



Project Design Criteria Checklist for the U.S. Army Corps of Engineers Jacksonville District's Programmatic Biological Opinion

Activity 7: Aquatic Habitat Enhancement, Establishment, and Restoration

Agency internal use only:				
Date checklist sent to NMFS (MM/DD/YY)	PM Last Name	Application #	Checklist Version #	

Proposed Activity (Select all that apply): *[SPGP Ref: only selection applicable to SPGP is "Living shoreline", Work Authorized A.1.f.]*

- Oyster reef
- Living shoreline
- Enhancing/establishing submerged aquatic vegetation
- Artificial reef
- Fill to restore natural contours/improve water quality

Proposed Activity (Select all that apply):

A7.1 Only native plant species are used. *[SPGP Ref: Work Authorized C.2.f and Special Condition 6.d.]*

Living Shoreline and oyster habitat on unvegetated bottom in tidal waters:

[SPGP Ref: Work Authorized C.2.e.(3) and Special Condition 6.c.(3)]

A7.2. Oyster reef materials are placed and constructed in a manner that ensures that materials will remain stable and that prevents movement of materials to surrounding areas.

A7.3. Oyster reef materials will be placed in designated locations only. *[SPGP Ref: Work Authorized C.2.e.(4) and Special Condition 6.c.(4)]*

A7.4. Living shorelines will be constructed in unvegetated, nearshore water along shorelines to create tidal marshes or mangrove habitat for the purpose of shoreline erosion control or aquatic habitat enhancement. (Native plants can be placed along the shoreline or between the shoreline and the living shoreline structure.) *[SPGP Ref: Work Authorized C.2.d. and Special Condition 6.b.]*

A7.5. Living shoreline structures and permanent wave attenuation structures are constructed out of the following materials: oyster breakwaters, clean limestone boulders or stone, small mangrove islands, biologs, coir, rock sills, and pre-fabricated structures made of concrete and rebar that are designed in a manner so that they do not trap sea turtles, smalltooth sawfish, or sturgeon. Reef balls or similar structures that are not open on the bottom, open-bottom structures with a top opening of at least 4 ft, and reef discs stacked on a pile are pre-fabricated structures are designed in a manner so that they do not trap sea turtles. *[SPGP Ref: Work Authorized C.2.e. and Special Condition 6.d.]*

A7.6. Both living shoreline and oyster reefs must have 5 ft gaps at least every 75 ft in length, as measured parallel to the shoreline and at the sea floor, to allow for tidal flushing and species movement.

Additional Conditions for the establishment or restoration of submerged aquatic vegetation: *[SPGP Ref: this section not applicable to SPGP because is not one of the activities enumerated as a work authorized.]*

A7.7. The placement of loose or bagged sediment suitable for the project site in blowholes/dredge holes or in prop scars, and berm redistribution or sod replacement in excavations, are to an elevation level with or otherwise consistent with the adjacent area.

A7.8. The level of the restoration area matches the elevation of adjacent seagrass beds. (Leveling submerged spoil piles or berms is permitted, if necessary).

A7.9. The use of an exclusion cage(s) around the seagrass restoration area is necessary to allow the seagrass beds to establish themselves to the point of sustainability after the cages are removed. The exclusion cage(s) will be temporary and used for a period not to exceed 4 months. The exclusion cage will be securely fastened to the substrate so that it does not detach. The cage will be constructed with firm, taut materials and will NOT include any loose mesh, this twistable wire, or rope that could twist or become entangled or present an entanglement risk to species.

A7.10. Seagrass transplantation and harvesting from the donor site will occur only by hand. (Donor sites may include (i) upland seagrass farms, (ii) areas with seagrasses that would be impacted by another project, or (iii) existing seagrass beds, as long as the seagrass is removed in a manner that is not detrimental to the existing seagrass bed. Transplantation methods may include, but are not limited to, plugging devices, manual transplant, peat pellets, peat pots, and coconut fiber mats.) No in-water machinery (e.g., marsh buggies, track hoe) will be used in harvesting or transplanting the seagrasses. The selection of and harvesting from seagrass donor sites will be coordinated with NMFS Habitat Conservation Division. No transplantation of the invasive seagrasses (e.g., Halophila stipulacea).

A7.11. Stakes shall be installed to attract birds, if necessary or appropriate. The bird stakes will NOT be used in areas where additional nutrients may be detrimental to the seagrass.

(Bird stakes are not authorized in the U.S. Caribbean.

A7.12. Signage (supported on piles or anchored) will be installed if necessary to prevent motorized boats from entering the area and anchoring. All signs will be sized and placed in a manner that prevents the loss of native seagrasses from sign shading.

Additional conditions for the installation of artificial reefs from the placement of man-made materials: *[SPGP Ref: this section not applicable to SPGP because is not one of the activities enumerated as a work authorized.]*

A7.13. Artificial reef materials shall be clean and free from asphalt, creosote, petroleum, other hydrocarbons and toxic residues, loose free-floating material, or other deleterious substances.

A7.14. New reef sections are limited to 1 reef section measuring ¼- by ¼-nmi area (40 ac) in size with a distance of 500 ft between each section. Offshore reefs shall maintain a minimum vertical clearance of twice the height of the structure from the top of the deployed material relative to the MLW at all times.

A7.15. Reauthorization of existing reefs is limited to the previously permitted size. Approved materials defined in PDC A7.19 can be added to the existing reef area.

A7.16. No artificial reef materials shall be deployed until a benthic assessment of the bottom conditions has been accomplished by diver or submersible video camera. The inspection of the deployment area may

occur at the time of deployment but no more than 1 year prior to deployment. The permittee shall maintain a deployment buffer of at least 200 ft from any submerged aquatic resources, including seagrasses, macroalgae, hard or soft coral (including coral reefs), sponges, oysters, or hard bottom when placed in areas of sand. If materials are off-loaded from a barge or placed in areas that may generate turbidity (e.g., areas with fines or muck), a 500 ft buffer is required.

A7.17. The project does not include the use of mid-water fish aggregation devices.

A7.18. All reefs will be cleaned annually to remove marine debris and derelict fishing line in areas safely accessible to recreational SCUBA divers. Cleanup efforts shall follow the PDCs for Activity 9, marine debris removal, and all pertinent general PDCs.

Additional conditions for reef materials: *[SPGP Ref: this section not applicable to SPGP because is not one of the activities enumerated as a work authorized.]*

Only the following reef materials may be used:

A7.19. Individual reef units or modules must weigh at least 500 pounds. Reef materials will be clean and free from asphalt, petroleum, other hydrocarbons, and toxic residues, as well as loose, free-floating material, or other deleterious substances. All artificial reef materials and/or structures will be selected, designed, constructed, and deployed to create stable and durable marine habitat.

Only the following reef materials may be used

A7.19.1. Prefabricated artificial reef modules composed of ferrous and/or aluminum alloy metals, concrete, rock, or a combination of these materials.

A7.19.2. Natural rock boulders and pre-cast concrete material, such as culverts, stormwater junction boxes, power poles, railroad ties, jersey barriers, or other similar concrete material.

A7.19.3. Clean steel and concrete bridge or large building demolition materials such as slabs or piles with all steel reinforcement rods cut at the base of the concrete so no rebar or metal protrudes from the concrete.

A7.20. Reef structures, materials, and installation methods will be designed and deployed to prevent entanglement and entrapment of listed species. Open-bottom pre-fabricated reef modules may not be used unless the module also has a top opening sufficiently large to allow a turtle to escape. Approved open-bottom modules include:

A7.20.1. Three-sided modules where each side of the top opening is at least 36-in in length along its edge.

A7.20.2. Four or more sided modules where each side of the top opening is at least 40-in in length along its edge.

A7.20.3. Modules with a round opening with a diameter of at least 40-in (oval openings are not allowed unless a 40-in diameter circle space can fit within the oval).

A7.20.4. Modules that are approved by the FWS Artificial Reef Program as being turtle friendly. FWS is currently working on developing this list. No open-bottom modules are allowed that include additional modules, discs, or other materials stacked or placed on or immediately adjacent to the top opening, as they may prevent turtles from easily escaping.

Fill to restore natural contours or improve water quality: *[SPGP Ref: this section not applicable to SPGP because is not one of the activities enumerated as a work authorized.]*

A7.23. Fill of scars or ruts caused by vessel groundings or similar activities must match the surrounding natural elevation.

A7.24. Deep holes or canal bottoms that are determined to be hypoxic, (i.e., have critically low dissolved oxygen levels) will be filled.

The following apply to all the above activities:

Is the project located in the geographic area of Smalltooth sawfish critical habitat *[SPGP Attachment 13]*

Oyster reefs, living shorelines, or artificial reefs are placed in waters containing the shallow, euryhaline essential feature (A7.25) *[SPGP Ref: Work Authorized C.1.g.; Work Authorized B.1.m. not allow any activity within the exclusion zone.]*
Project is not located in smalltooth sawfish limited exclusion zone (A7.25.).

Is the project located in the geographic area of Gulf Sturgeon Critical Habitat *[SPGP Attachment 15]*

A7.26. Gulf sturgeon critical habitat: Oyster reefs, living shorelines, and seagrass restoration in Gulf Sturgeon Critical Habitat are restricted to areas that are in water depths shallower than -6 ft (-2m) MHW (i.e., between the shoreline and -6 ft deep). *[SPGP Ref: Work Authorized C.1.h.]*

A7.26. Artificial reef structures will not be placed in Gulf sturgeon critical habitat. *[SPGP Ref: not applicable because not a work authorized by SPGP.]*

A7.26. Gulf sturgeon critical habitat: Fill to restore natural contours or improve water quality will occur in Gulf Sturgeon Critical Habitat, regardless of project depth depth. *[Not a work authorized by SPGP.]*

A7.26. Gulf sturgeon critical habitat: Living shorelines, oyster reefs, and artificial reefs will not be placed in Gulf Sturgeon Critical Habitat Migratory Restriction Zones, defined in Section 2.1.1.2.

Is the project located in the geographic area of Acropora Critical Habitat *[SPGP Attachment 10]*

A7.28. No aquatic habitat enhancement, establishment, or restoration activities in Acropora Critical Habitat will occur where the essential feature is present. *[SPGP Ref: Work Authorized C.1.i.]*

Is the project located in the geographic area of Johnson’s Seagrass Critical Habitat *[SPGP Attachment 16]*

A7.29. Living shorelines, oyster reefs, and artificial reefs will not be placed in waters shallower than -13 ft MHW. *[SPGP Ref: Work Authorized C.1.j.]*

Is the project located in the geographic area of Loggerhead Critical Habitat: *[SPGP Attachment 24]*

A7.30. Living shorelines, oyster reefs, and artificial reefs are not placed in nearshore reproductive habitat of loggerhead critical habitat. *[SPGP Ref: Work Authorized C.1.k.]*

Is the project located in the geographic area of U.S. Caribbean Sea Turtle Critical Habitat *[SPGP Ref: not applicable to SPGP as these are not in Florida.]*

A.31. No aquatic enhancement activities are occurring.

Is the project located in the geographic area of North Atlantic Right Whale Critical Habitat: *[SPGP Attachment 25]*

[SPGP Ref: Work Authorized C.1.l does not allow living shoreline activities within this critical habitat. All other activity types mentioned not authorized by SPGP.]

A7.27.1. Artificial reef is not be placed in water shallower than 30 ft deep

A7.27.2. The maximum reef height off the sea floor is 20 ft

A7.27.3. The maximum footprint of new reefs shall be 1 nmi². If a new reef is added to an existing artificial reef, the total footprint of the combined reefs will not exceed 1 nmi².

A7.27.4. Density of newly permitted reefs does not exceed 2 reefs (old or new) per 10

A7.27.5. No material is placed during whale calving season (November 15 through April 15).

A7.27.5. Reef material is placed during North Atlantic Right Whale calving season, so the following additional measures will be followed:

The maximum speed for all vessels involved in placing the reef material is 10 knots.

Deployments will not be conducted at any time when lighting or weather or sea conditions (e.g., darkness, rain, fog, sea state) prevent visual monitoring of the project area.

Deployment activities will not commence until the protected species observer reports that no marine mammals or sea turtles have been sighted for at least 60 minutes.

Deployment activities will cease immediately if sea turtles or marine mammals are sighted within the project area.

Deployment activities will not recommence until the protected species observer reports that no marine mammals or sea turtles have been sighted for at least 60 minutes.

Comments:

Please note, this checklist does not contain all of the PDCs. Please refer to the Biological Opinion to confirm the project meets all PDCs prior to completing this checklist.