



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
<http://sero.nmfs.noaa.gov>

F/SER31:MT

MEMORANDUM FOR: F/HC3 – Rachel Sweeney

FROM:

F/SE – David Bernhart, Assistant Regional Administrator

SUBJECT: Endangered Species Act Informal Consultation for Artificial Reef Enhancement at 11 Sites in Louisiana, Proposed for Funding under the Deepwater Horizon Oil Spill Natural Resource Damage Assessment in the Louisiana Trustee Implementation Group Restoration Plan #2 and Environmental Assessment

Project Name	Applicants	SER Number	Project Type
Artificial Reef Enhancement at 11 Sites in Louisiana	National Marine Fisheries Service (NMFS) Restoration Center (RC) and Louisiana Department of Wildlife and Fisheries (LDWF)	SER-2018-19252	Artificial Reef Enhancement

This memorandum responds to the NMFS RC's April 9, 2018, memorandum requesting concurrence from NMFS Protected Resources Division (PRD) under Section 7 of the Endangered Species Act (ESA) with NMFS RC's project-effects determination for the proposed Artificial Reef Enhancement at 11 Sites in Louisiana. You determined that the proposed project may affect, but is not likely to adversely affect, green sea turtle, loggerhead sea turtle, Kemp's ridley sea turtle, hawksbill sea turtle, leatherback sea turtle, Gulf sturgeon, and Gulf sturgeon critical habitat.

Consultation History

We received your memorandum requesting consultation on April 9, 2018, and initiated consultation on that day.



Table 1. Project Locations

Reef Site	Location	Latitude/Longitude (North American Datum 1983)	Water body
East Calcasieu	Cameron Parish, approximately 9 miles southeast of Hackberry.	29.88388° N, 93.27885° W	Calcasieu Lake
Cypremort Point	St Mary Parish, approximately 1.5 miles northwest of Cypremort Point State Park.	29.72221° N, 91.87281° W	Vermillion Bay
Rabbit Island	Terrebonne Parish, approximately 5 miles southwest of Burns Point Park.	29.50945° N, 91.56445° W	Cote Blanche Bay
Ship Shoal 26-Pickets	Terrebonne Parish, approximately 22 miles southwest of Cocodrie	29.08125° N, 91.06705° W	Gulf of Mexico
Bird Island	Terrebonne Parish, approximately 14 miles southwest of Cocodrie	29.05933° N, 90.72383° W	Lake Pelto
Point Mast	Terrebonne Parish, approximately 20 miles south of Dulac.	29.1074° N, 90.63571° W	Lake Pelto
West End	Orleans Parish, less than 1 mile south of the West End boat launch.	30.02346° N, 90.14128° W	Lake Pontchartrain
Lake Front	Orleans Parish, approximately 5 miles northeast of New Orleans.	30.05868° N, 89.99346° W	Lake Pontchartrain
Independence Island	Jefferson Parish, approximately 6 miles northeast of Grand Isle.	29.30750° N, 89.93336° W	Barataria Bay
Grand Isle 9	Jefferson Parish, approximately 7 miles southeast of Grand Isle.	29.18966° N, 89.88803° W	Gulf of Mexico
California Point	Plaquemines Parish, approximately 13 miles east of Port Sulfur.	29.48373° N, 89.48415° W	Breton Sound

These locations span approximately 300 miles of Louisiana’s coastline in both inshore and nearshore waters (Figure 1).



Figure 1. Overview of proposed reef enhancement sites (Figure 1 in LDWF’s Biological Evaluation Form for the Artificial Reef Enhancement Project).

Existing Site Conditions

All of the proposed enhancement sites are located in open water, in water depths ranging from 7 to 50 feet (ft). Benthic surveys conducted by LDWF in 2013 found that the substrates around these reef sites consisted primarily of soft, moderately firm, and firm mud, with small amounts of exposed (oyster) shell at some sites.

Project Description

The NOAA RC, on behalf of the DWH Trustees, proposes to provide funding to the LDWF to enhance 11 existing artificial reefs (see Table 1) located in the inshore and nearshore waters along about 300 miles of Louisiana’s coastline (see Figure 1). The proposed enhancement would entail adding new artificial reef material in and around the previously constructed artificial reefs. These 11 artificial reefs were intentionally located in areas that do not contain biologically

sensitive habitats such as natural reefs, grass beds, bivalve beds, or live bottoms. A minimum buffer of 1,000 ft will be maintained between identified biologically sensitive areas and any new artificial reef material placement locations to protect the sensitive areas from potential adverse impacts.

Materials transported to the artificial reef locations will be barged in via specific access route designated by LDWF. Reef materials used for the reef enhancements will consist of either limestone or recycled concrete, or a combination thereof. All materials will be free of pollutants and toxins with no accretions, debris, trash or other materials that could cause entanglement or entrapment of aquatic species. Reef materials will be deployed using heavy equipment (backhoe and/or front-end loader) mounted on barges. Equipment operators will strive to deploy the reef material in a manner that maximizes the 3-dimensional complexity of the reef, while still maintaining a relatively low profile and 6 ft of clearance at a minimum. The reef enhancements would be designed and constructed with a primary focus on minimization of in-water disturbance and avoidance of existing reef materials (i.e. the new reef material will be added to portions of the permitted reef site that lack existing reef materials). Given that barge deployment will likely result in some level of un-controlled sinking of materials, there is the potential that some new materials will be inadvertently dropped on existing reef structure with established benthic communities, potentially impacting and possibly burying those communities.

Construction Conditions

The applicant has agreed to adhere to the following conditions and criteria during construction of the proposed reef enhancements:

All in-water construction activities will adhere to NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions* (2006)¹, NMFS's *Measures for Reducing Entrapment Risk to Protected Species* (2012)², and NMFS's *Vessel Strike Avoidance Measures and Reporting for Mariners* (2008)³.

Seasonal restrictions will be implemented at all sites within the documented range of Gulf sturgeon to prevent in-water work from September to February, when this species is most likely to be present in estuarine waters.

LDWF will adhere to the guidelines and specifications described in the *NMFS National Artificial Reef Plan*⁴.

¹http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/sea_turtle_and_smalltooth_sawfish_construction_conditions_3-23-06.pdf.

²http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/entrapment_bmps_final.pdf

³http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/copy_of_vessel_strike_avoidance_february_2008.pdf

⁴http://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/noaa_artificial_reef_guidelines.pdf

Effects Determinations for Species and Designated Critical Habitat the Action Agency or NMFS Believes May Be Affected by the Proposed Action

Species	ESA Listing Status	Action Agency Effect Determination	NMFS Effect Determination
Sea Turtles			
Green (North Atlantic distinct population segment [DPS])	T	NLAA	NLAA
Green (South Atlantic DPS)	T	NLAA	NLAA
Kemp’s ridley	E	NLAA	NLAA
Loggerhead (Northwest Atlantic Ocean DPS)	T	NLAA	NLAA
Hawksbill	E	NLAA	NLAA
Leatherback	E	NLAA	NE
Fish			
Gulf sturgeon (Atlantic sturgeon, Gulf subspecies)	T	NLAA	NLAA
Giant manta ray	T	None	NLAA
E = endangered; T = threatened; NLAA = may affect, not likely to adversely affect; NE = no effect			

We believe the project will have no effect on leatherback sea turtles, due to the specie’s very specific life history strategies, which are not supported in the action area. There are no known leatherback nesting beaches near the action areas. Leatherback sea turtles have pelagic, deepwater life history, where they forage primarily on jellyfish. This habitat type does not occur anywhere near the project sites.

Critical Habitat

Nine of the proposed reef enhancement sites are not located in critical habitat and no routes of effect to critical habitat are anticipated for these sites. The 2 proposed reef enhancement sites in West End and Lake Front in Lake Pontchartrain are located within Gulf sturgeon critical habitat Unit 8. The following essential features are present in Unit 8:

1. Abundant prey items, such as amphipods, lancelets, polychaetes, gastropods, ghost shrimp, isopods, mollusks and/or crustaceans, within estuarine and marine habitats and substrates for subadult and adult life stages;
2. Water quality, including temperature, salinity, pH, hardness, turbidity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages;
3. Sediment quality, including texture and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages;
4. Safe and unobstructed migratory pathways necessary for passage within and between riverine, estuarine, and marine habitats (e.g., an unobstructed river or a dammed river that still allows for passage).

We believe the essential features that may be affected by the proposed action include abundant prey items, water quality and sediment quality (essential features 1, 2 & 3 above).

Analysis of Potential Routes of Effects to Species

Sea turtles, giant manta rays and Gulf sturgeon may be injured if struck by reef building materials deployed from construction barges. We believe this effect is discountable because these species are highly mobile and are expected to avoid the noise and disturbance associated with construction activities. The applicant's implementation of NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions* will further reduce the risk by requiring all workers to watch for listed species. Operation of any mechanical equipment will cease immediately if a listed species is seen within a 50-ft radius of the equipment. Activities will not resume until the individual has departed the project area of its own volition.

Sea turtles, giant manta rays and Gulf sturgeon may be injured if struck by construction related vessels or barges. We believe this effect is discountable due to the species' mobility and the requirement for all construction related vessels and barges to maintain slow transit speeds (5 knots or less) to and from (and within) the construction sites. Adherence to NMFS's *Vessel Strike Avoidance Measures and Reporting for Mariners* will further reduce the potential for interactions between construction vessels and listed species.

Sea turtles, giant manta rays and Gulf sturgeon may be temporarily unable to use the construction sites for forage and shelter habitat due to avoidance of construction activities including placement of materials and related turbidity and noise. However, we believe any potential effects would be insignificant because the projects are located in open-water areas surrounded by large expanses of similar habitats that would allow these species to continue foraging and sheltering throughout the surrounding area.

Sea turtles may be injured or killed by becoming trapped inside of reef structures. It is possible for a sea turtle to position itself under the edge of open-bottom reef structures such as reef balls or other large, pre-fabricated structures, and then become wedged or trapped. We believe this effect will be discountable for the following reasons. LDWF will adhere to the guidelines and specifications described in the *NMFS National Artificial Reef Plan*. They propose to use limestone rock and recycled concrete to create low-profile reefs in mud substrate. It is highly unlikely that these materials could create the type of structures that would have the potential to entrap sea turtles.

Sea turtles, giant manta rays, and Gulf sturgeon may be physically injured or killed if they become entangled in abandoned fishing line or other debris that may accumulate on artificial reefs. We believe this effect will be discountable for the following reasons. LDWF will adhere to the guidelines and specifications described in the *NMFS National Artificial Reef Plan*. They propose to use limestone rock and recycled concrete to create low-profile reefs with no accretions, debris, or other materials that would cause significant build-up of abandoned fishing line or other debris, or cause entanglement or entrapment of aquatic species.

Finally, sea turtles, giant manta rays, and Gulf sturgeon could be injured or killed as a result of hooking or other interactions incidental to fishing activities in the vicinity of the proposed reefs;

however, the potential for this project to increase the risk of incidental capture is extremely unlikely, and the effect is therefore discountable. All of the proposed sites already have existing reefs, and there is no evidence that establishment of artificial reefs increases the numbers of fishers or boats participating in a given fishery. Therefore, any relocation of fishing effort to the enhanced artificial reefs would likely reduce fishing pressure at other locations, and may lessen the concentration of fishers by providing broader, more spread-out locations at which to fish.

Analysis of Potential Routes of Effects to Critical Habitat

The 2 reef sites located in Lake Pontchartrain (Lake Front and West End) are the only projects that have the potential to affect designated critical habitat. The proposed addition of material to existing reefs at these sites has the potential to impact up to 7 acres of mud substrates within Gulf sturgeon critical habitat Unit 8 (1-2 acres at Lakefront and 2-5 acres at West End). The potential effects to the essential features of this critical habitat are described below.

Abundant prey items

Impacts to benthic prey species from placement of reef building materials may occur in the footprint of the project area where individuals could be crushed, covered, or displaced by the reef. We believe any effects to this essential feature would be insignificant due to the relatively small area to be altered by this project and because prey species that are not directly injured during material placement would be able to move out of the affected area into surrounding suitable habitats. In addition, the proposed reef is designed to increase productivity of potential prey species. Over time, the placed materials are expected to develop into a living reef that supports benthic secondary productivity, including, but not limited to, bivalve mollusks, annelid worms, shrimp, and crabs. This production is expected to “overflow” into the surrounding areas of suitable sturgeon foraging habitat.

Water quality

Placement of reef material will likely cause a temporary increased turbidity in and around the area of activity. However, any effect that these activities may have on water quality would be insignificant, as the action areas are naturally turbid and any increases in turbidity would be localized and relatively short in duration, as disturbed sediments would settle out (likely within 1-2 days following completion of reef construction).

Sediment quality

The enhancement of the existing reefs will cover the sediments in the footprint of the new materials. These sediments will no longer be accessible to Gulf sturgeon. However, any effects that the proposed project may have on the sediment quality of Unit 8 would be insignificant, as the affected area (3-7 acres) is a tiny fraction of the overall habitat available in Unit 8 (approximate area of critical habitat in Unit 8 is 881,280 acres).

Conclusion

Because all potential project effects to listed species and critical habitat were found to be discountable, insignificant, or beneficial, we conclude that the proposed action is not likely to adversely affect listed species and critical habitat under NMFS’s purview. This concludes your consultation responsibilities under the ESA for species under NMFS’s purview. Consultation must be reinitiated if a take occurs or new information reveals effects of the action not previously

considered, or if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action. NMFS's findings on the project's potential effects are based on the project description in this response. Any changes to the proposed action may negate the findings of this consultation and may require reinitiation of consultation with NMFS.

We look forward to further cooperation with you on other projects to ensure the conservation of our threatened and endangered marine species and designated critical habitat. If you have any questions about this consultation, please contact Mike Tucker, Consultation Biologist, at (727) 209-5981, or by email at michael.tucker@noaa.gov.

File: 1514-22C.