

# Biological Evaluation Form

## Deepwater Horizon Oil Spill Restoration

### U.S. Fish and Wildlife Service & National Marine Fisheries Service

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This form will be filled out by the Implementing Trustee and used by the regulatory agencies. The form will provide information to initiate informal Section 7 consultations under the Endangered Species Act (ESA) and may be used to document a No Effect determination or to initiate pre-consultation technical assistance.

It is recommended that this form also be completed to inform and evaluate additional needs for compliance with the following authorities: Migratory Bird Treaty Act (MBTA), Marine Mammal Protection Act (MMPA), Coastal Barrier Resources Act (CBRA), Bald and Golden Eagle Protection Act (BGEPA) and Section 106 of the National Historic Preservation Act (NHPA).

Further information may be required beyond what is captured on this form. Note: if you need additional space for writing, please attach pages as needed.

For assistance, please contact the compliance liaisons  
USFWS: Erin Chandler at erin\_chandler@fws.gov  
NMFS: Christy Fellas at christina.fellas@noaa.gov

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#### A. Project Identification

Federal Action Agency(one or more):USFWS  NOAA  EPA  USDA

Implementing Trustee(s): CPRA

Contact Name: Micaela Coner Phone: 225-342-1952 Email: micaela.coner@la.gov

Project Name: Terrebonne Basin Ridge and Marsh Creation – Bayou Terrebonne Increment

DIVER ID# 80 TIG: Louisiana TIG Restoration Plan # 1

#### B. Project Phase and Supporting Documentation

Please choose the box which best describes the project status, as proposed in this BE form:

Planning/Conceptual  Construction/Implementation  Engineering & Design

If “Engineering & Design” was selected, please describe the level of design that has been completed and is available for review:

The Draft Alternative Analysis Report was completed 9/9/2019. The Preliminary Design Report was completed 4/24/2020. These documents will be available from CPRA or HDR Engineering, Inc.

#### Supporting Documentation

Please attach any maps, aerial photographs, or design drawings that will support the information in this BE form. Examples of such supporting documentation include, but are not limited to:

Plan view of design drawings

Aerial images of project action area and surrounding area

Map of project area with elements proposed (polygons showing proposed construction elements)

Map of action area with critical habitat units or sensitive habitats overlaid

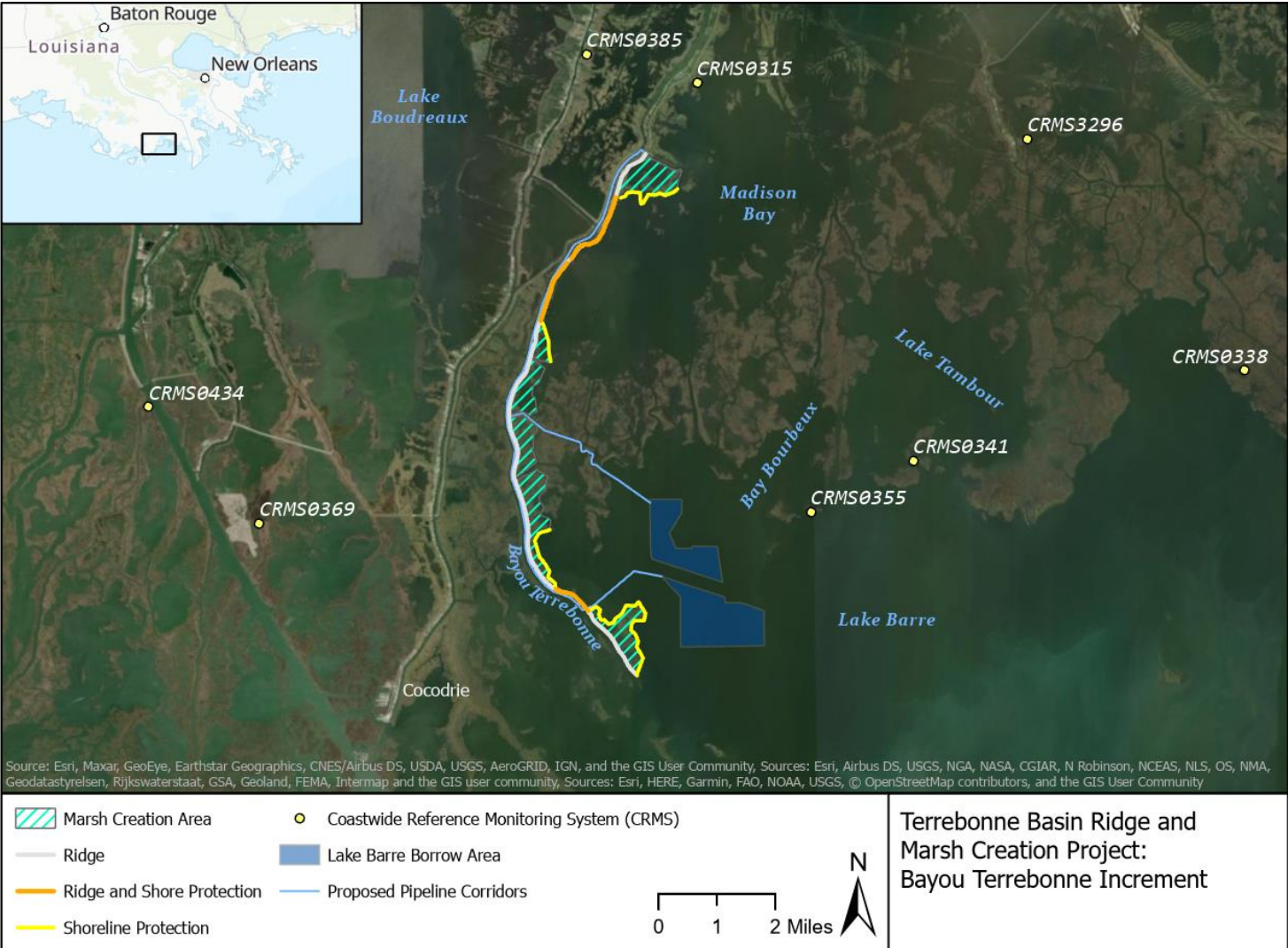


Figure 1. Terrebonne Basin Ridge and March Creation – Bayou Terrebonne Increment Project Features.



2020-04-24

Preliminary Design F

Preliminary Design Report embedded above.

**C. Project Location**

**I. State and County/Parish of action area**

Terrebonne Parish, Louisiana

**II. Latitude/Longitude for action area (Decimal degrees and datum [e.g., 27.71622°N, 80.25174°W NAD83])**

[online conversion: <https://www.fcc.gov/encyclopedia/degrees-minutes-seconds-tofrom-decimal-degrees>]

Lat: 29.357535°N, Long: 90.609815°W

**D. Existing Compliance Documentation**

**NEPA Documents**

Are there any existing draft or final NEPA analyses (not PDARP/PEIS) that cover all or part of this project?

YES  NO

\*RP1 included this increment. EID has been drafted. Project is included in RP/EA #7, which is currently under development.

Examples:

- TIG Restoration Plan/EA or EIS (draft or final)
- USACE programmatic NEPA analysis
- USACE Clean Water Act individual permit for the project
- NEPA analysis provided by a federal agency that gave approval, funding or authorization

**Permits**

Have any federal permits been obtained for this project, if so which ones and what is the permit number(s)?

YES  NO  Permit Number and Type: MVN 2018-01129 CA

Geotechnical data collection was authorized by the USACE under Category I of the Programmatic General Permit.

Have any federal permits been applied for but not yet obtained, if so which ones and what is the permit number(s)?

YES  NO  Permit Number and Type: Click or tap here to enter text.

If yes to any question above, please provide details in the text box (i.e. link to the NEPA document, or name of the document, year, lead federal agency, POC, copy of the permit or permit application, etc.). This is needed to check for consistency of the project scope across different sources and to facilitate the NEPA analysis. If you do not have a link, email the documents to the TIG representative for the Trustee designated as lead federal agency for the restoration plan.

Geotechnical data collection was authorized by the Louisiana Department of Natural Resources (LDNR) on 12/10/18 under Coastal Use Permit GP-14. CPRA submitted a Coastal Use Permit application for construction to the LDNR Office of Coastal Management on 6/16/20. The application has not yet been deemed complete. Refer to <http://reports.dnr.state.la.us/sonris/cmdPermit.jsp?sid=PROD> for status updates and electronic files for CUP number P20200551.

Any documentation or information provided will be very helpful in moving your project forward.

Name of Person Completing this Form: Micaela Coner and Caitlin Glymph

Name of Project Lead: Micaela Coner

Date Form Completed:

Date Form Updated:

**E. Description of Action Area**

*Provide a description of the existing environment (e.g., topography, vegetation type, soil type, substrate type, water quality, water depth, tidal/riverine/estuarine, hydrology and drainage patterns, current flow and direction), and land uses (e.g., public, residential, commercial, industrial, agricultural). Describe all areas that may be directly or indirectly affected by the action.*

*If CH is not designated in the area, then describe any suitable habitat in the area*

**a. Waterbody**

*If applicable. Name the body of water, including wetlands (freshwater or estuarine), on which the project is located. If applicable, please describe water quality, depth, hydrology, current flow, and direction of flow.*

The project is situated along the east bank of Bayou Terrebonne located south of Chauvin, Louisiana and continuing south to near Cocodrie, Louisiana in Terrebonne Parish. This area is characterized by low-elevation emergent marshes interspersed with ridges and navigation channels. The emergent marshes are generally near sea level, with maximum ground elevations rarely exceeding 2 feet above sea level. These emergent marshes are classified as mostly brackish in the extreme northern part of the project area and saline in the middle and southern portions of the project area. Water depths in the marsh creation areas are generally less than 2 feet deep with localized areas approaching 4 feet, and water depths in the Lake Barre borrow area are generally between 7 to 9 feet deep. The marsh platform would be constructed up to an elevation of +4.0 feet North American Vertical Datum of 1988 (NAVD 88) to ensure that it remains within the intertidal range as long as possible over the 20-year project life. The ridge would be constructed to elevations ranging from +5.0 to +6.0 feet NAVD 88 with a minimum crown width of 20 feet and side slopes of 1V:5H or 1V:6H, depending on the ridge segment. The ridge would serve as a portion of the earthen containment dikes (ECD) on the western side of the marsh creation area. Where this occurs, existing breaks in the ridge will be closed to contain marsh fill. Where the ridge breaks are within historic bayous/channel cuts, they will be left open to maintain navigational access and hydrologic conditions. ECDs would be necessary to contain marsh fill and would be constructed to an elevation of +4.5 to +5.0 feet NAVD 88 after two lifts with an approximate crest width of 5 feet and side slopes of 5H:1V. Articulating concrete block (ACB) mats may be used as shoreline armoring for ECD and ridge sections exposed to potential scour from wave erosion. ACBs with a 6-inch thickness may be installed for ridge segments and for ECD segments. ACBs with 9-inch thickness may be used on ECD segments that face the open Terrebonne Bay. The ACBs will be installed at a design crest elevation of +3.0 feet NAVD 88.

Bayou Terrebonne is the planned borrow source for ridge restoration; it will be dredged to a maximum cut depth of -22.0 feet NAVD 88 to obtain material to construct the ridge feature. Approximately 9.1 million cubic yards (MCY) of material would be needed to construct the proposed marsh parcels. The Lake Barre borrow area was configured to avoid dredging within a 500-foot buffer around a pipeline interpreted from geophysical survey results. It will be dredged to a maximum cut depth of -23.0 feet NAVD 88 to obtain sediment for the marsh fill areas.

Two pipeline corridors will be used to convey sediment to the marsh fill areas. The borrow areas range from approximately 3 to 10 miles from the marsh fill areas. The pipeline corridors were designed to use existing channels and open water to avoid traversing vegetated wetlands.

*Does the project area include a river or estuary?*

YES  NO

*If yes, please approximate the navigable distance from the project location to the marine environment.*

The project area is in brackish to saline marsh. The center of the project area is approximately 4.5 miles from the marine environment, based on the distance to the nearest CRMS station (CRMS0355) with salinity readings greater than or equal to 30 ppt.

**b. Existing Structures**

*If applicable. Describe the current and historical structures found in the action area (e.g., buildings, parking lots, docks, seawalls, groynes, jetties, marina). If known, please provide the years of construction.*

The northern sections of the ridge and marsh creation areas are adjacent to homes, camps, boat docks, and associated structures as well as Highway 55 (Montegut Road). Pipelines, abandoned oil and gas wells, and related hydrocarbon

production infrastructure are present throughout the marsh creation area.

**c. Seagrasses & Other Marine Vegetation**

*If applicable. Describe seagrasses found in action area. If a benthic survey was done, provide the date it was completed and a copy of the report. Estimate the species area of coverage and density. Attach a separate map showing the location of the seagrasses in the action area.*

Not Applicable. No extensive beds of seagrasses and other marine vegetation have been identified in the project area.

**d. Mangroves**

*If applicable. Describe the mangroves found in action area. Indicate the species found (red, black, white), the species area of coverage in square footage and linear footage along project shoreline. Attach a separate map showing the location of the mangroves in the action area.*

A small number of black mangroves (*Avicennia germinans*) were observed at one site visited for the reference marsh survey. Additional black mangroves may be present in the action area.

**e. Corals**

*If applicable. Describe the corals found in action area. If a benthic survey was done, provide the date it was completed and a copy of the report. Estimate the species area of coverage and density. Attach a separate map showing the location of the corals in the action area. Click here to enter text.*

Not Applicable.

**f. Uplands**

*If applicable. Describe the current terrestrial habitat in which the project is located (e.g. pasture, forest, meadows, beach and dune habitats, etc.).*

The higher elevations of the project area are generally degraded spoil banks. The lower slopes of these spoil banks are vegetated with emergent wetland grasses. The upper slopes contain woody trees and shrubs (e.g., sugarberry [*Celtis laevigata*], big leaf marsh elder [*Iva frutescens*], Eastern baccharis [*Baccharis halimifolia*], etc.), woody vines (e.g., dewberry [*Rubus trivialis*]), and grasses and forbs (e.g., seaside goldenrod [*Solidago sempervirens*], saltmeadow cordgrass [*Spartina patens*], etc.).

**g. Marine Mammals**

*Please select the following marine mammals that could be present within the project area:*

- Dolphins YES  NO
- Whales YES  No
- Manatees YES  No

*If applicable. Indicate and describe the species found in the action area. Use NMFS' Stock Assessment Reports (SARs) for more information, see <http://www.nmfs.noaa.gov/pr/sars/region.htm>*

- West Indian Manatee (*Trichechus manatus*)
- Bottlenose dolphin (*Tursiops truncatus*)

**h. Soils and Sediments**

*If applicable. Indicate topography, soil type, substrate type.*

The sediments within the project area are characterized by fine-grained, gray to black clays with high organic content, including some peat. Surface soils in the project area have been classified by U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) as primarily Bellpass and Timbalier muck, with 0 to 0.2 percent slopes throughout and grading from tidal to very frequently flooded across the project area.

**i. Land Use**

*If applicable. Indicate existing or previous land use activities (agriculture, dredge disposal, etc).*

There are fishing camps and docks adjacent to the project area, but no buildings or development directly in the project area. Cocodrie is the closest village to the project area, located 3 miles to the west of the project area at its closest point. The project area, including its surroundings, is a popular destination for boating, birdwatching, fishing, hunting, and other recreational activities. The project area is accessible by boat. The village of Cocodrie and the surrounding areas are a very popular, known fishing destination that draws recreational anglers. Most of the homes within the area are fishing and hunting camps which sees the population swell during the height of the fishing and hunting seasons. Commercial fishing activities also occur in the area.

**j. Essential Fish Habitat**

*If applicable. Describe any designated Essential Fish Habitat within the project area*

The Gulf of Mexico Fishery Management Council delineated Essential Fish Habitat (EFH) for federally managed species in coastal Louisiana. The project area is within Eco-Region 4 and potentially contains a variety of estuarine habitat types designated as EFH including: estuarine emergent marsh, mangrove, estuarine submerged aquatic vegetation, estuarine oyster reef, estuarine sand and shell bottom, and estuarine mud/soft bottom. The National Marine Fisheries Service (NMFS) also manages highly migratory species (e.g., sharks) for which EFH is identified by geographical area rather than habitat type.

Within Terrebonne Basin, EFH has been designated for 11 species, including shrimp, fish, and sharks. The following table lists the federally managed species found within Terrebonne Basin. No Habitat Areas of Particular Concern (HAPC) or EFH Areas Protected from Fishing (EFHA) were identified within the project area.

**Table 1. Federally Managed Species in the Terrebonne Project Area**

Common Name	Scientific Name
<b>FISH</b>	
Gray snapper	<i>Lutjanus griseus</i>
Lane snapper	<i>Lutjanus synagris</i>
Red drum	<i>Sciaenops ocellatus</i>
Gray triggerfish	<i>Balistes capriscus</i>
<b>SHRIMP</b>	
Brown shrimp	<i>Farfantepenaeus aztecus</i>
White shrimp	<i>Litopenaeus setiferus</i>
<b>SHARKS</b>	
Atlantic sharpnose shark	<i>Rhizoprionodon terraenovae</i>
Blacktip shark	<i>Carcharhinus limbatus</i>
Bull shark	<i>Carcharhinus leucas</i>
Spinner shark	<i>Carcharhinus brevipinna</i>
Scalloped hammerhead shark	<i>Sphyrna lewini</i>

## **F. Project Description**

I. Describe the Proposed Action/Project Objectives: What are you trying to accomplish and how with this project? Describe in detail the construction equipment and methods\*\* needed; long term vs. short term impacts; duration of short term impacts; dust, erosion, and sedimentation controls; restoration areas; if the project is growth-inducing or facilitates growth; whether the project is part of a larger project or plan; and what permits will need to be obtained.

Attach a separate map showing project footprint, avoidance areas, construction accesses, staging/laydown areas.

\*\*If construction involves overwater structures, pilings and sheetpiles, boat slips, boat ramps, shoreline armoring, dredging, blasting, artificial reefs or fishery activities, list the method here, but complete the next section(s) in detail.

The project is part of the restoration strategy for Terrebonne Basin and is a part of the Louisiana State Coastal Master Plan. The proposed restoration areas and borrow areas are shown in Figure 1. Specific goals of the project are:

1. Create/nourish up to 1,430 acres of brackish and saline marsh
2. Create up to 80 acres of earthen ridge

The marsh platform would be constructed up to an elevation of +4.0 feet NAVD 88 to ensure that it remains within the intertidal range as long as possible over the 20-year project life. The ridge would be constructed to elevations ranging from +5.0 to +6.0 feet NAVD 88. Construction will likely be accomplished through cutterhead and bucket dredges, accompanied by marsh buggies to shape containment dikes, ridges, and relocate fill. Fill material will be transported to fill areas via conveyance pipelines.

The current plan is to mechanically excavate Bayou Terrebonne to construct the majority of the earthen ridge. There will be a 25-foot offset from the outside toe (approximately the existing bank line) of the ridge to the borrow channel. The northern-most two miles of earthen ridge will be constructed with material mechanically excavated from the bayside to avoid existing camps in the area and from within MCA 1 (excavation within MCA 1 will be backfilled with dredge material). The equipment for the ridge would likely be marsh buggy excavators and/or barge-mounted draglines.

Earthen containment dikes will be constructed to tie into the earthen ridge and fully enclose the marsh creation areas prior

to placement of dredge material. The containment dikes are planned to be constructed with material mechanically excavated from outside of the marsh creation areas in existing open water with some reaches of containment requiring material excavated from within the marsh creation areas where existing marsh is located adjacent to the marsh creation area perimeter. The equipment for earthen containment dikes would likely be marsh buggy excavators.

Restoration of marsh and ridge habitats would result in long-term beneficial impacts to coastal substrate stability, water quality, coastal habitats, and the various fish and wildlife species that inhabit the project area. The project would also result in beneficial impacts to visual resources, tourism and recreation, land and marine management, and public health and safety.

Implementation of the project would cause short-term, adverse impacts associated with dredging and fill placement. Short-term adverse impacts include construction disturbances such as minor air quality and noise impacts, and minor water quality effects such as surface soil erosion. Aquatic and terrestrial wildlife may be temporarily disturbed during construction activities. Adverse impacts would generally be minor and restricted to the period of construction. Best management practices would be adopted to mitigate construction-related impacts.

II. *Construction Schedule (What is the anticipated schedule for major phases of work? Include duration of in-water work.)*

Construction will likely take between 20 months and three years. Major components of construction include mobilization, pre-construction surveys, containment dike construction, transport of marsh and ridge fill from borrow areas, and placement of revetment along ECDs or ridges exposed to potential scour from wave erosion. Construction is anticipated to begin in 2022. Specific duration of construction phases will be discussed later in the project.

III. *Specific In-Water and/or Terrestrial Construction Methods*

*Please check yes or no for the following questions related to in-water work and overwater structures*

<i>Does this project include in-water work?</i>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<i>Does this project include terrestrial construction?</i>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<i>Does this project include construction of an overwater structure?</i>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
<i>Will fishing be allowed from this overwater structure?</i>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
<i>Will wildlife observation be allowed from this overwater structure?</i>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
<i>Will boat docking be allowed from this overwater structure?</i>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
<i>Will fishing be allowed from this overwater structure?</i>	YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>

*If this is a fishing pier, please provide the following information: public or private access to pier, estimated number of people fishing per day, plan to address hook and line captures of protected species, specific operating hours/open 24 hours, artificial lighting of pier (if any), number of fish cleaning stations, and number of pier attendants (if any).*

**Not Applicable.**

*Construction: Provide a detailed account of construction methods. It is important to include step-by-step descriptions of how demolition or removal of structures is conducted and if any debris will be moved and how. Describe how construction will be implemented, what type and size of materials will be used and if machines will be used, manual labor, or both. Indicate if work will be done from upland, barge, or both.)*

iii. *Use of "Dock Construction Guidelines"?* [http://sero.nmfs.noaa.gov/protected\\_resources/section\\_7/guidance\\_docs/documents/dockkey2002.pdf](http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/dockkey2002.pdf)

iv. *Type of decking: Grated – 43% open space; Wooden planks or composite planks – proposed spacing?*

v. *Height above Mean High Water (MHW) elevation?*

vi. *Directional orientation of main axis of dock?*

vii. *Overwater area (sq ft)?*



Not Applicable.

b. *Pilings & Sheetpiles: If this project includes installation of pilings or sheets, please provide answers to questions 1-11 listed below*

1. Method of pile installation	
2. Material type of piles used	
3. Size (width) of piles/sheets	
4. Total number of piles/sheets	
5. Number of strikes for each single pile	
6. Number of strikes per hour (for a single pile)	
7. Expected number of piles to be driven each day	
8. Expected amount of time needed to drive each pile (minutes of driving activities)	
9. Expected number of sequential days spent pile driving	
10. Whether pile driving occurring in-water or on land	
11. Depth of water where piles will be driven	

Pilings will not be used for construction except for those required for navigation and safety by the US Coast Guard.

c. *Marinas and Boat Slips (Describe the number and size of slips and if the number of new slips changes from what is currently available at the project. Indicate how many are wet slips and how many are dry slips. Estimate the shadow effect of the boats - the area (sqft) beneath the boats that will be shaded.)*

Not Applicable.

d. *Boat Ramp (Describe the number and size of boat ramps, the number of vessels that can be moored at the site (e.g., staging area) and if this is a public or private ramp. Indicate the boat trailer parking lot capacity, and if this number changes from what is currently available at the project.)*

Not Applicable.

e. *Shoreline Armoring (This includes all manner of shoreline armoring (e.g., riprap, seawalls, jetties, groins, breakwaters, etc.). Provide specific information on material and construction methodology used to install the shoreline armoring materials. Include linear footage and square footage. Attach a separate map showing the location of the shoreline armoring in the action area.*

Up to 49,030 linear feet (1.9 million square feet) of ACB mats may be used as shoreline armoring in the project area. This construction methodology involves the use of a barge-mounted crane to place individual mat sections onto the constructed earthen ridge and containment dike sections and mechanically attach the placed sections to adjacent mat sections. Geotextile fabric would be installed between the prepared ECD surface and the ACB. The proposed locations of these ACB mats are shown as areas of ridge with shore protection in Figure 1.

f. *Dredging or digging (Provide details about dredge type (hopper, cutterhead, clamshell, etc.), maximum depth of dredging, area (ft<sup>2</sup>) to be dredged, volume of material (yd<sup>3</sup>) to be produced, grain size of material, sediment testing for contamination, spoil disposition plans, and hydrodynamic description (average current speed/direction)). If digging in the terrestrial environment, please describe fully with details about possible water jetting, vibration methods to install pilings for dune walk-over structure, or other methods. If using devices/methods/turtle relocation dredging to relocate sea turtles, then describe the methods here.*

Several types of equipment will be utilized during construction. Equipment typically used during marsh creation projects includes cutterhead dredges, marsh buggy excavators, and barge-mounted draglines. This equipment will be used to dredge the material, construct ridges and earthen containment, move and shape fill material, and move the dredge pipe. Cutterhead dredges vary in size, with the largest cutterhead dredges being upwards of 300 feet long and 70 feet wide. They may also be equipped with a spud barge, which can add an additional 250 ft to the overall dredge equipment length.

Maximum dredge bottom depth in Bayou Terrebonne will be to approximately -22.0 feet NAVD88, and maximum dredge depth in Lake Barre will be to approximately -23.0 feet NAVD88.

Barge mounted drag lines used in this type of application can range from 100 to 150 feet in length and 40 to 60 feet in width. Draft of barge-mounted drag lines varies, but 4 to 7 feet can typically be expected. The contractor may elect to transport dredge pipe to the site using a pipe barge. The contractor may also elect to bring a quarters barge to the site. Both of these barges will have similar size and draft to a barge mounted drag-line dredge. The project will require approximately 9.1 MCY of in-place material to be relocated from bay borrow areas to the marsh fill area via cutterhead dredges. Booster pumps will be utilized as needed. The borrow areas range from approximately 3 to 10 miles from the marsh fill areas.

Typical dimensions of a marsh buggy excavator include a length of 35 feet and a width of 20 feet. Marsh buggies typically draft 5 feet.

The dredge pipeline will need to float over existing oil/gas pipelines but will otherwise be submerged.

*g. Blasting (Projects that use blasting might not qualify as “minor projects,” and a Biological Assessment (BA) may need to be prepared for the project. Arrange a technical consultation meeting with NMFS Protected Resources Division to determine if a BA is necessary. Please include explosive weights and blasting plan.)*

Not Applicable.

*h. Artificial Reefs (Provide a detailed account of the artificial reef site selection and reef establishment decisions [i.e., management and siting considerations, stakeholder considerations, environmental considerations, long term maintenance plan (periodic clean-up of lost fishing gear/debris)], deployment schedule, materials used, deployment methods, as well as final depth profile and overhead clearance for vessel traffic. For additional information and detailed guidance on artificial reefs, please refer to the artificial reef program websites for the particular state the project will occur in.*

Not Applicable.

*i. Fishery Activities (Describe any use of gear that could entangle or capture protected species. This includes activities that may enhance fishing opportunities (e.g. fishing piers) or be fishery/gear research related (e.g. involve trawl gear, gillnets, hook and line gear, crab pots etc)).*

Not Applicable.

## **G. NOAA Species & Critical Habitat and Effects Determination Requested**

*If your project occurs in a location that does not contain any listed NOAA species or designated Critical Habitats, please check the box below. If this box is checked, you may skip Section G. and proceed to Section H.*

This project occurs in a location that does not contain any listed NOAA species or designated Critical Habitats.

ESA effects have been accounted for under an existing consultation.

*1. List all species, critical habitat, proposed species and proposed critical habitat that may be found in the action area. Species that do not currently occur in the action area (but are listed on county species lists) do not need to be listed in drop downs.*

*2. Attach a separate map identifying species/critical habitat locations within the action area. For information on species and critical habitat under NMFS jurisdiction, visit:*

*[http://sero.nmfs.noaa.gov/protected\\_resources/section\\_7/threatened\\_endangered/Documents/gulf\\_of\\_mexico.pdf](http://sero.nmfs.noaa.gov/protected_resources/section_7/threatened_endangered/Documents/gulf_of_mexico.pdf)*

Identify if Gulf sturgeon are in marine or in freshwater in your Species and/or Critical Habitat list to determine which federal agency will perform the analysis (e.g. Gulf sturgeon CH - marine). Identify if sea turtles are in water or on land in your Species and/or Critical Habitat list to determine which federal agency will perform the analysis (e.g. Loggerhead sea turtle CH - terrestrial).

Species and/or Critical Habitat	CH Unit (if applicable)	Location (Sea turtles and Gulf Sturgeon only)	Determinations (see definitions below)	For "No Effect", please select justification.
Kemp's Ridley Sea Turtle (E)		Marine	May Affect, Not Likely to Adversely Affect	
Loggerhead Sea Turtle		Marine	May Affect, Not Likely to Adversely Affect	
Green Sea Turtle (T)		Marine	May Affect, Not Likely to Adversely Affect	
Hawksbill Sea Turtle (E)		Marine	No Effect	No suitable habitat in action area
Leatherback Sea Turtle (E)		Marine	No Effect	No suitable habitat in action area
Choose an item.		Choose an item.	Choose an item.	Choose an item.
Choose an item.		Choose an item.	Choose an item.	Choose an item.
		Choose an item.	Choose an item.	Choose an item.
		Choose an item.	Choose an item.	Choose an item.

Three listed sea turtles, Kemp's ridley (*Lepidochelys kempii*), loggerhead (*Caretta caretta*), and green (*Chelonia mydas*), occur in the proposed project borrow areas. Based on similar projects, effects of dredging activities on these species would be minor and insignificant; therefore, the determination on these three species is may affect, not likely to adversely affect (NLAA).

Two other sea turtle species, hawksbill (*Eretmochelys imbricate*) and leatherback (*Dermochelys coriacea*), would be unlikely to occur in the project area. Therefore, the determination is no effect on these two sea turtle species.

No designated critical habitat for any listed species under NOAA's jurisdiction is located within the project area.

#### **H. USFWS Species & Critical Habitat and Effects Determination Requested**

*If your project occurs in a location that does not contain any listed USFWS species or designated Critical Habitats, please check the box below. If this box is checked, you may skip Section G. and proceed to Section H.*

This project occurs in a location that does not contain any listed USFWS species or designated Critical Habitats.

ESA effects have been accounted for under an existing consultation.

1. List all species, critical habitat, proposed species and proposed critical habitat that may be found in the action area. Species that do not currently occur in the action area (but are listed on county species lists) do not need to be listed in drop downs.

2. Attach a separate map identifying species/critical habitat locations within the action area. For information on species and critical habitat under NMFS jurisdiction, visit:

[http://sero.nmfs.noaa.gov/protected\\_resources/section\\_7/threatened\\_endangered/Documents/gulf\\_of\\_mexico.pdf](http://sero.nmfs.noaa.gov/protected_resources/section_7/threatened_endangered/Documents/gulf_of_mexico.pdf).

Identify if Gulf sturgeon are in marine or in freshwater in your Species and/or Critical Habitat list to determine which federal agency will perform the analysis (e.g. Gulf sturgeon CH - marine). Identify if sea turtles are in water or on land in your Species and/or Critical Habitat list to determine which federal agency will perform the analysis (e.g. Loggerhead sea turtle CH - terrestrial).

Species and/or Critical Habitat	CH Unit (if applicable)	Location (Sea turtles and Gulf Sturgeon only)	Determinations (see definitions below)	For "No Effect", please select justification.
West Indian Manatee		Choose an item.	May Affect, Not Likely to Adversely Affect	Select Most Appropriate
Pallid Sturgeon		Choose an item.	No Effect	No suitable habitat in action area
Red Knot		Choose an item.	No Effect	No suitable habitat in action area
Piping Plover		Choose an item.	No Effect	No suitable habitat in action area
Choose an item.		Choose an item.	Choose an item.	Choose an item.
		Choose an item.	Choose an item.	Choose an item.
		Choose an item.	Choose an item.	Choose an item.
		Choose an item.	Choose an item.	Choose an item.

The red knot (*Calidris canutus rufa*) and piping plover (*Charadrius melodus*), while listed as being potentially present in the Terrebonne Parish by the USFWS IPaC database, would not be affected by the proposed project because the beach/dune habitats they prefer for foraging, overwintering (red knot), and nesting (piping plover) are not present in the project area. The pallid sturgeon (*Scaphirhynchus albus*) occurs in the lower reaches of the Mississippi River, and its preferred habitat of depths between 20 and 50 feet is not present in the project area. West Indian manatees may occur transiently in shallow marine/estuarine waters as they move through coastal waters in the summer in search of preferred seagrass beds. While the presence of this species in the project area is considered unlikely, the proposed project may affect, but is not likely to adversely affect the West Indian manatee.

### I. Effects of the proposed project to the species and actions to reduce impacts

*NOTE: Species selected as "No Effect" with justification in table do not need to be addressed in Section I or J.*

I. Explain the potential beneficial and adverse effects to each species listed above. Describe what, when, and how the species will be impacted and the likely response to the impact. Be sure to include direct, indirect, and cumulative impacts and where possible, quantify effects.

*If species are present (or potentially present) and will not be adversely affected describe your rationale. If species are unlikely to be present in the general area or action area, explain why. This justification provides documentation for your administrative record, avoids the need for additional correspondence regarding the species, and helps expedite review.*

#### **West Indian Manatee**

**Direct Impacts:** Potential adverse direct effects to the West Indian manatee include minor noise impacts, entrapment, and collisions with watercraft and dredge equipment. The United States Fish and Wildlife Service (USFWS) Standard Manatee In-Water Conditions practices will be used throughout the duration of the project.

Impact avoidance measures for the Bayou Terrebonne Increment project may include:

- All contract personnel associated with the project should be informed of the potential presence of manatees and the need to avoid collisions with manatees, which are protected under the Marine Mammal Protection Act of 1972 and the Endangered Species Act of 1973.
- All construction personnel are responsible for observing water-related activities for the presence of manatee(s).

- Temporary signs should be posted prior to and during all construction/dredging activities to remind personnel to be observant for manatees during active construction/dredging operations or within vessel movement zones (i.e., work area), and at least one sign should be placed where it is visible to the vessel operator.
- Siltation barriers, if used, should be made of material in which manatees could not become entangled, and should be properly secured and monitored.
- If a manatee is sighted within 100 yards of the active work zone, special operating conditions should be implemented, including: no operation of moving equipment within 50 feet of a manatee; all vessels shall operate at no wake/idle speeds within 100 yards of the work area; and siltation barriers, if used, should be re-secured and monitored. Once the manatee has left the 100-yard buffer zone around the work area on its own accord, special operating conditions are no longer necessary, but careful observations would be resumed.
- Any manatee sighting should be immediately reported to the USFWS and the Louisiana Department of Wildlife and Fisheries (LDWF) Natural Heritage Program.
- To prevent entrapment of manatee inside of dredged material receiving areas that have dikes or other retention features that enclose an area of open water, the area would be inspected for the presence of manatee(s): 1) before complete closure of the confining features; and 2) again before material is discharged in to the receiving area. Any manatee that is sighted should be allowed to leave the area before work resumes.

Adherence to the protection measures would help ensure that any manatee that wanders into the project area would not be adversely affected. The disturbance to the manatee would only be temporary during project construction and would result in temporary displacement. The manatees would likely move to another area for foraging or resting purposes, and there would be other available areas to which the animals may relocate.

Indirect Impacts: No potential adverse indirect impacts on the West Indian manatee are anticipated. Positive impacts would be the creation of marsh/wetland habitat.

Cumulative Impacts: No potential adverse cumulative impacts on the West Indian manatee are anticipated if the avoidance measures are implemented. Positive cumulative impacts would be the creation of additional marsh/wetland habitat combined with other restoration projects in the vicinity.

#### **Sea Turtles:**

Direct Impacts: If sea turtles are present in the borrow area or tidal marsh during dredging or fill placement, there would be short-term, minor, adverse impacts on sea turtles due to construction disturbances. However, sea turtles would likely avoid or move away from construction activities.

Impact avoidance measures for the project will include:

- In Water implementation of the following guidelines: NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions* (revised March 23, 2006), NMFS's *Measures for Reducing Entrapment Risk to Protected Species* (revised May 22, 2012) and NMFS's *Vessel Strike Avoidance Measures and Reporting for Mariners* (revised February 2008).

Indirect Impacts: No potential adverse indirect impacts on sea turtles are anticipated.

Cumulative Impacts: No potential adverse cumulative impacts on sea turtles are anticipated if avoidance measures are implemented.

II. Explain the actions to reduce adverse effects to each species listed above. For each species for which impacts were identified, describe any conservation measures (e.g. BMPs) that will be implemented to avoid or minimize the impacts. Conservation measures are designed

to avoid or minimize effects to listed species and critical habitats or further the recovery of the species under review. Conservation measures are considered part of the proposed action and their implementation is required. Any changes to, modifications of, or failure to implement these conservation measures may result in a need to reinstate this consultation.

**Frequently Recommended BMPs:** This checklist provides standard BMPs recommended by NOAA and USFWS. Please select any BMPs that will be implemented:

- |                                     |  |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | <b>USFWS Standard Manatee In Water Conditions</b>                                      |
| <input checked="" type="checkbox"/> | <b>NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions<sup>1</sup></b>      |
| <input checked="" type="checkbox"/> | <b>NMFS Measures for Reducing the Entrapment Risk to Protected Species<sup>1</sup></b> |
| <input checked="" type="checkbox"/> | <b>NMFS Vessel Strike Avoidance Measures and Reporting for Mariners<sup>1</sup></b>    |

**Additional BMPs or Conservation Measures**

Chapter 6 of the PDARP included an important appendix (6.A) of best practices, see information starting on page 6-173.

[http://www.gulfspillrestoration.noaa.gov/sites/default/files/wp-content/uploads/Chapter-6\\_Environmental-Consequences\\_508.pdf](http://www.gulfspillrestoration.noaa.gov/sites/default/files/wp-content/uploads/Chapter-6_Environmental-Consequences_508.pdf)

Use the box below to indicate which best management practices or conservation measures you'll be using in your project (that were not listed in Section I above)

Not Applicable.

**J. Effects to critical habitats and actions to reduce impacts**

*NOTE: Species selected as "No Effect" with justification in table do not need to be addressed in Section I or J.*

I. Explain the potential beneficial and adverse effects to critical habitat listed above. Describe what, when, and how the critical habitat will be impacted and the likely response to the impact. Be sure to include direct, indirect, and cumulative impacts to physical and biological features, and where possible, quantify effects (e.g. acres of habitat, miles of habitat).

*Describe your rationale if designated or proposed critical habitats are present and will not be adversely affected.*

No critical habitats are present in the project area.

II. Explain the actions to reduce adverse effects to critical habitat listed above. For critical habitat for which impacts were identified, describe any conservation measures (e.g. BMPs) that will be implemented to avoid or minimize the impacts. Conservation measures are designed to avoid or minimize effects to listed species and critical habitats or further the recovery of the species under review. Conservation measures are considered part of the proposed action and their implementation is required. Any changes to, modifications of, or failure to implement these conservation measures may result in a need to reinstate this consultation.

Not Applicable.

**K. Marine Mammals**

I. The Marine Mammal Protection Act prohibits the taking (including disruption of behavior, entrapment, injury, or death) of all marine mammals (e.g., whales, dolphins, manatees). However, the MMPA allows limited exceptions to the take prohibition if authorized, such as the incidental (i.e., unintentional but not unexpected) take of marine mammals. The following questions are designed to allow the Agencies to quickly determine if your action has the potential to take marine mammals. If the information provided indicates that incidental take is possible, further discussion with the Agencies is required.

Is your activity occurring in or on marine or estuarine waters?  NO  YES

<sup>1</sup> Documents can be found here: [http://sero.nmfs.noaa.gov/protected\\_resources/section\\_7/guidance\\_docs/index.html](http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/index.html)

If yes, is your activity likely to cause large-scale, ecosystem level impacts to the quality (e.g. salinity, temperature) of marine or estuarine waters? NO YES

II. If Yes, describe activities further using checkboxes. Does your activity involve any of the following:

NO	YES	ACTIVITY
<input checked="" type="checkbox"/>	<input type="checkbox"/>	a) Use of active acoustic equipment (e.g., echosounder) producing sound below 200 kHz
<input type="checkbox"/>	<input checked="" type="checkbox"/>	b) In-water construction or demolition
<input checked="" type="checkbox"/>	<input type="checkbox"/>	c) Temporary or fixed use of active or passive sampling gear (e.g., nets, lines, traps; turtle relocation trawls)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	d) In-water Explosive detonation
<input checked="" type="checkbox"/>	<input type="checkbox"/>	e) Aquaculture
<input type="checkbox"/>	<input checked="" type="checkbox"/>	f) Restoration of barrier islands, levee construction or similar projects
<input checked="" type="checkbox"/>	<input type="checkbox"/>	g) Fresh-water river diversions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	h) Building or enhancing areas for water-related recreational use or fishing opportunities (e.g. fishing piers, bridges, boat ramps, marinas)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	i) Dredging or in-water construction activities to change hydrologic conditions or connectivity, create breakwaters and living shorelines, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	j) Conducting driving of sheet piles or pilings
<input type="checkbox"/>	<input checked="" type="checkbox"/>	k) Use of floating pipeline during dredging activities

III. If you checked "Yes" to any of the activities immediately above or the activity could impact the quality of marine or estuarine waters, please describe the nature of the activities in more detail or indicate which section of the form already includes these descriptions. See the NOAA Acoustic Guidance for more information: <http://www.nmfs.noaa.gov/pr/acoustics/faq.htm>

The project involves the use of a cutterhead dredge to dredge material from identified bay borrow areas and using conveyance pipes to transport the dredged material to the marsh fill areas. Mechanical excavation by marsh buggies or bucket dredges will be used to construct the ridge and earthen containment dikes. Please see Section F for more details on dredging activities.

IV. *Frequently Recommended BMPs for marine mammals (manatees are covered in Section I above): This checklist provides standard BMPs recommended by NOAA. Please select any BMPs that will be implemented:*

<input type="checkbox"/>	NMFS Southeast U.S. Marine Mammal and Sea Turtle Viewing Guidelines <sup>2</sup>
<input checked="" type="checkbox"/>	NMFS Sea Turtle and Smalltooth Sawfish Construction Conditions <sup>3</sup>
<input checked="" type="checkbox"/>	NMFS Measures for Reducing the Entrapment Risk to Protected Species <sup>3</sup>
<input checked="" type="checkbox"/>	NFMS Vessel Strike Avoidance Measures and Reporting for Mariners <sup>3</sup>
<input type="checkbox"/>	Reproducing and posting outreach signs: Dolphin Friendly Fishing Tips sign, Don't Feed Wild Dolphins sign <sup>3</sup>

If not listed above, please describe any additional BMPs or conservation measures that may be implemented for marine mammals. In addition to the frequently recommended BMPs checked above, please follow these additional BMPs to reduce any potential impacts to bottlenose dolphins related to dredging activities:

<sup>2</sup> Documents can be found here: <https://www.fisheries.noaa.gov/webdam/download/92937961>

<sup>3</sup> Documents can be found here: [http://sero.nmfs.noaa.gov/protected\\_resources/section\\_7/guidance\\_docs/index.html](http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/index.html)

- Monitor/observe for dolphins during dredging activities following the same protocols used for manatees under the ESA.
- If dolphins come within 50 feet of active dredging and are not just traveling through the area (e.g., remaining within the 50 feet to forage), dredge operations should not start; or if dredging has already begun, it should cease until the dolphins are beyond the 50-feet and are not likely to re-enter (i.e., are on a dedicated path away from the 50-foot area).
- Avoid trans-versing waterbodies with any floating pipelines from the dredge activities, as these could pose as a perceived barrier to dolphins. Some floating pipe will be required directly behind the dredge to allow the dredge to move, but this will be minimized to the extent possible.

**L. Bald Eagles**

Are bald eagles present in the action area? NO YES

If YES, the following conservation measures should be implemented:

1. If bald eagle breeding or nesting behaviors are observed or a nest is discovered or known, all activities (e.g., walking, camping, clean-up, use of a UTV, ATV, or boat) should avoid the nest by a minimum of 660 feet. If the nest is protected by a vegetated buffer where there is *no* line of sight to the nest, then the minimum avoidance distance is 330 feet. This avoidance distance shall be maintained from the onset of breeding/courtship behaviors until any eggs have hatched and eaglets have fledged (approximately 6 months).
2. If a similar activity (e.g., driving on a roadway) is closer than 660 feet to a nest, then you may maintain a distance buffer as close to the nest as the existing tolerated activity.
3. If a vegetated buffer is present and there is no line of sight to the nest and a similar activity is closer than 330 feet to a nest, then you may maintain a distance buffer as close to the nest as the existing tolerated activity.
4. In some instances, activities conducted at a distance greater than 660 feet of a nest may result in disturbance. If an activity appears to cause initial disturbance, the activity shall stop and all individuals and equipment will be moved away until the eagles are no longer displaying disturbance behaviors.

Will you implement the above measures? NO YES

If these measures cannot be implemented, then you must contact the Service’s Migratory Bird Permit Office.

Texas – (505) 248-7882 or by email: [permitsR2MB@fws.gov](mailto:permitsR2MB@fws.gov)

Louisiana, Mississippi, Alabama, Florida – (404) 679-7070 or by email: [permitsR4MB@fws.gov](mailto:permitsR4MB@fws.gov)

**M. Request approval for use of NMFS PDCs for this project**

Complete this section only if your project qualifies for streamlined ESA consultation under the ESA Framework Programmatic Biological Opinion completed by NMFS on February 10, 2016. To be eligible for streamlined ESA consultation with NMFS, you must implement all Project Design Criteria (PDCs) applicable to your project. Check “yes” for PDC categories that apply to the proposed project, and request PDC checklist from NMFS.

NO	YES	ACTIVITY
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>Oyster Reef Creation and Enhancement</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>Marine Debris Removal</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>Construction of Living Shorelines</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>Marsh Creation and Enhancement</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>Construction of Non-Fishing Piers</b>

**N. Submitting the BE Form**



We request that all BE forms and consultation materials be placed on Sharepoint for review. Upon receipt, we will conduct a preliminary review and provide any comments and feedback, including any requests for modifications or additional information. If modifications or additional information is necessary, we will work with you until the Biological Evaluation form is considered complete. Once complete, we will use the Biological Evaluation form to initiate appropriate consultations.

Questions may be directed to:

**NMFS ESA § 7 Consultation**

Christy Fellas, National Oceanic Atmospheric Administration

Email: [Christina.Fellas@noaa.gov](mailto:Christina.Fellas@noaa.gov)

Phone: 727-551-5714

**USFWS ESA § 7 Consultation**

Erin Chandler, Department of the Interior

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