



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

MAR 27 2014

F/SER31:NA

Ms. Leslie Craig  
Supervisor, NOAA Restoration Center-Southeast Region  
NOAA Fisheries, Office of Habitat Conservation  
263 13<sup>th</sup> Avenue South  
St. Petersburg, Florida 33701

Ref.: 3 Batched Artificial Reef Projects in Texas State Waters

	Project/Applicant Name	Project Location	USACE Permit Number	NMFS Tracking Number
1	Corpus Christi Artificial Reef (MU-775)	Outer Continental Shelf of the Gulf of Mexico, Nueces County 27.6464°N, 97.0074°W (North American Datum of 1983)	SWG-2010-01407	SER-2014-12910
2	Freeport Artificial Reef (BA-336)	Outer Continental Shelf of the Gulf of Mexico, Brazoria County 28.793009°N, 95.347796°W (North American Datum 1983)	SWG-2010-00264	SER-2014-12916
3	Matagorda Artificial Reef (BA-439)	Outer Continental Shelf of the Gulf of Mexico, Matagorda County 28.516972°N, 95.781252°W (North American Datum 1983)	SWG-2009-01139	SER-2014-12920

Dear Ms. Craig:

This letter responds to the National Oceanic and Atmospheric Administration (NOAA) Restoration Center's (RC) January 13, 2014, letter requesting National Marine Fisheries Service (NMFS) concurrence under Section 7 of the Endangered Species Act (ESA) with the project-effects determinations for 3 artificial reef projects comprising the Deepwater Horizon Oil Spill Draft Phase 3 Early Restoration Plan (DERP). The NOAA RC, a lead federal agency, is requesting consultation on behalf of the natural resource trustees for the Deepwater Horizon oil spill. You requested concurrence from NMFS with your determinations that the projects may affect, but are not likely to adversely affect, 5 species of sea turtles (loggerhead, Kemp's ridley, green, leatherback, and hawksbill) within Texas state waters in the Gulf of Mexico (GOM). However, the applicant/natural resources trustee (Texas Parks and Wildlife Division - TPWD) proposed to use an artificial reef design that was known to take sea turtles (Figure 1), based on the Patterson et al. report.<sup>1</sup> On January 22, 2014, NMFS suggested changing the closed-top, open-bottom pyramid reef design to minimize impacts, but TPWD refused. Because NMFS believes the original design is likely to entrap sea turtles and result in adverse effects to them, we initiated formal consultation on January 23, 2014, and so notified the TPWD. On February 14, 2014, to alleviate NMFS's concerns, TPWD agreed to modify the closed-top, open-bottom pyramid by creating an opening for turtle escapement on 1 of the sides of the pyramid (Figure 2).

<sup>1</sup> Patterson, W.F., D.T. Addis, and M.A. Dance. 2010. The Refuge Effect of Unpublished Artificial Reefs Deployed on the Northwest Florida Shelf (FWC-08267): Final Report. University of West Florida, Pensacola, Florida.



The opening in the upper half of 1 face of the pyramid would have a base of 56-60 inches (in) with a height of 48-52 in.

On January 14, 2014, we decided to batch these 3 projects into 1 consultation based on the similarity of the proposed activities. NMFS's determinations regarding the effects of the revised proposed actions are based on the description of the actions in this informal consultation. Any changes to the proposed actions may negate the findings of the present consultation and may require reinitiation of consultation with NMFS.

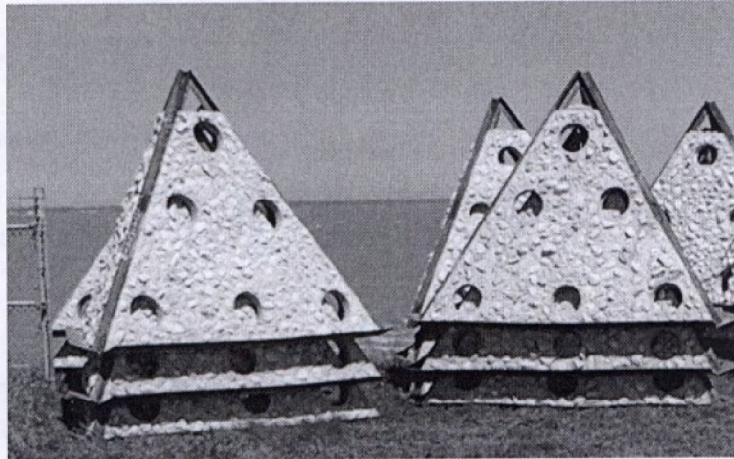


Figure 1. Original design of closed-top, open-bottom artificial reef modules

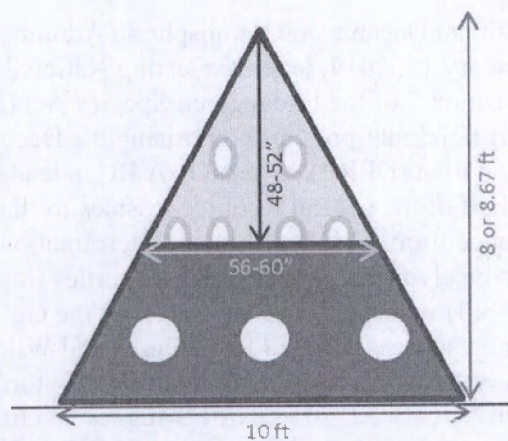


Figure 2. Modified artificial reef module with an 'open-top and open-bottom' pyramid

### *Phase 3 DERP*

Under the Oil Pollution Act, the federal government and affected state governments act as trustees on behalf of the public. The trustees are charged with recovering damages from the responsible parties to restore the public's natural resources that sustained injuries. The Phase 3 DERP contains the plan for a series of restoration actions that the trustees will undertake to compensate the public for the natural resource injuries caused by the Deepwater Horizon oil spill. NOAA shares trusteeship with the other natural resource trustees over all of the resources

that will benefit from these restoration actions. While the Phase 3 DERP includes a suite of projects, this project is independent from the others.

The following 3 projects are designed to install artificial reefs in Texas coastal waters. They are not located within designated Gulf sturgeon critical habitat (68 FR 13370, March 19, 2003), nor proposed loggerhead sea turtle critical habitat (78 FR 43005, July 18, 2013). The TPWD or its working crew will follow NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*, dated March 23, 2006 (enclosed). Each project is described in detail below and locations are shown in Figure 3:



Figure 3. Yellow dots show the approximate location of Texas artificial reef project sites (2009 Google Earth© image)

TPWD proposes to build and deploy artificial reefs through a competitive bid process. The commercial marine contractor with the winning bid will be contracted by TPWD, who holds the permit for the reef site. The modified 3-sided pre-designed concrete pyramids (Figure 2) will be made of materials to match a natural reef in pH and substrate using concrete, limestone, and rebar or other similar materials. The proposed modified pyramid structures are anticipated to have a rebar frame inside of a 6,000-lb concrete structure built to withstand storm events. The structures, designed to prevent settling and scouring, will be 8 ft high and will have a 10- by 10- by 10-ft footprint (each having an individual footprint of 43 ft<sup>2</sup>). TPWD or its contractor will use a dynamically-positioned vessel/barge (i.e., not anchored) with a crane on a barge and a GPS antenna positioned at top of the crane boom. The reef modules will be placed by lowering them into specific positions using the barge-mounted crane with a quick-release mechanism. The drop/release point will be approximately 5 ft from the sea bottom. The modified pyramids will be dropped to the bottom in an upright position, as the weight of the pyramid is in the base.

1. The Corpus Christi Artificial Reef (MU-775) (SWG-2010-01407; SER-2014-12910) Project is located at 27.6464°N, 97.0074°W (North American Datum of 1983) within the GOM in the Outer Continental Shelf Mustang Island Block 775 (MU-775) offshore of Nueces County, Texas (Figure 3). It is located about 11 miles off Packery Channel and Mustang

Island State Park (near Corpus Christi Bay, Texas). The current reef site is permitted for 160 acres, and already has artificial reef materials in the northwest quadrant and in the center of the permitted area. The applicant proposes to place approximately 1,000 to 1,200 modified pyramids onto sandy substrate in the remaining portions (about 115 acres) of the 160-acre permitted area at a water depth of 73 ft mean lower low water (MLLW). The cumulative project footprint of the modified artificial reef modules has an area approximately 43,000-51,600 ft<sup>2</sup> (or ~0.99-1.18 acres). Deployment of reef materials is expected to take 10 days, working 14 hours per day during daylight hours, thereby limiting the duration of any potential impacts.

2. The Freeport Artificial Reef (BA-336) (SWG-2010-00264; SER-2014-12916) Project is located at 28.793009°N, 95.347796°W (North American Datum of 1983) within the GOM in the Outer Continental Shelf Brazos Block 336 (BA-336) (Figure 3). It is located about 6 miles offshore from Brazoria County, Texas. The current reef site is permitted for 160 acres, but only has materials in 40 acres. These 40 acres contain the Vancouver Liberty Ship, additional reef material including 1-ton+ quarry rock, concrete culverts, and 100 pyramid structures similar to the proposed pyramids for this project (Figure 4).

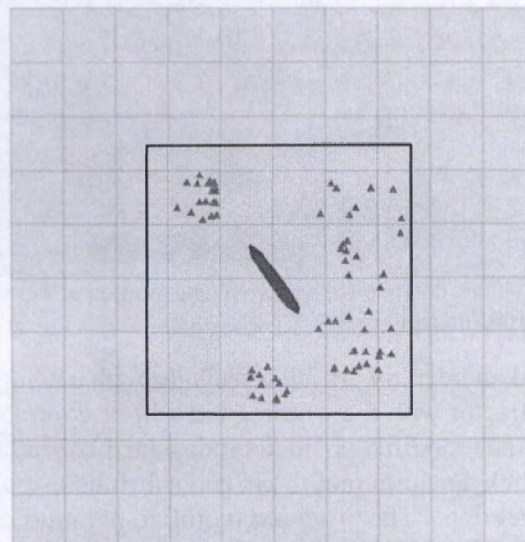


Figure 4. Diagram of the 160-acre Freeport Reef Project area. The gray triangles indicate the areas where concrete pyramids are currently located. The red oval depicts the location and orientation of the Liberty Ship.

The applicant proposes to place approximately 800-950 modified pyramids in the remaining portions (about 120 acres) of the 160-acre permitted area, positioning them on barren sand and silt substrate at a water depth of 55 ft at MLLW. The cumulative project footprint of the modified artificial reef modules has an area of approximately 34,400-40,850 ft<sup>2</sup> (or ~0.79-0.94 acre). Deployment of reef materials is expected to take 4 days, working 14 hours per day during daylight hours, thereby limiting the duration of any potential impacts.

3. The Matagorda Artificial Reef (BA-439) (SWG-2009-01139; SER-2014-12920) Project is located 28.516972°N, 95.781252°W (North American Datum of 1983) located in the GOM in the Outer Continental Shelf Brazos Block 439 (BA-439) (Figure 3). The project is located

about 10 miles offshore from Matagorda County, Texas and 17 miles from the mouth of the Colorado River. The applicant proposes to place approximately 1,600 modified pyramids in the 160-acre permitted area, positioning them on barren sand and silt substrate at a water depth of 60 ft at MLLW. The cumulative project footprint of the modified artificial reef modules has an area approximately 68,800 ft<sup>2</sup> (or ~1.58 acres). Deployment of reef materials is expected to take 10 days, working 14 hours per day during daylight hours, thereby limiting the duration of any potential impacts.

Five ESA-listed species of sea turtles (the endangered leatherback, Kemp's ridley, and hawksbill; the threatened/endangered<sup>2</sup> green; and the threatened loggerhead), can be found in or near the action area and may be affected by the projects. NMFS has identified the following potential effects to listed species from the deployment of these artificial reef materials and concluded that sea turtles are not likely to be adversely affected.

1. Effects include being struck by artificial reef materials during deployment from barges, or being struck by the barges.<sup>3</sup> Due to the species' mobility, the risk of injury will be discountable. The controlled rate of descent of the reef materials and compliance with the Sea Turtle and Smalltooth Sawfish Construction Conditions will further reduce the risk. The slow transit speed of the towed barge (5 knots or less) to and from the sites renders the risk of a vessel strike interaction discountable.
2. Sea turtles may be temporarily unable to use the sites for forage or refuge habitat due to potential avoidance of deployment activities, but this effect will be insignificant, given the short duration of deployments. Also, the drop sites consists of barren sand and silt and are unlikely to attract sea turtles because they lack physical features which could be used for foraging or shelter.
3. Post-construction, as their surfaces get colonized and encrusted with marine organisms, the artificial reef pyramids may attract recreational fishermen and foraging sea turtles, or sea turtles seeking shelter inside the structures, which may potentially result in interactions with local fishermen (i.e., by hooking and/or entanglement). Thus, increased fishing effort may result from the proposed reef creation. However, this is not expected to exceed overall effort levels existing prior to reef creation (i.e., one would not expect a new fisherman to purchase a boat merely to be able to fish the "new" artificial reef), merely to shift where that effort currently occurs. Any potential use of this site will likely reduce commercial and recreational pressure at other nearby reef sites (including natural reefs), resulting in no net increase in commercial and recreational activities in the area. Compliance with the Army Corps of Engineers' and the Environmental Protection Agency's artificial reef guidance,<sup>4</sup> developed and refined over time to avoid adverse impacts to marine wildlife—including prevention of sea turtles entering and potentially becoming trapped in reef structures—is a

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<sup>2</sup> Green turtles are listed as threatened, except for breeding populations in Florida and the Pacific coast of Mexico, which are listed as endangered.

<sup>3</sup> Other effects may include the entanglement of turtles in derelict fishing gear; however, these effects have been previously analyzed in NMFS's Gulf of Mexico Reef Fish Fishery Biological Opinion dated September 30, 2011.

<sup>4</sup> <http://www.saj.usace.army.mil/Missions/Regulatory/SourceBook.aspx>, Permitting: Artificial Reefs

condition of the permit. TPWD's Texas Artificial Reef Act of 1990 provides further guidance and protective measures to avoid adverse impacts to marine wildlife.

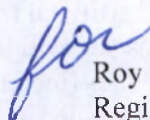
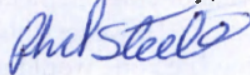
4. Sport fishermen boating to and from the artificial reefs will be an indirect effect of the proposed action. These and other high-speed recreational boats can strike sea turtles, leading to injury or death. We believe the risk of vessel strike impacts to sea turtles from construction and future use of the reef site is discountable. The addition of a new artificial reef to the area may cause an increase in vessel traffic to the area, but this will generally coincide with fair weather patterns and calm sea states that will largely allow boaters to detect and avoid any sea turtles in their path, as they would normally avoid hitting any floating objects. Frequently, sea chop and wind will compel boaters to slow down, further reducing the strike risk.<sup>5</sup>

Finally, we concur with your project-effect determinations that the projects for which you requested ESA Section 7 consultation are not likely to adversely affect leatherback, Kemp's ridley, hawksbill, loggerhead, or green sea turtles.

This concludes the NOAA Restoration Center's 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 the identified action is subsequently modified in a manner that causes an adverse 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.

We have enclosed additional relevant information for your review. 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 on this consultation, please contact Nicolas Alvarado, Consultation Biologist, at (727) 209-5955, or by email at [Nicolas.Alvarado@noaa.gov](mailto:Nicolas.Alvarado@noaa.gov).

Sincerely,



Roy E. Crabtree, Ph.D.  
Regional Administrator

- Enc.: 1. *Sea Turtle and Smalltooth Sawfish Construction Conditions* (Revised March 23, 2006)  
2. *PCTS Access and Additional Considerations for ESA Section 7 Consultations*  
(Revised June 11, 2013)

File: 1514-22.C

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<sup>5</sup> Barnette, M. NMFS Memorandum dated April 18, 2013: Threats and Effects Analysis for Protected Resources on Vessel Traffic Associated with Dock and Marina Construction. NMFS Southeast Regional Office, Protected Resources Division.

## **SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS**

The permittee shall comply with the following protected species construction conditions:

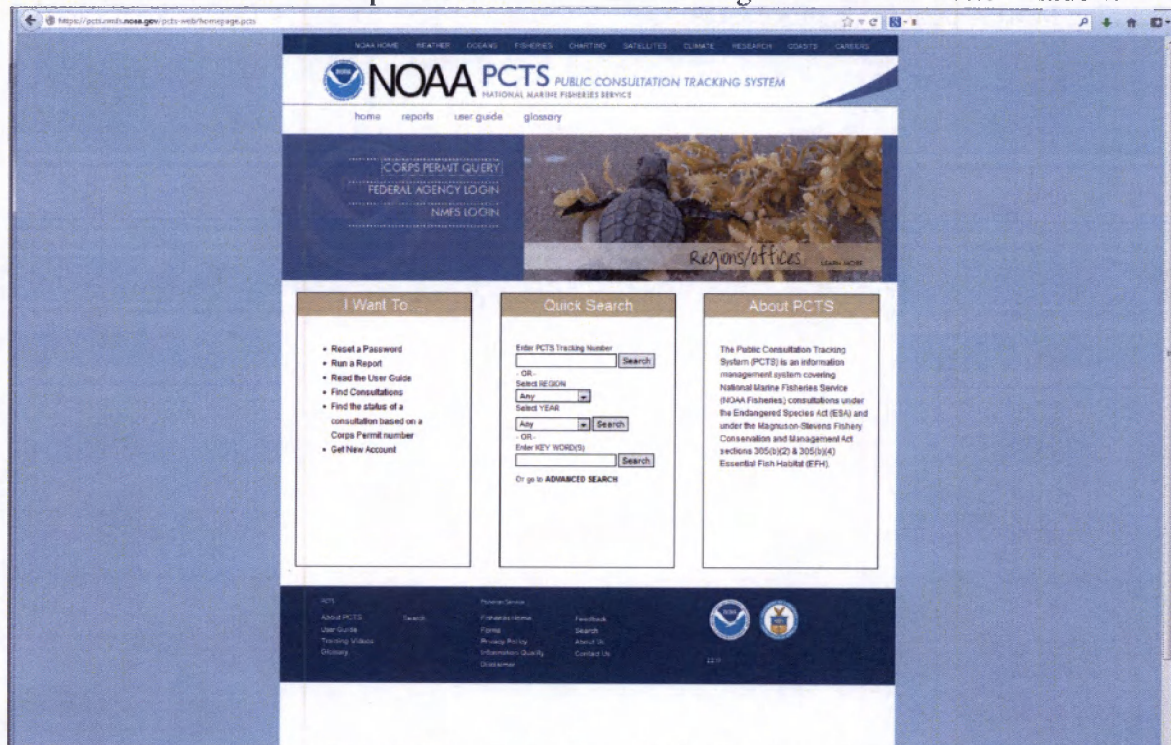
- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006

## PCTS Access and Additional Considerations for ESA Section 7 Consultations (Revised 6-11-2013)

**Public Consultation Tracking System (PCTS) Guidance:** PCTS is a Web-based query system at <https://pcts.nmfs.noaa.gov/> that allows all federal agencies (e.g., U.S. Army Corps of Engineers - USACE), project managers, permit applicants, consultants, and the general public to find the current status of NMFS's Endangered Species Act (ESA) and Essential Fish Habitat (EFH) consultations which are being conducted (or have been completed) pursuant to ESA Section 7 and the Magnuson-Stevens Fishery Conservation and Management Act's (MSA) Sections 305(b)2 and 305(b)(4). Basic information including access to documents is available to all.

The PCTS Home Page is shown below. For USACE-permitted projects, the easiest and quickest way to look up a project's status, or review completed ESA/EFH consultations, is to click on either the "Corps Permit Query" link (top left); or, below it, click the "Find the status of a consultation based on the Corps Permit number" link in the golden "I Want To..." window.



Then, from the "Corps District Office" list pick the appropriate USACE district. In the "Corps Permit #" box, type in the 9-digit USACE permit number identifier, with no hyphens or letters. Simply enter the year and the permit number, joined together, using preceding zeros if necessary after the year to obtain the necessary 9-digit (no more, no less) number. For example, the USACE Jacksonville District's issued permit number SAJ-2013-0235 (LP-CMW) must be typed in as 201300235 for PCTS to run a proper search and provide complete and accurate results. For querying permit applications submitted for ESA/EFH consultation by other USACE districts, the procedure is the same. For example, an inquiry on Mobile District's permit MVN201301412 is entered as 201301412 after selecting the Mobile District from the "Corps District Office" list. PCTS questions should be directed to Eric Hawk at [Eric.Hawk@noaa.gov](mailto:Eric.Hawk@noaa.gov) or (727) 551-5773.



**EFH Recommendations:** In addition to its protected species/critical habitat consultation requirements with NMFS' Protected Resources Division pursuant to Section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NMFS' Habitat Conservation Division (HCD) pursuant to the MSA requirements for EFH consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-930, subpart K). The action agency should also ensure that the applicant understands the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will (and the applicant may) receive separate consultation correspondence on NMFS letterhead from HCD regarding their concerns and/or finalizing EFH consultation.

**Marine Mammal Protection Act (MMPA) Recommendations:** The ESA Section 7 process does not authorize incidental takes of listed or non-listed marine mammals. If such takes may occur an incidental take authorization under MMPA Section 101 (a)(5) is necessary. Please contact NMFS' Permits, Conservation, and Education Division at (301) 713-2322 for more information regarding MMPA permitting procedures.