

Section 1122 WRDA 2016 Proposal entitled:
HICKORY COVE MARSH RESTORATION
and
LIVING SHORELINE PROJECT (Texas)

Submitted by: Ducks Unlimited
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1. Project Name and Location: Hickory Cove Marsh Restoration and Living Shoreline Project (Bridge City, Texas)

USACE MSC (Division) and MSC POC:

USACE District and POC: Galveston District

Congressional Representative(s) and District(s): Texas District 36. U.S. Senators John Cornyn and Ted Cruz. U.S. Representative John Babin

2. Purpose of the proposed project

With the Orange County Navigation and Port District (OCNPD) as a willing and capable non-federal sponsor, this 1,200 acre marsh restoration and living shoreline project will initially utilize over 1.5 million cubic yards of maintenance dredged material from a portion of the Sabine - Neches Waterway to provide for increased commerce, wetland restoration, storm surge abatement, and living shoreline establishment near Bridge City, Texas. Specifically, we will focus on a 6 mile reach of the Sabine Neches Waterway, from its intersection with the Neches and Sabine Rivers, and extending north towards the Port of Orange (Figure 1). This section of the channel is authorized to a dredged depth of 30 feet, but due to ongoing siltation, and recent heavy deposition during Hurricane Harvey, the channel depth has shoaled to approximately 23 feet. The capacity of the donor site will accommodate the current maintenance dredging need (approximately 1.5 million cubic yards), and several future dredging needs, with an approximate capacity of 3 million cubic

yards. In this project, it is noteworthy that the majority of the pumping distance will be approximately only 1 mile, with maximum distances approaching only 2.5 miles.

The purpose and benefits of this project are varied and include all of the purposes mentioned in paragraph 5 of the guidance document: reducing storm surge to property and infrastructure, promoting public safety, protecting/restoring/creating aquatic ecosystem habitats, stabilizing stream systems and enhancing shorelines, promoting recreation, supporting risk management strategies, and reducing costs of dredged material placement.

This projects supports a priority area / strategy identified in the 2017 Texas General Land Office Coastal Resiliency Plan. The GLO coastal resiliency plan encourages the beneficial use of dredge material and specifically lists the Hickory Cove area as a statewide priority for coastal resiliency planning. The restoration of this coastal marsh will provide storm surge and buffer for critical petrochemical infrastructure, bedroom communities, and business in the Bridge City and Orange areas. This area were recently devastated by Hurricane Harvey (2017), and also by Hurricane Ike (2008)

This project will also restore emergent marsh habitat important to wintering migratory waterfowl and other waterbirds. The restoration of this emergent marsh will provide critical habitat for two high high priority waterfowl, Mottled Ducks and Northern Pintail, as identified by the North American Wetlands Conservation Act. Northern Pintail are a wintering and migrant waterfowl to the Texas Coast, whereas, Mottled Ducks are year-round residents.

The beneficial use project and living shoreline will improve the long-term stability of the Sabine Neches / Gulf Intracoastal Waterway channel, that may reduce the frequency of dredging in this area.

3. Description of the proposed project, including more detail on how material will be used beneficially to meet project purposes identified in 2 above.

Specifically, this project will utilize approximately 1.5 million cubic yards of maintenance dredge material from the Sabine-Neches Navigation channel for a beneficial use project that will address a priority area identified in the Texas General Land Office Coastal Resiliency Plan and will provide for over 1,200 acres of coastal marsh restoration that will provide environmental benefits, benefits to human life and property via storm surge buffering and reduction, and benefits to the economy via water born commerce. This project will involve a public / private partnership between the Port of Orange and a willing private landowner. We estimate that this phase of the project will accommodate over 1.5 million cubic yards of dredged material from the 6 mile reach of the navigation channel. The recipient site has the capacity to accept nearly 3 million cubic yards, thus the site will provide for current dredging needs, as well as several future dredging needs. Dredge material will be used to increase marsh elevations to a level that will support a healthy and robust submergent and emergent wetland plant vegetative community.

Within this reach of the Sabine Neches Waterway, there are no DMPA's available to the OCNPD. Beneficial use is a locally available and supported option for servicing current dredging needs of the OCNPD, as well as several future maintenance future dredging efforts that may be needed. The OCNPD has previously participated in a beneficial dredge use project with Texas Parks and Wildlife Department, a private landowner, and Ducks Unlimited, utilizing dredge material from this same channel reach, to pump over 1.7 million cubic yards of maintenance dredged material into a 500 acre wetland restoration project. The material was moved a distance of nearly 5 pipeline miles via hydraulic dredging.

4. The name of all non-federal interests planning to act as the sponsor, including any non-federal interest that has contributed to or is expected to contribute toward the non-federal share of the proposed beneficial use project:

The OCNPD will be the non-federal sponsor. Note that the OCNPD, Ducks Unlimited, and the private landowner are already collaborating on preliminary data collection that will be used to further develop this project. DU is obtaining bathymetric data on the open water areas within Hickory Cove and will use that data to determine dredged

material capacities, and also project layout and costs of a rock breakwater that will create a living shoreline and provide for the additional placement of dredged material.

5. List the authorized U.S Army Corps of Engineers (Corps) water resources development project(s) that the proposed beneficial use project is associated with.

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6. Provide an estimate, to the extent practicable, of the total beneficial use project cost, and the federal and non-federal share of those costs.

Costs are unknown but include the following estimated amounts, totaling \$11 million:

Hydraulic dredging and placement of 1.5 million cubic yards of material -- \$6 million

Construction of living shoreline (rock breakwater) of approximately 2 miles -- \$4 million

Site prep, levee repair, etc. for donor site to accept material -- \$1 million

7. Describe, to the extent practicable, an estimate of the anticipated monetary and non-monetary benefits of the proposed beneficial use project with regard to the environmental, economic, and social benefits of the project:

Economics:

The majority of the project site is less than 1.0 miles from the Sabine Neches navigation channel. Most of the containment exists for this project, within an existing 1,200 acre leveed unit managed for migratory waterfowl. Incremental costs are expected to be minimal for this effort. There no existing DMPA's available for this project. Thus, this project is a cost-effective alternative to traditional dredge material placement for this area.

Hurricane Ike caused widespread flooding in Bridge City and adjacent Orange. In Bridge City alone, there were over 2,200 flood policies covering \$500 million in property. During

Ike, only 14 of 3,400 homes in Bridge City were not flooded. In 2017, Hurricane Harvey caused similar destruction in the area, resulting in widespread damage. Storm surge abatement as a result of coastal marsh restoration has the ability to significantly reduce impacts to businesses and property in the Bridge City and Orange areas. “Tripping” of the storm surge, by as little as 6” to 1 foot, would have prevented flooding of hundreds of homes and business in the Bridge City and Orange areas.

The Bridge City and Orange areas are home to numerous petrochemical facilities with regional and national significance to the nation and world’s economy and safety. With multiple reaches, including the area proposed in this project, the Sabine Neches waterway is the 4th busiest in the nation. The affect of storm surge on these facilities is a safety, environmental, and economic threat. During Hurricane Ike US oil production dropped from 5 million barrels per day (790,000 cubic meters per day) to 4 Mbbbl/d (640,000 m³/d) in the immediate aftermath of the hurricane. Approximately 500,000 U.S. gallons (1,900 cubic meters) of crude oil spilled into the Gulf of Mexico and the marshes, bayous and bays of Louisiana and Texas over a coastline distance of 185 miles (298 kilometres). Much of the spillage occurred in the High Island area of Galveston County, Texas, where storm surge rose over a low-lying oilfield and flooded the marshy area around several producing wells, beam pumps and storage tanks. During the days both before and after the storm, companies, and residents reported around 448 releases of gas, oil and other substances into the environment in Louisiana and Texas. The hardest hit places were industrial centres near Houston and Port Arthur, Texas, as well as oil production facilities off Louisiana's coast. Restoration of the Hickory Cove site will provide for surge abatement that will lessen those impacts, and ensure the ongoing and uninterrupted operation of those facilities and the thousands of jobs that they provide on a daily basis.

Environmental:

The project will restore and enhance over 1,200 acres of coastal emergent marsh that has been significantly degraded by a series of tropical systems that include Hurricane Ike and Hurricane Harvey. Restoration of this emergent marsh will provide critical habitat for numerous fish and wildlife species.

The restored habitat will restore the vegetative integrity of this coastal marsh.

Federally listed threatened or endangered species that will benefit include: Restoration of emergent marsh and associated shallow water areas may have some benefit to Piping Plovers (Federally Threatened).

There no known contaminates from the donor or recipient sites. A prior beneficial use project in 2010 used maintenance material from this same reach for a 500 acre marsh restoration project involving, Texas Parks and Wildlife Department, OCNPD, private landowners, and Ducks Unlimited.

This projects supports a priority area identified in the Texas General Land Office Coastal Resiliency Plan. The GLO coastal resiliency plan encourages the beneficial use of dredge material and specifically lists the Hickory Cove area as a statewide priority for coastal resiliency planning. The restoration of this coastal marsh will provide storm surge and buffer for critical petrochemical infrastructure, homes, and business in the Bridge City and Orange areas.

Social: The restoration of the Hickory Cove site should be viewed as an insurance policy against the impacts of storm surge and coastal erosion. To the residents of Bridge City and Orange, and the numerous businesses in the area, a health coastal marsh ecosystem provides storm surge buffer that can save their homes and businesses, thus contributing to quality of life and economic progress. These restored coastal marsh will also contribute to abundance fish and wildlife species that are recreationally and economically important to local residents and businesses.

8. Describe if local support exists for the proposal.

A private landowner will participate in this project and willingly accept the material on his property for the purpose of wetland restoration. This project is locally supported by TPWD, Moore-Odom Wildlife Foundation, OCNPD, private landowner, and local officials, municipalities and businesses that recognize the economic importance of

maintaining navigation channels and restoring coastal marshes to abate storm surge and flooding.

9. Statement of the non-federal interest's financial ability to provide a share of the project costs.

OCNPD will seek funds to cover any incremental costs, but given that the majority of the pump distance is 1.0 miles or less, we do not anticipate costs in excess of that associated with routine maintenance dredging.

Attachments:

Map of project site

