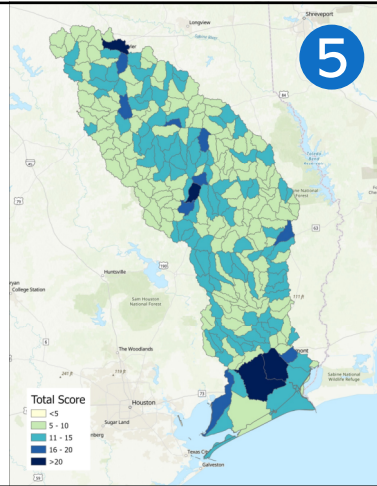
**Flood Map Gaps**

- No Effective Data
- Approximate Data
- Detailed Studies in Less Than Half the Watershed
- Detailed Studies Older Than 10 Years
- Detailed Studies Done Within the Past 10 Years

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### Task 4A – Flood Risk and Mitigation Needs Analysis

- Assign ranking of HUC12s based on:
  - Buildings in 100-YR Floodplain
  - Low Water Crossings
  - Existing Critical Facilities
  - Road Flooding Locations
  - Community NFIP Participation
  - Social Vulnerability Index (SVI)
  - Adequate Flood Risk Data
  - Reported Flood Concerns
  - Historical Flood Locations



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### Task 4B – Identification and Evaluation

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#### FME

A **proposed flood study** of a specific, flood-prone area that is needed in order to assess flood risk and/or determine whether there are potentially feasible FMSs or FMPs

#### FMP

A **proposed project, either structural or non-structural**, that has non-zero capital costs or other non-recurring cost and when implemented will reduce flood risk, mitigate flood hazards to life or property

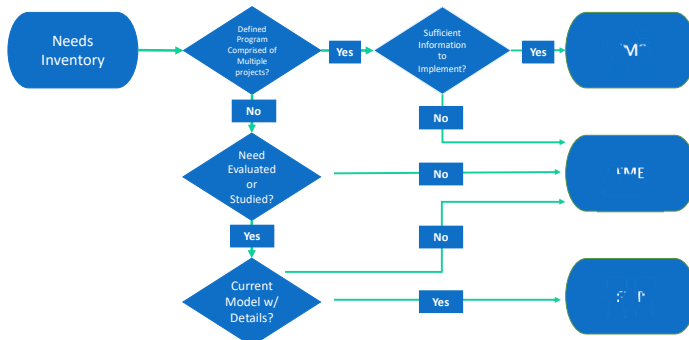
#### FMS

A **proposed plan** to reduce flood risk or mitigate flood hazards to life or property

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### Process for Identifying FME, FMS, FMP

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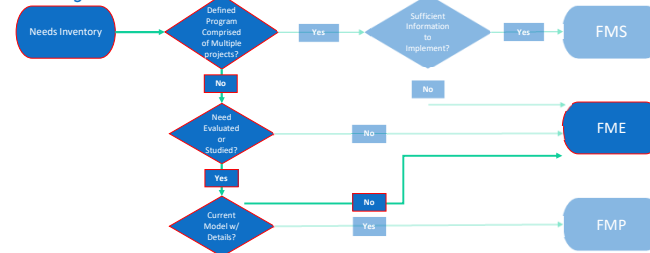


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### Flood Management Evaluations Examples

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- Updated FEMA Mapping
  - All Counties within Region
- City Drainage Master Plan
  - Beaumont Master Drainage Plan
- County-Wide Drainage Master Plan
  - Jefferson County DD6 & DD7 Master Drainage Plan
- Project Specific Study
  - Liberty County Recanalization Feasibility Study

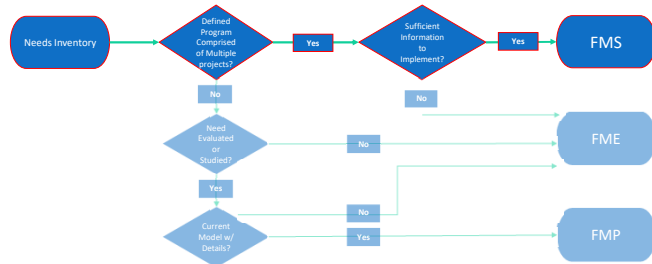


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## Flood Management Strategy Examples

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- Public awareness of flood risk
  - "Turn Around Don't Drown"
- Purchase of structures within floodplain
- Increased freeboard requirements in design of new infrastructure

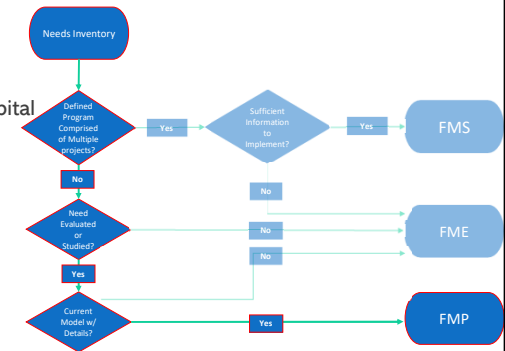


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## Flood Management Project Examples

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- Elevating Flooded Houses
  - Jefferson County
- Flood Mitigation Improvements
  - City of Rose Hill Acres
- Headwaters of Willow Creek Capital Improvement Study
  - City of Tyler



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## Process for Identifying FMS, FME, and FMP - Vote

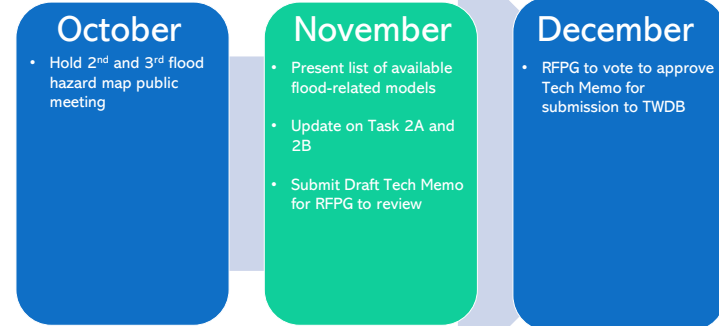
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Transfer to Mentimeter to vote

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## Planning Schedule

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