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State Programmatic General Permit
(SPGP V-R1)

Attachment 9

Critical Habitat Essential Features/PCEs

These pages are extract from the National Marine Fisheries Services' Jacksonville District's Programmatic Biological Opinion (JAXBO) dated November 20, 2017.
Gray box shows text not applicable to Table 7

Marine Mammals			
North Atlantic right whale	E	P	NP
Blue whale	E	P	P
Fin whale	E	P	P
Sei whale	E	P	P
Sperm whale	E	P	P
Bryde's whale (proposed)	E	P	NP
E = endangered; T = threatened, P = Present, NP = Not Present			

Table 6. Designated Critical Habitat NMFS Believes is In or Near the Action Area

Species	Unit in Florida	Unit in U.S. Caribbean
Smalltooth sawfish	• Charlotte Harbor Estuary (CHEU) • Ten Thousand Islands/ Everglades (TTIEU)	N/A
Gulf sturgeon	Units 9-14[10]	N/A
Loggerhead sea turtle (NWA DPS)	• Nearshore Reproductive Habitat: Units LOGG-N-14 to 32 • Breeding Habitat: Units LOGG-N-17, 19 • Migratory Habitat: Units LOGG-N-17, 18, 19 • *Sargassum* Habitat: Unit LOGG-S-01	N/A
Green sea turtle (NA DPS)	N/A	Culebra Island
Hawksbill sea turtle	N/A	Mona and Monita Island
Leatherback sea turtle	N/A	St Croix Island
Staghorn and elkhorn coral	Area 1: Florida	• Area 2: Puerto Rico and Associated Islands • Area 3: St. John/St. Thomas, U.S. Virgin Islands • Area 4: St. Croix, U.S. Virgin Islands
Johnson's seagrass	Units A-J	N/A
North Atlantic right whale	Unit 2	N/A
Atlantic sturgeon	South Atlantic Unit 7[11]	N/A
N/A = Not applicable		

Table 7 (below) provides a complete list of the essential features/primary constituent elements (PCEs) of each critical habitat unit that occurs in Florida and the U.S. Caribbean. Note that the table below refers to both essential features and PCEs of critical habitat. This duality of terms is

[10] Gulf sturgeon critical habitat is under the joint jurisdiction of the USFWS and NMFS, with the USFWS managing riverine habitat and NMFS managing estuarine and marine habitats. Units 9-14 are the only areas under NMFS's jurisdiction that are found in the action area.

[11] The South Atlantic Unit 7 (St. Marys Unit) includes the St. Marys River in (1) Camden and Charlton Counties in Georgia and (2) Baker and Nassau Counties in Florida.

because the USFWS uses the term "PCE" and NMFS uses "essential features" when describing critical habitat. When we develop a critical habitat rule jointly with USFWS, the term PCE is often used. Recent amendments to the Services' joint regulations implementing the ESA, however, removed reference to "primary constituent elements" (81 FR 7414, Feb. 11, 2016). As we explained in the final rule, removing this phrase is not intended to substantively alter anything about the designation of critical habitat, but to eliminate redundancy in how we describe the physical or biological features. New critical habitat rules will describe physical biological features (PBFs) to help identify habitat essential to the conservation of the species. In this Opinion, we refer to the features as they were described in the rule designating that critical habitat. For example, the Gulf sturgeon critical habitat rule refers to PCEs, and thus we have used that term in the table below. Critical habitat boundary maps are available at http://sero.nmfs.noaa.gov/maps_gis_data/protected_resources/critical_habitat/index.html.

Table 7. Essential Features/PCEs/PBFs of Each Critical Habitat Unit in Florida and the U.S. Caribbean

Smalltooth sawfish (74 FR 45353, Sept. 2, 2009)	The physical and biological features essential to the conservation of the U.S. DPS of smalltooth sawfish, which provide nursery area functions are: red mangroves and shallow euryhaline habitats characterized by water depths between the Mean High Water line and 3 ft (0.9 m) measured at Mean Lower Low Water (MLLW). These features are included in critical habitat within the boundaries of the specific areas in paragraph (b) of this section, except where the features were not physically accessible to sawfish at the time of this designation (September 2009); for example, areas where existing water control structures prevent sawfish passage to habitats beyond the structure.
Gulf sturgeon (68 FR 13370, March 19, 2003)	Based on the best available information, there are 7 PCEs essential for the conservation of the Gulf sturgeon. Only the following 4 are under NMFS's jurisdiction: 1. Abundant prey items within estuarine and marine habitats and substrates for juvenile, 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; and 4. Safe and unobstructed migratory pathways necessary for passage within and between riverine, estuarine, and marine habitats (e.g., a river unobstructed by any permanent structure, or a dammed river that still allows for passage).

Loggerhead sea turtle (79 FR 39855, July 10, 2014)	1. Nearshore reproductive habitat: The PBF of nearshore reproductive habitat as a portion of the nearshore waters adjacent to nesting beaches that are used by hatchlings to egress to the open-water environment as well as by nesting females to transit between beach and open water during the nesting season. The following PCEs support this habitat: (i) Nearshore waters directly off the highest density nesting beaches and their adjacent beaches, as identified in 50 CFR 17.95(c), to 1.6 kilometer (km) offshore; (ii) Waters sufficiently free of obstructions or artificial lighting to allow transit through the surf zone and outward toward open water; and (iii) Waters with minimal man-made structures that could promote predators (i.e., nearshore predator concentration caused by submerged and emergent offshore structures), disrupt wave patterns necessary for orientation, and/or create excessive longshore currents. 2. Winter areas: Florida does not contain any winter areas. 3. Breeding areas: the PBF of concentrated breeding habitat as those sites with high densities of both male and female adult individuals during the breeding season. PCEs that support this habitat are the following: (i) High densities of reproductive male and female loggerheads; (ii) Proximity to primary Florida migratory corridor; and (iii) Proximity to Florida nesting grounds. 4. Constricted migratory habitat: the PBF of constricted migratory habitat as high use migratory corridors that are constricted (limited in width) by land on one side and the edge of the continental shelf and Gulf Stream on the other side. PCEs that support this habitat are the following: (i) Constricted continental shelf area relative to nearby continental shelf waters that concentrate migratory pathways; and (ii) Passage conditions to allow for migration to and from nesting, breeding, and/or foraging areas. 5. *Sargassum* habitat: the PBF of loggerhead *Sargassum* habitat as developmental and foraging habitat for young loggerheads where surface waters form accumulations of floating material, especially *Sargassum.* PCEs that support this habitat are the following: (i) Convergence zones, surface-water downwelling areas, the margins of major boundary currents (Gulf Stream), and other locations where there are concentrated components of the *Sargassum* community in water temperatures suitable for the optimal growth of *Sargassum* and inhabitance of loggerheads; (ii) *Sargassum* in concentrations that support adequate prey abundance and cover; (iii) Available prey and other material associated with *Sargassum* habitat including, but not limited to, plants and cyanobacteria and animals native to the *Sargassum* community such as hydroids and copepods; and (iv) Sufficient water depth and proximity to available currents to ensure offshore transport (out of the surf zone), and foraging and cover requirements by *Sargassum* for post-hatchling loggerheads, i.e., > 10-m depth.

Acropora (Staghorn and elkhorn coral) (73 FR 72210, Nov. 26, 2008)	The physical feature essential to the conservation of elkhorn and staghorn corals is: substrate of suitable quality and availability to support larval settlement and recruitment, and reattachment and recruitment of asexual fragments. "Substrate of suitable quality and availability" is defined as natural consolidated hard substrate or dead coral skeleton that is free from fleshy or turf macroalgae cover and sediment cover.
Johnson's seagrass (65 FR 17786, April 5, 2000)	Based on the best available information, general physical and biological features of the critical habitat areas include adequate water quality, salinity levels, water transparency, and stable, unconsolidated sediments that are free from physical disturbance.
North Atlantic right whale (81 FR 4837, Jan. 27, 2016)	Critical habitat includes 2 areas (Units) located in the Gulf of Maine and Georges Bank Region (Unit 1) and off the coast of North Carolina, South Carolina, Georgia and Florida (Unit 2). Only Unit 2 occurs within the action area. The physical features essential to the conservation of the North Atlantic right whale, which provide calving area functions in Unit 2, are: 1. Sea surface conditions associated with Force 4 or less on the Beaufort Scale 2. Sea surface temperatures of 7°C to 17°C 3. Water depths of 20-92 ft (6- 28 m), where these features simultaneously co-occur over contiguous areas of at least 231 squared nautical miles (nmi^2) of ocean waters during the months of November through April. When these features are available, they are selected by right whale cows and calves in dynamic combinations that are suitable for calving, nursing, and rearing, and which vary, within the ranges specified, depending on factors such as weather and age of the calves.
Atlantic sturgeon (82 FR 39160, August 17, 2017)	The physical features essential for the conservation of Atlantic sturgeon belonging to the Carolina and South Atlantic DPSs are those habitat components that support successful reproduction and recruitment. These are: 1. Hard bottom substrate (e.g., rock, cobble, gravel, limestone, boulder, etc.) in low salinity waters (i.e., 0.0-0.5 parts per thousand range) for settlement of fertilized eggs and refuge, growth, and development of early life stages; 2. Aquatic habitat inclusive of waters with a gradual downstream gradient of 0.5 up to as high as 30 parts per thousand and soft substrate (e.g., sand, mud) between the river mouth and spawning sites for juvenile foraging and physiological development; 3. Water of appropriate depth and absent physical barriers to passage (e.g., locks, dams, thermal plumes, turbidity, sound, reservoirs, gear, etc.) between the river mouth and spawning sites necessary to support: (i) Unimpeded movement of adults to and from spawning sites; (ii) Seasonal and physiologically dependent movement of juvenile

	Atlantic sturgeon to appropriate salinity zones within the river estuary; and (iii) Staging, resting, or holding of subadults or spawning condition adults. Water depths in main river channels must also be deep enough (at least 1.2 meters) to ensure continuous flow in the main channel at all times when any sturgeon life stage would be in the river; 4. Water quality conditions, especially in the bottom meter of the water column, with temperature and oxygen values that support: (i) Spawning; (ii) Annual and inter-annual adult, subadult, larval, and juvenile survival; and (iii) Larval, juvenile, and subadult growth, development, and recruitment. Appropriate temperature and oxygen values will vary interdependently, and depending on salinity in a particular habitat. For example, 6.0 mg/L dissolved oxygen or greater likely supports juvenile rearing habitat, whereas dissolved oxygen less than 5.0 mg/L for longer than 30 days is less likely to support rearing when water temperature is greater than 25°C. In temperatures greater than 26°C, dissolved oxygen greater than 4.3 mg/L is needed to protect survival and growth. Temperatures of 13 to 26 °C likely support spawning habitat.
Green sea turtle (63 FR 46693, Sept. 2,1998)	Critical habitat for the green sea turtle is designated in the waters surrounding the island of Culebra, Puerto Rico, from the mean high water line (MHWL) seaward to 3 nmi. These waters include Culebra's outlying Keys, including Cayo Norte, Cayo Ballena, Cayos Geniquí, Isla Culebrita, Arrecife Culebrita, Cayo de Luís Peña, Las Hermanas, El Mono, Cayo Lobo, Cayo Lobito, Cayo Botijuela, Alcarraza, Los Gemelos, and Piedra Steven. At the time of designation, essential features to critical habitat were not precisely defined; however, the critical habitat was designated to provide protection for important developmental and resting habitats. Juvenile and adult green sea turtles depend on seagrasses as the principal dietary component for foraging. In addition, coral reefs and other topographic features within the waters around Culebra Island and surrounding islands and cays provide green turtles with shelter during interforaging periods that serve as refuge from predators. On April 6, 2016, NMFS published a final rule listing 11 DPSs of the green sea turtle, including the NA DPS. 81 FR 20058; April 6, 2016. NMFS will issue a rule designating critical habitat for the DPSs in a future rulemaking. In the interim, the existing critical habitat designation described herein remains in effect for the NA DPS of green sea turtles.
Hawksbill sea turtles (63 FR 46693,	Critical habitat for the hawksbill sea turtle has been designated in the waters surrounding the islands of Mona and Monito, Puerto Rico, from the MHWL seaward to 3 nmi. At the time of designation, essential features to critical

Sept. 2, 1998)	habitat were not precisely defined; however, the critical habitat was designated to provide protection for important developmental and resting habitats. Hawksbill sea turtles depend on sponges as their principal dietary component and healthy coral reefs for foraging and shelter habitats.
Leatherback sea turtles (44 FR 8491, March 23, 1979)	Critical habitat for the leatherback sea turtle has been designated in the waters adjacent to Sandy Point on the southwest corner of St. Croix, U.S. Virgin Islands, in waters from the 100-fathom curve shoreward to the level of mean high tide, with boundaries at 17°42′12"N and 64°50′00″W. At the time of designation, essential features to critical habitat were not precisely defined; however, critical habitat for leatherback sea turtles was designated to provide protection to sea turtles using these waters for courting, breeding, and as access to and from nesting areas on Sandy Point Beach, St. Croix, U.S. Virgin Islands.

2.2 Activities Analyzed, Project Design Criteria, and Potential Routes of Effect

In this section of the Opinion, we describe the categories of activities under consultation, the PDCs that each activity must meet to be covered under this Opinion, and the expected effects of each category of activities on ESA-listed species and designated critical habitat. In particular, for each category of activity covered by this Opinion, we will provide the following information:

1. Activity Description: A general description of how the activity typically is implemented with sample photos and drawings. We are providing a general overview of the typical implementation for context; the installation materials, methods, and locations are limited by the PDCs.

2. PDCs: A description of the non-discretionary PDCs applicable to all projects covered under this Opinion. The general PDCs ensure that the covered activities meet certain thresholds designed to avoid or minimize impacts on ESA-listed species and critical habitat.

   In addition to the general PDCs, each of the 10 categories of covered activities is subject to additional activity-specific PDCs. Like the general PDCs, activity-specific PDCs are non-discretionary requirements for coverage under the Opinion that avoid or minimize the potential effects of permitted activities on ESA-listed species and designated critical habitat.

   All PDCs were developed based on information from the USACE's past permitting practices and review of consultations on USACE-authorized in-water construction activities in Florida and the U.S. Caribbean. The activity-specific PDCs are typical of measures used to protect ESA listed species and designated critical habitat and are substantially similar to the PDCs that NMFS included in other programmatic consultations with the USACE in the last 5 years including the SWPBO, 12 SAJ General Permit Programmatic, SAJ-42, SAJ-82, and SPGP IV-R1.

   In addition, PDCs designed to avoid or minimize effects on critical habitat are provided at the end of each category of activity when additional protections, beyond the general and activity-specific PDCs, are required to avoid or minimize effects on a particular critical habitat unit.