



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

MEMORANDUM FOR: David Bernhart,
Assistant Regional Administrator for Protected Resources
NOAA Fisheries Service, Southeast Regional Office

FROM: Jamie Schubert, Marine Habitat Resource Specialist
NOAA Restoration Center

DATE: July 7, 2015

SUBJECT: DWH-ERP-Request for section 7 Endangered Species Act
Informal Consultation for *Deepwater Horizon* Oil Spill Phase IV
Early Restoration Plan project *Texas Rookery Islands*

The National Oceanic and Atmospheric Administration (NOAA) Restoration Center requests informal consultation with your office, under section 7 of the Endangered Species Act (ESA), for impacts from the Texas Rookery Islands Project. This project has multiple components located on the following islands : 1) Rollover Bay, 2) Dickinson Bay II, 3) Smith Point and 4) Dressing Point. This project has the potential to affect the following federally listed species administered by NOAA Fisheries:

Sea Turtles (Green-T, Hawksbill-E, Leatherback-E, Loggerhead-T, Kemp's ridley-E)

The NOAA Restoration Center, a Lead Federal Agency, is requesting consultation on behalf of the Natural Resource Trustees for *Deepwater Horizon* Oil Spill. Please find Biological Evaluation forms for this Phase IV Early Restoration Project (multiple locations) included with this memo. It is our expectation that the proposed projects will have a significant net benefit to the Gulf of Mexico ecosystem.



Endangered Species Act Biological Evaluation Form ***Deepwater Horizon Oil Spill Restoration***

Fish and Wildlife Service & National Marine Fisheries Service

Texas Rookery Islands Project (Dressing Point Island)

Section A. Project Identification

Lead Agency Agency Contact Person

U.S. Fish and Wildlife Service/National Marine Fisheries Service

Agency Contact Person

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Texas Parks and Wildlife Department (TPWD)

II. Applicant Contact Person

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IV. Project Name and ID# (Official name of project and ID number assigned by action agency)

Texas Rookery Island Project – (Dressing Point Island)

V. Project Type

Other

VI. NMFS Office (Choose appropriate office based on project location)

NMFS Southeast Regional Office

- VII. FWS Office (Choose appropriate office based on project location)
Texas Coastal Ecological Services Field Office, Houston, TX

Section B.

- I. Project Location
Dressing Point Island, part of the Big Boggy National Wildlife Refuge, lies approximately 1.5 miles south of the community of Chinquapin, Texas in East Matagorda Bay.
- II. State & County/Parish of Project Site
Matagorda County, Texas
- III. Latitude & Longitude for Project Site (Decimal degrees and datum [e.g., 27.71622°N, 80.25174°W NAD83] [online conversion: <http://transition.fcc.gov/mb/audio/bickel/DDDMMSS-decimal.html>])
28.73140° N, - 95.76070° W, NAD83
- IV. Township, range and section of the project area
Texas does not use the public land survey system.

Texas Rookery Islands Project (Dressing Point Island)

Section C. Description of Action Area

The island is located in East Matagorda Bay near the community of Chinquapin, Texas at 28.73140° N, 95.76070° W, NAD83 (Figures 1 and 2). The island is part of the Big Boggy National Wildlife Refuge and is located 8 miles east of the community of Matagorda, 1.5 miles south of Chinquapin, and 21 miles southeast of Bay City. The island is shown in Figure 3. The area that may be directly or indirectly (Figures 4, 5, and 6) affected includes the breakwater, vegetation plantings, earthen fill, emergent shell substrate, direct dredge borrow site, Gulf Intracoastal Waterway (GIWW) placement areas, temporary access channels, and construction and staging areas. Materials for the construction activities would need to be transported via roads and via marine waterways. Existing transportation networks and navigational channels would be utilized as much as possible. Temporary access channels may be constructed in order to access and transport the fill material. Large-scale equipment and supplies may enter East Matagorda Bay via the GIWW. Small boats could enter the bay via boat ramps from the community of Chinquapin, approximately 1.5 miles from Dressing Point Island.

The primary area of the island that would potentially be affected is identified in Figures 4 and 5. The proposed direct dredge borrow source area would also be affected and is shown in Figure 6 bounded by the following coordinates: 28.71669 E, -95.76219 W; 28.72024 E, -95.76416 W; 28.72714 E, -95.74722 W; 28.72346E, -95.74511 W (NAD 83). Indirect and temporary effects would take place with boat ramps, navigation channels, and staging areas.

The project proposes to raise the elevation and expand the foot print of the island, from its current 7 acres to 12 acres, by placing earthen fill on 2 acres of existing island and on 5 acres on submerged lands. Temporary berms would be constructed, if needed, to contain fill material. The restored island would be protected by approximately 5,000 feet of breakwater. About 7 acres of the restoration area would be planted with native scrub-shrub vegetation. Approximately 2,500 cubic yards of shell material would be placed and integrated with the existing shell knoll (emergent shell substrate) southwest of the island to raise the elevation and expand the size of the shell knoll to approximately 0.35 acres. The preliminary engineering drawing is shown in Figure 5, conceptual temporary access channels are shown in Figure 4, and potential sources of fill material are shown in Figure 6. The purpose of these actions is to provide habitat that will support colonial nesting waterbirds.

#1 Attach a separate map delineating where the action will occur.

See attached figures.

#2 Describe ALL areas that may be affected directly or indirectly by the Federal Action and not merely the immediate project site involved in the action, or just where species or critical habitat may be present. Provide a description of the existing environmental conditions and characteristics (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).

The majority of the Action Area is identified in Figures 4 and 5. The GIWW is located on the north side of East Matagorda Bay and to the south Matagorda Peninsula and the Gulf of Mexico. The community of Chinquapin lies on the banks of Live Oak Bayou near its confluence with the GIWW. This community may be impacted by noise, additional use of the boat docks, and additional personnel passing through the area.

See below for detailed descriptions of the action area.

Existing Environmental Conditions and Characteristics

Substrate type, Topography, and Soils

Dressing Point Island

Dressing Point is a natural island formed from the erosion of Dressing Point Peninsula (NOAA 1891; NOAA1909). Separation from the mainland occurred sometime between 1891 and 1909 and this can be seen in the NOAA historical maps for Dressing Point, TX (NOAA 1891; NOAA 1909; <http://historicalcharts.noaa.gov/historicals/search>). According to the Matagorda County Soils Survey, Dressing Point Island and the surrounding area are classified as either water or beaches. Beaches are low in elevation and frequently flooded. Slopes average less than 0.5 percent. Topographic elevation information for Dressing Point Island, as well as bathymetric data for submerged lands surrounding the Island within a distance of 1,500 feet is shown in Figure 5.

The submerged lands surrounding the island are comprised of silty to sandy sediments, scattered shell, reef, and/or seagrasses (White et. al. 1988). Past surveys have indicated the presence of seagrass in the vicinity of the island. Updated seagrass surveys will occur prior to construction. Exact locations of any reef area boundaries will be identified prior to construction. Since the scattered shell is not static in location, updated surveys will be conducted prior to construction to identify areas of scattered shell that contain live oysters. Final designs will be modified to avoid and minimize impacts to seagrasses and productive reef and scattered shell areas.

The project may use sediments from one of several sources and thus affect those potential source areas. These include a suitable site within an direct dredge borrow source area, material mined from USACE placement areas, beneficial use of dredged material from a reach of the GIWW (Figure 6), or earthen fill associated with an upland borrow site. The direct dredge borrow source area is comprised of silty sand (White, et. al. 1988). The GIWW sediments would vary but would include substantially more clay and fine silts.

Existing Vegetation Type

The TPWD Ecological Systems Classification has identified the habitat types in the project area to be water, coastal salt and brackish high tidal marsh, coastal salt and brackish high tidal shrub wetland, and coastal salt and brackish low tidal marsh. The low tidal marsh community is described as marshes frequently inundated by tides and often dominated by smooth cordgrass (*Spartina alterniflora*). Tidal shrub wetland may be dominated by species such as Jesuit's bark (*Iva frutescens*) or eastern baccharis (*Baccharis halimifolia*). The high tidal marsh is irregularly flooded marsh dominated by graminoids such as marshhay cordgrass (*Spartina patens*) and saltgrass (*Distichlis spicata*), and Gulf coast muhly (*Mulhlenbergia capillaris*). Some shoreline areas contain shell hash berms.

Water Quality, Water Depth, Tidal/Riverine/Estuarine, Hydrology and Drainage Patterns, Current Flow and Direction

The depths surrounding the island are relatively shallow ranging up to a depth of approximately 3 feet. The hydrology of the area is affected by tidal actions and by freshwater inflows. The GIWW and Caney Creek are the major sources of inflow into the bay. The island is a remnant of an old peninsula projecting off the northeastern boundary of the bay. Over time, wind-driven waves have caused erosion, and converted this peninsula into an isolated nesting island, which has resulted in the existing colonial waterbird nesting island. In general, water quality in East Matagorda Bay is good but over the past years (due to low rainfall) salinities have risen in the bay. There are no consumption advisories (Accessed: 9 March 2015: <http://www.dshs.state.tx.us/seafood/Survey.shtm#advisory>).

Land Uses

Dressing Point Island is an uninhabited island that is managed by USFWS staff with the Texas Mid-Coast Refuge Complex. The island is part of Big Boggy National Wildlife Refuge. Management activities include monitoring and educational signs to reduce disturbance. Appropriate lease(s) for managing the

submerged bay bottom and the construction activities would be obtained prior to implementing the proposed restoration.

Dressing Point Island is an important rookery habitat for birds (Table 1). The island is not open to the public but open water areas of the bay are used for commercial or recreational activities such as paddling, fishing, wildlife viewing, or transportation.

The GIWW is adjacent to the northern shoreline of East Matagorda Bay (approximately 1.0 mile from Dressing Point Island) is used by marine vessels for transportation and navigation. The navigation channel will be utilized to transport supplies to the project area. The choice of routes would be determined by the needs and sources of materials for the project. The western route would not require an access channel to gain egress into the bay. The eastern route may require a temporary access channel of approximately 2,500 feet for barge access at the entry point (Figure 6) of the GIWW into the Bay.

Commercial and recreational fishing, boating, and potentially wildlife viewing does occur in the open water areas. Wade fishing generally occurs south of the GIWW in Dressing Point and should not be affected by the project. Efforts will be made to avoid or minimize impacts to public boat launch facilities. Appropriate signage and buoys markers at the site and at boat ramps will be displayed. Postings in local media will also take place to ensure that efforts are made to inform recreational users. Due to the potential increased small boat traffic in the area, appropriate safety measures will be employed to ensure that risk to water related accidents and or conflicts are minimized.

The nearest pipeline is over 3 miles from the project site and there are no oyster leases in the area.

#3 If habitat for species is present in the action area, provide a general description of the current state of the habitat.

Dressing Point Island is an important site for migratory birds. It currently supports multiple species of nesting colonial waterbirds (Table 1). While nesting activity of colonial waterbirds has declined over the last four decades, the island maintains its relative importance with other nesting sites along the Texas coast. During the non-breeding season birds use the island as staging, loafing, and roosting areas. Other non-colonial species that may nest on the island include the Eastern willet (*Catoptrophorus semipalmatus*) and American oystercatcher (*Haematopus palliatus*).

Table 1. Colonial waterbird species recorded nesting at Dressing Point Island.

Common Name	Scientific Name
Brown Pelican	<i>Pelicanus occidentalis</i>
Great Egret	<i>Ardea alba</i>
Great Blue Heron	<i>Ardea herodias</i>
Snowy Egret	<i>Egretta thula</i>
Little Blue Heron	<i>Egretta caerulea</i>

Common Name	Scientific Name
Tricolored Heron	<i>Egretta tricolor</i>
Reddish Egret	<i>Egretta rufescens</i>
Cattle Egret	<i>Bubulcus ibis</i>
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>
Roseate Spoonbill	<i>Platalea ajaja</i>
White Ibis	<i>Eudocimus albus</i>
White-faced Ibis	<i>Plegadis chihi</i>
Laughing Gull	<i>Leucophaeus atricilla</i>
Caspian Tern	<i>Hydroprogne caspia</i>
Royal Tern	<i>Thalasseus maxima</i>
Forster's Tern	<i>Sterna forsteri</i>
Black Skimmer	<i>Rynchops niger</i>

Non-avian terrestrial wildlife has not been observed at the island site. Texas diamondback terrapins may use Dressing Point Island and surrounding waters.

Dominant aquatic species that could be found in the action area include fish species (sand seatrout, spotted or speckled seatrout, red drum, tonguefish, flounders, Atlantic bumper, and porgys) and benthic organisms (bivalves, gastropods and other mollusks, amphipods, annelids, and brown and white shrimp). Seagrasses have been observed in the area by various natural resource agency staff.

4 Identify any management or other activities already occurring in the area.

The GIWW which is adjacent to the project area is used for marine transportation. The USACE maintains this waterway and conducts regular maintenance dredging. Currently, USFWS manages the island for nesting colonial waterbirds. Activities include monitoring and educational signs to reduce disturbance. Fisherman and boaters may use the nearby open water areas for recreational or commercial purposes.

#5 Detailed map of the area of potential effect for ground disturbing activities.

The potential area of impact from the construction activities is shown in Figure 6. Earthen fill material will be placed on a portion of the existing island and on submerged lands (Figure 4). Once the earthen fill has dewatered and sediments have settled, the new areas of added earth would be planted (about 5 acres) with scrub-shrub vegetation. Shell or shell-like material would be placed on a nearby shell knoll to increase its size and elevation (about 0.35 acres). It would be topped with material similar to the existing shell hash in structure, form, and mineral composition (calcareous).

A temporary access channel to the island may be required from the GIWW into Matagorda Bay or from the direct dredge borrow source area to the island site. All access channels would be no greater 5 feet deep and 50 feet wide.

Section a. Waterbody (If applicable. Name the body of water, including wetlands (freshwater or estuarine), on which the project is located. If the location is in a river or estuary, please approximate the navigable distance from the project location to the marine environment.)

Dressing Point Island is located within East Matagorda Bay.

The TPWD Ecological Systems Classification has identified the habitat types in the project area to be water, coastal salt and brackish high tidal marsh, coastal salt and brackish high tidal shrub wetland, and coastal salt and brackish low tidal marsh. The low tidal marsh community is described as marshes frequently inundated by tides and often dominated by smooth cordgrass (*Spartina alterniflora*). Tidal shrub wetland may be dominated by species such as Jesuit's bark (*Iva frutescens*) or eastern baccharis (*Baccharis halimifolia*). The high tidal marsh is irregularly flooded marsh dominated by graminoids such as marshhay cordgrass (*Spartina patens*) and saltgrass (*Distichlis spicata*), and Gulf coast muhly (*Muhlenbergia capillaris*). Some shoreline areas contain shell hash berms.

Fill material may be obtained from the GIWW, USACE placement areas (non-wetland), a direct dredge borrow source area in East Matagorda Bay, or from an upland location. East Matagorda Bay is described under the Section above labeled "*Water Quality, Water Depth, Tidal/Riverine/Estuarine, Hydrology and Drainage Patterns, Current Flow and Direction*".

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

Previous attempts to halt erosion at the site included the installation of 80 pound concrete sacks. These were installed by hand and can be seen in Figure 3 on the southeast side of the island. There are no other man-made structures at the site.

Section c. Seagrasses & Other Marine Vegetation

(If applicable. Describe seagrasses found in project 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 project area.)

Seagrasses have been observed on the submerged lands adjacent to the island. Due to the transient nature of seagrasses in this bay, updated surveys will occur prior to project implementation. Final designs would be modified to minimize impacts to seagrasses.

Section d. (If applicable. Describe the mangroves found in project 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 project area.)

There are no mangroves present on the island.

Section e. Corals

(If applicable. Describe the corals found in project 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 project area.)

There are no corals in the project area. Appropriate habitat does not exist.

Section 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.).

Dressing Point Island was formerly part of Dressing Point Peninsula which eroded to create an island between 1891 and 1901 (NOAA 1891; NOAA 1909). The TPWD Ecological Systems Classification has identified the habitat types in the project area to be water, coastal salt and brackish high tidal marsh, coastal salt and brackish high tidal shrub wetland, and coastal salt and brackish low tidal marsh (see above).

If a remote off-site borrow source is chosen as for the fill material it may be an upland area. All potential upland sites will be characterized and reviewed for environmental constraints including contaminants, habitat value, presence of protected and at-risk species, and cultural resources. Any areas with critical habitat will be avoided and the activities associated with the use of an upland borrow site would not adversely affect listed species. To the maximum extent practicable, locations with habitats of at-risk species will also be avoided.

Section D.

Part 1.

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

Activities associated with engineering and design may take several months to accomplish with an estimated timeframe of 18 months. Dredging activities will be conducted both day and night. Other construction activities would occur only during daylight hours. Activities associated with construction, which includes "in water work" are not expected to take longer than 6 months. The timing of contracting awards and weather conditions could impact the construction schedule. Dressing Point Island is currently used for nesting by waterbirds. Therefore, construction activities would avoid the nesting season, which is usually February 1 through August 15. However, some field activities that pose minimal disturbance may be acceptable to occur while birds are nesting. Any such activities would be coordinated with state and federal agency bird biologists including refuge staff.

Part 2.

#1 What is the purpose and need of the proposed action?

The action falls within the scope of the programmatic purpose and need for early restoration *Deepwater Horizon* Oil Spill as described in the Programmatic and Phase III Early Restoration Plan and Early

Restoration Programmatic Environmental Impact Statement because it would accelerate meaningful restoration of injured natural resources and their services resulting from the Spill. This project's purpose is to begin to restore and protect birds injured as a result of the Spill. The project is needed to restore colonial waterbird nesting habitat in East Matagorda Bay. Restoration actions at the rookery island would increase the amount of available nesting habitat by increasing the size of the island, enhance the quality of habitat through the establishment of native vegetation, and increase the longevity of the habitat through the construction of protective features, such as breakwaters or armoring. Increasing the amount of available nesting habitat, enhancing the quality of habitat, and increasing the protection of the habitat from erosion and sea level rise would result in an increase in the numbers of nesting colonial waterbirds.

Restoration and protection of Dressing Point Island is needed to protect the island from land loss associated with erosion and relative sea level rise. It will also increase the island size and elevation such that it will provide sufficient area and height to support colonial nesting birds. Erosion and subsidence have decreased the size of Dressing Point Island from over 12 acres in 1982 to 7 acres in 2014. The island has continued to decrease in size which has resulted in a decrease in the numbers of nesting birds.

#2 How do you plan to accomplish it? Describe in detail the construction equipment and methods needed; permanent vs. temporary impacts; duration of temporary 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.**

Preliminary engineering of the island has been completed. A final design and specification package will be completed by a professional registered engineer (PE). The descriptions of each of the construction elements are based on experience with similar projects on the upper coast especially Galveston Bay and should be considered typical.

The project is currently preliminary in its design. A professional registered engineer (PE) will develop a refined design and specification package. The description of each of the construction elements are based on experience with similar projects within Texas Bays and should be considered typical. Uncontaminated earthen fill will be placed on submerged bay bottom adjacent to the island and on top of a portion of the existing island to land size elevation. Depending on specific construction techniques, temporary levees may be constructed to contain material and water. Water will be allowed to decant from the fill material after deposition. Measures will be employed to reduce and limit turbidity. Once the area has dewatered and sediments have settled, a portion of the island will be planted with shrub-scrub vegetation to support nesting birds. In order to protect the island from adverse physical processes, breakwaters would ensure sustainability (Figures 4 and 5). The island would be sloped into the tidal zones to provide access for juvenile colonial waterbirds. About 5 acres of the island would be planted with native scrub shrub vegetation. The Dressing Point Island project contains the following elements:

The preliminary plan is shown in Figures 4 and 5 and contains the following elements:

- Construct 5 island acres by placing clean fill over submerged land;
- Place fill on 2 acres of existing island to raise elevation;
- Construct approximately 5,000 feet of breakwaters to protect the restored island;
- Raise the elevation on about 0.35 acres within the footprint of the existing island with shell material to build an emergent shell beach; and
- Plant 5 island acres with native scrub shrub vegetation.

Island Fill

Approximately 70,000 cubic yards of uncontaminated earthen fill material will be required to increase the island size and to restore the island to the appropriate height. The volume of earthen fill material is the maximum amount of material estimated to be needed. Fill material will be sourced from a direct dredge borrow source area, beneficial use of dredged material from the GIWW including material from USACE placement areas (Figure 6) or an upland borrow site. Borrow sites determined to be suitable from an engineering perspective would be evaluated for environmental conditions to ensure that any cultural and/or sensitive resources are properly addressed. For any of these borrow sites, the material would be mixed with water, requiring a settlement period and the controlled discharge of decant water from within the placement area. The final elevation of the area with earthen fill will be such that it will support scrub shrub nesting species of colonial waterbirds. The height of any temporary or permanent structure and construction methods required to contain the earthen fill would be determined by the type of material used and its estimated water content. Location of the structures would ensure containment and settlement of the fill materials, using BMPs.

Material from the borrow source area would be mechanically excavated or hydraulically dredged. Excavators used may include a dragline or long-arm excavator to place material on barges for transport from the borrow site to the island site. Hydraulic dredge would be a cutter-head design because it does not pose a risk to pelagic aquatic organisms. Placement of dredge pipe will avoid disturbance to sensitive resource areas such as oyster reefs and seagrass beds. The pipe would be routed to avoid laying on top of these resource areas and any equipment will avoid them as well. Any areas containing such resources in the construction and transport area of each project site will be visibly marked prior to start of construction. Material would be transported to the island from the borrow site area via a hydraulic dredge pipeline or by barge if a mechanical dredge (dragline) is used.

All environmental reviews required for the placement of the material obtained as part of a beneficial use disposal process would be completed by the other project (e.g. a navigation improvement project). If a beneficial use site under NOAA's jurisdiction is selected, documentation of the environmental reviews and relevant consultations will be provided to NMFS, as appropriate. If a direct dredge borrow source area is used, the borrow area would be located as near the island as feasible and would use surface bay bottom sediments. If earthen fill material is obtained from a more distant borrow area such as an upland site, the material would meet engineering requirements and the site would be reviewed and approved by resource agencies for cultural and sensitive resources including protected and at-risk species, wetlands, contaminants, and cultural resources.

Measures to control turbidity caused by construction activities, decant water, and sediment movement would be in place to ensure sensitive habitats are protected, water quality standards are met, and sensitive resources are not affected. These measures may include appropriate water control structures (structures that allow water to exit the placement area while at the same time retain sediments within the placement area), to decant water, as well as the installation of silt fences, hay bales, filter-fabric, and/or temporary levees to control sediments and avoid negative impacts associated with the fill placement.

If mitigation is necessary for impacts to hard bottom substrate, additional habitat will be created. The source of the material used for mitigation will emulate the shell hash present in structure, form, and mineral composition (calcareous). This material will be obtained from commercially available sources.

In general, construction may require the use of barges, small watercraft, large track hoe excavators, earth moving equipment, hydraulic or mechanical dredges, and a dockside staging area. The type of dredge chosen for use will not affect sea turtles. For example, a cutterhead dredge is the hydraulic dredge that is anticipated for use. Hopper dredges will not be used for the project. The mechanical dredge used by this project would be a dragline. Methods and tools will be approved by the professional engineer and the project team prior to implementation.

Equipment and materials for the construction activities would be transported via roads and via marine waterways. The nearest public boat ramp is the Mitchell Beach boat ramp, approximately 8 miles east on the GIWW. Commercial and public docks and ramps are located at the Matagorda Harbor approximately 12 miles from the site. Large equipment and materials moved by barges or other vessels will use the established interconnected waterways. This may include the Gulf Intercostal Waterway (GIWW) or other navigation channels (Figure 6). GLO has identified places to access to coastal waterways at http://www.glo.texas.gov/texas-beach-access/beach_bay.html. Information specific to East Matagorda Bay County access points and available activities is located at <http://www.glo.texas.gov/texas-beach-access/pdf/beach-bay/Matagorda.pdf>.

The island restoration area and the location where fill material will be obtained will have a staging area identified. The locations for staging sites will be placed to avoid sensitive resource areas such as oyster reefs and seagrass beds. Equipment may be staged at these locations for a period of time up to several weeks and or months. The staging areas will be adjacent to the location where sediment sources are obtained (USACE placement area, the direct dredge borrow source area, GIWW or other upland location).

A temporary access channel of approximately 350 feet long may be needed from the island into deeper waters of East Matagorda Bay. A temporary access channel may be constructed adjacent to the breakwater with footprint of approximately 5,000 feet (Figure 4). An additional temporary access channel of approximately 2,500 feet may be needed from the eastern entrance of the GIWW to East Matagorda Bay (Figure 6). All access channels would be no wider than 50 feet and result in a channel depth no greater than 5 feet and backfilled after construction is completed.

Direct Dredge Borrow Source Area

A direct dredge borrow source may be used to obtain the earthen fill material required to build the island. The location of the borrow source area is shown on Figure 6. Within that area, the specific location chosen will be based on several factors including the absence of sensitive resources (e.g. oyster reef or seagrasses), geotechnical and sediment quality, nearby commercial and/or recreational activities, and lateral extent of available material (avoiding a deep borrow site). Within the direct dredge source area, the PE will perform geotechnical investigations to determine potential sources of preferred and suitable sediments. Any potential sources that contain sensitive resources such as oyster reef or seagrass beds will be avoided. The resulting footprint of the borrow site within the direct dredge borrow source area will be no larger than 562,500 square feet of similar length and width with a depth of no more than 5 feet below grade. Although this aquatic source area is much larger than needed, it is anticipated that approximately only 70,000 cubic yards of material would be dredged to provide the fill material needed for island construction. The shallow depth of 5 feet below grade shall minimize the potential for anoxic conditions occurring within the borrow site.

Other sources of fill material

Sources of fill material other than that from the direct dredge borrow source area may be used. A form or method of beneficial use of dredged material is to mine existing material placement areas (PA) that are associated with federally maintained navigation channels. Potential sources of material within PAs exist for Dressing Point Island. Based on conversations with the USACE, placement areas 102 C, 102 D, 102 E, and 104 A have a high probability of being suitable for this project. These PAs are maintained and operated as part of the GIWW federal project. Mechanically excavated material would be placed on barges and transported to the island site using ingress and egress routes depicted in Figure 6.

For other upland borrow areas, the contractor will be required to provide documentation that the borrow site meets all engineering, environmental and cultural resource requirements. No upland borrow site will be used that adversely affects wetlands or listed species, and to the max extent practicable, at-risk species. Additionally, critical habitat will be avoided. Mechanical dredges and barges will be used to mine and transport upland material used for fill. Earthen fill material may be obtained as part of a beneficial use project and be sourced from the GIWW. If a beneficial use site under NOAA's jurisdiction is selected, documentation of the environmental reviews and relevant consultations will be provided to NMFS, as appropriate.

Shell Knoll Enhancement

To enhance habitat for bare ground nesting birds near the island, shell or shell-like material would be placed and integrated with the existing shell knoll (emergent shell substrate) southwest of the island. Approximately 2,500 cubic yards of shell material similar to the shell hash present in structure, form, and mineral composition (calcareous) would be placed on the knoll. The material will be inspected, clean, free of debris and invasive species and be commercially acquired. This added material would raise

the elevation to support ground nesting species of colonial waterbirds. It would also provide a small wave break and protect a portion of the island from wave induced erosion.

Breakwater

Breakwaters would be installed to protect the island from erosional forces. However, they could be modified or enhanced as part of this project to act as containment for the earthen fill. Graded stone, typically limestone will be used to construct the breakwaters or armoring. The amount and size of rock used will be dependent on several factors determined in the final design. These include wave and current energy expected, as well as whether the breakwaters would be used for containment and dewatering of sediments or only for erosion protection. Breakwaters and levees used for containment are typically higher in elevation and larger than those used solely for erosion protection. These considerations along with physical data from the site will be evaluated by a qualified coastal PE and the project team prior to selection of design. The source for the material is expected to be from known and existing limestone quarries used for coastal construction projects across the western Gulf of Mexico. During construction, open tidal water areas of the site may need to be enclosed to contain material meeting standards specified for the project. Any such affected open water areas would follow Measures for Reducing Entrapment Risk to Protected Species, May 22, 2012. (http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/entrapment_bmps_final.pdf).

Vegetation Planting

Once the earthen fill has dewatered and sediments have settled, five acres of the area that received earthen fill are proposed to be planted with shrub-scrub vegetation to help promote desired vegetation establishment. Plants used will be species documented from similar island sites and be propagated from stock located on the upper Texas coast. Species under consideration include but are not limited to those shown in Table 2. Additionally, marsh plantings, if required, would include smooth cordgrass (*Spartina alterniflora*) and with marshhay cordgrass (*Spartina patens*). A Vegetation Planting Plan modified from and based on the Natural Resources Conservation Service (NRCS) Publication NRCS-TX-612 would be developed prior to implementation (NRCS 2013). This plan will provide specifications for the species of native vegetation to be used; acceptable source stock; planting densities and locations on the island for planting; survival targets and adaptive management strategies. The plan will be used by the contractor and the project team. Expected plants survival is approximately 60% at the end of the 5-year monitoring period. Protective measures may include trunk collars or wire exclusion cages to protect saplings from herbivory or trampling during the first few years after planting. Time of year as well as substrate salinity will determine the timing for planting. It is anticipated that this will take place approximately one year after construction, depending on environmental conditions.

Table 2. Examples of native scrub shrub species proposed for transplanting.

Common Name	Scientific Name
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Colima	<i>Zanthoxylum fagara</i>
Woollybucket Bumelia	<i>Sideroxylon lanuginosum</i>
Prickly Pear Cactus	<i>Opuntia dillenii</i>
Desert Olive	<i>Forestiera augustifolia</i>
Huisache	<i>Acacia farnesiana</i>
Jerusalem Thorn	<i>Parkinsonia aculeata</i>

Construction Schedule

Activities associated with engineering and design may take several months to accomplish with an estimated timeframe of 18 months. Dredging activities will be conducted both day and night. Other construction activities would occur only during daylight hours. Activities associated with construction, which includes “in water work” are not expected to take longer than 6 months. The timing of contracting awards and weather conditions could impact the construction schedule. Dressing Point Island is currently used for nesting by waterbirds. Therefore, construction activities would avoid the nesting season, which is usually February 1 through August 15. However, some field activities that pose minimal disturbance may be acceptable to occur while birds are nesting. Any such activities would be coordinated with state and federal agency bird biologists including refuge staff.

Describe permanent and temporary impacts, duration of temporary impacts, dust, erosion, and sedimentation controls

Construction activities will cause temporary impacts to wildlife due to the presence of people and use of heavy equipment on the island and in the borrow site. These impacts would last for the duration of construction, which is estimated to be less than 6 months. Permanent impacts will include restoration of 5 acres and enhancement of 2 acres of Dressing Point Island. Temporary access channels may be excavated so that equipment can access the island. The access channels will be backfilled after construction is completed. These channels will be no wider than 50 feet and with a maximum channel depth of 5 feet.

If the direct dredge borrow source area is used, a borrow site approximately 12 acres (562,500 square feet) in size and no deeper than 5 feet below grade would be excavated. This site would slowly accrete sediments delivered from tidal actions between the bay and the Gulf. Some turbidity would take place but be minimized by operation through the use of silt fences and other water quality BMPs. Impacts associated with beneficial use of dredged material would include some turbidity; however, it would be minimized through the use of appropriate BMPs. These measures include appropriate water control structures to decant water such as silt fences, hay bales, filter-fabric, and temporary levees to control sediments and avoid negative impacts associated with the fill placement.

There will be no significant impacts due to dust because sediments deposited will be mixed with water, keeping airborne particles to a minimum. In addition, the island is uninhabited and will not be affecting any residents. Impacts due to dust and erosion would also be minimized by the best management practices that were discussed above. No hazardous waste would be created during construction. All hazardous substances (e.g. oils, hydraulic fluids, and fuels) handled during construction would be contained and appropriate barriers would be in place to ensure the protection of adjacent water resources from potential spills and leaks. In the event of a discharge of oil or release of hazardous substances, the release would be reported to the National Response Center (800-424-8802) and Texas Emergency Oil Spill and Hazardous Substance Reporting line (800-832-8224) as required. BMPs in accordance with Occupational Safety and Health Administration and state and local requirements would be incorporated into construction activities on site to ensure the proper handling, storage, transport and disposal of all hazardous materials.

Permanent impacts result from an alteration in habitat type which will benefit nesting birds in the long-term. Beyond the vegetated plantings, natural colonization will occur and will provide, in part, grassy substrate which could be used by the colonial nesting birds. The breakwaters, other levee and land height would protect the site from erosion.

Is the project part of a larger project or plan?

This project is one of four bird rookery restoration projects to occur in Texas as part of Phase IV Early Restoration funding from the BP oil spill (Figure 1). Restoration and protection of the Dressing Point Island supports the needs or goals of multiple conservation plans. Plans include but are not limited to the following national, state and regional planning documents:

- Waterbird Conservation for the Americas: The North American Waterbird Conservation Plan, Version 1 (Kushlan et. al. 2002);
- Southeast United States Regional Waterbird Conservation Plan (U.S. Fish and Wildlife Service [USFWS] and North Carolina Audubon Society 2006);
- Strategic Plan: The Coastal Program Stewardship of Fish and Wildlife Through Voluntary Conservation Regional Step-Down Plan Region 2 (Texas) Part 2 of 3 FY 2006-2010 (USFWS 2006);
- Gulf Coast Joint Venture Conservation Planning for Reddish Egret (Vermillion and Wilson 2009);
- Texas Conservation Action Plan 2012 – 2016: Gulf Coast Prairies and Marshes Handbook (Texas Parks and Wildlife Department [TPWD] 2012);
- Texas Mid-Coast Initiative Area Fact Sheet (Gulf Coast Joint Venture 2012);
- Reddish Egret Conservation Action Plan (Wilson et. al. 2014); and
- Draft Texas Colonial Waterbird Rookery Island Conservation Plan (Audubon Texas 2014).

The information provided in each of the planning documents listed above may be for a specific species or may target a group or guild of waterbirds. Actions or recommendations in each may be directly

related to restoration of a specific island; typical nesting islands, or emphasizes the need of a species that will benefit from this project.

What permits will need to be obtained?

USACE Section 10 and Section 404 (combined) permit will be needed for this project. The lands are managed by USFWS and the Texas General Land Office. Appropriate leases and special use permits will be obtained.

#3 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, or artificial reefs, list the method here, but complete the next section(s) in detail.

Dressing Point Island is in East Matagorda Bay (Figures 1 and 2). The area that may be directly or indirectly affected includes the construction footprint, source of fill material (direct dredge borrow source area, USACE placement area, or the section of the GIWW that was dredge and the material was beneficially used for this project), navigation corridors, construction and staging areas (Figures 4, 5, and 6).

Materials for the construction activities would need to be transported via roads and via marine waterways. The nearest public boat ramp is the Mitchell Beach boat ramp, approximately 8 miles east on the GIWW. Commercial and public docks and ramps are located at the Matagorda Harbor approximately 12 miles from the site. GLO has identified places to access to coastal waterways at http://www.glo.texas.gov/texas-beach-access/beach_bay.html. Information specific to East Matagorda Bay County access points and available activities is located at <http://www.glo.texas.gov/texas-beach-access/pdf/beach-bay/Matagorda.pdf>. In addition, marine vessels including barges would use existing navigational waterways.

Vessels will not use navigation channels as a staging area. Staging areas may be placed adjacent to the GIWW, the borrow site, or near the island in East Matagorda Bay.

The area that may be directly or indirectly affected includes the breakwater structure, other levees, potential mitigation area for hard bottom substrate, vegetation plantings, earthen fill, potential aquatic borrow site, and construction and staging areas.

Part 3: Specific In-Water Construction Methods (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. Indicated if work will be done from upland, barge, or both.)

See above.

a. Overwater Structures

#1 Is the proposed use of this structure for a docking facility or an observation platform? No

#2 If no, is this a fishing pier? Public or Private? How many people are expected to fish per day? How do you plan to address hook and line captures? This is not a fishing pier.

#3 Use of "Dock Construction Guidelines"?

<http://sero.nmfs.noaa.gov/pr/Endangered%20species/Section%207/DockGuidelines.pdf>

This is not applicable. No dock is being constructed.

#4 Type of decking: Grated – 43% open space; Wooden planks or composite planks – proposed spacing? There is no decking

#5 Height above Mean High Water (MHW) elevation?

The target elevation for the restored island would place the crown at least 4 feet above mean tide level post-settlement sloping to existing grades. These elevations could be adjusted once the designs are finalized. Land heights will be appropriate for ground nesting birds.

#6 Directional orientation of main axis of dock?

Not applicable.

#7 Overwater area (sqft)?

Not applicable.

8 Use of "Sea Turtle and Smalltooth Sawfish Construction Conditions, March 2006"

<http://sero.nmfs.noaa.gov/pr/Endangered%20species/Sea%20Turtle%20and%20Smalltooth%20Sawfish%20Construction%20Conditions%203-23-06.pdf>

These construction guidelines will be followed for the in-water work.

- b. Pilings & Sheetpiles (What type of material is the piling or sheetpiles? What size and how many will be used? Method used to install: impact hammer, vibratory hammer, jetting, etc.?) Not applicable.**
- c. 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.) Boat slips are not part of this project.**
- 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.) Boat ramps are not part of this project.**
- 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 project area.)**

Figures 4 and 5 show the location of shoreline armoring. See above for a description of shoreline armoring and a typical design is depicted in Figure 7.

Measures for Reducing Entrapment Risk to Protected Species, dated May 22, 2012 will be followed (http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/entrapment_bmps_final.pdf).

- f. Dredging or digging (Provide details about dredge type (hopper, cutterhead, clamshell, etc.), maximum depth of dredging, area (ft²) to be dredged, volume of material (yd³) to be produced, grain size of material, sediment testing for contamination, spoil disposition plans, and hydrodynamic description (average current speed/direction)). See Section D, Part 2.**

Construction activities associated with the project that involve dredging or digging include installation of a breakwater, placement of earthen fill, placement of shell or shell-like material, and temporary access channels. Placement of the breakwater may require excavation of a temporary access channel adjacent to the breakwater (Figure 4). Placement of approximately 70,000 cubic yards of earthen fill would require excavation from a potential direct dredge borrow site or from nearby placement areas associated with the GIWW shown in Figure 6 (these are discussed further below). Access from the GIWW at the eastern access point may require a temporary access channel approximately 2,500 by 50 feet from the GIWW into East Matagorda Bay (Figure 6). A temporary access channel may be constructed to access the site from the bay. It would be approximately 350 feet by 50 feet and channel depth would be no greater 5 feet (Figure 4). For all access channels, the excavated material would be sidecast and backfilled once construction was completed. Once the site is accessed, the breakwater would be installed. This would provide additional protection to construction activities taking place on the island. After the breakwater is completed, temporary levees would be constructed to contain earthen material on the existing island and on the submerged lands portion of the restored island. The source for these temporary levees may be in-situ. Any open water areas that would be surrounded by levees would follow the guidelines indicated in 8.e. above. Appropriate measures to reduce impacts from decant water will be used (see below). Material placed to create the island may require a drying period prior to shaping and sculpting with earth moving equipment.

A direct dredge (aquatic) borrow source may be used to obtain the source material. A direct dredge borrow source area has been identified and is shown in Figure 6. A small area within the direct dredge borrow source area would be used to provide fill material for this project. The area excavation would be approximately 562,500 square feet in area. It would be no deeper than 5 feet below grade. The location for the borrow source area is based on the best available information currently available. The source area was located to avoid seagrasses and oyster reef areas. However, no surveys have verified the lack of significant habitats. Once the specific site is identified, the area would be surveyed for important habitats such as oyster reef, seagrasses and for cultural resources in order to help identify the specific site for use. Any important sensitive resources would be avoided. Over time the excavated area would accrete sediments delivered from

the river inflow and movement from surrounding bay bottoms. Some turbidity would take place but be minimized through the use of silt fences and other water quality BMPs.

Material from the maintenance of the GIWW may be used beneficially. Beneficially using dredged material would incur temporary turbidity; however, it would be minimized through the use of appropriate BMPs. These measures include appropriate water control structures to decant water such as silt fences, hay bales, filter-fabric, and temporary levees to control sediments and avoid negative impacts associated with the fill placement.

Material may be mined from one of the placement areas along the GIWW (Figure 6). These areas have been used to contain material from operations and maintenance of the GIWW. The use of any of these sites would require coordination with the USACE and Texas Department of Transportation.

There are no known contaminants of significance present in East Matagorda Bay or in the nearby portion of the GIWW. Screening for potential chemical contaminants will be conducted on a case-by-case basis.

For sediments from federally-maintained navigation channels or associated dredged material placement areas, previously collected contaminant analysis and bio-assay data will be obtained from the U.S. Army Corps of Engineers Galveston District (USACE) - Operations Branch records.

For bay bottom borrow sites, local and regional knowledge of historical industrial activities as well as regulatory documentation on past and existing facilities in the vicinity of potential sediment borrow sources will be used to determine the likelihood and type of contaminants that might be expected to be encountered during construction. Based upon this information, USACE and state and federal resource agency personnel will be consulted to determine the amount of sampling and the type of chemical analyses that may be needed.

Equipment and materials for the construction activities would be transported via roads and via marine waterways. Large equipment and materials moved by barges will use the established interconnected waterways primarily the GIWW (Figure 6). The island restoration area and the location where fill material will be obtained will have a staging areas identified. The locations for staging sites will be placed to avoid sensitive resource areas such as oyster reefs and seagrass beds. Equipment may be staged at these locations for a period of time up to several weeks and or months. The staging areas will likely be adjacent to the island and location where sediment sources are obtained (GIWW) or the direct dredge borrow source area.

There will be no significant impacts due to dust because sediments deposited will be mixed with water, keeping airborne particles to a minimum. In addition, the island is uninhabited and will not be affecting any residents. Impacts due to dust and erosion would also be minimized by the best management practices that were discussed above. No hazardous waste would be created during construction. All hazardous substances handled during construction would be contained and appropriate barriers would be in place to ensure the protection of adjacent water resources from

potential spills and leaks. In the event of a discharge of oil or release of hazardous substances, the release would be reported to the National Response Center (800-424-8802) and Texas Emergency Oil Spill and Hazardous Substance Reporting line (800-832-8224) as required. BMPs in accordance with Occupational Safety and Health Administration and state and local requirements would be incorporated into construction activities on site to ensure the proper handling, storage, transport and disposal of all hazardous materials.

Permanent impacts result from an alteration in habitat type which will benefit nesting birds in the long-term. Beyond the vegetated plantings, natural colonization will occur and will provide, in part, grassy substrate which could be used by the colonial nesting birds. The breakwaters would decrease wave energy. Surveys delineating the presence, type and extent of bottom substrates and sensitive habitats will be completed prior to finalizing full project elements and design.

The construction activities including transportation, mining and transportation of fill material, and staging areas associated with the restoration of Dressing Point Island will not adversely affect any sensitive resources. Sediment and turbidity controls will be in place so that the surrounding sensitive habitats (oyster reefs and/or seagrass beds) are not significantly affected. Although there will be noise and equipment activity associated with movement of construction materials, mobile organisms will avoid the area which will eliminate the chance for significant impacts to these resources. Some sessile organisms may be affected; however, best management practices will be employed to prevent any impacts to fish and wildlife and/or sensitive resources such as oyster reef beds. Refer to descriptions below for further details.

Several different types of barges and vessels may be used in construction operations. A hydraulic cutter-head dredge vessel would be used in conjunction with this method for moving material from the borrow site to the island construction site. Smaller water craft may also be used to transport personnel and small quantities of material between larger barges and vessels. In general, all types of barges will be operated to avoid depths inconsistent with their draft. Barges bearing significant amounts of material from source sites, e.g. limestone rock, will be staged near but outside of navigation channels. When appropriate, material will be transferred to barges of shallower draft (placement barges) in order to reach the site. Barges containing work equipment such as excavators and/or draglines would also be used. Propeller wash of the bay bottom and substrate will be avoided. Construction activities may require excavation of a temporary access channels from the barge draft limit to the island, from the GIWW into East Matagorda Bay, and adjacent to the breakwater location to facilitate rock placement. These access channels, which would only be constructed if needed, are expected to require a draft no greater than 5-foot, have a maximum width of 50 feet, and a length of about 350, 2,500, and 5,000 feet respectively. Once all the fill materials and protective structures have been constructed, the access channels will be backfilled, thus preventing any long term impacts to the bay bottom from the access channel construction.

- 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.). This project does not involve blasting activities.

- 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), 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. Artificial reef creation is not part of this project.**

Section E.

#1 List all species, critical habitat, proposed species and proposed critical habitat that may be found in the action area.

There is no critical habitat within the action area.

Northern Aplomado Falcon, *Falco femoralis* – Endangered

Piping plover, *Charadrius melodus* – Threatened

Red knot, *Caladris canutus rufa* - Threatened

Sprague's Pipit, *Anthus spragueii* – Candidate Species

Whooping Crane, *Grus americana* - Endangered

West Indian Manatee, *Trichechus manatus* – Endangered

Green Sea Turtle, *Chelonia mydas* – Endangered*

Hawksbill Sea Turtle, *Eretmochelys imbricata* — Endangered*

Kemp's Ridley Sea Turtle, *Lepidochelys kempii* – Endangered*

Leatherback Sea Turtle, *Demochelys coriacea* – Endangered*

Loggerhead Sea Turtle, *Caretta caretta* – Threatened*

Smalltooth Sawfish, *Pristis pectinata* – Endangered

* - This biological assessment is limited to potential impacts to these species within the bay and outside of their nesting habitat (beaches) since there is no nesting habitat within the action area. This project will have no impacts or influence to Gulf beach front.

#2 Attach a separate map identifying species/critical habitat locations within the action area.

The attached maps are indicative of species locations as displayed by USFWS. There is no critical habitat for any species within the action area. Distribution maps were downloaded from the USFWS Ecological Services webpage for Region 2 on 27 February 2015 (http://www.fws.gov/southwest/es/ES_ListSpecies.cfm). There was no distribution map for the northern aplomado falcon (*Falco femoralis septentrionalis*), smalltooth sawfish, or the whooping crane (*Grus americana*).

Section F

Part 1:

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, interdependent, interrelated, connected actions, and cumulative impacts. 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.)

Northern aplomado falcon:

The project may affect but is not likely to adversely affect this species. There is no habitat at Dressing Point Island and within East Matagorda Bay waters. There is habitat on the mainland north of the bay and on Matagorda Island. If placement areas or upland borrow sites are used, there is a small probability that northern aplomado falcons could be present using the area to forage. No recent nesting for this species has been documented in Matagorda County. Disturbance associated with obtaining fill material from an upland source or a USACE placement area would be temporary. Northern aplomado falcons, if present and disturbed by the noise, have access to nearby habitat that is within their normal flying distances for daily foraging movement.

Piping Plover:

The project may affect but is not likely to adversely affect this species. The piping plover is a winter resident on the Texas coast and occurs in Matagorda County. However, there are no documented records of piping plovers on Dressing Point Island. Piping plovers are not expected to occur in the construction area because typical habitats, beach and bayside tidal flat habitats, for this species do not exist. If present, piping plovers, would likely avoid the construction and move to another location within the bay or a portion of the island not affected by the construction activities. This movement would be within their normal movement patterns. Piping plovers, if present and disturbed by the noise, have access to nearby habitat that is within their normal flying distances for daily foraging movement.

Red Knot:

The project may affect but is not likely to adversely affect this species. The red knot is primarily migratory in Matagorda County. However, there are no documented records of red knots on Dressing Point Island. Red knots are not expected to occur in the construction area because typical habitats, beach and bayside tidal flat habitats, for the species do not exist. If present, red knots, would likely avoid the construction and move to another location within the bay or a portion of the island not affected by the construction activities. This movement would be within their normal movement patterns. Red knots, if present and disturbed by the noise, have access to nearby habitat that is within their normal flying distances for daily foraging movement.

Sprague's Pipit:

The project may affect but is not likely to adversely affect this species. This species has not been observed on Dressing Point Island and is not expected to occur on the island because appropriate habitat does not exist. If placement areas or upland borrow sites are used, there is a small probability that Sprague's pipit could be present using the area to forage during the winter months. This species does not nest in Texas. If an upland source is used for fill material, disturbance associated with this activity would be temporary. Sprague's pipits, if present and disturbed by the noise, have access to nearby habitat that is within their normal flying distances for daily foraging movement. Whooping Crane:

The project may affect but is not likely to adversely affect this species. Whooping cranes spend the winter months in Texas. There is no habitat at Dressing Point Island and within East Matagorda Bay waters. There is habitat on the mainland north of the bay and on Matagorda Island. If placement areas or upland borrow sites are used, there is a small probability that whooping cranes could be present using the area to forage. No recent nesting for this species has been documented in Matagorda County. Disturbance associated with obtaining fill material from an upland source or a USACE placement area would be temporary. Whooping cranes, if present and disturbed by the noise, have access to nearby habitat that is within their normal flying distances for daily foraging movement.

West Indian Manatee:

The project may affect but is not likely to adversely affect this species. This species rarely enters Texas waters and is not likely to occur in the action area. If present, the conservation measures below in Section G will be followed.

Green Sea Turtle:

This project may affect but is not likely to adversely affect this species. No sea turtle nesting activities are expected to occur here since there is no beach habitat. Green Sea Turtles do occur in Matagorda Bay and may be in the water during construction activities including excavation of island building material on submerged lands near the island. However, methods used to remove material from the borrow site will be with a mechanical dredge (dragline) and barge or a hydraulic dredge (cutter-head) and pipeline, both of which would have minimal impacts to pelagic species.

Impacts to bay bottom would have minimal impacts to foraging habitat for this species because this project will avoid and/or minimize impacts to seagrass beds and oyster reef habitats. Green sea turtles are specialist feeders that target sponges and seagrass or macroalgae. Substrate at the dredging and disposal sites largely consists of unvegetated sandy bottom.

Hawksbill Sea Turtle:

This project may affect but is not likely to adversely affect this species. No sea turtle nesting activities are expected to occur here since there is no beach habitat. This species is rarely seen in Matagorda Bay. These sea turtles may be in the water during construction activities including excavation of island building material on submerged lands near the island. However, methods used to remove material from the borrow site will be with mechanical dredge (dragline) and barge or a hydraulic dredge (cutter-head) and pipeline, both of which would have minimal impacts. Impacts to bay bottom would have minimal impacts to foraging habitat for this species because this project will avoid and/or minimize impacts to seagrass beds and oyster reef habitats. Hawksbill sea turtles are specialist feeders that target sponges and seagrass or macroalgae. Substrate at the dredging and disposal sites largely consists of unvegetated sandy bottom.

Kemp's Ridley Sea Turtle:

This project may affect but is not likely to adversely affect this species. No sea turtle nesting activities are expected to occur here since there is no beach habitat. Kemp's Ridley sea turtles may be in the water during construction activities including excavation of island building material on submerged lands near the island. However, methods used to remove material from the borrow site will be with a mechanical dredge (dragline) and barge or a hydraulic dredge (cutter-head) and pipeline, both of which would have minimal impacts.

The effects due to loss of foraging habitat on Kemp's ridley sea turtles are insignificant. This species is a generalist carnivore, typically preying on benthic mollusks and crustaceans in the nearshore environment. Kemp's ridley can be found foraging in shallow sandy habitat. However, any impacts to foraging habitat for Kemp's ridleys will be temporary and would only affect a small area relative to the foraging habitat available in the nearshore marine environment off Texas.

Leatherback Sea Turtle:

This project may affect but is not likely to adversely affect this species. No sea turtle nesting activities are expected to occur here since there is no beach habitat. This species has not been seen in East Matagorda Bay. There is a possibility that these sea turtles may be in the water during construction activities including excavation of island building material on submerged lands near the island. However, methods used to remove material from the borrow site will be with a mechanical dredge (dragline) and barge or a hydraulic dredge (cutter-head) and pipeline, both of which would have minimal impacts.

Leatherbacks are pelagic feeders; dredging and the placement of sand in the intertidal zone will not affect pelagic resources.

Loggerhead Sea Turtle:

This project may affect but is not likely to adversely affect this species. No sea turtle nesting activities are expected to occur here since there is no beach habitat. This species is rarely seen in Matagorda Bay. These sea turtles may be in the water during construction activities including excavation of island building material on submerged lands near the island. However, methods used to remove material from the borrow site will be with a mechanical dredge (dragline) and barge or a hydraulic dredge (cutter-head) and pipeline, both of which would have minimal impacts.

The effects due to loss of foraging habitat on loggerhead sea turtles are insignificant. This species is a generalist carnivore, typically preying on benthic mollusks and crustaceans in the nearshore environment. Loggerheads can be found foraging in shallow sandy habitat. However, any impacts to foraging habitat for loggerheads will be temporary and would only affect a small area relative to the foraging habitat available in the nearshore marine environment off Texas.

Smalltooth Sawfish:

There will be no impacts to this species from this project. This species is considered extirpated in Texas.

Part 2:

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, interdependent, interrelated, connected actions, and cumulative impacts. 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.

Section G

No critical habitat for any of the above species would be affected by project activities. There is no critical habitat within the action area.

Part 1

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 reinitiate this consultation.)

Northern Aplomado Falcon:

The project is not likely to adversely affect this species. Construction activities will occur when the species is present along the Texas coastline. Northern aplomado falcons, if present and disturbed by the noise, have access to nearby habitat that is within their normal flying distances for daily foraging movement.

Piping Plover:

The project is not likely to adversely affect this species. The piping plover is a winter resident on the Texas coast and occurs in Matagorda County. However, there are no documented records of piping plovers on Dressing Point Island. Piping plovers are not expected to occur in the construction area because typical habitats, beach and bayside tidal flat habitats, for the species do not exist. Construction activities would occur between August 15 and February 1. Construction activities will occur when the species is present along the Texas coastline. Piping plovers, if present and disturbed by the noise, have access to nearby habitat that is within their normal flying distances for daily foraging movement. Upland excavation activities will not occur in habitat used by this species.

Red Knot:

The project may affect but is not likely to adversely affect this species. Construction activities would occur between August 15 and February 1. Construction activities will occur when the species is present along the Texas coastline. Red knots, if present and disturbed by the noise, have access to nearby habitat that is within their normal flying distances for daily foraging movement. Upland excavation activities will not occur in habitat used by this species.

Sprague's Pipit:

The project may affect, but is not likely to adversely affect this species. Sprague's pipit does not nest in Texas. If upland borrow site is used, this species may be affected in winter habitat areas. Construction activities associated with an upland borrow site may occur in the winter when the species could be present. Sprague's pipit, if present and disturbed by the upland borrow site activities, would have access to nearby habitat that is within their normal flying distances for daily foraging movement.

Whooping Cranes:

The project is not likely to adversely affect this species. Construction activities will occur when the species is present along the Texas coastline. Whooping cranes spend the winter months in Texas. Whooping cranes, if present and disturbed by the noise, have access to nearby habitat that is within their normal flying distances for daily foraging movement.

West Indian Manatee:

The project is not likely to adversely affect this species. Live West Indian Manatees have not been observed in East Matagorda Bay (Fertl and others 2005). All construction personnel will be notified of the potential presence of West Indian Manatee in the water and reminded of the criminal and civil penalties associated with harassing, injuring, or killing West Indian Manatees. All workers will be

educated that there could be West Indian manatees in the water and will be advised to look for manatees and, if observed, wait until manatees leave the area to put the equipment in the water. Care will be taken when using equipment in the water to ensure that no harm is caused to any West Indian Manatee that may be nearby. Should a West Indian Manatee come within 50 feet of the project area during construction activities, work would immediately cease until the West Indian Manatee has moved away from the project area on its own. Construction noise will be kept to the minimum feasible.

Green Sea Turtle:

The project may affect but is unlikely to adversely affect this species. Sea turtle and smalltooth sawfish construction conditions and measures for reducing entrapment risk to protected species will be followed for all aspects of this project

(http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/sea_turtle_and_smalltooth_sawfish_construction_conditions_3-23-06.pdf;

http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/entrapment_bmps_final.pdf).

Methods used to remove material from the borrow site will be with a hydraulic dredge (cutter-head design) or a mechanical dredge (dragline) both of which would have minimal impacts to pelagic species. Sea turtles may be affected by dredging activities if they were to be struck by the transit and anchoring of the dredge at the project site or by the placement of fill material below mean high water. However, these effects are discountable because sea turtles are highly mobile and can avoid the area during dredging and sand placement activities and through the implementation of NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions. Application of fill material is a slow process allowing time for sea turtles to leave the area.

NMFS has previously determined that non-hopper-type dredging activities are unlikely to adversely affect sea turtles. Hydraulic dredges are not known to take sea turtles whereas hopper dredges are known to take sea turtles. Hopper dredges will not be used for the project.

Hawksbill Sea Turtle:

The project may affect but is unlikely to adversely affect this species. Sea turtle and smalltooth sawfish construction conditions and measures for reducing entrapment risk to protected species will be followed for all aspects of this project

(http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/sea_turtle_and_smalltooth_sawfish_construction_conditions_3-23-06.pdf;

http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/entrapment_bmps_final.pdf).

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However, these effects are discountable because sea turtles are highly mobile and can avoid the area during dredging and sand placement activities and through the implementation of NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions. Application of fill material is a slow process allowing time for sea turtles to leave the area.

NMFS has previously determined that non-hopper-type dredging activities are unlikely to adversely affect sea turtles. Hydraulic dredges are not known to take sea turtles whereas hopper dredges are known to take sea turtles. Hopper dredges will not be used for the project.

Leatherback Sea Turtle:

The project may affect but is unlikely to adversely affect this species. Sea turtle and smalltooth sawfish construction conditions and measures for reducing entrapment risk to protected species will be followed for all aspects of this project

(http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/sea_turtle_and_smalltooth_sawfish_construction_conditions_3-23-06.pdf;
http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/entrapment_bmps_final.pdf).

Methods used to remove material from the borrow site will be with a hydraulic dredge (cutter-head design) or a mechanical dredge (dragline) both of which would have minimal impacts to pelagic species. Sea turtles may be affected by dredging activities if they were to be struck by the transit and anchoring of the dredge at the project site or by the placement of dredged material below mean high water. However, these effects are discountable because sea turtles are highly mobile and can avoid the area during dredging and sand placement activities and through the implementation of NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions. Application of fill material is a slow process allowing time for sea turtles to leave the area.

NMFS has previously determined that non-hopper-type dredging activities are unlikely to adversely affect sea turtles. Hydraulic dredges are not known to take sea turtles whereas hopper dredges are known to take sea turtles. Hopper dredges will not be used for the project.

Kemp's Ridley Sea Turtle

The project may affect but is unlikely to adversely affect this species. Sea turtle and smalltooth sawfish construction conditions and measures for reducing entrapment risk to protected species will be followed for all aspects of this project

(http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/sea_turtle_and_smalltooth_sawfish_construction_conditions_3-23-06.pdf;
http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/entrapment_bmps_final.pdf).

Methods used to remove material from the borrow site will be with a hydraulic dredge (cutter-head design) or a mechanical dredge (dragline) both of which would have minimal impacts to pelagic species.

Sea turtles may be affected by dredging activities if they were to be struck by the transit and anchoring of the dredge at the project site or by the placement of dredged material below mean high water. However, these effects are discountable because sea turtles are highly mobile and can avoid the area during dredging and sand placement activities and through the implementation of NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions. Application of fill material is a slow process allowing time for sea turtles to leave the area.

NMFS has previously determined that non-hopper-type dredging activities are unlikely to adversely affect sea turtles. Hydraulic dredges are not known to take sea turtles whereas hopper dredges are known to take sea turtles. Hopper dredges will not be used for the project.

Loggerhead Sea Turtle:

The project may affect but is unlikely to adversely affect this species. Sea turtle and smalltooth sawfish construction conditions and measures for reducing entrapment risk to protected species will be followed for all aspects of this project

(http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/sea_turtle_and_smalltooth_sawfish_construction_conditions_3-23-06.pdf;

http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/entrapment_bmps_final.pdf).

Methods used to remove material from the borrow site will be with a hydraulic dredge (cutter-head design) or a mechanical dredge (dragline) both of which would have minimal impacts to pelagic species. Sea turtles may be affected by dredging activities if they were to be struck by the transit and anchoring of the dredge at the project site or by the placement of dredged material below mean high water. However, these effects are discountable because sea turtles are highly mobile and can avoid the area during dredging and sand placement activities and through the implementation of NMFS' Sea Turtle and Smalltooth Sawfish Construction Conditions. Application of fill material is a slow process allowing time for sea turtles to leave the area.

NMFS has previously determined that non-hopper-type dredging activities are unlikely to adversely affect sea turtles. Hydraulic dredges are not known to take sea turtles whereas hopper dredges are known to take sea turtles. Hopper dredges will not be used for the project.

Smalltooth Sawfish:

This project will have no effect on this species. It is considered extirpated from Texas.

Part 2

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 reinitiate this consultation.)

There is no critical habitat within the project area.

Section H. Effect Determination Requested

Northern Aplomado Falcon – May Affect, Not Likely to Adversely Affect

Piping plover – May Affect, Not Likely to Adversely Affect

Red knot – May Affect, Not Likely to Adversely Affect

Sprague’s Pipit – May Affect, Not Likely to Adversely Affect

Whooping Crane – May Affect, Not Likely to Adversely Affect

West Indian Manatee – May Affect, Not Likely to Adversely Affect

Green Sea Turtle – May Affect, Not Likely to Adversely Affect

Hawksbill Sea Turtle – May Affect, Not Likely to Adversely Affect

Kemp’s Ridley Sea Turtle – May Affect, Not Likely to Adversely Affect

Leatherback Sea Turtle – May Affect, Not Likely to Adversely Affect

Loggerhead Sea Turtle – May Affect, Not Likely to Adversely Affect

Smalltooth Sawfish – No Effect

Section I. Bald Eagles

Are bald eagles present in the action area? No eagles nest within 660 feet of Dressing Point Island. If Bald Eagles are observed, these conservation measures will be followed:

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 within 660 feet of a nest may result in disturbance, particularly for the eagles occupying the Mississippi barrier islands. 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.

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

Section J. Migratory Birds

Dressing Point Island is an important site for migratory birds. In general, construction activities will not occur during the nesting season. The nesting season is usually February 1 through August 15th. However, some field activities that have minimal disturbance may be acceptable to occur while birds are nesting. Any such activities potentially affecting migratory birds would be coordinated with the appropriate state and federal agency biologists prior to initiation of the field work.

It currently supports multiple species of nesting colonial waterbirds shown in Table 1. It may also support non-colonial nesting American oystercatcher and eastern willet. The island is used to support development of fledged young until they are able to support themselves in foraging habitats in the Dressing Point peninsula vicinity. Water dependent birds may use the open bay to forage and roost. These would include loons, bay ducks, gulls and terns, and pelicans.

For non-breeding migratory birds the island currently supports roosting and limited foraging use. The different bird taxonomic guilds and use activities are listed below:

Loons and Grebes – This group of birds may use surrounding waters during the fall, winter, and spring to forage. Presence in the area would be based on available forage fish and invertebrates. Construction activities may cause the birds to move out of nearby foraging areas, however, no take is anticipated.

Waterfowl – Waterfowl use of the island is limited. Surrounding bay waters are used by several species of wintering waterfowl primarily bay ducks. This group may be affected by construction activities. The temporary nature of construction and this bird group's use of more undisturbed waters nearby will avoid take limit significant effects.

Pelicans and Cormorants – These will use the existing island for resting, staging and or roosting during the fall, winter and spring. Construction activities will cause the birds using the island to move to other sites. Acclimation to construction activities may take place.

Wading Birds – These heron and egret species may use the existing island to some degree for resting and may use the shallow intertidal zone to feed. This use would be limited.

Terns and Gulls – These species will use the island site for resting, staging and or roosting. Foraging areas would constantly change depending on the presence of forage fish, currents, etc. and thus may or may not be proximal to the site. These birds will move to other nearby sites in the bay system to use for these purposes.

Shorebirds – Significant numbers of shorebirds migrate through the Texas coast in the fall and spring and these may use the intertidal zone to forage. Several species overwinter as well and may use the intertidal areas of the existing island to forage. Construction activities may limit the use of the island by these birds. There are other sites nearby that would serve similar uses.

Construction activities would occur between August 15 and February 1. These activities would avoid nesting season. The disruptions caused by construction activities during this period would be temporary. Other nearby sites are available that support loafing and roosting birds. The project goal is to increase the number of nesting pairs for colonial waterbirds. The enhancements would also provide more opportunity for many of the above listed bird groups during the non-nesting season.

Pre-existing NEPA Documents?

Yes

If tiered from a programmatic EIS or EA, then provide the programmatic document or a link below.

Tiered from the DWH ER Phase III ERP/PEIS, which can be found at:

<http://www.gulfspillrestoration.noaa.gov/restoration/early-restoration/phase-iii/>

Name of Person Completing this Form: Angela Schrift

Name of Project Lead:

Date Form Completed: 4/2/2015

Date Form Updated: 6/30/2015

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DRAFT/DELIBERATIVE; ATTORNEY WORK PRODUCT; ATTORNEY CLIENT COMMUNICATION; PRIVILEGED AND/OR CONFIDENTIAL

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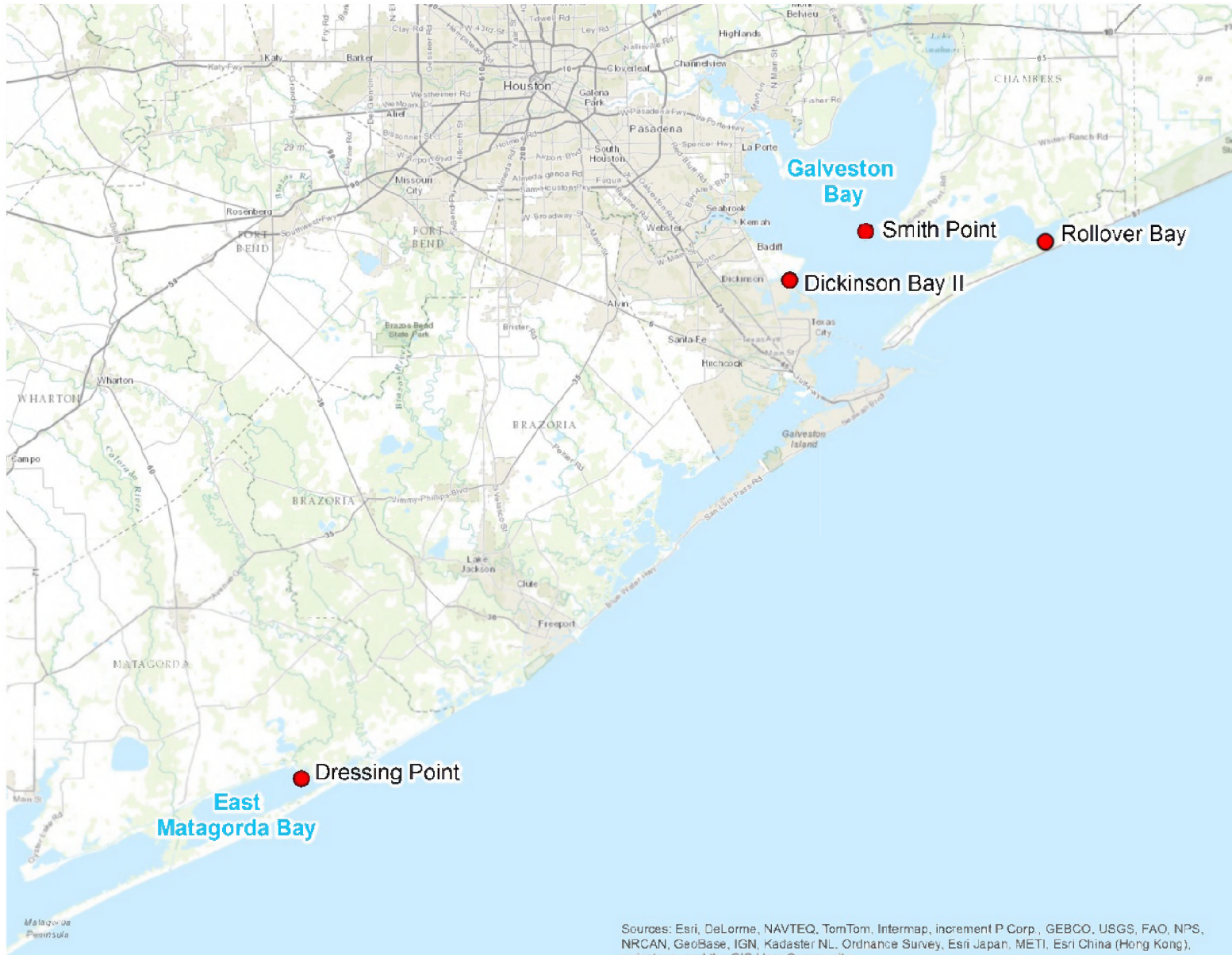


Figure 1. Location of proposed rookery island restoration and protection projects in Texas.

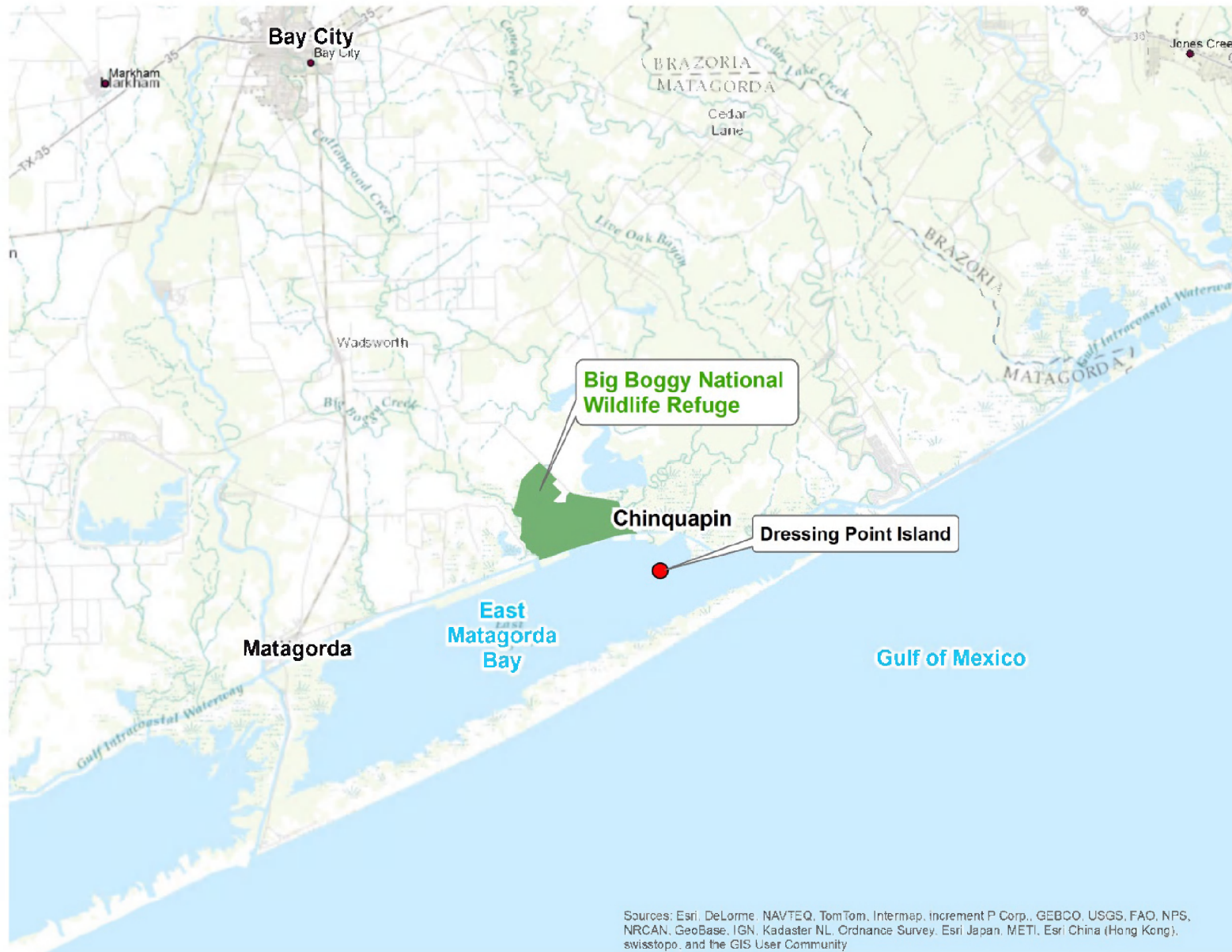


Figure 2. Location of proposed rookery island restoration and protection projects in Galveston Bay.

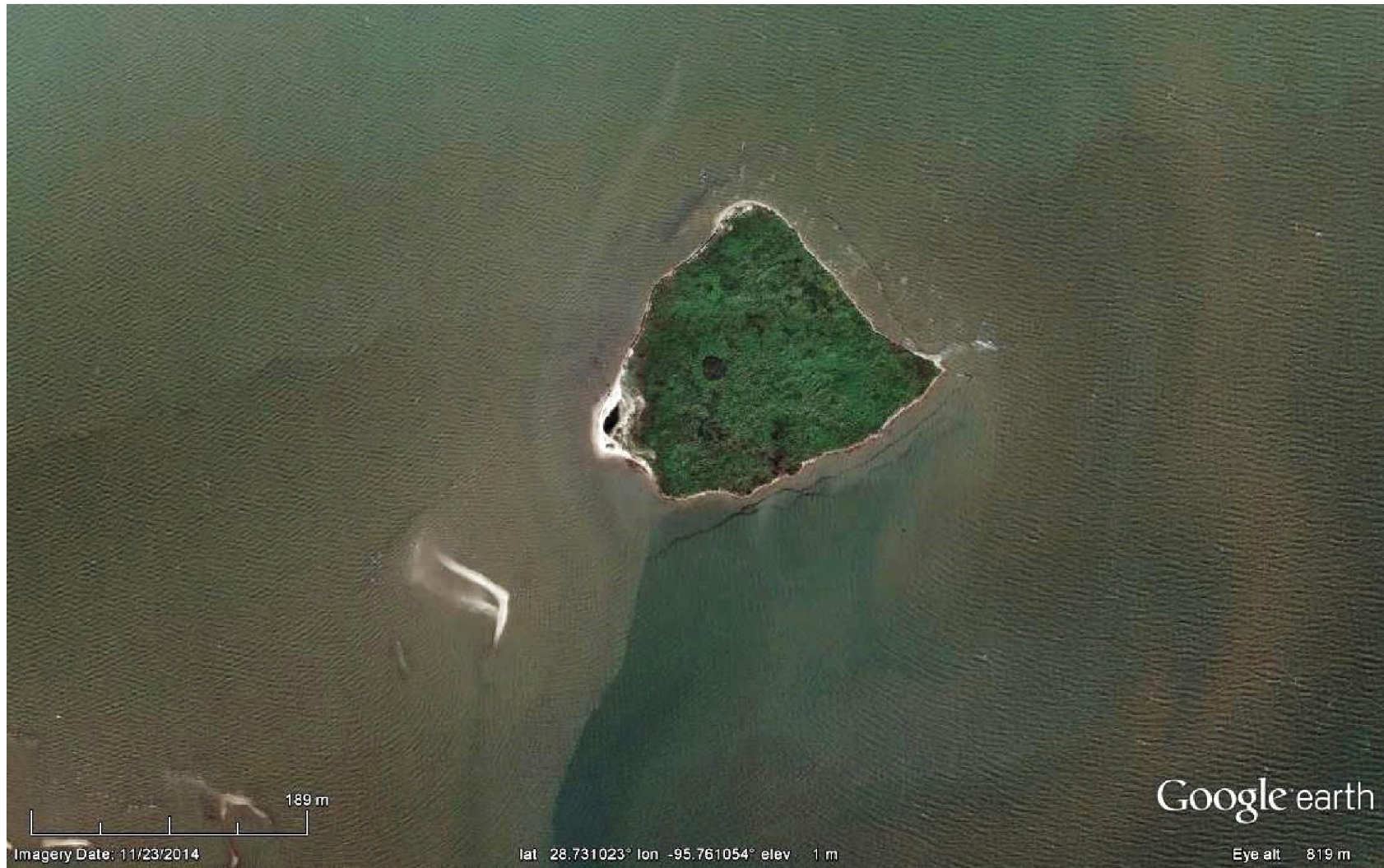


Figure 3. Dressing Point Island as of 2014.



Figure 4. Dressing Point Island preliminary design.

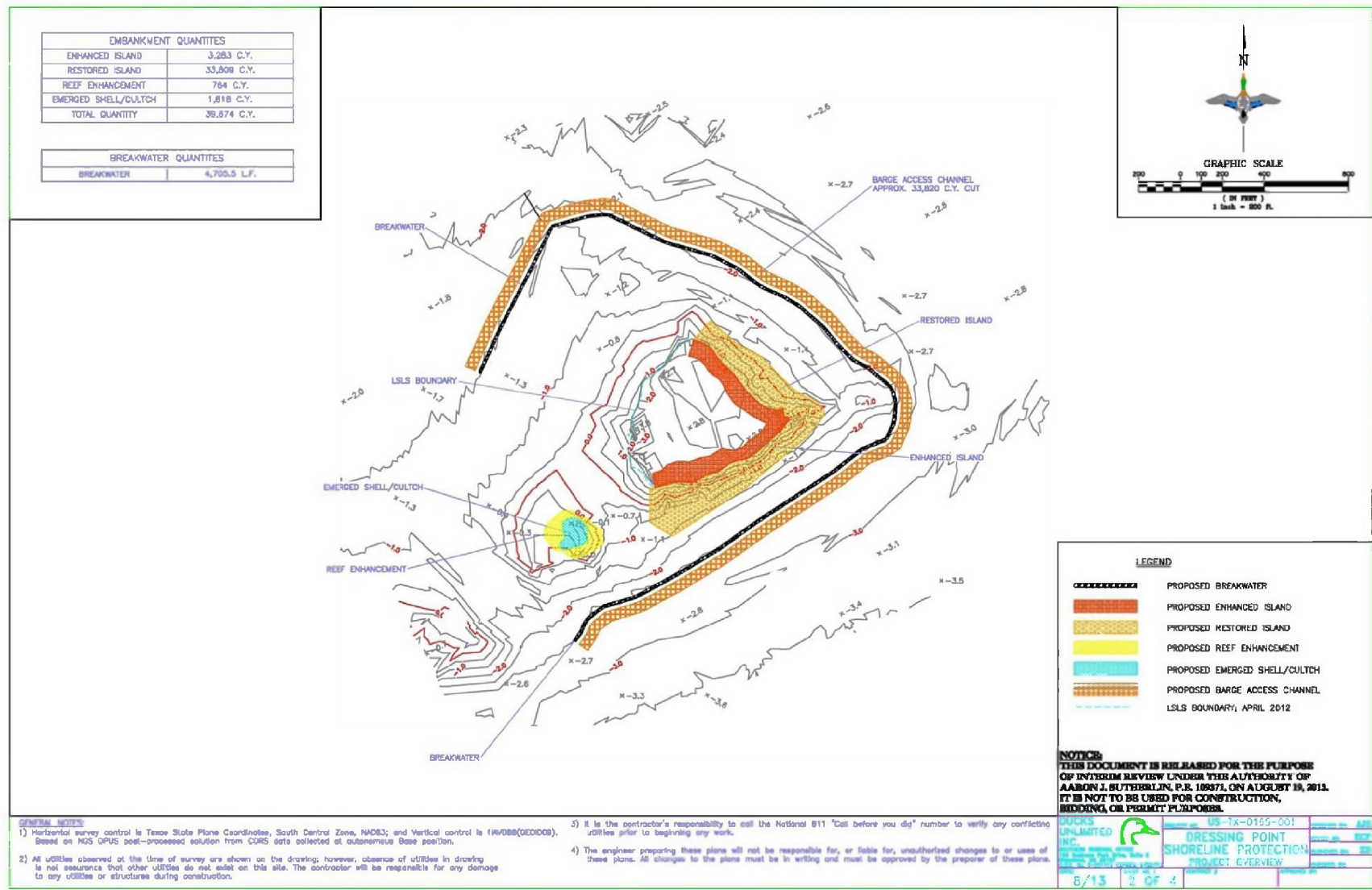


Figure 5. Preliminary engineering drawing for the proposed improvements on Dressing Point island. This drawing does not included all considered temporary access channels.

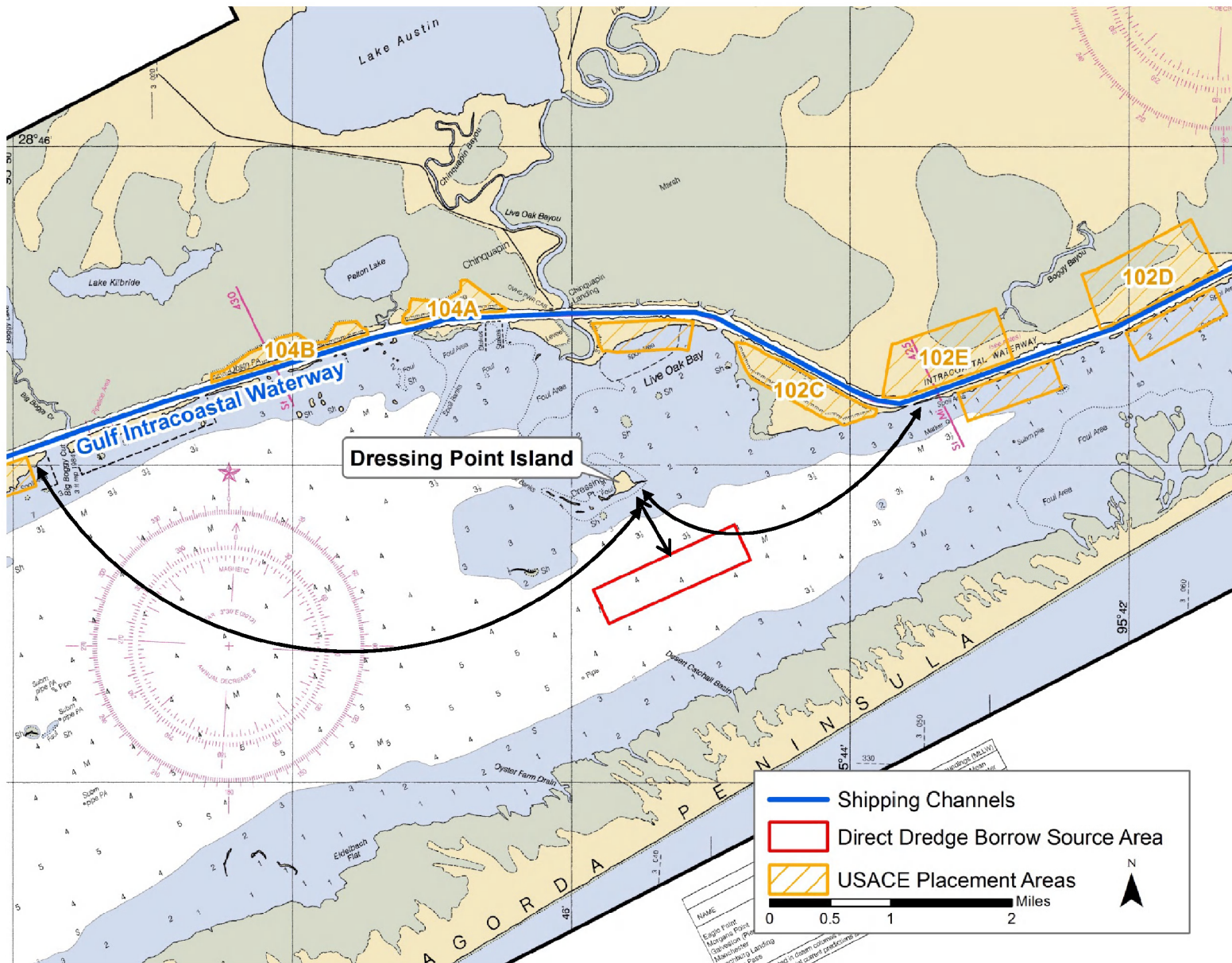


Figure 6. Dressing Point Island showing its relation to GIWW placement areas, proposed navigation routes, and shipping channels.

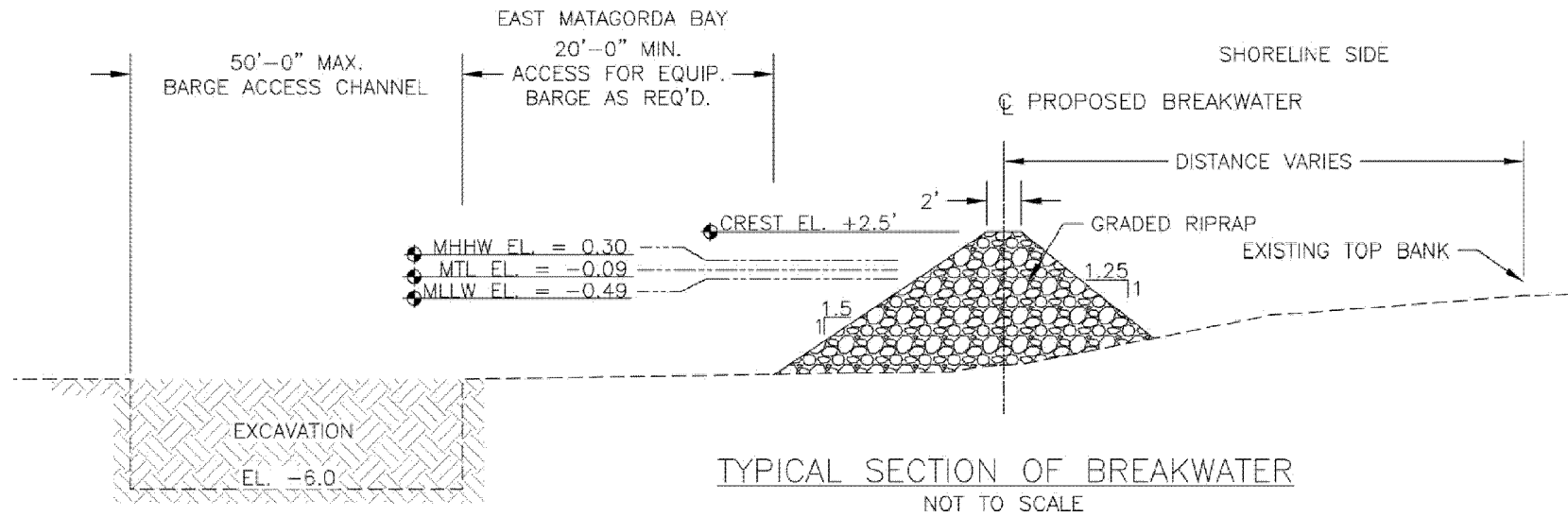


Figure 7. Typical breakwater and temporary access channel.

piping plover

Charadrius melodus

B079

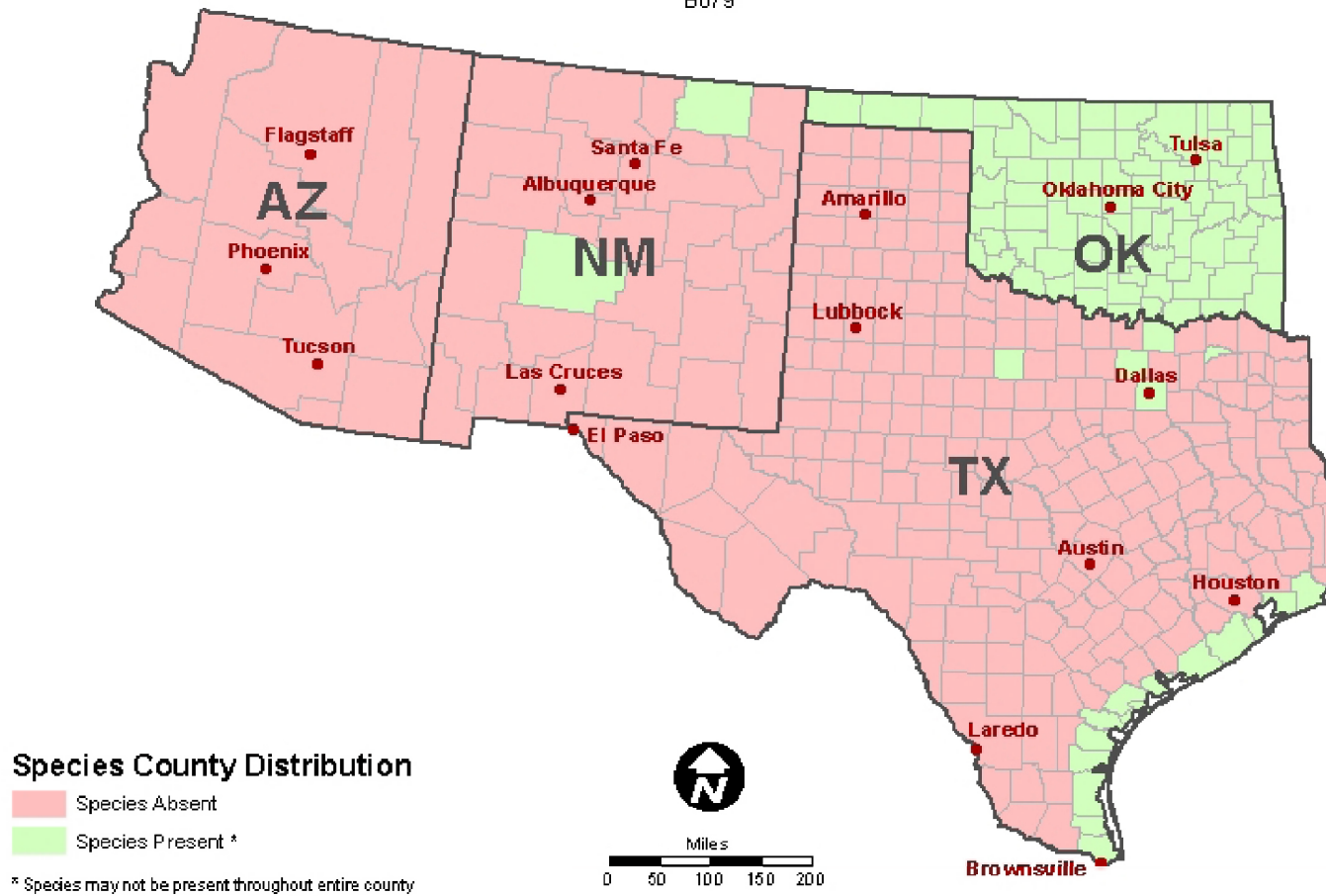


Figure 8. Location map of the county distribution of piping plover. Map was created by USFWS.

red knot

Calidris canutus rufa

BODM

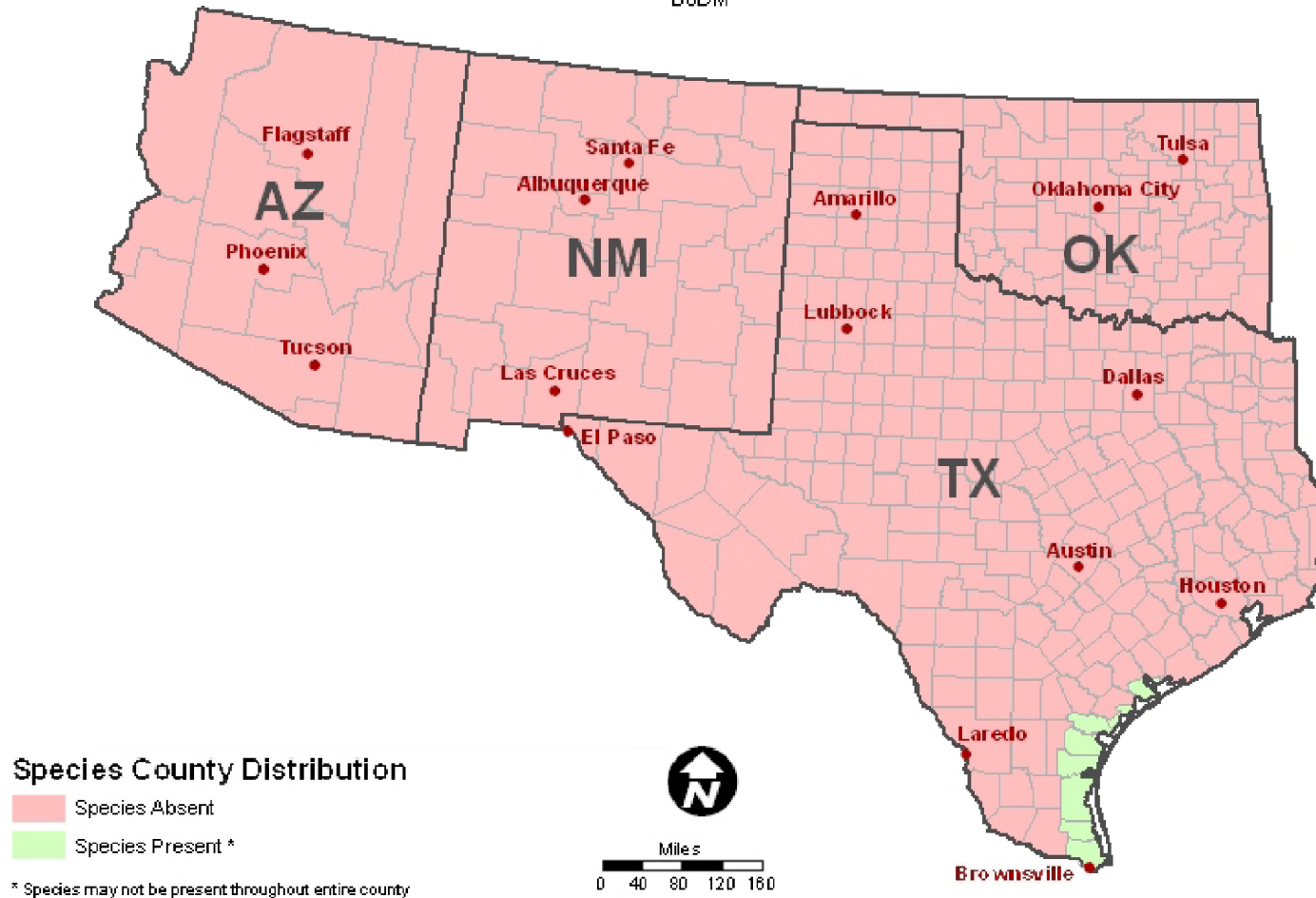


Figure 9. In contrast to the USFWS map showing red knot distribution, red knots have been found to occur in Matagorda County (<http://ebird.org/ebird/map/>).

Sprague's pipit

Anthus spragueii

BGD

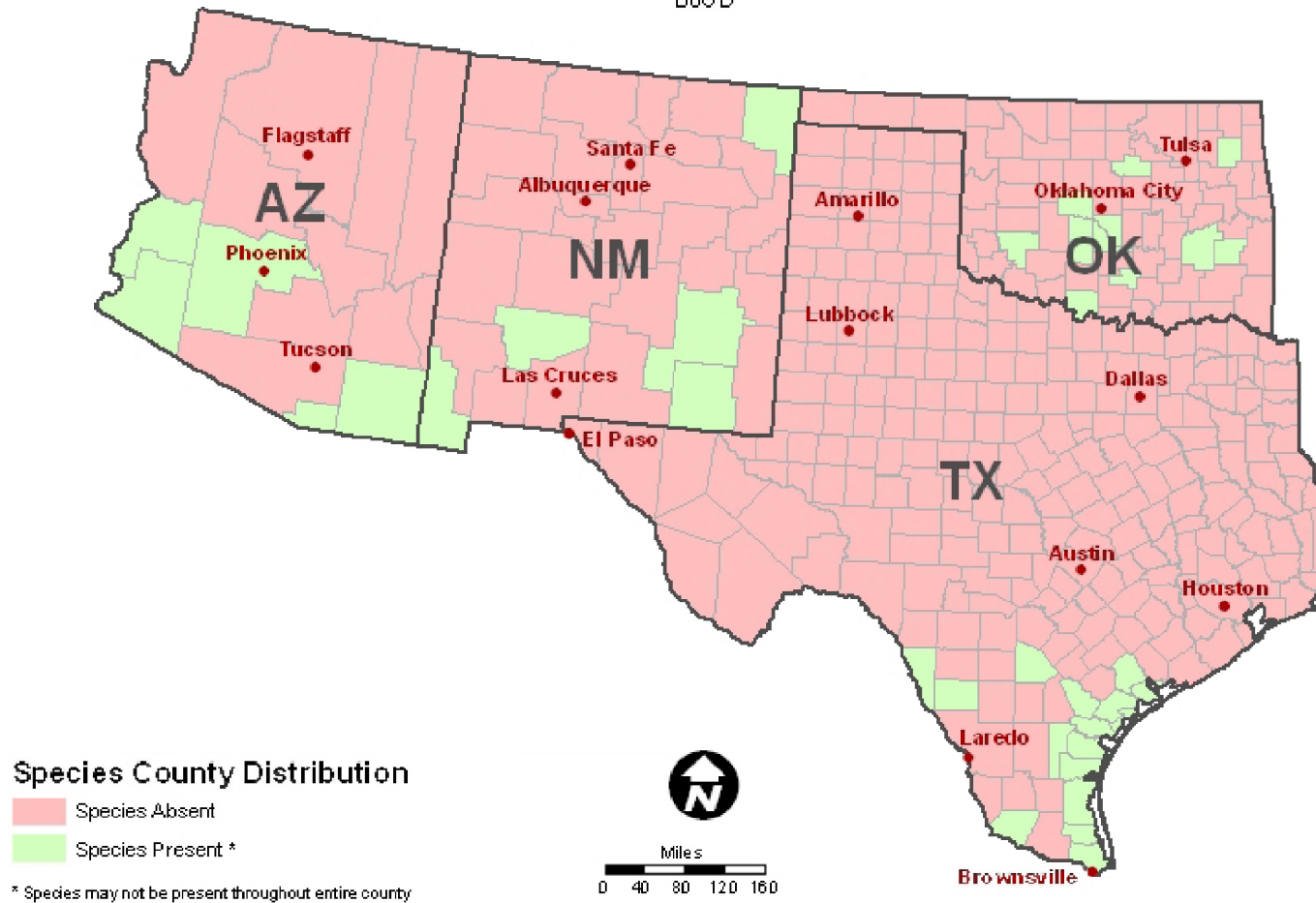


Figure 10. In contrast to the USFWS map showing Sprague's pipit distribution, Sprague's pipits have been found to occur in Matagorda County (<http://ebird.org/ebird/map/>).

West Indian manatee

Trichechus manatus

A007

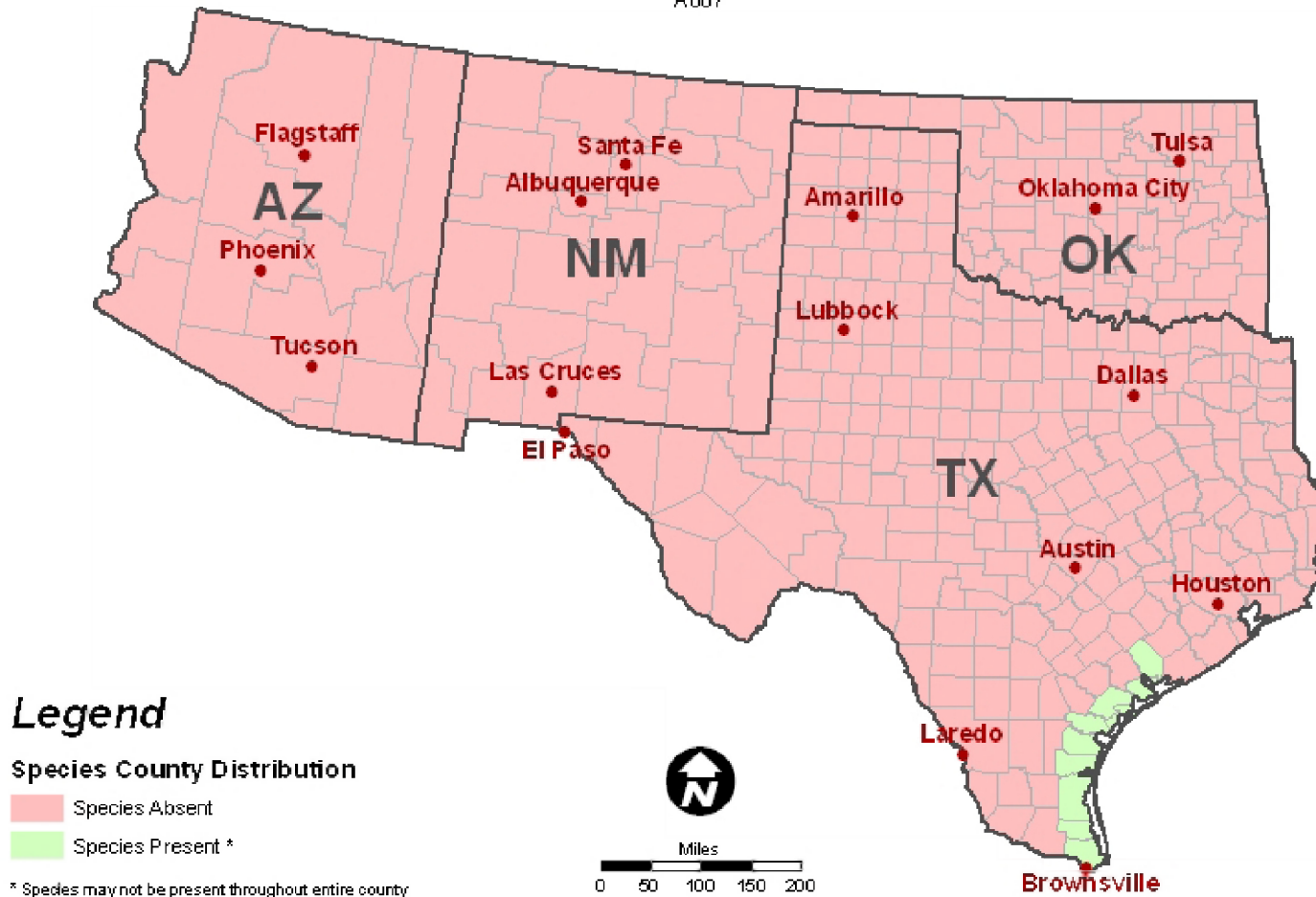


Figure 11. Despite the USFWS map showing the West Indian manatee distribution, carcasses have been found twice in Matagorda County: in the GIWW and in Gulf waters (Fertl et al 2005).

green sea turtle

Chelonia mydas

C00S

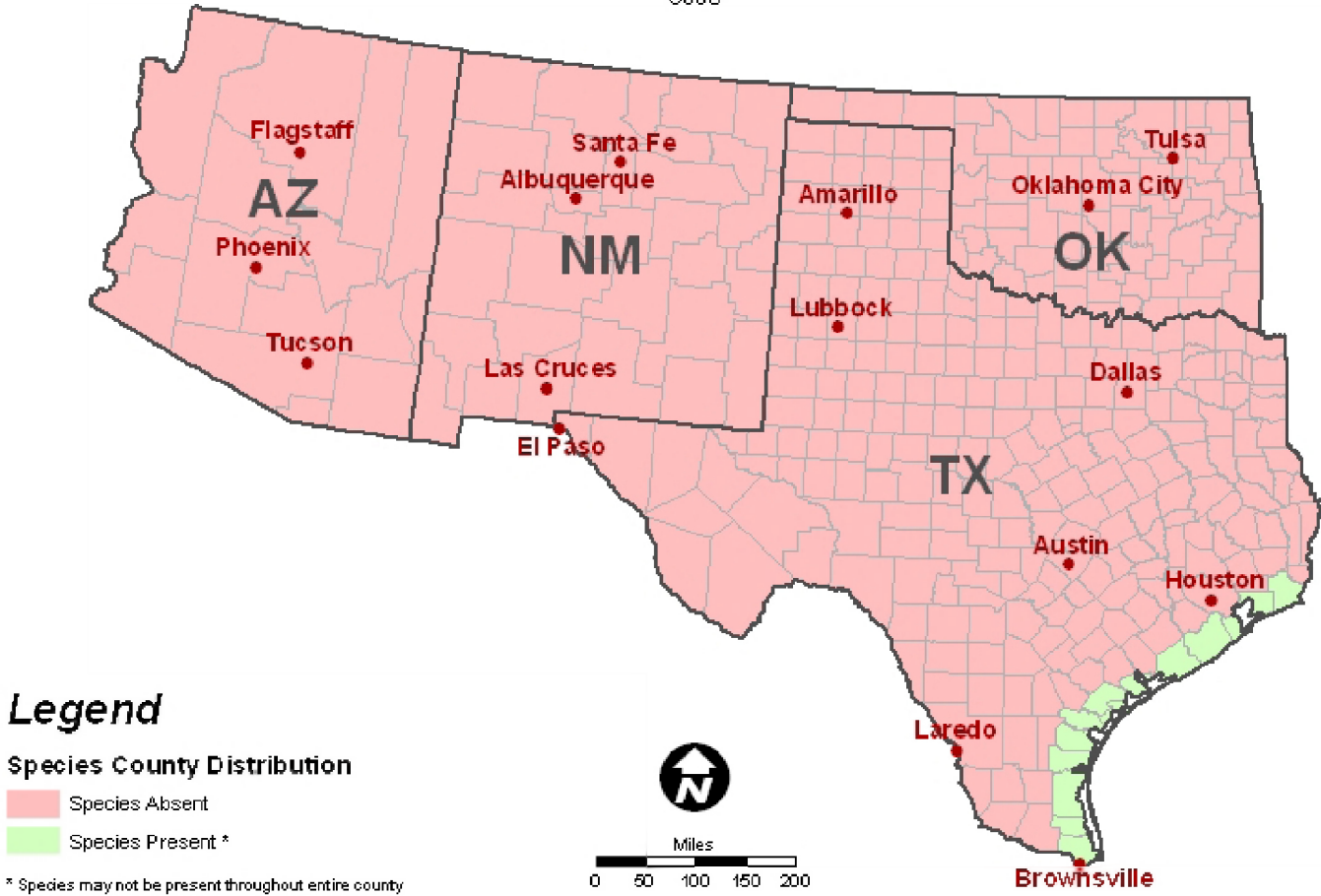


Figure 12. Location map of the county distribution of green sea turtle. Map was created by USFWS.

hawksbill sea turtle

Eretmochelys imbricata

C00E

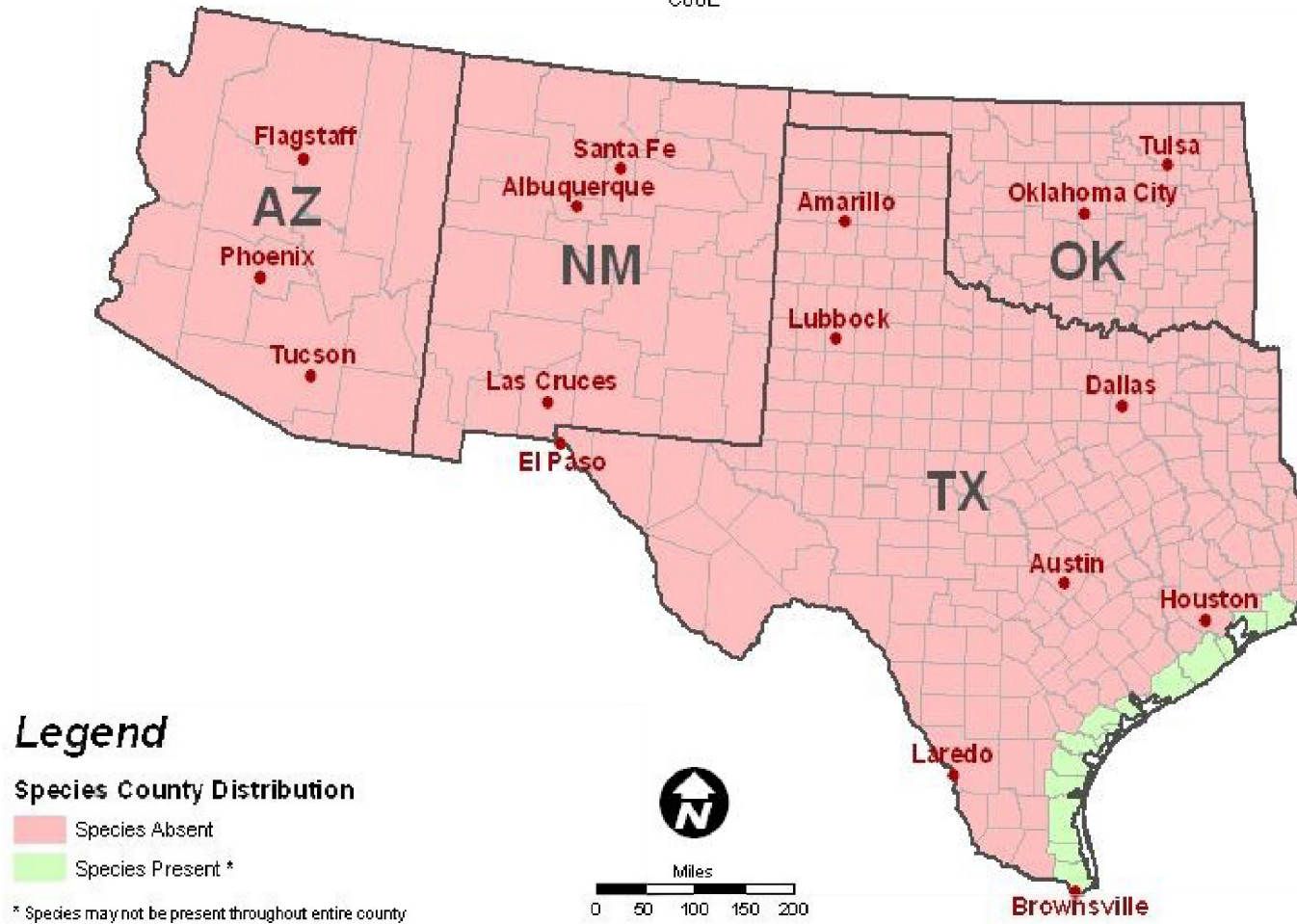


Figure 13. Location map of the county distribution of hawksbill sea turtle. Map was created by USFWS.

Kemp's Ridley sea turtle

Lepidochelys kempii

C000

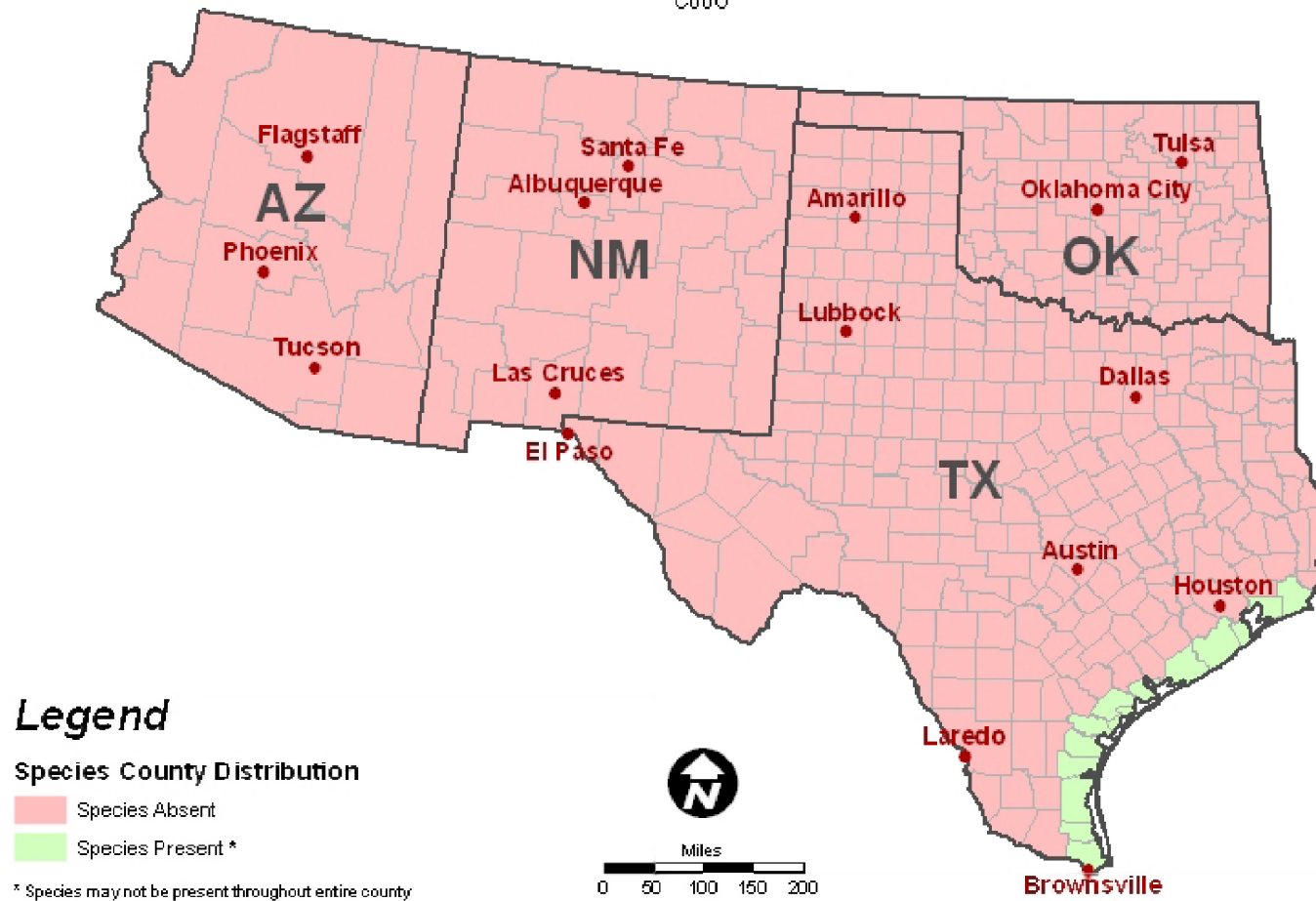


Figure 14. Location map of the county distribution of Kemp's ridley sea turtle. Map was created by USFWS.

leatherback sea turtle

Dermochelys coriacea

C00F

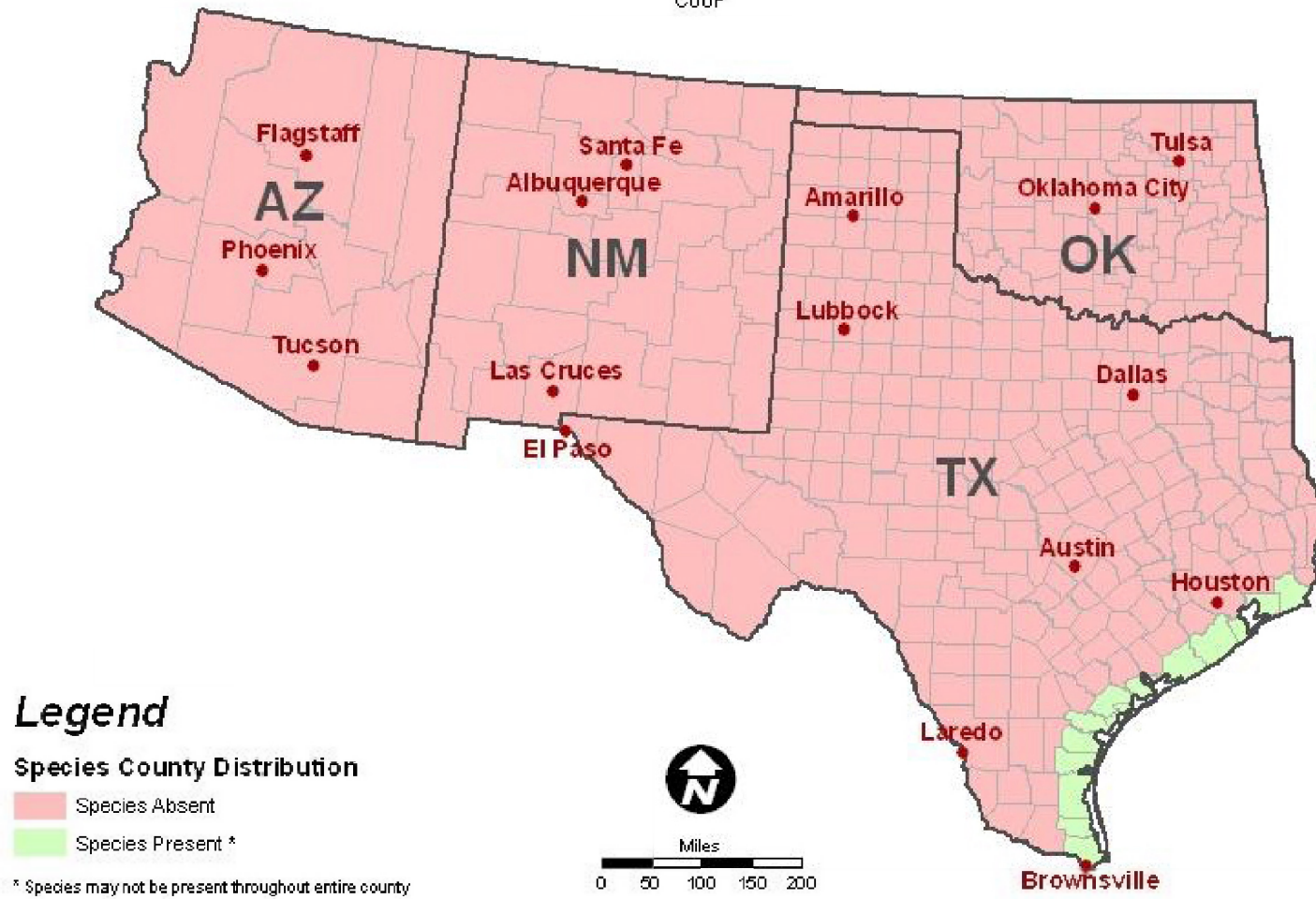


Figure 15. Location map of the county distribution of leatherback sea turtle. Map was created by USFWS.

loggerhead sea turtle

Caretta caretta

C00U

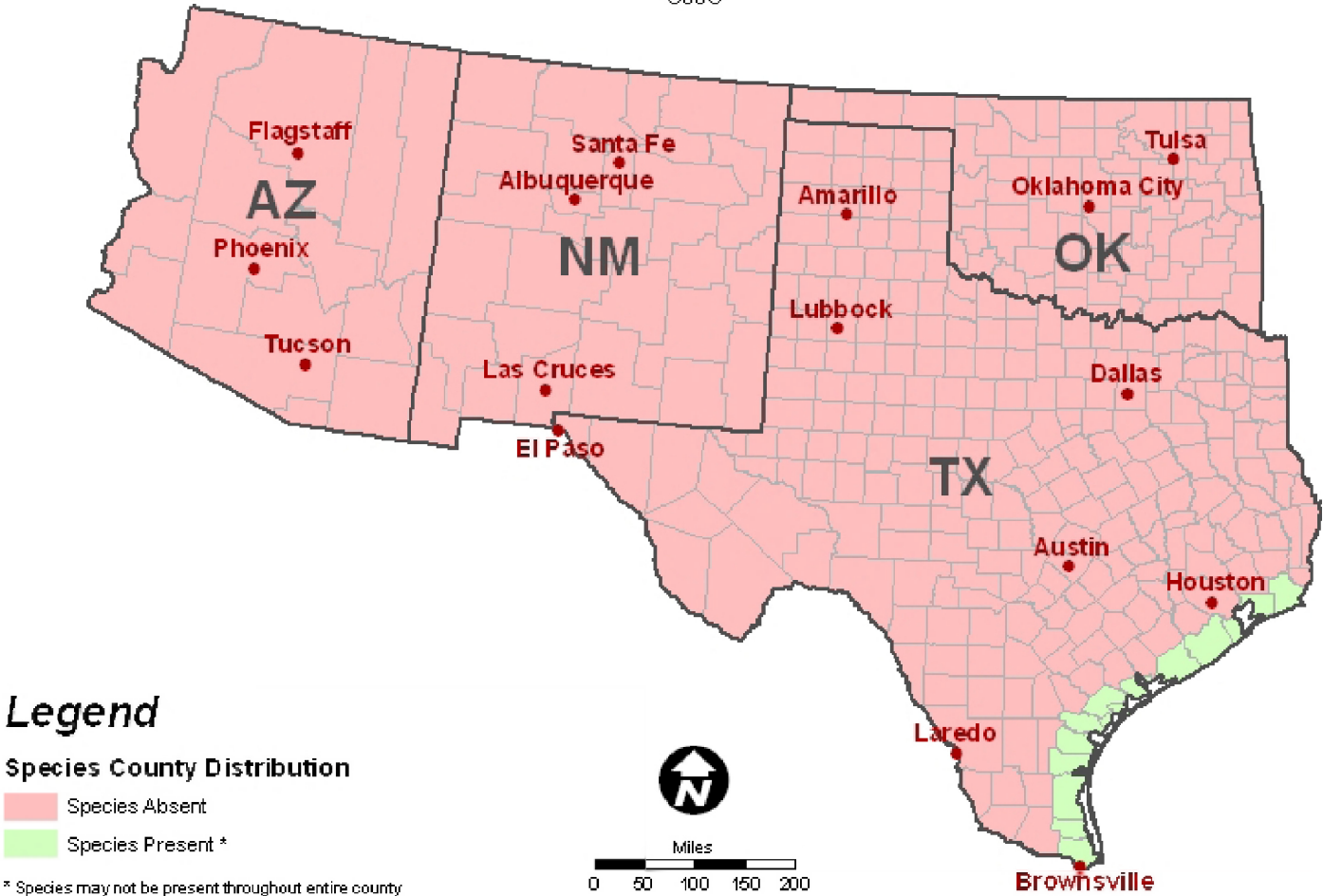


Figure 16. Location map of the county distribution of loggerhead sea turtle. Map was created by USFWS.