

**ENVIRONMENTAL BEST MANAGEMENT PRACTICES (BMPs) / PROJECT DESIGN CRITERIA (PDC) CHECKLIST  
NOAA-FUNDED HURRICANE MICHAEL MARINE DEBRIS REMOVAL PROJECTS – NORTHWEST FLORIDA**

**Sensitive Habitats, Wildlife, and Fisheries Resources**

- Avoid and minimize impacts and disturbance to sensitive shoreline, intertidal, and benthic habitats including salt marshes, other wetlands, beaches, dunes, tidal flats, seagrasses, and oyster beds.
- Avoid and minimize impacts and disturbance to wildlife and fisheries species and their habitats, including all protected species and critical habitat.

**USACE Section 404 Clean Water Act and Section 10 Rivers and Harbors Act Permits**

- Permits may be required if temporary structures or discharge of dredged or fill material are required during marine debris removal activities.
- If permits are required, the Florida State Programmatic General Permit (SPGP-V-R1) or several Nationwide Permits (NWP) may apply for marine debris removal, including NWP #22 (derelict vessel removal). Refer to the SPGP-V-R1 conditions and the NWP corresponding limits, pre-construction notice requirements, and general and regional conditions, as applicable. In some case Individual Permits (IPs) may instead be required.
- Contact the USACE Jacksonville Regulatory District for specific federal permitting guidance. The Florida DEP Submerged Lands and Environmental Resources Coordination (SLERC) program can also advise on SPGP-V-R1.

**Florida DEP Environmental Resource Permitting (ERP) and Related**

- State permits may be required for some marine debris removal activities, particularly if filling of wetlands or surface waters, or dredging that creates or expands surface waters, is anticipated.
- A DEP permit exemption exists for derelict vessel removal under FAC Chapter 62-330-051(5)(g); refer to the rule for applicable conditions.
- Contact the DEP SLERC program for specific state ERP permitting guidance.
- DEP Joint Coastal Permitting (JCP) and/or CCCL permitting may also apply in some cases, particularly for beaches and inlets.

**Florida SHPO Section 106 National Historic Preservation Act**

- Cease all activities involving subsurface disturbance, and immediately contact the SHPO (Florida Department of State, Division of Historical Resources (DHR), Compliance Review Section, 850-245-6333), if prehistoric/historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time (and leave all artifacts in place). Marine debris removal activities shall not resume without verbal and/or written authorization. In the event unmarked human remains are encountered during marine debris removal activities, stop all work immediately and contact DHR and local law enforcement.
- For marine debris removal sites not already pre-screened during initial SHPO coordination, DHR shall be notified of efforts that require substantial ground or bottom disturbance beyond the initial disturbance caused by the marine debris event. DHR will be provided project coordinates for review and will review the project area and provide notification if historic or archaeological sites are present or are likely present. If no sites are present or are unlikely to be present, the activity may proceed with inclusion of the unanticipated discoveries procedure (above). If sites are present or are likely present, DHR will provide recommendations to avoid or minimize potential effects to the sites. This may include monitoring of project activities by a professional archaeologist or other appropriate measures as determined in consultation with DHR.
- Placeholder (remove if not applicable). The SHPO has identified ### potential marine debris targets located within or adjacent to archaeological sites. Grantees have been notified and shall coordinate directly with the SHPO regarding these areas prior to debris removal and shall implement DHR recommendations to avoid or minimize potential effects to the sites.

**Tribal Coordination**

- Placeholder (remove if not applicable).

## NMFS Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA), Essential Fish Habitat (EFH), Fish and Wildlife Coordination Act (FWCA)

### Specific Marine Debris Removal PDCs:

- Marine debris removal activities are limited to marine debris that poses a threat to human health and safety and/or natural resources (flora, fauna, and their habitats), such as, but not limited to, derelict vessels, derelict fishing gear, and various construction/demolition debris related to Hurricane Michael.
- Removal of marine debris shall require visual confirmation (e.g., divers, swimmers, camera) that the item can be removed without causing further damage to natural resources.
- Marine debris shall be lifted straight up and not be dragged through seagrass beds, oyster beds, or salt marshes. Trawling also cannot be used as a means of marine debris removal. Debris shall be properly disposed of in appropriate facilities in accordance with applicable federal and state requirements.
- An absorbent blanket or boom shall be immediately deployed on the surface of the water around any marine debris to be removed if fuel, oil, or other free-floating pollutants are observed during the work. If reportable quantities of fuel, oil, or pollutants are released to the environment during removal operations, a National Response Center (NRC) report shall be filed with the US Coast Guard (800-424-8802).
- All marine debris removal activities must be conducted during daylight hours.

### General In-Water Work PDCs:

#### Education and observation:

- All personnel associated with the project will be instructed about the potential presence of species and critical habitat protected under the ESA and MMPA, as well as Essential Fish Habitat (EFH) protected under the Magnuson–Stevens Fishery Conservation and Management Act (MSA). All on-site project personnel will be responsible for observing water-related activities for the presence of protected species and habitats. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing ESA-listed species or marine mammals. To determine which species and critical habitat may be found in the project area, please review the relevant Protected Species Lists at: [http://sero.nmfs.noaa.gov/protected\\_resources/section\\_7/threatened\\_endangered/index.html](http://sero.nmfs.noaa.gov/protected_resources/section_7/threatened_endangered/index.html). For more information on EFH see <https://www.fisheries.noaa.gov/national/habitat-conservation/essential-fish-habitat#essential-fish-habitat-in-the-regions>.

#### Vessel traffic and equipment:

- All vessel operators must watch for and avoid collision with species protected under the ESA and MMPA. Vessel operators must avoid potential interactions with protected species and operate in accordance with the following protective measures.
- All vessels associated with marine debris removal activities shall operate at “Idle Speed/No Wake” at all times while operating in water depths where the draft of the vessel provides less than a 4-ft clearance from the bottom, and after a protected species has been observed in and has departed the area.
- All vessels will follow marked channels and/or routes using the maximum water depth whenever possible.
- Operation of any mechanical construction equipment, including vessels, shall cease immediately if a protected or ESA-listed species is observed within a 50-ft radius of construction equipment and shall not resume until after the species has departed the area of its own volition.
- If the detection of species is not possible during certain weather conditions (e.g., fog, rain, wind), then in-water operations will cease until weather conditions improve and detection is again feasible.

#### All Vessels:

- 1. Sea turtles: Maintain a minimum distance of 150 ft.
- 2. Marine mammals (dolphins, whales): Maintain a minimum distance of 300 ft.
- 3. When protected species are sighted while the vessel is underway (e.g., bow-riding), attempt to remain parallel to the animal’s course. Avoid excessive speed or abrupt changes in direction until the animals have left the area.

- 4. Reduce speed to 10 knots or less when mother/calf pairs or groups of marine mammals are observed, when safety permits.

Turbidity control measures:

Turbidity must be monitored and controlled; prior to in-water work turbidity curtains shall be installed as per below. Turbidity curtains may be waived if minimal turbidity will be generated during marine debris removal or if the current is too strong for curtains to stay in place

- 1. Install floating turbidity barriers with weighted skirts that extend to within 1 ft of the bottom around all work areas that are in, or adjacent to, surface waters.
- 2. Use these turbidity barriers throughout construction to control erosion and siltation and ensure that turbidity levels within the project area do not exceed background conditions (i.e., the normal water quality levels from natural turbidity).
- 3. Position turbidity barriers in a way that does not block species entry to or exit from designated critical habitat.
- 4. Monitor and maintain turbidity barriers in place until the authorized work has been completed and the water quality in the project area has returned to background conditions.

Entanglement:

- 1. All turbidity curtains, hard and sorbent booms, buoys, anchors, and other in-water equipment must be properly secured with materials that reduce the risk of entanglement of marine species (described below). Turbidity curtains and booms likewise must be made of materials that reduce the risk of entanglement of marine species.
- 2. In-water lines (rope, chain, and cable, including the lines to secure turbidity curtains and boom) must be stiff, taut, and non-looping. Examples of such lines are heavy metal chains or heavy cables that do not readily loop and tangle. Flexible in-water lines, such as nylon rope or any lines that could loop or tangle, must be enclosed in a plastic or rubber sleeve/tube to add rigidity and prevent the line from looping and tangling. In all instances, no excess line is allowed in the water.
- 3. Turbidity curtains, booms, and other in-water equipment must be placed in a manner that does not entrap species within the construction area or block access for them to navigate around the construction area.

Measures to avoid:

- 1. Use of in-water explosives.
- 2. Trawling for debris removal.
- 3. Deployment of anchored items that do not employ stiff, taut, and non-looping anchor lines.
- 4. Dragging marine debris across sensitive habitats - items shall be hoisted or refloated if possible (see further guidance below).

**Sensitive Habitats PDCs and BMPs:**

- Avoid work vessel grounding; prop, bow, keel, and skeg scarring; and prop washing in sensitive habitats, especially locations with salt marshes, seagrasses, and oyster beds.
- Avoid anchoring/spudding on salt marshes and oyster beds; avoid/minimize anchoring and spudding in seagrasses; anchor and spud on bare sand and mud bottoms whenever possible.
- If spudding on seagrasses cannot be avoided, fill spud holes to grade with clean sand from nearby sources, as feasible, to minimize impacts (this may not be feasible if the substrate is muddy).
- Prior to hoisting, refloating, and removing marine debris, crews shall evaluate the immediate area and determine an ingress/egress path that will have the least impact on sensitive habitats. This shall include using divers or snorkelers when applicable, particularly in seagrass and oyster bed habitats. Review of habitat maps, bathymetric charts, aerial photography, remote sensing images, and/or other appropriate data shall also be used as available and applicable.
- Temporary stakes/buoys (with appropriate lines, see entanglement above) shall be used to mark the ingress/egress path, if applicable, to assist in staying on course and to avoid the areas with the greatest extent and quality of sensitive habitats.
- Avoid/minimize shading of seagrasses with barges for more than a few days; move barges off seagrasses onto bare sand or mud substrates when not undergoing active operations (such as in barge staging areas).

- In shoreline and shallow nearshore areas with sensitive habitats, consider land-side access and removals from roads, bulkheads, or other developed or disturbed areas for marine debris removal, where feasible.
- Where equipment or crews must access marine debris sites in or across sensitive habitats, use shallow draft vessels, specialized equipment with low pressure/flotation tires or tracks, equipment mats, walk boards, or other comparable methods to minimize disturbance, including equipment and foot traffic, as applicable.
- Avoid pulling marine debris across or onto sensitive habitats - items shall be hoisted or refloated if possible. Use of lift bags, roller bags, equipment mats, and other methods shall be evaluated to minimize impacts, such as bottom scarring and soil rutting and compaction.
- Cutting up or otherwise disassembling large debris in place into smaller pieces for removal, in part or whole, using less intrusive equipment or hand crews when applicable, shall be considered, to avoid and minimize sensitive habitat impacts.
- Avoid and minimize digging, excavation, jetting, use of pump hoses on sediments, and similar methods in and/or near sensitive habitats. If such methods must be used, turbidity barriers shall be deployed, even when working on bare sand and mud bottoms (see turbidity control measures, above). When using these methods, permits may be required (see USACE and DEP permitting, above).

#### Reporting Requirements/Contacts:

- 1. Any collision(s) with and/or injury to any sea turtle, whale, dolphin, sturgeon, sawfish, giant manta ray, or other ESA-listed species, marine mammal, or critical habitat occurring during marine debris removal activities shall be reported as soon as possible to NMFS PRD at 727-824-5312 or by email to [takereport.nmfs@noaa.gov](mailto:takereport.nmfs@noaa.gov).
- 2. Smalltooth sawfish: Report sightings to 844-SAWFISH or email [Sawfish@MyFWC.com](mailto:Sawfish@MyFWC.com).
- 3. Sturgeon: Report dead sturgeon to 844-STURG 911 (844-788-7491) or email [nmfs.ser.sturgeonnetwork@noaa.gov](mailto:nmfs.ser.sturgeonnetwork@noaa.gov).
- 4. Sea turtles and marine mammals: Report stranded, injured, trapped, entangled, or dead animals to 877-WHALE HELP (877-942-5343).

#### USFWS Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), Fish and Wildlife Coordination Act (FWCA)

##### Education and observation:

- All personnel associated with the project will be instructed about the potential presence of species and critical habitat protected under the ESA and MBTA. All on-site project personnel will be responsible for observing work areas and activities for the presence of protected species. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing ESA-listed species and migratory birds. To determine which ESA-listed species and critical habitat may be found in the project area, please review the relevant species lists at: <https://www.fws.gov/panamacity/specieslist.html> or <https://ecos.fws.gov/ipac/>.

##### Beaches and Dunes:

- Avoid and minimize vehicle, equipment, and foot traffic disturbance to beach and dune vegetation.
- Use existing beach access locations. Designate and rope off ingress and egress corridors where clean-up traffic and debris collection would minimally impact beach or dune habitat. Consider creating one-way traffic corridors to reduce the need for equipment turn around (see further guidance for beach mice, birds, and nesting sea turtles below).
- Conduct demolition and debris removal within dune habitats as much as possible by hand. Reduce, pick up, and carry the debris to place into piles rather than using traditional methods of land clearing and pushing debris into piles.
- Use the minimal size and amount of equipment to maneuver in dune habitats (e.g., tracked bobcats with grapples and clamps). Minimize impact footprint of equipment by working from one location with a grappling device. Where possible work equipment from existing hard top or impacted sites to remove debris.
- Locate debris collection/pick up sites off the beach and outside of dune habitat and public lands; locate staging/storage areas for clean-up equipment and debris outside of dune habitat and public lands.

##### Beach Mice:

- Be aware of the occurrence of ESA-listed beach mice and associated Critical Habitat in coastal dune areas in Bay and Gulf counties if any removal activities are planned on Gulf-facing sand beaches.

- Disturbance to and access through dune and upper beach areas should be strictly controlled in beach mouse habitats. Contact USFWS Panama City Field Office (850-769-0552) and FWC (850- 488-4676) for specific guidance.

**Manatees:**

- All work must be in accordance with USFWS/FWC Standard Manatee Conditions for In-Water Work (2011).
- All personnel shall be instructed about the presence of manatees, and the need to avoid collisions with and injury to manatees. Advise all personnel that there are civil and criminal penalties for harming, harassing, or killing manatees.
- All work vessels shall operate at "Idle Speed/No Wake" at all times while in immediate work areas and while in water where the draft of the vessel provides less than a 4-ft clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- Siltation/turbidity barriers and containment/sorbent boom and all lines shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers/booms must not impede manatee movement.
- All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shut down if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 888-404-3922. Manatee collision and/or injury should also be reported to the USFWS Panama City Field Office (850-769-0552) and emailed to FWC at [ImperiledSpecies@myFWC.com](mailto:ImperiledSpecies@myFWC.com).
- Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads "Caution: Boaters..." must be posted. A second sign measuring at least 8½" by 11" explaining the requirements for "Idle Speed/No Wake" and the "Shut Down" of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed and downloaded at <https://myfwc.com/wildlifehabitats/wildlife/manatee/education-for-marinas/>.

**Birds:**

- Avoid and minimize disturbance to waterbird nesting colonies, bald eagle and osprey nesting sites, migratory and wintering shorebird concentrations (including ESA-listed piping plover and red knot), and other bird aggregation areas. Maintain a minimum 300-ft buffer from waterbird nesting sites or colonies. Be aware of marked nesting colonies (look for posted signs and roped-off areas) and do not enter these areas.
- Marine debris removal activities on beaches should be conducted outside the shore and sea bird nesting and hatching season whenever possible. Contact USFWS (850-769-0552) or FWC (850-630-3480) for additional information on site-specific seasonality.
- If marine debris removal activities are likely to disturb nesting birds, contact USFWS (850-769-0552) and FWC (850-630-3480) for further guidance.
- If using airboats, maintain a 1,000-ft distance from bird nesting and roosting sites to limit disturbance.
- To limit disturbance to birds in shoreline and wetland areas (including piping plover Critical Habitat), work crews should be limited in size and number to the minimum number of personnel and equipment required to complete marine debris removal in an efficient time frame. Equipment and personnel should work as closely together as is feasible and limit repetitive alongshore transits to and from work areas, to minimize disturbance.
- On beaches, if it is necessary to excavate debris or if equipment rutting occurs, return the beach to its original profile at the end of each day.
- Avoid and minimize disturbance of beach and dune vegetation and natural wrack deposits, equipment and personnel should use existing beach access locations and transit alongshore on the lower beach (see also nesting sea turtles, below).

- Check under and around vehicles, heavy equipment, and debris on or near the beach before they are moved. Shorebirds (including ESA-listed piping plover and red knot) are especially vulnerable when they are roosting at night, and extra care should be taken at these times, including early morning and early evening.
- Avoid deliberately flushing birds. If birds are flushed, move away from the area and observe a larger buffer distance to avoid and minimize disturbance.

**Nesting Sea Turtles:**

- Be aware of the potential for sea turtle nesting activity on all Gulf-facing sand beaches in Florida, including mixed sand and shell beaches.
- Adult sea turtles, crawls, nests, eggs, and hatchlings should be protected during marine debris removal activities on sea turtle nesting beaches, including hatchling turtles as they emerge from the nest and crawl to the sea.
- Marine debris removal activities on beaches should be conducted outside the turtle nesting and hatching season (May through November) whenever possible. Contact USFWS (850-769-0552) or FWC (850-922-4330) for additional information on site-specific seasonality.
- During sea turtle nest laying and hatching season, no marine debris removal activities, including no equipment access, may commence on nesting beaches until a sea turtle nesting survey has been completed each morning by the FWC Marine Turtle Permit Holder (Permittee). Prior to marine debris removal on beaches, contact FWC ([mtp@myfwc.com](mailto:mtp@myfwc.com) or 850-922-4330) to identify and obtain contact information for the Permittee for specific beaches to arrange for nesting surveys.
- Entry onto the turtle nesting beach will occur only after the Permittee for that particular beach has completed the morning surveys. Surveys are typically completed by 09:00; all staging on the beach should be conducted after 09:00 and before sunset.
- After the beach has been surveyed for nesting/hatching activity, the Permittee will direct the work crew along the established travel corridor.
- If an unmarked sea turtle crawl is encountered during or prior to marine debris removal activities, the work crew will not disturb the integrity of the crawl or follow the crawl up the beach or into the dune, and will contact the Permittee to inform them of the location of the crawl.
- Any marked nests within the areas where marine debris removal will occur (including access areas) shall be left in place. Marked nests shall be delineated by stake and survey tape or string around the nest. A circle with a 10-ft radius centered at the nest is recommended for nest protection. Marked nests and areas with unmarked nests must be avoided during marine debris removal.
- It is the responsibility of the Permittee to ensure that all nesting surveys and nest marking are conducted only by persons with prior experience and training in these activities and who is duly authorized to conduct such activities through a valid permit issued by the FWC.
- If debris removal activity will occur near a marked nest or in the wrack line, the Permittee or their authorized personnel shall be onsite during all work.
- Equipment and work crews will only transit the beach seaward of the nesting area on the hard-packed sand on the lower beach.
- Work shall only occur during daylight hours on nesting beaches.
- If a sea turtle is observed maintain at least 200 ft between the turtle and all personnel and contact the Permittee.
- If sea turtle hatchlings are encountered, maintain at least 200 ft between the hatchlings and all personnel, allow the hatchlings to crawl unobstructed to the water. Do not carry the hatchlings to the water. Contact the Permittee to inform them of the hatchlings.
- All marine debris removal actions, equipment, and personnel shall observe a 10-ft buffer from marked sea turtle nests. Care should be taken to avoid walking or driving equipment over a crawl so that a potential nest is not damaged.
- In the event a sea turtle nest is inadvertently excavated during marine debris removal activities, all work shall cease in that area immediately and the Permittee will be contacted to either rebury the eggs or relocate the clutch to a safe location (see also the notification requirement below).

- If altered, beach topography shall be restored in all areas to the natural beach profile by 20:00 each day. Restoring beach topography includes raking out tire ruts, filling pits or holes where debris were removed, etc. Any potential obstructions or entanglement hazards such as turbidity screens, containment or sorbent boom, equipment, lines, rigging, etc. should also be removed from the beach by 20:00 each day.
- Minimize lighting at night in land and water-based staging or other work areas near nesting beaches that may disorient sea turtle hatchlings and nesting females. For guidance on turtle friendly lighting see <http://myfwc.com/wildlifehabitats/managed/sea-turtles/lighting/>.
- All trash resulting from work activities should be removed from the area as appropriate or disposed of properly in covered trash receptacles.
- Upon locating a dead, injured, or sick sea turtle on or near the beach, or if eggs or nests are disturbed during marine debris removal activity, initial notification must be made to the Permittee and FWC at 888-404-3922, USFWS Office of Law Enforcement (305-526-2610), and the USFWS Panama City Field Office (850-769-0552).

**Additional Considerations:**

- Equipment and material staging areas should be located outside of areas of native vegetation and known endangered species habitats.
- Minimize the disturbance footprint when removing marine debris.
- Collect all floating debris during in-water marine debris removal.
- Where possible, equipment should be operated from existing hard top or impacted sites to remove marine debris from natural habitats.
- Marine debris removal activities should be accomplished with the smallest equipment needed, including hand crews where possible, to minimize disturbance of habitat (especially when working within Critical Habitats).
- Ingress and egress corridors for vehicle and equipment operations and debris removal should minimize impact to natural habitats. Care should be taken to restrict equipment/vehicles to roadways and roadbeds and away from vegetated or other sensitive areas.
- To the degree possible, the removal of forested vegetation should be limited to fallen trees only, and only if required to remove marine debris; otherwise, leave fallen trees in place.
- Trimming of standing native trees during marine debris removal should be minimized.
- The removal of healthy trees to remove embedded marine debris should be avoided or minimized.
- All trash resulting from marine debris removal activities should be removed from the area as appropriate or disposed of properly in covered trash receptacles (raccoons, black bears, and other animals can present nuisance, human health and safety, and natural resource management hazards if trash is not secured properly).

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**Sources:** Primary sources for this document were the NOAA MDP BMP/PDC checklists for Hurricanes Irma and Maria Marine Debris Grants; USCG BMP checklists for the Hurricanes Michael and Florence ESF-10 emergency response missions (2017-2018); the NMFS Guidance for Endangered Species Act (ESA) Emergency Consultations for Hurricane Response Activities in the Southeast United States (2019); the NMFS USACE Jacksonville District's Programmatic Biological Opinion (JAXBO, 2017); the NMFS Programmatic EFH Consultation for NOAA MDP Activities (2015); the NOAA MDP Programmatic Environmental Assessment (2013); and discussions and material provided by USFWS, FWC, DEP, DOS DHR, and NMFS.