



TEXAS GENERAL LAND OFFICE  
GEORGE P. BUSH, COMMISSIONER

Dear Honorable Members of the 87<sup>th</sup> Legislature:

As the chair of the Coastal Coordination Advisory Committee, and as required by §33.204(f) of the Natural Resources Code, I am pleased to submit the Texas Coastal Management Program (CMP) Biennial Report for FY 2019 – 2020.

The purpose of the CMP is to improve the management of the state's coastal resources and to ensure the long-term ecological and economic productivity of the coast. The CMP is a "networked" program linking the regulations, programs, and expertise of local, state, and federal entities managing various aspects of coastal resources. The CMP focuses on five primary issues of concern to coastal communities: coastal hazards, wetland protection, water quantity and quality, dune protection, and shoreline access. Specifically, the CMP designates coastal natural resource areas, identifies uses or activities that may adversely affect the areas, and sets uniform policies to address the effects.

The biennial report includes overviews of key activities, including state and federal consistency, coastal long-term planning, and grant administration. Since its inception in 1997, the CMP grant program has funded 646 §306/§306A projects totaling over \$49.6 million. Starting in 2020, the CMP began funding grants through the Gulf of Mexico Energy Security Act (GOMESA) funds. The CMP has funded six GOMESA projects totaling over \$6.9 million. The CMP grant program is essential to supporting other coastal programs at the General Land Office and is often used to leverage funds to complete large-scale projects under the Coastal Erosion Planning and Response Act, National Fish and Wildlife Foundation, RESTORE Act, and Natural Resource Damage and Assessment programs.

Sincerely,

GEORGE P. BUSH

Commissioner, Texas General Land Office

TEXAS COASTAL MANAGEMENT PROGRAM  
B I E N N I A L R E P O R T

2019 - 2020



DECEMBER 2020

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# ACRONYMS

## **BBP**

Bi-Partisan Budget Act of 2018

## **BWEC**

Boater Waste Education Campaign

## **CBBEP**

Coastal Bend Bays  
and Estuaries Program

## **CCA**

Coastal Coordination Act

## **CCAC**

Coastal Coordination  
Advisory Committee

## **CCC**

Coastal Coordination Council

## **CEPRA**

Coastal Erosion Planning  
and Response Act

## **CITs**

Coastal Issue Teams

## **CMP**

Texas Coastal Management Program

## **CNRAs**

Coastal Natural Resource Areas

## **Committee**

Technical Advisory Committee

## **CtG**

Cease the Grease Campaign

## **CZMA**

Coastal Zone Management Act

## **CZMP**

Coastal Zone Management Program

## **DPA**

Dune Protection Act

## **EG**

Exploration Green

## **EPA**

U.S. Environmental Protection  
Agency

## **FOG**

Fats, Oils and Greases

## **FY**

Fiscal Year

## **GBAN**

Galveston Bay Action Network

## **GBEP**

Galveston Bay Estuary Program

## **GBF**

Galveston Bay Foundation

## **GIS**

Geographic Information System

## **GEBF**

Gulf Environmental Benefit Fund

## **GIWW**

Gulf Intracoastal Waterway

## **GLO**

Texas General Land Office

## **GOMA**

Gulf of Mexico Alliance

## **HAB**

Harmful Algal Bloom

## **HBG**

Houston Botanic Garden

## **HGNC**

Houston-Galveston Navigation  
Channel Expansion Project

## **HPARD**

Houston Parks and Recreation  
Department

## **HRI**

Harte Research Institute

## **I-Plan**

Implementation Plan

## **ICT**

Interagency Coordination Team

## **IOCs**

Issues of Concern

## **JPAF**

Joint Permit Application Form

## **Land Commissioner**

Texas Land Commissioner

## **LiDAR**

Light Detection and Ranging

## **Master Plan**

Texas Coastal Resiliency Master Plan

## **NERR**

National Estuarine Research  
Reserve

## **NFWF**

National Fish and Wildlife Foundation

## **NOAA**

National Oceanic and Atmospheric  
Administration

## **NPS**

Nonpoint Source

## **OBA**

Texas Open Beaches Act

## **OCS**

Outer Continental Shelf

## **PAG**

Permitting Assistance Group

## **PSC**

Permit Service Center

## **RMCs**

Resource Management Codes

## **RESTORE**

Resources and Ecosystem  
Sustainability, Tourist Opportunities,  
and Revived Economies of the Gulf  
Coast States Act of 2012

## **SAC**

Texas Sunset Advisory Committee

## **SSO**

Sanitary Sewer Outflows

## **TAC**

Texas Administrative Code

## **TAMU-CC**

Texas A&M University-Corpus Christi

## **TAMU-G**

Texas A&M University-Galveston

## **TAMU-K**

Texas A&M University-Kingsville



**TCEQ**  
Texas Commission  
on Environmental Quality

**TCOON**  
Texas Coastal Ocean Observation  
Network

**Texas Sea Grant**  
Texas Sea Grant College Program

**TMDL**  
Total Maximum Daily Load

**TPWD**  
Texas Parks and Wildlife Department

**TSP**  
Tentatively Selected Plan

**TSSWCB**  
Texas State Soil and Water  
Conservation Board

**TWDB**  
Texas Water Development Board

**TWRI**  
Texas Water Resources Institute

**TxDOT**  
Texas Department of Transportation

**UT**  
University of Texas at Austin

**UT-RVG**  
University of Texas-Rio Grande Valley

**UT-BEG**  
University of Texas-Bureau of  
Economic Geology

**USACE**  
U.S. Army Corps of Engineers

**USFWS**  
U.S. Fish and Wildlife Service

# INTRODUCTION

**T**he value of the Texas coast stretches far beyond the 18 coastal counties and 6.1 million residents. With 367 miles of coastline and 3,300 miles of bayfront, the Texas coast is a vital component of the state and national economies, supporting energy and agricultural industries, the port system, commercial fisheries, and tourism.

## Coastal Zone Management Program

In 1972, the U.S. Congress passed the Coastal Zone Management Act (CZMA), which established the federal Coastal Zone Management Program (CZMP). The CZMP is a federal-state partnership that provides a basis for protecting, restoring, and responsibly developing the nation's diverse coastal communities and resources.

## Coastal Coordination Act

In 1991, the Texas Legislature passed the Coastal Coordination Act (CCA) to solve concerns raised by Texas coastal citizens regarding the need for a unified and comprehensive approach to the management of coastal natural resources and other complex coastal issues. The CCA called for the development of a program based on previously existing statutes and regulations and directed the Texas General Land Office (GLO) to develop a long-range, comprehensive plan for managing coastal natural resource areas (CNRAs) in cooperation with federal and state agencies, local governments, and coastal citizens.



The CCA (1) set the boundaries of the state's coastal zone to include all or part of 18 coastal counties and more than 8 million acres of land and water; (2) established the framework for a federally approved coastal management program; and (3) created the Coastal Coordination Council (CCC) to establish rules for certification for consistency with the goals and policies of the Texas Coastal Management Program (CMP) and to approve CMP funded projects.

In 2010, the CCC underwent review by the Texas Sunset Advisory Commission (SAC). The SAC determined that while the state benefited from maintaining a federally approved CMP, the CCC was no longer needed to administer it. In response, the

**1972**

**U.S. Congress passed the CZMA, establishing the CZMP.**

**1991**

**The Texas Legislature passed the CCA.**

**1997**

**The CMP was finalized and accepted into the CZMP.**

**2010**

**The Council was abolished and its duties transferred to the Land Commissioner. The CCAC was established with representatives from eight networked agencies and four public members.**

82nd Texas legislature passed and the Governor signed into law a bill to abolish the CCC and transferred duties to the Texas Land Commissioner (Land Commissioner). The Land Commissioner is now authorized to make consistency determinations as required by Federal law. The bill also required the Land Commissioner to establish a Coastal Coordination Advisory Committee (CCAC) with representatives from the networked agencies and public members appointed by the Land Commissioner.

### **Texas Coastal Management Program**

The CMP was finalized in 1997 and accepted into the CZMP by the National Oceanic and Atmospheric Administration (NOAA). The CMP is a networked program that links existing regulations, programs, and local, state, and federal entities that manage various aspects of coastal resource use. The CMP's mission is to improve the management of the state's CNRAs designated to be of particular concern and ensure the long-term ecological and economic productivity of the Texas coast.

### **Coastal Coordination Advisory Committee**

The CCAC is comprised of eight members representing state agencies and four members representing local government and citizens. The state agencies represented include: the GLO, Railroad Commission of Texas, Texas Department of Transportation (TxDOT), Texas Commission on Environmental Quality (TCEQ), Texas Parks and Wildlife Department (TPWD), Texas State Soil and Water Conservation Board (TSSWCB), Texas



## **Coastal Coordination Advisory Committee**



Commissioner-appointed committee members include a coastal resident representative, coastal business representative, agriculture representative and a local elected official.





Water Development Board (TWDB), and the Texas Sea Grant College Program (Texas Sea Grant). The Land Commissioner-appointed citizen members represent agriculture, coastal businesses, coastal governments, and coastal residents.

The CCAC manages elevated coastal issues that concern multiple Coastal Issue Teams (CITs) and consistency issues. In Fiscal Year (FY) 2019 and FY 2020, the CCAC met twice. The GLO provides the CCAC with quarterly CMP updates.

### **Coastal Issues Team**

Under the CCAC, CITs meet to coordinate on cross-agency issues, including water quality; CMP grants; CMP coastal long-term planning; and regulatory/permitting.

### **Water Quality CIT**

The Water Quality CIT is actively working towards approval of the Texas Coastal Nonpoint Source (NPS) Pollution Control Program, with a current focus on measures related to onsite sewage facilities/onsite sewage disposal systems and storm water, roadway, and watershed planning.

### **CMP Grants CIT**

Each year, the CMP awards approximately \$1.8 million in grant funding. The CMP Grants CIT reviews grant pre-proposals and provides comments to applicants and reviews and scores final applications.

### **CMP Coastal Long-Term Planning CIT**

The Coastal Long-Term Planning CIT members participate in the development of the Section 309 Assessment and Strategies Report and serve as members of the Technical Advisory Committee (Committee) for the Texas Coastal Resiliency Master Plan (Master Plan).

### **Regulatory/Permitting CIT**

The Regulatory/Permitting CIT focuses on federal consistency issues and information exchange on consistency reviews.

## **By the Numbers**

**6.5 Billion**

Tax dollars generated by Texas ports

**251 Billion**

Value of goods exported from Texas ports in 2011

**6 Billion**

Value of agricultural commodities produced by Texas farmers and ranchers exported through Texas ports

**\$240 Million**

Value of seafood landed at Texas ports

**14 Billion**

Amount spent by tourists visiting the Texas coast, generating about 143,000 jobs<sup>1</sup>

<sup>1</sup>"Shoring Up The Future for the Texas Gulf Coast." Texas General Land Office. April 2013.

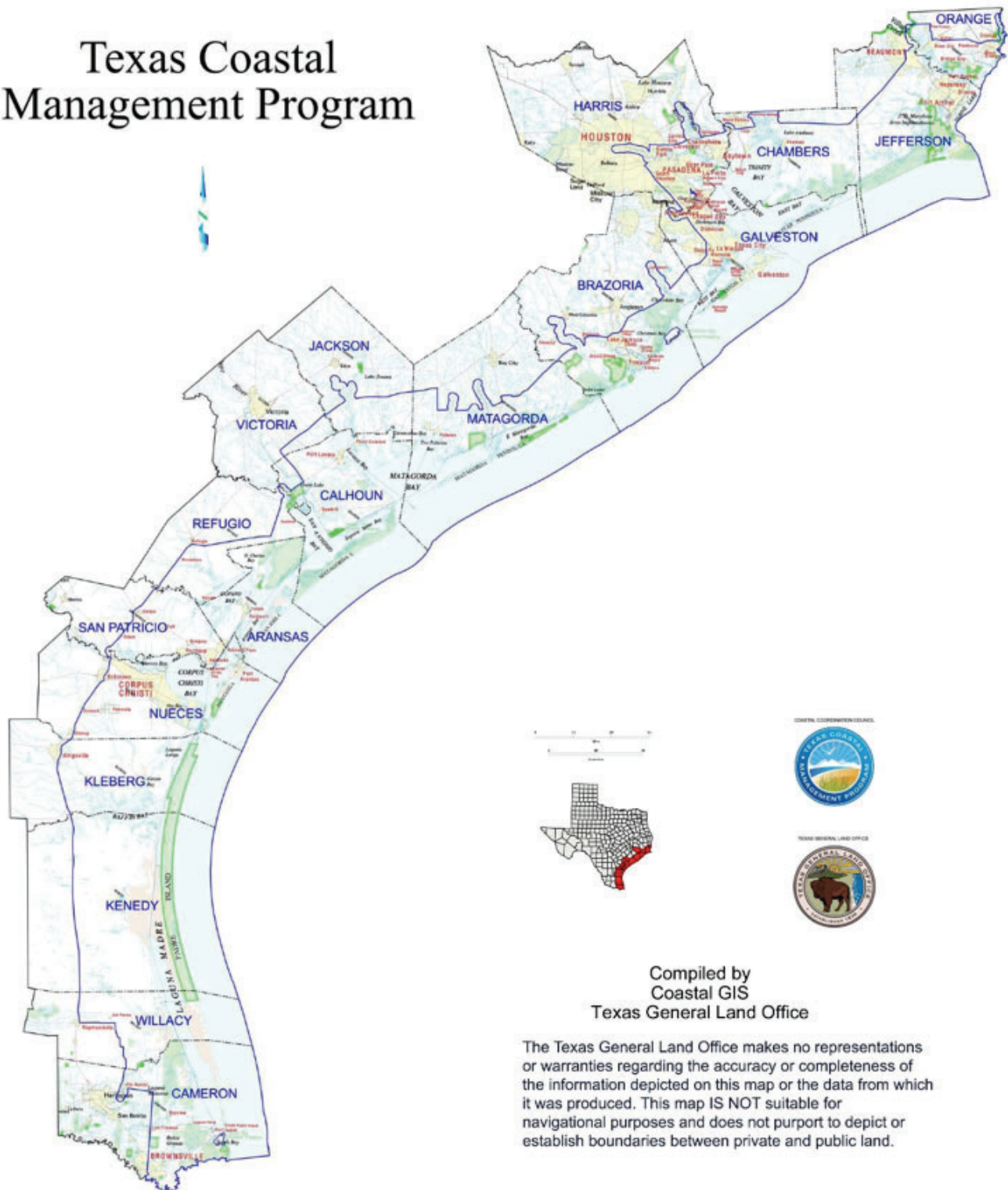
# PROGRAM GOALS

- ◆ To protect, preserve, restore, and enhance the diversity, quality, quantity, functions, and values of CNRAs;
- ◆ To ensure sound management of all coastal resources by allowing for compatible economic development and multiple human uses of the coastal zone;
- ◆ To minimize loss of human life and property due to the impairment and loss of protective features of CNRAs;
- ◆ To ensure and enhance planned public access to and enjoyment of the coastal zone in a manner that is compatible with private property rights and other uses of the coastal zone;
- ◆ To balance the benefits from economic development and multiple human uses of the coastal zone, the benefits from protecting, preserving, restoring, and enhancing CNRAs, the benefits from minimizing loss of human life and property, and the benefits from public access to and enjoyment of the coastal zone;
- ◆ To coordinate agency and subdivision decision-making affecting CNRAs by establishing clear, objective policies for the management of CNRAs;
- ◆ To make agency and subdivision decision-making affecting CNRAs efficient by identifying and addressing duplication and conflicts among local, state, and federal regulatory and other programs for the management of CNRAs;
- ◆ To make agency and subdivision decision-making affecting CNRAs more effective by employing the most comprehensive, accurate, and reliable information and scientific data available and by developing, distributing for public comment, and maintaining a coordinated, publicly accessible geographic information system (GIS) of maps of the coastal zone and CNRAs at the earliest possible date;
- ◆ To make coastal management processes visible, coherent, accessible, and accountable to the people of Texas by providing for public participation in the ongoing development and implementation of the CMP; and
- ◆ To educate the public about the principal coastal problems of state concern and technology available for the protection and improved management of CNRAs.



# PROGRAM MAP

## Texas Coastal Management Program



Compiled by  
Coastal GIS  
Texas General Land Office

The Texas General Land Office makes no representations or warranties regarding the accuracy or completeness of the information depicted on this map or the data from which it was produced. This map IS NOT suitable for navigational purposes and does not purport to depict or establish boundaries between private and public land.



# PROGRAM BUDGET

**C**ZMA funds ensure effective administration of the CMP, especially activities to implement and enforce program policies, authorities, and other management techniques. Each year, the GLO receives approximately \$2.4 million under the CZMA to administer the CMP. The CZMA provides funding for two programs: the administrative and coastal resource improvement program (§306/§306A), and the program enhancement program (§309). The state is required to match the §306/§306A funds at a 1:1 ratio; however, a match is not required for §309.

## **Section 306/306A Funding**

NOAA provided the state \$2,345,000 in FY 2019 and \$2,415,000 in FY 2020 in §306/§306A funding to administer the CMP. Approximately 74 percent (\$3,539,000) of the amount received in §306/§306A funding (\$4,760,000) was awarded to eligible entities for coastal projects through a competitive grant process. Grant subrecipients were required to contribute a 40 percent match. The state retained approximately 26 percent (\$1,221,000) for program administration, matching this amount with salaries, fringe benefits, and indirect costs.

## **Section 309 Funding**

NOAA provided the state \$515,000 in FY 2019 and \$515,000 in FY 2020 in §309 funding to develop and carry out improvements that strengthen the CMP and implement program changes. Section 309 funding must support attainment of one or more of the eight coastal zone enhancement objectives: 1) wetlands, 2) coastal hazards, 3) public access, 4) marine debris, 5) cumulative and secondary impacts, 6) ocean resources, 7) energy and government facility siting, and 8) aquaculture.

## **Gulf of Mexico Energy Security Act (GOMESA) Funding**

The CMP received 15% of the GLO's GOMESA allocations, approximately \$6,947,000 in FY 2019 and \$11,434,000 in FY 2020 to fund a variety of coastal resiliency projects. The CMP will utilize GOMESA monies to fund Projects of Special Merit (PSM). PSM will be awarded to applicants that reflect an effort on the part of regional entities to work together to create a project that benefits an entire area/region instead of site-specific locations.

FY 2019			
<b>\$306/\$306A</b>	<b>STATE</b>	<b>SUB-RECIPIENTS</b>	<b>TOTAL</b>
Federal Amount Awarded	\$490,847	\$1,854,153	\$2,345,000
State/Subrecipient Match	\$1,085,713	\$1,259,287	\$2,345,000
Subtotal	\$1,576,560	\$3,113,440	\$4,690,000
<b>\$309</b>	<b>STATE</b>	<b>SUB-RECIPIENTS</b>	<b>TOTAL</b>
Federal Amount Awarded	\$515,000	\$0	\$515,000

FY 2020			
<b>\$306/\$306A</b>	<b>STATE</b>	<b>SUB-RECIPIENTS</b>	<b>TOTAL</b>
Federal Amount Awarded	\$730,327	\$1,684,673	\$2,415,000
State/Subrecipient Match	\$1,173,056	\$1,241,944	\$2,415,000
Subtotal	\$1,903,383	\$2,926,617	\$4,830,000
<b>\$309</b>	<b>STATE</b>	<b>SUB-RECIPIENTS</b>	<b>TOTAL</b>
Federal Amount Awarded	\$515,000	\$0	\$515,000

GLO GOMESA FUNDING	
2019	\$6,947,000
2020	\$11,434,000



# HIGHLIGHTS & SIGNIFICANT EVENTS

## Texas Coastal Nonpoint Source Pollution Control Program

GLO and TCEQ staff continued to lead coordination efforts to develop and implement a Coastal NPS Pollution Control Program and focused on addressing outstanding management measures related to:

- ◆ On-Site Sewage Disposal Systems Impact to Nitrogen Limited Waters;
- ◆ Operating On-Site Sewage Disposal Systems (on-site inspection);
- ◆ New Development;
- ◆ Site Development;
- ◆ Off-system Roads, Highways, and Bridges (non-TxDOT);
- ◆ Watershed Protection; and
- ◆ Existing Development.

In 2020, GLO received the Interim Decision Documents from the EPA and NOAA review team indicating approvals of all remaining outstanding management measures. GLO and the review team continues to resolve minor issues related to the Hydromodification measure. Finalizing the approval process may take up to twelve months and is anticipated to be completed in late 2021.

As the program approval phase comes to an end, GLO and networked agencies are focusing on implementation and the development of new implementation resources. Examples of resources include:

- ◆ Program branding and name change to Clean Coast Texas
- ◆ Website development and domain acquisition, [www.cleancoast.texas.gov](http://www.cleancoast.texas.gov)
- ◆ Upgrading the Guidance for Sustainable Stormwater Drainage on the Texas Coast manual
- ◆ Launching an initiative (fall 2020), Clean Coast Collaborative; a partnership with Texas Sea Grant, Texas Community Watershed Partners, and Meadows Center for Water and Environment.
- ◆ Developing workshops for community engagement
- ◆ Developing on-line modules
- ◆ Developing “quick guides” to offer infographics heavy communications tools
- ◆ Coordinating with the Mission-Aransas NERR Coastal Training Program to develop workshop delivery and co- branding
- ◆ Coordinating with the GLO Coastal Resiliency Master Plan to improve project planning, NPS interventions, project development, and co-branding

The program is beginning its fifteen-year implementation plan and will reassess and adapt strategies to maximize water resource and NPS management outcomes on an ongoing basis.



## **CMP Rule Revisions**

The GLO is in the process of amending Title 31 of the Texas Administrative Code (TAC), Chapter 506. The proposed new federal consistency procedures have been reorganized and streamlined to simplify the rules and increase transparency. The proposed new rules reflect the abolishment of the Coastal Coordination Council (CCC), the creation of the Coastal Coordination Advisory Committee (CCAC), and the transfer of the CCC's functions to the GLO and the Land Commissioner. The federal consistency procedures in Chapter 506 have also been updated to be consistent with the federal regulations in 15 Code of Federal Regulations Part 930.

## **Section 309 Assessment & Strategies Report Development**

Section 309 of the CZMA establishes a voluntary grants program to encourage states with federally approved coastal management programs to identify, develop, and implement strategies to strengthen and enhance their programs. As a condition of receiving §309 funding, the GLO must submit a Section 309 Assessment & Strategies Report to NOAA every five years. The report assesses the CMP, identifies program priorities, and proposes strategies that lead to program enhancements for the subsequent five years.

The CMP submitted its 2021-2025 Assessment and Strategies Report to NOAA in FY 2020, which was approved in September 2020. The report provides an in-depth look at Wetlands, Coastal Hazards, and Ocean Resources in Texas. The report also includes the strategy to develop the Texas Coastal Sediment Management Plan. This will involve identifying and characterizing sediment sources and borrow areas, updating and expanding databases and project planning tools, updating and developing new policy, and expanding outreach efforts. The CMP will begin work on this strategy in October 2021.



# PROGRAMMATIC IMPACT

Over the past ten years, the CMP has attempted to maximize its reach and impact to local coastal communities. Unlike most other CMP programs in other states, the Texas CMP is unique in that it passes the majority of its funding through to coastal communities through grant competitions. This ensures the issues and priorities that originate from the community drive local solutions. Approximately 90% of the funding the CMP receives from NOAA is distributed to organizations all along the coast. Since 2011, these funds have had a broad impact, including:

- ◆ 4,300 acres of coastal habitat restored
- ◆ \$2,331,000,000 in ecosystem services gained
- ◆ 52 plans or projects completed to reduce damage from future coastal hazards
- ◆ 1,539 participants in training events related to government coordination
- ◆ 3,249 Federal Consistency projects reviewed
- ◆ 5 public access sites created
- ◆ 45 public access sites enhanced

## CMP IMPACT SINCE 2011

**4,300**  
Tax dollars  
generated by  
Texas ports

**\$2.3 Billion**  
Value of goods  
exported from  
Texas ports  
in 2011

**52**  
Value of agricultural  
commodities produced  
by Texas farmers and  
ranchers exported  
through Texas ports

**1,539**  
Value of seafood  
landed at  
Texas ports

*<sup>1</sup>“Shoring Up The Future for the Texas Gulf Coast.” Texas General Land Office. April 2013.*



# PROGRAM COORDINATION



The CMP serves as an umbrella for the management of coastal resources along the Texas Coast. Through networking with state and federal natural resource agencies and other entities, the effectiveness of protection, restoration, and enhancement of CNRAs can be accomplished.

## **Regulatory Partnerships** ***Interagency Coordination Teams***

In the early 1990s, the U.S. Army Corps of Engineers (USACE) developed the Interagency Coordination Team (ICT) concept as part of the Houston-Galveston Navigation Channel (HGNC) Expansion Project, which involved deepening and widening the Houston Ship Channel and finding advantageous uses for the dredged material. The HGNC ICT, consisting of state and federal resource agencies and the Port of Houston Authority, was created to address key environmental issues and concerns associated with the project. Other non-governmental

organizations, including the Galveston Bay Foundation (GBF), local residents, commercial fishermen, and recreational boaters, participated in ICT meetings, providing advice and feedback. In an effort to identify solutions to key issues associated with the project, the ICT formed several subcommittees, composed of ICT members with scientific expertise in various environmental disciplines. Subcommittees include the Beneficial Uses Group, the Oyster Committee, Cumulative Impacts Group, and the Benthic Recovery Group. The Beneficial Uses Group monitors the progress of marsh restoration sites created from material dredged from the navigation project.

The success of the HGNC ICT led USACE to form additional ICTs for other large and potentially controversial projects such as: the Gulf Intracoastal Waterway (GIWW) Laguna Madre maintenance dredging; GIWW Welder Flats-Aransas National Wildlife Refuge whooping crane habitat protection; the Corpus Christi Ship Channel Improvement Project; Sabine-Neches Waterway Improvement Project; and the Sabine Pass to San Luis Pass Shoreline Erosion Project.

## ***Open Beach and Dune Protection Program***

The Beach and Dune Protection Program enforces the Open Beaches Act (OBA), Dune Protection Act (DPA), and related administrative rules to ensure protection of CNRAs and accessibility for all beach users.

## **Funding Partnerships** ***Coastal Erosion Planning and Response Act Program***

In 1999, the Texas Legislature established the Coastal Erosion Planning and Response Act (CEPRA) program to reduce and minimize erosion impacts to public beaches and dunes, wetlands, the GIWW, homes, businesses, and public infrastructure, thereby protecting the state's natural resources and economic future. As a cost-sharing program, CEPRA funding is used to leverage federal, state, local, and private resources. The CEPRA program matches up to 75 percent of funding for beach nourishment and dune restoration projects and up to 60 percent of funding for wetland and habitat restoration projects, shoreline protection projects, and erosion studies.



### ***Gulf of Mexico Energy Security Act Program***

In 2006, President Bush signed the Gulf of Mexico Energy Security Act into law to enhance the Outer Continental Shelf oil and gas leasing activities and revenue sharing in the Gulf of Mexico. Alabama, Louisiana, Mississippi and Texas share lease revenues for coastal restoration and conservation projects and hurricane protection. The GLO administers the funds for projects along the Texas coast.

### ***National Fish and Wildlife Foundation***

In early 2013, a U.S. District Court approved two plea agreements resolving certain criminal cases against British Petroleum and Transocean which arose from the 2010 Deepwater Horizon explosion and oil spill. The agreements directed a total of \$2.544 billion to the National Fish and Wildlife Foundation (NFWF) to fund projects benefiting the natural resources of the Gulf Coast that were impacted by the spill. Between 2013 and 2020, NFWF's newly-established Gulf Environmental Benefit Fund (GEBF) received a total of \$203 million for natural resource projects in Texas. To date, NFWF has awarded nearly \$182 million from the GEBF for 55 restoration projects in Texas. These projects were selected following extensive consultation with the TPWD, TCEQ, GLO, the U.S. Fish & Wildlife Service (USFWS) and NOAA. The projects in Texas address high-priority conservation needs. They represent important efforts to protect and enhance natural and living resources along the vast Texas coast.

### ***Resources and Ecosystem Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act (RESTORE)***

In July 2012, the Resources and Ecosystem Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act (RESTORE) directed 80 percent of funds from penalties assessed for the Deepwater Horizon oil spill to the Gulf States to fund environmental and economic development projects. Commissioner Baker at the TCEQ was designated by Governor Abbott as the Texas trustee for the funds. Texas is expected to receive at least \$550 million in RESTORE funds through 2033.

### ***Deepwater Horizon Natural Resource Damage Assessment (NRDA)***

In 2016, the Final Programmatic Damage Assessment and Restoration Plan was released in response to the Deepwater Horizon oil spill. In October 2017 Texas released its first restoration plan, selecting 13 restoration projects to compensate for injuries to natural resources caused by the oil spill. This plan prioritizes restoration projects for oysters and wetlands, coastal, and nearshore habitats with a total estimated cost of \$45,761,000. Texas will be developing its second restoration plan in 2021. Texas is expected to receive \$238 million in NRDA funds through 2031.

### ***Program Partnerships***

#### ***Texas Beach Watch Program***

The EPA funds the Texas Beach Watch Program for water quality monitoring at Texas recreational beaches. Results of water sampling and advisories are posted on the Texas Beach Watch website at:

<https://cgis.glo.texas.gov/Beachwatch/index.html>

#### ***Mission-Aransas National Estuarine Research Reserve System***

In 2006, NOAA included the Mission-Aransas National Estuarine Research Reserve (NERR) within its network of



coastal sites designated for research, monitoring, education, and stewardship. The University of Texas, Marine Science Institute manages the Mission-Aransas NERR, composed of approximately 190 acres of coastal habitat, including tidal flats, seagrass beds, mangroves, and oyster reefs. Through the CZMA, NOAA provides funding, guidance, and assistance to the Mission-Aransas NERR to protect and study the estuarine system. Three GLO representatives serve on the Mission-Aransas NERR Advisory Board, collaborating with partners on issues related to coastal resources, energy, and coastal leasing.

#### ***Texas Sea Grant College Program***

Texas Sea Grant College Program (Texas Sea Grant) is a partnership between NOAA and Texas A&M University that addresses issues within coastal communities to support healthy coastal environments and economies. Texas Sea Grant provides scientific research of coastal and marine resources and conducts outreach to educate the public and guide communities in decision making. A GLO representative serves on the Texas Sea Grant Advisory Committee, collaborating with partners to improve the understanding and stewardship of Texas coastal and marine resources.

#### ***Gulf of Mexico Alliance***

The Gulf of Mexico Alliance (GOMA) is a partnership between federal and state agencies, academic organizations, non-profit organizations, and businesses in Alabama, Florida, Louisiana, Mississippi, and Texas. GOMA provides an opportunity for partners to identify and discuss the Gulf of Mexico's priorities and needs, promote collaboration between scientific and technical experts and resource managers, and minimize duplicative efforts. GOMA has identified priority issues for the Gulf, including water quality, nutrient impacts, habitat conservation and restoration, ecosystem integration and assessment, coastal resilience, and environmental education.

#### ***Galveston Bay Estuary Program***

As a non-regulatory program administered through TCEQ, the Galveston Bay Estuary Program (GBEP) coordinates and facilitates partnerships to implement the Galveston Bay Plan and provides comprehensive ecosystem management to preserve the Bay's multiple uses. GBEP partners with local, state, and federal governments, regional authorities, non-government organizations, academic organizations, recreational fisheries, businesses, and industries to identify issues, solutions, and actions to support the Bay's needs. A GLO representative serves on GBEP's coordinating body, the Galveston Bay Council, assisting in plan implementation and ensuring program effectiveness.

#### ***Coastal Bend Bays and Estuaries Program***

The Coastal Bend Bays and Estuaries Program (CBBEP) is a non-profit organization dedicated to improving the health of bays and estuaries in the Texas Coastal Bend. CBBEP oversees a voluntary partnership, consisting of resource managers, local, state, and federal governments, bay users, environmental organizations, and private industries and ensures implementation of the Coastal Bend Bays Plan. GLO staff serve on various plan implementation teams, providing oversight and guidance for ongoing projects, monitoring, and research initiatives, identifying program needs, and recommending projects for inclusion in CBBEP's annual work plans.



# COASTAL LONG-TERM PLANNING & STUDIES

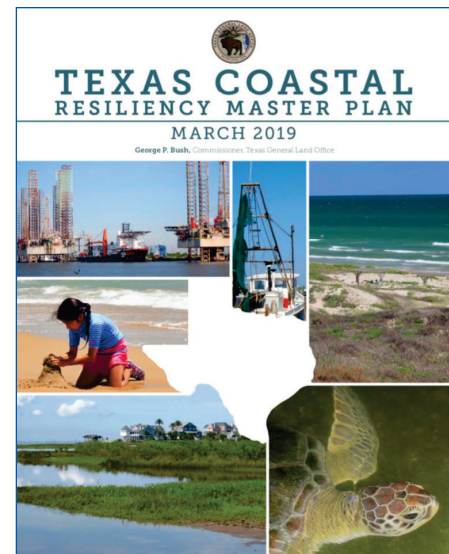
## Texas Coastal Resiliency Master Plan

As the steward of state-owned lands, the GLO is responsible for the management of the Texas coastline from the inland extent of tidally influenced streams and riverbeds, out to 10.3 miles into the Gulf of Mexico. Recognizing that Texas does not have a state-sponsored coastal plan, the Land Commissioner directed his Coastal Protection Division to develop the Texas Coastal Resiliency Master Plan (Master Plan) in alignment with the GLO's mission to restore, enhance, and protect the state's coastal resources.

The Master Plan highlights the value of the coast's natural and cultural resources, as well as the specific vulnerabilities that present threats to coastal communities, habitats, and infrastructure. The first iteration of the Master Plan was released in March 2017, with an expanded second installment following soon after in March 2019. While the 2017 Master Plan focused primarily on nature-based projects to mitigate the impacts of coastal hazards, the 2019 Master Plan included consideration of traditional infrastructure improvement solutions to continue to confront threats to the ecologic and economic vitality and productivity of the coastal region. The 2019 Master Plan also provided modeling for future coastal conditions, incorporating sea level rise scenarios to understand potential landscape changes and storm surge inundation areas to examine socioeconomic impacts, in order to further demonstrate the need to plan for these considerations moving into the future. The GLO will release the next Master Plan in 2023 while continuing to expand sea level rise and storm surge scenario modeling, along with other planning enhancements that will aid in coordinating, expediting, and justifying coastal resiliency projects toward implementation.

The formulation process of the Master Plan is heavily dependent upon input from local stakeholders in the form of a Technical Advisory Committee (TAC) comprised of coastal experts and decision-makers from state and federal agencies, universities, local governments, non-profits, engineering firms, port representatives, and regional trusts, foundations and partnerships. The TAC members provide technical review and consultation throughout the entire planning process, making the Master Plan a truly locally driven and well-supported effort.

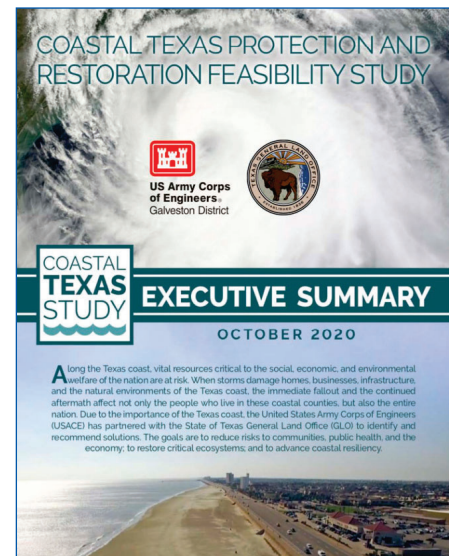
The Master Plan continues to serve as the ongoing, state-sponsored coastal planning effort for Texas and acts as a guiding document for GLO funding programs, as well as a platform to communicate prioritized actions, strategies, and projects along the Texas coast to state and federal audiences, and to other external funding partners.



## Coastal Texas Study

In November 2015 the US Army Corps of Engineers (USACE), in partnership with the GLO, began assessing the feasibility of constructing coastal storm risk management and ecosystem restoration projects along the Texas coast. The Coastal Texas Study is estimated to cost \$20 million with a 50/50 federal to non-federal cost share split (later changed to approximately 60/40 due to Hurricane Harvey and the Bipartisan Budget Act of 2018). The study developed for the coast of Texas, and includes engineering environmental analyses. Once the final report is complete in mid 2021, the U.S. Congress may consider the recommendations for authorization and funding.

In partnership between the GLO and the USACE, the Coastal Texas Study is nearing completion. The Coastal Texas Study is a plan that assesses the feasibility of constructing coastal storm risk management and ecosystem restoration projects along the Texas coast. The revised Draft Feasibility Report and Draft Environmental Impact Statement was released on October 30, 2020 for a 45-day public comment period (may be extended to 75). There were six virtual public meetings that provided an opportunity for the public to comment on the report. In addition, there were two technical virtual question and answer sessions that gave the public an opportunity to question the subject matter experts. The recommended plan includes a storm surge barrier system for the Houston Galveston region, eight landscape scale ecosystem restoration projects along the Texas coast, and beach and dune enhancement for storm risk reduction in South Padre Island. The final report for the study is scheduled for completion by mid 2021. Additional information on the recommended plan and the study can be found at [coastalstudy.texas.gov](https://coastalstudy.texas.gov).





# STATE & FEDERAL CONSISTENCY



The CZMA allows states to operate coastal management programs through a single permitting agency or by coordinating existing regulatory authorities through a networked program. Texas combines existing regulatory authorities and builds on the strength of those authorities utilizing the networked program approach.

CMP is intended to make coastal decision-making processes more effective and efficient. Each networked agency ensures its proposed actions that may adversely affect CNRAs are consistent with CMP goals and policies, through the exercise of statutory authorities. The

CCA requires networked agencies and subdivisions to comply with a uniform set of program goals and policies when conducting activities in the coastal zone.

## Consistency Review

The consistency review process ensures the actions of state and federal agencies and limited local government actions are consistent with CMP goals and policies. Three consistency review components exist in the CMP: local consistency, state consistency, and federal consistency.

## Local Consistency Review

The issuance of dune protection permits and beachfront construction certificates are the only local government actions that may adversely affect CNRAs. Local government beach/dune permitting authorities that have certified or conditionally certified dune protection and beach access plans are responsible for issuing dune protection permits and beachfront construction certificates for construction activities in the beach/dune system.

The GLO reviews all dune protection permits and beachfront construction certificate applications to ensure compliance with the OBA, DPA, and the GLO Beach Access and Dune Protection Rules. Permitted construction activities must be consistent with CMP goals and policies. For dune protection permits, local governments must certify that the proposed activity will not materially weaken any dune, materially damage any dune vegetation, or reduce the effectiveness of any dune as a means of protection against erosion and high wind and water. For beachfront construction certificates, local governments must certify that the proposed activity is consistent with the beach access portion of the approved dune protection and beach access plan and determine that the activity does not interfere with or otherwise restrict the public's right to access and use the public beach easement.

**FY 2019 – 401 permits reviewed**

**FY 2020 – 439 permits reviewed**

## State Consistency Review

The CMP provides interagency coordination on significant policy issues and major coastal development projects, allowing networked agencies to manage their own programs on a day-to-day basis. Certification of an agency's rules is the primary tool for ensuring a networked agency's rules governing actions subject to the CMP are consistent with the program. Because

an agency must comply with its own rules, incorporating the goals and policies into agency rules ensures the agency will exercise its networked authorities consistent with the CMP. If an agency's rules are consistent, then its activities should be consistent.

Once an agency's rules are certified, the agency may adopt consistency review thresholds limiting the CMP's authority to review its actions. The agencies are responsible for enforcing the provisions of the CMP and are authorized to enforce the permits or authorizations issued.

Networked agencies are those with activities or rules that affect or protect CNRAs. The affected state agencies include the School Land Board, the Boards for Lease of State-owned Lands, the Public Utility Commission of Texas, the Texas Historical Commission, the TSSWCB, the Railroad Commission of Texas, GLO, TWDB, TCEQ, TxDOT, and TPWD.

During FY 2019 and FY 2020, the GLO received quarterly reports from the networked state agencies for permitting actions, rulemakings, and enforcement actions.

#### **FY 2019**

In FY 2019, the reporting state agencies received 3,066 permit applications, of which 2,448 were reported as approved without conditions, and 552 were reported as approved with conditions. The state agencies submitted and adopted 6 rulemakings. In addition, the state agencies reported undertaking 168 enforcement actions.

#### **FY 2020**

During FY 2020, the GLO received quarterly reports from the networked state agencies for permitting actions, rulemakings, and enforcement actions. The reporting state agencies received 3,321 permitting applications, of which 2,741 were approved without conditions, and 668 were approved with conditions. The state agencies submitted and adopted 4 rulemakings. In addition, the state agencies reported undertaking 383 enforcement actions.

#### **Federal Consistency Review**

Approval of the CMP gave Texas the authority to review proposed federal actions and activities that are in or may affect land and water resources in the Texas coastal zone. This process, called federal consistency review, ensures the state's interest is fairly represented and allows the state the opportunity to provide input into policies, procedures, or actions and activities that may affect the management of coastal areas, including:

- ◆ Projects requiring a federal license or permit;
- ◆ Direct activities proposed by federal agencies; and
- ◆ Federal financial assistance to state and local governments.

Federal actions and activities within or outside the Texas coastal zone that affect CNRAs must be consistent with enforceable policies of the CMP to the maximum extent practicable. If the state finds a given action or activity to be inconsistent, with a few exceptions the action cannot be undertaken.



Federal actions and activities are evaluated for potential impacts to CNRAs. During FY 2019 and FY 2020, all the proposed federal agency actions, activities, or financial assistance projects reviewed by staff and considered by the Land Commissioner were deemed consistent with CMP goals and policies.

During FY 19 and FY 20, there have been five Deepwater Port (DWP) License permit projects proposed along the Texas coast. All of these projects have to be reviewed for federal consistency. Texas Gulf Terminals' DWP application was published by the United States Coast Guard (USCG) and Maritime Administration (MARAD) in July 2018. The license application was officially withdrawn in February 2020. Texas COLT's DWP application was published in February 2019 and officially withdrawn in December 2019.

Sea Port Oil Terminal's (SPOT) DWP application was published in January 2019. The Draft EIS and Corps permit public notice are expected to be published in 2021. GLO federal consistency staff provided comments to the USCG/MARAD and Corps. Federal consistency staff are still reviewing project information in regard to the consistency determination.

Bluewater Texas Terminal and Texas GulfLink's DWP applications were published in May 2019. USCG is still writing the Draft EIS for each of these projects. Federal consistency determinations will be required for these licenses.

GLO staff is currently reviewing two (2) large scale projects proposed by the Port of Corpus Christi Authority that may have significant impacts to CNRAs as well as increased public interest. Federal consistency determinations will be required for these projects.

### **Federal Agency Actions**

A federal agency action is a federal license or permit issued by a federal agency that represents the proposed federal authorization, approval, or certification needed by the applicant to begin an action. For example, a USACE permit for the construction of a pier or boat dock is considered a federal action. During FY 2019, a total of 161 actions requiring a federal license or permit were reviewed. During FY 2020, a total of 182 actions requiring a federal license or permit were reviewed.

### **Federal Agency Activities and Development Projects**

A federal agency activity is a function performed by or for a federal agency in exercise of its statutory responsibility. This includes the planning, construction, modification, or removal of a public work, facility, or any other structure, and the acquisition, use, or disposal of land or water resources. For example, maintenance dredging of a navigation channel or changes in federal permitting processes are considered federal activities. During Federal FY 2019, 15 federal activities were reviewed for consistency, and during Federal FY 2020, 41 federal activities were reviewed for consistency.

### **Federal Funding Assistance**

Financial assistance projects are state or local applications for federal funding in the form of grants, contractual agreements, and loans. For example, a request for funding for a flood control project is considered a request for financial assistance. Federal agencies may not grant federal assistance until the state CMP concurs. During FY 2019, 112 financial assistance projects were reviewed. During FY 2020, 110 financial assistance projects were reviewed.

### **Permitting Assistance**

Prior to the CMP, overlapping jurisdiction between federal and state agencies created redundancies and a complicated application process for common projects, such as residential piers or placement of fill material to construct a building.

To mediate the problem, the CMP streamlined the permitting process and improved agency coordination.

### Permitting Assistance Group

The Permitting Assistance Group (PAG) was formed to identify and address permitting obstacles; encourage interagency cooperation; offer the public a single point-of-contact for project-specific advice during the permit application process; and serve as a liaison to the CCAC on permitting issues. The PAG is comprised of CCAC members and representatives of federal and state agencies that

participate in the permitting process as applicants, permitting entities, or commenters. The PAG addresses requests for preliminary consistency determinations. The PAG did not meet in FY 2019 or FY 2020.



### Permitting Coastal Issues Team

The Permitting Coastal Issues Team (PCIT) is composed of staff members from the CMP networked agencies. The PCIT convenes to discuss larger projects that require federal consistency determinations. The PCIT met in December 2019 and February 2020 to discuss the Deepwater Port License projects and other large-scale projects along the Texas coast. A written update was provided to the team in January 2020. The PCIT will be consulted on federal consistency determinations for the Deepwater Port license projects.

### Joint Permit Application Form

To reduce redundancies and streamline the permitting process, Joint Permit Application Forms (JPAFs) were created, providing one consolidated application for permits/authorizations from multiple agencies. JPAFs minimize the length of the permitting process and reduce confusion among applicants regarding which permits are required for a project.

### Joint Evaluation Meetings

State and federal resource agency representatives routinely attend monthly Joint Evaluation Meetings. The meetings, sponsored by the USACE, provide guidance to applicants on CMP policies and agency permitting requirements.

### Permit Service Center

The Permit Service Centers (PSCs) provide permitting assistance to small businesses, private individuals, and local government organizations for proposed projects within the coastal zone and JPAF boundaries. PSC staff assists applicants in submitting administratively complete JPAFs, providing technical guidance for permits within the coastal zone boundary and troubleshooting applications prior to submission to regulatory agencies. During the regulatory agency review, PSC staff monitors the permit applications, identifies interagency disagreements that hinder permit issuance, and facilitates conflict resolution between permitting agencies and applicants. This process

### FY 2019 AND 2020 JPAFS RECEIVED (BY QUARTER)

QUARTER	FY 2019	FY 2020
1	28	27
2	28	41
3	29	53
4	35	65
<b>Total</b>	<b>120</b>	<b>186</b>



reduces the length of permit processing and ensures review efficiency.

During the FY 2019 reporting period, the PSC processed 120 JPAFs. The lower coast office processed 14 JPAFs, and the upper coast office processed 97 JPAFs. During the FY 2020 reporting period, the PSC processed 186 JPAFs. The lower coast office processed 51 JPAFs, and the upper coast office processed 121 JPAFs.

The PSCs did not meet the Legislative Budget Board target of 175 JPAFs in FY 2019 but did meet the Legislative Budget Board target FY 2020. The number of JPAFs in FY 2020 can be attributed to Hurricane Harvey in August 2018, which resulted in fewer applications received for coastal projects in the months following the storm. This number is expected to increase as clean-up and rebuilding continues.

## PERMIT SERVICE CENTER LOCATIONS AND CONTACT INFORMATION

### Permit Service Center (Upper Coast)

Texas A&M University-Galveston  
Sea Aggie Center Bldg., 3026, Room 912  
P.O. Box 1675  
Galveston, TX 77553-1675  
Toll-free: 866.894.7664  
Phone: 409.741.4057  
Fax : 409.741.4010

### Permit Service Center (Lower Coast)

602 N. Staples Street, Suite 240  
Corpus Christi, Texas 78401  
Phone: 361.886.1630  
Fax: 361.888.9305

[PERMITTING.ASSISTANCE@GLO.TEXAS.GOV](mailto:PERMITTING.ASSISTANCE@GLO.TEXAS.GOV)

[WWW.GLO.TEXAS.GOV/PSG](http://WWW.GLO.TEXAS.GOV/PSG)



# GRANT ADMINISTRATION

## CMP Cycles 21-24

In December 2019, CMP Cycle 21 was closed out with the final drawing of funds and submittal of remaining deliverables to NOAA. GLO staff is currently working with sub-recipients to close out CMP Cycle 22. Cycles 23 and 24 commenced in October 2018 and 2019, respectively. Currently, GLO staff is conducting general oversight of the CMP and grant tasks to ensure all projects are completed in a timely manner and within budget.

## CMP Cycle 25

The GLO mailed postcards to approximately 2,100 individuals and 300 elected officials within the CMP boundary, notifying potential applicants of the upcoming grant funding and informational workshops. Public notice of the availability of the CMP funds and of the grant workshops was also published in the Texas Register for a 30-day period. Grant workshops were held in three coastal cities to help potential applicants understand the grant guidance and application packet. The workshops provided information on changes to the grant program and an opportunity to discuss specific project ideas. Although applicants were not required to attend a workshop, it was strongly encouraged for first-time and/or inexperienced applicants. In total, 76 interested applicants attended the workshops.

### *CMP Cycle 25 Workshop Dates and Locations*

**Corpus Christi** – May 8, 2019 at 9:30 a.m., Del Mar College Center for Economic Development, 3209 S. Staple Street

**South Padre Island** – May 9, 2019 at 9:30 a.m., South Padre Island Birding and Nature Center 6801 Padre Blvd.

**Galveston** – May 15, 2019 at 9:30 a.m., Rosenberg Library, Wortham Auditorium 2310 Sealy Street

The CMP Review Team reviewed a total of 76 pre-proposals and provided comments to applicants to help strengthen their final application. The deadline to submit final applications was October 2, 2019. A total of 41 applications were submitted. Of those, six were submitted as a Project of Special Merit (PSM) funded by GOMESA. The final applications were compiled and submitted to the CMP Review Team who met to discuss the final scores and recommend a list of projects to the Land Commissioner for funding. On January 10, 2020, the GLO's Procurements and Grants Review Committee voted to recommend the list of selected projects to the Land Commissioner for approval. The Land Commissioner approved 20 projects for funding, including 11 §306 projects and four §306A projects, and six PSMs. Cycle 25 was the first year in which the PSM category was instigated. With PSMs, The CMP is prioritizing innovative, collaborative projects involving large-scale coordinated effort among regional stakeholders. PSMs will be awarded to applications that reflect an effort on the part of regional entities to work together to create a project that benefits an entire area/region instead of a site-specific location. Preference will be given to projects that strive to implement a project listed in the Master Plan. PSMs are funded entirely with GOMESA monies which do not require a match.





The PSMs in Cycle 25 focused on a variety of regional issues. These included: (1) an acquisition of sensitive habitat for conservation in Galveston Bay; (2) an acquisition of sensitive habitat for conservation in Redhead Pond, Corpus Christi; (3) an investigation into nonpoint source nutrient pollution in Baffin Bay; (4) coastal hazard modeling for the 2023 Coastal Resiliency Master Plan; (5) ordinance development and retrofit planning for nonpoint source pollution issues in coastal communities; and (6) material testing for the derelict Queen Isabella Causeway decommissioning and artificial reef placement in Port Isabel.

Following NOAA's approval, the GLO executed the sub-recipient contracts for the selected projects, which commenced on October 1, 2020. Currently, GLO staff is conducting general oversight of the CMP and grant tasks to ensure all projects are completed in a timely manner and within budget.

### **CMP Cycle 26**

The GLO mailed postcards to approximately 4,000 individuals and 300 elected officials within the CMP boundary, notifying potential applicants of the funding opportunity and the upcoming grant workshops. A public notice was also published in the Texas Register for a 30-day period.

Three grant workshops were held virtually to help potential applicants understand the grant guidance and application packet. The workshops provided information on the CMP program and an opportunity to discuss specific project ideas with staff. Although applicants were not required to attend a workshop, it was strongly encouraged for first-time and/or inexperienced applicants. In total, 223 interested applicants attended the workshops.

For Cycle 26, applicants were required to submit pre-proposals for review by the CMP Grant Review Team. The submittal deadline for pre-proposals was June 10, 2020 and a total of 88 pre-proposals were received. After review and selection by the CMP Review Team, selected applicants received a letter on August 7, 2020 inviting them to submit final applications. A total of 45 applicants were invited to submit final applications. Of these, 10 final applications were designated as a PSM eligible for GOMESA funds. The deadline to submit final applications for Grant Cycle 26 was October 7, 2020.



# PROJECT SUCCESS STORIES

## **Beach-nesting Bird Conservation through Monitoring, Stewardship, and Education**

American Bird Conservancy (ABC), Houston Audubon Society (HAS), and other Texas partners have implemented a Beach-nesting Bird Conservation Program along the Texas coast since 2012. Through this program, they sought to advance conservation efforts for the species Least Tern (*Sternula antillarum*) and Watch List species Wilson's Plover (*Charadrius wilsonia*, Red status), and Snowy Plover (*Charadrius nivosus*, Red status), and Black Skimmers (*Rynchops niger*, Yellow status) by implementing protective measures (i.e. signs and fencing) and public outreach at sites where these declining species occur. The goal of the program is to maintain and increase these threatened populations through conservation activities on the ground. To alleviate this problem, ABC used CMP Cycle 22 funds to monitor species counts, provide stewardship of nesting habitat, and education to approximately 500 people about beach-nesting birds. ABC used combined methods of survey counts, symbolic fencing, protective signs, and beach goer engagement through community events and opportunistic public outreach to minimize disturbance and direct mortality to the chicks.



## **Texas Gulf Region Cooperative Weed Management Area: Controlling the Brazilian Peppertree**

The Brazilian Peppertree industry costs the United States an estimated \$100 billion a year and is the most pervasive invasive woody species plant in many coastal states. The Coastal Bend Bays and Estuary Program (CBBEP) used CMP Cycle 22 funds to contract with the American Conservation Experience (ACE), an Americorp Invasive Species Strike Team to gain control of the non-native invasive species at I.B. Magee Beach, Port Aransas, TX. In July 2018, initial treatments by ACE at I.B. Magee were completed over a two-week period and had a 95% success rate across treatment methods. A follow up treatment was completed in October 2018, and a final treatment was completed January 2019 to ensure elimination of opportunistic resprouts or seed sprouts. All ACE members were trained in activities such as safe chainsaw operation, safe and legal herbicide handling, plant ID, integrated pest management, reforestation, forest management, and feral hog trapping.



## **Construction and Enhancement of Artificial Reefs in the Western Gulf of Mexico**

The Texas Artificial Reef Program (TARP), managed by the Texas Parks and Wildlife Department, Coastal Fisheries Division (TPWD), creates artificial reef sites using innovative reef building material. These sites are designed to enhance natural habitat for fisheries, threatened and endangered species and other marine life and reduce erosion to stabilize area substrate. TPWD used CMP Cycle 21 funds to create a new reef site in the Rio Grande Valley (RGV).



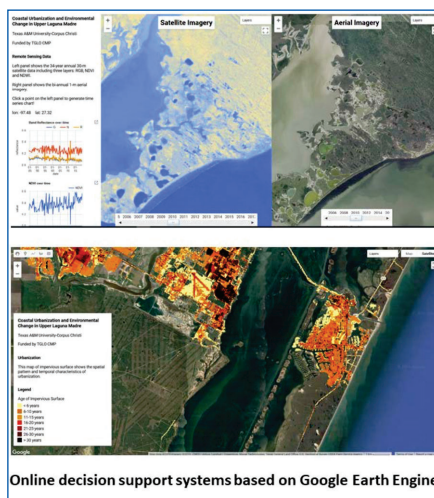
The reef was completed in August 2018 and is now the largest site within the TPWD Artificial Reef Program, spanning 1,650 acres. The reef varies in depth from 50 to 75 feet and creates a unique habitat that allows juvenile fish to transition to



adulthood. Concrete, limestone, and/or shell was placed in varying configurations in the northwestern region of the RGV reef site to create low relief habitat for juvenile fish. Larger, more complex materials were placed across the center region in slightly deeper water to yield mid-relief habitat for larger, adult fish.

### Linking Coastal Urbanization to Water Quality and Habitat Changes of the Upper Laguna Madre

Globally, the population density of coastal areas is nearly three times that of inland areas, and coastal development is a proven threat to estuarine ecosystems. Impervious coverage is an effective indicator of coastal development. Studies have shown that coastal areas with greater impervious coverage have exhibited higher nutrient loads and concentrations, enlarged salinity range, increased peak flow, and accelerated habitat degradation. However, there is a lack of understanding for the coupled processes of urbanization, water quality, and habitat changes. Using CMP cycle 22 funds, researchers at Texas A&M University – Corpus Christi developed new methods for measuring coastal urbanization using geospatial tools, such as Landsat satellite imagery. They then developed models to analyze the stresses caused by urbanization processes on estuarine health. These models will provide scientific support to state agencies and local stakeholders in the Upper Laguna Madre and other coastal regions and inform the development of effective management and conservation strategies.



### Enhancing Critical Rookery Islands for the Protection and Preservation of Colonial Waterbirds

Colonial waterbirds are iconic to coastal ecosystems. For many, these birds symbolize bird and coastal conservation and waterbird birding drives ecotourism in coastal communities. However, colonial waterbirds, like many birds, are threatened by habitat degradation and loss, severe weather events, and human disturbance. Audubon Texas (ATX) has been working to protect colonial waterbirds on the Texas coast since 1923. Using CMP cycle 22 funds, ATX conducted rookery island enhancement and protection activities, trained community members to survey rookery islands, monitored colonial waterbird populations during the breeding season, and created new outreach materials geared at young students. ATX trained volunteers to monitor birds and survey habitat and hosted coastal cleanup events in which volunteers collected hundreds of pounds of plastic debris. In total, ATX engaged 2,286 volunteers in 4,825 hours of volunteer service. This project supported ATX's goals by enhancing community engagement and interest in colonial waterbirds to ensure these birds and coastal areas can be appreciated by all in the future.



### Coastwide Trends in Seagrass Cover and Condition in Texas Waters

Seagrasses are important to shallow ocean environments because they provide valuable habitat for fish and can filter pollutants out of the water. Seagrass health is tied to different environmental stressors, such as temperature, light availability, salinity, and nutrient levels. Using CMP Cycle 22 funds, researchers from the University of Texas Marine Science Institute monitored seagrass health along the Texas coast and tested for potential environmental stressors that may be influencing seagrass health. One interesting result that researchers found was that in areas with a river outflow, such as the Arroyo Colorado River in the Lower Laguna Madre, human input from freshwater upstream could be identified by measuring the nitrogen signatures in the seagrass. Long-term monitoring studies like these help conservation groups and resource managers determine potential negative effects on marine health in order to try and fix problems.



### Boater Waste Education Campaign: Growing local capacity to reduce vessel discharge in Galveston Bay

One of the primary sources of fecal bacteria found in Galveston Bay is boat sewage. Despite the variety of pump-out options available in the Galveston Bay and Clear Lake areas, many boaters continue to discharge raw sewage from marine heads directly into bay waters. Galveston Bay Foundation (GBF) used Cycle 23 funds to continue the Boater Waste Education Campaign (BWEC) by incorporating community-based social marketing strategies into outreach efforts, increasing boater waste reports and enforcement via the Galveston Bay Action Network (GBAN), and continuing to analyze and publicize volunteer collected water quality data. During the project, GBAN received 87 reports and 57 volunteer water quality monitors analyzed 1,110 water samples and 459 bacteria samples. Through the water quality data, GBF was able to pin-point areas of bacterial contamination in the Bay. This project has allowed GBF to directly improve Bay water quality by collecting and communicating environmental data to the boating community, developing marketing materials to encourage GBAN use, and collaborating with authorities to increase enforcement of illegal boater waste discharges.

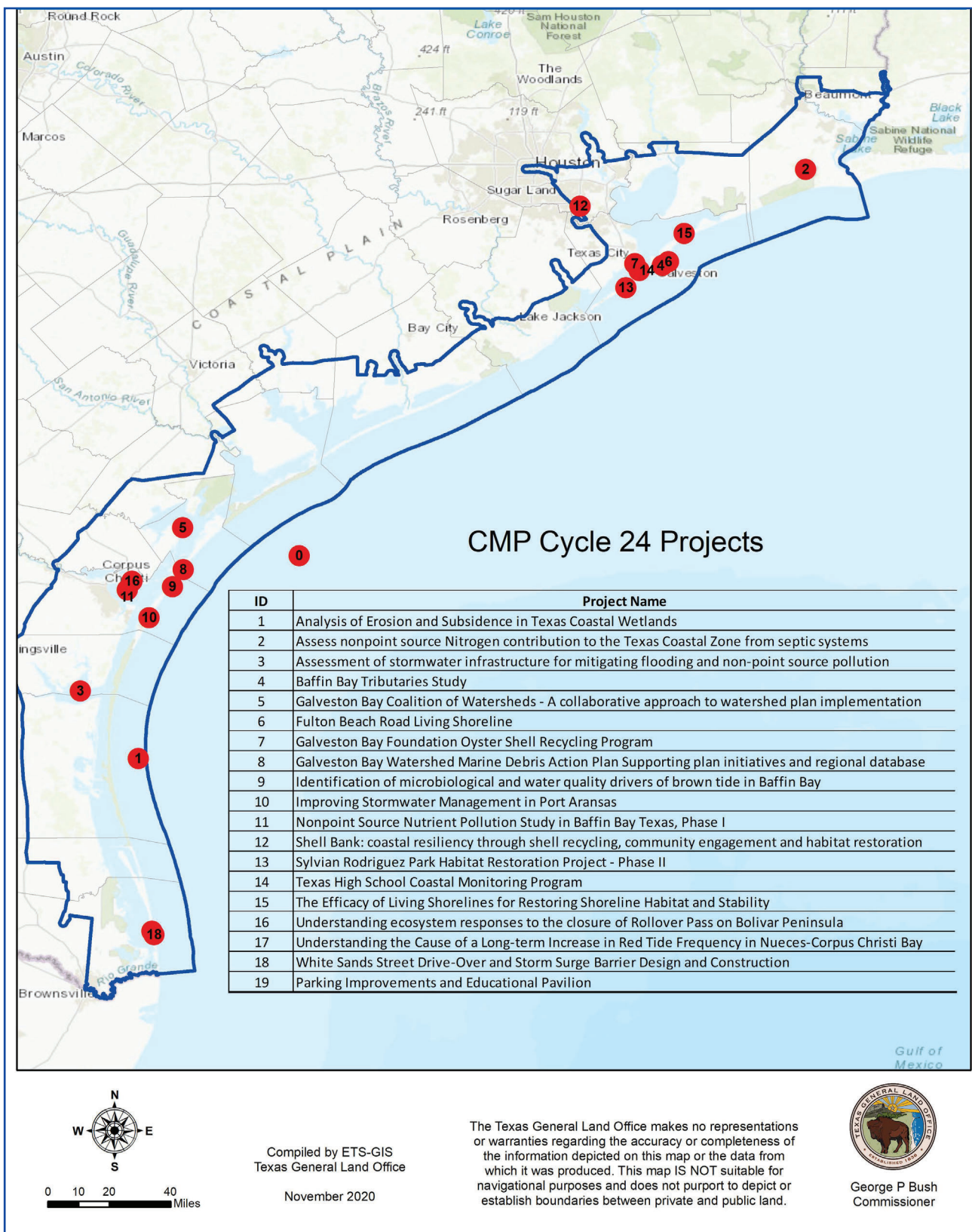


# FUNDING BREAKDOWN

COUNTY	CYCLE 24/FY19	CYCLE 25/FY20	TOTAL
Aransas	\$56,700.00	\$0.00	\$56,700.00
Brazoria	\$0.00	\$0.00	\$0.00
Calhoun	\$0.00	\$86,280.00	\$86,280.00
Cameron	\$298,000.00	\$436,618.00	\$734,618.00
Chambers	\$0.00	\$0.00	\$0.00
Galveston	\$99,818.00	\$2,189,856.00	\$2,289,674.00
Harris	\$199,519.00	\$54,000.00	\$253,519.00
Jackson	\$0.00	\$0.00	\$0.00
Jefferson	\$0.00	\$0.00	\$0.00
Kenedy	\$99,966.00	\$0.00	\$99,966.00
Kleberg	\$102,744.00	\$1,189,414.00	\$1,292,158.00
Matagorda	\$0.00	\$0.00	\$0.00
Nueces	\$298,849.00	\$901,614.00	\$1,200,463.00
Orange	\$112,834.00	\$0.00	\$112,834.00
Refugio	\$0.00	\$0.00	\$0.00
San Patricio	\$0.00	\$0.00	\$0.00
Victoria	\$0.00	\$0.00	\$0.00
Willacy	\$0.00	\$0.00	\$0.00
Coastwide	\$186,816.00	\$2,320,978.00	\$2,507,794.00
Lower Coast	\$0.00	\$0.00	\$0.00
Upper Coast	\$299,347.00	\$0.00	\$299,347.00
<b>Total</b>	<b>\$1,754,593.00</b>	<b>\$7,178,760.00</b>	<b>\$8,933,353.00</b>



# CYCLE 24 PROJECTS





## **ARANSAS COUNTY**

### **FULTON BEACH ROAD LIVING SHORELINE**

Aransas County will design and permit a living shoreline for the Fulton Beach roadway, which is a critical evacuation route for the local community and has experienced extensive in-shore marsh erosion. This project is part of a multi-phased project that will provide long-term protection and restoration of the shoreline, control erosion, enhance habitat, and protect adjacent public and private infrastructure. Future phases will construct approximately 3,200 linear feet of living shoreline along Fulton Beach Road to protect 70-acres of waterfront property.

**CMP FUNDED:** \$56,700  
**MATCH:** \$37,800  
**TOTAL PROJECT:** \$94,500  
**CONTACT:** **MR. JOHN STROTHMANN**  
2840 Highway 35 N,  
Rockport, TX, 78382  
361-790-0194

## **CAMERON COUNTY**

### **PARKING IMPROVEMENT AND EDUCATIONAL PAVILION AT BEACH ACCESS #3**

The County of Cameron will acquire engineering services, develop architectural designs, and initiate permitting to enhance available amenities at Beach Access #3. New amenities will include new pavilions, restrooms, community rinse stations, and a new dune walkover. This project will expand available public amenities at beach access points, which is part of the Coastal Parks Master Plan, and contain green features that decrease the negative impact stormwater runoff can have on the beach-dune systems and decrease non-point source pollution to Cameron County beaches.

**CMP FUNDED:** \$100,000  
**MATCH:** \$66,667  
**TOTAL PROJECT:** \$166,667  
**CONTACT:** **MR. AUGUSTO SANCHEZ**  
33174 State Park Road 100,  
South Padre Island, TX, 78597  
956-761-3700

## **ASSESSMENT AND INVESTIGATION OF THE BEACH AND DUNE CONDITIONS AT SOUTH PADRE ISLAND**

The City of South Padre Island (SPI) will complete a new study on the beach and dune conditions of SPI. The study will provide an updated analysis of the best management practices that should be considered given the current conditions of the SPI shoreline. The recommendations from this study will be used to identify which beach types provide SPI with the best protection, to update SPI's Chapter 22 in the Code of Ordinance, and to validate the height and width of the dune system to ensure sufficient wave protection.

**CMP FUNDED:** \$90,000  
**MATCH:** \$60,000  
**TOTAL PROJECT:** \$150,000  
**CONTACT:** **MS. KRISTINA BOBURKA**  
321 Padre Boulevard,  
South Padre Island, TX, 78597  
956-761-3837

## COASTWIDE

### ANALYSIS OF EROSION AND SUBSIDENCE IN TEXAS COASTAL WETLANDS

Texas A&M University-Corpus Christi (TAMU-CC) will couple surface elevation table (SET) installations with vegetation surveys to quantify erosion rates along the Texas coast in multiple coastal wetlands. TAMU-CC will quantify coastal erosion, accretion, and subsidence in Texas coastal wetlands, investigate changes in vegetation communities and consequences to surface elevation, and create permanent SET stations to gauge coastal erosion vulnerability. To best protect, preserve, and restore Texas shorelines, it is crucial to understand how their structure and complexity influence erosion rates.

**CMP FUNDED:** \$99,210  
**MATCH:** \$66,147  
**TOTAL PROJECT:** \$165,357  
**CONTACT:** **DR. CHARLES PROFFITT**  
6300 Ocean Drive,  
Engineering Building, Room 319E,  
Corpus Christi, TX, 78412  
361-825-2358



### TEXAS HIGH SCHOOL COASTAL MONITORING PROGRAM

The University of Texas at Austin, Bureau of Economic Geology will continue the Texas High School Coastal Monitoring Program (THSCMP), which engages middle and high school students and teachers in the study of their natural environment to gain a better understanding of beach dune dynamics on the Texas coast. The THSCMP website will be updated to disseminate the collected data and photos, highlight the research conducted with the student data, and improve educational resources for students, teachers, coastal managers, and scientists including the development of a web-based 3D model for visualizing beach dune impacts and recovery following hurricanes.

**CMP FUNDED:** \$87,606  
**MATCH:** \$58,530  
**TOTAL PROJECT:** \$146,136  
**CONTACT:** **MS. TIFFANY CAUDLE**  
University Station, Box X,  
Austin, TX, 78713  
512-475-9572

## GALVESTON COUNTY

### GALVESTON BAY COALITION OF WATERSHEDS — A COLLABORATIVE APPROACH TO WATERSHED PLAN IMPLEMENTATION

Texas A&M AgriLife Extension Service will enhance the Galveston Bay Coalition of Watersheds (the Coalition) by coordinating and expanding the Coalition, create and implement a strategic outreach action plan, assess water quality data, liaise with various local water quality groups and facilitate new Coalition partnerships. The continued success of the Coalition will serve as an example of a regional multi-watershed approach to the implementation of WBPs in the Coastal Zone and across Texas.

**CMP FUNDED:** \$99,818  
**MATCH:** \$66,546  
**TOTAL PROJECT:** \$166,364  
**CONTACT:** **MS. CHARRISS YORK**  
1335 Regents Park Drive, Suite 260  
Houston, TX, 77058  
281-694-5508

## HARRIS COUNTY

### GALVESTON BAY FOUNDATION OYSTER SHELL RECYCLING PROGRAM

Texas Coastal Management Program

The Galveston Bay Foundation (GBF) will continue the Galveston Bay Oyster Shell Recycling Program, a program that reclaims spent oyster shell from local seafood restaurants and properly cures the shell in preparation for reuse in local oyster reef restoration projects. GBF will enhance the program by analyzing new oyster gardening techniques, expanding the project into the Houston area, and increasing the number of community presentations focused on the need for oyster shell recycling. This outreach, in combination with expanded restaurant participation, will help push the program towards becoming more self-sufficient and ensure that critical reef habitat in the bay will continue to be provided.

**CMP FUNDED:** \$100,000  
**MATCH:** \$80,324  
**TOTAL PROJECT:** \$180,324  
**CONTACT:** MS. HAILLE LEIJA  
1725 Highway 146  
Kemah, TX, 77565  
832-536-2270

## **KENEDY COUNTY**

### **NONPOINT SOURCE NUTRIENT POLLUTION STUDY IN BAFFIN BAY TEXAS, PHASE I**

Texas A&M University-Corpus Christi (TAMU-CC) will develop an accurate conceptual model of nutrient inputs to the Laguna Salada and Baffin Bay by characterizing groundwater and surface water influx. The goal is to determine the isotopic composition of the nutrients and to adapt the model to other Texas estuaries by evaluating potential nutrient sources based on land use/land cover, hydrologic inputs, and bay residence times. This project will provide data to Clean Coast Texas and insight to the nutrient sources and processing that leads to optimal algal bloom conditions in Baffin Bay.

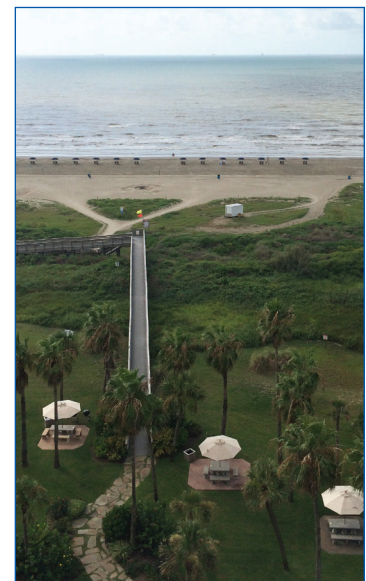
**CMP FUNDED:** \$37,142  
**MATCH:** \$24,761  
**TOTAL PROJECT:** \$61,903  
**CONTACT:** MR. SAMUEL SUGAREK  
602 N. Staples Street Suite 280  
Corpus Christi, TX, 78401  
361-653-2110

## **KLEBERG COUNTY**

### **BAFFIN BAY TRIBUTARIES STUDY**

The Nueces River Authority (NRA) will collect monthly water quality samples to bolster the Texas Commission on Environmental Quality's (TCEQ) Surface Water Quality Monitoring Information System dataset for Los Olmos creek. The NRA will also collect water samples at three locations during high flow events for use by Texas A&M University-Corpus Christi's Harte Research Institute. The data collected will help the Baffin Bay Stakeholder Group develop a watershed protection plan for Baffin Bay and create a clearer picture of the water quality challenges facing Baffin Bay

**CMP FUNDED:** \$84,394  
**MATCH:** \$84,587  
**TOTAL PROJECT:** \$168,981  
**CONTACT:** DR. MATTHEW HOCH  
P.O. Box 10037  
Beaumont, Texas 77710  
409.719.4204



### **IDENTIFICATION OF MICROBIOLOGICAL AND WATER QUALITY DRIVERS OF BROWN TIDE IN BAFFIN BAY**

Texas A&M University-Corpus Christi (TAMU-CC) will identify the drivers of the persistent brown tide bloom at Los Olmos

Creek. TAMU-CC and TAMUG will characterize the viral, bacterial, and archaeal communities associated with the bloom and characterize water quality parameters by collecting monthly water samples. The project's results will help close critical knowledge gaps concerning microbiological and water quality drivers of persistent brown tide blooms, which have devastating impacts on ecosystem health and coastal economies.

**CMP FUNDED:** \$65,602

**MATCH:** \$43,745

**TOTAL PROJECT:** \$109,337

**CONTACT:** DR. JEFFERY TURNER

6300 Ocean Drive  
Corpus Christi, TX, 78412  
361-825-2309

## **LOWER COAST**

### **ASSESS NONPOINT SOURCE NITROGEN CONTRIBUTION TO THE TEXAS COASTAL ZONE FROM SEPTIC SYSTEMS**

Texas A&M University-Corpus Christi (TAMU-CC) will identify pollution from septic systems in Copano-Aransas, Nueces-Corpus Christi-Oso, and Baffin Bays. The goal is to collect evidence of nitrogen pollution from septic systems in the bays, quantify nitrogen loads, and educate the public about the importance of reducing nitrogen loads to avoid eutrophication. Project results will support the goals and objectives of Clean Coast Texas by providing key information in the decision-making process on septic system retrofitting and future development.

**CMP FUNDED:** \$99,560

**MATCH:** \$66,374

**TOTAL PROJECT:** \$165,934

**CONTACT:** DR. LIN ZHANG

6300 Ocean Drive  
Corpus Christi, TX, 78412  
361-825-2309

### **SHELL BANK: OYSTER SHELL RECYCLING, CITIZEN ENGAGEMENT, HANDS-ON LEARNING, & REEF CHARACTERIZATION**

Texas A&M University-Corpus Christi (TAMU-CC) will continue the oyster shell recycling program. TAMU-CC developed the program to reclaim and recycle shucked oyster shells from Coastal Bend restaurants, seafood wholesalers, and seafood festivals for use in reef restoration. At two community-based oyster restoration events, volunteers will fill mesh bags with reclaimed oyster shells to create reef building blocks. In the future, the shell bags will be used to build oyster reef at the Goose Island State Park to protect and stabilize the eroding marsh for living shoreline restoration activities. TAMU-CC will conduct sampling and facilitate two field monitoring events to teach students about habitat restoration and its role in conserving coastal environments.

**CMP FUNDED:** \$99,942

**MATCH:** \$99,967

**TOTAL PROJECT:** \$199,909

**CONTACT:** DR. JENNIFER POLLACK

6300 Ocean Drive, Unit 5860  
Corpus Christi, Texas 78412  
361.825.2041

### **TEXAS GULF REGION COOPERATIVE WEED MANAGEMENT AREA: CONTROLLING THE BRAZILIAN PEPPERTREE**

Brazilian peppertree is an invasive, noxious, and prohibited species that negatively impacts property access, coastal prairie



habitats, and shorelines. As a member of the Texas Gulf Coast Cooperative Weed Management Area, the Coastal Bend Bays and Estuaries Program will work with project partners to advocate for cooperative control amongst willing landowners and managers to prevent the spread and movement of the Brazilian peppertree. CMP funds will be used to hire a Certified Weed Management Area Coordinator, conduct meetings and community events, and remove Brazilian peppertrees from public land.

**CMP FUNDED:** \$30,000  
**MATCH:** \$10,000  
**TOTAL PROJECT:** \$40,000  
**CONTACT:** **MS. ROSARIO MARTINEZ**  
615 N. Upper Broadway, Suite 1200  
Corpus Christi, Texas 78401  
361.336.0308

## **NUECES COUNTY**

### **IMPROVING STORMWATER MANAGEMENT IN PORT ARANSAS**

The City of Port Aransas will develop sustainable drainage codification based on the "Guidance for Sustainable Drainage on the Texas Coast" by Michael Barrett, et al. (2014). The goal of the project is to reduce nonpoint source pollution into local waters, reduce flooding from improper drainage and high tides, and inform local citizens of the value of coastal resources and their role in ensuring sound management and resiliency. The project will develop a written ordinance for Stormwater Management to present to the Port Aransas City Council for approval, ensuring clean water for the local economy that is based on recreation and a healthy fishery.

**CMP FUNDED:** \$100,000  
**MATCH:** \$68,080  
**TOTAL PROJECT:** \$168,080  
**CONTACT:** **MR. DAVID PARSONS**  
1500 Research Parkway, Suite 240, 2260 TAMU  
Port Aransas, TX, 78373  
361-749-4111

### **SHELL BANK: COASTAL RESILIENCY THROUGH SHELL RECYCLING, COMMUNITY ENGAGEMENT AND HABITAT RESTORATION**

Texas A&M University-Corpus Christi (TAMU-CC) will continue the "Sink Your Shucks" oyster shell recycling program that reclaims and recycles shucked oyster shells from restaurants, seafood wholesalers, and seafood festivals for use in reef restoration. TAMU-CC will enhance the program by assessing restored oyster reefs along the mid-Texas coast for Hurricane Harvey damage that were restored using recycled shells and hosting three community-based restoration events.

**CMP FUNDED:** \$99,892  
**MATCH:** \$66,595  
**TOTAL PROJECT:** \$166,487  
**CONTACT:** **DR. JENNIFER POLLACK**  
6300 Ocean Drive  
Corpus Christi, TX, 78412  
361-825-2309

### **UNDERSTANDING THE CAUSE OF A LONG-TERM INCREASE IN RED TIDE FREQUENCY IN NUECES-CORPUS CHRISTI BAY**



Texas A&M University-Corpus Christi (TAMU-CC) will study the drivers of red tide blooms and the long-term increase in bloom frequency in Nueces-Corpus Christi Bay. There is a need to understand the conditions that support red tide blooms as little is known about its drivers, though long-term freshwater inflow variability and increased salinity concentrations may be a contributing factor. The project's results will expand the available dataset to encompass a wide range of freshwater inflow conditions that can be used in future assessments of freshwater inflow needs for Nueces-Corpus Christi Bay.

**CMP FUNDED:** \$98,957  
**MATCH:** \$65,971  
**TOTAL PROJECT:** \$164,928  
**CONTACT:** **DR. MICHAEL WETZ**  
6300 Ocean Drive  
Corpus Christi, TX, 78412  
361-825-2309

**ORANGE COUNTY**

## ASSESSMENT OF STORMWATER INFRASTRUCTURE FOR MITIGATING FLOODING AND NON-POINT SOURCE POLLUTION

The University of Texas-Arlington (UTA) will create a Stormwater Management Model that provides opportunities for coastal communities to assess their exposure to flooding risk and to determine the most cost-effective measures to implement to address stormwater runoff and downstream water quality issues arising from flood events. UTA will also apply the model to hypothetical infrastructure updates in consultation with the Lower Neches Valley Authority and Jefferson and Orange County Drainage Districts. This project will assist smaller urban and rural coastal communities as they struggle to decide which infrastructure updates are the least costly and most effective to enhance their area's resilience to flooding.

**CMP FUNDED:** \$112,834  
**MATCH:** \$75,227  
**TOTAL PROJECT:** \$188,061  
**CONTACT:** DR. YU ZHANG  
 416 Yates Street, 425 Nedderman Hall  
 Arlington, TX, 76019  
 817-272-1874

## UPPER COAST

### THE EFFICACY OF LIVING SHORELINES FOR RESTORING SHORELINE HABITAT AND STABILITY

Lee College, in partnership with the University of Houston-Clear Lake and the Galveston Bay Foundation, will collect comprehensive data at living shoreline sites throughout the Galveston Bay system to assess the resiliency and functional aspects of small-scale restoration projects. Although data suggests living shoreline projects are ecologically beneficial for erosion control, much of the data regarding ecosystem function comes from larger scale habitat restoration projects rather than smaller, privately owned sites reflective of many living shorelines along the Texas coast. This project will fill this knowledge gap and evaluate whether small-scale living shorelines can limit or reverse shoreline erosion and provide habitat for fish species.

**CMP FUNDED:** \$199,973

**MATCH:** \$73,623

**TOTAL PROJECT:** \$173,596

**CONTACT:** MR. JIM DOBBERSTINE  
P.O. Box 818  
Baytown, TX, 77522  
281-425-6354

### UNDERSTANDING ECOSYSTEM RESPONSES TO THE CLOSURE OF ROLLOVER PASS ON BOLIVAR PENINSULA

Texas A&M University–Galveston will study near term (1-2 year) ecosystem responses within East Bay to the closure of Rollover Pass, a man-made strait through the Bolivar Peninsula linking the Gulf of Mexico to Rollover and East Bay that was closed in early 2019. Gathering this data is critical to understanding the restored ecosystem's ability to support the multiple threatened and endangered species that rely on Rollover habitat for survival. Data collected during the project will provide valuable guidance for developing a resource management plan, revising freshwater inflow needs to East Bay, determining the efficacy of the pass closure management, and inform future management strategies in the area.

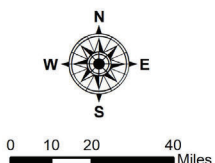
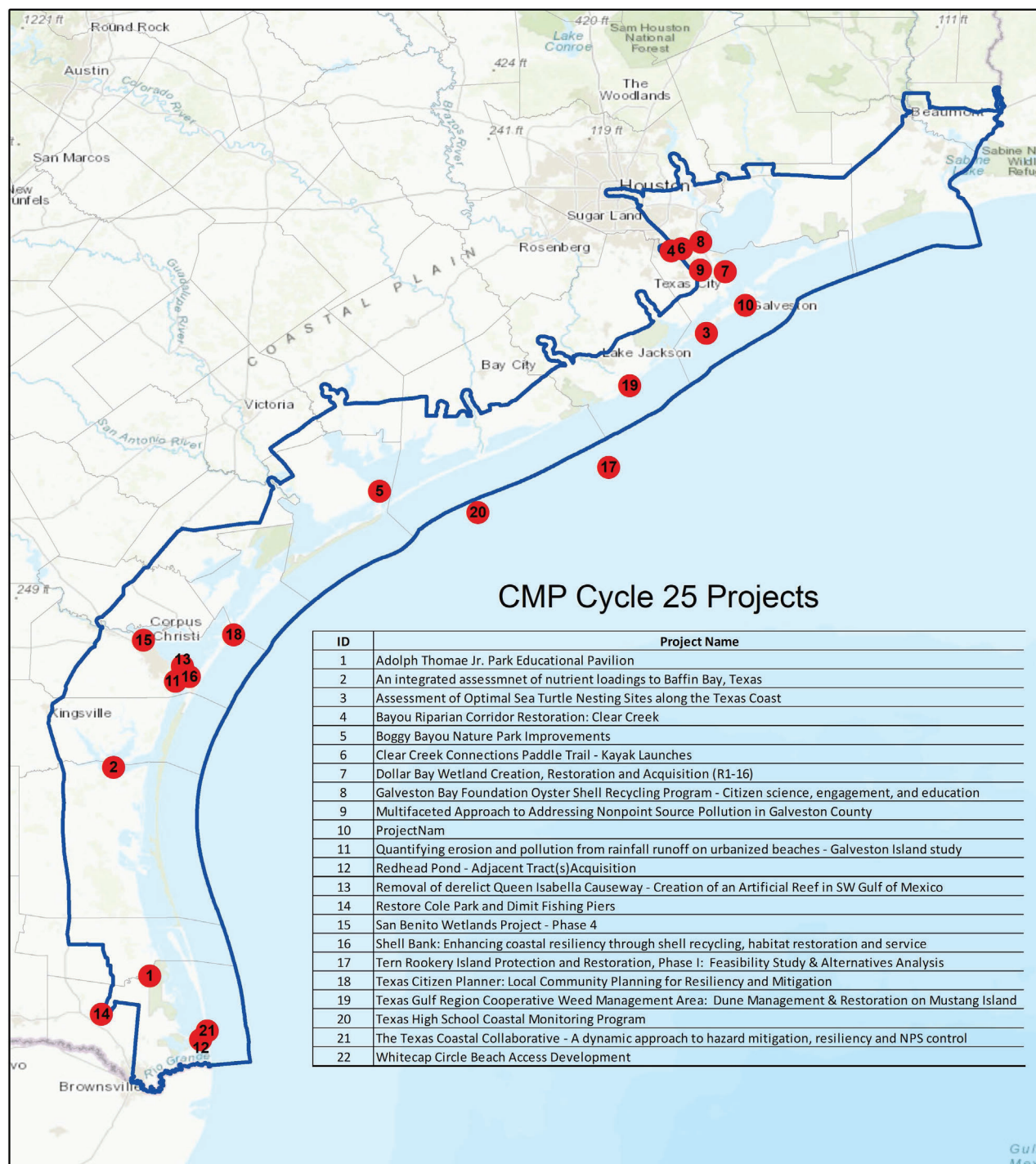
**CMP FUNDED:** \$99,636

**MATCH:** \$66,424

**TOTAL PROJECT:** \$166,060

**CONTACT:** DR. ANNA ARMITAGE  
200 Seawolf Parkway  
Galveston, TX, 77553  
409-740-4842

# CYCLE 25 PROJECTS



Compiled by ETS-GIS  
Texas General Land Office  
November 2020

The Texas General Land Office makes no representations or warranties regarding the accuracy or completeness of the information depicted on this map or the data from which it was produced. This map IS NOT suitable for navigational purposes and does not purport to depict or establish boundaries between private and public land.



George P. Bush  
Commissioner



## **CAMERON COUNTY**

### **ADOLPH THOMAE JR. PARK EDUCATIONAL PAVILION**

The Cameron County Parks & Recreation Department will construct an illuminated pavilion to accommodate events and provide a more accessible area for the public to gather. The pavilion will include picnic tables, trash receptacles, and interpretative signage to educate the community on the County's coastal resources and sustainability efforts. The project allows the County to continue improving the quality of life for its residents and visitors by enhancing public enjoyment of the Texas coastal area.

**CMP FUNDED:** \$120,000  
**MATCH:** \$80,000  
**TOTAL PROJECT:** \$200,000  
**CONTACT:** MR. JOE VEGA  
33174 State Park Road 100  
South Padre Island, TX, 78597  
956-761-3700

### **SAN BENITO WETLANDS PROJECT - PHASE 4**

Texas A&M AgriLife Extension Service - Texas Water Resource Institute (TWRI) will continue to improve the wastewater reuse and tertiary treatment project with the City of San Benito, which turned abandoned ponds into wetlands that can now settle 62 million gallons of treated effluent from the City's water treatment plant over four months. TWRI will improve existing infrastructure, synthesize long-term water quality data, and continue to develop public outreach materials and restore wetland habitat areas. This project will ensure continued public access to wetland areas for wildlife viewing and quantify improvements in water quality resulting from the wastewater reuse and tertiary treatment project.

**CMP FUNDED:** \$100,000  
**MATCH:** \$66,667  
**TOTAL PROJECT:** \$166,667  
**CONTACT:** DR. JOHN TRACY  
578 John Kimbrough Blvd  
College Station, TX, 77843  
979-845-1851

### **WHITECAP CIRCLE BEACH ACCESS DEVELOPMENT**

The City of South Padre Island will plan, design, and construct improvements at Whitecap Circle Beach Access, an unimproved access point prone to unmanaged pedestrian and vehicular traffic. The designs will include adding a permeable paver parking lot, a pedestrian sidewalk, an improved beach access walkover, and restroom facilities and associated amenities. This project will help protect the beach dune system at Whitecap Circle, which provide important habitat for sea turtle nesting, migratory birds, and monarch butterflies, as well as increase access to South Padre Island's beaches.

**CMP FUNDED:** \$200,000  
**MATCH:** \$133,335  
**TOTAL PROJECT:** \$333,335  
**CONTACT:** MS. KRISTINA BOBURKA  
321 Padre Boulevard  
South Padre Island, TX 7859  
956-761-3837

## **CALHOUN COUNTY**

### **BOGGY BAYOU NATURE PARK IMPROVEMENTS**

Calhoun County will add amenities and protective measures in and around the Boggy Bayou Nature Park to prevent future habitat destruction and encourage visitors. The County will install a swing gate and bollard fencing to prevent vehicles from entering the sandy beach area during flood conditions, as well as expand the boardwalk terminus to include interpretative signage and create a kayak access point. Local teachers, visitors, and environmental groups will be able to use the park more fully as an outdoor environmental education area once these improvements are made.

**CMP FUNDED:** \$86,280  
**MATCH:** \$66,792  
**TOTAL PROJECT:** \$153,072  
**CONTACT:** **COMMISSIONER GARY REESE**  
104 Dallas Ave  
Seadrift, TX, 77983  
361-785-3141

## **COASTWIDE**

### **TEXAS CITIZEN PLANNER: LOCAL COMMUNITY PLANNING FOR RESILIENCY AND MITIGATION**

Texas A&M AgriLife Extension Service will continue Texas Citizen Planner, a planning education program for locally elected and appointed officials, by hosting two classroom events in two coastal localities and converting course content onto an online learning platform. Each one-day training will cover specialized topics within planning, legal aspects of development, mitigation, and best practices. The curriculum will lay the foundation for expanding the program's reach over time and providing a professionally validated planning curriculum based on Texas practices, laws, and requirements.

**CMP FUNDED:** \$100,000  
**MATCH:** \$66,667  
**TOTAL PROJECT:** \$166,667  
**CONTACT:** **MR. STEVEN MIKULENCAK**  
1335 Regents Park Drive, Suite 260  
Houston, TX, 77058  
607-592-3115

### **TEXAS HIGH SCHOOL COASTAL MONITORING PROGRAM**

The University of Texas-Austin, Bureau of Economic Geology (UT-BEG) will continue to engage students and teachers who live along the coast in the Texas High School Coastal Monitoring Program (THSCMP). The UT-BEG will also update the THSCMP website to disseminate the data and photos collected by students to coastal managers and scientists, highlight the research conducted with the student data, and improve educational resources for students, teachers, and the public. The GLO, Texas Parks and Wildlife Department, and coastal communities and managers throughout Texas benefit from having access to the beach monitoring data collected by this project for use in public-policy and coastal-management decision making.

**CMP FUNDED:** \$89,537  
**MATCH:** \$59,835  
**TOTAL PROJECT:** \$149,372  
**CONTACT:** **MS. TIFFANY CAUDLE**  
University Station, Box X  
Austin, TX, 78713  
512-475-9572

## **GALVESTON COUNTY**

### **ASSESSMENT OF OPTIMAL SEA TURTLE NESTING SITES ALONG THE TEXAS COAST**

Texas A&M University-Galveston (TAMUG) will characterize successful Kemp's ridley sea turtle nesting habitat on both natural and re-nourished beaches on the upper Texas coast and compare these metrics to the relatively optimal nesting habitat on the Padre Island National Seashore. TAMUG will characterize the geomorphology and sand grain size of beaches and measure the temperature range within simulated, experimental sea turtle nests. Understanding the variables that determine optimal nesting sites for the endangered Kemp's ridley sea turtle is key to the conservation and restoration of sea turtle populations.

**CMP FUNDED:** \$98,100  
**MATCH:** \$65,401  
**TOTAL PROJECT:** \$163,501  
**CONTACT:** **DR. CHRISTOPHER MARSHALL**  
1001 Texas Clipper Road  
Galveston, TX, 77553  
409-740-4884

### **CLEAR CREEK CONNECTIONS PADDLE TRAIL - KAYAK LAUNCHES**

The City of League City will add two new kayak launch sites to the Clear Creek Connections Paddle Trail, which stretches from the upper limits of Clear Creek within the City downstream into Clear Lake near Galveston Bay. Both sites will include vehicle and trailer parking, ramps and walkways, educational and interpretive signage, and a floating kayak launch system. This project will create additional eco-tourism opportunities for residents and visitors to the City and Galveston County.

**CMP FUNDED:** \$200,000  
**MATCH:** \$220,000  
**TOTAL PROJECT:** \$420,000  
**CONTACT:** **MR. ROBERT DUKE**  
300 West Walker Street  
League City, TX, 77573  
281-554-1456

### **MULTIFACETED APPROACH TO ADDRESSING NONPOINT SOURCE POLLUTION IN GALVESTON COUNTY**

Galveston Bay Foundation (GBF) will continue its volunteer water quality monitoring program with a new focus on studying nonpoint source (NPS) pollution impacts on the water quality of Galveston Bay. GBF will also work with property managers and county officials to identify best management practices to reduce NPS pollution, determine barriers and benefits to the practices, and develop and implement initiatives that reduce pollutant loading. This project will minimize NPS pollution into the Galveston Bay by implementing strategies that result in measurable human behavior changes and infrastructure development.

**CMP FUNDED:** \$59,483  
**MATCH:** \$40,634  
**TOTAL PROJECT:** \$100,117  
**CONTACT:** **MS. CHARLOTTE CISNEROS**  
1725 Highway 146  
Kemah, TX, 77565  
832-536-2279

## **QUANTIFYING EROSION AND POLLUTION FROM RAINFALL RUNOFF ON URBANIZED BEACHES - GALVESTON ISLAND STUDY**

Texas A&M University (TAMU) will improve the understanding of beach erosion and solid transport processes induced by coastal rainwater runoff at Galveston Island beaches. TAMU will quantify the beach rainfall-runoff relationship, develop a runoff sediment transport formula to assess the sediment volume carried by the runoff discharge, and investigate correlations between rainfall intensity, proximity to beach scour channel outlets, and bacteria indicators from nearby Texas Beach Watch sites. This project will assist in developing better stormwater mitigation and sediment management strategies for Galveston Island beaches.

**CMP FUNDED:** \$59,483  
**MATCH:** \$40,634  
**TOTAL PROJECT:** \$100,117  
**CONTACT:** DR. YOUN SONG  
200 Seawolf Parkway  
Galveston, TX, 77554  
490-740-4893

## **HARRIS COUNTY**

### **BAYOU RIPARIAN CORRIDOR RESTORATION: CLEAR CREEK**

Bayou Preservation Association, Inc. (BPA) will restore 16.5 acres of coastal wetland forest area within a riparian band of Clear Creek and replanting native plants. BPA will also install interpretative signage to educate the public on stream corridor restoration practices in coastal wetlands and host two riparian restoration workshops and community volunteer workdays. This project will protect, preserve, restore, and enhance the diversity, quality, function, and value of Coastal Natural Resource Areas.

**CMP FUNDED:** \$54,000  
**MATCH:** \$36,000  
**TOTAL PROJECT:** \$90,000  
**CONTACT:** DR. CHRISTOPHER MARSHALL  
7305 Navigation Boulevard, Suite A  
Houston, TX, 77011  
713-529-6443

## **GALVESTON BAY FOUNDATION OYSTER SHELL RECYCLING PROGRAM - CITIZEN SCIENCE, ENGAGEMENT, AND EDUCATION**

The Galveston Bay Foundation (GBF) will continue the Galveston Bay Oyster Shell Recycling Program, a program that reclaims spent oyster shell from local seafood restaurants and properly cures the shell in preparation for reuse in local oyster reef restoration projects. GBF will enhance the program through monitoring oyster reef habitats created with recycled shells and implementing "Oysters in the Classroom," where high schools study the effectiveness of spat growth on recycled oyster shells in classroom tanks. By focusing on community involvement and linking the shells recycled to restoration numbers, GBF will continue to move toward program sustainability for years to come.

**CMP FUNDED:** \$100,000  
**MATCH:** \$86,972  
**TOTAL PROJECT:** \$186,972  
**CONTACT:** MS. HAILLE LEIJA  
1725 Highway 146  
Kemah, TX, 77565  
281-332-3381



## **NUECES COUNTY**

### **SHELL BANK: ENHANCING COASTAL RESILIENCY VIA SHELL RECYCLING, RESTORATION AND COMMUNITY PARTNERSHIPS**

Texas A&M University-Corpus Christi (TAMU-CC) will continue the “Sink Your Shucks” program, which reclaims shucked oyster shells from partner restaurants, seafood wholesalers, and festivals and recycles them for use in reef restoration. TAMU-CC will also integrate “Sink Your Shucks Science” from the field to the classroom by developing educational materials on oyster reef restoration, as well as evaluate the effects of conservation status on the ecosystem service of oyster reef habitat provision. This project will continue to create valuable reef habitat with recycled oyster shells, which can provide natural buffers against storms and support coastal recreation and tourism.

**CMP FUNDED:** \$125,000

**MATCH:** \$83,401

**TOTAL PROJECT:** \$208,401

**CONTACT:** **DR. JENNIFER POLLACK**

6300 Ocean Drive, Unit 5869  
Corpus Christi, TX, 78412  
361-825-2041

### **TERN ROOKERY ISLAND PROTECTION AND RESTORATION, PHASE I: FEASIBILITY STUDY & ALTERNATIVES ANALYSIS**

The Coastal Bend Bays and Estuaries Program (CBBEP) will complete a feasibility study and alternatives analysis for the creation of an offshore structure that will make Tern Island more resilient to erosion and sea level rise. The structure will be designed to trap and secure sediment from future dredge placement events. Protecting Tern Island from ongoing erosion and future sea level rise will help conserve and enhance an important colonial waterbird rookery.

**CMP FUNDED:** \$75,000

**MATCH:** \$50,000

**TOTAL PROJECT:** \$125,000

**CONTACT:** **MR. ADRIEN HILMY**

615 N Upper Broadway, Suite 1200  
Corpus Christi, TX, 78401  
361-336-0316

### **TEXAS GULF REGION COOPERATIVE WEED MANAGEMENT AREA: DUNE MANAGEMENT & RESTORATION ON MUSTANG ISLAND**

The Coastal Bend Bays and Estuaries Program (CBBEP) will remove Brazilian peppertree from an impacted dune habitat on Mustang Island and begin the dune restoration process by replanting and/or reseeding treated areas. This restoration will provide habitat and dune stabilization, while also preventing the reintroduction of peppertrees by limiting the germination of seeds that are otherwise easily dispersed. By removing the invasive Brazilian peppertree from dunes, CBBEP will help protect this critical habitat for wildlife that also serves as a defense for inland areas against storm surge and beach erosion.

**CMP FUNDED:** \$45,000

**MATCH:** \$30,000

**TOTAL PROJECT:** \$75,000

**CONTACT:** **MS. ROSARIO MARTINEZ**

615 N Upper Broadway, Suite 1200  
Corpus Christi, TX, 78401  
361-336-0308

## PROJECTS OF SPECIAL MERIT

### ASSESSING COASTAL CHANGE IN SUPPORT OF THE 2023 TEXAS COASTAL RESILIENCY MASTER PLAN

Texas A&M Corpus Christi (TAMUCC) will model sea level rise, storm surge, storm surge enhanced by future sea level rise, and changes in river flood plains and shorelines. These maps will show how a community/region fits into the changing environment and will be given to residents, planners, and coastal environmental managers to help them visualize changes that could occur in their community. Additionally, AMUCC will assess plans and projects of the Texas Coastal Resiliency Master Plan for their effectiveness in increasing sustainable resiliency through engineering, conservation, restoration, and planning. Decision makers and planners will use this information to help them make significant changes in community planning, resource management, and investments in projects that result in a more resilient coast.

**CMP FUNDED:** \$993,513

**MATCH:** \$0

**TOTAL PROJECT:** \$993,513

**CONTACT:** DR. JAMES GIBEAUT  
6300 Ocean Dr.  
Corpus Christi, TX 78412  
361-825-3882

### CLEAN COAST TEXAS COLLABORATIVE - A DYNAMIC APPROACH TO HAZARD MITIGATION, RESILIENCY, AND NPS CONTROL

Texas State University will lead a dynamic team of scientists, educators, engineers, and communication professionals in developing solutions to tackle NPS. The team will help communities create ordinances to consider for adoptions, write sustainable stormwater design manuals, develop NPS plans, or create green infrastructure retrofits.

**GOMESA FUNDED:** \$1,000,000

**MATCH:** \$0

**TOTAL PROJECT:** \$1,000,000

**CONTACT:** MR. NICK DORNAK  
601 University Dr.  
San Marcos, TX 78666  
512-213-7389

### DOLLAR BAY LAND ACQUISITION

The Galveston Bay Foundation (GBF) will acquire 102 acres of wetland habitat near Dollar Bay, Galveston County for conservation and preservation. This is a Tier 1 project in the Texas Coastal Resiliency Master Plan (R1-16). This acquisition will allow approximately 1.5 miles of the Dollar Bay shoreline to be conserved, effectively preventing a permitted development that would allow canals, bulkheads, docks, and piers from being constructed.

**CMP FUNDED:** \$1,650,000

**MATCH:** \$0

**TOTAL PROJECT:** \$1,650,000

**CONTACT:** MR. MATTHEW SINGER  
1100 Hercules Ave.  
Houston, TX 77058  
281-332-3381

### **AN INTEGRATED ASSESSMENT OF NUTRIENT LOADINGS TO BAFFIN BAY, TEXAS**

Texas A&M - Corpus Christi (TAMUCC) will convene a multidisciplinary team of researchers to quantify nutrient loadings to Baffin Bay from surficial, groundwater/benthic and atmospheric sources. TAMUCC will strive to identify the main source(s) of nutrients to the watershed to help prioritize watershed restoration activities. Project results will ultimately be used to support prioritization of both the type(s) of watershed restoration activities needed and regions of the watershed that require the most attention.

**GOMESA FUNDED:** **\$1,181,414**  
**MATCH:** **\$0**  
**TOTAL PROJECT:** **\$1,181,414**  
**CONTACT:** **DR. MICHAEL WETZ**  
6300 Ocean Dr.  
Corpus Christi, TX 78412  
361-825-2132

### **QUEEN ISABELLA CAUSEWAY - MATERIALS TESTING**

The GLO will perform materials testing on the "Old Queen Isabella Causeway" in Port Isabel, Texas. The derelict structure has been deemed a safety hazard and a threat to navigation. This project will test the feasibility of demolishing the Causeway and placing its material as artificial reef in Texas waters.

**GOMESA FUNDED:** **\$16,619**  
**MATCH:** **\$0**  
**TOTAL PROJECT:** **\$16,619**  
**CONTACT:** **MS. JULIE MCENTIRE**  
1700 Congress Blvd  
Austin, TX 78701  
512-475-0216

### **REDHEAD POND LAND ACQUISITION**

The City of Corpus Christi will acquire 24.43 acres of wetland and upland property adjacent to and contiguous with the existing Texas Parks and Wildlife Department's Redhead Pond Wildlife Management Area (WMA). Redhead Pond is an extremely important freshwater pond used by thousands of wintering redhead ducks. Unfortunately, over the years, this 9-acre pond has become brackish/saline due to a past stormwater re-route project that deprived the pond of freshwater for several decades. The acquisition and subsequent conservation of this ecologically sensitive property will provide a physical continuum of and a buffer around the Redhead Pond WMA and will prevent the land from being developed

**GOMESA FUNDED:** **\$253,307**  
**MATCH:** **\$300,000**  
**TOTAL PROJECT:** **\$537,307**  
**CONTACT:** **MS. LAUREN RABE**  
1201 Leopard  
Corpus Christi, TX, 78401  
361-826-3232

# EDUCATION & OUTREACH

Various publications are created and distributed to educate the public about coastal issues and the technology available to aid in the protection and improved management of CNRAs. Publications are evaluated and updated as needed to fill information gaps and reflect current areas of focus on the coast.

## **Reports**

### ***A Guide to Living Shorelines in Texas***

A guide produced by the CMP that explains to the public what living shorelines are and provides guidance on living shoreline installation, permitting, and planting, September 2020.

### ***Interagency Coordination Teams***

A biennial report published for the Texas Legislature that includes CMP program initiatives, updates on the total number of consistency reviews conducted, PSC activities, and reports on the grant program.

### ***Coastal Erosion Prevention and Response Act Report to the 85th Texas Legislature***

A report submitted to the Texas Legislature summarizing critical erosion areas, erosion response projects, and economic and natural resource benefits.

### ***Coastwide Erosion Response Plan***

A report that identifies critical coastal erosion areas and prioritizes coastal erosion response studies.

### ***Storm Surge Suppression Study Report***

A report that examines the feasibility of reducing the vulnerability of the upper Texas coast to storm surge and flood damages to protect the life, health, and safety of the community and provide environmental and economic resilience.

### ***Texas Coastal Resiliency Master Plan***

A comprehensive long-term planning framework that supports the resilient ecologic and economic management of the Texas coast.

### ***Sabine Pass to Galveston Bay, Texas Coastal Storm Risk Management and Ecosystem Restoration***

A Draft Integrated Feasibility Report and Environmental Impact Statement examining coastal storm risk management and ecosystem restoration problems and opportunities within six counties along the Upper Texas coast.

## **Guidebooks, Manuals, Brochures, Newsletters, etc.**

### ***Dune Protection and Improvement Manual for the Texas Gulf Coast, Fifth Edition***

A manual providing guidelines for coastal municipalities, counties, and home owners for construction subject to the Open Beaches Act (OBA) and Dune Protection Act (DPA), August 2005. (Available online only)

### ***Texas Beach Accessibility Guide***

A guide for local governments adopting and implementing beach accessibility measures for persons with disabilities, January 2011. (Available online only)

### ***Texas Homeowner's Handbook to Prepare for Coastal Natural Hazards***

A handbook, developed with the Texas Sea Grant College Program, advising homeowners on methods to protect people and property from natural disasters. The handbook explains the importance of flood insurance and provides useful web links and disaster preparation checklists, October 2018. (Available online and in Spanish)

### ***Shoring Up the Future for the Texas Gulf Coast***

An overview report that highlights the ecological and economic features along the Texas coast and identifies the primary issues of concern threatening sustainability, August 2016



### ***2019 Treasures of the Texas Coast Calendar***

A twelve-month calendar printed and distributed by the Adopt-A-Beach program to promote the annual children's art contest, raise public awareness of the importance of the Texas coast, and educate citizens about the harmful impacts of marine debris.

### ***Adopt-A-Beach Clean Up Brochures***

A brochure providing information on Adopt-A-Beach's semiannual beach clean ups as well as a brief history of the Adopt-A-Beach program and how to purchase an Adopt-A-Beach license plate.

### ***Adopt-A-Beach Clean Up Poster***

Poster advertising the semiannual Adopt-A-Beach clean ups.

### ***Adopt-A-Beach Newsletter***

A semi-annual newsletter that features news and information about past and future clean-ups, program initiatives, and the children's art contest.

### **Websites**

#### ***Texas Coastal Ocean Observation Network (TCOON)***

<https://cbiweb.tamucc.edu/TCOON/>

This is a publicly accessible website that houses data collected through the Texas Coastal Ocean Observation Network (TCOON), a unique network of scientific data collection platforms used to amass critical data pertaining to wind and water.

#### ***Resource Management Codes Viewer***

<http://glo.maps.arcgis.com/home/webmap/viewer.html?webmap=c65754a74de84eee8dec3197213eee6c>

Resource Management Codes (RMCs) assist potential bidders by providing the best available information on natural resource concerns that may be associated with leasing state land tracts and assist them with project planning efforts and development guidelines for activities within the tracts.

#### ***Resource Management Codes***

<http://www.glo.texas.gov/energy-business/oil-gas/mineral-leasing/leasing/keyword-search/index.cfm>

This website allows users to search for RMCs, providing the best available information on natural resource concerns that may be associated with leasing state-owned land tracts and assisting with project planning efforts.

#### ***GLO GIS Maps & Data***

<http://www.glo.texas.gov/land/land-management/gis/>

This links to dynamic interactive mapping websites, providing access to a vast collection of coastal data.

#### ***Grant Project Listing Viewer***

<http://www.glo.texas.gov/coastal-grants/#search>

This is a user-friendly, searchable website that provides information for coastal grant projects funded along the Texas coast.

#### ***Texas Coasts***

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

This website provides a location-enabled mapping function with turn-by-turn directions to more than 600 destinations along the Texas coast. The application integrates with Facebook and Twitter, allowing users to share vacation plans with friends and family.

#### ***Beach Watch***

<http://cgis.glo.texas.gov/Beachwatch/index.html#>

This website provides the public with information about water quality at selected recreational beaches along the Texas coast in Aransas, Brazoria, Cameron, Galveston, Jefferson, Kleberg, Matagorda, Nueces, and San Patricio counties.

### ***Shoreline Change Atlas***

<https://coastal.beg.utexas.edu/shorelinechange2012/>

This website provides long-term historical shoreline change rates of the Texas coast.

### ***Digital Coast, NOAA***

<http://coast.noaa.gov/digitalcoast/>

This website provides coastal data, tools, and training for the coastal management community. Content is derived from several sources and is vetted by NOAA.

### ***Texas Coastal Sediments Geodatabase***

<http://gisweb.glo.texas.gov/txsed/index.html>

This website provides sediment related geospatial and geotechnical data, which may be used for proposed beach nourishment and habitat restoration projects to assist in identifying compatible sediment resources or as an aid in the permitting/regulatory process.

### ***State of Texas Oil Spill Response Mapping Tool***

<http://gisweb.glo.texas.gov/ostoolkit/index.html>

This website is an oil spill mapping viewer that provides weather information and tools.

### ***Land & Lease Mapping Viewer***

<http://gisweb.glo.texas.gov/glomap/index.html>

This is an interactive land lease mapping program that provides access to vast collections of land and energy related data, including upland and submerged Original Texas Land Survey boundaries, Permanent School Fund land, upland and coastal leases, oil and gas well locations, and current imagery.

### ***Texas Natural Resources Information System (TNRIS)***

<https://tnris.org/>

This website provides a collection of maps, photos, documents, and other spatial datasets acquired from multiple sources, including state, federal, and local agencies.

### ***Coastal Habitat Restoration GIS***

<http://www.cbi.tamucc.edu/CHRGIS/>

This website offers an interactive, online archive, qualitative analysis, and mapping tool that provides visualization of beach profile survey data and aerial imagery from the CEPRA Program, in support of the Beach Monitoring and Maintenance Plan.

### ***SSPEED Center***

<http://www.sspeed.rice.edu>

This website provides information to facilitate the creation and dissemination of knowledge to better address severe storm impacts and evacuation strategies in the Gulf Coast area.

### ***Sea Level Rise***

<http://slr.stormsmart.org>

This website provides a series of technical tools and future scenarios to support the practical understanding of impacts to the environment and to human coastal communities that may result from Sea Level Rise and related climate hazards, including storm surge, in the Gulf of Mexico region.

## Coastal GIS Data Sets

**Texas Coastal Sediments Geodatabase** (TxSed) is a systematic inventory and clearinghouse of sediment samples and related geotechnical information for the Texas coast. The TxSed project coordinates existing efforts and facilitates the integration of historical sampling data from the GLO, USACE-Galveston District, relevant port authorities, universities, engineering firms, and other local, state, and federal entities. The primary users of TxSed are resource managers within governmental agencies or non-profit organizations, as well as engineering firms interested in identifying compatible sediment sources for proposed beach nourishment or habitat restoration projects. In addition, the project aids in the permitting/regulatory process and reduces the cost of initial data search and collection for such projects. Approximately 2,000 more sampling points were added to TxSed through August 2018.

**Coastal Grants and Projects Geodatabase** (CGAP) is a spatial database that stores all GLO-administered coastal projects, and could eventually include projects by other federal, state, local, and non-governmental entities. CGAP serves as an efficient geospatial infrastructure for assisting future coastal planning efforts, through data query, mapping, and spatial analysis of various types of coastal projects (construction vs. study, mitigation, restoration, etc.). Currently, all funded and proposed CIAP, CEPRA, CMP, GOMESA, and OSPRA projects are in CGAP.

**Texas Coastal Access Points Geodatabase** (TxCoasts) is a spatial database and Web application of all beach and bay access points along Texas coast. The initial effort to compile and distribute the very popular Texas Beach & Bay Access Guide was conducted between 1989 and 1999. The publication was revised in 2003 and distributed in static format (hard-copy and, later, on CD). Since then, technology, the coast, and Texas have changed dramatically. The current, online version is a self-contained, dynamic, interactive, and platform-agnostic Web application that provides up-to-date information on beach access sites and their amenities for visitors to the Texas coast. Find Your Perfect Beach at TxCoasts.com.

**Offshore Structures Inventory** is a cooperative effort between Coastal Resources, Oil Spill Prevention & Response, Construction Services, Energy Resources, and the GIS teams, to identify, verify, and catalog all hazardous derelict structures in state waters (all bays and the Gulf of Mexico out to the extent of state jurisdiction). The structures are contained in an online mapping viewer and mobile data collection application, which field staff uses to enter information and photos of structures during field reconnaissance. The dataset is used to locate responsible parties or otherwise fund the removal of the derelict structures.

**Coastal County Parcel Data** provides the GLO's Beach and Dune team and the Coastal Field offices with property owner information for the coastal counties. Initially, in 2016, the GIS team acquired and processed county parcel data for all coastal counties, except Kenedy and San Patricio, plus the City of Corpus Christi. The data were processed and standardized, and then provided to GLO staff in Google Earth format, allowing overlay with historical aerial imagery, for permitting purposes. In 2017, the GLO GIS team partnered with the Texas Natural Resources Information System (TNRIS.org) to conduct a parcel data pilot project of the Texas coastal counties, to help initiate and develop a statewide parcel dataset. The updated coastal counties were again acquired, processed, standardized, and provided to Coastal Resources staff. A parcel and address points data coordinator has been hired at TNRIS to further the statewide parcel data initiative. The 2018 update is currently underway.

**Resource Management Codes** (RMCs) are assigned to state-owned tracts in Texas bays and estuaries, and Gulf of Mexico waters, representing development guidelines for activities within the tracts. RMCs protect sensitive natural resources, providing recommendations for minimizing adverse impacts from mineral exploration and development activities. RMCs are based on the recommendations from the federal and state resource agencies: U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Army Corps of Engineers, Texas Parks and Wildlife Department, and the Texas Historical Commission, all of whom rely on the best available information and datasets of natural resources in the area. The GLO serves as custodian of the RMC database and uses the codes to assist potential bidders with project planning efforts. A new code designating the desalination zones for diversion of marine seawater, and discharge of desalination waste, was added in August 2018.

**Coastal Aerial Imagery and LiDAR Elevation Data** is acquired annually for the Texas gulf coast and bay shorelines, as needed. For example, in 2017, the GLO hired Sanborn to fly gulf shoreline and selected bay beaches to monitor coastal projects and to provide up-to-date beach use numbers to justify funding allocations for beach renourishment. The GLO also contracted with the UT Bureau of Economic Geology to acquire high-resolution post-Hurricane Harvey aerial imagery and Light Detection and Ranging (LiDAR) 3D elevation data of the entire gulf shoreline, as well as various bay beaches. These datasets will allow us to conduct post-storm debris, structure, and project assessments, and will allow for the development of updated shoreline change data.



## TEXAS COASTAL MANAGEMENT PROGRAM

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800.998.4GLO | 512.936.6447 | 512.475.0680 (Fax)  
[glo.texas.gov](http://glo.texas.gov)

### FOR MORE INFORMATION ON PERMITTING ASSISTANCE

**1.866.894.3578** (Lower Coast Office)

**1.866.894.7664** (Upper Coast Office)

[permitting.assistance@glo.texas.gov](mailto:permitting.assistance@glo.texas.gov)

<http://www.glo.texas.gov/coast/coastal-management/permitting/index.html>

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