

## **AVOIDANCE AND MINIMIZATION MEASURES for Environmental Protection Plan for Agat SBH O&M Dredging and BUDM at Nimitz Beach Park, Agat, Guam**

The BMPs contained in this document are draft and will be entered into consultation with the Services who will review and approve prior to implementation. Minor modification (revision, augmentation, elimination, etc.) may occur at the recommendation of the Services.

### **NOAA-NMFS ESA BMPs**

USACE will include the following BMPs intended to avoid and minimize adverse effects to the following ESA listed nearshore marine species to the EPP:

- Central West Pacific green sea turtles and their proposed marine critical habitat
- Hawksbill sea turtles
- Indo-west Pacific scalloped hammerhead sharks
- Although only proposed for listing, the BMPs below would also avoid and minimize adverse effects to Giant Clams.

*Note: The BMPs also address the following ESA listed pelagic marine species in the event USACE pursues ocean disposal of dredged material at the Guam Deep Ocean Dredged Material Disposal Site.*

- *Leatherback sea turtles, South Pacific loggerhead sea turtles, Olive ridley sea turtles, Oceanic whitetip sharks, Giant manta rays, Blue whales, Fin whales, Sei whales, Sperm whales, Western North Pacific humpback whales*

#### **A. General BMPs**

1. The Corps will retain the right of reasonable access to projects to monitor the compliance with and effectiveness of project BMPs.
2. In-water work *and* divers shall avoid contact with corals, avoid kicking corals with fins and secure dive and survey equipment in a manner that will prevent the equipment from being dragged across the substrate.
3. To minimize impacts to coral larvae, notably the listed species covered in this programmatic consultation, the permittee shall avoid in-water work during mass-coral spawning times or peak coral spawning seasons **[[USACE is engaging NMFS HCD to identify peak coral spawning season for Guam]].**
4. Constant vigilance shall be kept for the presence of ESA-listed marine species (sea turtles, marine mammals, sharks, rays) during all aspects of the proposed action.
5. A responsible party (i.e. permittee/site manager/project supervisor) shall designate an appropriate number of competent trained observers to survey the areas adjacent to the authorized work area (i.e. proposed action) for ESA-listed marine species. The competent observer will not be simultaneously engaged in any other activity (e.g. captaining, operating equipment, etc.).
6. Surveys shall be made prior to the start of work each day, and prior to resumption of work following any break of more than one half hour. Additional periodic surveys throughout the workday are strongly recommended.
7. All work shall be postponed or halted when ESA-listed marine species are within 50 meters (54.7 yards, 164 feet) of the dredge cutter head and silt fence installation activities and will only begin/resume after the animals have voluntarily departed the area.

- a. If ESA-listed marine species are noticed within 50 meters (54.7 yards, 164 feet) after work has already begun, that work may continue only if, in the best judgement of a biologist, the activity will not adversely affect (i.e. disturb or harm) the animal(s). For example: divers performing underwater work (excluding the use of toxic chemicals) such as surveys would likely be permissible, whereas operation of heavy equipment is not.
8. Project-related personnel shall NOT conduct activities resulting in a take of an ESA-listed species, a species proposed for listing, or listed or proposed critical habitat. "Take" as defined under the ESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct". Activities that would qualify as take include attempting to disturb, touch, ride, feed, or otherwise intentionally interact with any protected species.
9. Sensitive resource areas, such as corals, coral reefs and seagrass beds known to occur within a project area must be identified on project figures. Project staff must be instructed to avoid the sensitive resource areas to the greatest extent practicable, including avoiding anchoring in these areas, flagging the areas if appropriate, and securing all in-water equipment in a manner that will prevent the equipment from being dragged across the substrate.
10. Project construction must cease under unusual conditions, such as large tidal events and high surf conditions, except for efforts to avoid or minimize resource damage.
11. When a diver is involved in the action, the diver will do their best to avoid ESA-listed species. If an animal traverses within 50 m, however, the diver will take into account his/her own personal safety. The diver will report the interaction via the ESA Reporting BMP.
12. If an ESA-listed species is adversely affected as a result of the project, all work must stop until coordination with the Corps and NMFS has been completed.
13. Reporting
  - a. Observer logs. All non-take interactions with listed species (e.g. a species entering the shut-down zone and work is shut down correctly) must be documented and reported to the POH PM in weekly monitoring logs.
    - i. Monitoring logs shall be completed daily by ERDC and submitted weekly to POH PM. If no ESA-listed species are observed, the observer will record "0" in the daily report.
    - ii. The monitoring logs will be digital and queryable and include the following information:
      1. total hours and dates of monitoring,
      2. identification of which ESA species were observed and in what location and circumstances, including date, numbers of individuals of species observed, the outcome of the species observance relative to the authorized project, and any factors which may have affected visibility,
      3. if applicable, observed ESA species behaviors and movement types relative to the project activity at time of observation, and
      4. any observations or occurrences as identified in Stranded, Injured,

Sick or Dead Marine Mammal or Turtle BMP below.

- iii. All monitoring logs will be submitted to the NMFS by POH within 90 calendar days of the completion of the project.

B. BMPs for waste and discharge

1. An erosion control plan for the project site and adjacent areas must be prepared and carried out. Erosion controls must be properly installed before any alteration of the project area may take place.
2. A pollution control plan for the project site and adjacent areas must be prepared and implemented. At a minimum, this plan shall include:
  - a. Proper installation and maintenance of equipment diapers, or drip pans.
  - b. A contingency plan to control and clean spilled petroleum products, hydraulic leaks, and other toxic materials.
  - c. Appropriate materials to contain and clean potential spills will be stored at the work site and be readily available.
  - d. All project-related materials and equipment placed in the water will be free of pollutants.
  - e. Daily pre-work inspections of heavy equipment and vessels for cleanliness and leaks, with all heavy equipment operations and vessel use postponed or halted until leaks are repaired and equipment is cleaned.
  - f. Fueling of land-based vehicles and equipment shall take place at least 50 feet (15 meters) away from the water, preferably over an impervious surface.
  - g. All construction discharge water (e.g. concrete washout, pumping for work area isolation, vehicle wash water, drilling fluids) must be treated before discharge.
  - h. Debris and other wastes will be prevented from entering or remaining in the marine environment during the project.
3. Temporary access roads and drilling pads must avoid steep slopes, where grade, soil types, or other features suggest a likelihood of excessive erosion or failure; existing access routes must be utilized or improved whenever possible, in lieu of construction of new access routes.
4. Temporary fills must be removed in their entirety. All areas impacted by construction must be returned to pre-construction elevations. The affected areas must be stabilized and revegetated with native species as appropriate.
5. All disturbed areas must be immediately stabilized following cessation of activities for any break in work longer than 4 days.
6. Drilling and dredging are restricted to uncontaminated areas, and any associated waste or spoils must be completely isolated and disposed of in an approved upland disposal location.

C. BMPs for Activities that may result in Direct Physical Impact

1. Before any equipment, anchor(s), or material enters the water, a responsible party, i.e., permittee/site manager/project supervisor, shall verify that no ESA-listed marine animals are in the area where the equipment, anchor(s), or materials are expected to contact the substrate. If practicable, the use of divers

to visually confirm that the area is clear is preferred.

2. Equipment operators shall employ “soft starts” when initiating work each day and after each break of 30 minutes or more that directly impacts the bottom. Buckets and other equipment shall be sent to the bottom in a slow and controlled manner for the first several cycles before achieving full operational impact strength or tempo.
3. All objects lowered to the bottom shall be lowered in a controlled manner. This can be achieved by the use of buoyancy controls such as lift bags, or the use of cranes, winches, or other equipment that affect positive control over the rate of descent.

E. BMPs for activities that may result in Exposure to Elevated Noise Levels

1. Maintenance dredging, in-water excavation, movement of large armor stones, and benthic core sampling shall not be undertaken if any ESA-listed marine animals are within 50 meters (54.7 yards, 164 feet) of the authorized work, and those operations will immediately shut-down if an ESA-listed marine animal enters within 50 meters (54.7 yards, 164 feet) of the authorized work. This condition is intended to ensure that no ESA-listed marine animals are exposed to sound levels anywhere near the TTS threshold isopleths.

F. BMPs for activities that may result in Collision with Vessels:

1. When piloting vessels, vessel operators shall alter course to remain at least 100 meters (109 yards) from whales, and at least 50 meters (54.7 yards, 164 feet) from other ESA-listed marine animals.
2. Reduce vessel speed to 10 knots or less when piloting vessels in proximity of ESA-listed marine mammals, sharks, and rays.
3. Reduce vessel speed to 5 knots or less when piloting vessels in areas of known or suspected sea turtle activity.
4. If, despite efforts to maintain the distances and speeds described above, a marine mammal or turtle approaches the vessel, the vessel operator will put the engine in neutral until the animal is at least 15 meters (~50 feet) away, and then slowly move away to the prescribed distance.
5. Marine mammals, sea turtles and other ESA-listed motile species shall not be encircled or trapped between multiple vessels or between vessels and the shore.
6. The Corps and NMFS contacts in Table 1 will be notified within 48 hours of a vessel grounding or abandonment during the proposed action.

J. Maintenance Dredging:

1. With the exception of the actual dredging apparatus (e.g. clamshell buckets, or the scoop and articulated arm of a backhoe, hydraulic head, etc.), heavy equipment will be operated from above and out of the water.
2. Use of hydraulic dredging must include the installation of excluder devices adequate to prevent the entrainment or impingement of protected marine species such as sea turtles and juvenile scalloped hammerhead sharks.
3. The applicant will not use a Trailing Suction Hopper Dredge (or hopper

dredge) to conduct dredging. There have been numerous observed mortalities of sea turtles and sharks associated with these vessels.

4. The applicant will not use Dustpan dredges, which use high velocity water jets to loosen material before sucking it into their apparatus. This technique causes high turbidity and the effects of water velocities from water jets to listed species have not been evaluated.
5. The applicant may use cutterhead dredges that are equipped with suction heads of 36 inches diameter or less, and a maximum intake velocity of 4.6 meters per second (15 feet per second), and an intake velocity of 95 cm per second (3.1 feet per second) at 1 meter away from the suction head.
6. The applicant may use pipeline dredges with openings no larger than 36 inches in diameter, and intake velocities of 4.6 meters at the source and 95 cm per second at 1 meter. To avoid lethal entrainment or dismemberment of sea turtles, hammerhead sharks, or marine mammals, suction head openings larger than 12 inches must be either screened with 2-inch mesh or less, operated or monitored by a diver, or behind a barrier (e.g., coffer dams or silt curtains).
7. To minimize exposure to listed animals in the water column, the applicant will avoid moving the suction head through the water column while the pump is turned on. The applicant will turn on suction only when the suction heads are at the bottom and in contact with the sediment and turn it off before lifting the suction head up to the surface.
8. In known scalloped hammerhead shark nursery areas, the applicant will conduct all suction dredging behind barriers (e.g., coffer dams or silt curtains), or with a diver operating or monitoring the suction head and screening.
9. The portions of the equipment that enter the water will be clean and free of pollutants.
10. Appropriate silt containment devices must be used and properly installed to avoid degradation of adjacent coral reefs, and aquatic vegetation.

K. Other Minor Discharges and Dredging/Excavations:

1. The dredged or discharged material will be free of contamination.
2. The site of excavation or discharge will contain no known forage or resting habitat for ESA-listed marine species.

L. Utility Line Installation and Repair:

1. Utility line placement location and method must be designed to avoid to the greatest extent practicable, impacts to live corals, submerged aquatic or marine vegetation and other benthic organisms, and wetlands.

M. Special Aquatic Sites

1. No material will be discharged into special aquatic sites.

P. Stranded, Injured, Sick or Dead Marine Mammal or Turtle

1. If observers become aware of any injured, sick, or dead marine mammal or turtle (whether or not it may be related to the proposed action), they will immediately call the NOAA Statewide Hawaii Marine Wildlife Hotline at (888) 256-9840. The observer will be prepared to provide information to the hotline operator about the animal’s condition, location, and other information specific to the situation to help the operator determine the most appropriate response. The POH PM will be immediately notified thereafter.
2. The observers will submit photos and data as soon as possible regarding stranded, injured, sick, or dead marine animals that NMFS may use to inform NMFS-directed field responses and/or further analysis to determine whether a taking resulted (see 3. below). Photos and data submitted to NMFS regarding stranded, injured, sick, or dead marine animals will include date, time, location, species, and number of animals, as well as a description of the animal’s condition, event type (e.g., entanglement, dead, floating), and behavior of live-stranded marine animals. The observers will email this documentation to: [respectwildlife@noaa.gov](mailto:respectwildlife@noaa.gov) and copy furnish POH PM, with the subject line indicated as: “Stranded animal information per Pac-SLOPES ESA section 7 consultation.”
3. The following information will be collected and provided to the POH PM for any action that may have affected any ESA-listed species within 24 hours of the occurrence:
  - a. Number of individuals and species of listed animals affected;
  - b. The date, time, and location of each event (provide geographic coordinates);
  - c. Description of the event;
  - d. The time the animal(s) was first observed or entered the shutdown zone, and, if known, the time the animal was last seen or exited the zone, and the fate of the animal;
  - e. Mitigation measures implemented prior to and after the take; and
  - f. If a vessel struck a marine mammal, the contact information for the observer on duty, or the contact information for the individual piloting the vessel if there was no observer on duty;
  - g. Photographs or video footage of the animal(s) (if available).
4. Table 1. ESA contact information.

Reason for Contact	Contact Information
NOAA Fisheries Hawai’i Statewide Marine Stranding, Entanglement, and Reporting Hotline (not related to project activities)	Stranding Hotline (24/7 coverage): (888) 256-9840
Oil Spill & Hazardous Materials Response	U.S. Coast Guard National Response Center: 1-800-424-8802

<p>Illegal Activities (not related to project activities; e.g., feeding, unauthorized harassment, or disturbance to marine mammals)</p>	<p>NMFS Office of Law Enforcement: 1-800-853-1964</p>
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**NOAA-NMFS EFH BMPs**

USACE will include the following Conservation Recommendations intended to avoid and minimize adverse effects to EFH as BMPs to the EPP.

**A. Conservation Recommendations for Physical Impacts to Benthic Communities**

1. Equipment, anchors, structures, or fill shall not be deployed in project areas containing live corals, seagrass beds, or visible benthic organisms. Perform pre-deployment reconnaissance (e.g., divers, drop cameras, etc.) to ensure these resources are avoided.
2. Minimize direct impact (direct or indirect contact causing damage) by divers and construction related tools, equipment, and materials with benthic organisms, regardless of size, especially corals and seagrass.
3. Prevent trash and debris from entering the marine environment during the project.
4. Maintain all structures, gear, instrumentation, mooring lines, and equipment to prevent failures.
5. All objects lowered to the bottom shall be lowered in a controlled manner. Note: This can be achieved by the use of buoyancy controls such as lift bags, or the use of cranes, winches, or other equipment that affect positive control over the rate of descent. This often requires skilled in-water observation.
6. Select work platforms based on the following preferential hierarchy:
  - a. conduct all work from land or an existing structure;
  - b. use a barge with auto-positioning systems where thrusters will not cause increased turbidity;
  - c. anchor barges to (1) shoreline infrastructure; (2) nearby existing moorings; and (3) anchors or spuds on sand only (as possible, have SCUBA divers lay anchors by hand in sand areas).
7. Mooring systems (e.g., buoys, chains, ropes) must:
  - a. be kept taut to the minimum length necessary.
  - b. employ the minimum line length necessary to account for expected fluctuations in water depth due to tides or waves.
  - c. use a mid-line floats or other buoyancy devices to prevent contact with the ocean floor.
  - d. be properly maintained.
8. All temporary structures must be removed at the completion of construction and prior to contract closure

**B. Conservation Recommendations for Increase in Sedimentation and/or Turbidity**

1. Appropriate silt containment devices must be properly installed, monitored and maintained.

2. Debris and sediment that is removed from the water shall be disposed of at an appropriate upland location. Sediment and debris must be contained while in transit or on the shore.
  3. Project operations must cease under unusual conditions, such as large tidal events, storms, and high surf conditions.
  4. Conduct intertidal work at low and/or slack tide to the greatest extent feasible.
  5. To minimize impacts to coral larvae, you shall avoid in-water work during mass-coral spawning times or peak coral spawning seasons **[[USACE is engaging NMFS HCD to identify peak coral spawning season for Guam]].**
  6. Maintain baseline water flow, volume, and velocity of the waterbody.
  7. Use natural or bio-engineered solutions when feasible.
  8. Fully stabilize disturbed upland areas prior to removing silt fences and erosion prevention measures.
  9. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction conditions and elevations.
- C. Conservation Recommendations for Increase in Nutrients, Pesticides and Herbicides, Contaminants, and/or Freshwater
1. Conduct work during the dry season when possible; stop work during storms or heavy rains.
  2. Prevent inadvertent discharges of construction waste and debris into the water beyond the beach reclamation fill area.
  3. Inspect all equipment prior to beginning work each day to ensure the equipment is in good working condition, and there are no contaminant (e.g., oil, fuel) leaks. Work must be stopped until leaks are repaired, and equipment is cleaned. Equipment should always be stored in appropriate staging area designed to be preventative in terms of containing unexpected spills when equipment is not in use or during fueling.
  4. Fueling of project-related vehicles and equipment shall take place at least 50 feet, or the maximum distance possible, from the water and within a containment area, preferably over an impervious surface.
  5. Use of treated wood that would be in contact with the water is not authorized.
  6. Use diffusers on the end of subtidal discharge pipes to minimize impacts from discharges.
- D. Conservation Recommendations for Increase in Invasive Species
1. Prior to in-water work, sanitize equipment or dive gear that has been previously used in an area known to contain invasive species.
    - a. In-water tool and dive gear (e.g., wetsuit, mask, fins, snorkel, BC, regulator, weight belt, booties) shall be disinfected by one of the following ways: a 1:52 dilution of commercial bleach in freshwater, a 3 percent free chlorine solution, or a manufacturer's recommended disinfectant-strength dilution of a quaternary ammonium compound in "soft" (low concentration of calcium or magnesium ions) freshwater.
    - b. Small boats that have been deployed in the field will be cleaned and inspected daily for organic material, including any algal fragments or other organisms. Organic material, if found, will be physically removed and

disposed of according to the ship's solid- waste disposal protocol or in approved secure holding systems. The internal and external surfaces of vessels will be rinsed daily with freshwater and always rinsed and allowed to dry before redeployment.

2. Vegetated areas impacted during construction must be revegetated with appropriate native species.

### **FWS ESA BMPs**

USACE will include the following BMPs intended to avoid and minimize adverse effects to the following ESA listed terrestrial and nearshore species to the EPP:

- Bats (*Pteropus mariannus mariannus*)
- Central West Pacific green sea turtles and their proposed terrestrial critical habitat
- Tree Snails (*Partula gibba*, *Partula radiolata*, *Samoana fragilis*)

1. All outdoor artificial lighting will be hooded and designed to provide the lighting levels required in the Unified Facilities Criteria (UFC) 3-530-01 ratings to reduce illumination of sensitive habitats while minimizing potential effects to sea turtles' activities. Where practicable, utilize automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area. The colors of lights used would be limited to wavelengths in the yellow, orange, and red spectrum. No vehicle use on or modification of the beach or dune environment during the sea turtle nesting or hatching season (Throughout the year in Guam and the CNMI).
2. Do not stockpile project-related materials other than dredged material, such as concrete debris, rock or pipe, in the intertidal zone or within 100 feet (30 meters) of a turtle or nest.
3. If daytime work is to commence in potential sea turtle habitat, daily searches will be conducted each morning prior to 9:00am by a qualified biologist<sup>1</sup>. The daily search must be completed before work begins for the day. a. See Appendix A below for definition of a qualified biologist.
4. No nighttime work in potential sea turtle habitat.
6. If a sea turtle is onshore during project related activities, cease all mechanical or construction actions within 100 feet until the animal voluntarily leaves the action area.
7. To avoid impacts from foot traffic to nests, implement a 20-foot (6-meter) buffer around known nests. Construction activities shall maintain a distance of 100 feet (30 meters) from known nests.

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<sup>1</sup> Qualified Biologist:

1. Has successfully completed a full four-year course of study in an accredited college or university leading to a bachelor's or higher degree, which includes a major field of study in biological sciences, wildlife biology, botany, natural resources management, environmental sciences, or related disciplines appropriate to this position;
2. Has a minimum of 20 documented hours of field identification (positive results) of the threatened and endangered species or closely related species; and
3. Provides three references to validate experience. OR
  1. Has a minimum of 24 semester hours (or equivalent quarter hours) in biological sciences, wildlife biology, botany, natural resources management, environmental sciences, or related disciplines appropriate to this position at an accredited college or university;
  2. Has one year (2000 hours) of field biology survey experience in the Pacific Islands;
  3. Has a minimum of 20 documented hours of field identification (positive results) of the threatened and endangered species or closely related species; and
  4. Provides three references to validate experience.

Tree Snails (*Partula gibba*, *Partula radiolata*, *Samoana fragilis*):

1. A qualified biologist(s) will survey all areas within 100 feet (33 meters) of any project area for tree snails using the standard prioritized search procedure (Fiedler 2019, entire). If any tree snails are found, determine the extent of the colony by surveying outwards in all directions from the original sighting until individuals are no longer detected. Surveys shall focus on determining the extent of the population and not the number of snails.
2. After a typhoon (sustained winds of at least 119 km/h (74 mph)), a qualified biologist will re-survey previous tree snail areas and re-establish buffer protections prior to commencing project work.
3. All work within 100 feet (33 meters) of tree snails shall be delayed for seven days following high wind, typhoon-like weather conditions. After seven days the colony shall be re-surveyed by the qualified biologist to determine if the boundaries of the colony have shifted and the buffer protections should be adjusted prior to commencing project work.
4. Occupied tree snail habitat will be identified within a flagged buffer zone encircling the snail habitat attached to adjacent non-listed plants to aid field personnel in identification and notification of avoidance. The project's work plan will identify the color of flagging to be used in order to ensure all project personnel are aware of the flagging used by the qualified biologists and biological monitors. a. See Appendix A for definition of a biological monitor.
5. Physically cordon off, with fencing or netting, for the duration of the project activity, buffer areas to prevent project personnel from entering buffers of 33 feet (10 meters) from the outermost snail detection. Alternate methods such as visually flagging buffer areas may be used in some types of projects including areas where field crew work will be restricted to designated roads and trails, and heavy equipment will not encroach into the buffer.
6. The qualified biologist shall be present during the installation/removal of the physical barriers/flagging. Where dust will occur during work, dust barriers shall be installed and approximately 10 feet (3 meters) high to shield tree snails within 33 feet (10 meters) of project activities. Removal of the barriers/flagging shall be completed as a final project task.

**PROJECT SPECIFIC BMPs**

1. USACE will provide coral and seagrass transplantation means, methods and pre-transplantation survey results to NMFS upon receipt from Government of Guam. USACE will keep NMFS apprised of this effort through to completion.
2. USACE will keep the Services apprised of any post-construction planting efforts by Government of Guam.
3. USACE will provide the results of post-construction shoreline monitoring efforts to be conducted by Government of Guam.

### Observer Log:

The following log will be completed daily to comply with all BMPs above that require observation and monitoring throughout the duration of construction. Specific highlight on two ESA BMPs require use of the observer log:

#### NOAA-NMFS ESA BMP A.13:

13. Observer logs. All non-take interactions with listed species (e.g. a species entering the shut-down zone and work is shut down correctly) must be documented and reported to the POH PM in weekly monitoring logs.

- i. Monitoring logs shall be completed daily by ERDC and submitted weekly to POH PM. If no ESA-listed species are observed, the observer will record "0" in the daily report.
- ii. The monitoring logs will be digital and queryable and include the following information:
  1. total hours and dates of monitoring,
  2. identification of which ESA species were observed and in what location and circumstances, including date, numbers of individuals of species observed, the outcome of the species observance relative to the authorized project, and any factors which may have affected visibility,
  3. if applicable, observed ESA species behaviors and movement types relative to the project activity at time of observation, and
  4. *any observations or occurrences as identified in ESA BMP "P", below.*

#### NOAA-NMFS ESA BMP P

##### P. Stranded, Injured, Sick or Dead Marine Mammal or Turtle

1. If observers become aware of any injured, sick, or dead marine mammal or turtle (whether or not it may be related to the proposed action), they will immediately call the NOAA Statewide Hawaii Marine Wildlife Hotline at (888) 256-9840. The observer will be prepared to provide information to the hotline operator about the animal's condition, location, and other information specific to the situation to help the operator determine the most appropriate response. *The POH PM will be immediately notified thereafter.*
2. The observers will submit photos and data as soon as possible regarding stranded, injured, sick, or dead marine animals that NMFS may use to inform NMFS-directed field responses and/or further analysis to determine whether a taking resulted (see 3. below). Photos and data submitted to NMFS regarding stranded, injured, sick, or dead marine animals will include date, time, location, species, and number of animals, as well as a description of the animal's condition, event type (e.g., entanglement, dead, floating), and behavior of live-stranded marine animals. The observers will email this documentation to: [respectwildlife@noaa.gov](mailto:respectwildlife@noaa.gov) and copy furnish POH PM, with the subject line indicated as: "Stranded animal information per Pac-SLOPES ESA section 7 consultation."
3. *The following information will be collected on an observer log and provided to the POH PM for any action that may have affected any ESA-listed species within 24 hours of the occurrence:*

- a. Number of individuals and species of listed animals affected;
- b. The date, time, and location of each event (provide geographic coordinates);
- c. Description of the event;
- d. The time the animal(s) was first observed or entered the shutdown zone, and, if known, the time the animal was last seen or exited the zone, and the fate of the animal;
- e. Mitigation measures implemented prior to and after the take; and
- f. If a vessel struck a marine mammal, the contact information for the observer on duty, or the contact information for the individual piloting the vessel if there was no observer on duty;
- g. Photographs or video footage of the animal(s) (if available).

4. *Table 1. ESA contact information.*

Reason for Contact	Contact Information
NOAA Fisheries Hawai'i Statewide Marine Stranding, Entanglement, and Reporting Hotline <i>(not related to project activities)</i>	Stranding Hotline (24/7 coverage): (888) 256-9840
Oil Spill & Hazardous Materials Response	U.S. Coast Guard National Response Center: 1-800-424-8802
Illegal Activities <i>(not related to project activities; e.g., feeding, unauthorized harassment, or disturbance to marine mammals)</i>	NMFS Office of Law Enforcement: 1-800-853-1964

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<b>Instructions</b>					
<b>Data Attribute</b>	<b>Definition</b>				
<b>Project Name</b>	Indicate the name of the project.				
<b>Location</b>	Specify the project location or observation station. This is extremely important if there are multiple observation stations.				
<b>Observer(s)</b>	Indicate the observer(s) at the station during monitoring effort. If the observer(s) switch in the middle of the day indicate the time of the switch.				
<b>Project Activities</b>					
<b>Start and end times</b>	Record start and end times of all in-water activities. Make sure to record breaks in any in-water activities. Military time is preferable.				
<b>Type of Activity</b>	Specify the type of in-water activity and make sure to indicate specifics such as bubble curtain use. Types of activities may include soft-start, impact pile installation (w/ or w/o bubble curtain), vibratory pile installation or removal (w/ or w/o bubble curtain), down the hole drilling, dredging, vessel activity, anchor handling, fill placement, or other sources of in-water disturbance.				
<b>ESA-listed Animals Sighting</b>					
<b>Species</b>	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;">                     Identify the species observed.                      Nearshore Species:                      (HST) hawksbill sea turtle,                      (GST) green sea turtle,                      (SHS) indo-west pacific scalloped hammerhead shark,                      (AG) acropora globiceps (coral)                      (HIP) Hippopus hippopus (giant clam)                      (TRD) Tridacna derasa (giant clam)                      (TRG) T. gigas (giant clam)                      (TRS) T. squamosa (giant clam)                      (TRM) T. maxima (giant clam)                 </td> <td style="width: 50%; vertical-align: top;">                     Identify the species observed.                      Pelagic Species:                      (UW) unidentified cetacean,                      (BW) blue whale,                      (FW) fin whale,                      (SEW) sei whale,                      (SPW) sperm whale,                      (HW) humpback whale,                      (OR) olive ridley sea turtle,                      (LHT) loggerhead sea turtle,                      (LBT) leatherback sea turtle,                      (OWT) oceanic whitetip shark,                      (GR) giant manta ray,                 </td> </tr> <tr> <td colspan="2" style="vertical-align: top;">                     Terrestrial Species:                      (BAT) mariana bat                      (TSN) tree snails                      (HSTT) hawksbill sea turtle, when on land                      (GSTT) green sea turtle, when on land                 </td> </tr> </table>	Identify the species observed. Nearshore Species: (HST) hawksbill sea turtle, (GST) green sea turtle, (SHS) indo-west pacific scalloped hammerhead shark, (AG) acropora globiceps (coral) (HIP) Hippopus hippopus (giant clam) (TRD) Tridacna derasa (giant clam) (TRG) T. gigas (giant clam) (TRS) T. squamosa (giant clam) (TRM) T. maxima (giant clam)	Identify the species observed. Pelagic Species: (UW) unidentified cetacean, (BW) blue whale, (FW) fin whale, (SEW) sei whale, (SPW) sperm whale, (HW) humpback whale, (OR) olive ridley sea turtle, (LHT) loggerhead sea turtle, (LBT) leatherback sea turtle, (OWT) oceanic whitetip shark, (GR) giant manta ray,	Terrestrial Species: (BAT) mariana bat (TSN) tree snails (HSTT) hawksbill sea turtle, when on land (GSTT) green sea turtle, when on land	
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Terrestrial Species: (BAT) mariana bat (TSN) tree snails (HSTT) hawksbill sea turtle, when on land (GSTT) green sea turtle, when on land					
<b>Quantity</b>	Document the number of animals seen per sighting (e.g. 1 turtle, 3 whales, etc.)				
<b>Behavior</b>	(T) traveling - moving in a linear or near-linear direction without interruption (M) milling - moving in a non-linear, weaving or circular pattern within an area (HO) hauled out - hauled out on land (D) diving - moving downward through the water column (rapidly or slowly), often showing tail fluke before dive (V) vocalizing - snorting, whistling, or chirping (BR) breaching - leaps clear out of water (SH) spyhopping - holding body vertically with head out of water for several seconds or more (ST) startled - rapidly changing behavior, dispersing or travelling that indicates a response to external event ( <b>must describe disturbance in the notes</b> ) (F) flush from haulout - enters water in response to disturbance ( <b>must describe disturbance in the notes</b> ) (CH) change direction - sudden change in direction that may be caused by disturbance ( <b>must describe in notes</b> )				

	<p>(A) avoidance - avoiding an area (<b>must describe in notes</b>)</p> <p>(O) unclassified behavior (<b>must describe in notes</b>)</p> <p>(U) unknown - behavior indistinguishable due to monitoring conditions and/or lack of ability to watch marine mammal for length of time to determine (no comment is necessary)</p> <p>(S) sessile - for corals</p> <p><b>(All behavioral changes caused by the project activities or other activities must be described in the notes. Include a detailed description of activities/animal's behavior before and after potential project related behavior change)</b></p>
<b>Location (inside/outside shutdown zone) and duration</b>	<p>Location – indicate if the species was inside or outside the shutdown zone.</p> <p>Duration – record the length of time if the ESA species was inside the shutdown zone.</p>
<b>Action taken by project</b>	<p>Indicate if a shutdown or delay was implemented due to marine mammals, sharks, rays, or sea turtles being observed.</p>
<b>NOTES EXAMPLES</b>	
<b>Duration of Shutdown or Delay</b>	<p>If a shutdown or delay occurred due to ESA-listed animal presence, indicate how long the shutdown or delay lasted.</p>
<b>Sighting Notes</b>	<p>Include any additional information, include specifics about ESA-listed animals behavioral changes from project activities.</p>

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**Endangered Species Daily Monitoring Log**

<b>Project Name:</b>										
<b>Location:</b>										
<b>Observer(s):</b>										
Date	Start time	End time	Activity type(s)	ESA-listed animal sighted	Quantity	Behavior	Location (e.g. inside/outside shutdown zone)	Duration	Action taken by project	No sightings this day
										<input type="checkbox"/>
										<input type="checkbox"/>
										<input type="checkbox"/>
										<input type="checkbox"/>
										<input type="checkbox"/>
										<input type="checkbox"/>
										<input type="checkbox"/>
<b>Notes:</b>										