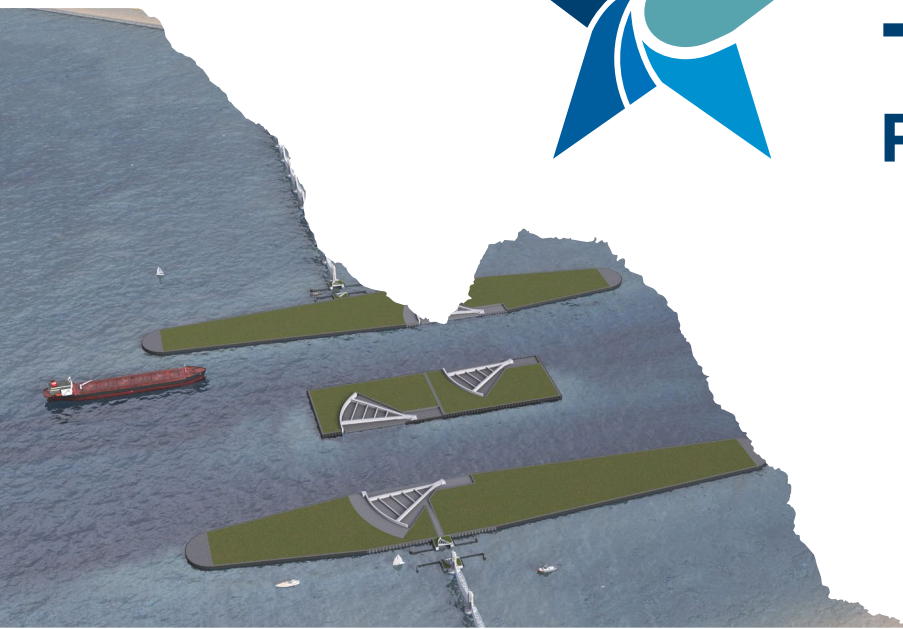


# DEFENDING OUR COAST TO SECURE A RESILIENT FUTURE



**COASTAL  
TEXAS  
PROJECT**



**US Army Corps  
of Engineers®**  
Galveston District





## THE VALUABLE TEXAS COAST BY THE NUMBERS...

6+ MILLION RESIDENTS

3,300 MILES OF COASTLINE

24% OF STATE'S POPULATION | 15.8% OF U.S. PORT CARGO HANDLED

30% OF U.S. REFINING CAPACITY

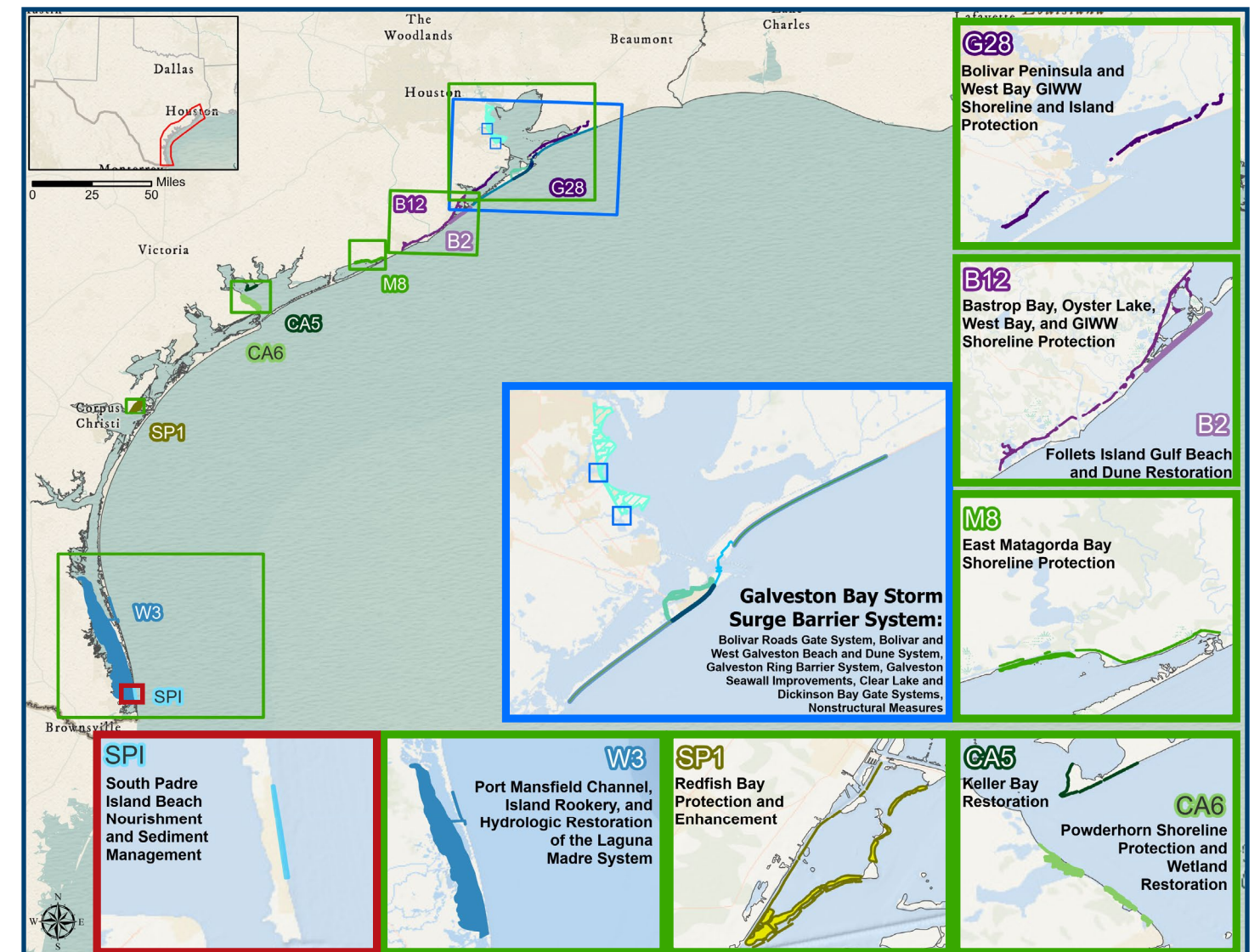
### Project Background

Along the Texas coast, vital resources critical to the social, economic, and environmental welfare of the nation are at risk. When coastal storms damage homes, businesses, industry, infrastructure, and the natural environments of the Texas coast, the immediate fallout and the continued aftermath affects not only the people who live in these coastal counties, but also the entire state of Texas and the nation as a whole.

In response, the United States Army Corps of Engineers (USACE) partnered with the Texas General Land Office (GLO) to deliver the Coastal Texas Protection and Restoration Feasibility Study and Environmental Impact Statement (EIS). This six-year, \$20 million comprehensive study sought to identify feasible, cost-effective, and ecologically sound projects to reduce risks to public health and the economy, to restore critical ecosystems, and to advance coastal resiliency.

These efforts culminated in Lt. Gen. Scott Spellmon, USACE commanding general, signing the Chief's Report on Sept. 16, 2021, representing the largest single investment recommendation to Congress in USACE history. Subsequently, as part of the Water Resources Development Act of 2022 (WRDA), Congress formally authorized the Coastal Texas Project to advance into design and construction, pending appropriation of funding.

The USACE Galveston District (SWG), along with its non-Federal partners the Gulf Coast Protection District (GCPD) and the GLO, will lead the delivery of this approximately \$34 billion, in today's dollars, project representing an integrated and comprehensive coastal resiliency strategy for the Texas coast.



### Project Overview

The Coastal Texas Project includes a combination of coastal storm risk management and ecosystem restoration projects that function as a system to reduce the risk of coastal storm surge damages to our coastal communities and vitally important industries, and to restore degraded coastal ecosystems. Focused on redundancy and robustness, the Coastal Texas Project provides increased resiliency along the Texas coast and is adaptable to future conditions, including sea level rise. The Coastal Texas Project consists of:

- **The Galveston Bay Storm Surge Barrier System**, to reduce damage to communities, critical petrochemical and refinery complexes, Federal navigation channels, and other existing infrastructure in and around Galveston Bay from storm surge.
- **A Coastwide Ecosystem Restoration Plan**, to restore degraded ecosystems that buffer communities and industry at eight locations on the Texas coast from erosion, subsidence, and storm losses.
- **The South Padre Island Beach Nourishment Project**, including 2.9 miles of beach nourishment and sediment management activities.

“By authorizing the Coastal Texas Project, we are one step closer to ensuring Texas has the storm mitigation components it needs to be as prepared as possible for future hurricane seasons.”

*U.S. Senator John Cornyn (Texas)*

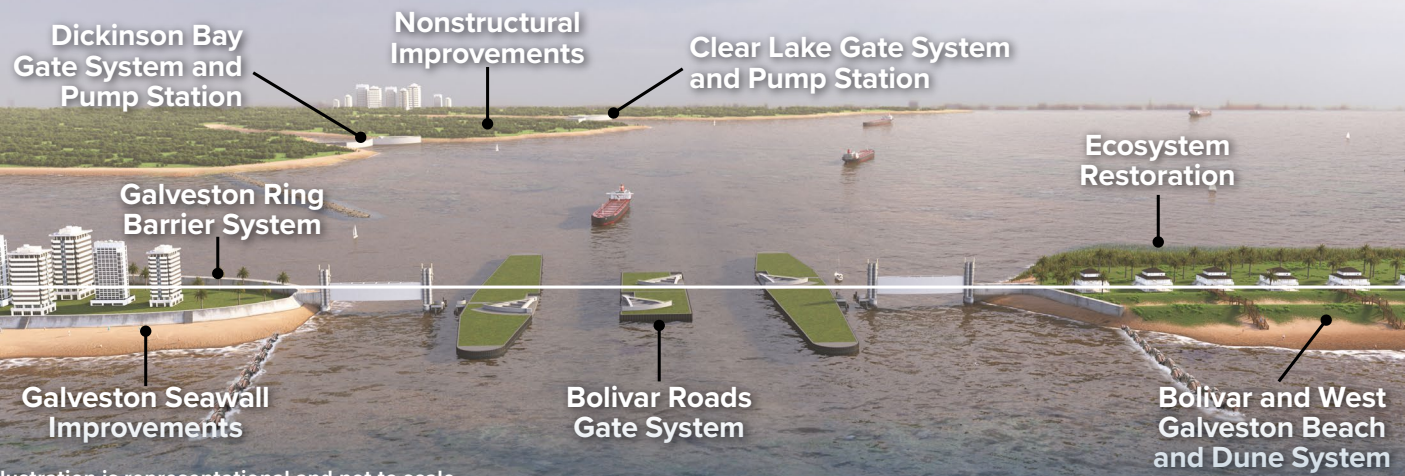


Illustration is representational and not to scale

# MULTIPLE LINES OF DEFENSE

## THE GALVESTON BAY STORM SURGE BARRIER SYSTEM

The Galveston Bay Storm Surge Barrier System is comprised of eight unique projects, split into gulf defenses and bay defenses, as illustrated above. This includes the integration of structural and non-structural coastal storm risk management actions with ecosystem restoration actions to improve the resiliency of coastal communities and the living shoreline.

The gulf defenses separate Galveston Bay from the Gulf of Mexico to reduce storm surge volumes entering the bay and to provide direct protection against storm surge for communities on the barrier island. The largest single component of the Galveston Bay Storm Surge Barrier System and the gulf defenses is the Bolivar Roads Gate System, an approximately 2-mile-long closure structure between Galveston Island and Bolivar Peninsula. Critically, this multi-part gate system will remain open unless the region is threatened by a tropical storm event, maintaining both navigation and environmental flows.

The bay defenses enable the system to manage residual risks from the run-up of water contained within the Galveston Bay system, plus any additional gulf surge that overtops the gulf line of defense. The bay defenses also provide further resiliency against variations in storm track and intensity and relative sea level change.

The Galveston Bay Storm Surge Barrier System also integrates with measures included in the Coastwide Ecosystem Restoration Plan to protect the shoreline from erosion and restore marshes and oyster reefs, which enhance the resiliency of the adjacent structural and natural and nature-based risk reduction measures. In addition, mitigation will be provided to offset the direct and indirect impacts of the Galveston Bay Storm Surge Barrier System. As currently formulated, more than 1,300 acres of habitat are proposed to be created or enhanced as mitigation.

### GULF DEFENSE COMPONENTS:

- The Bolivar Roads Gate System, across the entrance to the Houston Ship Channel, between Bolivar Peninsula and Galveston Island;
- 43 miles of beach and dune segments on Bolivar Peninsula and West Galveston Island that work with the Bolivar Roads Gate System to form a continuous line of defense against Gulf of Mexico surge, preventing or reducing storm surge volumes that would enter the bay system; and
- Improvements to the existing 10-mile Seawall on Galveston Island to complete the continuous line of defense against gulf surge.

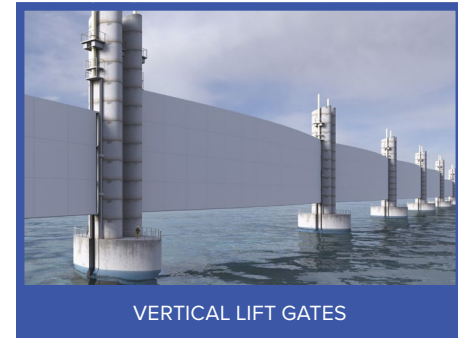
### BAY DEFENSE COMPONENTS:

- An 18-mile Galveston Ring Barrier System that impedes bay waters from flooding neighborhoods, businesses, and critical health facilities within the City of Galveston;
- 2 surge gates on the west perimeter of Galveston Bay (at Clear Lake and Dickinson Bay) to reduce surge volumes that push into neighborhoods around the critical industrial facilities that line Galveston Bay; and
- Complementary non-structural measures, such as home elevations or floodproofing, to further reduce bay-surge risks along the western perimeter of Galveston Bay.

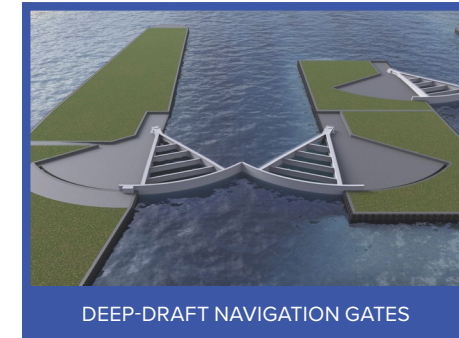
# BOLIVAR ROADS GATE SYSTEM



GATE SYSTEM OVERVIEW



VERTICAL LIFT GATES



DEEP-DRAFT NAVIGATION GATES



COMBI-WALL



SHALLOW WATER ENVIRONMENTAL GATES

## COASTWIDE ECOSYSTEM RESTORATION MEASURES



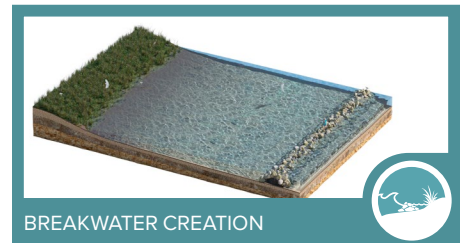
BEACH AND DUNE RESTORATION



MARSH RESTORATION



OYSTER REEF CREATION



BREAKWATER CREATION



ISLAND RESTORATION



HYDROLOGIC RESTORATION

“The Texas Gulf Coast is responsible for 32% of the refining capacity for our entire country, including an estimated 40% of our country’s jet fuel that we rely on for our national security. The consequences of loss of that capacity cannot be overstated as it relates to our national security.”

*U.S. Representative Lizzie Fletcher (TX-7)*

## Project Cost

| TOTAL PROJECT COST     |  | ESTIMATED COST SHARE |                        |
|------------------------|--|----------------------|------------------------|
| <b>\$34.38 Billion</b> |  | <b>65%</b> FEDERAL   | <b>35%</b> NON-FEDERAL |




FEDERAL SPONSOR  
  
**US Army Corps of Engineers**  
 Galveston District

| Project Name                                    | Lead Non-Federal Sponsor  | Authorized Cost | Federal Share   | Non-Federal Share |
|---|---|-----------------|-----------------|-------------------|
| <b>Galveston Bay Storm Surge Barrier System</b> |    | \$31.20 Billion | \$19.41 Billion | \$11.79 Billion   |
| <b>Coastwide Ecosystem Restoration Plan</b>     |   | \$3.10 Billion  | \$1.94 Billion  | \$1.16 Billion    |
| <b>South Padre Island Beach Nourishment</b>     |  | \$81.8 Million  | \$31.1 Million  | \$50.7 Million    |

“Think of all the hurricanes and damage that we’ve heard over the years that have come in on the eastern shore of Galveston and Houston. This will help mitigate the impacts of future hurricanes and ensure critical port assets can continue to serve our country’s shipping and supply chain needs.”

*U.S. Senator Shelley Moore Capito (West Virginia)*

## Project Benefits

| FLOOD DAMAGE REDUCTION  | ENVIRONMENTAL ENHANCEMENT  | ECONOMIC RESILIENCY   |
|---|--|---|
|  |  |  |
| <b>\$2.31 Billion</b><br>EQUIVALENT ANNUAL BENEFITS                                 | PROTECTING NATIONALLY AND GLOBALLY SIGNIFICANT HABITAT                               | SAFEGUARDING...   |
| <b>1.91</b> BENEFIT TO COST RATIO   | <b>21,010</b> AAHUs ECOLOGICAL LIFT  | <b>#1</b> U.S. PORT FOR WATERBORNE TONNAGE  |
| <b>77%</b> REDUCTION IN DAMAGED STRUCTURES  | <b>6,610</b> ACRES HABITAT IMPROVED  | <b>30%</b> OF THE NATION'S TOTAL REFINING CAPACITY                                    |
| <b>64%</b> REDUCTION IN FLOODED CRITICAL INFRASTRUCTURE POINTS                      |  | <b>60%</b> OF THE NATION'S AVIATION FUEL  |
|   |  | <b>42%</b> OF THE NATION'S SPECIALTY CHEMICAL FEEDSTOCK                               |
|   |  | <b>80%</b> OF THE NATION'S MILITARY GRADE FUEL  |

## The Path Forward

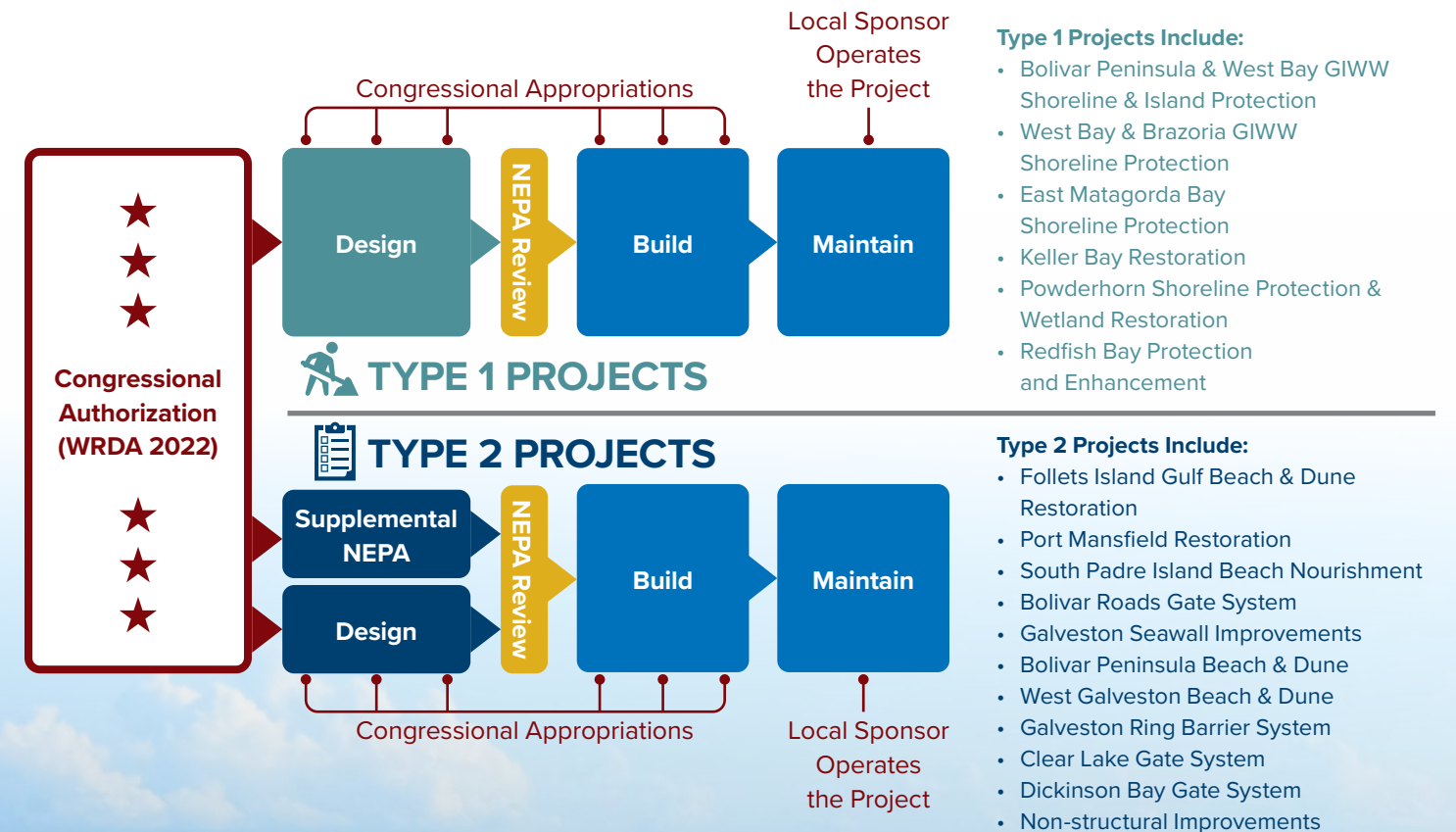
The Coastal Texas Project is comprised of more than 15 unique projects that could take up to 20 years to build, depending on the pace of funding. Ensuring compliance with all environmental laws and regulations, including the National Environmental Protection Act (NEPA), is critical to the implementation strategy.

Using a Tiered NEPA approach, projects have been categorized as either Type 1 or Type 2. Type 1 projects met all environmental compliance requirements as part of the 2021 Environmental Impact Statement, which was published alongside the final study report. For these projects, implementation will move ahead as soon as funding is available and designs are complete, assuming no significant change in site conditions or project design. Six ecosystem restoration projects have been classified as Type 1.

For the remainder the projects, classified as Type 2, additional environmental analyses and preparation of supplemental NEPA assessments will be required before the projects can move into construction. This process provides additional time for designs to be advanced, for the potential impacts to be better quantified, for mitigation plans (if necessary) to be prepared or further refined, and for additional agency consultation and public review. All components of the Galveston Bay Storm Surge Barrier System are classified as Type 2 and require additional environmental evaluation and review prior to their construction.

“The Coastal Texas Project is not only an important safety measure, but it will save money in the long term by softening the destructive power of storms along the Gulf Coast. This is a win-win, not just for Texans, but for taxpayers nationwide.”

*U.S. Senator Ted Cruz (Texas)*



# An Integrated and Comprehensive Coastal Resiliency Strategy

The Coastal Texas Project, in combination with other ongoing Federal and state efforts, presents a systemwide risk management strategy for the coastline of Texas. These proposed improvements work in concert with each other, employing multiple lines of defense to enhance the resiliency of Texas' coastal regions, its sensitive ecosystems, and the broader economy. The primary ongoing companion programs, which make up the integrated coastal protection system, include:

- Coastal Texas Project – USACE led
- Sabine Pass to Galveston Bay (S2G) Project – USACE led
- Texas Coastal Resiliency Master Plan – GLO led

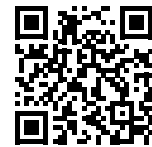
Taken as a whole, these efforts form an integrated and comprehensive coastal resilience strategy, addressing a wide array of immediate coastal protection and environmental restoration needs across the entire Texas coast.



## COASTAL TEXAS PROJECT

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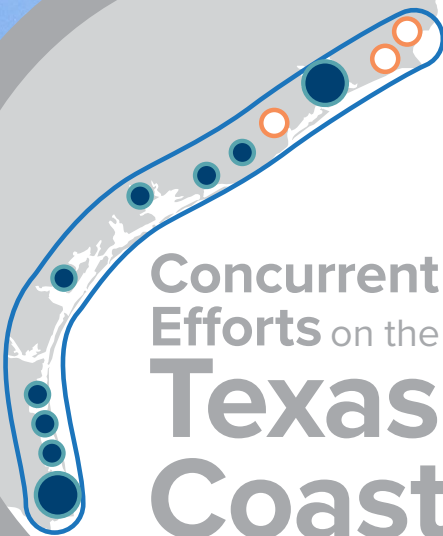
[www.coastaltexasproject.com](http://www.coastaltexasproject.com)



LEARN MORE AT  
OUR STORY MAP:



PROJECT PARTNERS:  
[www.swg.usace.army.mil](http://www.swg.usace.army.mil)  
[www.GCPDtxas.com](http://www.GCPDtxas.com)  
[www.glo.texas.gov](http://www.glo.texas.gov)



Concurrent  
Efforts on the  
**Texas  
Coast**



COASTAL  
TEXAS  
PROJECT

S&G

TEXAS  
COASTAL  
RESILIENCY  
MASTER PLAN

Developed and produced by the  
Gulf Coast Protection District.  
Version: Fall 2023