



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

March 29, 2017

David Bernhart
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NOAA Fisheries Service, Southeast Regional Office
263 13th Avenue South
Saint Petersburg, Florida 33701

Re: Request for Section 7 Endangered Species Act Formal Consultation for Projects Proposed for Funding under the Deepwater Horizon (DWH) Oil Spill Natural Resource Damage Assessment (NRDA) in the Alabama Trustee Implementation Group Restoration Plan and Environmental Impact Statement

Dear David,

The National Oceanic and Atmospheric Administration (NOAA) Restoration Center requests formal consultation under section 7 of the Endangered Species Act (ESA) for the projects listed below that are likely to adversely affect ESA-listed species. None of the proposed projects will affect any designated critical habitat.

The NOAA Restoration Center, a Lead Federal Agency, is requesting consultation on behalf of the Natural Resource Trustees for the DWH NRDA Alabama Restoration Area. Enclosed please find a Biological Assessment for each project based on the following effect determinations:

Project Name	Location	Not Likely to Adversely Affect	Likely to Adversely Affect
Dauphin Island Eco-Tourism and Environment Education Area	South Mobile County, Alabama	Hawksbill Sea Turtle	Green Sea Turtle
		Leatherback Sea Turtle	Kemp's Ridley Sea Turtle
		Gulf Sturgeon	Loggerhead Sea Turtle
Fort Morgan Pier Rehabilitation	Fort Morgan Peninsula, Bon Secour Bay, Alabama	Hawksbill Sea Turtle	Green Sea Turtle
		Leatherback Sea Turtle	Kemp's Ridley Sea Turtle
		Gulf Sturgeon	Loggerhead Sea Turtle
		Hawksbill Sea Turtle	Green Sea Turtle

Laguna Cove Little Lagoon Natural Resource Protection	Southwest Baldwin County, Alabama	Leatherback Sea Turtle	Kemp's Ridley Sea Turtle
		Gulf Sturgeon	Loggerhead Sea Turtle

For further questions about the projects, please contact Christy Fellas in the NOAA Restoration Center, Southeast Region at 727-551-5714 or christina.fellas@noaa.gov. Thank you for your assistance.

Sincerely,



Aileen C. Smith

Interim Program Manager, Deepwater Horizon Restoration
Restoration Center, Office of Habitat Conservation

**Biological Assessment
Laguna Cove Little Lagoon Natural Resource Protection**

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LIST OF ACRONYMS

ADCNR:	Alabama Department of Conservation and Natural Resources
ANHP:	Alabama Natural Heritage Program
BA:	Biological Assessment
BMP:	Best Management Practice
BO:	Biological Opinion
DWH:	Deepwater Horizon
ESA:	Endangered Species Act
NMFS:	National Marine Fisheries Service
NOAA:	National Oceanic and Atmospheric Administration
LE:	Listed Endangered (Federal)
LT:	Listed Threatened (Federal)
SP:	State Protected
USACE:	United States Army Corps of Engineers
USFWS:	United States Fish and Wildlife Service

1.0 Introduction

The purpose of this Biological Assessment (BA) is to review the proposed *Laguna Cove Little Lagoon Natural Resource Protection* (proposed project) in sufficient detail to determine to what extent the proposed project may affect any of the threatened, endangered, proposed, or sensitive species and designated or proposed critical habitats listed below. This BA is prepared in accordance with legal requirements of Section 7 of the Endangered Species Act (ESA) and its corresponding regulations (16 U.S.C. § 1536; 50 C.F.R. § 402.01 *et seq.*; 50 CFR §402.14(c)). Compliance with Section 7 of the ESA is intended to insure that, through consultation with the U.S. Fish and Wildlife Service (USFWS), federal actions are not likely to jeopardize the continued existence of any threatened, endangered or proposed species, or result in the destruction or adverse modification of critical habitat.

Threatened, Endangered, Proposed Threatened or Proposed Endangered Species

ESA-listed species that are known to occur or may occur in the proposed project area, and that would be potentially impacted by the proposed project are shown in Table 1.

Table 1. ESA-Listed Species that May Occur in the Proposed Project Area (USFWS Jurisdiction)

Common Name	Scientific Name
Alabama Beach Mouse	<i>Peromyscus polionotus ammobates</i>
Eastern Indigo Snake	<i>Drymarchon corais couperi</i>
Gopher Tortoise	<i>Gopherus polyphemus</i>
Green Sea Turtle	<i>Chelonia mydas</i>
Kemps' Ridley Sea Turtle	<i>Lepidochelys kempii</i>
Loggerhead Sea Turtle	<i>Caretta caretta</i>
Piping Plover	<i>Charadrius melodus</i>
Red Knot	<i>Calidris canutus rufa</i>
West Indian Manatee	<i>Trichechus manatus</i>
Wood Stork	<i>Mycteria americana</i>

Critical Habitat

The proposed project area does not contain designated critical habitat for any ESA-listed species. The proposed project would therefore not contribute to the destruction or adverse modification of any designated or proposed critical habitat areas.

2.0 Consultation History

Early coordination and pre-consultation activities with USFWS are outlined in table 2 below.

Table 2. Consultation History

Date	Description
11/14/2016	ADCNR submitted completed Biological Evaluation forms for proposed projects to be included as preferred alternatives in the Alabama RP/EIS to initiate informal consultation under ESA Section 7.
11/30/2016	ADCNR hosted a teleconference with USFWS and NMFS to solicit input for revision of Biological Evaluation forms and determine path forward for ESA Section 7 consultation.
1/6/2017	ADCNR submitted revised Biological Evaluation forms for proposed projects to be included as preferred alternatives in the Alabama RP/EIS to initiate informal consultation under ESA Section 7.
2/20/2017	ADCNR submitted revised Biological Evaluation forms for proposed projects to be included as preferred alternatives in the Alabama RP/EIS.
2/22/2017	Representatives from ADCNR, USFWS, and the City of Gulf Shores completed a site visit at the proposed Laguna Cove Little Lagoon Natural Resource Protection project site.
3/14/2017	ADCNR hosted a teleconference with USFWS to discuss potential impacts to Alabama beach mouse habitat.

3.0 Description of the Proposed Action

The proposed project is designed to provide compensatory restoration for injured natural resources and their services resulting from the oil spill, including the loss of recreational shoreline uses in Alabama, in a manner consistent with the Final Programmatic Damage Assessment Restoration Plan/Programmatic Environmental Impact Statement.

The proposed *Laguna Cove Little Lagoon Natural Resource Protection* project would fund the acquisition of and development of recreational amenities on two undeveloped tracts of land, totaling approximately 53 acres near Little Lagoon in Gulf Shores, Southwest Baldwin County, Alabama. ADCNR State Parks Division would purchase the property from the Erie Meyer Foundation. The two tracts are bordered by Little Lagoon to the north and West Beach Boulevard (SR 182) to the south. The parcels contain low elevation dune habitat, large areas of coastal wetlands, and include approximately 6,100 linear feet of shoreline on Little Lagoon. The acquisition of these two tracts would provide additional public access to Little Lagoon. The project site is near the boundaries of the Bon Secour National Wildlife Refuge.

The acquisition of this property would include an appropriate land protection instrument (i.e., deed restriction, conservation easement) to ensure that the purpose of compensating for lost recreational use as described in this plan is maintained for the life of the project. This document would state that this property may not be disposed of in any manner or used for purposes other than conservation and restoration of natural resources and/or for passive public outdoor recreation of the type described in the Alabama Trustee Implementation Group Restoration Plan 1 and Environmental Impact Statement: Provide and Enhance Recreational Opportunities.

Once acquired, proposed infrastructure and access improvements would include the following:

- Up to 60 parking spaces are proposed on the upland portion of the property. A portion of these parking spaces would be on the eastern side of the property allowing access to the proposed fishing pier; the other spaces would be located on the western side of the property near the proposed kayak launch. Each space would be approximately 10 by 25 feet, for a total of approximately 15,000 square feet of parking area.
- Five additional asphalt ADA-accessible parking spaces would be constructed. Each space would be approximately 12 feet by 20 feet for a total of approximately 1,200 square feet of ADA-accessible parking.
- The proposed fishing pier on the eastern side of the property would be approximately 8 feet by 600 feet and include a 15-foot by 250-foot 'T' at the end of the pier. The pier would include a ramp for ADA-compliant accessibility. This ramp would be 10 feet wide with a hand rail on each side. There would be a 20 foot by 30-foot deck base at the end of the ramp. The pile-supported pier would be elevated in compliance with required permits (e.g., the Clean Water Act [CWA] Section 404 and the Coastal Zone Management Act [CZMA]).
- An ADA-compliant accessible 20-foot by 40-foot bathhouse would be located next to the landward end of the fishing pier and would be connected to the City of Gulf Shores Public Utilities.
- A boardwalk would be established on the west side of the property, approximately 8 feet by 600 feet that would provide area for viewing or fishing. This structure would be pile supported and elevated in compliance with required permits (e.g., the CWA Section 404, Rivers and Harbors Act [RHA] Section 10, and the CZMA).
- A 10-foot by 20-foot kayak launch is proposed at the waterward edge of the boardwalk in compliance with required permits (e.g., the CWA Section 404, RHA Section 10, and the CZMA).
- ADA-accessible restrooms (approximately 20 feet by 30 feet) would be located on uplands near the boardwalk/kayak launch area.
- This project would also incorporate sea turtle friendly lighting that would be reviewed and approved by the appropriate regulatory agencies.

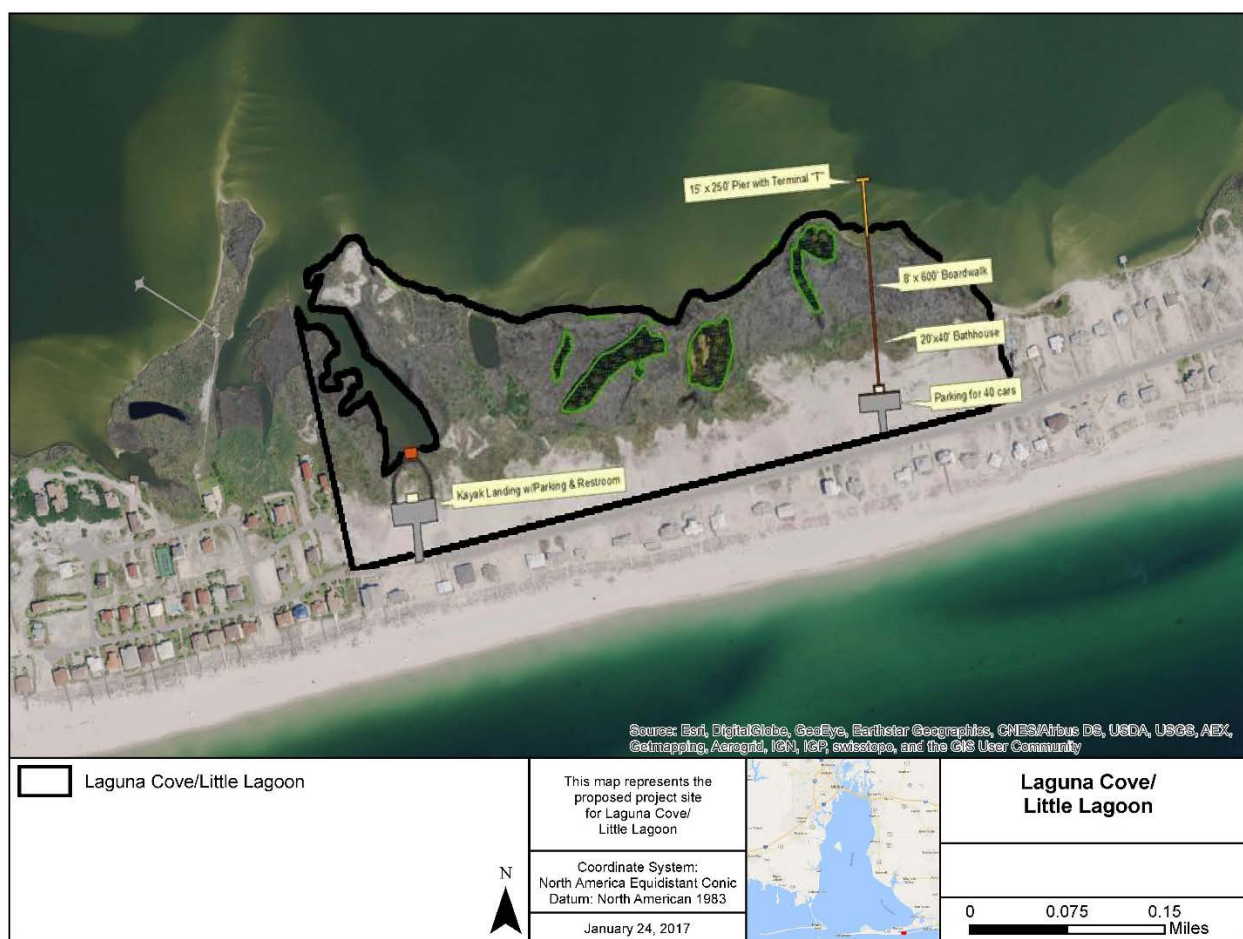


Figure 1: Proposed Project Location

Construction and Implementation

Parking areas would be graded, and a layer of foundation material would be placed and topped with permeable materials, such as aggregate, parking pavers or other approved materials. The fishing pier and boardwalk would include ramps for accessibility. Utilities serving these amenities would require up to 600 feet of utility lines to service the restrooms and lighting. Areas where utilities lines would be placed would be evaluated to minimize resource impacts.

Establishment of infrastructure, including the kayak launch would avoid known areas of shoal grass (*Halodule wrightii*). All construction activities would be designed and implemented in accordance with relevant permits and compliance guidelines.

Details of the construction methods identified to date are discussed below.

Installation of Pilings. The fishing pier and elevated boardwalk would be constructed using 10, 12, and/or 14-inch diameter wooden pilings spaced at 5-foot intervals. The fishing pier would require an estimated total of 342 pilings, while the boardwalk would require an estimated total of 242 pilings.

Pilings may be installed using impact hammer, vibratory hammer, or jetting methods, at the discretion of the hired contractor. Pile driving is expected take approximately 5 days to complete. Equipment would include a long-reach track hoe, which may be used from land or from a barge.

Vehicle and Barge Operation. A single barge is expected to be used during installation of pilings for the pier. A long-reach track hoe would be placed on top of the barge, which would be used to drive the pilings. The barge and track-hoe would be operated for approximately 5 days. A work day would range from between 8 and 14 hours, at the discretion of the contractor, and depending on other factors and conditions.

Land-based construction equipment would include light bulldozers, track hoes, small cranes and bucket loaders as well as paving machines and/or concrete trucks.

Duration and Timing of Construction. Planning and engineering and design would take approximately six months, permitting and consultation would take approximately a year, and construction activities (including in-water work) would require 6 months.

Operations and Maintenance

Periodic maintenance of the project components would occur which would include trash collection, restroom maintenance, and infrastructure maintenance as needed. Maintenance would be the responsibility of the City of Gulf Shores and is included in the project budget.

Project Monitoring. The restoration objective of this project is to restore a portion of the lost recreational use caused by the Deepwater Horizon (DWH) oil spill by acquiring land and preserving Alabama shoreline from future development, while improving the public's accessibility and enjoyment of Alabama's coastal resources. The project would be deemed successful when the land has been acquired and access improvements (pier, boardwalk, kayak launch, restrooms, and parking spaces) are in place. As such, performance criteria for this project are the satisfactory construction of the desired pier, boardwalk, kayak launch, restrooms, and parking spaces, as well as associated infrastructure.

Action Area

The action area includes all areas to be affected either directly or indirectly by the proposed project (50 CFR §402-02). Any changes resulting from the implementation of the proposed project are considered in context of existing conditions and activities to determine the resulting consequence to ESA-listed species and critical habitats. The action area is defined by measurable or detectable changes in land, air and water, or other measurable factors that result from the proposed project and interrelated or interdependent actions. Direct effects include all immediate effects of the project on the species or its habitat. Indirect effects include those effects that are caused by or will result from the proposed project and are later in time, but still reasonably certain to occur.

Laguna Cove is located within Little Lagoon, a 10-mile lagoon that stretches from the Fort Morgan Peninsula to the western border of Gulf State Park. The proposed project site consists of approximately 53 acres of land located near the southwest portion of Little Lagoon, near the boundaries of the Bon Secour National Wildlife Refuge. The site is bordered by Little Lagoon to the north and West Beach Boulevard (SR 182) to the south. The parcels contain low elevation dune habitat, large areas of coastal wetlands, and include approximately 6,100 linear feet of shoreline on Little Lagoon.

Little Lagoon was previously listed on Alabama Department of Environmental Management's (ADEM) 303(d) impairment list for excess nutrients. The major sources were identified as urban runoff and storm sewers. Prior to 2010, the entire waterbody was considered to be impaired. After 2010, only the central and eastern portions of the waterbody were impaired. Little Lagoon was removed from the Alabama 303(d) list in 2012.

The tidal marshes of the Laguna Cove site are designated as wetlands. Most of the marshes are designated as intertidal estuarine wetlands, with Broad-leaved Evergreen Scrub-Shrub Irregularly Flooded wetlands existing closest to the coastal beaches. As the intertidal estuarine wetlands extend in to the lagoon, they transition mostly to persistent emergent wetlands that are irregularly flooded. The wetlands at the tip of the tidal marshes extend into the lagoon and are intertidal estuarine wetlands that are unconsolidated and regularly flooded. Some small pockets within the tidal marshes are categorized as subtidal estuarine wetlands that are continuously submerged and have an unconsolidated bottom. The habitats that exist within the project boundaries are wetlands (27.11 acres) and Maritime forests/uplands (26.25 acres).

For this BA, the action area includes the proposed project site (Figure 1) and all adjacent waters and habitats.

Conservation Measures

The following measures would be implemented to avoid, minimize, or offset potential impacts to the ESA-listed species listed in Table 1 and their habitats that may occur as a result of the proposed project:

- All in-water work would comply with the Standard Manatee Conditions for In-Water Work in Alabama (Appendix A).
- Establishment of infrastructure, including the kayak launch would avoid known areas of shoal grass (*Halodule wrightii*).
- All construction activities would be designed and implemented in accordance with relevant permits and compliance guidelines.
- Access will be provided to USFWS for ABM population monitoring before and after project implementation and for dune restoration activities.
- The lighting systems for the parking lot areas and around walkways would be designed to minimize direct and indirect illumination of Alabama beach mouse habitat.
- All new lighting would be “sea turtle friendly” lighting that is reviewed and approved by the appropriate regulatory agencies.
- Alabama Department of Environmental Management (ADEM) approved Best Management Practices (BMPs), including installation of turbidity curtains and silt fences, would be implemented to minimize erosion and runoff which could enter Little Lagoon.
- Limited trees would be removed; boardwalks would be put over areas of emergent, herbaceous vegetation; and timber matting would be used.
- No wetlands would be filled nor would any considerable amount of wetlands be lost during the construction process.
- No night time construction would occur.

- At least 3.0 acres of upland habitats of the Laguna Cove parcel that are currently disturbed will be restored through the use of sand sifters, installation of fencing, planting native vegetation or other methods to improve the quality of existing habitats.

4.0 Status of the Species and Critical Habitat in the Action Area

ESA consultation is required if any ESA-listed species may be affected by the proposed project. This evaluation must consider any species that that occurs, or may occur, within the action area. It is necessary to evaluate the effects of the proposed action on potential habitat for the species even if this habitat is not known to be occupied.

USFWS has ESA jurisdiction over the species listed in Table 1 that occur in the action area defined for this BA. NMFS has ESA jurisdiction over sea turtles where they occur in marine/estuarine habitats and USFWS has jurisdiction over these species where they occur in terrestrial habitats. Therefore, only those species which are known to nest in Alabama are considered for the purposes of this BA because other sea turtle species which could occur in the action area would only be present in the water and would be under the jurisdiction of NMFS. Federal- and State-level statuses of the species evaluated in this BA are provided in Table 3.

Table 3. Federal and State Designations for ESA-Listed Species

ESA-Listed Species	Federal Status	State Status
Alabama Beach Mouse (<i>Peromyscus polionotus ammobates</i>)	LE	SP
Eastern Indigo Snake (<i>Drymarchon corais couperi</i>)	LT	SP
Gopher Tortoise (<i>Gopherus polyphemus</i>)	C	SP
Green Sea Turtle (<i>Chelonia mydas</i>)	LT ¹	SP
Kemp's Ridley Sea Turtle (<i>Lepidochelys kempii</i>)	LE	SP
Loggerhead Sea Turtle (<i>Caretta caretta</i>)	LT ²	SP
Piping Plover (<i>Charadrius melodus</i>)	LT	SP
Red Knot (<i>Calidris canutus rufa</i>)	LT	SP
West Indian Manatee (<i>Trichechus manatus</i>)	LE	SP
Wood Stork (<i>Mycteria americana</i>)	LT	SP

LT = Listed Threatened, LE = Listed Endangered, C = Candidate SP = State Protected

¹North Atlantic and South Atlantic distinct population segments

²Northwest Atlantic Distinct Population Segment

Source: ANHP 2016

A brief description of each of the species identified above is provided in the following sections. This includes general species characteristics, an overview of the species occurrence and life history, the status for the species, and the nature of the species' occurrence within the action area for the proposed

project.

Alabama Beach Mouse (*Peromyscus polionotus ammobates*)

General Species Characteristics. The Alabama beach mouse is a small gray and white mouse with a dark stripe running down the upper surface of its tail. This species reaches a maximum length of 4-5 inches, including its tail, and weighs around 12.5 grams. The Alabama beach mouse is a short-lived species with a life span of nine months to one year (USFWS 2015).

Species Occurrence and Life History. The Alabama beach mouse only occurs in coastal dune habitat in Baldwin County, Alabama. Its range historically extended from Ono Island to Fort Morgan (approximately 32 miles) on the Alabama Gulf coast. Habitat for the Alabama beach mouse includes frontal, secondary, and scrub dunes, where it creates a series of burrows. Scrub dunes occupied by the mice can function as crucial refuge during severe hurricanes that overwash, flood, and destroy most of the lower frontal and secondary dunes. This nocturnal species emerges from its burrow at night to forage on seeds and insects. Food items include sea oats, ground cherry, dune spurge, bluestem, evening primrose, beach pea, joint weed, seashore elder, seaside pennywort and the various acorns found in the interior scrub habitat (USFWS 2015).

Species Status. The Alabama beach mouse was listed as endangered under the ESA on June 6, 1985 (50 FR 23872). The Alabama Natural Heritage Program also lists this species as critically imperiled in Alabama (ANHP 2016).

At its time of listing in 1985, the Alabama beach mouse was considered extirpated on Ono Island, but present elsewhere throughout its original range. However, the Alabama beach mouse was only found in small parcels of habitat east of Gulf State Park at Romar Beach (Volkert 2004). USFWS reintroduced Alabama beach mouse in 2010, and since that time population numbers have increased considerably. Numerous surveys have documented the presence and relative abundance of Alabama beach mice on Fort Morgan Peninsula. Relative abundance of the species as surveyed throughout its geographic range, using live trap/capture and release methods, has varied from 1.69 to 61.0 mice per 100 trap-nights (i.e., 100 trap-nights refers to 100 mousetraps set for one night). However, relative abundance has typically ranged from 3 to 10 mice per 100 trap-night. Alabama beach mice populations fluctuate within and among sites on a monthly, seasonal, and annual basis. These spatial and temporal differences have been attributed to habitat type, food availability, recruitment following peak reproductive periods, temperature, predation, and storms (USFWS 2015).

Threats to this species are both natural and anthropogenic. Coastal development, including residential, commercial, and roadway construction, has fragmented and destroyed habitat used by this species. Hurricanes and tropical storms have also damaged or destroyed sand dunes and related habitats, and dune use by pedestrians has further degraded the habitat. Stalking by domestic and feral cats as well as other animals plus competition from other rodents, such as domestic mice, have contributed to the decline of this species. Exotic vegetation also poses a threat to the Alabama beach mouse habitat (USFWS 2015).

When the Alabama beach mouse was listed in 1985, critical habitat was designated and subsequently revised on January 30, 2007 (72 FR 4329). In the final rule, USFWS identified 1,211 acres in five units that met the standard for critical habitat.

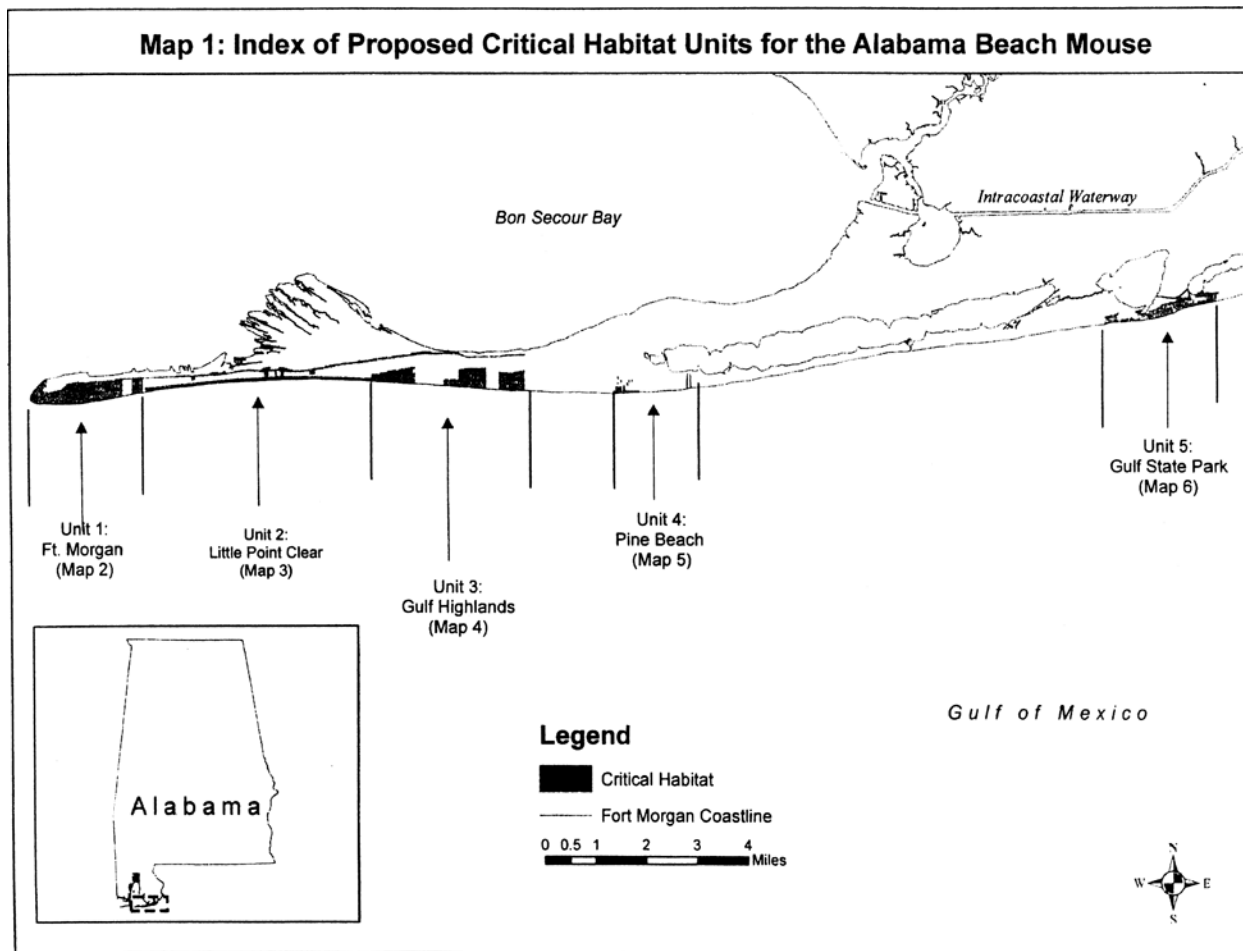


Figure 2: Alabama Beach Mouse Critical Habitat

USFWS identified the following Principal Constituent Elements (PCEs) in the revised critical habitat for the Alabama beach mouse:

1. Continuous mosaic of primary, secondary, and scrub (i.e., interconnected frontal and tertiary dunes and interior scrub) vegetation and dune structure, with a balanced level of competition and few or no competitive or predaceous nonnative species present, that collectively provide foraging opportunities, cover and burrow sites;
2. Frontal dunes, generally dominated by sea oats, that, despite occasional temporary impacts and reconfiguration from tropical storms and hurricanes, provide abundant food resources, burrow sites, and protection from predators;
3. Scrub (i.e., tertiary dune/suitable interior scrub) dunes, generally dominated by scrub oaks (*Quercus* spp.), that provide food resources and burrow sites, and provide elevated refugia during and after intense flooding from rainfall and/or hurricane-induced storm surge;

4. Unobstructed habitat connections that facilitate genetic exchange, dispersal, natural exploratory movements, and recolonization of locally extirpated areas; and
5. Natural light regime within the coastal dune ecosystem, compatible with the nocturnal activity of beach mice, necessary for normal behavior, growth, and viability of all life stages.

Species Occurrence in the Action Area. The action area contains 26.25 acres of potential Alabama beach mouse habitat which is assumed to be occupied (Volkert 2004). Therefore, this species is likely to be present in the action area. The action area does not contain designated Alabama beach mouse critical habitat; however, critical habitat is located very nearby to the west.

Alabama beach mouse trapping has not been conducted in the action area. However, trapping has previously been conducted at the property adjacent to the western boundary (Laguna Key) and property adjacent to the southern boundary (SR 182 right-of-way) of the action area. From December 2002 through April 2004 Laguna Key averaged 21.6 mice per trapping session on 46 acres yielding 2.45 mice per acre. Laguna Key and Laguna Cove are adjacent properties that contain similar habitat and pose no migration restrictions to Alabama beach mice. Therefore, it is assumed that Alabama beach mouse population density in the action area would be similar to that of Laguna Key (i.e. 2.45 mice per acre of potential Alabama beach mouse habitat) (Volkert 2004).

Eastern Indigo Snake (*Drymarchon corais couperi*)

General Species Characteristics. The eastern indigo snake is the largest North American snake with adult length exceeding 8 feet (ADCNR 2016a). Eastern indigo snakes may be blue-black over the entire body or may have red, reddish-orange, or cream coloration on the chin, throat or cheeks. Scales of the body are smooth. This species is not venomous and is generally docile. They are known to feed mainly upon other snakes, turtles, mammals, frogs, birds, and lizards (Godwin 2016).

Species Occurrence and Life History. The historic range of the eastern indigo snake included Florida, the coastal plain of southern Georgia, extreme south Alabama, and extreme southeast Mississippi, although the species is currently believed to be extirpated throughout much of its range (ADCNR 2016a).

Habitat for the eastern indigo snakes includes open, dry, sandy regions historically dominated by longleaf pines (Godwin 2016). This species is known to use gopher tortoise burrows as shelter during winter and as nesting and refuge during summer (ADCNR 2016a). Breeding season occurs between October and February before the warmer months arrive, and they begin to move to nearby wetland edges where food is abundant (Godwin, 2016).

Species Status. The eastern indigo snake was listed as threatened under the ESA on March 3, 1978 (43 FR 4026) and the species is protected throughout its range. The Alabama Natural Heritage Program also lists this species as critically imperiled in Alabama (ANHP 2016).

Causes of population decline for this species have included habitat loss due to development, changes in forest types and tree harvest cycles, fire suppression, decline of gopher tortoise populations, collection for the pet trade, and poaching. The eastern indigo snake was previously believed to be extirpated in Alabama and Mississippi and sightings in Alabama were extremely rare by the 1960s. Experimental releases were completed in the 1970s and 1980s in both Baldwin and Mobile counties in an effort to reestablish the species. Restoration efforts in Alabama are ongoing (ADCNR 2016a).

Species Occurrence in the Action Area. The eastern indigo snake has not been documented in the action area and is not likely to be present due to the extreme rarity of the species and limited suitable habitat within the area.

Gopher Tortoise (*Gopherus polyphemus*)

General Species Characteristics. The gopher tortoise is a large, dark-brown to grayish-black terrestrial turtle with elephantine hind feet, shovel-like forefeet specialized for digging, and a gular projection beneath the head on the yellowish, hingeless plastron or undershell. The shell of the gopher tortoise can reach up to 15 inches in length. The sex of individual turtles can usually be determined by shell dimensions with males having a greater degree of lower shell concavity, and a longer gular projection (USFWS 2016a).

Species Occurrence and Life History. The range of the gopher tortoises extends from southeastern South Carolina, south into Georgia and peninsular Florida, and west through the panhandle of Florida, south Alabama, south Mississippi, and on to the southeastern regions of Louisiana. This distribution coincides with the historic long leaf pine ecosystems of the lower coastal plain and this species often occurs in scattered populations in sandy upland habitat. Gopher tortoises require habitats with deep sandy soils and open canopy (ADCNR 2014a).

Gopher tortoises are known to dig burrows up to nine feet deep and 20 to 30 feet long with a large chamber at the bottom. This species is herbivorous and feeds primarily on wiregrass, broadleaf grasses, legumes and non-legume forbs. Mating occurs from April through November, peaking in August and September. Females lay an average of five to eight eggs in the spring. If successful, the eggs hatch and the hatchlings appear the first week of September. This slow-growing, long-lived species may require 18 to 20 years to reach sexual maturity (ADCNR 2014a).

Species Status. The gopher tortoise was listed as a threatened species wherever found west of the Mobile and Tombigbee rivers in Alabama, Mississippi, and Louisiana on July 7, 1987 (52 FR 25376). The gopher tortoise is currently a candidate species for protection under ESA in populations east of the Mobile and Tombigbee rivers, including in Baldwin County, Alabama. The Alabama Natural Heritage Program also lists this species as “vulnerable” in Alabama (ANHP 2016).

Causes of population decline for this species include loss of habitat and historic over hunting. Gopher tortoise populations are extremely rare in Alabama and only the Conecuh National Forest and Fort Rucker Military Base have populations of more than 100 individuals (ADCNR 2014a).

Species Occurrence in the Action Area. The gopher tortoise has not been documented in the action area and is not likely to be present due to the extreme rarity of the species and limited suitable habitat within the area.

Green Sea Turtle (*Chelonia mydas*)

General Species Characteristics. The Green sea turtle has a brown carapace that often displays radiating mottled or wavy dark markings or large dark brown blotches. They have four costal plates on each side of the carapace and the first costal does not contact the nuchal. They have one pair of prefrontal plates between the eyes, and their limbs are flattened flippers. Young turtles are black to dark brown on top and mainly white underneath with a mid-dorsal keel and two plastral keels. They may reach a maximum of 153 centimeters in length and weigh more than 295 kilograms (NatureServe 2015).

Species Occurrence and Life History. Green sea turtles have a wide distribution across the Atlantic, Pacific, and Indian oceans. Within U.S. Atlantic waters, they are known to occur around the U.S. Virgin Islands and Puerto Rico. In these areas, a small number of nests occur, primarily on Florida's east coast. Rarely nesting occurs in Georgia, North Carolina, and Texas. Major nesting activity occurs on Ascension Island, Aves Island, In Costa Rica, and in Surinam. A juvenile population is known to exist in eastern portions of the Puerto Rican bank and from Texas to Massachusetts. The migration patterns of this sea turtle may traverse open oceans with adults having a primarily tropical distribution and juveniles ranging into more temperate waters (NatureServe 2015).

Nesting occurs on high energy sandy beaches with deep sand. Primary nesting beaches in the southeastern United States occur in a 6-county area of east-central and southeast Florida where nesting activity ranges from approximately 350 to 2,300 nests annually. While adults generally nest at the same beach in successive nesting events, individuals have been observed switching nesting beaches, even within a single nesting season. An individual reproductive female may lay 1-8 clutches per season at approximately 2-week intervals every 2-5 years. In the Caribbean-Gulf of Mexico region, nesting occurs from March to October with peak nesting between May and June. Hatchlings generally emerge within 1.5 to 3 months between July and December with peak hatching from August to October. (NatureServe 2015).

The Green sea turtle generally feeds in shallow, low-energy waters that have abundant vegetation and in open ocean convergence zones. Hatchlings often float in convergence zones within masses of marine macroalgae. Rocky outcrops and coral reefs which occur near feeding pastures are often used as resting areas (NatureServe 2015).

Species Status. The Green sea turtle (North Atlantic Distinct Population Segment (DPS) [which includes Alabama]) was listed as threatened under the ESA on May 6, 2016 (81 FR 20057). In addition to the federal status, the Alabama Natural Heritage Program lists this turtle as a state protected species with a state rank classifying them as critically imperiled in Alabama because of extreme rarity or because of some other factor making it especially vulnerable to extirpation from Alabama (ANHP 2016).

Critical habitat is designated for the Green sea turtle in surrounding waters of Culebra Island, Puerto Rico.

Common natural causes of mortality include nest destruction by tidal inundation and erosion, predation of eggs and hatchlings by various terrestrial and aquatic predators, mortality as a result of epidemic outbreaks, and, in northern ranges, juveniles may experience cold-stunning associated with rapid temperature declines in the fall. Anthropogenic causes of mortality are numerous as a result of both direct and indirect human activities. Direct threats include the exploitation of the species for meat and for eggs as well as for components of other products. Indirect threats include the destruction of nesting and feeding habitats resulting from pollution and development, mortality in fishing gear and other entangling debris, collisions with power boats, and contact with chemical pollutants. Development activities are of primary concern as it takes on many forms including beach erosion, beach armoring, beach nourishment, artificial lighting, beach cleaning, increased human presence, recreational beach equipment, and the introduction of exotic dune and beach vegetation (NatureServe 2015).

Species Occurrence in the Action Area. One green turtle nesting occurrence has been documented in Alabama since 2003; the 5-year mean green turtle nesting in Alabama is 0.2 nests per year (D. Ingram per com). However, this species is not likely to occur in terrestrial habitats within the action area

because the action area does not contain suitable sea turtle nesting habitat. Nesting habitat for this species exists south of the action area.

Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)

General Species Characteristics. Adult Kemp's ridleys are one of the smallest sea turtles in the world. The weight of an adult Kemp's ridley is generally between 70 to 108 pounds with a carapace measuring approximately 24 to 26 inches in length (Heppell *et al.* 2005). The carapace is almost as wide as it is long and usually olive-gray in color, with five pairs of costal scutes (NatureServe 2015).

Species Occurrence and Life History. The Kemp's ridley has a restricted distribution. Nesting is essentially limited to the beaches of the western Gulf of Mexico, primarily in Tamaulipas, Mexico (NMFS *et al.* 2011); records also exist of nesting in Veracruz and Campeche, Mexico (Marquez-Millan 1994). Nesting also occurs regularly in Texas and infrequently in a few other U.S. states. Nesting occurs primarily from April into July during daylight hours and often in synchronized emergences, known as "arribadas" or "arribazones," which may be triggered by high wind speeds, especially north winds, and changes in barometric pressure (Jimenez *et al.* 2005). Clutch size averages 100 eggs and eggs typically take 45 to 58 days to hatch depending on incubation conditions, especially temperatures (Marquez-Millan 1994, Rostal 2007). Females lay an average of 2.5 clutches within a season (TEWG 1998) and inter-nesting interval generally ranges from 14 to 28 days (Donna Shaver, Padre Island National Seashore, personal communication, 2007 as cited in NMFS *et al.* 2011). The mean remigration interval for adult females is 2 years, although intervals of 1 and 3 years are not uncommon (Marquez *et al.* 1982; TEWG 1998, 2000). Males may not be reproductively active on an annual basis (Wibbels *et al.* 1991). Age at sexual maturity is believed to be between 10 to 17 years (Snover *et al.* 2007).

Their diet consists mainly of swimming crabs, but may also include fish, jellyfish, and an array of mollusks.

Species Status. Nesting aggregations of Kemp's ridleys at Rancho Nuevo were discovered in 1947, and the adult female population was estimated to be 40,000 or more individuals based on a film by Andres Herrera (Hildebrand 1963, Carr 1963). Within approximately 3 decades, the population had declined to 924 nests and reached the lowest recorded nest count of 702 nests in 1985. Since the mid-1980s, the number of nests observed at Rancho Nuevo and nearby beaches has increased 15 percent per year (Heppell *et al.* 2005), allowing cautious optimism that the population is on its way to recovery. This increase in nesting can be attributed to full protection of nesting females and their nests in Mexico resulting from a bi-national effort between Mexico and the U.S. to prevent the extinction of the Kemp's ridley, the requirement to use Turtle Excluder Devices (TEDs) in shrimp trawls both in the U.S. and Mexico, and decreased shrimping effort (NMFS *et al.* 2011, Heppell *et al.* 2005).

No critical habitat has been designated for the Kemp's ridley sea turtle.

Natural threats to the species include concentration of nesting makes the species vulnerable to storm impacts and long-term effects from sea level rise. Anthropogenic threats to the species include harvest of eggs and adult turtles prior to the mid-1960s, present threats include beach and coastal development; coastal marine habitat degradation; mortality in fishing gear; boat collisions; entanglement and ingestion of marine debris (NatureServe 2015).

Species Occurrence in the Action Area. Kemp's ridley sea turtles are known to nest in Alabama in low numbers; the 5-year mean Kemp's ridley nesting in Alabama is 1.8 nests per year (D. Ingram per com). However, this species is not likely to occur in terrestrial habitats within the action area because the action area does not contain suitable sea turtle nesting habitat. Nesting habitat for this species exists south of the action area.

Loggerhead Sea Turtle (*Caretta caretta*)

General Species Characteristics. The Loggerhead sea turtle is reddish-brown with a relatively large head. They have five or more costal scutes on each side of the carapace with the first costal touching the nuchal. They have three or four poreless scutes on the bridge between shells, and a middorsal keel which becomes inconspicuous in large individuals. Their limbs are flattened flippers and the tail of the adult male is much larger than that of the female. Young turtles are brown or reddish-brown dorsally with three dorsal keels and two plastral keels. They may reach more than 122 centimeters in length and weigh more than 227 kilograms (NatureServe 2015).

Species Occurrence and Life History. Loggerhead sea turtles have a wide distribution that includes warmer parts of the Atlantic, Pacific, and Indian oceans and the Mediterranean and Caribbean Seas. Adults occupy various habitats, from turbid bays to clear waters of reefs. Subadults occur primarily in nearshore and estuarine waters. Hatchlings move directly to the sea after hatching often floating in masses of sea plants where they may remain for 3-5 years. (NatureServe 2015).

Nesting generally occurs on open sandy beaches above the high-tide mark backed by well-developed dunes. These turtles nest primarily on high energy beaches that are steeply sloped with gradually sloped offshore approaches. Major nesting areas occur in temperate and subtropical areas in the southeastern U.S., Mexico, Oman, Australia, South Africa, the Mediterranean, and Japan. The largest nesting population occurs on Masirah Island, Oman. Within the U.S. the nesting range consists primarily of the Atlantic coast from North Carolina to southern Florida. Together, these areas comprise a major nesting area from a global perspective. While re-nesting generally occurs at the same beach if nesting habitat remains suitable, some individuals have been observed to change to nesting sites several hundred kilometers away. Nesting also occurs on Florida's Gulf Coast and in recent years, nesting has been observed on barrier islands along the Texas coast. An individual reproductive female may lay 1-9 clutches per season at approximately 2-week intervals every 2-3 years. In the U.S., nesting occurs from April to September with peak nesting occurring in June. Hatchlings generally emerge within 7-11 weeks (NatureServe 2015).

The Loggerhead sea turtle eats a variety of marine invertebrate, some plants, and some slow moving fish species. Adults primarily forage on the bottom, but will also take jellyfish from the surface. Young turtles feed primarily on prey concentrated on the surface (NatureServe 2015).

Species Status. The loggerhead turtle was listed as a federally protected species on July 23, 1978 (43 FR 32800). The Northeast Atlantic Ocean, North Indian Ocean, North Pacific Ocean, South Pacific Ocean, and Mediterranean Sea Distinct Population Segments are listed as endangered while the Northwest Atlantic Ocean, South Atlantic Ocean, Southeast Indo-Pacific Ocean, and Southwest Indian Ocean Distinct Population Segments are listed as threatened. This species is also listed as threatened for distinct population segments found within the population segments found within the Northwest Atlantic Ocean (including Alabama), the South Atlantic Ocean, the Southeast Indo-Pacific Ocean, and the Southwest Indian Ocean. In addition to the federal status, ANHP lists Loggerheads as a state protected

species with a state rank classifying them as critically imperiled in Alabama because of extreme rarity or because of some other factor making it especially vulnerable to extirpation from Alabama (ANHP 2016).

Terrestrial critical habitat is designated for the Loggerhead sea turtle (Northwest Atlantic Ocean DPS) including 88 nesting beaches on the Atlantic and Gulf of Mexico coasts of the U.S. from North Carolina south and west through Mississippi (Figure 3).

Common natural causes of mortality include predation of eggs and hatchlings by various terrestrial and aquatic predators. Anthropogenic causes of mortality are numerous as a result of both direct and indirect human activities. Direct threats include the exploitation of the species for food including meat and eggs. Indirect threats include incidental take, habitat degradation, ocean pollution and dredging, beach armoring, beach cleaning, and long-term effects from sea level rise and increasing temperatures (NatureServe 2015).

Species Occurrence in the Action Area. Loggerhead sea turtles are known to nest in Alabama; the 5-year mean loggerhead nesting in Alabama is 132 nests per year (D. Ingram per com). However, this species is not likely to occur in terrestrial habitats within the action area because the action area does not contain suitable sea turtle nesting habitat. Nesting habitat for this species exists south of the action area.

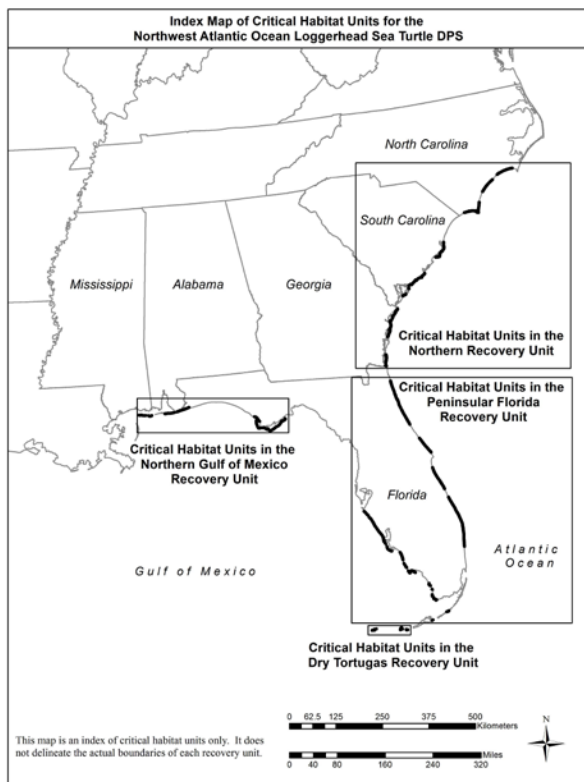


Figure 3: Loggerhead terrestrial critical habitat including Alabama.

Piping Plover (*Charadrius melodus*)

General Species Characteristics. The piping plover is a small migratory shorebird with pale gray to sandy-brown upperparts. Breeding adults show black shoulder patches, often forming a band crossing the breast and around back of neck. This species has an orange bill with a black tip and orange legs (USFWS 2017a).

Species Occurrence and Life History. The piping plover has an expansive range and occurs in several distinct breeding populations: Great Lakes, Northern Great Plains, and Atlantic Coast populations (USFWS 2017a). The Atlantic coast population breeds from coastal North Carolina northward to Newfoundland. The Northern Great Plains population encompasses portions of southern Canada from Alberta east to Ontario, northwestern Minnesota south into the Dakotas, eastern Montana, southeastern Colorado, western Iowa, Nebraska, and northwestern Oklahoma. In the Great Lakes regions, piping plovers nest along Lakes Superior and Michigan in northern Michigan. Interior breeding birds winter along coastal Florida, extending west along the Gulf Coast, and south to the Yucatan Peninsula. Atlantic coast breeding birds have been observed wintering from Virginia south to the Florida Keys, with sightings in the Bahamas and other islands of the Caribbean (ADCNR 2014b).

Piping plover preferred habitat varies by season and among populations. Interior breeding birds are found in areas of sparse vegetation with gravel or sandy beaches. Along river courses piping plover use beaches, sandflats, and dredge islands. Atlantic Coast birds nest on foredunes and blow-out areas behind primary sand dunes. In the northern Atlantic states and eastern Canada, individuals use gravel or cobble areas. Dredge spoil sites also may be used for nesting. In nonbreeding areas along Atlantic Ocean and Gulf of Mexico, piping plover typically use coastal beaches and barrier islands with expanses of mudflats and sand flats where they forage on marine worms and insects (ADCNR 2014b).

Overwintering piping plover populations along the Gulf Coast are possibly present from August to May and peak numbers in winter (USFWS 2009) and are believed to be members of the Northern Great Plains breeding population (ADCNR 2014b).

Species Status. The piping plover was listed as threatened/endangered under the ESA on December 11, 1985 (50 FR 50726). The Great Lakes breeding population is listed as endangered while the Northern Great Plains and Atlantic Coast Populations are listed as threatened. The Alabama Natural Heritage Program also lists this species as critically imperiled in Alabama (ANHP 2016).

Critical habitat for the overwintering populations has been designated in each of the Gulf Coast states (Texas, Louisiana, Mississippi, Alabama, and Florida). For Alabama, the overwintering critical habitat is located to the west of the action area on the western tip of the Fort Morgan Peninsula, the western end of Dauphin Island, and Isle aux Herbes in the Mississippi Sound (Figure 4).

The cause of historical population decline is believed to be extensive hunting for the millinery trade throughout the nineteenth and early twentieth centuries. Currently, major threats to the species are habitat loss, disturbance, and predation (ADCNR 2014b).

Species Occurrence in the Action Area. While the piping plover could potentially occur in the action area during winter months, this species is unlikely to be present in large numbers or with regular frequency. In Alabama, occurrences of piping plover are limited to a few sites presenting optimal foraging conditions, most of which are located in Mobile County (ADCNR 2014b).

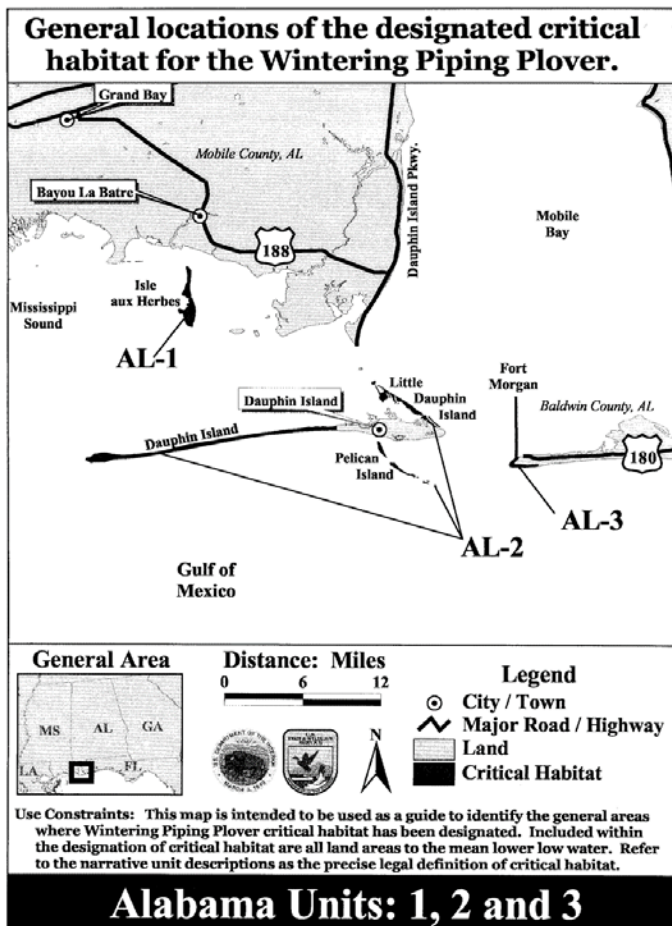


Figure 4: Piping Plover Wintering Critical Habitat in Alabama

Red Knot (*Calidris canutus rufa*)

General Species Characteristics. The rufa red knot is a subspecies of the red knot (*Calidris canutus*), which is the largest North American sandpiper species. The appearance of this species varies seasonally, but it is generally characterized as having mottled gray plumage with light colored underparts, a long black beak, and black legs. The underparts of mature individuals frequently develop a red color during the spring.

Species Occurrence and Life History. The red knot has a global distribution is noted for its extraordinarily long-distance migrations, sometimes traveling up to 9,000 miles between breeding and wintering grounds. The rufa subspecies breeds in the Canadian Arctic and winters in Chile and Argentina, except a small subset that winters along the Texas coast. Nesting habitat for the rufa red knot consists of barren tundra, while wintering habitat consists of sandy beaches, tidal flats, and mangroves. Foraging on ocean beaches, mud and sand flats, and salt marshes occurs from March to April during the northward spring migration and September and October during the southward autumn migration (Baker et al. 2013). This species was documented at the Bon Secour National Wildlife Refuge, west of the action area, in September 2016 (ebird 2017).

Species Status. The red knot was listed as threatened under ESA throughout its range on January 12, 2015 (79 FR 73705). Threats to the rufa red knot include loss of nesting and wintering habitat from climate change, which affects weather conditions, seasons, and availability of food resources, most notably the availability of horseshoe crab eggs (Baker et al. 2013). No critical habitat is designated for Red Knot.

Species Occurrence in the Action Area. This species has not been documented in the action area but has been documented nearby at the Bon Secour National Wildlife Refuge (ebird 2017), and could potentially be present along shorelines during spring or fall migrations. However, the red knot is unlikely to be present in the action area in large numbers or with regular frequency.

West Indian Manatee (*Trichechus manatus*)

General Species Characteristics. The West Indian manatee is a large migratory marine mammal characterized by a large, seal-shaped body with paired flippers and a round, paddle-shaped tail. They are typically grey in color with coarse, single hairs are sparsely distributed throughout the body. Adult manatees, on average, are about nine feet long and weigh about 1,000 pounds. At birth, calves are between three and four feet long and weigh between 40 and 60 pounds (USFWS 2017b).

Species Occurrence and Life History. The range of the West Indian manatee includes the Gulf of Mexico, the Caribbean Sea, and the Atlantic Coast of United States. Between October and April, manatees concentrate in the warmer waters of Florida and the Caribbean, south to Venezuela. During summer months, the species migrates as far west as the Texas coast on the Gulf of Mexico (USFWS 2017b) and as far north as Massachusetts on the Atlantic Coast (DISL 2016). In Alabama, a number of manatees (one to fifteen individuals) are routinely seen in the calm, shallow waters of rivers and sub-embayments of Mobile Bay and the Mobile-Tensaw Delta (DISL 2016). Manatees inhabit both salt and fresh water of sufficient depth (about 5 feet to usually less than 18 feet).

Manatees are can be found in shallow, slow-moving rivers, estuaries, saltwater bays, canals, and coastal areas, particularly in areas with seagrass beds or other abundant aquatic vegetation. Manatees are herbivores and will consume any aquatic vegetation available to them including sometimes grazing on the shoreline vegetation. They consume 10-15% of their bodyweight in vegetation each day.

Species Status. The West Indian manatee was listed as endangered throughout its range on March 11, 1967 (32 FR 4001), and is also protected under the MMPA, which prohibits the take of all marine mammals. There is a currently an active petition to downlist the West Indian manatee from endangered to threatened under ESA (81 FR 1000). The Alabama Natural Heritage Program lists this species as critically imperiled in Alabama (ANHP 2016). Major threats to this species include collisions with watercraft and entanglement in fishing gear.

Species Occurrence in the Action Area. This species is frequently present in coastal Alabama waters during summer months and may enter Little Lagoon on occasion. Therefore, this species is likely to be at least occasionally present the action area.

Wood Stork (*Mycteria americana*)

General Species Characteristics. The wood stork is the only stork and the largest wading bird that breeds in the United States (Coulter et al. 1999). Wood storks can reach up to 50 inches in height, with a wingspan of 60 to 65 inches. The plumage is white except for black primaries and secondaries and a

short black tail. The head and neck are largely unfeathered and dark gray in color. The bill is black, thick at the base, and slightly decurved. Immature birds are dingy gray and have a yellowish bill (USFWS 2017c).

Species Occurrence and Life History. The range of the wood stork extends from Canada to South America and the Caribbean (Coulter et al. 1999). Within the United States, this species is limited to the extreme southeastern region (Mississippi, Alabama, Florida, Georgia, South Carolina, and North Carolina) (USFWS 2017c). The wood stork is only known to breed in Florida, Georgia, and South Carolina (Coulter et al. 1999).

Habitat for the wood stork includes freshwater habitats, such as marshes, swamps, lagoons, ponds, and flooded fields and ditches where it feeds primarily on small fish, crayfish, insects, amphibians, and reptiles. Like many other storks, the wood stork is a tactile feeder, capturing food by feel, which allows it to forage in murky waters, without depending on sight (Coulter et al. 1999).

The wood stork is a colonial species, usually nesting in large rookeries and feeding in flocks. Colonies range in size from a few to thousands of pairs. This species nests primarily in upper portions of bald cypress, mangroves, or dead hardwoods over water (Coulter et al. 1999).

Species Status. The wood stork was listed as endangered under the ESA but its status was changed to threatened on June 26, 2014 (79 FR 37077). The Alabama Natural Heritage Program also lists this species as imperiled in Alabama (ANHP 2016).

Causes of decline for this species have included loss of bald cypress swamps, habitat degradation due to urban and agricultural expansion, and unnatural water management practices, particularly in the Florida Everglades (Coulter et al. 1999).

Species Occurrence in the Action Area. This species has not been documented in the action area is not likely to be present due to the rarity of the species and lack of freshwater foraging habitat within the area. Any potential occurrences would be infrequent and would most likely occur in late May when wood storks disperse from their breeding grounds. This species is not known to breed in Alabama.

Critical Habitat

The action area for the proposed project does not contain critical habitat for any federally listed species.

5.0 Environmental Baseline

This section identifies and describes all known human-induced sources of impact to the listed species within the action area except those caused by the proposed project. The purpose of the environmental baseline is to provide the context for the impacts of the proposed project with regard to the impacts of all the other human activities that are also affecting the listed species.

The action area is currently zoned for multi-family development with one parcel of open space outdoor recreation and approximately six single family residential parcels. The areas located to the north and west of the project site are zoned for multi-family and single family residential development. There is also a golf course to the west of the site. Directly east of the site is The Beach Club, a beach resort with condominiums and cottages. The area beyond that is zoned for single family residences, although most parcels have not been developed. This site was previously approved for a subdivision and a large-scale

marina. Implementation of the proposed project would prevent potential future development on the property.

The site is currently undeveloped and does not offer public access, although there is evidence of unauthorized ATV use. Construction of the proposed amenities and the anticipated increase in visitation at the site would represent a change to the environmental baseline of the action area compared to existing conditions. Coastal waters in the vicinity of the action area are used for recreational activities such as swimming, boating, and fishing. Therefore, the environmental baseline in coastal waters of the action area is consistent with activities that would be associated with the proposed project.

6.0 Effects of the Action

This section includes an analysis of the direct and indirect effects of the proposed project, and any interrelated and interdependent actions on the species and critical habitat. An interrelated activity is an activity that is part of the proposed project and depends on the proposed project for its justification. An example of an interrelated activity of this proposed project is the conservation measure to restore disturbed upland habitats on the Laguna Cove parcel. An interdependent activity is an activity that has no independent utility apart from the project under consultation. No interdependent activities are anticipated.

Factors that are considered when examining the effects of the proposed project include: proximity of the action to ESA-listed species and their habitats, timing of the action, the nature of the effects, the duration of the effects, the frequency of the disturbance, the intensity of the disturbance, and the severity of the disturbance. A detailed description of all activities associated with the proposed project is provided in section 3.0 of this BA.

Potential Impacts to ESA-Listed Species during Construction and Installation

The proposed project would result in take of the Alabama beach mouse and would require formal consultation and a take statement from USFWS. Construction of project amenities (including a parking lot, driveway, elevated boardwalk, and bath houses) would result in the permanent loss of up to 1.5 acres of potential Alabama beach mouse habitat. Additional habitat could be temporarily disturbed during project construction. Up to 26 acres of disturbed dunes could be temporarily disturbed during gravel removal and planting activities. Any temporarily affected Alabama beach mouse habitat would be restored and impacts would be minimized in coordination with USFWS. Construction activities would not occur at night, when beach mice are active. Additionally, all construction activities will be designed and implemented in accordance with the existing Alabama Beach Mouse Habitat Conservation Plan and other relevant permits and compliance guidelines.

Protected bird species including piping plover, red knot, and wood stork, may be temporarily impacted by noise during construction activities, if present in the action area. However, the likelihood of impacts to these species would be minimal because they would only potentially be present in the action area on a seasonal basis and are not likely to be present in large numbers or with regular frequency.

Construction of the fishing pier and kayak launch could temporarily affect West Indian Manatees, if present in Little Lagoon, due to increased noise and turbidity. However, adverse impacts are not likely to occur because this species would likely avoid the area during construction. All in-water work would comply with the Alabama Standard Manatee Construction Conditions (Appendix A) which would further

reduce the risk of impacts to manatees. Establishment of infrastructure, including the kayak launch would avoid known areas of shoal grass (*Halodule wrightii*), which is a food resource for manatees.

Construction of the proposed project would not affect green, Kemp's ridley or loggerhead sea turtles because the action area does not contain suitable sea turtle nesting habitat, thus they are not likely to occur in terrestrial habitats within the action area. The use of approved "sea turtle friendly" lighting would avoid impacts to nesting sea turtles on beaches to the south of the project area.

The proposed project would not affect the eastern indigo snake or gopher tortoise because these species have not been documented in the action area and are not likely to be present due to the extreme rarity of the species and limited suitable habitat within the area.

Potential Impacts to ESA-Listed Species during Operation and Maintenance

Once the amenities are operational, there would be an increase in pedestrian traffic and subsequent beach use in the area. Following construction, secondary effects associated with public use of the areas may affect the Alabama beach mouse, due to garbage or refuse that may attract the competitors or predators of the species, and lights that may alter Alabama beach mouse nocturnal behavioral patterns. The lighting systems for the parking lot areas and around walkways would be designed to minimize direct and indirect illumination of Alabama beach mouse habitat. Boardwalks would largely contain visitor foot traffic to safeguard against possible pedestrian impacts to potential Alabama beach mouse habitat.

Increased visitor use at the sites may result in increased disturbances to piping plover, red knot, and wood stork over the long term, if present in the action area. However, the likelihood of impacts to these species would be minimal because they would only potentially be present in the action area on a seasonal basis and are not likely to be present in large numbers or with regular frequency. Boardwalks would largely contain pedestrian traffic to minimize potential impacts to these species' habitats.

Operation of the proposed project would not affect green, Kemp's ridley or loggerhead sea turtles because the action area does not contain suitable sea turtle nesting habitat, thus they are not likely to occur in terrestrial habitats within the action area. The use of approved "sea turtle friendly" lighting would avoid impacts to nesting sea turtles on beaches to the south of the project area.

The proposed project would not affect the eastern indigo snake or gopher tortoise because these species have not been documented in the action area and are not likely to be present due to the extreme rarity of the species and limited suitable habitat within the area.

Proposed project maintenance activities are not anticipated to have adverse effects on any protected species.

7.0 Conclusions

Based on the above analysis of the proposed project and its potential impacts to ESA-listed species that may occur within the action area, and following informal ESA Section 7 consultation with USFWS, the following determinations have been made.

Alabama Beach Mouse

Activities associated with the proposed project would result in a finding of “*may affect, likely to adversely affect*” for the Alabama beach mouse.

Eastern Indigo Snake

Activities associated with the proposed project would result in a finding of “*no effect*” for the eastern indigo snake.

Gopher Tortoise

Activities associated with the proposed project would result in a finding of “*no effect*” for the gopher tortoise.

Green Sea Turtle

Activities associated with the proposed project would result in a finding of “*may affect, not likely to adversely affect*” for the Green sea turtle.

Kemp’s Ridley Sea Turtle

Activities associated with the proposed project would result in a finding of “*may affect, not likely to adversely affect*” for the Kemp’s Ridley sea turtle.

Loggerhead Sea Turtle

Activities associated with the proposed project would result in a finding of “*may affect, not likely to adversely affect*” for the Loggerhead sea turtle.

Piping Plover

Activities associated with the proposed project would result in a finding of “*no effect*” for the piping plover.

Red Knot

Activities associated with the proposed project would result in a finding of “*no effect*” for the red knot.

West Indian Manatee

Activities associated with the proposed project would result in a finding of “*may affect, not likely to adversely affect*” for the West Indian manatee.

Wood Stork

Activities associated with the proposed project would result in a finding of “*no effect*” for the wood stork.

Critical Habitat

There is no critical habitat for any ESA-listed species within the action area assessed in this BA; therefore, activities associated with the proposed project would have no effect on designated critical habitat.

8.0 List of Documents

Provided below is a list of documents that have bearing on the proposed project or this consultation. This includes relevant reports, including any environmental impact statements, environmental assessments, or biological assessments prepared for the proposed project. These documents are included as part of this consultation package.

- *Deepwater Horizon* Oil Spill Alabama Trustee Implementation Group Draft Restoration Plan I and Environmental Impact Statement: Provide and Enhance Recreational Opportunities
- Biological Evaluation Form - Laguna Cove Little Lagoon Natural Resource Protection

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11.0 Appendices

Appendix A: Alabama Standard Manatee Construction Conditions

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK OR EVENTS in ALABAMA

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. Instruct all personnel associated with the project/event about the potential presence of manatees and the need to avoid collisions with manatees. Advise all personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and Alabama Nongame Species Regulation.
- b. Operate all vessels associated with the project/event at “no wake/idle” speeds at all times while in the project/event area, and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom when possible. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project/event personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shut down if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with and/or injury to a manatee shall be reported immediately to the Dauphin Island Sea Lab’s Manatee Sighting Network (1-866-493-5803) and the U.S. Fish and Wildlife Service in Daphne, Alabama, at (251) 441-5839 or (251) 441-5181 and emailed to: Alabama@fws.gov. Please report nonemergency manatee observations to the numbers above or online at: <http://manatee.disl.org/>.
- f. Temporary signs using text exactly as below shall be posted prior to and during all in-water project or event activities. Signs shall be at least 8½” by 11” explaining the requirements for the “Idle/No Wake” and the shut down of in-water operations. Signs must be posted in a location prominently visible to all personnel engaged in water-related activities and placed visible to each vessel operator. All signs are to be removed by the permittee upon completion of the project or event. Questions concerning these signs can be forwarded to the email address listed above. An example is enclosed and can be copied and used during construction/event activities.

Revised Jan 2015



CAUTION: MANATEE HABITAT



**IDLE SPEED IS REQUIRED IF OPERATING A VESSEL IN
THE CONSTRUCTION OR EVENT AREA**

All equipment must be **SHUTDOWN** if a manatee comes
within **50 FEET** of operation

Report any collision with and/or injury to a manatee immediately to:

Dauphin Island Sea Lab's Manatee Sighting Network:

1-866-493-5803

and the U.S. Fish and Wildlife Service in Daphne, AL:

(251) 441-5839 or (251) 441-5181