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LOCATION Atlanta, GA

**SOUTHEAST REGION
INTRA-SERVICE SECTION 7
BIOLOGICAL EVALUATION FORM**

Originating Person: Holly Herod (DOI/USFWS), Will Brantley (ADCNR)
Telephone Number: Holly Herod 404-679-7089; Will Brantley 334-242-3484
E-Mail: Holly_Herod@fws.gov; Will.Brantley@dcnr.alabama.gov
Date: September 23, 2013

PROJECT NAME (Grant Title/Number): Oyster Reef Restoration in Mobile County, Alabama

I. Service Program:

- NRDAR**
- Ecological Services**
- Federal Aid**
 - Clean Vessel Act**
 - Coastal Wetlands**
 - Endangered Species Section 6**
 - Partners for Fish and Wildlife**
 - Sport Fish Restoration**
 - Wildlife Restoration**
- Fisheries**
- Migratory Birds**
- Refuges/Wildlife**

II. State/Agency: Alabama Department of Conservation and Natural Resources (ADCNR)

III. Station Name: DOI Deepwater Horizon Case Management Team, USFWS Southeast Regional Office, Atlanta, Georgia 30345

IV. Location (attach map):

A. Ecoregion Number and Name: Alabama State Waters, Open-water, estuarine/marine

B. County and State: Mobile counties, Alabama

C. Section, township, and range (or latitude and longitude): 30.307233° N
88.1347833° W [e.g., 27.71622° N, 80.25174° W (NAD83)]

D. Distance (miles) and direction to nearest town: Town of Dauphin Island, ~2 miles;
City of Bayou La Batre, approximately 2 miles.

V. Description of Proposed Action and Habitats in the Project Area (attach additional pages as needed):

The proposed project will restore approximately 319 acres of oyster reef in the estuarine waters of the State of Alabama within historic footprints of former oyster reefs. This acreage includes a 64 acre overbuild to insure the project performs as predicted.

The project will use oyster cultch (i.e., oyster shells or other natural material) laid down on former oyster grounds to furnish points of attachment for oyster spat. The preferred cultch material to be used is fresh oyster shell processed at local shops. Alternatively, quarried fossilized oyster shell from the Gulf states, clam shells, crushed concrete aggregate, or rock aggregate such as limestone, calica, or crushed granite may be used. Cultch material will be selected by season and surveys and depends on substrate type at the reef site (i.e., material selected will minimize loss due to sinking through sediment or silting). Cultch materials are loaded at their point of origin into dump trucks and transported to the dock area where it is staged until a sufficient quantity for project implementation is reached. Cultch materials will be loaded onto barges by a skid steer loader or track excavator. The dock area will most likely be in the industrial areas of Bayou la Batre, the Theodore Ship Channel and/or similar working waterfront. Barge and vessel access will be via existing docks, ramps, marinas, or ports. Barges (2 to 6) are transported to the reef site with the aid of a push boat. Deep draft barges will be kept off the reef site via anchoring or spudding in place. Small vessels used for placing cultch will most likely launch from existing boat ramps at Bayou la Batre, Bayou Coden, Delta Port Marina or Jemison's Landing.

Construction activities will include at least annual planting of oyster cultch material by depositing the cultch at the reef locations using standard placement practices via shallow draft barge and/or small boat placement of material. Cultch may be planted by using high pressure water pumps (water canon at a density of 50-150 cubic yards per acre) to blow cultch off of barge, skid steers or other industrial equipment may be used to distribute cultch off barge directly onto site as the push boat moves the barge throughout the selected site to get even coverage. Barges may be light loaded and use shallow draft push boats to get into marginally shallow sites. If small boats are used for final deployment (depth < 3 feet), skid steers load cultch from barge onto small planting vessel of commercial harvesters. They in turn shovel or blow off cultch in shallow sites along marsh edges. Small planting vessels may be tonging skiffs (10-20 feet), dredge skiffs (15 – 35 feet), and small shrimping vessels (15 – 35 feet). The small vessel strategy will be used if the planting site is too shallow for a barge and push boat to avoid contact with the reef. Placement of cultch material will be near existing and historic public oyster reefs located between -3.0 feet to -7.0 feet MLLW (Mean Lower Low Water) contour.

The project is anticipated to take between 8 and 14 hours per day for 3 to 5 days per year to complete. The number of years the project is implemented may vary due to weather (e.g., droughts or hurricanes) or other unforeseen circumstances (e.g., oil spill) and could take up to 8 years. Ideally cultch will be deployed twice per year for four years during peak larval oyster production between April and May and between September and October. Spawning will continue throughout the summer months and even to a limited degree in the winter. The spring spawning peak is triggered when water temperature increases to 20 ° C. The fall spawning peak is triggered when there is a sharp decline in water temperature.

The State of Alabama will conduct monitoring of oyster growth and density to determine success and viability. Monitoring will be completed annually (generally during August) using scuba diving and quadrat surveys (to determine density and size of oysters), dredge samples (towed

from a vessel at 2 to 3 knots for an average of 90 seconds to determine density and size of oysters), cane pole sounding to determine substrate type and extent, and gill net sampling to determine fish species diversity and density. If excessive algal growth is present, clutch may be cultivated (tilled) using a bagless commercial dredge or other equipment to de-foul the cultch. Additional surveys within a year may be warranted due to site conditions.

VI. Description of the Project Area (attach additional pages as needed):

The proposed Project located in estuarine waters of Bon Secour, Heron, and Portersville Bays and Mississippi Sound within Mobile and Baldwin Counties, Alabama. There are no Seagrasses within the cultch placement locations.

VII. Species and Habitat: Species list for Mobile County, Alabama was obtained on August 22, 2013 from the Alabama Field Office Webpage (http://ecos.fws.gov/tess_public/countySearch!speciesByCountyReport.action?fips=01097). Loggerhead sea turtle was not included on the official species list; however, we added it for consideration with the other sea turtles as the species commonly nests in Alabama. Sea turtles in estuarine and marine environments are consulted on by NMFS; therefore, we will only consider sea turtles in the terrestrial environment.

A. Complete the following table:

SPECIES/CRITICAL HABITAT	STATUS ¹	HABITAT DESCRIPTION	HABITAT PRESENT OR PCE'S PRESENT
Wood stork (<i>Mycteria americana</i>)	E	Terrestrial - Hardwood swamps, cypress domes/strands, mangroves, and sloughs. Nesting occurs in Florida.	Nearby
Piping plover (<i>Charadrius melodus</i>)	T	Terrestrial – forage and rest on sandy beaches, tidal mud flats	Nearby
Red knot (<i>Calidris canutus</i>)	C	Terrestrial – forage and rest on intertidal marine habitats, especially near coastal inlets, estuaries, and bays, or along restinga formations	Nearby
Gulf sturgeon (<i>Acipenser oxyrinchus desotoi</i>)	T	Aquatic - Migratory. Reproduction occurs in freshwater rivers, while feeding generally occurs brackish, estuarine, and marine habitats.	Yes
West Indian manatee (<i>Trichechus manatus</i>)	E	freshwater, brackish, estuarine, and marine environments in water of sufficient depth (generally 5 feet to less than 20 feet)	Yes
Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)	E	Terrestrial habitats – nesting on sandy beaches	No
Leatherback sea turtle (<i>Dermochelys coriacea</i>)	E	Terrestrial habitats – nesting on sandy beaches	No
Kemp's ridley sea turtle (<i>Lepidochelys kempii</i>)	E	Terrestrial habitats – nesting on sandy beaches	No
Green sea turtle (<i>Chelonia mydas</i>)	T	Terrestrial habitats – nesting on	No

SPECIES/CRITICAL HABITAT	STATUS ¹	HABITAT DESCRIPTION	HABITAT PRESENT OR PCE'S PRESENT
		sandy beaches	
Loggerhead sea turtle (<i>Caretta caretta</i>) (NW Atlantic DPS)	T	Terrestrial habitats – nesting on sandy beaches	No
Alabama red-belly turtle (<i>Pseudemys alabamensis</i>)	E	Aquatic - freshwater and brackish streams, rivers, and shallow bays along with fresh, brackish, and saltwater bayous or oxbows. Nests in uplands around these habitats.	No
Eastern indigo snake (<i>Drymarchon corais couperi</i>)	T	Terrestrial – upland, well-drained sandy soils, generally longleaf pine/scrub oak habitats	No
Black pine snake (<i>Pituophis melanoleucus lodingi</i>)	C	Terrestrial – upland, well-drained sandy soils, generally longleaf pine/scrub oak habitats	No
Gopher tortoise (<i>Gopherus polyphemus</i>) – west of Mobile/Tombigbee Rivers/elsewhere	T/C	Terrestrial – upland, well-drained sandy soils, generally longleaf pine/scrub oak habitats	No

¹STATUS: E=endangered, T=threatened, PE=proposed endangered, PT=proposed threatened, CH=critical habitat, PCH=proposed critical habitat, C=candidate species

B. Include species/habitat occurrence map: Attach a map that identifies species locations with the project area.

VIII. Determination of Effects:

A. Explanation of effects of the action on species and critical habitats above (attach additional pages as needed):

SPECIES/CRITICAL HABITAT	SPECIES/CRITICAL HABITAT IMPACTS
Wood stork	Potential roosting/foraging habitat for the wood stork is available near the action area on marsh lands adjacent to the west of Dauphin Island parkway. Wood storks are not known to breed in Alabama. There are no observations of wood storks in the general area of Heron Bay though there is one observation of a wood stork at Dauphin Island (ebird.org as of August 22, 2013). No wood stork habitat exists at the dock facilities. The proposed project could result in short term increases (3 to 5 days per year) in noise and human presence which could startle individuals. However due to the distance of the project from the shore (0.5-3.5 miles), and because the proposed project is separated from potential habitat by Dauphin Island Parkway, if a wood stork were present, we would not expect any changes in wood stork behaviors. Therefore, the project will not affect the wood stork.
Piping plover	Piping plover have been observed using terrestrial habitats in the general area during their wintering period (ebird.org as of August 22, 2013). Ideal project implementation timeframes coincide with piping plover wintering season (August through early May); therefore, it is possible a few individuals may be present while the project is underway. No piping plover habitat exists at the dock facilities. The proposed project could result in short term increases (3 to 5 days per year) in noise and human presence which could startle individuals, though we would expect normal activity to resume within minutes. Due to the distance of the project from the shore (0.5-3.5miles), we do not believe individuals would move or fly from the area in

SPECIES/CRITICAL	SPECIES/CRITICAL HABITAT IMPACTS
	response to the noise. Therefore, we consider the potential for effects to be insignificant. The proposed project will not result in any changes to shoreline habitats where piping plover could be feeding or resting; therefore, no indirect effects are expected. Piping plover critical habitat is not designated in or near the action area.
Red knot	Red knot have been observed using terrestrial habitats in the general area coinciding with winter and spring stopovers during migration (ebird.org as of August 22, 2013). Ideal project implementation timeframes coincide with red knot stopovers periods; therefore, it is possible a few individuals may be present while the project is underway. No red knot habitat exists at the dock facilities. The proposed project could result in short term increases (3 to 5 days per year) in noise and human presence which could startle individuals, though we would expect normal activity to resume within minutes. Due to the distance of the project from the shore (0.5-3.5 miles), we do not believe individuals would move or fly from the area in response to the noise. Therefore, we consider the potential for effects to insignificant. The proposed project will not results in any changes to shoreline habitats where red knot could be feeding or resting; therefore, no indirect effects are expected.
Gulf sturgeon	Impacts to Gulf sturgeon and Gulf sturgeon critical habitat in the estuarine and marine environments will be analyzed by National Marine Fisheries Service in coordination with the USFWS and not considered in this consultation.
West Indian manatee	Manatees are known to transit the action area and are believed to be resident in Mobile Bay. We do not expect manatees to be foraging in the action area because no sea grass is present. If a manatee is present during project implementation or monitoring, vessel operation, surveys, and placement of materials in water could startle or strike a manatee and disrupt resting or migration. Strikes generally result in injury or mortality.
Hawksbill sea turtle	No nesting habitats are available in or near the action area. Therefore, the proposed project will not affect this species while using terrestrial habitats. Potential affects to sea turtles in estuarine and marine environments will be analyzed by NMFS.
Leatherback sea turtle	No nesting habitats are available in or near the action area. Therefore, the proposed project will not affect this species while using terrestrial habitats. Potential affects to sea turtles in estuarine and marine environments will be analyzed by NMFS.
Kemp's ridley sea turtle	No nesting habitats are available in or near the action area. Therefore, the proposed project will not affect this species while using terrestrial habitats. Potential affects to sea turtles in estuarine and marine environments will be analyzed by NMFS.
Green sea turtle	No nesting habitats are available in or near the action area. Therefore, the proposed project will not affect this species while using terrestrial habitats. Potential affects to sea turtles in estuarine and marine environments will be analyzed by NMFS.
Loggerhead sea turtle (NW Atlantic DPS)	No nesting habitats are available in or near the action area. Therefore, the proposed project will not affect this species while using terrestrial habitats. Potential affects to sea turtles in estuarine and marine environments will be analyzed by NMFS. No proposed critical habitat is within or near the action area.
Alabama red-belly turtle	This species is not known to occur near the action area and no habitat for this species is present in or near the action area. Therefore, the proposed project will not affect this species.
Eastern indigo snake	This species is not known to occur near the action area and no habitat for this species is present in or near the action area. Therefore, the proposed project will not affect this species.
Black pine snake	This species is not known to occur near the action area and no habitat for this species is present in or near the action area. Therefore, the proposed project will not affect this species.
Gopher tortoise	This species is not known to occur near the action area and no habitat for this species is present in or near the action area. Therefore, the proposed project will not affect this species.

B. Explanation of actions (Conservation Measures) to be implemented to reduce adverse effects:

SPECIES	CONSERVATION MEASURES TO MINIMIZE IMPACTS
West Indian manatee	All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, the need to avoid collisions with and injury to manatees. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing manatees. All vessels associated with the project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible. If siltation or turbidity barriers are necessary, they shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be monitored to avoid manatee entanglement or entrapment. Barriers (including gill nets) must not impede manatee movement. All on-site project 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 if water visibility is poor, until 30 minutes elapses if the manatee has not reappeared within 50 feet of the operation. Manatees must not be herded away or harassed into leaving. Proper implementation of these measures will avoid injuring or killing a manatee and reduce startling to an insignificant effect.

IX. Effect Determination and Response Requested:

Species	Species Impacts					Response Requested
	NE	NLAA	MAA	JP	JC	
Gulf sturgeon	---	---	---	---	---	Consultation with NMFS
Wood stork	X					Concurrence
Piping plover		X				Concurrence
Red knot		X				Conference
West Indian manatee		X				Concurrence
Hawksbill sea turtle	X					Concurrence – Terrestrial Habitats Only; Consultation with NMFS for Estuarine/Marine habitats
Leatherback sea turtle	X					Concurrence – Terrestrial Habitats Only; Consultation with NMFS for Estuarine/Marine habitats
Kemp's ridley sea turtle	X					Concurrence – Terrestrial Habitats Only; Consultation with NMFS for Estuarine/Marine habitats
Green sea turtle	X					Concurrence – Terrestrial Habitats Only; Consultation with NMFS for Estuarine/Marine habitats
Loggerhead sea turtle (NW Atlantic DPS)	X					Concurrence – Terrestrial Habitats Only; Consultation with NMFS for Estuarine/Marine habitats
Alabama red-belly turtle	X					Concurrence
Eastern indigo snake	X					Concurrence
Black pine snake	X					Concurrence
Gopher tortoise	X					Concurrence

X. Bald Eagles

Are bald eagles present in the action area? No Yes

Bald eagles are known to occur along Fowl River, approximately 3-5 miles north and west of the project area. The nearest known nest is located at least 4 miles from the project location and/or the nearest dock facility which may be used during the project.

If “Yes”, can you implement the conservation measures below? Yes No

1. If bald eagle breeding or nesting behaviors are observed or a nest is discovered or known, all activities (walking, camping, cleanup, 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 (like 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 not, contact the Service’s Migratory Bird Permit Office to determine how to avoid impacts or if a permit may be needed.

XI. Migratory Birds

A. Identify the species anticipated in the project area and behaviors (breeding, roosting, foraging) anticipated during project implementation.

SPECIES	BEHAVIOR	SPECIES/HABITAT IMPACTS
Many migratory bird species may be using the general area	Resting, feeding, breeding	No work will occur in breeding, feeding, or resting habitats.

B. If species or habitat impacts could occur, identify avoidance and minimization measures to prevent incidental take. Incidental take of Migratory Birds cannot be authorized.

B. Formal consultation required _____

C. Conference required _____

D. Informal conference required _____

E. Remarks (attach additional pages as needed):

<u>Andrew J. Gleason</u>	<u>10/28/2013</u>
Signature	date
<u>Acting</u>	<u>Alabama Ecological Services Field Office</u>
Field Supervisor	office

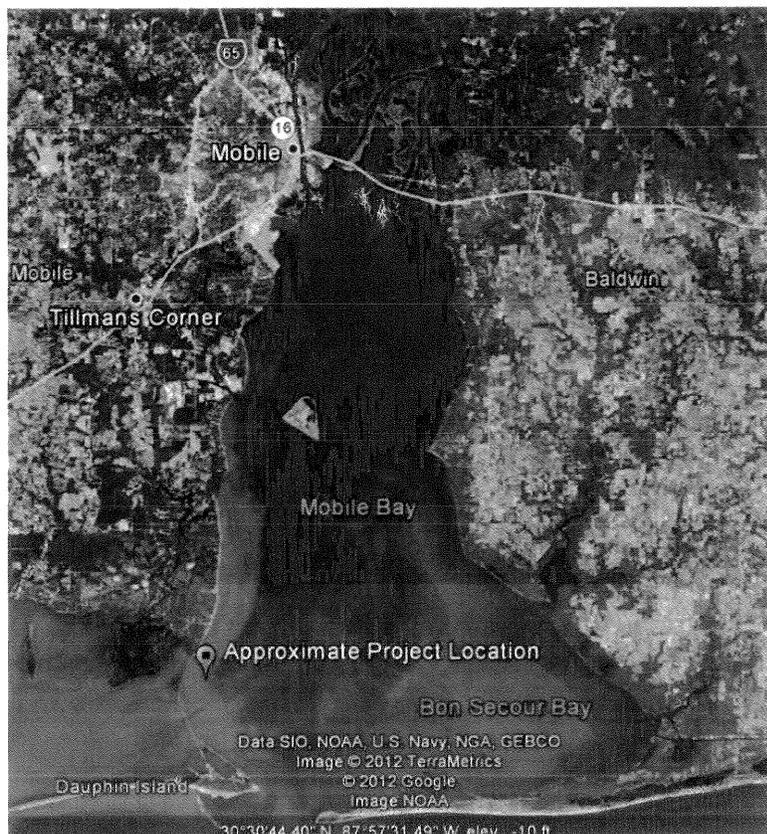


Figure 1. Approximate project location.