THE TEXAS COASTAL RESILIENCY MASTER PLAN

Texas General Land Office

ENSURING A RESILIENT COAST THROUGH COMPREHENSIVE PLANNING

Coastal Stressors:

- Coastal Population Growth
- Critical Habitat Loss
- Coastal Hazards
- Increasing Resource Use

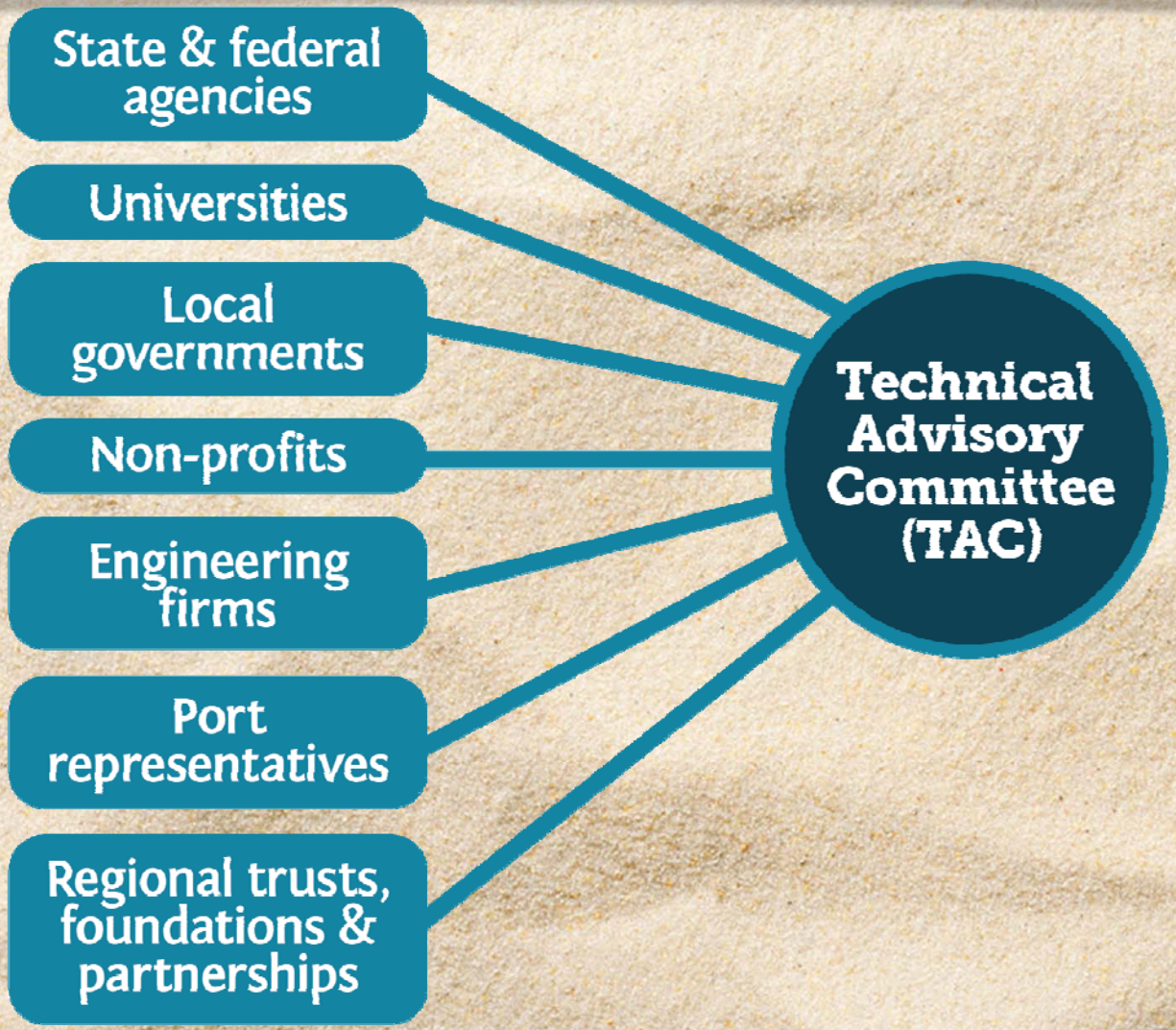
THE NEED FOR A TEXAS COASTAL RESILIENCY MASTER PLAN

In support of the General Land Office's legislative authority to restore, enhance and protect the state's coastal natural resources, the Texas Coastal Resiliency Master Plan provides a framework for community, socio-economic, ecological, and infrastructure protection from coastal hazards.

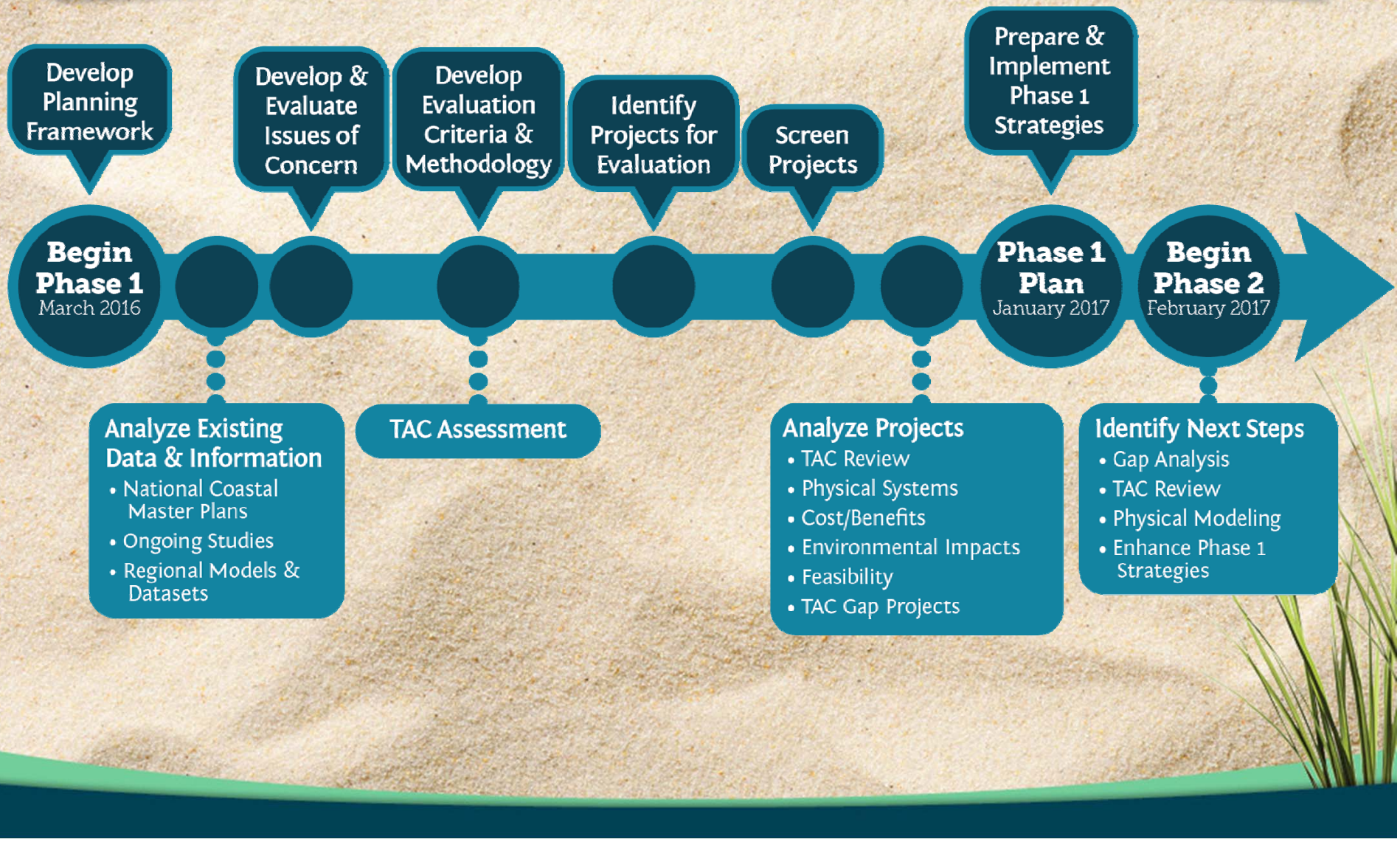
PHASE 1 OUTCOMES

- Identify current coastal issues of concern and create a database of projects to address regional vulnerabilities;
- Framework for GLO implementation to inform effective coastal management to enhance and protect the coast;
- Stakeholder engagement documents and website for education and outreach on the importance of the Texas coast and the significance of keeping it resilient;
- Data from this initiative will be available for other planning initiatives to use;
- Findings will be presented in 2017 to the Legislature.

Technical Advisory Committee



SCOPE OF THE PLANNING EFFORT



COASTAL RESILIENCY ISSUES OF CONCERN (IOCs)

Altered, Degraded or Lost Habitat

Gulf Beach Erosion & Dune Degradation

Bay Shoreline Erosion

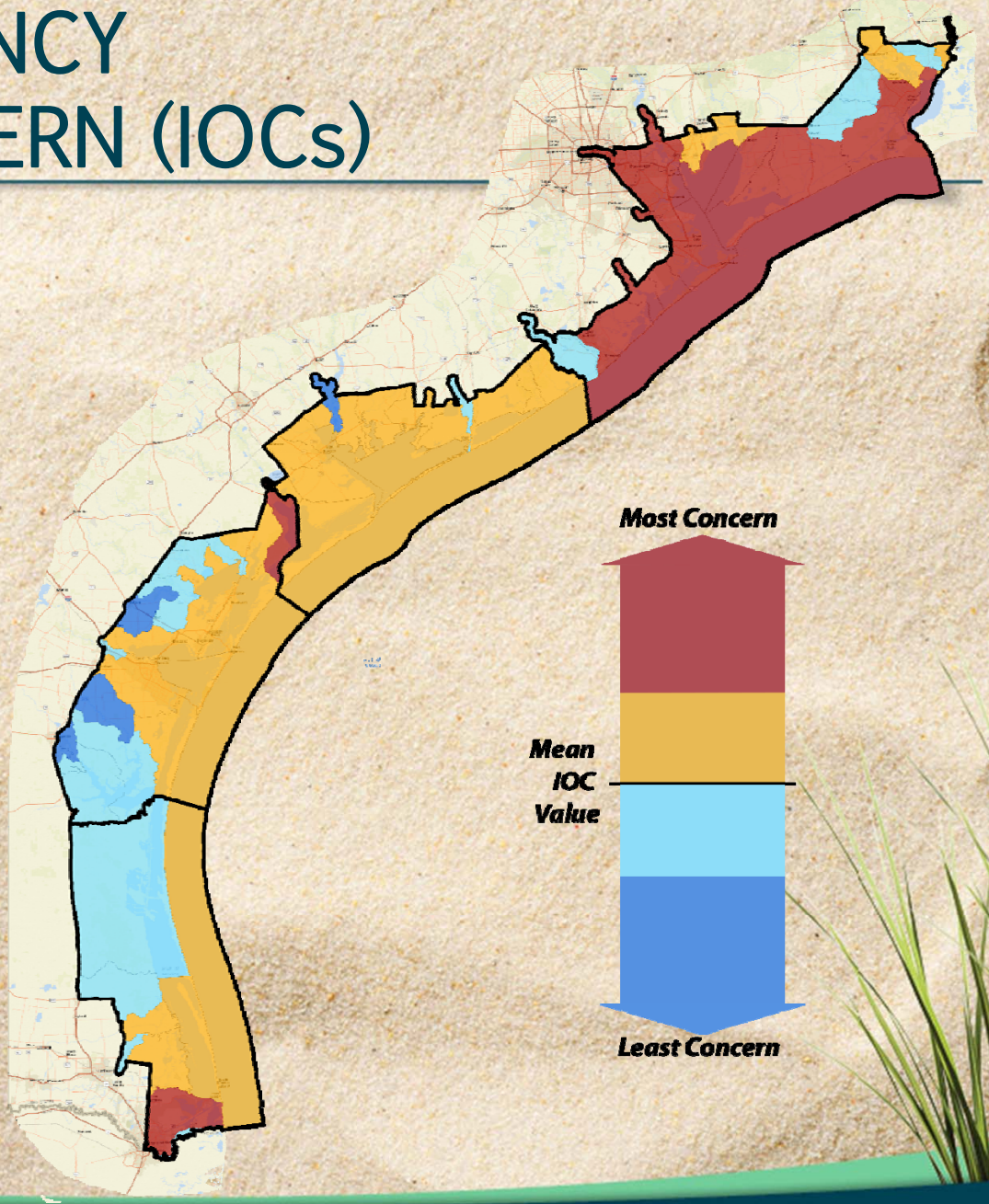
Existing & Future Storm Surge Damage

Coastal Flood Damage

Impact on Water Quality & Quantity

Impact on Coastal Resources

Abandoned or Derelict Vessels, Structures, & Debris



PROJECT IDENTIFICATION

Added over 75 new planning sources since 2012

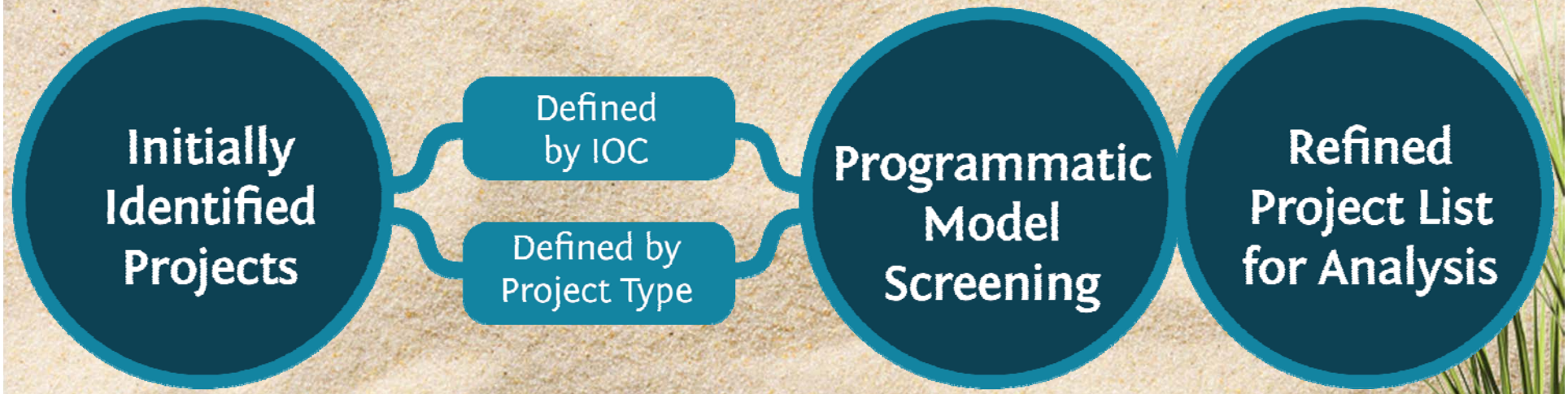
- Federal, State, local, NGO, etc.
- Studies, plans and project lists

Project sources

- USACE studies (Sabine to Galveston, Coastal Texas Study, etc.)
- Texas RESTORE list
- GLO potential projects (CEPRA, CIAP, CMP, etc.)
- Prior statewide planning efforts (Coastal Protection Plan, Shoring Up Our Future, etc.)
- Regional Erosion Response Plans
- Hazard Mitigation Plans
- Other miscellaneous planning documents

PROJECT SCREENING

- Systematic process based on Project Type and Issues of Concern at the subregional level
- Applies consistently to all projects
- Allows for a more robust project definition for those that passed screening process



PROJECT ANALYSIS

TAC reviews online and at meetings to collect data at the project-specific level based on the following data points:

Project's ability to address Issues of Concern	Feasibility	Coastal Resiliency Priority (Y/N)

Technical analysis conducted to assess:

Cost	Economics/ Benefits	Physical/Risk Characteristics	Environmental Considerations	Constructability and Feasibility

TAC feedback based project gap analysis

COASTWIDE RESILIENCY STRATEGIES

RECOMMENDED RESILIENCY STRATEGIES

- Restoration of Beaches & Dunes
  - Identifies beach complexes and other areas along the coast that have critical nourishment needs, as well as feasible sediment source and retention solutions

- Stabilizing the Texas Gulf Intracoastal Waterway
  - Identifies critical areas along the Gulf Intracoastal Waterway (GIWW) experiencing erosion or ecological degradation and presents potential solutions

RECOMMENDED RESILIENCY STRATEGIES

- Rookery Island Creation & Restoration
  - Identifies the locations most suitable for and most needful of the restoration or creation of rookery island habitats to support Texas bird populations

- Delta & Lagoon Restoration
  - Identifies hydrologic systems along the coast which are experiencing fresh water inflow and water quality problems and proposes potential studies or solutions

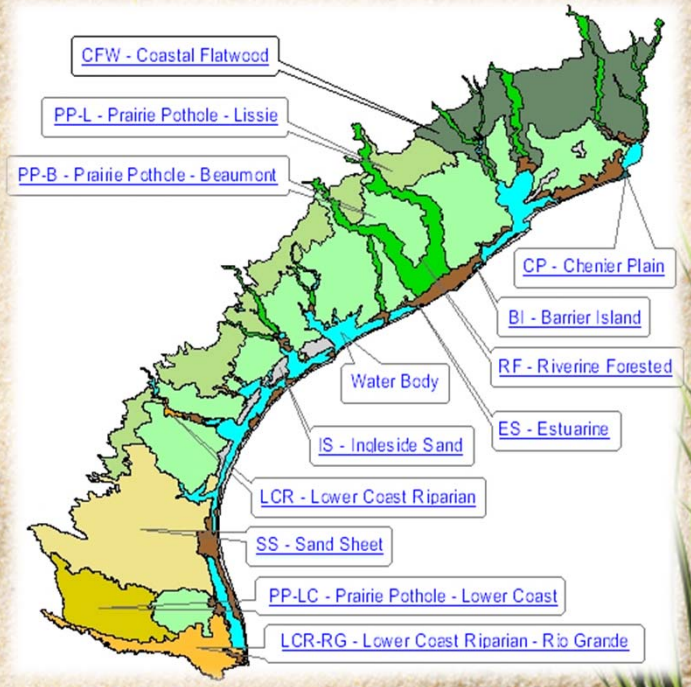
RECOMMENDED RESILIENCY STRATEGIES

- Bay Shoreline Stabilization & Estuarine Wetland Restoration (Living Shorelines)
  - Proposes shoreline locations within specific bay systems that are experiencing critical erosion and would receive the greatest benefits from shoreline stabilization through combined shoreline protection and habitat creation projects
- Oyster Reef Creation & Restoration
  - Identifies the bay systems most suitable for and most needful of restoration or creation of oyster reefs

RECOMMENDED RESILIENCY STRATEGIES

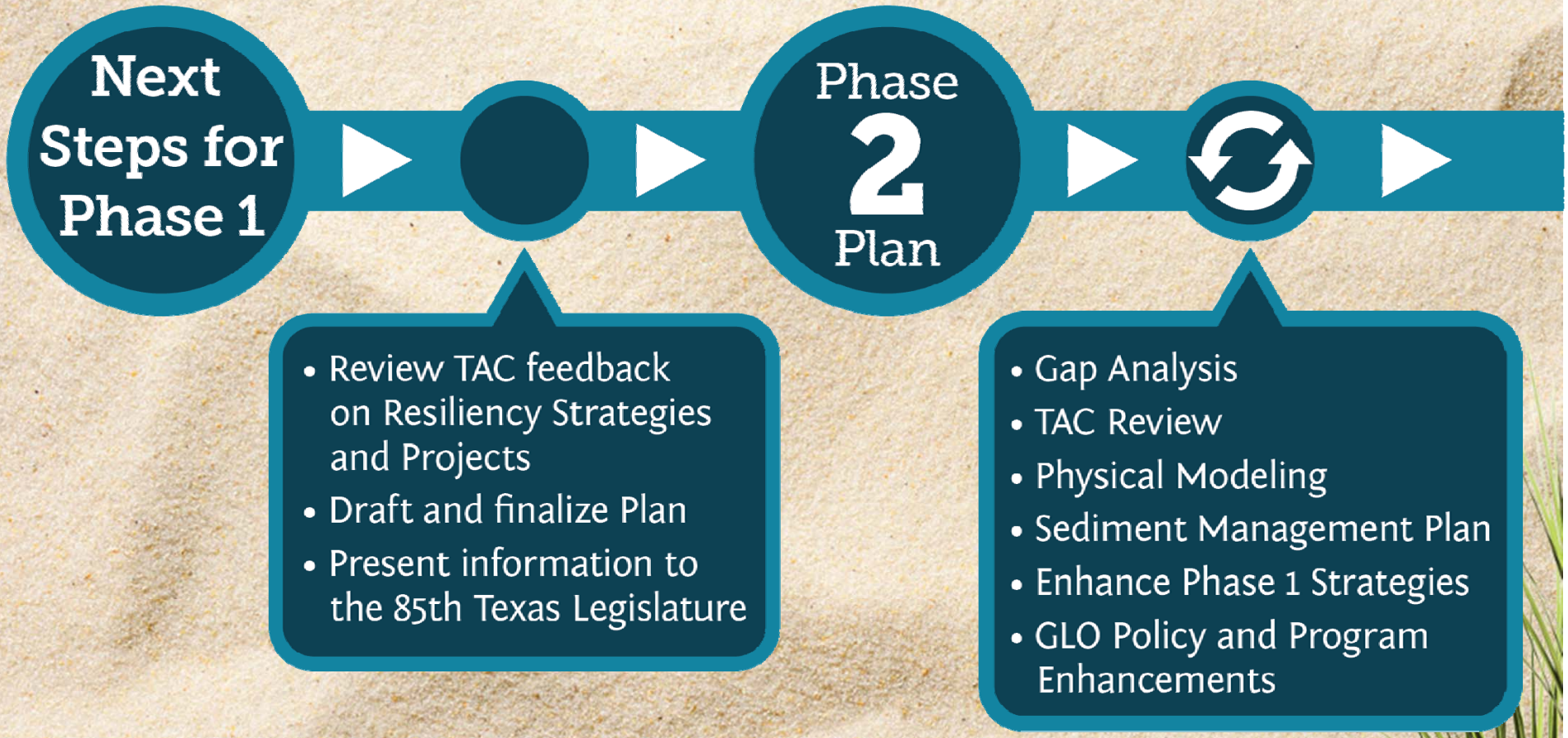
- Plans, Policies & Programs
  - Proposes key plans, programs, policies, studies, and innovations which will continue to drive a forward-looking approach towards achieving coastal resiliency

- Freshwater Wetland & Coastal Uplands Conservation
  - Recognizes land acquisition, conservation, and restoration needs for key watersheds and regions within the Coastal Zone to conserve valuable Texas wetlands and coastal uplands



Texaswetlands.org

NEXT STEPS


Next Steps for Phase 1
Phase 2 Plan
• Review TAC feedback on Resiliency Strategies and Projects
• Draft and finalize Plan
• Present information to the 85th Texas Legislature
• Gap Analysis
• TAC Review
• Physical Modeling
• Sediment Management Plan
• Enhance Phase 1 Strategies
• GLO Policy and Program Enhancements

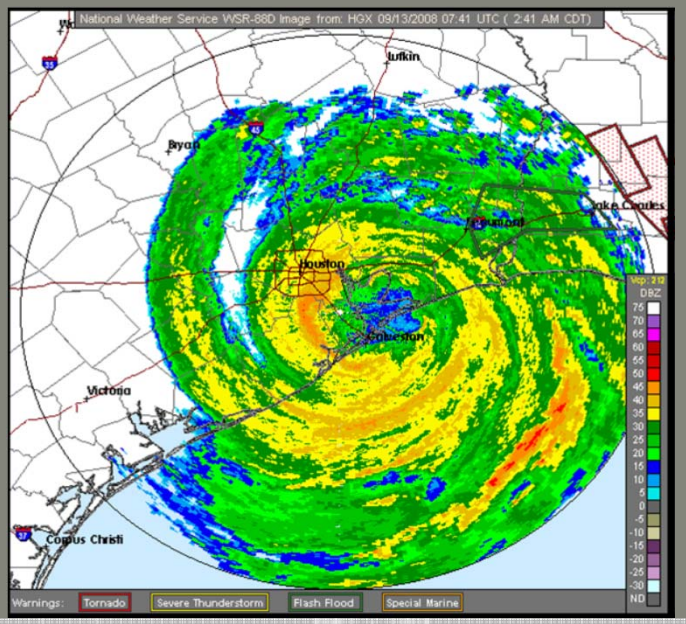
Coastal Texas Protection and Restoration Project:

Comprehensive Plan

Dr. Kelly Burks-Copes

Chief, Coastal Section

USACE – Regional Planning and Environmental Center (RPEC)



USACE, Galveston District (SWG) Winter 2017 Stakeholder Partnering Forum

22 February 2017

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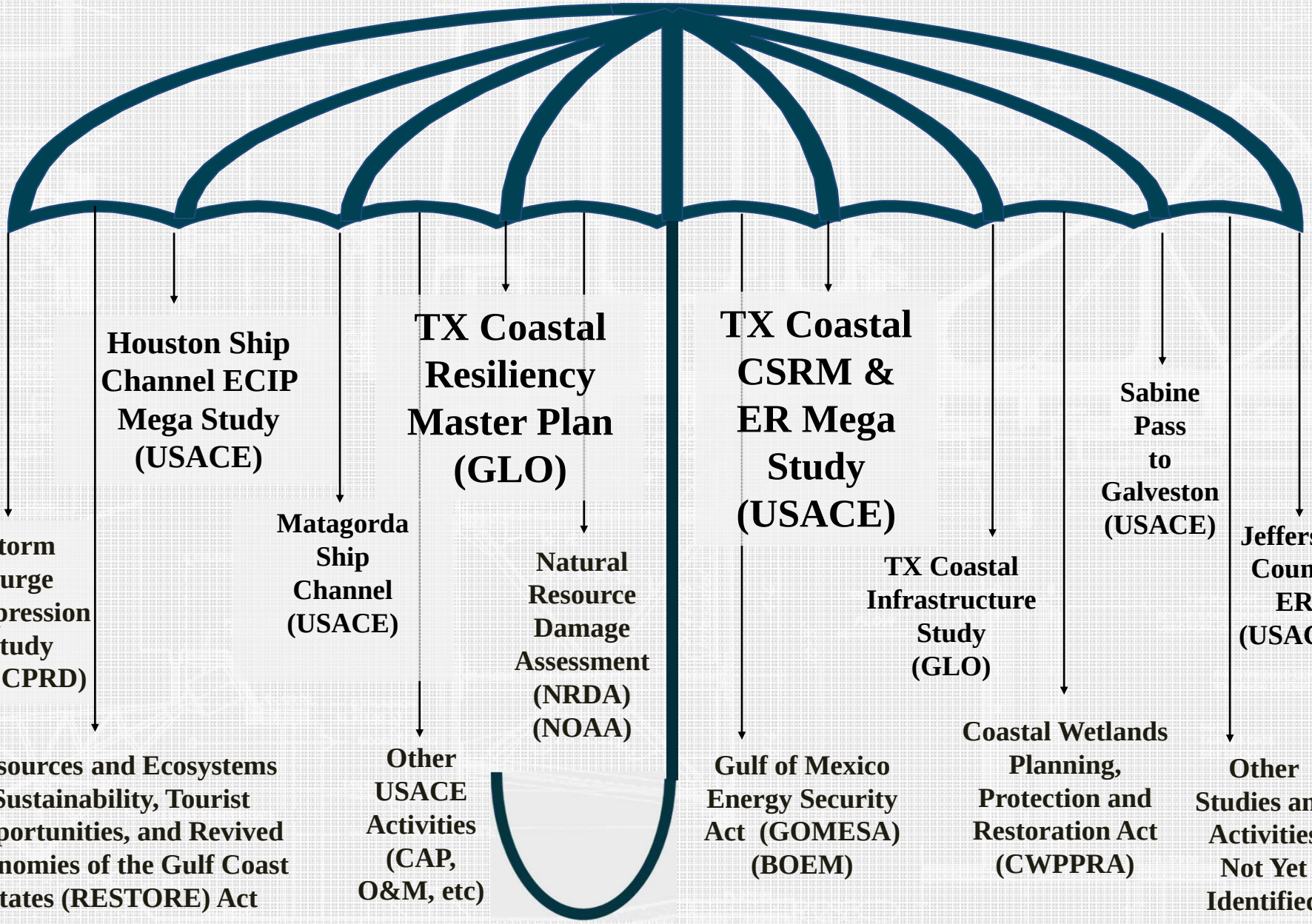
Comprehensive Plan: Overarching Vision



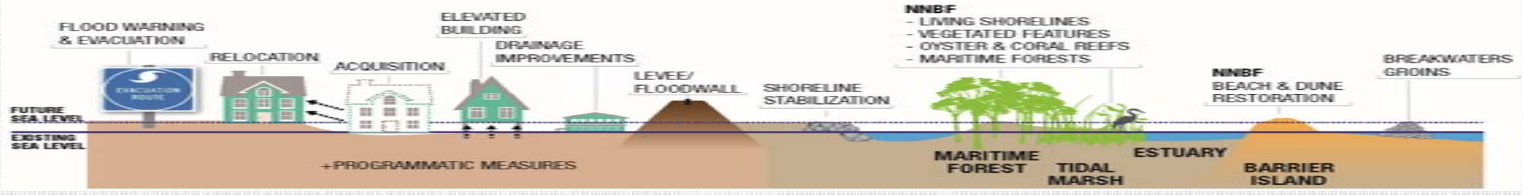
Comprehensive Plan: Purpose & Goals

Purpose

Provide an overarching, long-term strategic vision of a resilient Texas coast that supports, protects, and sustains the environment, economy and culture of the region, and that contributes greatly to the economy and well-being of the nation.

Goals

- Focus on the **long-term** (100+ years)
- Identify **threats** & future conditions (coastal storms, urbanization, changing climate/sea level rise, petrochemical/oil & transportation outlooks, etc.)
- Enhance **resilience** – e.g., improve our capabilities to **prepare** for, **resist**, **recover**, and **adapt** to significant multi-hazard threats with minimum damage to social well-being, the economy, and the environment
- Take a **systems-based** approach and promote **ecosystem-based** management
- Adopt and communicate our "**multiple lines of defense**" strategy (structural, non-structural, natural and nature-based solutions)
- Highlight benefits and present these in terms of **ecosystem goods and services**
- Incorporate **ALL** ongoing and potential future activities (where possible)
  - USACE's TX Coastal Feasibility study
  - GLO's Master Plan
  - Other USACE studies
  - Other activities undertaken by other agencies & NGOs
- Lay the groundwork for **future authorizations & programs**
- Identify areas where **additional research** and development is warranted



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Comprehensive Plan: Formats

- 1-pager: Brochure format (see Natural and Nature-based Features brochure)
  - Scope of Comp Plan
  - Highlight Feasibility Study & GLO's Master Plan (scope, schedule)
  - Provide an intro to systems approach
  - Discuss Multiple Lines of Defense 101
  - Provide POCs
- 10-pager: Coffee Table Book (see GLO's Shoring up the Future for the Texas Gulf Coast)
  - Centered around the key ecosystems and multiple lines of defense
  - Fun facts about the coast to draw the reader in
  - Highlight ongoing & proposed projects – but at a high level
- Interim Report
  - Appendix to the Feasibility Report (100+ pages)
  - Associated GIS database (can be deployed on the web)
  - Lists & maps of all ongoing & future proposed efforts – including those broader than the Feasibility study, as well as those that were screened out of the MP & Feasibility studies.
  - Provide a Beneficial Use Map for the Coast
  - Make recommendations regarding projects that are outside of the USACE/GLO interest that can be undertaken by others

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Comprehensive Plan: Schedule

- 1-pager: Feb/Mar 2017
- 10+ pager: Sep 2017
- Interim Report: May 2018

- Path Forward
  - Work closely with GLO & coordinate efforts
  - Develop a clear set of objectives
  - Map out the product layouts
  - Acquire data & develop a geodatabase
  - Socialize the Comp Plan

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DISCUSSION