Subject: DWH-Early Restoration- Essential Fish Habitat Consultation Initiation-Florida Oyster Cultch project
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Date: 3/5/2014 1:41 PM
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Mr. Thompson,
Attached is the Essential Fish Habitat Assessment for the Florida Oyster Cultch project. This project is being proposed in the Deepwater Horizon Draft Phase III Early Restoration plan and Programmatic Environmental Impact Statement. Please consider this our initiation of our Essential Fish Habitat consultation. If you anticipate this consultation requiring more than 30 days (April 4, 2014) please let me know.

If you have any questions or require additional information, please contact me at 409-621-1248 or at jamie.schubert@noaa.gov.
Thanks,

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Attachments:

DWH-ER-EFH-oyster.reef.restoration.Florida-2014-02-14.docx	965 KB

Determination of Effect on Essential Fish Habitat from Florida Oyster Cultch project

EFH overview from Magnuson Stevens Act

The 1996 Magnuson-Stevens Act requires cooperation among the National Marine Fisheries Service (NMFS), anglers, and federal and state agencies to protect, conserve, and enhance Essential Fish Habitat (EFH). EFH is defined as those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. The designation and conservation of EFH seek to minimize adverse effects on habitat caused by fishing and non-fishing activities.

Project description

The proposed Florida Oyster Cultch project would enhance and improve the oyster populations in Pensacola Bay, Andrew Bay and Apalachicola Bay. The proposed improvements include the placement a total of 42,000 cubic yards of suitable cultch material over 210 acres of previously constructed oyster bars for the settling of native oyster larvae and oyster colonization in the three Florida Bays.

The proposed project involves oyster reef restoration for oyster beds that have reached their productive lifespan. The proposed project is to improve and restore existing oyster beds managed by the Florida Department of Agriculture and Consumer Services (DACS). The majority of the land is publicly owned and managed by DACS as part of the Florida Coastal Management Program in accordance with the Coastal Zone Management Act.

This oyster reef restoration project is designed to help support natural oyster populations without requiring construction of new facilities or developing new approaches to pursuing the project objectives. The project involves placing suitable cultch material on previously constructed oyster bars for the settling of native oyster larvae and encouragement of oyster colonization in three Florida bays (see locations in Figure A). The proposed effort includes:

- Placing 12,000 cubic yards of shell on debilitated oyster reefs over a 60 acre area in the Pensacola Bay system in Escambia and Santa Rosa Counties;
- Placing 12,000 cubic yards of shell on debilitated oyster reefs over a 60 acre area in the St. Andrew Bay system in Bay County; and
- Placing 18,000 cubic yards of shell on debilitated oyster reefs over a 90 acre area in the Apalachicola Bay system in Franklin County.

Cultch material to be placed will consist of combinations of oyster shells, either mined from existing sources or produced from active oyster shell collection programs, and/or limestone approved for use in these projects by Florida's Department of Agriculture and Consumer Services (DACS). The cultch placement generally involves offloading material from barges mechanically using either spray cannons or large excavator type equipment. The new cultch material will be placed on top of existing oyster bars created and managed by DACS because these bars are depleted of shell material or have reached the end of their productive life.

Processed oyster shell is used for cultch material to restore reefs where the shell is available and can be efficiently transported to reef sites. Processed shell is purchased from local processors through a shell buying program run by the Department that enlists participants and establishes a

price per cubic yard for the processed shell collected. The Department schedules shell collections, collects, transports, and stockpiles shell for the oyster restoration project.

The Department operates a work crew, with dump trucks and front-end loader tractors, to meet scheduling needs. Processed shell is collected from 2-5 days per week, depending upon the availability of shell and the time of year. Processed oyster shell is collected and transported to the stockpile areas where it is stored. The storage period provides for a process called "seasoning" which lasts for at least two weeks that removes bacterial film from the shell and provides a cleaner substrate for larval attachment. The Department maintains a shell stockpile in Apalachicola.

Seasoned shell is removed from the stockpile, placed on deck barges, and transported to reefs sites, where it is washed overboard using high pressure water jets which are never pointed directly into the seafloor (See Figures B1-B6 for images from this sequence of events). Similarly, fossil shell or lime rock is transported by deck barge to the reef sites, where it is washed overboard using a high pressure water stream, or deposited using a crane and bucket. The method for deposition is determined by the material used and the configuration and elevation of the reef to be restored. Fossil shell and lime rock are products commonly mined from quarries in the Gulf Coast region. Depending upon availability, this cultch material can also be utilized. Resource managers consider this calcium carbonate-based material to be a suitable alternative cultch material for constructing oyster reef habitat. This material is also used to construct oyster reefs in areas where processed oyster shell is not readily available.

Reef locations and specific deposition sites are delineated and marked by staff prior to depositing cultch materials. The Department currently operates most of the equipment required to collect, transport and deposit the cultch material, including dump trucks, tractors, tug boat, and deck barges. Transport of the cultch to the oyster reefs for this project will occur in designated shipping channels and known deep water areas. The equipment (e.g., shallow draft barges) selected for the delivery of the cultch is made in these project to avoid potential prop dredging or scraping of bottom areas in order to avoid adversely impacting important habitats such as submerged aquatic vegetation beds. In shallower locations where such concerns exist different placement methods, such as the use of oyster boats to relay the cultch material, are incorporated to prevent impacts to these sensitive habitats. Once onsite at the reef, cultch is deposited at a rate of 100 - 300 cubic yards per acre; the amount of material deposited is determined by the condition of the reef to be restored. In cases where the physical integrity of the reef has been severely damaged, up to 300 cubic yards may be required.

For Apalachicola Bay cultch deposition projects, loading is done in one day (one barge) and based on the proximity to the staging area, planting is accomplished on the following day. For all estuaries west of Apalachicola Bay, loading is accomplished in 2-3 days (two barges) and travel time to and from a given estuary (2-9 days) would yield a maximum project duration of 12 days to accomplish the restoration work.

Cultching activities have been historically conducted year round (February - November). Ideally, cultching activities are conducted prior to a spat fall event however, cultching activities are similar to crop rotation, in that all oyster reef complexes require routine maintenance in the form of cultching and the Department rotates which reefs receive the required attention based on commercial harvesting seasons, availability of material, and severity of reef conditions following assessments.

This project will also incorporate a mix of monitoring efforts to ensure project designs are correctly implemented during construction. Post construction performance monitoring would focus on the recruitment and growth of oysters on the new cultch placements. Restored reefs may become productive in as few as 3 to 6 months under optimal conditions, with oyster reaching market size in 12 to 18 months. However, since recruitment and survival can be highly variable, some reefs may not become productive for 2-5 years. It has been shown that restored reefs can remain productive for more than 10 years with little additional maintenance. Based on the expected longevity of the restored reefs, a monitoring program would assess oyster population parameters for ten years.

Federally managed fisheries and EFH

Information on designated EFH in the Gulf of Mexico was obtained in September, 2013 from the NMFS' EFH web site at *http://www.habitat.noaa.gov/protection/efh/newInv/index.html*. Table 1 provides a summary of the species identified as having designated EFH for one or more life stages within the potential project implementation areas.

Table 1. Federally managed fisheries with designated Essential Fish Habitat (EFH) in the proposed project area.

EFH_Category	Species
Atlantic Highly Migratory Species	
	Atlantic Sharpnose Shark - Adult
	Atlantic Sharpnose Shark - Juvenile
	Atlantic Sharpnose Shark - Neonate
	Blacknose Shark - Adult
	Blacknose Shark - Juvenile
	Blacknose Shark - Neonate
	Blacktip Shark - Adult
	Blacktip Shark - Juvenile
	Blacktip Shark - Neonate
	Bonnethead Shark - Adult
	Bonnethead Shark - Juvenile
	Bonnethead Shark - Neonate
	Bull Shark - Adult
	Bull Shark - Juvenile
	Bull Shark - Neonate
	Finetooth Shark - Adult and Juvenile
	Great Hammerhead Shark All
	Lemon Shark - Adult
	Nurse Shark - Adult
	Nurse Shark - Juvenile
	Sandbar Shark - Adult
	Sandbar Shark - Neonate
	Scalloped Hammerhead Shark - Adult

EFH_Category	Species
	Scalloped Hammerhead Shark - Juvenile
	Scalloped Hammerhead Shark - Neonate
	Spinner Shark - Adult
	Spinner Shark - Juvenile
	Spinner Shark - Neonate
	Tiger Shark - Juvenile
Coastal Migratory Pelagics of the Gulf of Mexico AND South Atlantic	
	Cobia
	King Mackerel
	Spanish Mackerel
Gulf of Mexico Red Drum	
	Red Drum
Gulf of Mexico Shrimp	
	Brown Shrimp
	Pink Shrimp
	Rock Shrimp
	Seabob Shrimp
	White Shrimp
Reef Fish Resources of the Gulf of Mexico	
	Almaco Jack
	Banded Rudderfish
	Black Grouper
	Blackfin Snapper
	Blueline Tilefish
	Cubera Snapper
	Gag
	Goldface Tilefish
	Gray (Mangrove) Snapper
	Gray Triggerfish
	Greater Amberjack
	Hogfish
	Lane Snapper
	Lesser Amberjack
	Mutton Snapper
	Nassau Grouper
	Queen Snapper
	Red Grouper
	Red Snapper
	Scamp
	Silk Snapper
	Snowy Grouper
	Speckled Hind

EFH_Category	Species
	Tilefish
	Vermilion Snapper
	Warsaw Grouper
	Wenchman
	Yellowedge Grouper
	Yellowfin Grouper
	Yellowmouth Grouper

Assessment of effects to EFH

It is unlikely that the placement and use of oyster cultch would have any adverse effect to federally managed species or designated EFH, since any initial disturbance would be very brief, would not interfere with EFH used for migration, spawning or refuge areas, and would eventually be likely to benefit many federally managed species. Additionally, the habitat in the proposed location (see Figure A) is already managed for use consistent with the restoration project and there should not be any significant habitat conversion as a result of the placement. Placement of the cultch can occur relatively quickly and any disturbance would be brief. Movement of HMS would not be impeded by the oyster cultch. The possibility for oyster bars interfering with vessel navigation is also low, as cultch would be placed in locations where oyster reefs are already located and maintained by DACS.

It is anticipated that offloading cultch material from barges using spray cannons or large excavator type equipment would have only brief and minor effects to any federally managed species or designated EFH. The duration and extent of disturbance would not significantly interfere with species migration, nesting or refuge areas, since adjacent areas of similar habitat would be available and undisturbed, and most organisms could easily move away from the temporary disturbance activity to undisturbed areas when it occurs. Best management practices for construction would be followed to minimize impacts.

The project would have a relatively small spatial impact relative to the Gulf of Mexico management area (see Figure A). Finally, the lack of adverse effects is a reflection of the *net* impact of the project which is focused on restoring a habitat critical to native oysters, which would not be suitable if the bars were not restored. It is anticipated that the proposed project would provide a net benefit to the communities present, to the habitat services they provide, and to biological resources that depend on them.

Conclusion

Potential impacts to EFH in the proposed locations for the oyster reef restoration project have been assessed and it has been determined that the restoration is not likely to adversely affect EFH. Implementing the project would not result in the creation or conversion of one EFH habitat type to another type as cultch placement is only proposed to occur in areas that previously supported oyster bars. Disturbance to any EFH and species using the habitat in areas adjacent to locations where bars would be restored would be brief and insignificant with risks further mitigated by following identified best management practices during construction. No adverse impacts to other EFH types would result from the proposed restoration techniques.

Figure A. Potential locations for restoration activity for the Florida Oyster Cultch Restoration Project

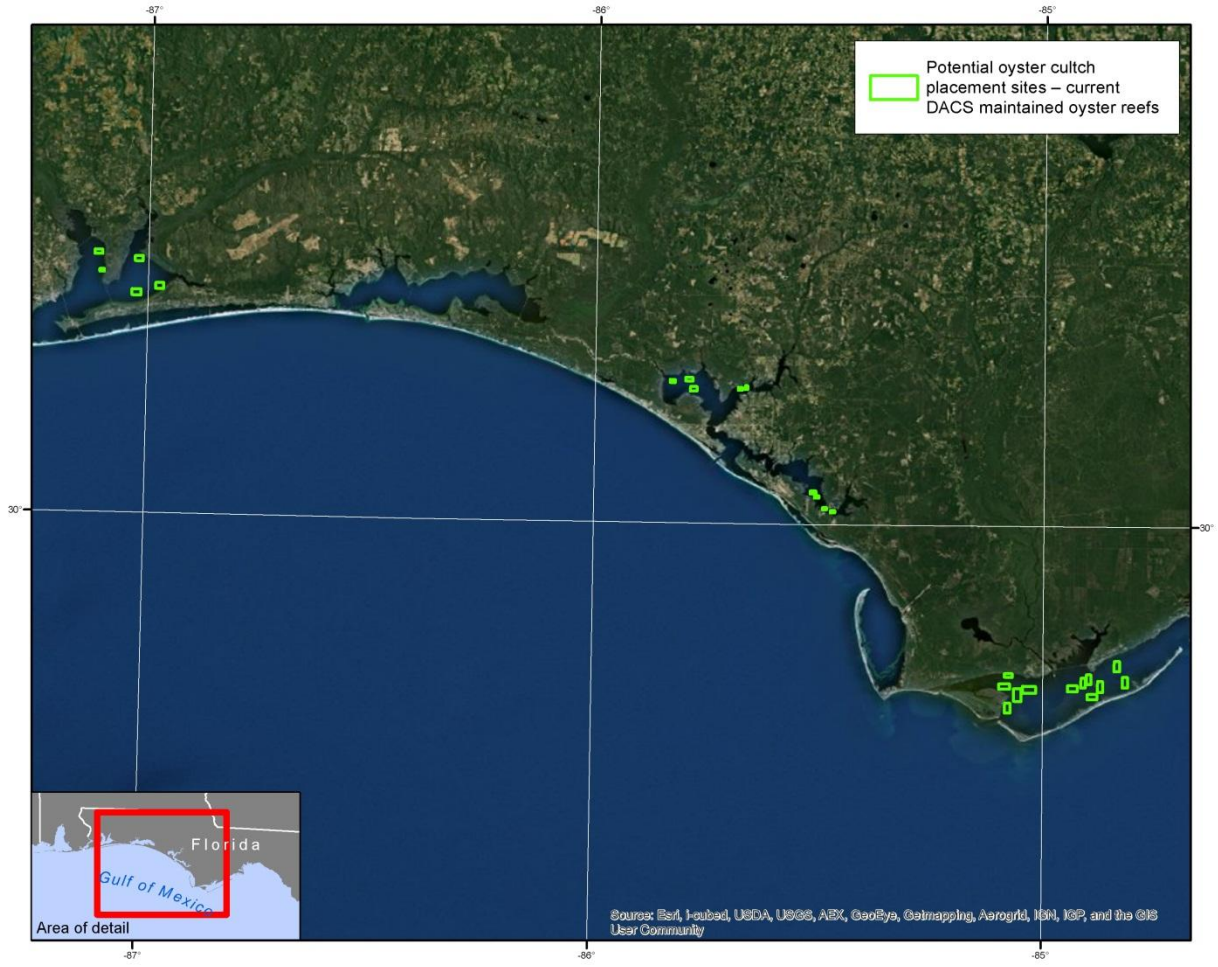

Figure B1-B6. Examples of cultch storage area, loading on a barge, and transport to a restoration site (left side) and offloading at restoration site using a water cannon (right side)