

CHAPTER

7

Maritime Commerce and Dredging



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Introduction

Maritime commerce is vital and will continue as the cornerstone of the economy of the Coastal Bend region. Every year, more than 80,000 vessels of all types cross the bays of the Coastal Bend (Jones, et al., 1996), and the possibility of an accident that could impact the marine environment must be minimized through practical and cost-effective strategies. In addition, dredging is required to maintain the region's navigation channels and help keep maritime commerce flowing safely. A resolution is needed to the continuing debate about the best way to manage dredging and placement of dredged material. With proper planning, it is possible to minimize negative environmental impacts and maximize benefits to the bays and the regional economy.

Maritime Commerce

Much economic activity in the region is linked to waterborne commerce via the use of shipping or pipelines (Figures 12 and 13). Given the increase in vessel size/number and the widespread use of marine pipelines, there is a potential for accidents that could impact the marine environment, threaten human health and safety, and cause economic loss.

Fortunately, there have been relatively few vessel collisions or major spills in Coastal Bend bay systems. The soft bottoms onshore and offshore are relatively forgiving to ships or barges that run aground. Moreover, accidents have generally been concentrated within the Corpus Christi Inner Harbor where it is relatively easy to contain a spill and minimize damage to wildlife and the marine environment. Nevertheless, accidents involving both ships and pipelines have occurred, and incidents in recent years have increased awareness that we must do everything practical to minimize the potential for additional accidents.

Operators of all waterborne craft including ships, barges, towboats, harbor tugs, shrimp trawlers, passenger vessels, supply boats, ferries, Navy ships, and recreational vessels are part of the mix that is involved in channel traffic safety. Several agencies are also involved in maritime safety. The U.S. Coast Guard Marine Safety Office located in Corpus Christi is responsible for enforcing vessel safety and operational rules along the entire South Texas coast. It is assigned specific responsibility for inspection of vessels, crewmembers, bridges, and dock operations, to help avoid accidents and prevent pollution. It is also assigned the task

of maintaining adequate aids to navigation and issuing safety-warning notices to mariners.

Members of the local harbor pilots association, tug operators, line handlers, the Harbormaster, and even operators of the Tule Lake Lift Bridge also play a key role in preventing accidents. The Coast Guard, the Port Authority, and the Pilots Association have historically ensured that traffic safety in the ship channel is a high priority. For instance, when tankers above a certain size are underway, only one-way traffic is allowed in the channel. The Port of Corpus Christi Authority (PCCA) operates the Harbormaster's Office round-the-clock to assist mariners with traffic management.

In recent years, the Port of Corpus Christi has experienced a period of rapid growth, a shift in some cargo movements, and a wave of new industrial development opportunities. In 2015, the U.S. government also repealed a 40-year ban on the export of crude oil and condensates to foreign countries. Since that time, the Port has passed its tipping point from being an importer to an exporter in cargo shipments (South Texas Economic Development Center, 2016). Expansion in outbound traffic is expected to continue, beginning with exports of crude oil and condensates to foreign destinations. Exports of other commodities will also pick up when many of the regions newly developed industrial sites are complete. The PCCA is making strategic plans to expand its core operations by leveraging developments around the world, such as the expansion of the Panama Canal (South Texas Economic Development Center, 2016). As the PCCA prepares to face these new and exciting challenges, particularly those associated with being a major exporter of crude oil, it is important that safety continues to be a top priority.

The actions of the 2017 Bays Plan call for the Pilots Association to provide continuing education and training for its members. Another action calls for the U.S. Coast Guard, South Texas Waterways Advisory Committee, and other partners to collaborate on improvements to navigational ranges and the area's Vessel Traffic Information System. In addition, the Plan calls for support of the setback policies on the Gulf Intracoastal Waterway (GIWW) which will decrease the likelihood of the encroachment of hazards that can impede commerce and affect the movement of goods. Actions associated with support of the PCCA's initiative to deepen and widen the Corpus Christi Ship Channel and to create a barge shelf that will significantly reduce the potential for vessel collision along that route are also included in the Plan.

Numerous pipelines crisscross the bays and estuaries of the Coastal Bend, carrying oil and other hazardous

THE PORT OF CORPUS CHRISTI is an important driver in the Coastal Bend economy (Photo by Port of Corpus Christi Authority)

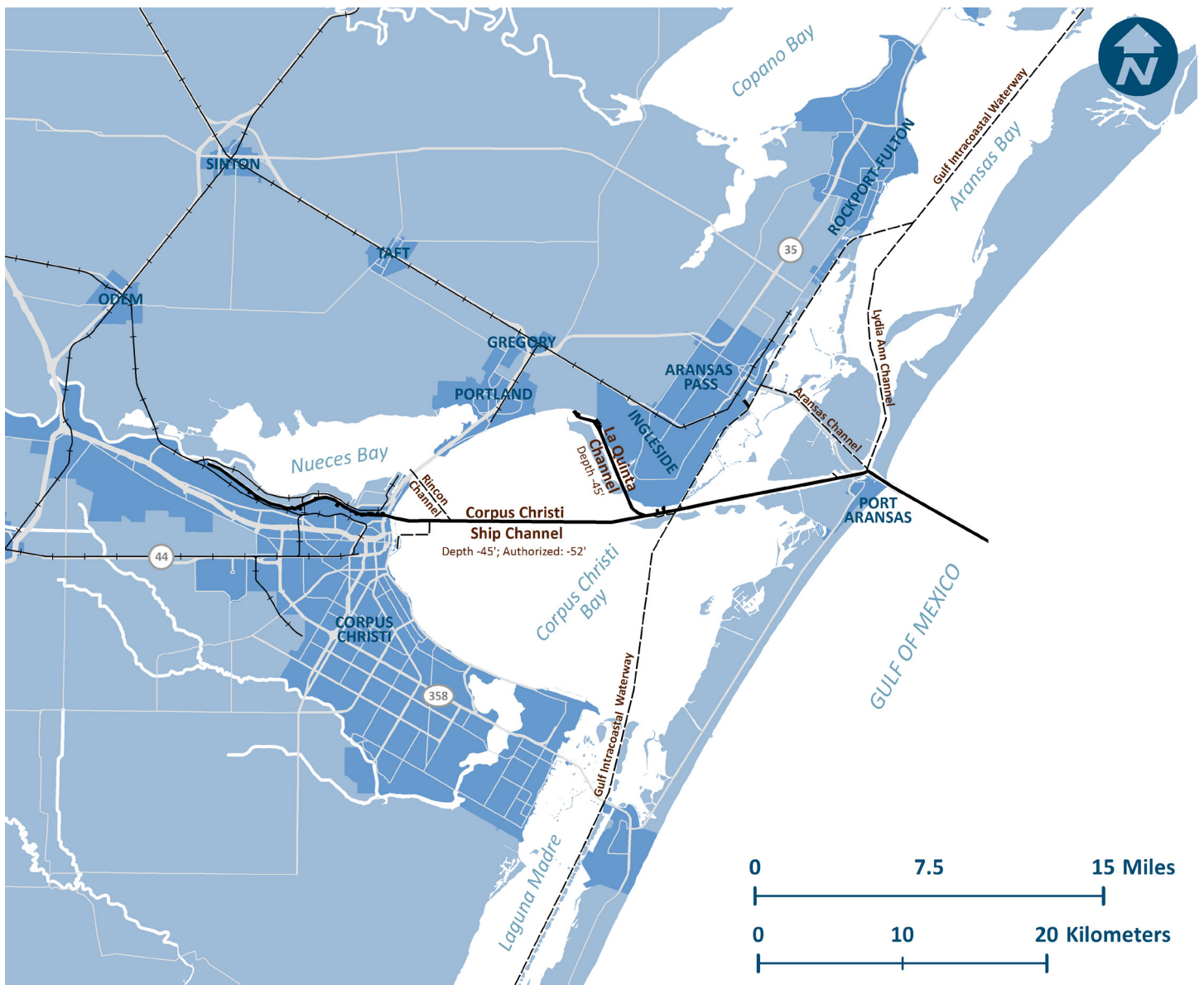


FIGURE 12. MAP SHOWING MAJOR DREDGED NAVIGABLE WATERWAYS IN THE COASTAL BEND.

materials. Efforts to protect the public, as well as environmentally sensitive habitats and species, in the eventuality of spills are an important focus of the 2017 Bays Plan. The Coast Guard serves as the federal on-scene coordinator responding to petroleum or chemical spills into the marine environment. The Texas General Land Office has responsibility as the state oil spill response coordinator and has been instrumental to ensure that substantial resources are prepositioned to reduce spill response times. In addition, the Corpus Christi Area Oil Spill Control Association, established in 1970 by the PCCA, responds to accidents in the Inner Harbor with equipment and trained personnel. The Texas Commission on Environmental Quality is the state chemical spill response coordinator. This responsibility is shared with the Coast Guard. The Local Emergency Planning Committee works

with TCEQ to improve hazardous material spill response planning.

Improvements have been made to the regional spill response capability since the publication of the 1998 Bays Plan, but there is a need to continue to support efforts such as spill drills, unified command drills, and evaluation/acquisition of equipment and supplies. The 2017 Bays Plan calls for continued refinement of the area’s oil spill contingency plan, improved response technologies, and enhanced public awareness of response plans and notification networks. The Plan also calls for an evaluation of the existing marine pipeline data management systems. The evaluation should identify the gaps and opportunities for improvements that would allow for more timely and effective response to marine pipeline incidents. There are,

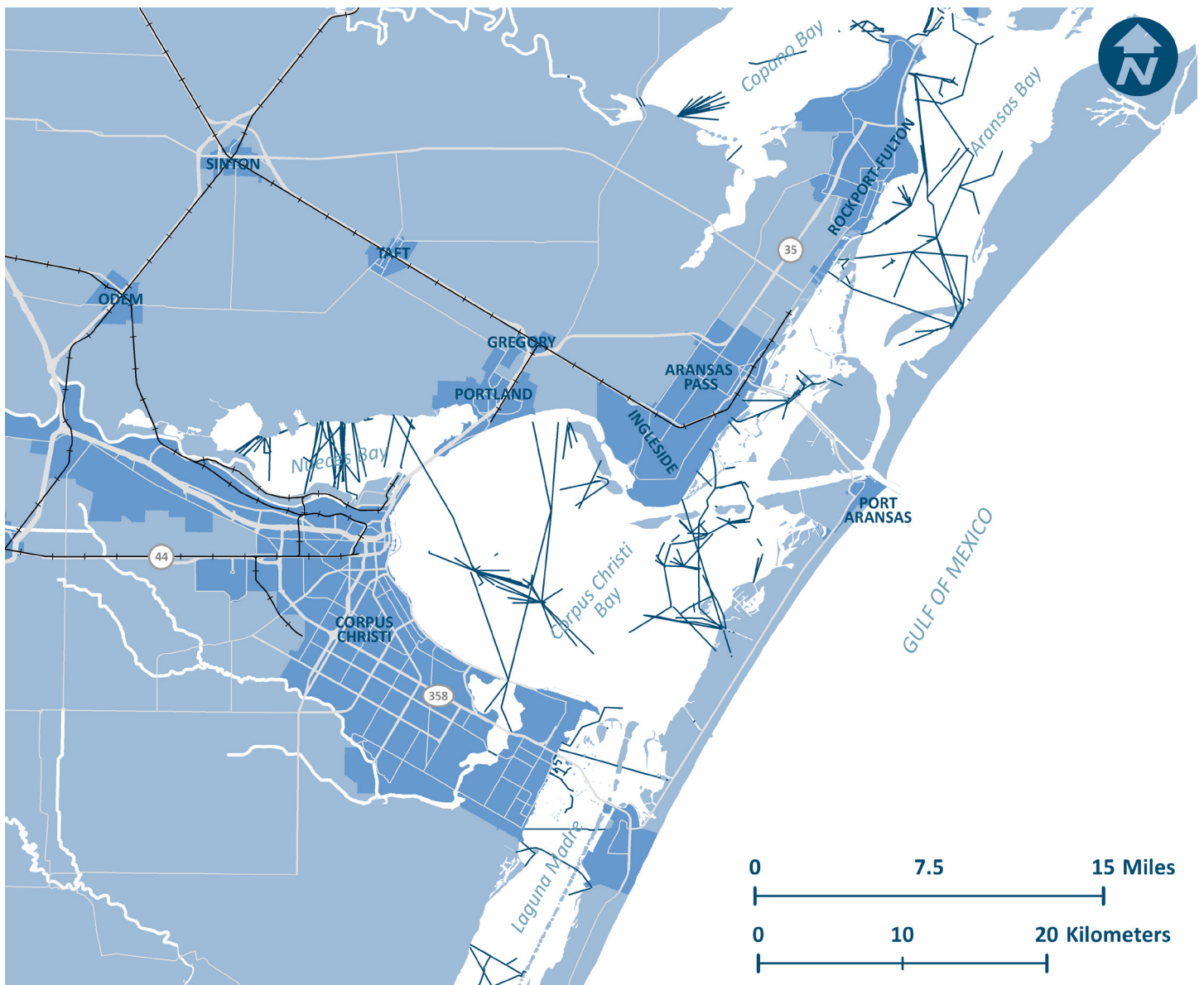


FIGURE 13. MAP OF HAZARDOUS MATERIAL PIPELINES WITHIN THE BAYS OF THE COASTAL BEND.

of course, many partners to these actions, including the Texas General Land Office, the Coast Guard, and the Texas Railroad Commission.

Finally, minimizing the potential for the introduction of non-native species through ship ballast water will be the target of another action within the Plan.

Dredging

Until the 1970's, almost all of the dredged material excavated in channel construction and maintenance was placed in unconfined areas, generally a short distance from the channel. This created 'spoil' islands (now referred to as dredged material placement areas) and covered large areas of shallow bay bottoms, creating either short-term or permanent disruption of biological productivity in

these areas. Such material created much of the land on the north side of the Inner Harbor and on the west end of Harbor Island. Dozens of islands created by dredged material placement exist along the ship channel west of Port Aransas, on the west side of La Quinta Channel, and along the Intracoastal Waterway, especially in the Laguna Madre. Despite losses of bay bottom habitat (largely due to the burial of seagrasses during dredging), dredged material placement has produced notable environmental enhancements, including the creation of nesting habitat on material placement islands. One such island, Pelican Island, is the largest brown pelican nesting area in Texas.

During the 1970's, minimizing wetland losses became an important public policy goal. The outcome was increased coordination between state and federal agencies regarding



ACCOMPLISHMENT: Beneficial Use of Dredge Material at Causeway Island

Causeway Island, in Nueces Bay, supports thousands of pairs of nesting colonial waterbirds each year, making it valuable habitat for many imperiled species in the Coastal Bend region. A geo-textile tube was installed to prevent erosion around the perimeter of the island in 2002 using funds from the Texas General Land Office Coastal Erosion Planning and Response Act (CEPRA) Program.

In 2012 a habitat improvement project, involving the placement of dredge material from the Rincon Channel, was made possible via a partnership between the Coastal Bend Bays and Estuary Program, the Port of Corpus Christi, and the U.S. Army Corp of Engineers. With funds from Cheniere Energy, Inc., approximately 40,000 cubic yards of dredge spoil from Rincon Channel was spread over the three-acre island. The goal of the project was to provide more habitat for ground nesting birds by increasing the elevation of the island.

Additional improvements to the island have included the construction of nesting platforms and the installation of an online streaming video monitoring station that allows public viewing of the nesting platforms.

dredged material placement practices (i.e., levee-confined areas). Concern about the release of potentially harmful contaminants trapped in bottom silts in the Inner Harbor was also a factor in the design of material placement areas. However, dredged material must be tested using nationally approved methods to ensure sediment quality is adequate for in-bay or Gulf placement. Not all dredged material must be confined. For example, material excavated during channel maintenance across Corpus Christi Bay and in the Gulf entrance channel is placed in designated open water areas.

Dredge and fill activities not specifically authorized by the United States Congress cannot be conducted without an approved federal permit under Section 10 of the Rivers and Harbors Act and, in most cases, a permit under Section 404 of the Clean Water Act. A permit is needed whether the job is a ship channel or a shallow residential canal planned by a single landowner. These and other permitting requirements provide the current management framework for dredging in the Coastal Bend. Project sponsors must apply to the U.S. Army Corps of Engineers, which seeks review and comment from federal and state natural resource agencies and the public. If it appears that a project will have significant impacts, an environmental assessment or an environmental impact statement is required. Each project is viewed individually in this management system, but assessing the long-term cumulative impacts of multiple and interrelated dredging projects has been difficult.

One action of the Bays Plan calls for the creation of an interagency and public stakeholder committee that will examine the 'big picture' for maintenance dredging and give special attention to the possible beneficial use of clean dredged material. This 'Beneficial Uses Group' will identify opportunities to increase the volume of dredged material that is put toward beneficial uses. Such uses might include habitat creation or renourishment with suitable dredged material, or shore protection against erosive wave energy. The group will also work to identify potential funding sources to achieve these goals and ways to monitor success following implementation.

In conjunction with the work done by the 'Beneficial Uses Group,' the 2017 Bays Plan also calls for an analysis (or consensus from resource agencies and the scientific community) identifying current ecological resource needs (e.g., more rookeries, more emergent marsh, more submerged aquatic vegetation, more reefs). The results of the ecological resource needs assessment could then be used in the development of a 'Regional Habitat Management Plan' that identified specific projects

that were acceptable (e.g., habitat creation, habitat restoration, or conversion of one aquatic habitat type for another habitat) and could be implemented with the use of dredged material.

The Port of Corpus Christi Authority is the local sponsor of the Corpus Christi Ship Channel and the branch La Quinta Channel. The CBBEP will support the Port's effort, in conjunction with the Corps of Engineers and other stakeholders, to implement the Dredged Material Management Plan (DMMP) for the Corpus Christi Ship Channel. Maintenance dredging has been evaluated in the DMMP for beneficial use feasibility and has identified and regularly places maintenance material for beneficial use (e.g., Pelican Island for rookery enhancement).

Working in parallel fashion the CBBEP will assist the Texas Department of Transportation, the Corps of Engineers, and other partners to achieve consensus among stakeholders on a long-term dredged material management plan for the Gulf Intracoastal Waterway (GIWW), channel subdivisions, private marine terminals, and private and public marinas.



ACCOMPLISHMENT: **La Quinta Channel Extension**

As part of the 'Corpus Christi Ship Channel – Channel Improvement Project,' several improvements have been made to the La Quinta Ship Channel as well. Beginning in November 2011, the La Quinta Channel was extended approximately 1.4 miles (to a depth of 39 feet). Costs for the projects were shared between the Port and the Federal government.

Extending the La Quinta Ship Channel was a major step forward towards the development of the La Quinta Trade Gateway Multipurpose Facility, one of the most important diversification projects of the Port of Corpus Christi Authority. Extension of the La Quinta Ship Channel will allow economic benefits to be achieved while enhancing the economy of the region by providing deep channel access to the Port's La Quinta Gateway project.

The project also included an 'ecosystem restoration' component. An offshore rock breakwater and shore protection were built near Ingleside to protect and enhance approximately 45 acres of seagrass habitat. In addition, the improvements include the construction of approximately 200 acres of shallow water habitat created by the beneficial use of dredged material.



MARITIME COMMERCE

Action Plan

GOAL

Enhance maritime traffic safety while reducing the rate of maritime incidents from shipping, terminal operations, and marine pipelines.

OBJECTIVES

- MC 1: Enhance commercial maritime traffic safety.
- MC 2: Reduce impacts from maritime oil and hazardous material spills.
- MC 3: Improve the response strategy to marine pipeline incidents.
- MC 4: Reduce the potential for introductions of non-native species caused by maritime operations.

ACTIONS

- MC 1.1: Support efforts to implement the Corpus Christi Ship Channel Improvement Project and other improvements.
- MC 1.2: Modify the height, size, position, and light intensity of existing navigation ranges and add new ranges where necessary.
- MC 1.3: Support efforts to maintain and improve the Vessel Traffic Information System and any additional navigational aids, such as the Physical Oceanographic Real-Time System (PORTS).
- MC 1.4: Continue to support vessel operator training regarding safe operating procedures, rules of the road, and local navigation hazards.
- MC 1.5: Support the setback policies for the Gulf Intracoastal Waterway.
- MC 2.1: Continue to maintain and improve regional oil spill response capability.
- MC 2.2: Continue to maintain and improve hazardous spill response planning and resources to ensure public protection.
- MC 3.1: Support data management systems to locate existing pipelines and points of contact for current ownership.
- MC 4.1: Continue to support the prevention of the introduction of non-native species through improved ballast water management.



Maritime Commerce 1.1

Support efforts to implement the Corpus Christi Ship Channel Improvement Project and other improvements.

The number and size of vessels using the Corpus Christi Ship Channel (CCSC) continues to grow, and the Port of Corpus Christi Authority (Port) has been seeking needed channel improvements since soon after final achievement of the 45' Project, a 1968 Congressional Authorized project, not completed until 1989. The initial study for this generation of proposed improvements was in response to a congressional resolution adopted in 1990 by the Committee on Public Works and Transportation, U.S. House of Representatives, where it stated: "...to determine the feasibility of modifying the Corpus Christi Ship Channel, with particular emphasis on the La Quinta Channel... in the interest of commercial navigation and related purposes."

After having all Feasibility Reports and Environment Impact Statements completed and approved in 2004, the project for navigation and ecosystem restoration, CCSC, Texas, was authorized by Section 1001(40) of the Water Resources Development Act of 2007. The Authorized Project included the following navigation and ecosystem restoration features: (1) extend La Quinta Ship Channel; (2) deepen La Quinta Ship Channel extension to match original channel; (3) construction of ecosystem restoration features to protect endangered species, wetlands, and seagrass; (4) widening the CCSC to 530' from Port Aransas to the Harbor Bridge; (5) deepening the CCSC to -52' MLT; and (6) adding 200' wide Barge Shelves across Corpus Christi Bay.

Several components of the Corpus Christi Ship Channel Improvement Project (CCSCIP) have been completed, but efforts to deepen/widen the ship channel and create barge shelves are ongoing and continue to need support. The Port has a permit to complete the project but funding still needs to be obtained. The CCSCIP has a defined boundary but additional improvement projects may be needed outside of this area - action allows for improvements in these other areas as well.

STEP 1:

Obtain Congressional appropriation to fund the Corpus Christi Ship Channel Improvement Project.

STEP 2:

Coordinate with USACE and USCG on the creation of the barge shelf adjacent to the main ship channel.

STATUS



UNDERWAY: Several components of the CCSCIP have been completed, but efforts to deepen/widen the ship channel and create barge shelves are ongoing and continue to need support. The Port has a permit to complete the project but funding still needs to be obtained.

TIMEFRAME



2017-2037: Steps will be implemented as funding becomes available.

COST



ESTIMATED COST: \$\$\$\$ (full project implementation)

POTENTIAL FUNDING: Congressional appropriation and non-federal cost-share

PARTNERS



LEAD: PCCA

POTENTIAL PARTNERS: Aransas-Corpus Christi Pilots; Commercial and recreational vessel operators; PICC; USACE; USCG

PERFORMANCE METRICS



1. Once implemented, improvements meet the specifications outlined in the Corpus Christi Ship Channel Improvement Project Plan.



Maritime Commerce 1.2

Modify the height, size, position, and light intensity of existing navigation ranges and add new ranges where necessary.

Existing navigation ranges are in need of updating to maintain safe vessel operations. Ongoing channel modifications and night lights from urban areas call for assessment of the proper placement and adequacy of ranges. Although navigation ranges are routinely updated by the United States Coast Guard (USCG), there still remains a need for additional improvements and new ranges (e.g., La Quinta Channel).

STEP 1:	STEP 2:	STEP 3:
Survey existing ranges and determine shortcomings.	Determine priorities for updating ranges and determine which ranges require high intensity day and night lights.	Obtain funding to implement improvements and coordinate on follow through with range improvements.

STATUS



UNDERWAY: Navigation ranges are routinely updated by the USCG.

TIMEFRAME



2019: Earliest anticipated completion.

COST



ESTIMATED COST: \$\$\$\$ (full project implementation)
POTENTIAL FUNDING: Federal funding; Private industry

PARTNERS



LEAD: USCG
POTENTIAL PARTNERS: STWAC

PERFORMANCE METRICS



1. Identified range improvements are implemented.



Maritime Commerce 1.3

Support efforts to maintain and improve the Vessel Traffic Information System and any additional navigational aids, such as the Physical Oceanographic Real-Time System (PORTS).

The Port of Corpus Christi Authority received a Congressional appropriation to establish a Vessel Traffic Information System (VTIS). As the number and size of vessels using the Corpus Christi Ship Channel continues to grow, it is important that the existing VTIS is both maintained and improved in order to ensure safe vessel operations. Installation of additional equipment associated with other monitoring programs, such as the Physical and Oceanographic Real-Time System (PORTS), would provide further beneficial navigation aids to the Port of Corpus Christi.

STEP 1:

Coordinate the location, installation, and modification of electronic monitors in Corpus Christi Bay and its approaches to provide real-time wind, tide, and current information to mariners via a phone, radio, or internet link.

STEP 2:

Promote utilization of the existing VTIS by improving current and up-to-date communication.

STEP 3:

Assess the need for a Vessel Traffic System.

STATUS



NEW: Implementation of new actions will take place following the adoption of the revised plan during the time period identified.

TIMEFRAME

2017 - 2037



COST



ESTIMATED COST: Step 1 = \$\$\$-\$\$\$\$ (varies by project type); Step 2 = \$ (per year); Step 3 = No cost

POTENTIAL FUNDING: TBD

PARTNERS



LEAD: STWAC

POTENTIAL PARTNERS: Aransas-Corpus Christi Pilots; GICA; PCCA; PICC; USCG

PERFORMANCE METRICS



1. Transportation cost savings (e.g., Harbor SIMS model).
2. Number of accidents/spills.



Maritime Commerce 1.4

Continue to support vessel operator training regarding safe operating procedures, rules of the road, and local navigation hazards.

The single largest contributor to vessel accidents and spills from marine vessels is human error. As the number and size of vessels using the Corpus Christi Ship Channel (CCSC) continues to grow, it is important that the vessel operators continue to be properly trained.

STEP 1:

Ensure continuing education and training of all ship pilots and tug/ barge captains. Establish and self-enforce minimum standards based upon recognized international studies and standards. Formalize training schedule utilizing internationally recognized facilities.

STEP 2:

Conduct training workshops (e.g., Blue Water – Brown Water Training) for all operators of commercial vessels, including tugs and barges, fishing vessels, and offshore supply vessels.

STEP 3:

At training events, raise operator awareness about shorelines that are highly susceptible to erosion caused by vessel wakes.

STATUS



UNDERWAY: Periodic trainings for commercial vessel operators are already being hosted locally in the Corpus Christi area (e.g., Blue Water – Brown Water Training).

TIMEFRAME



2017 - 2037: Steps will be implemented, as needed and as funding becomes available, throughout the applicable life of this plan.

COST



ESTIMATED COST: \$\$ (per year)
POTENTIAL FUNDING: Vessel fees

PARTNERS



LEAD: Aransas-Corpus Christi Pilots
POTENTIAL PARTNERS: CBBEP; GICA; MANERR; Texas Shrimpers Association; STWAC; Texas Waterway Operators; USCG

PERFORMANCE METRICS



1. Number of trainings hosted.
2. Number of trained operators.
3. Number of accidents/spills.



Maritime Commerce 1.5

Support the setback policies for the Gulf Intracoastal Waterway.

Encroachment of hazards into the Gulf Intracoastal Waterway (GIWW) can cause operational inefficiencies in navigation that impedes commerce and affects the movement of goods. There is a need to address the problems of location and construction of structures along the waterways with two major categories of stakeholders: (1) those who build the structures and (2) those who permit the structures prior to their construction. Better cooperation between governmental agencies on permitting development and a focus on the agglomeration, clustering, and density of development on the waterway is needed. Additionally, there should be increased cooperation between developers, governmental agencies, and the barge industry in maintaining the GIWW for its primary use of moving goods effectively and efficiently to promote and support Texas and United States commerce.

STEP 1:

Create a formal design review team that includes developers, public authorities, industry members, and other waterway users. This team would be responsible for developing a master plan and reviewing all future development plans having potential impact on navigational operations on the Gulf Intracoastal Waterway, including “best practices.”

STEP 2:

Improve the permitting process by pursuing a more aggressive review of the “public use” and “reduction in navigable capacity” criteria under the permitting regulations of the US Army Corps of Engineers and having the Texas General Land Office be proactive in permitting by reviewing the impacts of structures on state commerce.

STEP 3:

Improve communication and coordination regarding the permitting process with local governments and industry representatives.

STEP 4:

Develop a guidebook that can be made available to developers and property owners along the GIWW.

STATUS



NEW: Implementation of new actions will take place following the adoption of the revised plan during the time period identified.

TIMEFRAME

2017 - 2037



COST



ESTIMATED COST: TBD
POTENTIAL FUNDING: TBD

PARTNERS



LEAD: TXDOT
POTENTIAL PARTNERS: Barge industry; CBBEP; Developers; GICA; Local governments; PCCA; TGLO; USACE; USCG

PERFORMANCE METRICS



1. Team is developed to review development plans that have potential to impact the GIWW.
2. Master plan is developed to encourage long-range planning for development along the GIWW and the use of best practices.
3. Permitting process for structures near the GIWW is amended.
4. Guidebook is produced for developers and property owners along the GIWW.
5. Number of accidents/incidents due to encroachment along the GIWW are decreased.



Maritime Commerce 2.1

Continue to maintain and improve regional oil spill response capability.

Oil spills have the potential for catastrophic environmental impacts. Rapid and effective spill response can greatly reduce impacts associated with spills. Improvements have been made to the Coastal Bend regional spill response capability, but there is a continued need to support efforts such as spill drills, unified command drills, and acquisition of equipment and supplies.

STEP 1:

Continue to evaluate and prioritize high-risk areas based on environmental, social, and public health vulnerabilities. Incorporate this information into contingency planning documents.

STEP 2:

Explore and evaluate alternative spill response equipment and technologies in conjunction with equipment deployment. Develop guidelines and recommendations for spill responders.

STEP 3:

Increase public awareness of oil spill response plans and the notification network. Notify and provide key public servants with opportunities to participate in spill drills.

STATUS



UNDERWAY: CBBEP partners are continually involved in efforts to maintain and improve oil spill response efforts.

TIMEFRAME

2017 - 2037



COST



ESTIMATED COST: TBD
POTENTIAL FUNDING: TBD

PARTNERS



LEAD: USCG; TGLO
POTENTIAL PARTNERS: EPA; NOAA; PICC; STCZAZ; TCEQ; TPWD; TRC; USFWS

PERFORMANCE METRICS



1. New oil spill response technology and equipment are purchased.
2. Response time for oil spills is reduced.
3. Environmentally sensitive areas are protected during spill events.



Maritime Commerce 2.2

Continue to maintain and improve hazardous spill response planning and resources to ensure public protection.

Hazardous materials are moved daily across Texas Coastal Bend bays by maritime transport. Efforts to protect the public, as well as environmentally sensitive habitats and species, in the eventuality of spills are of paramount importance. Improvements have been made to the Coastal Bend regional hazardous material spill response capability, but these efforts require continued support.

STEP 1:

Develop a regional contingency plan in accordance with applicable regulations. Determine areas where the public is at greatest risk from accidental spills/releases of hazardous materials. Expand public input for plan development through the Local Emergency Planning Committee.

STEP 2:

Improve and expand the regional community alert/notification network. Ensure public awareness of emergency plans including evacuation routes, notification network, and emergency public communications.

STEP 3:

Establish a cooperative framework to coordinate deployment of response equipment and resources.

STATUS



UNDERWAY: CBBEP partners are continually involved in efforts to maintain and improve hazardous chemical spill response efforts.

TIMEFRAME

2017 - 2037



COST



ESTIMATED COST: TBD
POTENTIAL FUNDING: TBD

PARTNERS



LEAD: USCG; TCEQ
POTENTIAL PARTNERS: EPA; LEPC; NOAA; PICC; STCZAZ; TPWD; USFWS

PERFORMANCE METRICS



1. Regional HAZMAT plan is developed in a cooperative framework.
2. Response time for hazardous spills is reduced.
3. Evacuation times for hazardous spills are reduced.
4. Environmentally sensitive areas are protected during spill events.



Maritime Commerce 3.1

Support data management systems to locate existing pipelines and points of contact for current ownership.

In order to respond in a timely and effective manner to marine pipeline incidents, responders need information about pipeline location, ownership, age, condition, substances carried, etc. There are existing data management systems that provide this type of information regarding marine pipelines, but continued support for the maintenance and updating of these systems is needed.

STEP 1:

For existing marine pipeline data management systems, identify data gaps and evaluate opportunities for potential improvements (e.g., digitization, web interface).

STEP 2:

Develop a planning document that outlines how to fill identified data gaps and implement improvement projects related to existing marine pipeline data management systems. Plan should include an estimate of potential funding needs.

STATUS



NEW: Implementation of new actions will take place following the adoption of the revised plan during the time period identified.

TIMEFRAME

2017 - 2037



COST



ESTIMATED COST: TBD
POTENTIAL FUNDING: TBD

PARTNERS



LEAD: TGLO; TRC
POTENTIAL PARTNERS: CBBEP; EPA; Industry; NOAA; Pipeline companies; TCEQ; TPWD; Universities (e.g., TAMUCC, UTMSI)

PERFORMANCE METRICS



1. Response time for marine pipeline incidents is reduced.
2. Environmentally sensitive areas are protected during marine pipeline incidents.



Maritime Commerce 4.1

Continue to support the prevention of the introduction of non-native species through improved ballast water management.

The introduction of non-native species through ballast water discharges can result in catastrophic environmental impacts. Introduced species can dramatically alter the composition and function of biological communities and result in significant economic loss. Improvements have been made through the passage of a number of regulations designed to control the introduction of non-native species in ballast water, but continued support of the implementation of these regulations is needed.

STEP 1:

Support the implementation of the National Invasive Species Act locally by educating ship owners, charter parties, PICC, and vessel operators frequenting the project area about the potential impacts of ballast operations.

STEP 2:

Encourage participation of maritime community in invasive species forums.

STATUS



NEW: Implementation of new actions will take place following the adoption of the revised plan during the time period identified.

TIMEFRAME

2017 - 2037



COST



ESTIMATED COST: \$
POTENTIAL FUNDING: TBD

PARTNERS



LEAD: USCG; CBBEP
POTENTIAL PARTNERS: CBBF; EPA; MANERR; NMFS; PCCA; PICC; Texas Sea Grant; TPWD; USFWS; Vessel owners and operators

PERFORMANCE METRICS



1. Number of invasive species forums hosted.
2. Number of attendees at invasive species forums.



DREDGING

Action Plan

GOAL

Ensure that all dredging activities are planned and conducted in ways that consider the cost effectiveness of the operation, while minimizing ecological impacts and maximizing the beneficial uses of dredged material.

OBJECTIVE

D 1: Improve dredged material management practices.

ACTIONS

- D 1.1: Support the activities of the Beneficial Uses Group (BUG) to maximize beneficial uses of dredged material as required.
- D 1.2: Support the approved (50 year) Dredged Material Management Plan and strategy for the Corpus Christi Ship Channel.
- D 1.3: Develop a long-term (50 year) dredged material management plan and strategy for the Gulf Intracoastal Waterway, channel subdivisions, private marine terminals, and private and public marinas.
- D 1.4: Develop a long-term (50 year) Regional Habitat Management Plan that utilizes dredged material from private and public sources.



Dredging 1.1

Support the activities of the Beneficial Uses Group (BUG) to maximize beneficial uses of dredged material as required.

Dredged material has been used beneficially for shoreline stabilization and habitat creation projects throughout the Texas Coastal Bend. The availability of dredged material coupled with the need to dispose of it in an environment-friendly manner call for the formation of a Beneficial Uses Group (BUG) to recommend creative ways to beneficially use dredged material. The BUG will identify opportunities to increase the volume of dredged material that is put toward beneficial uses, such as habitat creation/renourishment with suitable dredged material or shore protection against erosive wave energy. The group will also work to identify potential funding sources to achieve these goals.

STEP 1:

Support a Beneficial Uses Group (BUG) to guide development of a Beneficial Use Plan.

STEP 2:

Assess the results of related research on beneficial uses of dredged material.

STEP 3:

Identify potential funding sources for beneficial use projects and recycling incentives.

STEP 4:

Design and implement beneficial use projects.

STEP 5:

Monitor the success of beneficial use projects.

STATUS



NEW: Beneficial Use Plan Implementation Group was established as part of the Corpus Christi Ship Channel Improvement Project, but group is not actively meeting at this time. There is a need to re-establish this group, and use it as a model for a regional BUG that includes other interested partners throughout the Coastal Bend Region.

TIMEFRAME

2017-2037



COST



ESTIMATED COST: Steps 1-3 = \$; Steps 4-5 = \$\$\$-\$\$\$\$ (varies by project type)

POTENTIAL FUNDING: CBBEP Programmatic funds (EPA 320 funds, TCEQ, Local funds); Mitigation dollars; State and federal grants

PARTNERS



LEAD: CBBEP

POTENTIAL PARTNERS: Dredging Industry; EPA; NMFS; PCAA; PICC; TCEQ; TGLO; TPWD; TWDB; TXDOT; USACE; USCG; USFWS

PERFORMANCE METRICS



1. Number of projects in the program area implementing beneficial use of dredged material.



Dredging 1.2

Support the approved (50 year) Dredged Material Management Plan and strategy for the Corpus Christi Ship Channel.

Dredging is an ongoing activity necessary to maintain navigable waterways for the support of maritime commerce along the Corpus Christi Ship Channel. Management plans for dredging activities and dredged material handling and disposal are essential to minimize impacts to natural resources. A long term (50 years) Dredged Material Management Plan (DMMP) was developed for the Corpus Christi Ship Channel as part of the Corpus Christi Ship Channel Improvement Project. Maintenance dredging has been evaluated for beneficial use feasibility and has identified and regularly places maintenance material for beneficial use (e.g., Pelican Island for rookery enhancement). Continued support of this established DMMP is needed.

STEP 1:

Increase public awareness that DMMP for the Corpus Christi Ship Channel is in place.

STEP 2:

Update the Corpus Christi Ship Channel DMMP as needed.

STATUS



NEW: Implementation of new actions will take place following the adoption of the revised plan during the time period identified.

TIMEFRAME

2017 - 2037



COST



ESTIMATED COST: TBD
POTENTIAL FUNDING: TBD

PARTNERS



LEAD: PCCA; CBBEP
POTENTIAL PARTNERS: Conservation organizations (e.g., Audubon Texas, CCA, DU); BUG; Dredging industry; EPA; NMFS; PICC; TCEQ; TGLO; TPWD; TWDB; TXDOT; USACE; USCG; USFWS

PERFORMANCE METRICS



1. Number of individuals that are aware of DMMP for Corpus Christi Ship Channel.
2. Dredged material management practices are improved.
3. Need for dredged material disposal areas that are not beneficial use sites is reduced.



Dredging 1.3

Develop a long-term (50 year) dredged material management plan and strategy for the Gulf Intracoastal Waterway, channel subdivisions, private marine terminals, and private and public marinas.

Dredging is an ongoing activity necessary to maintain navigable waterways for the support of maritime commerce and recreational boating along the Gulf Intracoastal Waterway, channel subdivisions, private marine terminals, and private and public marinas. Management of dredging activities and dredged material handling and disposal is essential to minimize impacts to natural resources. There is currently no dredged material management plan in place for these areas, and there needs to be support for stakeholder collaboration on this type of plan.

STEP 1:

Coordinate, in conjunction with the USACE and ICTs, the development of an economically feasible, 50 year dredged material management plan (to be updated every five years). Ensure that the plan reflects the goal of using Best Management Practices for handling dredged materials, and focuses on minimizing environmental impacts during all stages of dredging operations.

STATUS



NEW: Implementation of new actions will take place following the adoption of the revised plan during the time period identified.

TIMEFRAME

2022 - 2037



COST



ESTIMATED COST: TBD
POTENTIAL FUNDING: TBD

PARTNERS



LEAD: TXDOT; USACE
POTENTIAL PARTNERS: CBBEP; Conservation organizations (e.g., Audubon Texas, CCA, DU); Dredging industry; EPA; Local governments; Navigation districts; NMFS; PCCA, Residential developers; TCEEQ; TGLO; TPWD; TWDB; USCG; USFWS

PERFORMANCE METRICS



1. DMMP for GIWW, channel subdivisions, private marine terminals, and private and public marinas is developed.
2. Dredged material management practices are improved.
3. Need for dredged material disposal areas that are not beneficial use sites is reduced.



Dredging 1.4

Develop a long-term (50 year) Regional Habitat Management Plan that utilizes dredged material from private and public sources.

Dredging is an ongoing activity necessary to maintain navigable waterways and berthing facilities in the program area. There is often a lack of consensus about the benefits and adverse effects of dredging and placement of dredged material. The “CBBEP Maritime Commerce and Dredging Implementation Team” believes that an analysis (or consensus from resource agencies and the scientific community) identifying current ecological resource needs (e.g., more rookeries, more emergent marsh, more submerged aquatic vegetation, more reefs) could be used to help identify and prioritize uses for material, should it become available.

The recognition for the needed ecological resources could then be used as guidance for the development of a “Regional Habitat Management Plan” that identified specific projects that were acceptable and could be implemented with the use of dredged material. The primary focus of the Plan would be on habitat creation, habitat restoration, or conversion of one aquatic habitat type for another habitat type deemed to be of higher ecological and social value in order to meet resource management and societal needs and facilitate economic development. The Plan would also strive to reduce permit processing time by providing a pre-coordinated buy-in for regulatory/mitigation decisions. This Plan would be available for use by resource agencies and industrial users alike in planning for maintenance, growth, and development within the Coastal Bend area.

STEP 1:

Develop a consensus based comprehensive “Regional Habitat Management Plan” that identifies habitat enhancement, creation, and conversion opportunities in Coastal Bend area and includes opportunities created from future dredging and dredged material placement activities.

STATUS



NEW: Implementation of new actions will take place following the adoption of the revised plan during the time period identified.

TIMEFRAME

2017 - 2022



COST



ESTIMATED COST: TBD
POTENTIAL FUNDING: TBD

PARTNERS



LEAD: CBBEP

POTENTIAL PARTNERS: BUG; Conservation organizations (e.g., Audubon Texas, CCA, DU); EPA; Local governments; NMFS; PCCA; TCEQ; TGLO; TPWD; TWDB; TXDOT; USACE; USFWS; Universities (e.g., CCS, HRI, UTMSI)

PERFORMANCE METRICS



1. Regional Habitat Plan that includes opportunities created from future dredging and dredged material placement activities is developed.
2. Dredged material management practices are improved.
3. Need for dredged material disposal areas that are not beneficial use sites is reduced.