



River Basin Flood Studies

A Coordinated Approach to Flood Risk Management Leveraging the Alternatives Analysis

As part of the Texas General Land Office's (GLO) **River Basin Flood Study (RBFS)**, regions leveraged baseline modeling and other best-available data to identify flood-prone areas within the modeled extents (called "hot spots") and grouped them into broader mitigation areas to advance regional-scale mitigation projects where possible. For each mitigation area, the regions identified and screened possible flood mitigation concepts, including structural, non-structural, and nature-based solutions, tailored to each mitigation area; created and evaluated alternatives to address the flooding source and associated mitigation objective; and recommended one or more alternatives most likely to succeed in funding acquisition and implementation.

Why It Matters

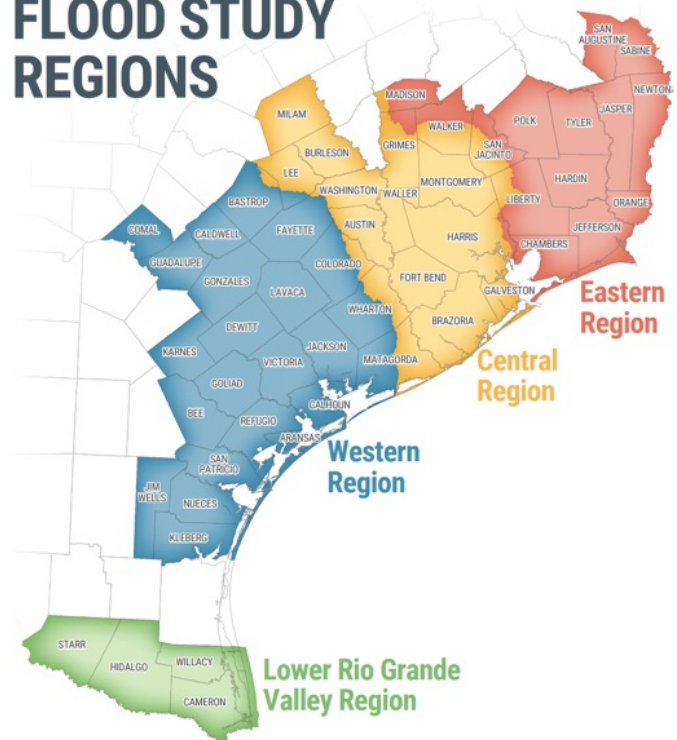
Results in a Defensible Alternative: Identifies a recommended alternative for each mitigation area based on engineering evaluations.

Determines Best Value: Compares flood mitigation options to optimize cost versus benefit.

Incorporates Community Preference: Combines community input with technical feasibility.

Allows Local Sponsors to Apply for Grant Funding: Complies with requirements of typical grant funding applications.

FLOOD STUDY REGIONS



How Communities can Leverage the Alternatives Analysis

- Sponsor a recommended alternative to facilitate implementation, incorporating the results into a grant funding application.
- Update the "proposed conditions" model throughout detailed design to ensure no adverse impact on adjacent communities and that the alternative continues to address the identified objective.
- Use the evaluation as a framework to identify and evaluate additional mitigation concepts to be applied in other geographic areas, as conditions change or to justify why certain concepts will not be implemented.

Accessing Information Associated with the Alternatives Analysis

Recommended alternative modeling packages will be available from the Texas Disaster Information System (TDIS) Data Modeling and Query Tool (DMQT): [dmqt.cloud.tdis.io](https://cloud.tdis.io). Files available for download include hydrologic & hydraulic models, the associated report, modeling results, supporting data, and geospatial files.

Modeling efforts developed for alternatives not recommended will be available upon request of the Texas Disaster Information System.

Alternatives Analysis At-A-Glance

Flood Prone Area Identification

Baseline models and other best-available data are used to identify areas prone to flooding within the modeled extents, which were grouped into broader mitigation areas. The River Basin Flood Study includes evaluation specific to a total of more than 70 mitigation areas.



Identification of Flood Source and Objective

Previous and ongoing efforts enable discovery of flooding sources and allow regions to define objectives to be addressed by the recommended alternative(s).



Identification and Screening of Mitigation Concepts

Information specific to each mitigation area results in potential mitigation concepts that are then screened for technical feasibility, cost-effectiveness, and community support.



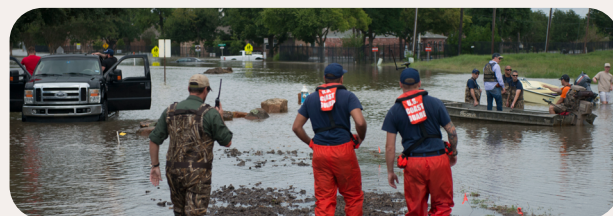
Creation and Evaluation of Diverse Alternatives

Mitigation concepts are combined, where feasible, to create alternatives to be evaluated using hydrologic and hydraulic modeling. Results determine technical feasibility and possible benefits, as well as constructibility and potential cost.



Refinement of Recommended Alternative

Once the recommended alternative has been chosen, the alternative is further refined and optimized based on typical grant funding requirements.



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