

Update from Consultant Team

Neches Regional Flood Planning Group

September 22, 2021

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Update Overview 5

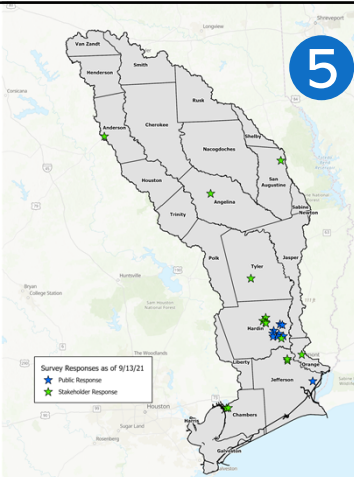
- Task 1: Outreach & Data Collection
- Task 2A: Existing Flood Risk
- Task 3A: Floodplain Management Practices Overview
- Task 3B: Overview and Discussion of Floodplain Management Goals
- Task 3B: Floodplain Management Goals Workshop (Interactive Mentimeter survey)

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Outreach & Data Collection 5

- Outreach Strategy
 - Contact non-responsive stakeholders by email/phone
- 14 Stakeholder Responses

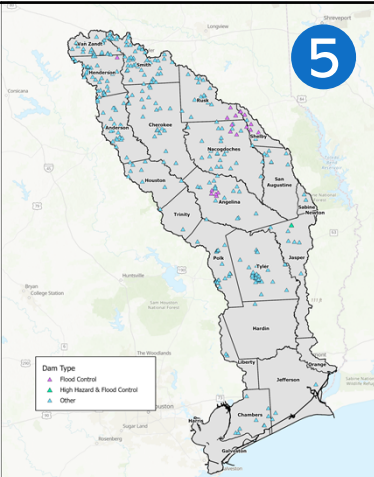
• Alex Parker (Hardin County)	• Whitney Howeth (Big Thicket National Preserve)
• Brad Wilber (Chambers County)	• Ellen Buchanan (Big Thicket National Heritage Trust)
• CD Woodrome (City of Ivanhoe)	• Christina Crockett (Anderson County)
• Rod Hutto (City of Kountze)	• Remington Witt (City of Beaumont)
• Kelley Holcomb (Angelina & Neches River Authority)	• Rob Starr (Lumberton MUD)
• Brian Havvorne (Chambers County)	• Leroy Hughes (City of San Augustine)
• Andrew Lee (TxDoT, Beaumont District)	• Linda Cathey (City of Vidor)
- 8 Public Responses
 - Lumberton/Silsbee Area



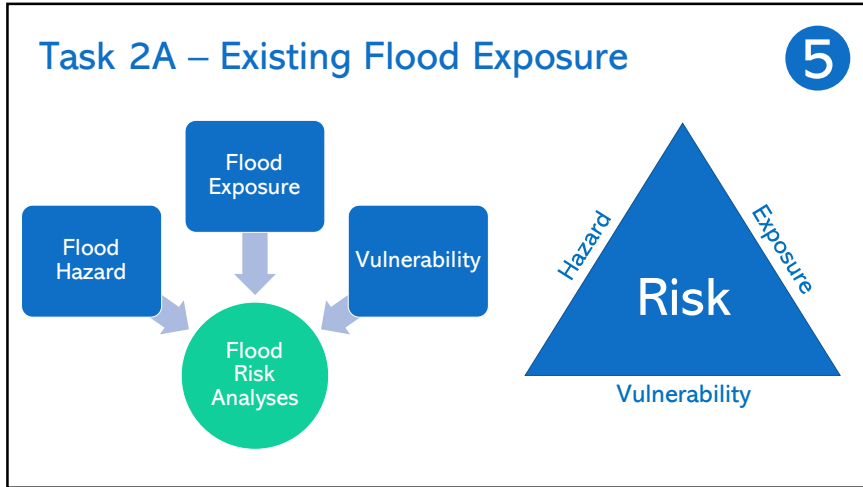
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Task 1 – Dam Inventory 5

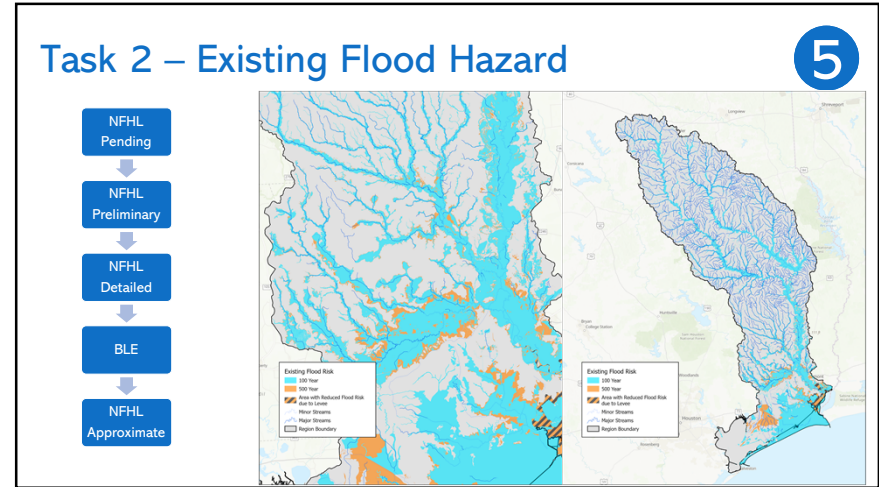
- 334 Dams Total
 - 1 High Hazard Dam
 - 19 Flood Control Dams
 - Other uses include Recreational, Irrigation, Water Supply, and Fire Protection



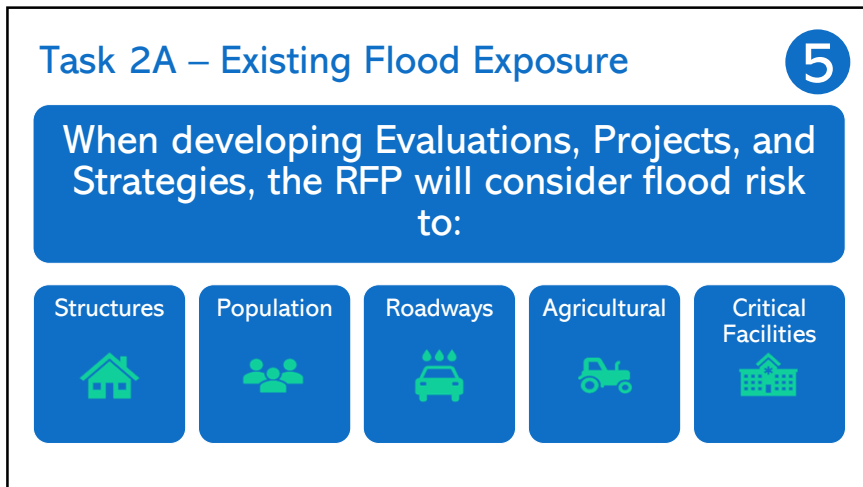
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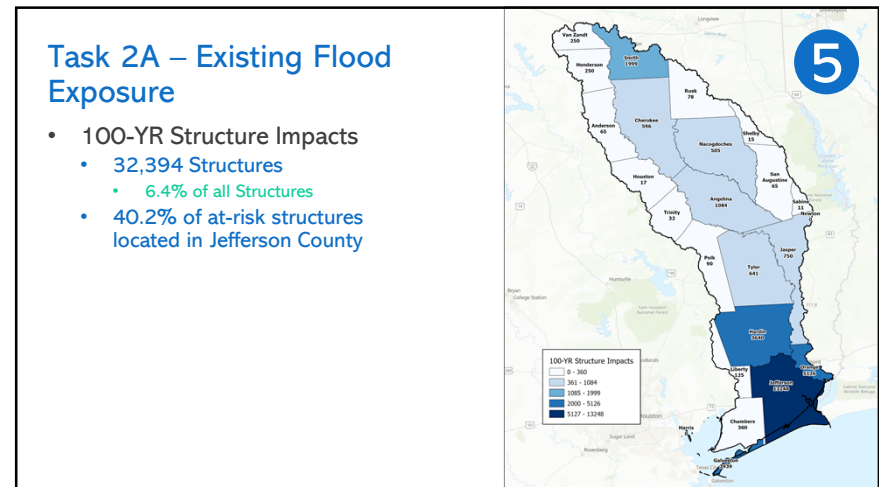
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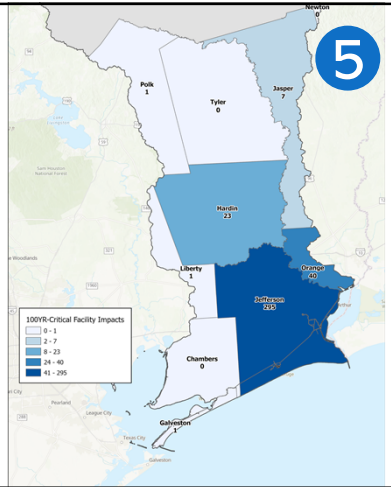
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Task 2A – Existing Flood Exposure

- 100-YR Critical Facilities within Lower Neches
 - 368 Critical Structures in 100-YR floodplain
 - 1,926 Critical Structures in 500-YR
 - 39% of Critical Structures in a flood hazard area
 - 90.6% of all at-risk Critical Structure located in Jefferson County

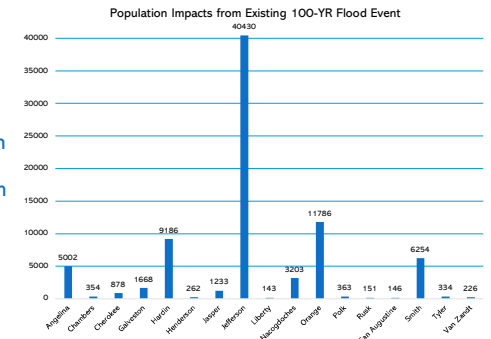


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Task 2A – Existing Flood Exposure

- 100-YR Impacts to Population
 - ~81,730 total population exposed to 100-YR flood event
 - Concentrated in areas of high development such as Jefferson, Orange, and Hardin County

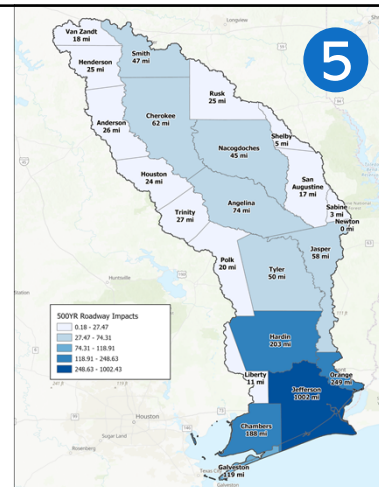


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Task 2A – Existing Flood Exposure

- 100-YR Roadway Impacts
 - 964 miles of potential roadway inundation in 100-YR event
 - 5.4% of all TxDOT roadways in region
 - 3,350 TxDOT road intersections with streams
 - 135 LWCs identified
- 500-YR Roadway Impacts
 - 2,230 miles of roadway inundation
 - 12.6% of all TxDOT roadways in region
 - 3,350 Total TxDOT road intersection with streams
 - 146 LWCs identified

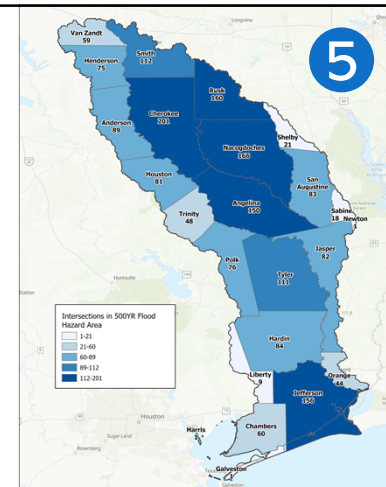


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Task 2A – Existing Flood Exposure

- Roadway Crossings in 100-YR
 - 1,619
- Roadway Crossings in 500-YR
 - 1,885

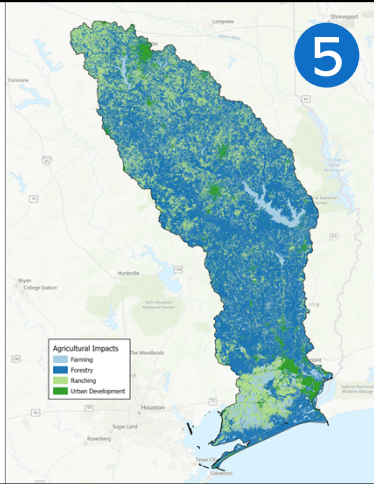


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Task 2A – Existing Flood Exposure

- Agricultural Impacts
 - 473 sq mi of Farming and Ranching land within 100-YR Flood Hazard Layer
 - 535 sq mi of Farming and Ranching land within 500-YR Flood Hazard Layer



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Task 2A – Existing Flood Exposure

- Agricultural Impacts

Land Classification	Area in Region (sq mi)	100-YR		500-YR	
		Area in Flood Hazard Layer (sq mi)	Total Exposed Property Value *(2020 USD)	Area in Flood Hazard Layer (sq mi)	Total Exposed Property Value *(2020 USD)
Farming	1,165	473	\$615M	535	\$695M
Forestry	7,167	1,970	N/A	2,126	N/A
Ranching	2,288	343	\$369M	438	\$471M
Urban Development	826	93	N/A	152	N/A

*based on Land Values 2020 Summary (USDA): \$2,030/ac (Cropland); \$1,680/ac (Pasture)

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Task 2A – Social Vulnerability Index

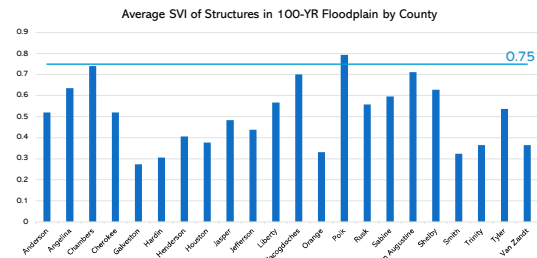
- Social Vulnerability Index (SVI) is intended as the proxy for resilience for this planning cycle
- FEMA defines vulnerability as the measure of the capacity to weather, resist, or recover from the impacts of a hazard in the long term as well as the short term
- U.S. Centers for Disease Control and Prevention (CDC) SVI ranks each Census tract (subdivisions of counties) on 15 social factors
 - Poverty
 - Lack of vehicle access
 - Crowded housing that influence a community's ability to prepare for, respond to, and recover from a disaster.

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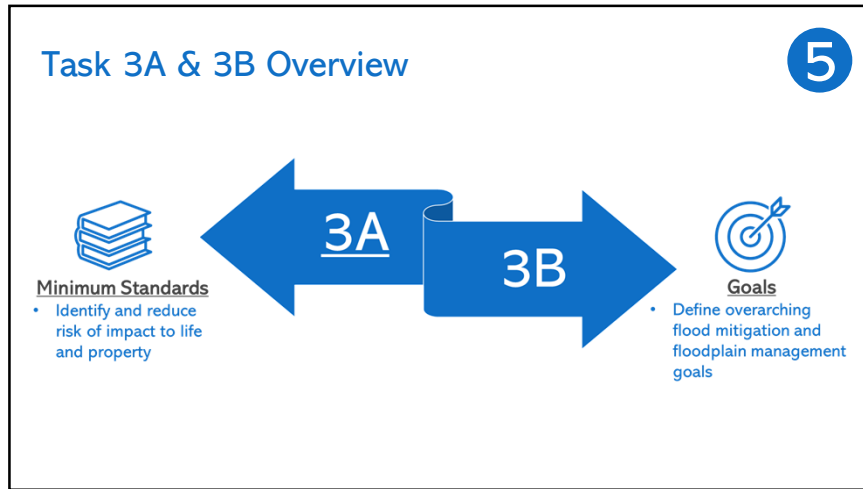
Task 2A – Vulnerability Analysis

- SVI used to identify communities that may need support before, during or after disasters
- Higher SVI indicates higher need for support
- **Polk County** with average SVI > 0.75

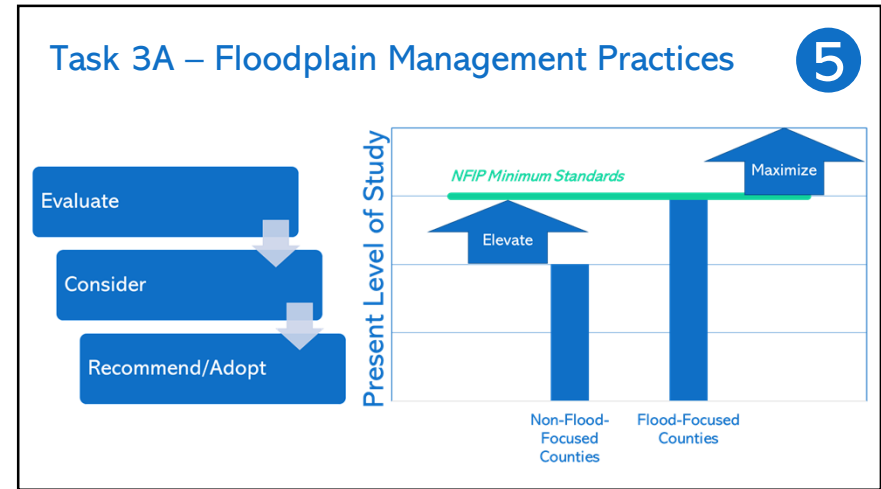


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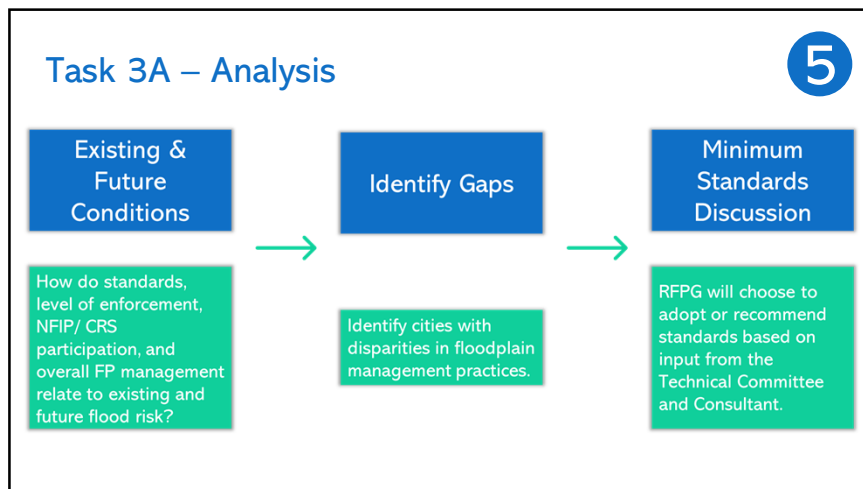
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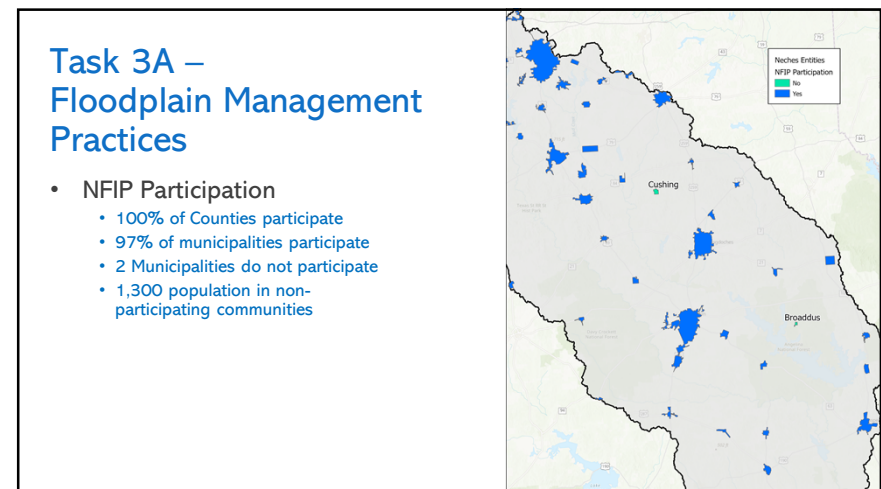
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Task 3B – Standards vs. Goals 5

Standards

- Establish consistent protocols for floodplain management that can be universally applied
- Examples:

Goals (today's discussion)

- Set specific timelines and goalposts to implement proven flood mitigation measures, reducing future risk for people and property.
- Must be measurable and have a timeframe!
- Examples:

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Task 3B – Flood Mitigation and Floodplain Management Goals 5

Specific & Achievable

Reduce Residual Risk

Recommended or Required

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

Regionwide Or Subregional

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Task 3B – Goal Timeline 5

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Task 3B – Significance of Goals 5

- Guides the Overall Approach of and Recommendations in the RFP
- 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 – SMART Goals 5

TWDB Technical Guidance Exhibit C:

“RFPs must identify specific and achievable flood mitigation and floodplain management goals that, when implemented, will demonstrate progress towards this overarching goal”




Specific
Measurable
Attainable
Relevant
Time-bound

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Task 3B – TWDB Table 10 5

Here's what was provided as a starting point

	Short Term (10 year)	Long Term (30 year)
1.	Reduce 5-year moving average of flood-related fatalities in the flood planning region by 50% by 2033.	Eliminate the occurrence of all flood-related fatalities in the flood planning region by 2053.
2.	Reduce 5-year moving average of flood-related injuries in the flood planning region by 75% by 2033.	Eliminate the occurrence of flood-related injuries in the flood planning region by 2053.
3.	Reduce exposure of existing structures in the current 1% annual chance floodplain by elevating, acquiring, relocating, or otherwise providing flood protection to 1,000 structures by 2033.	Reduce exposure of existing structures in the current 1% annual chance floodplain by elevating, acquiring, relocating, or otherwise providing flood protection to 10,000 structures by 2053.
4.	Remove 1% annual chance floodplain from the 5% of structures in the floodplain by 2033.	Remove 1% annual chance floodplain from 20% of structures in the floodplain by 2053.
5.	Remove 10% annual chance floodplain from 15% of low water crossings in the floodplain by 2033.	Remove 20% annual chance floodplain from 50% of low water crossings in the floodplain by 2053.
6.	By 2033, increase the coverage of flood hazard data across the region by completing studies in 50% of the areas identified as having current	By 2053, have complete coverage of flood hazard data across the region by completing studies in 100% of the areas identified as having current



Goal Categories


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Task 3B – Goal and FMP Overlap 5

From Exhibit C: Technical Guidance TWDB Project Ranking Criteria

- Flood Damage & Risk Reduction
- Life and Safety
- Nature-Based Solution
- Multiple Benefit (recreation, agriculture, transportation, etc.)
- Environmental Benefit & Impact
- Mobility

Specific
Measurable
Attainable
Relevant
Time-bound



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Task 3B – Goal Categories 5

Floodplain Preservation

Improve Data

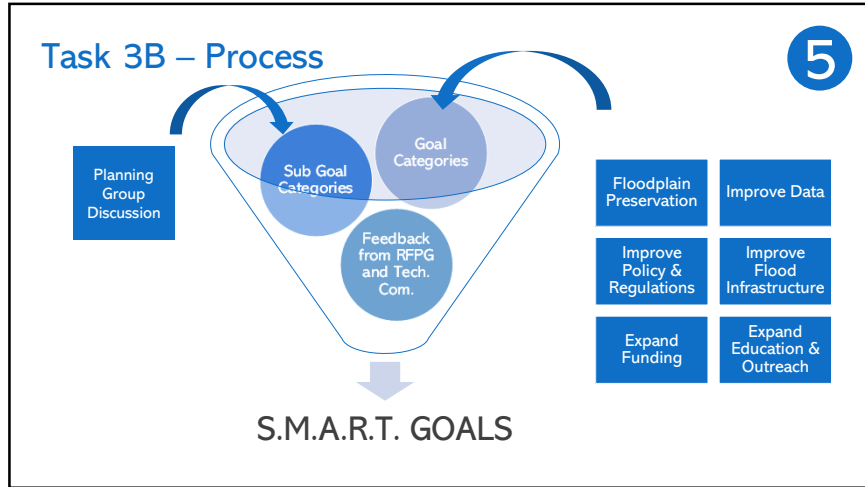
Improve Policy & Regulations

Improve Flood Infrastructure

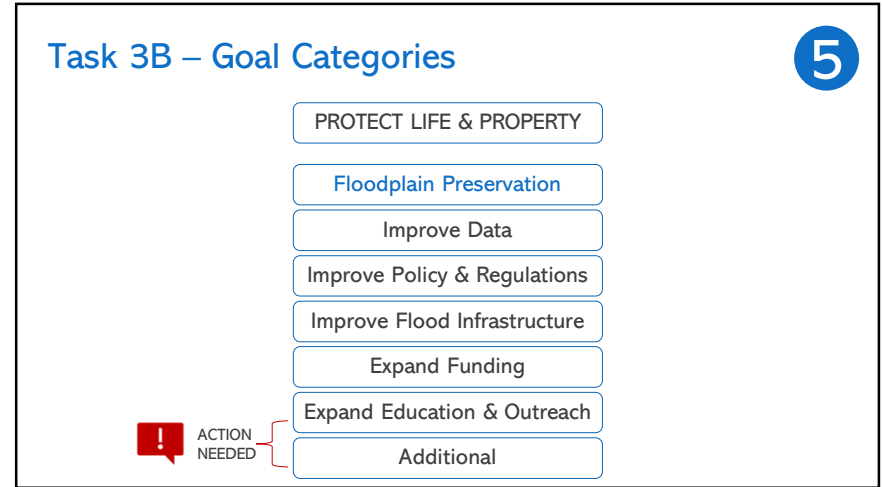
Expand Funding

Expand Education & Outreach

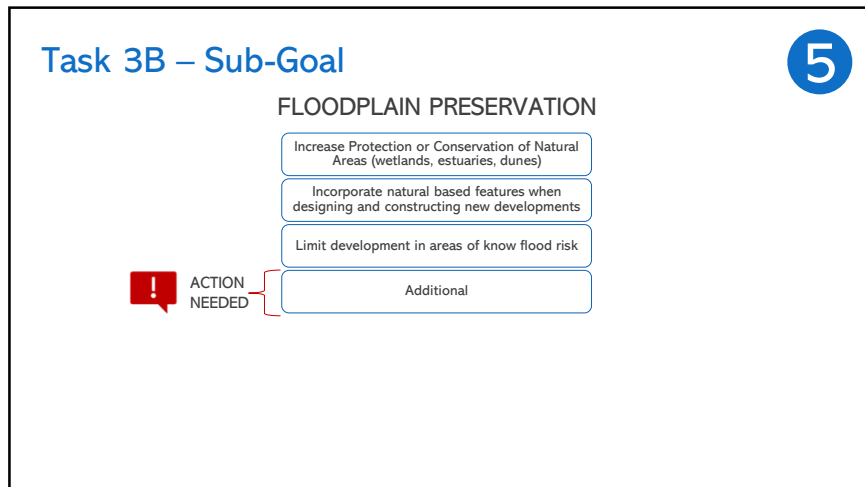
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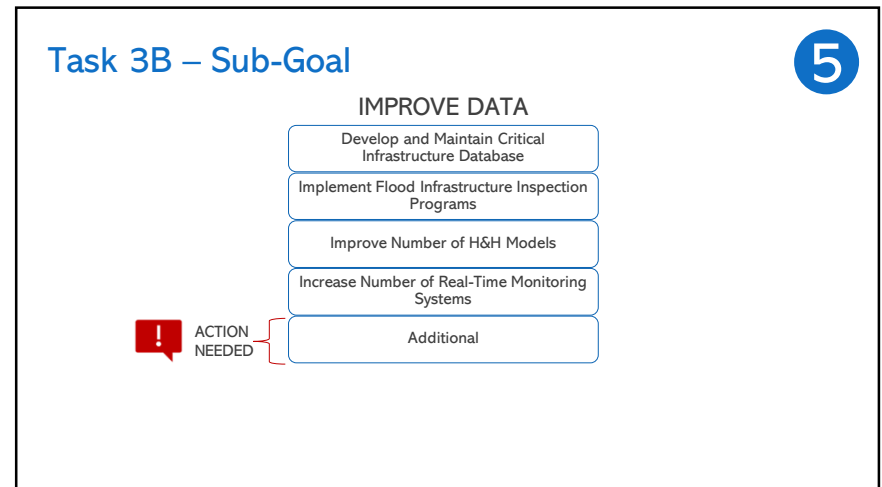
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Task 3B – Sub-Goal 5

IMPROVE POLICY AND REGULATIONS

- Increase Community NFIP/CRS participation
- Enhance local code, drainage criteria manuals and development standards (higher standards, land use ordinances)
- Improve enforcement of floodplain management regulations
- Improve interjurisdictional coordination
- Enhance and standardize floodplain management practice standards for neighboring communities
- Additional


 ACTION NEEDED

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Task 3B – Sub-Goal 5

IMPROVE FLOOD MITIGATION PROJECTS

- Increase sustainability and resiliency
- Incorporate use of green infrastructure /nature-based solutions
- Provide benefits to socially vulnerable and low/moderate income areas
- Provide multi-benefits to community, environmental and cultural resources
- Improve asset management, operation, and maintenance efforts
- Design future regional infrastructure for larger storm events
- Additional


 ACTION NEEDED

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Task 3B – Sub-Goal 5

EXPAND FUNDING

- Expand eligibility for and use of funding programs (Local, State, Federal, Public/Private Partnerships)
- Increase communities with dedicated stormwater funding mechanisms
- Encourage public-private partnerships
- Increase federal-local partnerships
- Additional


 ACTION NEEDED

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Task 3B – Sub-Goal 5

EXPAND EDUCATION & OUTREACH

- Improve flood awareness and disaster preparedness
- Increase number of flood insurance policyholders
- Encourage individuals to purchase flood insurance
- Increase pipeline of flood professionals
- Improve participation from public and stakeholders in flood planning processes
- Additional

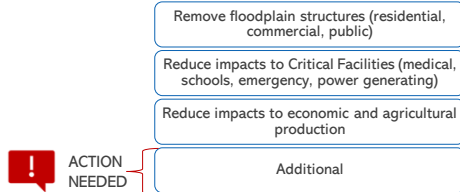
 ACTION NEEDED

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Task 3B: Sub-Goal

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PROTECT PROPERTY



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Task 3B – MENTIMETER – Interactive Session

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Transfer to Mentimeter

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Upcoming Discussions in October

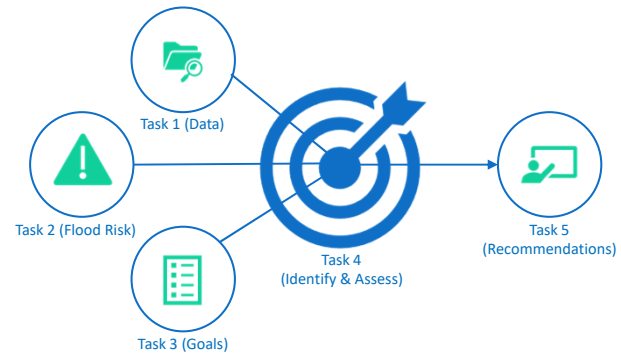
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- Task 4 – Flood Mitigation Needs Analysis
 - Task 4A – Mitigation Needs Analysis
 - Identify most flood-prone areas
 - Identify knowledge gaps and areas with emergency need
 - Task 4B – Flood Management Evaluations (FME), Flood Management Strategies (FMS), Flood Mitigation Projects (FMP)
 - **FME:** Watershed planning (H&H Analyses, Mapping Updates, Regional studies, etc.
 - **FMS:** Strategies which can be implemented to reduce risk of flooding, freeboard requirements, no adverse impact, etc.
 - **FMP:** Bridge improvements, dam improvements, flood walls, levees, channel improvements, regional detention, property acquisition, flood readiness and resilience, etc.

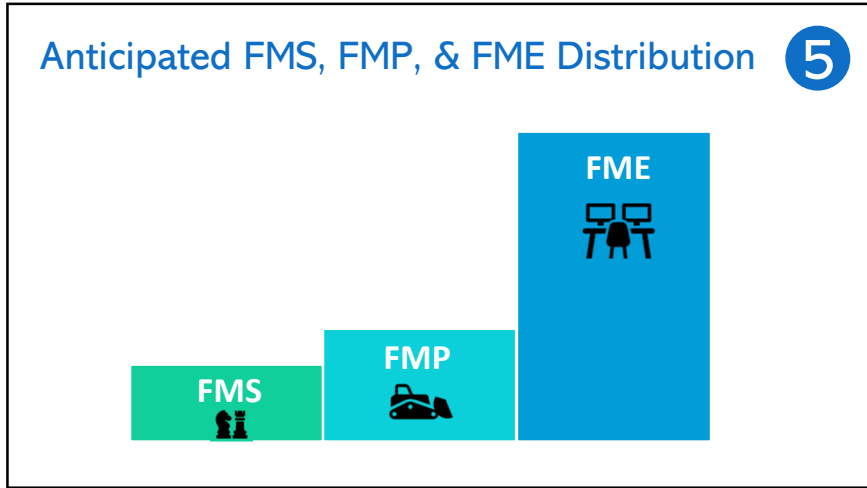
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Task 4B: Identify FME, FMS, & FMP

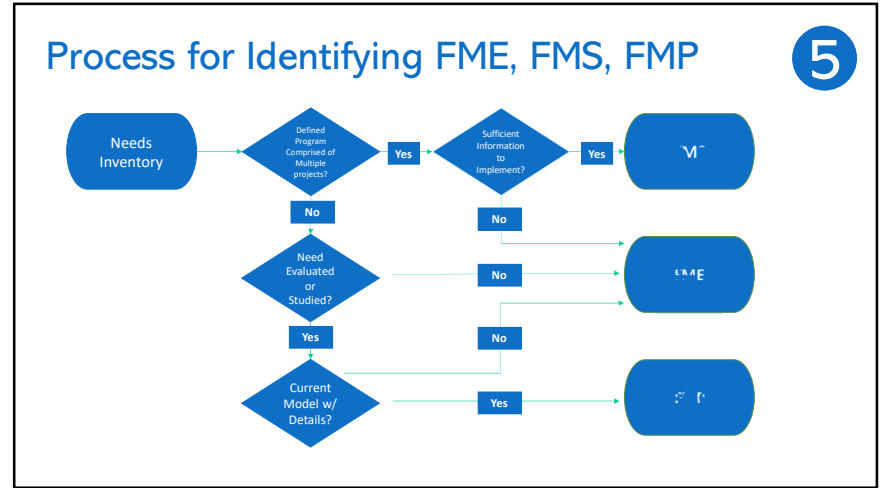
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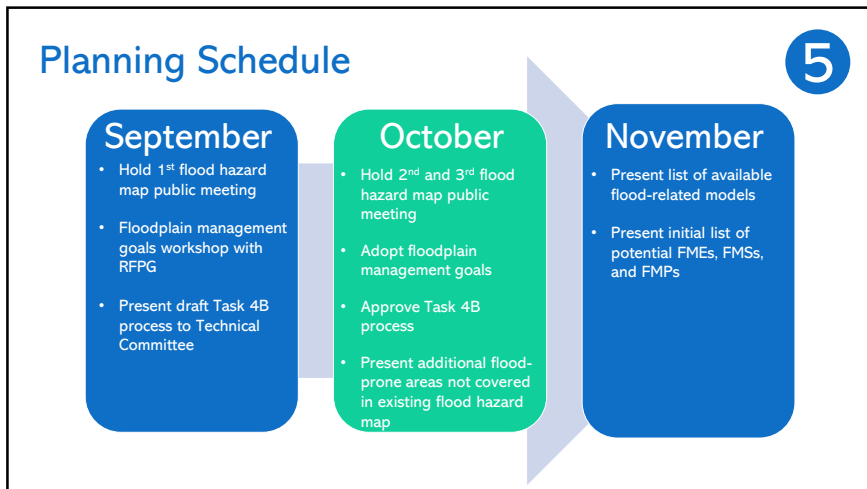
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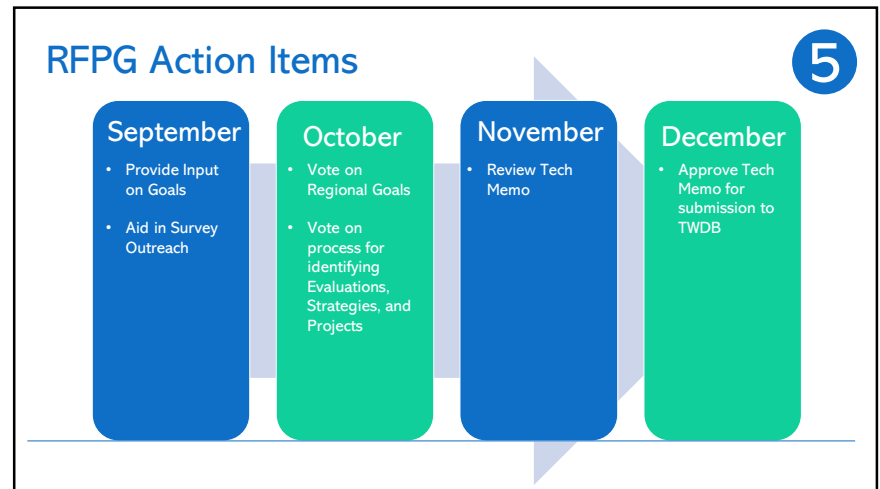
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