

USACE Galveston District Overview

Col Rhett Blackmon

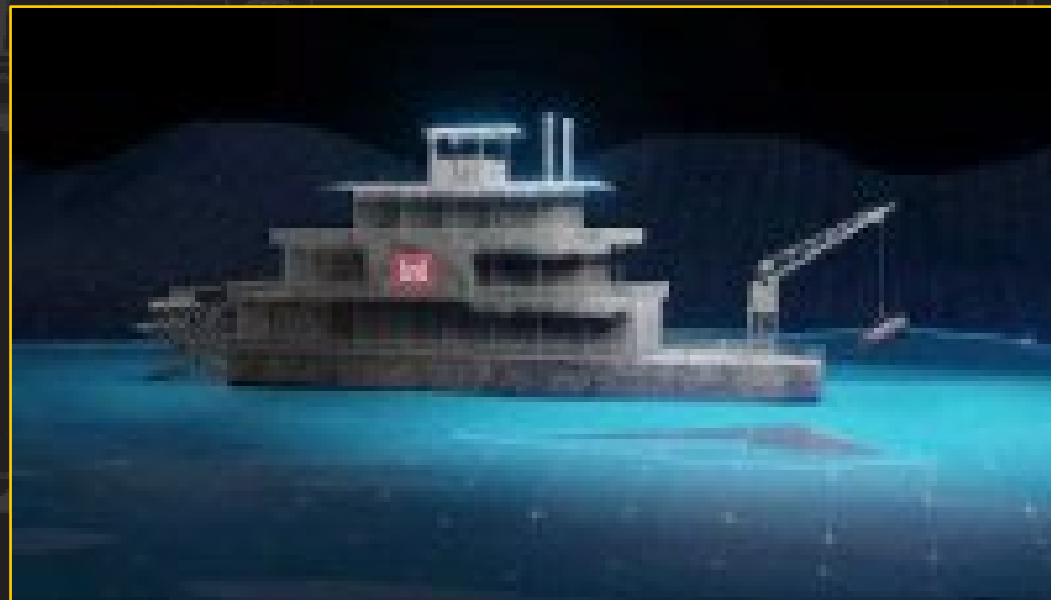
Commander

US Army Corps of Engineers

Galveston District (SWG)

Galveston, Texas

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US Army Corps
of Engineers®

U.S. ARMY



US Army Corps of Engineers Overview



Mission

Deliver vital engineering solutions, in collaboration with our partners, to secure our Nation, energize our economy, and reduce disaster risk

Vision

Engineering solutions for the Nation's toughest challenges

Priorities

- People
- Readiness
- Partnerships
- Innovate



Winning = Finishing quality projects, on time and within budget ... **SAFELY**



- **Established in 1880**
- First engineer district in Texas to oversee river and harbor improvements.
- **Missions.** Navigation, flood risk mitigation, regulatory support, environmental, shoreline protection, emergency management, support for other districts (including military construction).
- **Boundaries.** **50,000** square miles, includes **700** miles of coastline from the Rio Grande to Sabine River, covers **49** counties, **4** parishes and **16** congressional districts.
- **Maintains 1,000+** miles of channel, including **270** miles deep draft and **750** miles shallow draft.
- **Maintains and Operates. 2** critical dams, the Colorado River Locks and Brazos River Floodgates and **4** outlying project offices.
- **Sustains waterways.** Benefitting **28** ports handling **400** million tons of commerce annually.
- **Dredges. 15-25** million cubic yards of material annually. If placed on one city block, it would create a mountain **14,000** feet above sea level.
- Employs **beneficial use of dredged material** to build coastal defenses when possible.



USACE SWG - What We Do



- I. Flood Risk Management
- II. Coastal Storm Risk Management
- III. Emergency Management
- IV. Ecosystem Restoration
- V. Regulatory
- VI. Navigation





USACE SWG - CSRM and FRM System of Systems

People

Home to approx. 10 Million people including the city of Houston (4th largest in U.S.)
Demographically diverse
Significant vulnerable population centers

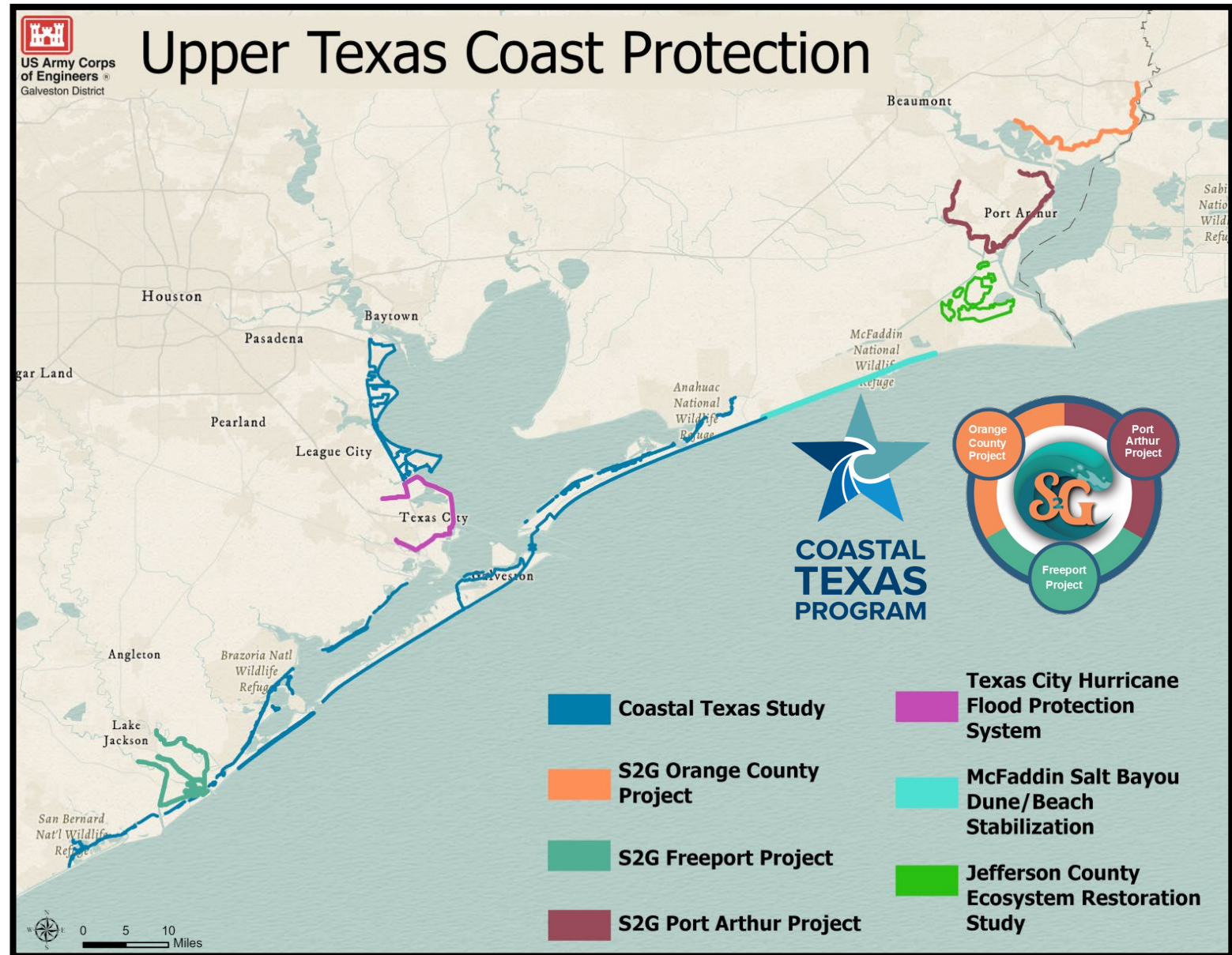
Infrastructure

(Petrochemical, Supply Chain, Municipal)

40% of the US petrochemical industry
25% of the US refining capacity (including 3 of the top 10 in the world)
#1 Deep Draft Port in the US and the Texas Coast is collectively 25% National Deep Draft capacity
Key import gateway for renewable energy products

Environment

Attracts 3 million visitors who spend approx. \$1.6B annually
Agriculture/commercial fisheries represent another \$500M and \$156M respectively
Habitat for Kemp's Ridley Sea Turtle (endangered species)





USACE SWG Flood Risk Management – Buffalo Bayou & Tributaries Addicks & Barker Dams/Reservoirs

Addicks and Barker Reservoirs are designed to **reduce flood damage** along Buffalo Bayou that flows through Houston serving approximately 1.2 Million people

- Original construction costs were approximately \$4M
- Authorized by the Rivers and Harbors Act of 1938
- Recent dam safety project fully funded through federal dollars @ \$124,306,000

[Addicks and Barker | Facebook](#)





USACE SWG - Coastal Texas Project

Project Summary

THE CHALLENGE is to develop a comprehensive program that provides multiple lines of defense against hurricanes while restoring fish and wildlife habitat system-wide to enhance overall coastal resilience. We are taking a systems approach when reviewing the region's larger system context, with a focus on Critical infrastructure that emphasizes greater flexibility. This Multiple Lines of Defense strategy uses natural and nature-based solutions in combination with traditional engineering solutions and builds upon existing & proposed projects to maintain the existing landscape in the face of sea level rise and coastal erosion.

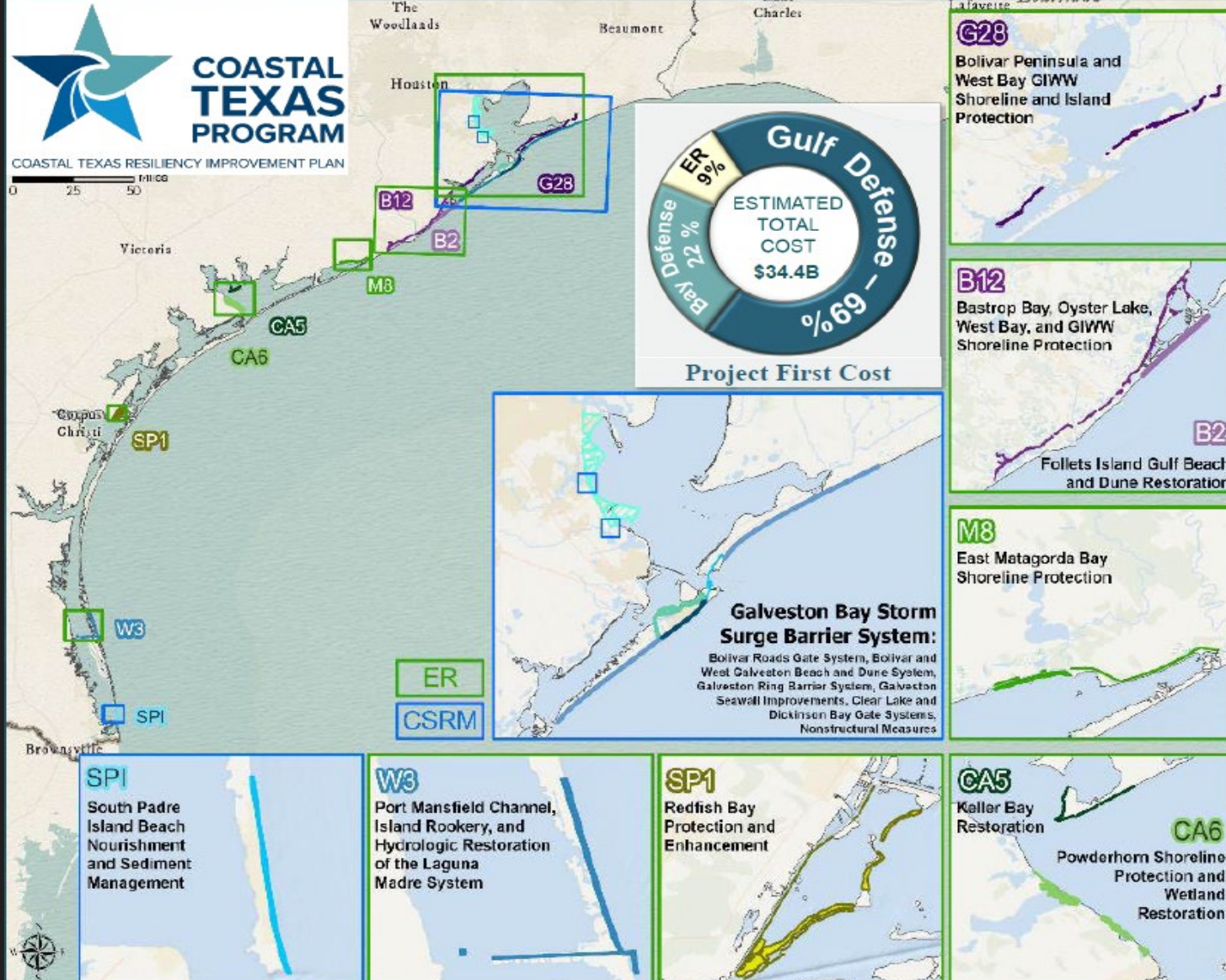
Project Schedule

ACTIVITY	DATE-	
FR	S&A Review Complete	02-31 Jul 21
	Chief's Report	16 Sep 21
PED	WRDA	2022
	PED	2022-2023
CON	Construction	2024+

COASTAL TEXAS COSTS & BENEFITS BY THE NUMBERS...

~ 2.31 Billion EQUIVALENT ANNUAL BENEFITS	1.91 BCR FOR THE COMBINED CSRM MEASURES
~77% REDUCTION IN DAMAGED STRUCTURES	~64% REDUCTION IN FLOODED CRITICAL INFRASTRUCTURE
6,610 ACRES HABITAT IMPROVED	\$34.4 Billion TOTAL RECOMMENDED PLAN PROJECT COST (CSRM & ER)

Revised Coastal Resilience Comprehensive Strategy



Coastal Storm Risk Management

- o 2 large & 4 small sector gates
- o 15 vertical lift gates
- o 16 shallow water environmental gates
- o 1 mi combi-wall tie-in
- o 3 mi levee tie-in
- o 43 mi of gulf-side dune/beach barrier
- o 21 mi of ring barrier
- o 8 pumping stations
- o 16+ drainage structures
- o 4-ft high extension of the seawall
- o 150+ gated closures (roads & rail)
- o Non-structural measures anticipated
- o 2 mi beach/dunes on South Padre
- o 1,342 ac mitigation



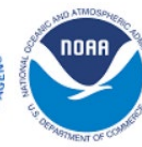
Ecosystem Restoration (6,600+ ac)

- o 114 mi of breakwaters
- o 15.2 mi of bird rookeries
- o 2,052 ac of marshes
- o 12.32 mi of oyster reefs
- o 19.5 mi of dunes/beaches





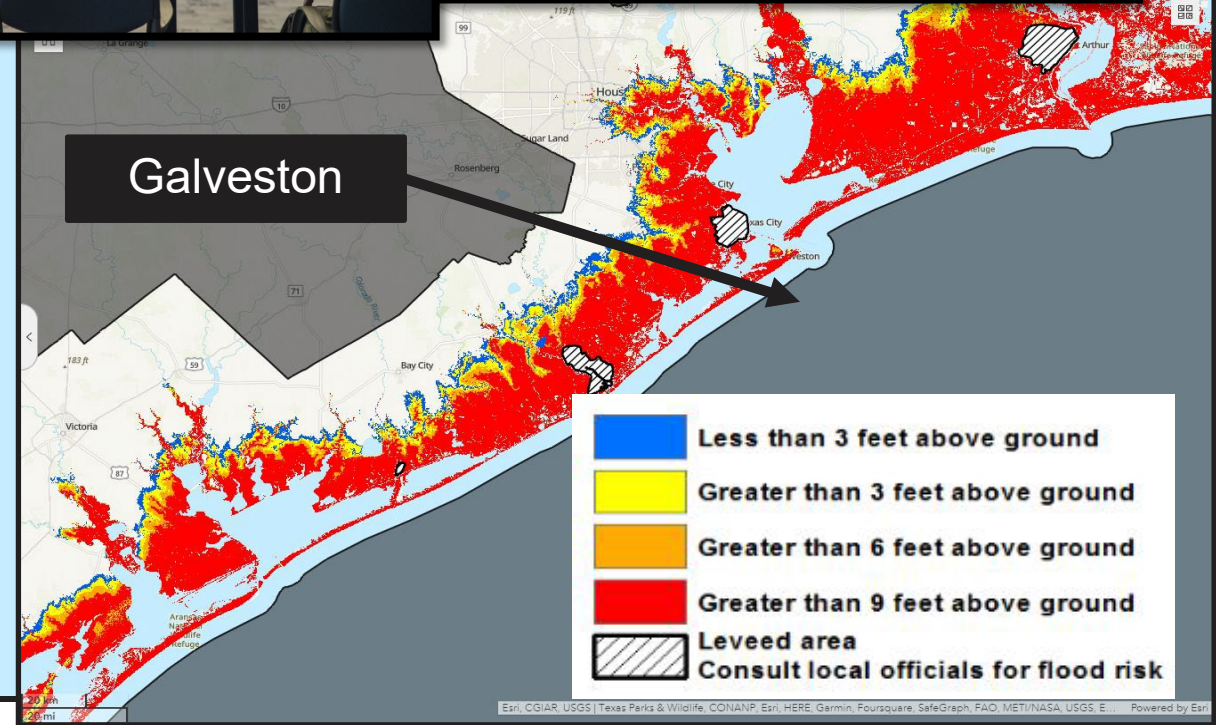
USACE SWG - Emergency Management



Hurricane Ike 2008



Hurricane Harvey 2016





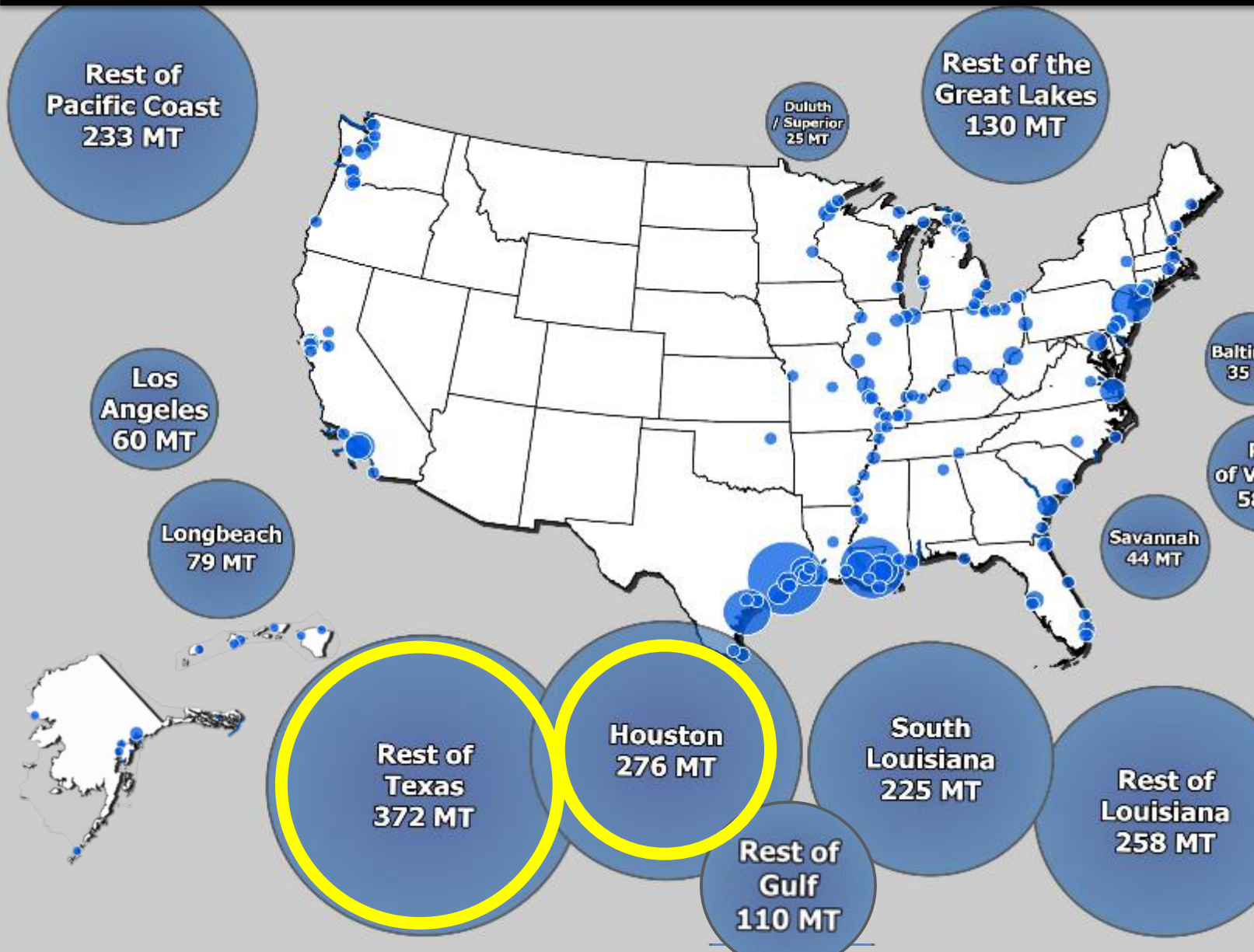
USACE SWG - EM / Critical Public Facilities Team - Lahaina

King Kamehameha III Elementary School Temporary Facility Assistance

- School destroyed in 2023 Lahaina fires
- SWG team deployed on site
- Designing and overseeing project complete in partnership with State of Hawaii, Federal Emergency Management Agency (FEMA), and Department of Education
- \$5.36M FEMA funding
- USACE incident commander estimating 95 days till completion



USACE SWG Navigation - National Relative Deep Draft Tonnage



REGION	TOTAL (MT)	%	DOMESTIC (MT)	%
Nation	2,529.7	100.00%	1,136.0	44.91%
Gulf	1,240.2	49.03%	485.3	42.72%
Texas Ports	647.7	25.60%	183.7	16.17%
Houston Complex (Galv-TC-Hou)	326.5	12.91%	88.6	7.80%
Sabine-Neches	111.8	4.42%	42.1	3.71%
Corpus Christi	150.8	5.96%	25.1	2.21%

Legend

Total Metric Tons

- 1
- 5
- 10
- 50
- 100





USACE SWG - Navigation Continued



LEADING U.S. PORTS

(2020 tonnage)

Houston #1 – 275.9 million tons

#1 Foreign Tonnage & Total Tonnage

Corpus Christi #3 – 150.8 m.tons

America's Energy Gateway

Beaumont #8 – 70.6 m.tons

#1 Military Port in World

Port Arthur #15 – 41.2 m.tons

Vital Break-Bulk Port

Freeport #16 – 38.7 m.tons

Connecting Global Services
Via Caribbean Relay Port

Texas City #20 – 33.7 m.tons

Services Largest Petrochemical Complex

Galveston #46 – 11.9 m.tons

#1 Cruise Ship Port in gulf

Brownsville #66 – 6.8 m.tons

#1 Ship Recycling Port

Sabine Pass Port #73 – 5.5 m.tons

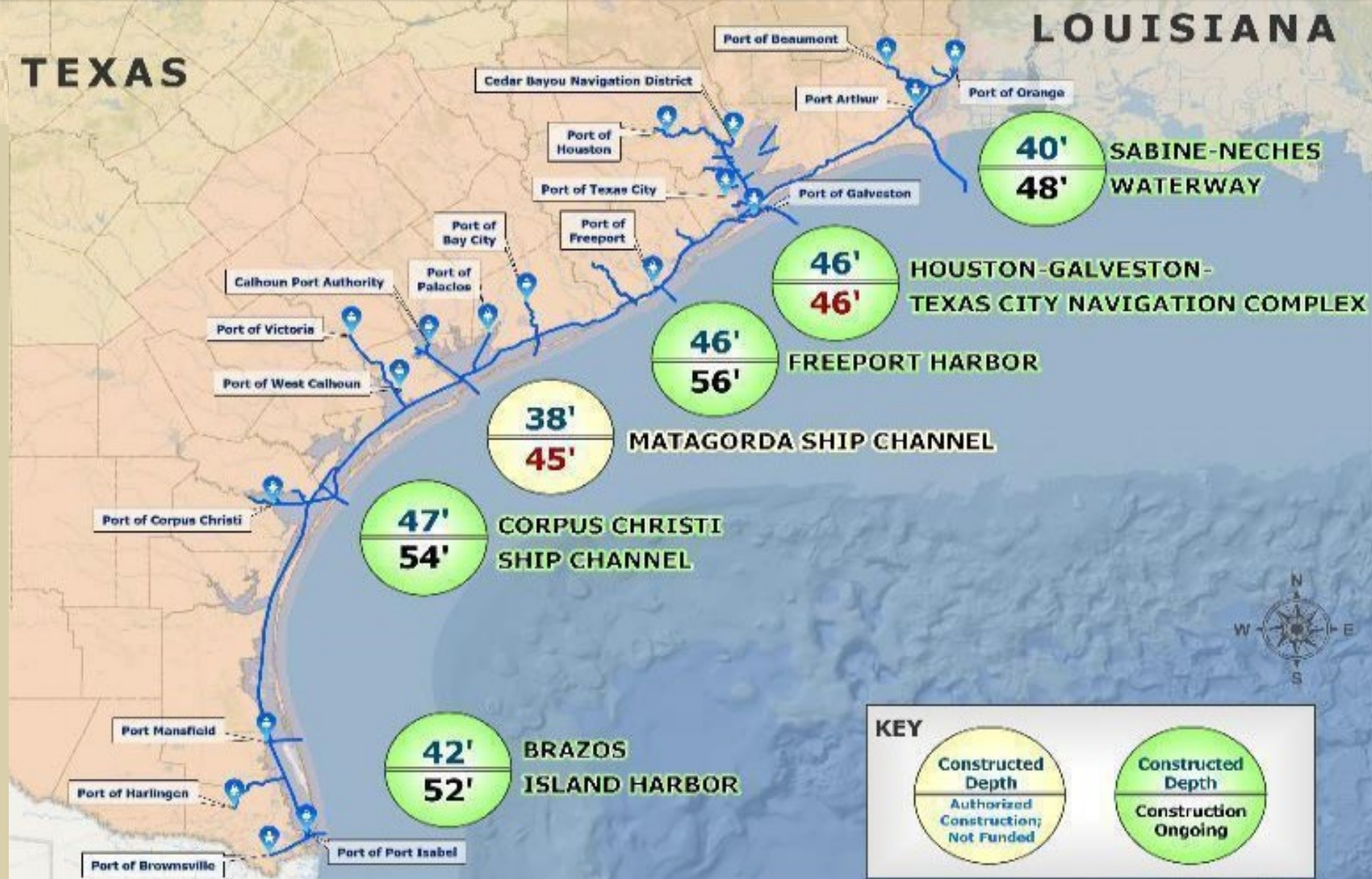
First in the U.S. with crude oil imports.

Calhoun County Port #77 - 4.8 m.tons

(Matagorda Ship Channel)

TEXAS

LOUISIANA



KEY

Constructed Depth	Constructed Depth
Authorized Construction; Not Funded	Construction Ongoing



USACE SWG - Wallisville Lake Project

The Wallisville Lake Project was authorized by Congress in 1952 for five purposes

- Navigation
- Salinity control
- Water supply
- Fish and wildlife enhancement
- Recreation

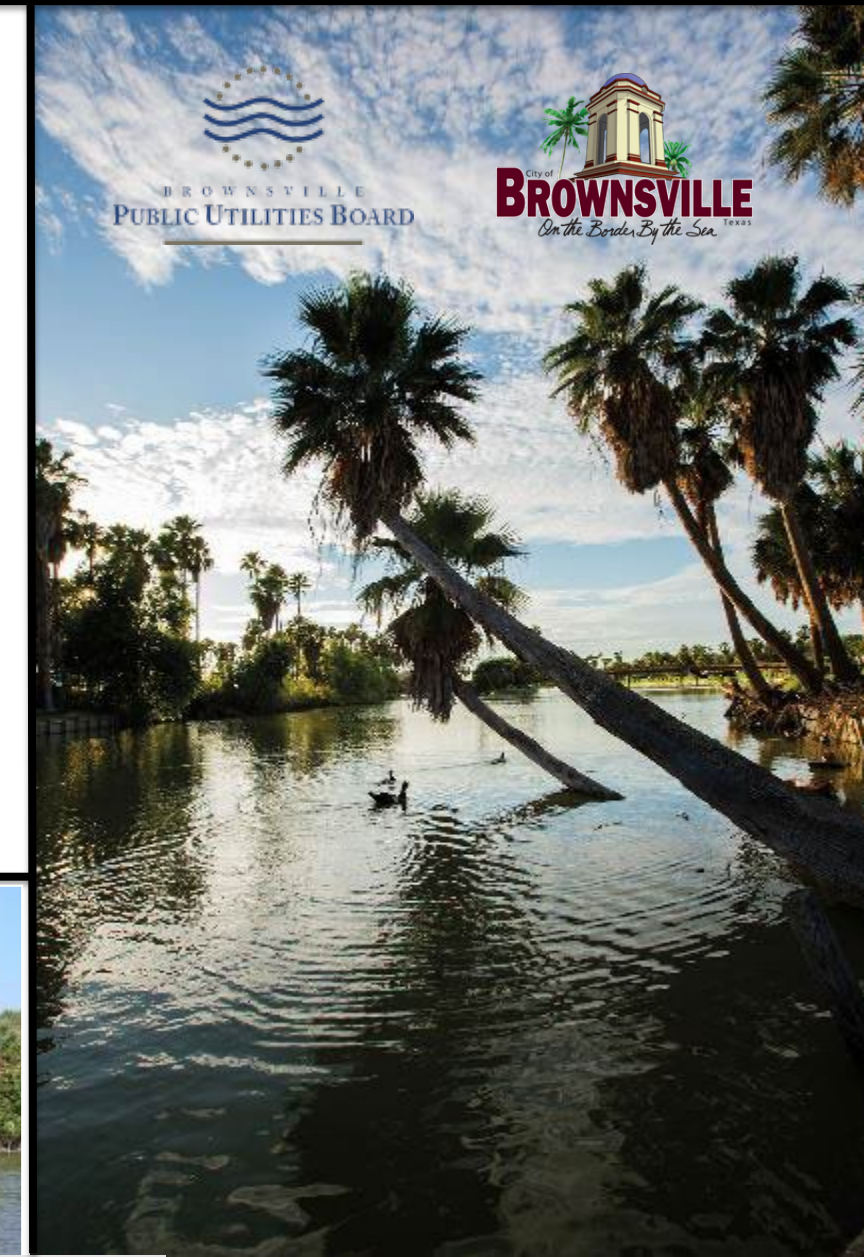
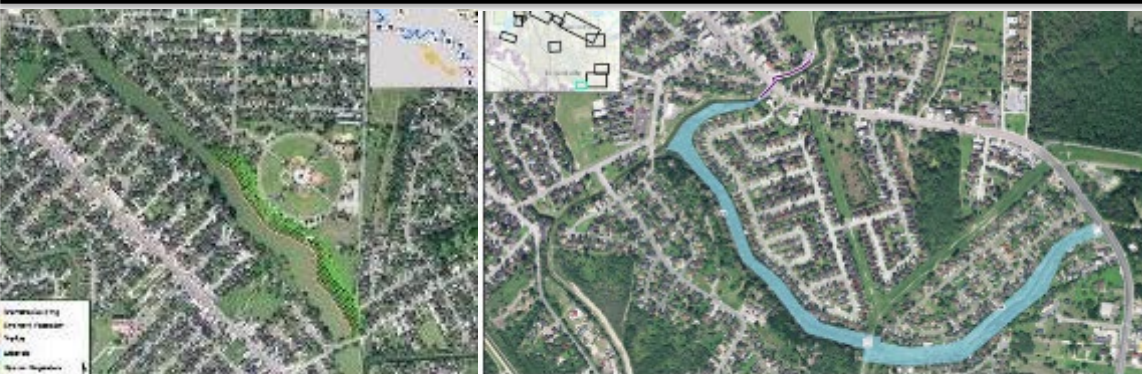




USACE SWG - Ecosystem Restoration Project - Brownsville Area Resacas

Regional Benefits & Value to the Nation

- Improve value and function of overall ecosystem
- Connect high quality habitat to surrounding ecosystems
- ~**625 acres** of terrestrial riparian habitat restoration
- Clear invasive species and replant native plants
- **220 acres** of aquatic habitat restoration
- FRM and water supply benefits
- Remove sediment, expand aquatic areas, and shape banks
- Plant aquatic and emergent vegetation along **33 miles** of shoreline
- Post implementation management plan monitor and manage species





USACE Galveston District - Beneficial Use Program





Questions



Champions

of the Texas Coast



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A wide-angle photograph of a sunset over a coastal wetland. The sky is filled with large, dramatic clouds illuminated from below by the setting sun, creating a palette of oranges, yellows, and purples. The sun is partially obscured by a thick layer of clouds. The water in the foreground is calm, reflecting the colors of the sky. The horizon line is low, showing a distant landmass or island.

Thank you!