COASTAL**TEXAS** STUDY

Community Work Group Fact Sheet

Version 1.8, Updated August 15, 2019

Key Study Facts:

These key talking points are expanded on in the following pages.

1) The Coastal Texas Protection and Restoration Feasibility Study, also known as the Coastal Texas Study, involves engineering, economic, and environmental analyses on large-scale civil works projects.

2) The purpose of the Coastal Texas Study is to identify coastal storm risk management (CSRM) and ecosystem restoration (ER) measures that would protect the health and safety of Texas coastal communities, reduce the risk of storm damage to industries and businesses critical to the Nation's economy, and address critical coastal ecosystems in need of restoration.

3) The goal of the Coastal Texas Study is to form a system of resilient, robust, and adaptable projects that will work in conjunction with each of the specific areas of the Texas coast.

4) The Coastal Texas Study's history began in 2007 with congressional authorization to identify and evaluate a comprehensive plan for the restoration and conservation of wetlands, barrier islands, shorelines, and related lands and features that protect critical resources, habitat, and infrastructure from the impacts of coastal storms, erosion, and subsidence. The Coastal Texas Study team is comprised of the USACE and Texas General Land Office (GLO) and their engineering, environmental, and public outreach consultants.

5) The Coastal Texas Study team is comprised of the USACE and GLO, and their public outreach consultants.

6) The Coastal Texas Study is approximately halfway through a 5.5-year study process.

7) The Tentatively Selected Plan (TSP) is not a final plan.

8) The Coastal Texas Study area encompasses 18 coastal counties.

9) Prior and ongoing studies are being considered during the Coastal Texas Study process.

10) The Coastal Texas Study is the only federal study of its kind to truly examine what can be done to restore ecological habitats in the study area.

11) The Coastal Texas Study has already begun considering the feedback received during the public review and comment period for the Draft Integrated Feasibility Report and Environmental Impact Statement (DIFR-EIS) that concluded on February 8, 2019.

12) The total cost for the projects proposed in the TSP is approximately $23 to $32 billion.

13) Over 600 storms that could potentially impact the Texas coast were modeled and analyzed with the purpose of informing the placement and design of the coastal storm risk management alternatives and ecosystem restoration measures proposed through the Tentatively Selected Plan.

14) The Coastal Texas Study investigated five CSRM Alternatives within the Houston/Galveston area.

15) The Coastal Texas Study utilizes a "multiple lines of defense" approach/strategy.

16) Texas fuels the nation, with much of this activity taking place around the Houston area. This coastal infrastructure is critical to our national economy, and it is imperative to improve coastal protection measures to ensure our state's and nation's stability for years to come.

17) Public comments are accepted throughout the life of the study.

Expanded Study Facts:

1) ***The Coastal Texas Protection and Restoration Feasibility Study, also known as the Coastal Texas Study, involves engineering, economic, and environmental analyses on large-scale civil works projects.***

    a. The Coastal Texas Study is comprised of two key parts: An Environmental Impact Statement, which studies what impacts the proposed projects might have on the environment and wildlife, and a draft proposal for what preventive, actionable projects we can build to protect the coast and its inhabitants. The Coastal Texas Study currently recommends both man-made and natural barriers to help prevent storm surge from causing extensive damages to our coastline. The preference is to use as many natural barriers as possible.

    b. Several key problems have been identified during the creation of the Coastal Texas Study:

        i. Costly damage from coastal storm surge;
        ii. Inland shoreline erosion;
        iii. Gulf shoreline erosion;
        iv. Loss of threatened and endangered critical habitats; and
        v. The disrupted flow of water systems.

2) ***The purpose of the Coastal Texas Study is to identify coastal storm risk management (CSRM) and ecosystem restoration (ER) measures that would protect the health and safety of Texas coastal communities, reduce the risk of storm damage to industries and businesses critical to the Nation's economy, and address critical coastal ecosystems in need of restoration.***

    a. The Texas coast is subject to coastal erosion, relative sea level rise, coastal storm surge, habitat loss, and water quality degradation. These coastal hazards are placing the environmental and economic health of the coast at risk, which can negatively impact the state and national economy. In addition, events such as Hurricane Rita, Hurricane Ike, and Hurricane Dolly cause further ecological and economic devastation to the Texas coast, and emphasize the need for enhanced protection of the coast to prevent future damage and loss.

    b. This study is a critical effort with regional and national significance because the risk of flood, hurricane, and storm damage in the study area generate impacts that extend farther than the Texas Gulf Coast.

    c. As a powerful economic engine and an invaluable environmental treasure, the Texas coast is vital to the success of the State and the Nation. Its natural resources such as beaches, dunes, wetlands, oyster reefs, and rookery islands play a critical role in protecting coastal communities from storm surge and flooding.

    d. These natural resources also contribute to the state and national economies by safeguarding and supporting industries such as petroleum refining, petrochemical, chemical and plastics manufacturing, waterborne commerce through the expansive network of Texas ports, commercial and recreational fishing, and tourism.

3) ***The goal of the Coastal Texas Study is to form a system of resilient, robust, and adaptable projects that will work in conjunction with each of the specific areas of the Texas coast.***

    a. Coastal Storm Risk Management (CSRM) – Develop and evaluate coastal storm risk reduction measures for coastal Texas residents, industries, and businesses which are critical to the nation's economy.

    b. Ecosystem Restoration (ER) – Increase the net quantity and quality of coastal ecosystem resources by maintaining, protecting, and restoring coastal Texas ecosystems and fish and wildlife habitat.

c. Study objectives include:

      i. Reduce economic damage;
     ii. Reduce risk to critical infrastructure;
    iii. Reduce risk to public health and safety;
    iv. Increase coastal resilience;
     v. Enhance and restore coastal landforms;
    vi. Improve hydrologic connectivity; and
   vii. Improve and sustain coastal marshes and bay shorelines.

4) *The Coastal Texas Study's history began in 2007 with congressional authorization to identify and evaluate a comprehensive plan for the restoration and conservation of wetlands, barrier islands, shorelines, and related lands and features that protect critical resources, habitat, and infrastructure from the impacts of coastal storms, erosion, and subsidence. The Coastal Texas Study team is comprised of the USACE and Texas General Land Office (GLO) and their engineering, environmental, and public outreach consultants.*

a. In 2001, the Sabine Pass to Galveston Study was authorized by Congress and focused on shoreline erosion and ecosystem restoration in Galveston and Jefferson Counties.

b. In 2007, Congress authorized the Coastal Texas Study, but with no appropriations.

c. In 2009, the impacts from Hurricane Ike required the Sabine Pass to Galveston Study to be put on hold.

d. In early 2013, the GLO became the non-Federal Sponsor for the Sabine Pass to Galveston Study, and the study's scope was altered to include the six-county area of the Upper Texas Coast (Brazoria, Chambers, Galveston, Harris, Jefferson, and Orange Counties).

e. In late 2013, the Sabine Pass to Galveston Study's scope was reduced to Jefferson, Orange and Brazoria Counties. It was anticipated that CSRM alternatives for Harris, Galveston and Chambers counties could be studied in the upcoming Coastal Texas Study.

f. In 2014, Congress appropriated funds for the USACE and GLO to undertake a reconnaissance study for the Coastal Texas Study. Four public scoping meetings were held in four separate coastal communities (Corpus Christi, League City, Palacios, and South Padre Island) at this time.

g. In 2015, the USACE, in partnership with the GLO, began an examination of the feasibility of constructing projects for coastal storm risk management and ecosystem restoration along the Texas coast.

h. In 2016, the Coastal Texas Study kicked off, encompassing 18 Texas coastal counties.

i. In 2017 the Sabine Pass to Galveston Study was completed and received appropriations in 2018 to go into design and construction.

j. In 2018, seven public meetings were held along the Texas coast for the Coastal Texas Study (Clear Lake, Corpus Christi, Crystal Beach, Galveston, Port Isabel, Port Lavaca, and Winnie).

5) *The Coastal Texas Study team is comprised of the USACE and* **Texas General Land Office (GLO), and their public outreach consultants.**

a. The USACE is the Federal Sponsor and the lead agency of the DIFR-EIS.

b. The GLO is the non-Federal Sponsor for the study. The GLO has actively participated in the development and evaluation of problems, opportunities, and alternatives.

6) *The Coastal Texas Study is approximately halfway through a 5.5-year study process.*

a. Following the release of the DIFR-EIS in fall 2018, the Study team sought public comments on the DIFR-EIS, and on the TSP, at seven public meetings along the Texas coast and through mail and email comments to the

Study team. In addition to considering comments from the public, the Study team sought input from Federal, State, and local agencies and Tribal Nations, and through an Independent External Peer Review.

b. The Study team has been reviewing and addressing comments following the end of the DIFR-EIS comment period on February 8, 2019.

c. In the next phase, the Study team will work to minimize and avoid impacts that are identified in the public comments received during the public review and comment period for the DIFR-EIS. Once more details of an improved engineering design that reduces impacts is available, it will be provided for public review and comments again during late summer 2020. The USACE and the GLO will then take this second round of comments and study those before finalizing the report. At that point, it will be submitted to the U.S. Congress for approval and funding for detailed design and construction.

d. Congress typically approves a Water Resource Development Act (WRDA) every two years. WRDA is law that authorizes the USACE to study and construct projects. Most likely, the first opportunity for Congress to authorize the Coastal Texas proposal will be WRDA 2022. But that is just the first step Congress must take. Following Congressional authorization of the Coastal Texas Study, Congress must then vote to fund the study's proposed projects. The current estimated cost for all the projects is anywhere from $23 to $32 billion. It is highly unlikely that Congress will appropriate all these funds in one bill. It is much more likely that they break the construction funding down into phases of $3 billion to $5 billion.

7) **The Tentatively Selected Plan (TSP) is not a final plan.**

a. A Tentatively Selected Plan is a draft proposal that represents the USACE's current recommendation at this stage in the study process. It is not in any way a final plan. At this stage in the study, the USACE presents its finding to the public to solicit comment on its recommendation. It will later, in conjunction with the GLO, consider the publicly made comments and study the suggestions to adjust the proposal to better meet the needs of the locally impacted area.

8) **The Coastal Texas Study area encompasses 18 coastal counties.**

a. The study area consists of the entire Texas Gulf Coast from the mouth of the Sabine River to the mouth of the Rio Grande, and includes the Gulf and tidal waters, barrier islands, estuaries, coastal wetlands, rivers and streams, borrow sources, and adjacent areas that make up the interrelated ecosystems along the coast of Texas.

b. For study purposes, these coastal counties have been divided into four sections:

    i. Upper Texas Coast: encompasses the Sabine Pass to Galveston Bay area and includes Orange, Jefferson, Chambers, Harris, Galveston, and Brazoria counties
    ii. Mid to Upper Texas Coast: comprised of the Matagorda Bay area and includes Matagorda, Jackson, Victoria, and Calhoun counties
    iii. Mid Texas Coast: encompasses the Aransas Bay, Copano Bay, Corpus Christi Bay and Baffin Bay areas and includes Aransas, Refugio, San Patricio, Nueces, and Kleberg counties
    iv. Lower Texas Coast: encompasses the Lower Laguna Madre and South Padre Island area and includes Kenedy, Willacy, and Cameron counties

9) **Prior and ongoing studies are being considered during the Coastal Texas Study process.**

a. Several studies conducted by others were carefully considered, and many ideas were used to craft the Coastal Texas Study TSP:

    i. Rice University's Severe Storm Prediction and Evacuation from Disasters (SSPEED) Center
    ii. The Gulf Coast Community Protection and Recovery District (GCCPRD)
    iii. Texas A&M University at Galveston Ike Dike Study
    iv. The GLO's Coastal Resiliency Master Plan

v. The USACE and GLO Sabine Pass to Galveston Bay Study

b. Consideration of similar studies is required by the Water Infrastructure Improvements for the Nation Act of 2016.

10) *The Coastal Texas Study is the only study of its kind to truly examine what can be done to restore ecological habitats in the study area.*

a. Unlike the studies by Texas A&M University Galveston, the Rice University SSPEED Center and the study completed by the Gulf Coast Community Protection and Restoration District (GCCPRD), the Coastal Texas Study is the only study to include a National Environmental Policy Act (NEPA)-compliant Environmental Impact Statement. This federal requirement allows us to consider the effects the potential projects might have on the wildlife of the coast and the environment. National security interests are also researched during the environmental study.

b. The Coastal Texas Study is unique in this respect, as it is the only study of its kind to truly examine what we can do to restore the ecological habitats in surrounding areas. As storms continue to confront the Texas coastline, specific impacts, such as continual erosion, affect our wildlife areas, wetlands and barrier islands. Future forecasts project increased coastal flooding, shoreline erosion, saltwater intrusion and loss of wetland habitats. The Coastal Texas Study can give us a roadmap on how to withstand these forces, so our coast will continue to thrive into future generations.

c. The proposed ecosystem restoration measures of the Coastal Texas Study include large scale projects that protect critical geological features through restoration, enhancement and creation of marsh, islands, dunes, beaches, and oyster reefs along the Texas coast.

d. While it is virtually impossible to construct anything in Galveston Bay without at least some temporary impacts to water quality, the Study team is working with experts from around the world to minimize and hopefully avoid long term impacts to water quality in Galveston Bay. Mitigation projects, separate from the ecosystem restoration projects, will be implemented with the intention of offsetting any adverse impacts.

11) *The Coastal Texas Study has already begun considering the feedback received during the comment period for the Draft Integrated Feasibility Report and Environmental Impact Statement (DIFR-EIS) that concluded on February 8, 2019.*

a. Based on the feedback received during the public review and comment period for the DIFR-EIS, the Study team is:

   i. Providing a second public review and comment period that is anticipated to be held during late summer 2020;
   ii. Completely dropping the barrier levee along Bolivar Peninsula and Galveston Island from the study and investigating a dune-and-beach system along the beach of Bolivar Peninsula and west Galveston Island, including investigation of a clay-core dune system;
   iii. Re-aligning the Galveston Ring Barrier;
   iv. Evaluating non-structural measures on the west side of upper Galveston Bay;
   v. Exploring the utility of gates at Clear Creek and Dickinson Bayou;
   vi. Continuing to meet with Rice University's SSPEED Center and Texas A&M at Galveston to understand the differences between their proposals;
   vii. Hosting an International Storm Surge Gate Design Workshop;
   viii. Establishing GLO-led Community Work Groups; and
   ix. Further investigating gate at San Luis Pass.

12) *The total cost for the projects proposed in the TSP is approximately $23 to $32 billion.*

a. This total cost estimate includes:

     i. Storm surge barrier system in the upper coast ($14.2 to $19.9 billion)
    ii. Ecosystem restoration throughout the coast ($8.9 to $11.9 billion)
   iii. Storm surge protection for South Padre Island ($71.6 to $83.1 million)

b. It is estimated that approximately $110 to $150 million per year would be required for operations and maintenance. This estimate could be either reduced or increased as the proposal is refined in the next study phase.

c. Operations and maintenance are a non-federal responsibility which means it will be the state or a not yet identified local entity that will take on this responsibility. The Texas Legislature will determine which entity will be the non-federal sponsor for operations and maintenance of the proposed structures once the projects proposed by the Study are authorized for funding by Congress.

d. Non-federal sponsors can utilize one or a combination of the following means to fund its share of a project or study:

     i. Tax receipts or other revenues;
    ii. Bonds, including general obligation bonds, limited or special obligation bonds, and revenue bonds;
   iii. Grants and loans from federal, state, or other government agencies or financial institutions (certain federal funds may be prohibited for use in a non-federal match);
   iv. Cash donations and contributions from potential project beneficiaries and interested parties; and
    v. Cash on hand.

13) *Over 600 storms that could potentially impact the Texas coast were modeled and analyzed* with the purpose of informing the placement and design of the coastal storm risk management alternatives and ecosystem restoration measures proposed through the Tentatively Selected Plan*.*

a. These possible tropical storms include the entire range of storm factors, such as storm intensity, storm size, forward speed and angle of approach on top of the landfall locations along the entire Texas coast. The storms range from very weak and small tropical storm events all the way to catastrophically strong and large Category 5 storms and beyond. Based on this data, a sample of 170 storms were taken through the Advanced Circulation model (ADCIRC – Certified by the Federal Emergency Management Agency (FEMA) for use in performing storm surge analyses) to determine storm surge heights with and without the barrier systems. The storms that were selected were the most destructive scenarios for storm surge and wave conditions.

b. Additional storm modeling is currently being conducted to optimize the plan.

14) *The Coastal Texas Study investigated five CSRM Alternatives within the Houston/Galveston area.*

a. To investigate CSRM for the Galveston Bay area, the Study team developed alternatives based on the vulnerabilities facing the upper coast region and the opportunities to reduce storm surge damage to the area. Measures were combined to form five CSRM Alternatives described in the DIFR-EIS. All Alternatives also include a ring barrier around the City of Galveston to reduce risk from back bay flooding due to tropical storms. For all Alternatives, the Study team also investigated the connections between ER features and CSRM features by reviewing the beach and dune restoration features along Bolivar Peninsula and Galveston Island. The ER features should also increase the resiliency of the CSRM features. The five CSRM Alternatives investigate include:

     i. Alternative A: Coastal Storm Surge Barrier
    ii. Alternative B: Coastal Storm Surge Barrier (Modified)
   iii. Alternative C: Mid Bay Storm Surge Barrier
   iv. Alternative D1: Upper Bay Storm Surge Barrier (146 alignment)
    v. Alternative D2: Galveston Bay Rim Storm Surge Barrier

b. Alternative A: Coastal Storm Surge Barrier is the alternative identified in the TSP.

15) The Coastal Texas Study utilizes a "multiple lines of defense" approach/strategy.

a. Employing three primary strategies – avoid, accommodate, and preserve – coastal communities should consider a system of comprehensive, resilient, and sustainable coastal storm risk management solutions. The system would include a combination of measures (structural, natural and nature-based features, and non-structural) to form resilient, redundant, robust, and adaptable strategies that promote life safety based on local site conditions and societal values. To achieve a multiple lines of defense approach, the Coastal Texas Study evaluates the following coastal problems:

   i. Economic damage from coastal storm surge;
   ii. Inland shoreline erosion;
   iii. Gulf shoreline erosion;
   iv. Loss of threatened and endangered critical habitats; and
   v. Disrupted hydrology.

b. The Coastal Texas Study identifies nationally significant environmental restoration strategies along the entire Texas coast. These restoration projects are evaluated based on long-term benefits, costs, feasibility, and resiliency. Objectives for ecosystem restoration focus on:

   i. Restoring fish and wildlife habitat;
   ii. Improving hydrologic connectivity;
   iii. Reducing erosion to shorelines;
   iv. Creating/Restoring oyster reefs; and
   v. Implementing sediment management.

16) Texas fuels the nation, with much of this activity taking place around the Houston area. This coastal infrastructure is critical to our national economy, and it is imperative to improve coastal protection measures to ensure our state and nation's stability for years to come.

a. Texas ports are home to four of the eight largest refineries in the country and represent 25 percent of the nation's refinery capacity and most of the National Petroleum Reserve.

b. Gulf Coast refineries in Louisiana and Texas produce 7.5 million barrels per day of fuel.
   i. Only 2.5 million of those barrels are consumed in the Gulf Coast region.
   ii. The other 5 million barrels are sent to other parts of the country, primarily the east coast, which only produces 1 of every 5 barrels it consumes.

c. Texas refineries in Houston, Port Arthur, and Corpus Christi send approximately 2.5 million barrels to the east coast every day via pipelines, barges, and tankers.

d. Texas is the nation's top state for waterborne commerce with Texas ports representing over $82.8 billion in economic value to the state.

e. Texas' refining capacity in the study area is approximately 5 million barrels per day (approximately 2.5 million barrels per day is in Galveston Bay).

17) Public comments are accepted throughout the life the study.

a. Although the comment period for the DIFR-EIS ended on February 8, 2019, comments will continue to be accepted and can be directed to USACE, Galveston District, Attn: Ms. Jennifer Morgan, Environmental Compliance Branch, Regional Planning and Environmental Center, P.O. Box 1229, Galveston, TX 77553-1229, or via email to: CoastalTexas@usace.army.mil.

Study Misconceptions:

- **Misconception: The public review and comment period that closed on February 8, 2019 will be the final opportunity for the public to review and provide comments to the Coastal Texas Study proposal.**

  - The Study Team encourages public feedback and participation. A second public review and comment period is anticipated to be held during late summer 2020. Comments will be accepted throughout the life of the study and can be directed to USACE, Galveston District, Attn: Ms. Jennifer Morgan, Environmental Compliance Branch, Regional Planning and Environmental Center, P.O. Box 1229, Galveston, TX 77553-1229, or via email to: CoastalTexas@usace.army.mil.

- **Misconception: The proposed Galveston Ring Barrier would create a "bathtub effect" on Galveston Island, trapping water within the barrier on the island and creating a severe flooding threat.**

  - Any features proposed by the study are not permitted to worsen any existing conditions (i.e. the risk of flooding from a rain event cannot be increased with the implementation of the proposed ring barrier). Pump stations would be implemented to expedite the release of water back into Galveston Bay and the Study team is working with the City of Galveston to determine potential solutions for the City's drainage system.

- **Misconception: The proposed levee barrier along Bolivar Peninsula and Galveston Island will require the acquisition and demolition of property, as well as cause obstruction to beach access and viewing for those that live, work, and play along Galveston Island and Bolivar Peninsula.**

  - The levee barrier solution along Galveston Island and Bolivar Peninsula has been dropped completely. The Study team is investigating a dune-and-beach system along the front of Bolivar Peninsula and west of the Galveston seawall.

- **Misconception: The study would use eminent domain to acquire and demolish any property along the proposed barrier alignment.**

  - The non-federal sponsor will have the responsibility of acquiring all necessary real estate interests for the project and ensuring that relocation of utilities and facilities is accomplished. Where necessary, voluntary relocations and acquisitions will be pursued, and eminent domain would only be imposed by a local sponsor as a last resort.

- **Misconception: The Coastal Texas Study is only being proposed to protect the industrial facilities in the Houston-Galveston area.**

  - The proposed features reduce risk to the community at large, not just the concentration of industrial facilities in Houston. Surrounding areas are filled with residences, as well as railways and port facilities that serve Houston, Galveston and the nation. Comprehensive risk reduction in the region requires a combined effort of federal, state, and private agencies increasing the area's ability to prepare for, withstand, respond and adapt to coastal risk. Industries in the Houston area will contribute to risk reduction through investments in their own facilities that contribute to the success of the larger features.

- **Misconception: Simply building a wall or barrier is not going to help protect the Texas coast.**

  - The Coastal Texas Study utilizes a "multiple lines of defense" approach/strategy that includes a combination of other structural and non-structural measures, as well as natural and nature-based features to form resilient, redundant, robust, and adaptable strategies that promote life safety. The specific measures proposed through the Study will be based on local site conditions and societal values.

- **Misconception: The Coastal Texas Study is only considering past, historical flood events**

  - Over 600 storms that could potentially impact the Texas coast were modeled and analyzed. These possible tropical storms include the entire range of storm factors, such as storm intensity, storm size, forward speed and angle of approach on top of the landfall locations along the entire Texas coast. The storms range from

very weak and small tropical storm events all the way to catastrophically strong and large Category 5 storms and beyond.

Based on this data, a sample of 170 storms was taken through the Advanced Circulation model (ADCIRC - Certified by the Federal Emergency Management Agency (FEMA) for use in performing storm surge analyses) to determine storm surge heights with and without the barrier systems. The storms that were selected were the most destructive scenarios for storm surge and wave conditions. Additional storm modeling is currently being conducted to optimize the plan.

- **Misconception: The proposed plan would protect only highly populated areas and not all parts of the Texas coastline that have been impacted by past weather events.**

  - The Coastal Texas Study includes a combination of ecosystem restoration (ER) and coastal storm risk management (CSRM) measures located throughout the 18 coastal counties of the Texas Gulf Coast.

- **Misconception: The proposed gate structures at Galveston Bay would severely impact the water quality and ecosystem in the bay.**

  - The USACE Engineer Research and Development Center (ERDC) conducted quantitative analyses using 3D Adaptive Hydraulics (AdH) model to simulate hydrodynamics, salinity, and sediment transport to understand potential environmental impacts. This modeling characterized the changes to the Galveston Bay System with the storm surge gates across Bolivar Roads in the open condition (which represents the non-storm condition or "everyday" operations of the gate structures) to compare to the without barrier condition (present). All modeling was conducted using a tentative gate configuration across Bolivar inlet that would reduce the flow conveyance roughly by 27.5 percent.

  This would change the height of tides as Gulf water inflow is somewhat restricted by the structure, and freshwater exit from the bay to the Gulf is similarly affected. The modeling so far indicates that the height of tides in the bay would not be at levels that endanger fish and oyster populations.

- **Misconception: Storm modeling was not analyzed, and protection features were not considered for San Luis Pass.**

  - The anticipated risk reduction benefits for protective features at San Luis Pass do not outweigh the potential negative environmental impacts of closing off the last remaining natural pass along the Texas coast. Many of the structures and assets that would be protected as a result of the closure are already elevated above surge heights or are at a ground elevation that limits surge impact.

  There is also limited surge risk when factoring in the full probability of potential storm directions. The pass and the adjoining West Bay are very shallow and constitute only to 10 to 12 percent of the water exchange between West Bay and the larger area of Galveston Bay. This condition minimizes the risk of surge being transmitted to the large area of Galveston Bay where there is a greater number of structures and assets at risk from storm surge.

- **Misconception: The proposed beach and dune systems along Bolivar Peninsula and the west end of Galveston Island would severely restrict both pedestrian and vehicular beach access.**

  - The proposed beach and dune systems will attempt to maintain the same level of both pedestrian and vehicular beach access by incorporating walk and drive over infrastructure at locations designated in each local government's Beach Access and Dune Protection Plan. Beach access will be in compliance with the Texas Open Beaches Act and any federal access requirements.

- **Misconception: The ecosystem restoration (ER) and coastal storm risk management (CSRM) features proposed by the study will never meet an acceptable benefit-to-cost ratio to receive funding.**

- Only projects where direct economic benefits exceed the direct economic costs of building and maintaining those projects are recommended for authorization. The project with the highest net benefits becomes the recommended or tentatively selected plan.

Acronyms Related to the Study:

AAHU – Average Annual Habitat Units
ACHP – Advisory Council on Historic Preservation
ADCIR – Advanced Circulation (ADCIRC) model
AdH – Adaptive Hydraulics
ADM – Agency Decision Milestone
ALARP – As Low As Reasonably Practicable
ALL – Annualized Life Loss
APF – Annual Probability of Failure
ASA(CW) – Assistant Secretary of the Army, Civil Works
ASBPA – American Shore and Beach Preservation Association
ATR – Agency Technical Review
BCR – Benefit to Cost Ratio
BLUF – Bottom Line Up Front
BUDM – Beneficial Use of Dredged Material
CAP – Continuing Authorities Programs
CBRA – Coastal Barrier Resources System Act
CCAP – Coastal Change Analysis Program
CE/ICA – Cost Effectiveness and Incremental Cost Analyses
CEPRA – Coastal Erosion Planning and Response Act
CEQ – Council on Environmental Quality
CIAP – Coastal Impact Assistance Program
Coastal Texas – Coastal Texas Ecosystem Protection and Restoration, Texas
CSRM – Coastal Storm Risk Management
CWA – Clean Water Act
CWL – Construction Work Limits
DA – Department of the Army
DE – District Engineer (District Commander)
DIFR-EIS – Draft Integrated Feasibility Report and Environmental Impact Statement
DMP – Decision Management Plan
DQC – District Quality Control
EA – Environmental Assessment
EC – Engineering Circular
Eco-PCX – USACE National Ecosystem Planning Center of Expertise
EFH – Essential Fish Habitat
EIS – Environmental Impact Statement
EO – Executive Order
EPA – Environmental Protection Agency
ER – Ecosystem Restoration
ERDC – Engineer Research and Development Center

FCA – Flood Control Act
FCSA – feasibility cost share agreement
FONSI – Finding of No Significant Impact
FRM – Flood Risk Management
FWCA – Fish and Wildlife Coordination Act
FWOP – Future Without Project
FWP – Future with Project
GCCPRD – Gulf Coast Community Protection and Recovery District
GOMESA – Gulf of Mexico Energy Security Act
HEP – Habitat Evaluation Procedures
HFP – Hurricane Flood Protection
H-GAPS – Houston-Galveston Area Protection System
HQ – Headquarters
HSC – Houston Ship Channel
HSI – Habitat Suitability Index
HTRW – Hazardous Toxic Radioactive Waste
IDC – Interest During Construction
IEPR – Independent External Peer Review
IPR – In Progress Review
IRC – Issue Resolution Conference
IRRM – Interim Risk Reduction Measures
IWR – Institute for Water Resources
LERRD – Land, Easements, Rights of Way, Relocations and Disposal
LST – Levee Screening Tool
MCACES – Micro-Computer Aided Cost Estimating System
MEOW – Maximum Envelope of Water
MFR – Memorandum for Record
MLOD – Multiple Lines of Defense
MMPA – Marine Mammal Protection Act
MOA – Memorandum for Agreement
MOU – Memorandum of Understanding
NED – National Economic Development
NEPA – National Environmental Policy Act
NER – National Ecosystem Restoration
NFS – non-Federal sponsor
NHL – National Historic Landmark
NHPA – National Historic Preservation Act
NNBF – nature and nature-based features
NOA – Notice of Availability
NRHP – National Register of Historic Places
NTP – Notice to Proceed

O&M – Operations and Maintenance
OC – Office of Council
OMB – Office of Management and Budget
OMRRR – Operation, Maintenance, Repair,
Replacement and Rehabilitation
OSE – Other Social Effects
P&G – Planning Guidance Notebook
PAL – Planning Aid Letter
PAS – Planning Assistance to States
PCX – Planning Centers of Expertise
PDT – Project Delivery Team
PED – Preconstruction, Engineering, and Design
PMF – Probable Maximum Flood
POA – Period of Analysis
PPA – Project Partnership Agreement
PTM – Particle Tracking Model
QA – Quality Assurance
QCC – Quality Control and Consistency
REMI Model – Regional Economic Models, Inc., Model
RESTORE Act– Resources and Ecosystems Sustainability,
Tourist Opportunities, and Revived Economies Act
RMC – Risk Management Center
ROD – Record of Decision
ROM – Relative Order of Magnitude
RSLR – Relative Sea Level Rise
RSM – Regional Sediment Management
S2G – Sabine Pass to Galveston Feasibility Study
SHPO – State Historic Preservation Office
SLOSH – NOAA Sea, Lake and Overland Surges from
Hurricanes Model
SMART Planning– Specific Measurable Attainable Risk
Informed Timely Planning
SOG – Senior Oversight Group
SPI – South Padre Island
SSPEED Center– Severe Storm Prediction, Education,
and Evacuation for Disasters Center
TSP – Tentatively Selected Plan
USACE – U.S. Army Corps of Engineers
USFWS – U.S. Fish & Wildlife Service
VT – Vertical Team
WRDA – Water Resources Development Act