COASTAL TEXAS PROTECTION AND RESTORATION STUDY: COASTAL STORM RISK MANAGEMENT AND ECOSYSTEM RESTORATION NEEDS FOR MORE RESILIENT TEXAS COAST.

Dianna Ramirez
Texas General Land Office 11811 North D Street
La Porte, TX 77571
Caroline McCabe
Regional Planning and Environmental Center U.S. Army Corps of Engineers
2000 Fort Point Road, Galveston, Texas 77550

Introduction:

 The U.S. Army Corps of Engineers, in partnership with the Texas General Land Office, began an examination in November 2015 of the feasibility of constructing projects for coastal storm risk management and ecosystem restoration along the Texas coast. The Coastal Texas Protection and Restoration Feasibility Study, also known as the Coastal Texas Study, involves engineering, economic and environmental analyses of large-scale projects, to be considered by Congress for authorization and funding. The feasibility study and report will be complete in 2021.

1. Objectives:

Two main purposes of the study are Coastal Storm Risk Management (CSRM) and Ecosystem Restoration (ER). The goal of CSRM is to promote a sustainable economy by reducing the risk of storm damage to residential structures, industries and businesses critical to the nation's economy. Objectives include reducing storm surge impacts such as economic damage, risk to human life and risks to critical infrastructure; enhancing energy security (petrochemical supply-related interruption) and reducing related economic impacts; increasing coastal resilience; managing regional sediment; and enhancing and restoring coastal geomorphology. The goal of ER is to promote a sustainable coastal ecosystem by minimizing future land loss, enhancing wetland productivity, and providing and sustaining diverse fish and wildlife habitats. The objectives used to achieve this purpose include restoring size and quality of fish and wildlife habitats; improving hydrologic connectivity into sensitive ecosystems; reducing erosion; creating, restoring, and nourishing oyster reefs; and managing regional sediments.

2. Project Overview:

The Coastal Texas Study was authorized by Section 4091, Water Resources Development Act (WRDA) of 2007 Public Law (P.L.) 110-114. The Study is authorized to develop a comprehensive plan to determine the feasibility of carrying out projects for flood damage reduction, hurricane and storm damage reduction, and ecosystem restoration in the coastal areas of the State of Texas. The plan shall provide for the protection, conservation, and restoration of wetlands, barrier islands, shorelines, and related lands and features that protect critical resources, habitat, and infrastructure from the impacts of coastal storms, hurricanes, erosion, and subsidence. To meet CSRM and ER objectives and goals multiple alternatives were developed to address specific issues related to storm surge damage and ecosystem restoration. Following NEPA protocol, the alternatives were evaluated and analyzed.   For

the CSRM measures direct and indirect impacts were evaluated to determine which alternative should move forward for further analysis. The Draft Feasibility and Environmental Impact Statement will be released this fall for public comment. The CSRM alternatives that are distinctly different approaches to the coastal storm risk included structural features along the outermost coast, mid-bay and along the bay perimeter.
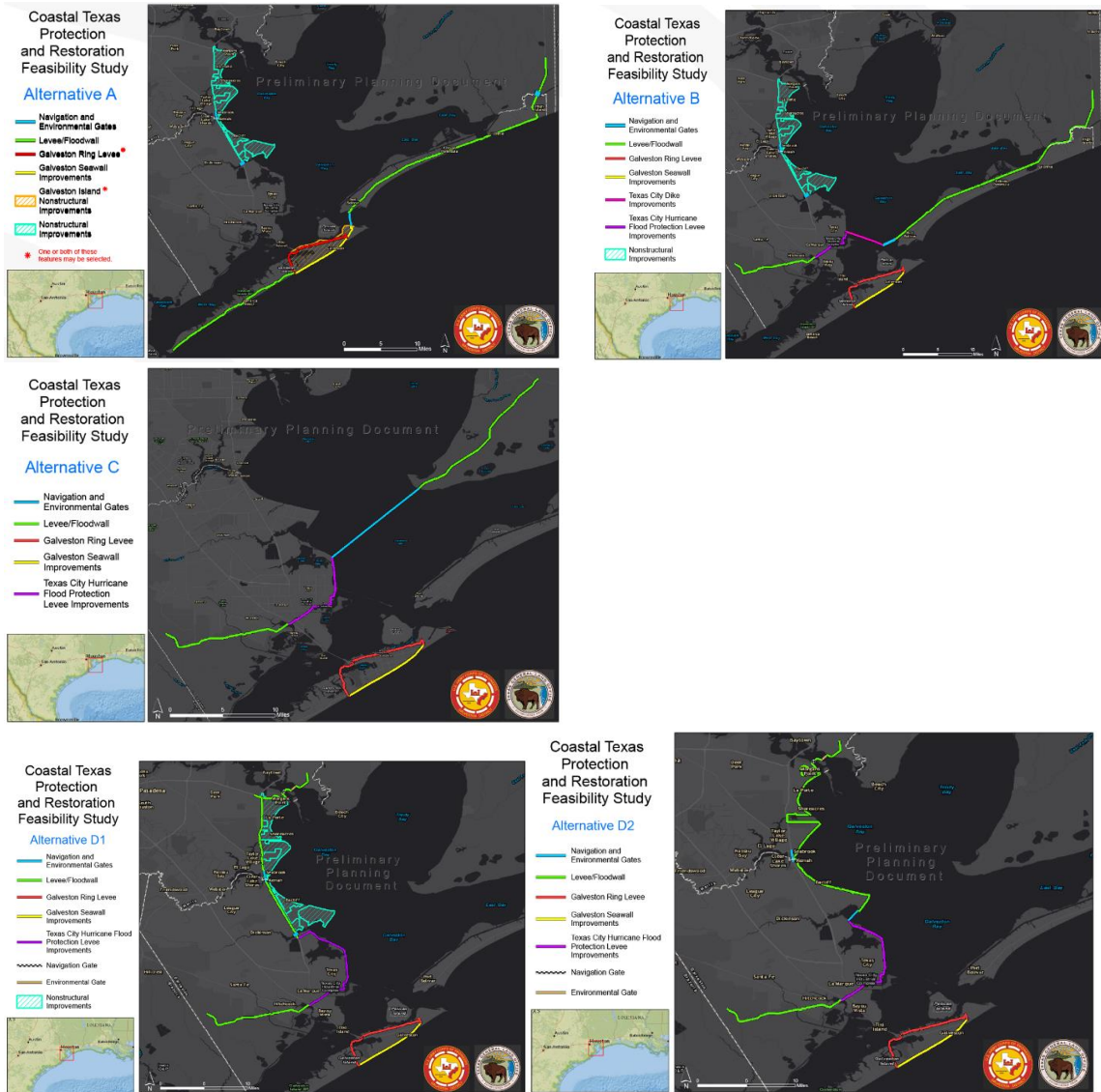
Ecosystem Restoration measures were scoped and then screened by the project delivery team and an interagency team to narrow the list to actions that are most productive and appropriate for this study. A total of nine (9) ER measures moved forward for analysis and were combined into six (6) alternatives based on secondary goals related to resiliency. The alternatives are as follows: Alternative 1 – Coastwide all-inclusive restoration (shown below which includes all 9 measures); Alternative 2 – Restore Critical Geomorphic Landscapes; Alternative 3 – Restore the Barrier System; Alternative 4 – Restore the Bay Systems;

Alternative 5 – Restore Features that Contribute to CSRM plans; and Alternative 6 – Top Performers (Combination of measures included in at least 4 other alternatives).