
3.11 Cultural Resources

**Supplemental Environmental Impact Statement/
Overseas Environmental Impact Statement
Mariana Islands Training and Testing**

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3.11 Cultural Resources

3.11.1 Affected Environment

This section supplements the analysis of impacts on Cultural Resources presented in the 2015 Mariana Islands Training and Testing (MITT) Final Environmental Impact Statement/Overseas Environmental Impact Statement (EIS/OEIS). New information made available since the publication of the 2015 MITT Final EIS/OEIS is included below to better understand potential stressors and impacts on cultural resources resulting from training and testing activities. Information presented in the 2015 MITT Final EIS/OEIS that remains valid is noted as such and referenced in the appropriate sections. Comments received from the public during scoping related to Cultural Resources are addressed in Section 3.11.3 (Public Scoping Comments).

3.11.1.1 Guam

Following a review of recent literature, no additional submerged cultural resources have been identified around Guam. As such, the information presented in the 2015 MITT Final EIS/OEIS is still valid and the most current.

3.11.1.2 Commonwealth of the Northern Mariana Islands

3.11.1.2.1 Farallon de Medinilla

Following a review of recent literature, no additional submerged cultural resources, land-based archaeological sites, or isolated non-modern artifacts have been identified around or on Farallon de Medinilla (FDM). As such, the information presented in the 2015 MITT Final EIS/OEIS is still valid and the most current.

3.11.1.2.2 Tinian

Following a review of recent literature, additional submerged cultural resources have been identified around Tinian. In 2017, East Carolina University partnered with the non-profit organization Ships of Exploration and Discovery on a National Parks Service America Battlefield Protection Program grant to conduct an archaeological investigation in the Commonwealth of the Northern Mariana Islands (CNMI). A portion of the 2017 project was dedicated to examining Tinian's World War II invasion beaches Unai Babui and Unai Chulu. The 2017 study was a follow-up study on the original American Battlefield Protection Program grant and a 2010 study of the nearshore areas, which identified potential anomalies in the nearshore areas of Unai Chulu (Burns, 2010). Researchers discovered two previously unidentified cultural resources within the Study Area landing beaches of Tinian: a World War II Danforth anchor and a previously unknown, fairly intact Landing Vehicle Tracked-2 in approximately 45 feet (ft.) of water (McKinnon et al., 2017). Researchers also discovered portions of a second Landing Vehicle Tracked, a large stockless U.S. Navy anchor, and a tire that may belong to a DUCKW, a six-wheel-drive amphibious modification of the CCKW trucks (2.5-ton truck) used during World War II in approximately 20 ft. of water in the nearshore area of Unai Babui.

3.11.1.2.3 Saipan

Following a review of recent literature, no additional submerged cultural resources have been identified around Saipan. However, the results of an underwater archaeological survey conducted in 2011 were published in 2016 describing the remains of the ship, artifacts, and debris field associated with a mid-to-late 19th-century wooden ship found in Tanapag Lagoon on the western side of Saipan. While the study confirmed the shipwreck to be from the colonial period prior to World War II, it was inconclusive as to the positive identity of the ship (McKinnon et al., 2016).

3.11.1.2.4 Rota

Following a review of recent literature, no additional submerged cultural resources have been identified around Rota. As such, the information presented in the 2015 MITT Final EIS/OEIS is still valid and the most current.

3.11.1.3 Mariana Islands Training and Testing Transit Corridor

The length and variable width of the MITT transit corridor is such a vast and deep area, sometimes over 18,000 ft. (5,486 meters) deep, that it precludes systematic survey for submerged historic resources. In accordance with the addendum to the National Historic Preservation Act (54 United States Code Section 307101(e)) regarding international federal activities affecting historic properties, the World Heritage List was reviewed, and no known cultural resources were identified within the MITT transit corridor.

3.11.1.4 Current Requirements, Practices, and Protective Measures

3.11.1.4.1 Avoidance of Obstructions

As stated in the 2015 MITT Final EIS/OEIS, the military routinely avoids locations of known obstructions, which includes submerged cultural resources such as historic shipwrecks. Known obstructions are avoided to prevent damage to sensitive equipment and vessels, for mission success, and to avoid or reduce potential impacts on cultural resources (Section 2.3.3, Standard Operating Procedures and Chapter 5, Mitigation).

3.11.1.4.2 Mariana Islands Range Complex Programmatic Agreement

A Programmatic Agreement was negotiated in 2009 for all military training activities proposed in the Mariana Islands Range Complex (MIRC). The Programmatic Agreement was based on consultations with the Guam State Historic Preservation Officer, CNMI Historic Preservation Officer, Advisory Council on Historic Preservation, and the National Park Service. The training constraints map identifies 13 No Training areas (8 on Guam and 5 on Tinian) and 35 Limited Training areas (20 on Guam and 15 on Tinian), refined from the previous Military Operations Area constraints map boundaries (U.S. Department of Defense, 2009). Limited Training areas are defined as pedestrian traffic areas with vehicular access limited to designated roadways or the use of rubber-tired vehicles. No pyrotechnics, demolition, or digging is allowed in Limited Training areas without prior consultation with the appropriate Historic Preservation Officer. In addition to establishing No Training and Limited Training areas, stipulations for additional cultural resources investigations in unsurveyed areas, archaeological monitoring and conditions documentation of military use of ingress and egress paths and training areas, and preparation of field reports were also implemented for land-based training areas. The Programmatic Agreement expires in December 2019 and the Navy is pursuing continued compliance with the National Historic Preservation Act.

3.11.2 Environmental Consequences

The 2015 MITT Final EIS/OEIS considered training and testing activities proposed to occur in the Study Area that may have the potential to impact cultural resources. The stressors applicable to cultural resources in the Study Area are the same stressors in the 2015 MITT Final EIS/OEIS and include

- explosive (in-water explosions), and
- physical disturbance and strike (ground disturbance, use of towed in-water devices, deposition of military expended materials, and use of seafloor devices).

This section evaluates how and to what degree potential impacts on cultural resources from stressors described in Section 3.0 (General Approach to Analysis) may have changed since the analysis presented in the 2015 MITT Final EIS/OEIS was completed. Tables 2.5-1 and 2.5-2 in Chapter 2 (Description of Proposed Action and Alternatives) list the proposed training and testing activities and include the number of times each activity would be conducted annually and the locations within the Study Area where the activity would typically occur under each alternative. The tables also present the same information for activities described in the 2015 MITT Final EIS/OEIS so that the proposed levels of training and testing under this Supplemental EIS (SEIS)/OEIS can be easily compared.

The Navy conducted a review of federal and state regulations and standards relevant to cultural resources and reviewed literature published since 2015 for new information on cultural resources (as presented in Section 3.11.1 Affected Environment) that could inform the analysis presented in the 2015 MITT Final EIS/OEIS. The analysis presented in this section also considers standard operating procedures, which are discussed in Section 2.3.3 (Standard Operating Procedures) of this SEIS/OEIS, and mitigation measures that are described in Chapter 5 (Mitigation). The Navy would implement these measures to avoid or reduce potential impacts on cultural resources from stressors associated with the proposed training and testing activities. Protective measures for cultural resources will be coordinated with the Guam State Historic Preservation Officer, CNMI Historic Preservation Officer, Advisory Council on Historic Preservation, and the National Park Service as part of the Section 106 consultation process.

3.11.2.1 Explosive Stressors

Explosive stressors that have the potential to impact cultural resources are shock (pressure) waves and vibrations from underwater detonations (such as explosive torpedoes, missiles, bombs, projectiles, airguns, and mines) and cratering created by underwater explosions. While the number of training and testing activities would change under this SEIS/OEIS, the locations of activities and the analysis presented in the 2015 MITT Final EIS/OEIS, Section 3.11.3.1.1 (Impacts from Explosives – Shock [Pressure] Waves from Underwater Explosions) and Section 3.11.3.1.2 (Impacts from Explosives – Cratering) remains valid.

3.11.2.1.1 Impacts from Explosive Stressors Under Alternative 1

Under Alternative 1, the annual number of explosive munitions expended at sea in the Study Area would decrease overall from the 2015 MITT Final EIS/OEIS. However, under this alternative, underwater detonation activities would increase for Limpet Mine Neutralization System and Underwater Demolition Qualification/Certification above the 2015 MITT Final EIS/OEIS (Table 2.5-1 and Table 3.0-16). The explosive ordnance would continue to occur in the same areas and would have no appreciable change in the impact analysis or conclusions for explosive stressors as presented in the 2015 MITT Final EIS/OEIS.

As stated in the 2015 MITT Final EIS/OEIS analysis, training and testing activities using explosives would not typically occur within approximately 3 nautical miles from shore, including the nearshore waters surrounding Tinian, Saipan, or Rota. Therefore, no shock (pressure) waves, vibrations, or cratering from explosions would occur in these areas, and no submerged historic resources would be affected by explosive stressors. For those training activities at the Agat Bay Floating Mine Neutralization Site, Piti Point Floating Mine Neutralization Site, and Apra Harbor Underwater Demolition Site (located within Outer Apra Harbor), the military avoids locations of known obstructions, which includes submerged cultural resources (Section 2.3.3, Standard Operating Procedures, and Section 5.4.1, Mitigation Areas for Seafloor Resources). Thus, it is unlikely that cultural resources could be disturbed or destroyed from shock waves or cratering created by underwater explosions during mine warfare activities, surface

warfare activities, torpedo testing, mine countermeasure mission package activities, or other training activities that use explosives.

In summary, given that the training and testing activities would decrease and be conducted in the same areas as described in the 2015 analysis, the amount of shock (pressure) waves, vibrations, or cratering from explosives would not appreciably change the conclusions. Therefore, the analysis presented in the 2015 MITT Final EIS/OEIS, Section 3.11.3.1.1 (Explosive Stressors – Shock (Pressure) Waves from Underwater Explosions) and Section 3.11.3.1.2 (Impacts from Explosives – Cratering) remains valid. Explosive stressors resulting from underwater explosions creating shock (pressure) waves, vibrations, and cratering of the seafloor would not adversely affect submerged cultural resources under Alternative 1 within U.S. territorial waters because measures have been previously implemented to protect these resources and would continue to be implemented according to the conservation measures and procedures identified and described in the 2009 MIRC Programmatic Agreement.

3.11.2.1.2 Impacts from Explosive Stressors Under Alternative 2

Under Alternative 2, the annual number of explosive munitions expended at sea in the Study Area would decrease overall from the 2015 MITT Final EIS/OEIS. However, under this alternative, underwater detonation activities would increase for Limpet Mine Neutralization System and Underwater Demolition Qualification/Certification above the 2015 MITT Final EIS/OEIS (Table 2.5.1 and Table 3.0-16). As noted under Alternative 1, the explosive ordnance would continue to occur in the same areas and would have no appreciable change in the impact analysis or conclusions for explosive stressors as summarized above under Alternative 1 and as presented in the 2015 MITT Final EIS/OEIS.

3.11.2.1.3 Impacts from Explosive Stressors Under the No Action Alternative

Under the No Action Alternative, proposed training and testing activities would not occur. Other military activities not associated with this Proposed Action would continue to occur. Explosive stressors as listed above would not be introduced into the marine environment. Therefore, existing environmental conditions of submerged cultural resources would remain unchanged after cessation of ongoing training and testing activities.

Discontinuing the training and testing activities would result in fewer explosive stressors within the marine environment where training and testing activities have historically been conducted. Therefore, discontinuing training and testing activities under the No Action Alternative would lessen the potential for explosive impacts on submerged cultural resources, but would not measurably improve the condition of submerged cultural resources in the Study Area.

3.11.2.2 Physical Disturbance and Strike

The physical disturbance and strike stressors that may impact cultural resources include (1) vessels and towed in-water devices, (2) military expended materials, and (3) seafloor devices.

3.11.2.2.1 Impacts from Physical Disturbance and Strike Stressors Under Alternative 1

Under Alternative 1, the number of proposed training and testing events would increase for vessels, decrease for towed in-water devices, increase for non-explosive practice munitions, decrease for military expended materials, and decrease for seafloor devices (see Tables 3.0-12, 3.0-13, 3.0-14, 3.0-15, and 3.0-18, respectively) compared to the numbers in the 2015 MITT Final EIS/OEIS.

Proposed increases under Alternative 1 for vessels would have no appreciable change on the impact analysis or conclusions for physical disturbance and strike stressors presented in the 2015 MITT Final

EIS/OEIS because the increase in training and testing events including the use of vessels is not substantial (Table 3.0-12). Thus, the analysis presented in the 2015 MITT Final EIS/OEIS, Section 3.11.3.2.2 (Impacts from Vessel and In-Water Device Strikes) remains valid.

As stated in the 2015 MITT Final EIS/OEIS, the impact of physical disturbance and strike stressors on cultural resources would be inconsequential for vessels and in-water devices because (1) the types of activities associated with towed systems are conducted in areas where the sea floor is deeper than the length of the tow lines; (2) prior to deploying a towed device, there is a standard operating procedure to search the intended path of the device for any floating debris (e.g., driftwood) or other potential surface obstructions, since they have the potential to cause damage to the device; and (3) devices are designed and operated within the water column and do not contact the seafloor. Activities involving vessels and in-water devices are not expected to affect submerged cultural resources.

The proposed increase under Alternative 1 in non-explosive practice munitions (Table 3.0-14) is attributed to the increase in small-caliber projectiles. Larger non-explosive practice munitions such as torpedoes, bombs, and missiles would all decrease under Alternative 1. As stated in the 2015 MITT Final EIS/OEIS, the deposition of non-explosive practice munitions, sonobuoys, and military expended materials other than ordnance may affect submerged cultural resources through possible sudden impact of resources on the seafloor or the simple settling of military expended materials on top of submerged cultural resources. However, the impact of non-explosive practice munitions or military expended materials on cultural resources would be inconsequential because most of the anticipated expended munitions would be small objects and fragments that lose velocity after striking the ocean surface and drift to the seafloor. Larger and heavier objects, such as non-explosive practice munitions, would strike the ocean surface with greater velocity, but their acceleration would slow upon impact with the ocean surface. It is possible these larger and heavier objects could impact a submerged historic site by creating sediment and artifact displacement. A historic resource could be impacted by damaging structural elements; the probability increases in areas where there is a higher density of resources. However, this type of impact is not anticipated because the Navy avoids areas with known submerged obstructions, including submerged objects and sites listed on the National Register of Historic Places. Thus, the increase in non-explosive practice munitions would have no appreciable change on the impact analysis or conclusions for physical disturbance and strike stressors presented in the 2015 MITT Final EIS/OEIS.

As stated in the 2015 MITT Final EIS/OEIS, any physical disturbance on the continental shelf and seafloor could inadvertently damage or destroy submerged cultural resources if such resources are located within the Study Area and are not avoided. Under Alternative 1, the impact of seafloor devices on cultural resources would remain inconsequential as presented in the 2015 MITT Final EIS/OEIS because (1) seafloor devices are either stationary or move very slowly along the bottom; and (2) the military avoids locations of known obstructions, which include submerged historic resources (Section 2.3.3, Standard Operating Procedures, and Section 5.4.1, Mitigation Areas for Seafloor Resources). Thus, activities involving seafloor devices are not expected to affect submerged cultural resources.

3.11.2.2.2 Impacts from Physical Disturbance and Strike Stressors Under Alternative 2

Under Alternative 2, the number of proposed training and testing events would increase for vessels, decrease for towed in-water devices, increase for non-explosive practice munitions, decrease for military expended materials, and decrease for seafloor devices (see Tables 3.0-12, 3.0-13, 3.0-14, 3.0-15, and 3.0-18, respectively) compared to the numbers in the 2015 MITT Final EIS/OEIS. Under Alternative 2, increases as compared to Alternative 1 would have no appreciable change on the impact conclusions as summarized above under Alternative 1 and presented in the 2015 MITT Final EIS/OEIS.

3.11.2.2.3 Impacts from Physical Disturbance and Strike Stressors Under the No Action Alternative

Under the No Action Alternative, proposed training and testing activities would not occur. Other military activities not associated with this Proposed Action would continue to occur. Physical disturbance and strike stressors as listed above would not be introduced into the marine environment. Therefore, existing environmental conditions of submerged cultural resources would remain unchanged after cessation of ongoing training and testing activities.

Discontinuing the training and testing activities would result in fewer physical disturbance and strike stressors within the marine environment where training and testing activities have historically been conducted. Therefore, discontinuing training and testing activities under the No Action Alternative would lessen the potential for physical disturbance and strike impacts on submerged cultural resources, but would not measurably improve the condition of submerged cultural resources in the Study Area.

3.11.3 Public Scoping Comments

The public raised two issues during the scoping period in regard to cultural resources. The issues are summarized in the list below.

- **U.S. Navy has not consulted with indigenous people for conducting military training** – The 2015 MITT Final EIS/OEIS summarized in Section 3.11.4.2 (Regulatory Determinations) that the 2009 MIRC Programmatic Agreement is in effect and satisfies the requirement for consultation as long as the stipulations in that Programmatic Agreement are followed. The 2009 MIRC Programmatic Agreement was negotiated for all military training activities for the MIRC EIS/OEIS based on consultations with the Guam State Historic Preservation Officer, CNMI Historic Preservation Office, Advisory Council on Historic Preservation, and the National Park Service (U.S. Department of Defense, 2009).
- **The Navy should conduct a cultural survey of FDM** – The 2015 MITT Final EIS/OEIS Section 3.11.2.2.1 (Farallon de Medinilla) evaluated the findings of a preliminary archaeological field survey of FDM conducted in 1996 (Welch, 2010). The survey reports no archaeological sites or isolated non-modern artifacts were observed. Modern debris or litter associated with the military use of the island was observed. Thus the 2015 analysis determined that although training activities would create ground disturbance, there are no known cultural resources on FDM.

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