

MDP Best Practices (as of March 2013)

The following best practices are generally used for MDP activities to ensure compliance with applicable laws for environmental protection and to minimize or avoid potential impacts on environmental resources. Some practices are species, location, and seasonal dependent and may have been developed in consultation with NMFS or the United States Fish and Wildlife Service (FWS) for prior MDP activities.

Best Practices	Type of impacts minimized or avoided
<p>Training: People conducting the activities would be trained and educated in the use of low-impact techniques for each technique and habitat, to avoid or minimize any impacts due to foot traffic, diving, equipment handling, removal techniques, and any other activities associated with the activity. In ecologically sensitive areas such as coral reefs, appropriate methods and care would be used in equipment handling and vessel mooring. If applicable, monitoring would be conducted to ensure compliance with project design and success.</p>	<p>Disturbance of physical environment features and sensitive habitats</p>
<p>General Conservation: All activities avoid or conserve habitat of any endangered or threatened species. This may include using buffer areas around sensitive resources (e.g., rare plants, archeological sites, etc., would be pre-identified and avoided). Other examples include not coming within three nautical miles of a Steller sea lion critical habitat without applicable federal permits; observing a buffer of at least 100 yards from an endangered species rookery; avoiding salmon spawning areas during spawning season, and avoiding piping plover nesting areas during nesting season, etc.</p>	<p>Disturbance of critical habitats and life history stages for ESA-listed species</p>
<p>Project Timing: Timing of activities would be limited to periods when important species are least likely to be in the project area (e.g., pre-determined windows of time when anadromous fish are not expected to be utilizing the project area, etc.) to minimize any potential impacts to living marine resources. Actions are limited to times when vulnerable life history stages of protected species are not present to avoid potential adverse impacts on that life stage and overall minimize adverse impacts to that species. The MDP would consult with NMFS OPR before working in areas that are known to be utilized by endangered fish or other animals.</p>	<p>Disturbance of sensitive species and life-history stages</p>
<p>Marine Mammals: When activities would occur in marine mammal habitat, minimum approach distances and the operational protocols recommended in NMFS regional guidelines to minimize the potential for disturbance and illegal taking are observed. The guidelines can be found on-line at: http://www.nmfs.noaa.gov/pr/education/viewing.htm. For example, without special permission from NMFS, no cleanups are done and access is restricted to northern fur seal rookeries on St. Paul and St. George Islands (Alaska) between June 1 and October 15.</p>	<p>Disturbance of sensitive species and life-history stages</p>

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<p>Coral: Basic guidelines for activities near coral reefs include: not removing, stepping on, or touching coral; maintaining neutral buoyancy and good buoyancy control; maintaining control of fins, gauges, and accessories; not stirring up sediment near coral; securing all equipment so that it cannot drag or snag on corals; using mooring buoys instead of anchors when possible and never dropping anchors onto coral reefs; ensuring engines are well maintained to avoid release of petroleum products in reef areas; making sure sewage is disposed in a way that does not affect the nutrient balance of the reef ecosystem; following environmentally sound methods of trash disposal on boats and on the land; and, obeying all local dive rules, regulations, and customs.</p> <p>As of November 2012, NMFS proposed listing 66 reef-building coral species under the ESA: 59 in the Pacific and seven in the Caribbean and to reclassify Elkhorn and Staghorn corals as endangered instead of threatened. More species may be listed in the near future and the MDP will take the necessary steps to ensure that the program meets any new or additional requirements when working in areas with listed species. For example, BMPs to minimize damage to coral from underwater removal of derelict fishing gear (DFG) from coral reef habitat include: carefully cutting away and hand removing it from coral. If a coral reef is found with DFG that has been overgrown by the coral, it is left since it would cause more harm than good trying to remove it. However, loose pieces are removed in order to prevent entanglement risks.</p>	Disturbance of critical habitat, sensitive species and life-history stages
<p>Sea Turtles: Sea turtles are susceptible to artificial lighting that is visible from the beach, barriers on the beach, and disturbance of the nest site by humans and predators. Avoid using light where possible; otherwise shield the light so it does not reach the beach. Minimize physical disturbance of beach material to reduce the likelihood of adverse impact to a sea turtle nest. Use animal-proof waste containers to minimize attraction of non-native predators to beach areas.</p>	Disturbance of sensitive species and life-history stages
<p>Essential Fish Habitat (EFH): Should any activity propose to reduce the quality and/or quantity of EFH, appropriate consultations between the MDP and NOAA Office of Habitat Conservation would be undertaken to avoid, minimize, or offset any adverse impacts associated with the activity ensuring no reduction in the quality of quantity of EFH occurs as a result.</p>	Disturbance of critical habitat, sensitive species and life-history stages
<p>Seabirds: Seabirds frequently fly at night and have been shown to be attracted to artificially-lighted areas, which may result in disorientation and subsequent fallout due to exhaustion. To minimize light attraction of seabirds, activities should only occur during daylight hours. Seabirds and their nesting colonies would be avoided in MDP projects.</p>	Disturbance of sensitive species and life-history stages
<p>Waterbirds: To minimize potential adverse impacts to waterbirds, projects should not be situated in or near wetlands where possible. When projects are located near wetlands, an assessment of potential project impacts to waterbirds should be conducted. Point count surveys should be conducted at the proposed project site; the number of point count surveys required would depend on the scope of the proposed project. Surveys should be conducted prior to project implementation in all wetland habitats within and adjacent to a potential project site.</p>	Disturbance of sensitive species and life-history stages

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<p>Listed Plants and Critical Habitat: A number of listed plants and critical habitat are situated along coastlines. If vegetation must be disturbed (for instance, if driving off of existing roadways must occur), a qualified botanist should conduct botanical surveys prior to project implementation to document any listed plant species in the proposed disturbance area. Botanical surveys should be conducted during the wettest part of the year when target species may be more prevalent. Projects should be situated to minimize disturbance to listed plants and habitat suitable for listed plants.</p>	<p>Disturbance of critical habitat, sensitive species and life-history stages</p>
<p>Research: Research projects include a scientific hypothesis and experimental design that ensure the project does not have significant impacts and that lessons learned from the project may be applied to future efforts, thereby mitigating the potential for future cumulative impacts. Having proper experimental controls and quality assurance (QA)/quality control (QC) help measure and minimize the effect of the experiment on the environment.</p>	<p>General and unnecessarily duplicative impacts</p>
<p>Aerial Surveys: During aerial surveys, efforts are taken to reduce disturbance to animals, and applicable permits for Marine Mammal Protection Act (MMPA) and ESA are obtained. The pilot must be aware of any restricted airspace that might be encountered during a beach survey. The seasonal airspace concerns over bird rookeries and marine mammal haul-outs are generally marked on FAA Sectional Aeronautical charts. For example, to minimize disturbance of harbor seals on land, avoid flying surveys within two hours of low tide, when seals commonly haul out. Maintain an altitude of at least 1,000 feet when operating aircraft over marine mammal habitat. Also, no aerial surveys would be conducted within applicable habitats, during harbor seal pupping season, mid-May to mid-June, to avoid disturbing dependent harbor seal pups.</p>	<p>Disturbance of sensitive species and life-history stages</p>
<p>Shoreline Activities: Whenever shoreline activities are conducted, projects are done in coordination and with permission from landowners (e.g. National Park Service permits).</p>	<p>Disturbance of physical environment and unique characteristics of ecologically critical or historically and culturally significant areas</p>
<p>Trash Disposal: Trash and materials are disposed of or recycled as appropriate and beneficial following applicable local ordinances.</p>	<p>Impacts on public health and human safety</p>
<p>Noise: Avoid making excessive or impactful noise from construction or operation of machinery that may adversely affect ESA-listed animals or marine mammals, especially during breeding seasons.</p>	<p>Disturbance of sensitive species and life-history stages</p>
<p>Heavy Equipment: The use of heavy equipment (e.g., graders, front-end loaders, backhoes, etc.) that has the potential to impact soil stability should be avoided to the maximum extent possible. If the use of heavy equipment is not avoidable, then project-specific consultation and associated permitting may be required.</p>	<p>Disturbance of physical environment and habitats</p>
<p>Vessels: The MDP does not operate vessels directly and therefore is not responsible for the environmental compliance for the operation of the vessel in general. NOAA vessels for other purposes (e.g. vessels of opportunity) or research partner vessels are typically used for MDP activities and these vessels comply with existing laws and regulations.</p>	<p>Compliance with applicable laws</p>

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<p>SCUBA: If Self-Contained Underwater Breathing Apparatus (SCUBA) and/or other use of compressed gas are required as a breathing medium (e.g., surface supplied air), it is the responsibility of NOAA for undertaken projects or a recipient organization to ensure that divers are trained to a level commensurate with the type and conditions of the diving activity being undertaken to be capable of exhibiting responsible dive practices to not injure organisms or cause unnecessary habitat impacts. The organization must have the capacity (appropriate insurance, safety policies, etc.) to oversee all proposed diving activities. All diving activities must meet, or be specifically exempted from, OSHA guidelines. Assuming all other relevant safety conditions are satisfied, divers that are not advanced divers may perform simple activities, such as underwater surveys and removal of light objects. Advanced divers are divers with advanced diving training for the proposed tasks and in compliance with OSHA guidelines. Activities that should be performed only by advanced divers include but are not limited to the following:</p> <ul style="list-style-type: none"> - Moving or lifting heavy objects, or using hand tools, weighing more than 25 pounds underwater; - Performance of underwater tasks requiring substantial physical exertion; - Use of lift bags; - Underwater removal of potentially entangling debris, such as nets, crab or lobster pots, or fishing line; and <p>All applicable federal, state, and local laws and regulations pertaining to the type of diving being undertaken must be met. Snorkeling activities are similarly restricted, in that snorkelers should complete only simple activities such as surveys and removal of light, non-entangling objects unless they receive specialized training. Divers and snorkelers should be capable of exhibiting responsible dive practices (e.g., proper buoyancy) such that they conduct activities in a safe manner and do not injure organisms or cause unnecessary habitat impacts especially to sensitive habitats such as coral reefs. Projects that involve the use of SCUBA are required to have a safety plan in place before any in-field work takes place.</p>	<p>Disturbance of physical environment and habitats</p>
<p>Fishing Gear: Projects involving the use of traps, nets, trawls or other types of fishing gear used to sample fish populations must include measures to ensure that these gear types are not placed or used in locations where they will damage habitats and must be in accordance with local and federal regulations for the area including those related to ESA-listed species or marine mammals. For example, to reduce by-catch during surface water trawls, a 0.333 mm mesh-size manta net with a 70 cm diameter frame. A shipboard observer watches the net for the length of the tow and the trawl is stopped if a large object or organism is seen entering the net. When the net is retrieved and cod-end contents are sieved, any living species (e.g., small fish) are returned to the water.</p>	<p>Disturbance of physical environment and habitats</p>
<p>Grapples: Grapples used for removal would be paired with side scan sonar to ensure removal efforts are targeted and can avoid sensitive areas. Training on the use of side scan sonar and removal methods, as well as for safety procedures would be necessary.</p>	

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<p>Contaminated Sediments: Removal efforts that could disturb sediment should not occur in areas of known contamination to avoid the suspension of contaminants in the water column. However, if removal of the gear has been identified as a high priority because of known damage or hazard posed by the gear, then removal should occur in close consultation and coordination with the appropriate state or local agency with jurisdiction over the specific area/location.</p>	
<p>Invasive Species: Protocols should be carefully followed to avoid transport of diseased or invasive materials between sites. Measures should be taken to ensure invasive species are not introduced to non-native areas such as by thorough cleaning according to scientific protocols to ensure no biofouling is present (e.g. scraping, treating surface with a mild bleach solution, storing removed species in a safe location to decompose, etc.). All diving gear should be rinsed in a bleach solution at the end of each day in the field, and vessels and all gear should be sanitized before each departure from port. Only disinfected equipment and gear should be transported between a point of origin to destination and return. Decontamination of clothing and soft gear to be taken ashore from a vessel must be conducted by freezing materials for 48 hours or by the use of new clothing or soft gear as indicated by FWS regulations and guidelines.</p>	Invasive species
<p>Wildfire: When using burning to remove invasive species from marine debris, any increased threat of wildfire to ESA-listed species or marine mammals, their habitat, or critical habitat that may result from the project should be minimized and project plans should include measures to ensure burned areas are restored and impacts of fire are mitigated.</p>	Disturbance of sensitive species and critical habitats for ESA-listed species