
Executive Summary

Gulf of Alaska Navy Training Activities
Final Supplemental Environmental Impact Statement/
Overseas Environmental Impact Statement

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ES Executive Summary

ES.1 Introduction

The United States (U.S.) Department of the Navy (Navy) has prepared this Supplemental Environmental Impact Statement (SEIS)/Overseas Environmental Impact Statement (OEIS) to supplement the impact analysis contained in the Final Gulf of Alaska (GOA) Navy Training Activities Environmental Impact Statement (EIS)/OEIS (U.S. Department of the Navy, 2011) (hereinafter referred to as the 2011 GOA Final EIS/OEIS) and contained in the GOA Final Navy Training Activities SEIS/OEIS (U.S. Department of the Navy, 2016) (hereinafter referred to as the 2016 GOA Final SEIS/OEIS) pursuant to 40 Code of Federal Regulations (CFR) section 1502.9(c) (2019), and Executive Order 12114.

This SEIS/OEIS considers ongoing and future activities conducted at sea, updates training requirements, incorporates new information from an updated acoustic effects model, updates marine mammal density data, and incorporates evolving and emergent best available science. It also supports the issuance of federal regulatory authorizations under the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA) using the most current and best available science and analytical methods to assess potential environmental impacts on the species covered by those regulations.

The at-sea training area in this SEIS/OEIS is referred to as the GOA Study Area (Figure ES-1). In addition to the existing Temporary Maritime Activities Area (TMAA) which is the same at-sea training area analyzed in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS, certain limited activities would be conducted in the Western Maneuver Area (WMA). The GOA Study Area is now comprised of the TMAA and the WMA. The Navy also proposes implementing a new mitigation area over the continental shelf and slope of the TMAA. To protect marine species and biologically important habitat, use of explosives (sea surface up to 10,000 feet altitude) would be prohibited in this area.

The Proposed Action includes all military readiness activities previously conducted pursuant to the Record of Decision (ROD) following the 2016 GOA Final SEIS/OEIS. The Navy would conduct an annual exercise, historically referred to as Northern Edge, over a time period of up to 21 consecutive days during the April to October timeframe. Although the types of activities and number of events in the Proposed Action are consistent with the previous documents (Alternative 1 in both the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS), there have been changes in the platforms and systems used as part of those activities (e.g., EA-6B aircraft and Oliver Hazard Perry Class Frigate, and their associated systems, have been replaced with the EA-18G aircraft, Littoral Combat Ship, and Constellation Class Frigate), and use of the Portable Underwater Tracking Range is no longer proposed. Consistent with the previous analyses for Alternative 1, the sinking exercise activity will not be part of the Proposed Action for this SEIS/OEIS.

ES.2 Purpose of and Need for Proposed Military Readiness Training Activities

As identified in the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS, the purpose of the Navy's Proposed Action is to use the GOA Study Area (the TMAA was a portion of the Joint Pacific Alaska Range Complex, previously referred to as the Alaska Training Areas) to support and conduct current, emerging, and future training activities. This action is needed to achieve and maintain fleet readiness to ensure the Navy's continued, effective protection of U.S. national security.

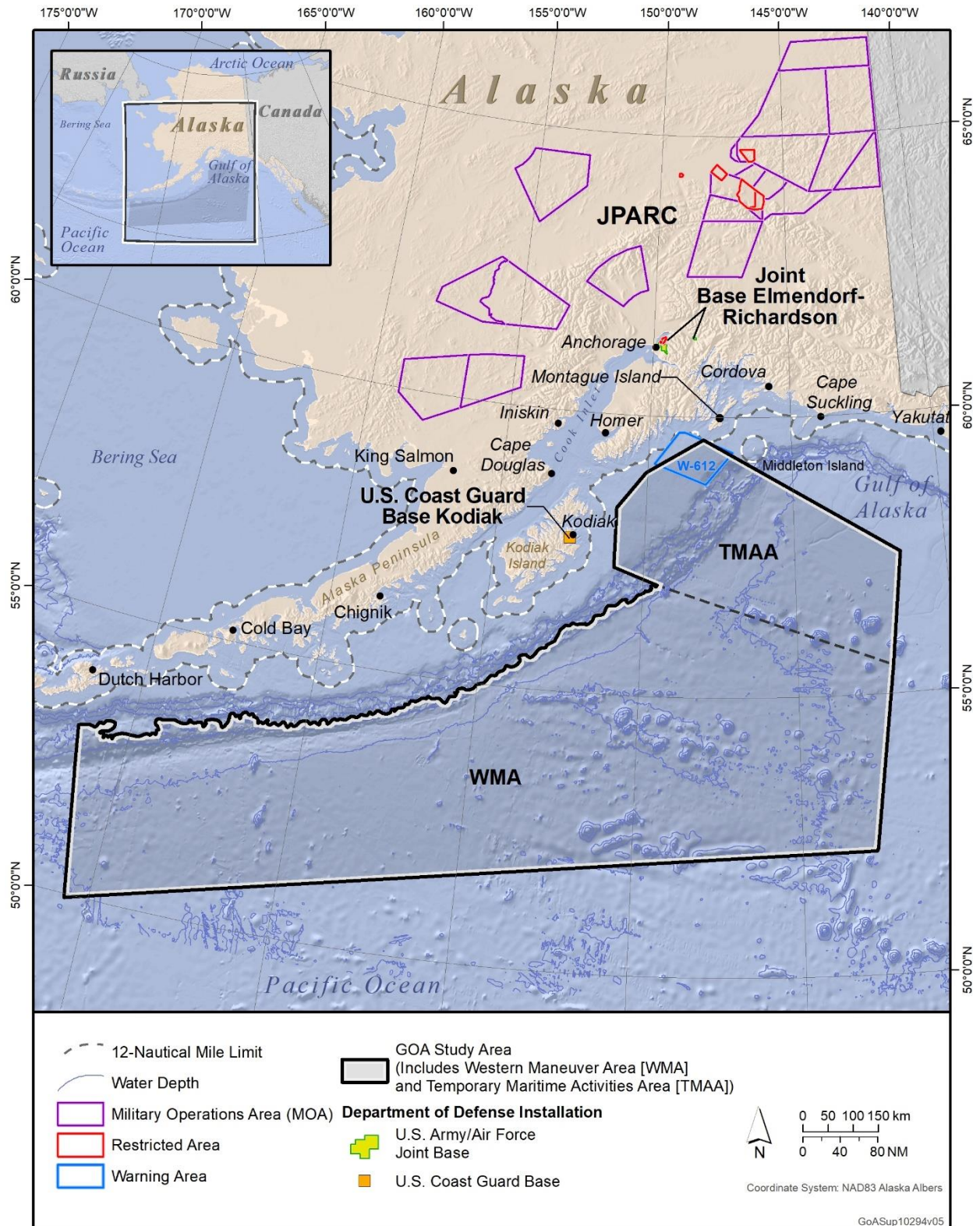


Figure ES-1: Gulf of Alaska Study Area

ES.3 Scope and Content of the Environmental Impact Statement/Overseas Environmental Impact Statement

In this SEIS/OEIS, the Navy reevaluates potential impacts from the ongoing military training activities in the GOA Study Area. The GOA Study Area supports opportunistic experimentation and testing activities when conducted as part of training activities and when considered to be consistent with the proposed training activities. These activities could occur as part of large-scale exercises or as independent events. Therefore, there is no separate discussion or analysis for testing activities that may occur as part of the proposed military readiness activities in the GOA Study Area.

This SEIS/OEIS assesses potential impacts of the Proposed Action on the environment. The Proposed Action is consistent with the Proposed Action presented in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS, for which RODs were issued. The Navy seeks to continue military readiness activities previously conducted and described in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS. This SEIS/OEIS assesses potential impacts of the alternatives (Alternative 1 and the No Action Alternative). The resources evaluated include fishes, sea turtles, marine mammals, birds, and socioeconomic resources and environmental justice. Since the completion of the 2016 GOA Final SEIS/OEIS, new information has become available and is incorporated in this analysis. New information specifically addressed in this SEIS/OEIS includes updates to training requirements, an updated acoustic effects model, updated marine mammal density data and sea turtle hearing criteria, and other emergent best available science.

In this SEIS/OEIS, the Navy analyzes acoustic and explosive impacts on marine mammals, fishes, birds, and sea turtles; direct, indirect, cumulative, short-term, and long-term impacts; and the irreversible and irretrievable commitment of resources that may result from the Proposed Action.

The Navy is the lead agency for the Proposed Action and is responsible for the scope and content of this SEIS/OEIS. The National Oceanic Atmospheric Administration's National Marine Fisheries Service (NMFS) is serving as a cooperating agency pursuant to 40 CFR section 1501.6 because of its expertise and regulatory authority over marine resources. Additionally, this document will serve as NMFS' environmental planning documentation for the federal regulations and authorizations issuance under the MMPA. After the Final SEIS/OEIS is published and in accordance with the Council on Environmental Quality (CEQ) Regulations, 40 CFR section 1505.2, the Navy's ROD will provide the Navy's rationale for choosing one of the alternatives.

ES.4 Government and Public Involvement

ES.4.1 Scoping Process

In an effort to maximize public participation and ensure the public's input is considered, the Navy conducted scoping for this SEIS/OEIS. Public scoping began with the issuance of the Notice of Intent in the *Federal Register* (FR) on February 10, 2020 (85 FR 7538). To further notify the public of the scoping period, the Navy published advertisements in five newspapers, distributed press releases, and mailed notification letters to 24 tribal chairpersons of federally recognized tribes and 128 federal, state, and local elected officials and government agencies. In addition, the Navy mailed postcards to 556 individuals, community groups, tribal staff, nongovernmental organizations, and key stakeholders and parties previously expressing an interest in this project. The public was also provided notification of the intent to prepare an SEIS/OEIS via a post on the project website (<https://goaeis.com/>) and by email (44 recipients).

In accordance with the CEQ regulations for implementing the requirements of the National Environmental Policy Act (NEPA), scoping is not required for an SEIS (40 CFR section 1502.9(c)(4)). However, in an effort to maximize public participation and ensure the public's concerns are addressed, the Navy chose to conduct a scoping period for this SEIS/OEIS.

Given that the Navy's Proposed Action had not changed, public scoping meetings were not held, but notice of the scoping period was broadly disseminated and public comments were accepted during the scoping period from February 10, 2020 to March 11, 2020. In total, the Navy received 25 comment submissions from individuals, groups, and agencies. The Navy considered all scoping comments in preparing this SEIS/OEIS.

ES.4.2 Draft Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement Comment Period

The Draft SEIS/OEIS public review and comment period began with the issuance of the Notice of Availability (85 Federal Register 80093) and the Notice of Virtual Public Meetings (85 Federal Register 80076) in the *Federal Register* December 11, 2020. The Draft SEIS/OEIS public review and comment period ran from December 11, 2020, to February 16, 2021. The *Federal Register* notices included notification of the availability of the Draft SEIS/OEIS and where it could be accessed; an overview of the Proposed Action and its purpose and need; public commenting information; and virtual public meeting information, including how to submit questions. The public was able to provide comments on the Proposed Action and Draft SEIS/OEIS environmental analysis by mail and through the project website. *Federal Register* notices can be found in Appendix D (Federal Register Notices). Public comments received and responses to comments can be found in Appendix G (Public Comments and Responses).

Due to the widespread outbreak of respiratory illness from the coronavirus pandemic (COVID-19), and restrictions on travel and large public gatherings, the Navy took additional steps to broaden efforts to notify, inform, and involve the public during the Draft SEIS/OEIS public review and comment period. In place of in-person public meetings the Navy held two virtual public meetings using the Zoom video conferencing platform. The Navy's goal was to provide an opportunity for the public to learn more about the project and the environmental impact analysis, and provide official comment as well as have their questions answered, just as they would at an in-person public meeting. Notification materials provided details on the virtual public meetings, instructions on how to submit a question for discussion with Navy representatives at the virtual public meetings, and commenting methods.

ES.4.3 Supplement to the 2020 Draft Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement Comment Period

The Notice of Intent to Prepare a Supplement to the Draft SEIS/OEIS was published February 1, 2022. The Supplement to the 2020 Draft SEIS/OEIS public review and comment period began with the issuance of the Notice of Availability (87 Federal Register 15414) in the *Federal Register* on March 18, 2022. The Supplement public review and comment period ran from March 18, 2022, to May 2, 2022. The *Federal Register* notice included notification of the availability of the Supplement and where it could be accessed; an overview of the Proposed Action and its purpose and need; and public commenting information. The public was able to provide comments on the Proposed Action and Supplement environmental analysis by mail and through the project website. *Federal Register* notices can be found in Appendix D (Federal Register Notices). Public comments received and responses to comments can be found in Appendix G (Public Comments and Responses).

ES.4.4 Additional Outreach

Prior to the start of the Alaska Command sponsored exercise, Northern Edge 2015 (June 2015), the Navy and representatives from Alaska Command conducted a series of town meetings with the Alaskan communities of Cordova, Kodiak, and Homer. During those meetings, concerns were expressed about impacts on fish and the fishing community.

Navy personnel have participated in public outreach and community events since 2016, such as post-Northern Edge coastal community meetings; Navy band events; Alaska Federation of Natives Convention; Alaska Marine Science Symposium; Alaska Forum on the Environment; ComFish; and Pacific Marine Exposition, with these events taking place in Anchorage, Cordova, Seward, Kodiak and Fairbanks, Alaska; and Seattle, Washington. Additionally, the Navy has periodically presented information and updates on Exercise Northern Edge and Marine Species Monitoring Program projects to the North Pacific Fisheries Management Council during scheduled meetings open to the public. Expanded outreach will continue into the foreseeable future to ensure stakeholders are kept informed of the Navy's training activities in the GOA Study Area.

ES.5 Proposed Action and Alternatives

Through this SEIS/OEIS, the Navy:

- Presents the results of the evaluation of relevant new information, which has been incorporated into revised analyses where appropriate. Each resource area analyzed within the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS has been evaluated to determine the need for re-analysis within this SEIS/OEIS.
- Updates environmental analyses with the best available science and most current acoustic analysis methods to evaluate the potential effects of training activities on the marine environment.
- Supports authorization of incidental takes of marine mammals under the MMPA¹ and incidental takes of threatened and endangered marine species under the ESA.

ES.5.1 Alternatives Eliminated from Further Consideration

This SEIS/OEIS serves as an update to the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS. Alternatives eliminated from consideration in those documents were re-evaluated to determine if they should be reconsidered for this SEIS/OEIS. These alternatives considered included alternative training locations, reduced training, alternate time frame, simulated training, training without the use of active sonar, and alternatives including additional geographic mitigation measures within the Study Area. After thorough consideration of each previously considered alternative, the Navy once again determined that

¹NMFS' issuance of an MMPA incidental take authorization (i.e., Letter of Authorization) is a major federal action (NMFS' Proposed Action) and is considered a connected action under NEPA (40 CFR 1508.25), with a discrete purpose and need relative to NMFS' statutory and regulatory obligations. Consequently, NMFS has an independent responsibility to comply with NEPA. If NMFS makes the findings necessary to issue the requested authorization, NMFS will rely on the information and analyses in this document and intends to adopt this SEIS/OEIS to fulfill its NEPA obligations, and issue its own ROD, if appropriate.

they did not meet the purpose of and need for the Proposed Action, and they were eliminated from further analysis.

ES.5.2 No Action Alternative

The No Action Alternative is required by CEQ regulations as a baseline against which the impacts of the Proposed Action are compared. CEQ guidance identifies two approaches in developing the No Action Alternative (46 FR 18026). One approach for activities that have been ongoing for long periods of time is for the No Action Alternative to be thought of in terms of continuing the present course of action, or current management direction or intensity, such as the continuing Navy training at sea in the GOA Study Area at current levels, even if renewed authorizations under the MMPA and ESA are required. Under this approach, which was used in the 2016 GOA Final SEIS/OEIS, the analysis compares the effects of continuing current activity levels (i.e., the “status quo”) with the effects of the Proposed Action. The second approach depicts a scenario where no authorizations are issued, in which the Proposed Action does not take place, and the resulting environmental effects from taking no action are compared with the effects of implementing the Proposed Action. To present a clearer picture of the expected environmental impacts of the Proposed Action, the Navy applied the second approach in this SEIS/OEIS to further support NMFS’ regulatory process by presenting the scenario where no authorization would be issued.

Cessation of military at-sea training activities in the GOA Study Area would limit the Navy’s ability to train and meet its statutory requirements to achieve and maintain fleet readiness. Through training in various environments, Navy personnel develop the unique skills required to accomplish their overall mission and be prepared to safely and effectively use sensors, weapons, and technologies in realistic scenarios. Consequently, the No Action Alternative does not meet the purpose of and need for the Proposed Action.

ES.5.3 Alternative 1 (Preferred Alternative)

Alternative 1 is the Preferred Alternative. Alternative 1 is a Status Quo Alternative based on the 2016 GOA Final SEIS/OEIS and 2017 GOA ROD. Though the types of activities and level of events are the same, there have been changes in the platforms and systems used as part of those activities, and use of the Portable Underwater Tracking Range is no longer proposed. While the revised GOA Study Area is larger than the area analyzed in previous documents, including the 2020 GOA Draft SEIS/OEIS, no new or increased levels of training activities would occur, and no increases in vessel numbers, underway steaming hours, or aircraft events would occur. The use of sonar and explosives would be limited to the TMAA portion of the Study Area as previously analyzed and authorized. The Navy could continue to conduct training activities, at the level and scope of activities necessary to fulfill its Title 10 responsibilities described in the Purpose and Need of the Proposed Action. In the GOA Study Area, a Status Quo Alternative would allow the Navy to meet current and future training requirements necessary to achieve and maintain fleet readiness.

ES.5.3.1 The Western Maneuver Area

The 2011 GOA Final EIS/OEIS Study Area consisted of three components: (1) GOA TMAA, (2) U.S. Air Force overland Special Use Airspace and air routes over the GOA and State of Alaska, and (3) U.S. Army training lands. Collectively, for the purposes of this Supplemental EIS/OEIS, these areas are referred to as the Joint Pacific Alaska Range Complex. The 2020 GOA Draft SEIS/OEIS only analyzed activities occurring within the TMAA, a component of the Joint Pacific Alaska Range Complex. To address the need for a broader area in which to maneuver during training and to accomplish more realistic training, the

GOA Study Area now includes the WMA in addition to the existing TMAA (hereafter referred to together as the “GOA Study Area”) (Figure ES-1). The TMAA is unchanged from the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS. The WMA is located south and west of the TMAA and provides an additional 185,806 square nautical miles of surface, sub-surface, and airspace in which to maneuver in support of activities occurring within the TMAA. The boundary of the WMA follows the bottom of the continental slope at the 4,000 meter (m) depth contour, and was configured to avoid overlap and impacts on critical habitat, biologically important areas, marine mammal migration routes, and primary fishing grounds. Currently, the TMAA allows for a single, predictable air and surface axis of approach to the Study Area, which does not replicate real-world conditions or scenarios, which are unpredictable. The WMA provides a larger surface area and access to more international airspace through coordination with FAA regional centers. Access to this more expansive area allows for multiple air lanes approaching the TMAA and additional sea space for vessel maneuvering, which increases training complexity and more closely represents the real-world conditions Navy sailors will experience.

ES.5.3.2 Proposed Activities in the Western Maneuver Area

While the revised GOA Study Area is larger than the area discussed in the 2020 GOA Draft SEIS/OEIS, no new or increased levels of training activities would occur, and no increases in vessel numbers, underway steaming hours, or aircraft events would occur. The majority of training, approximately 70 percent, would still occur in the TMAA. The activities conducted in the WMA would be limited to activities mainly involving vessel movements and aircraft training (Table ES-1). The exception would be non-explosive gunnery activities, which would only include training with non-explosive practice munitions in the WMA. Activities using active acoustics or explosives would not occur in the WMA; these activities would only be conducted in the TMAA. Training activities proposed in the WMA are shown in Table ES-1. Additional information on these training activities can be found in Appendix A.

Table ES-1: Training Activities Proposed to Occur in the Western Maneuver Area

<i>Activity Name</i>	<i>Activity Description</i>
Air Warfare	
Air Combat Maneuver	Aircrews engage in flight maneuvers designed to gain a tactical advantage during combat.
Air Defense Exercise	Surface and air assets trained in coordination and tactics for defense of the strike group from airborne threats.
Surface Warfare	
Maritime Interdiction	Vessels and aircraft conduct a suite of maritime security operations at sea, including maritime interdiction operations, force protection, and anti-piracy operations.
Sea Surface Control	Airborne assets investigate surface contacts of interest and attempt to identify, via onboard sensors, the type, course, speed, name, and other pertinent data about the ship of interest.
Surface-to-Surface Gunnery Exercise (Non-Explosive Practice Munitions)	Surface ship crews fire small-caliber, medium-caliber, or large-caliber guns at surface targets.

Table ES-1: Training Activities Proposed to Occur in the Western Maneuver Area (continued)

<i>Activity Name</i>	<i>Activity Description</i>
Electronic Warfare	
Electronic Warfare Exercise	Aircraft and surface ship crews control portions of the electromagnetic spectrum used by enemy systems.
Other Training Activities	
Deck Landing Qualification	Ship's personnel launch and recover fixed-wing and rotary-wing aircraft to achieve qualifications and certifications.

ES.5.3.3 Continental Shelf and Slope Mitigation Area

In the 2016 GOA Final SEIS/OEIS and associated consultation documents, the Navy restricted explosive use during training in the Portlock Bank area, and from June 1 to September 30 within the North Pacific Right Whale Mitigation Area. These previous restrictions were designed to avoid or reduce potential impacts on North Pacific right whales, Portlock Bank fishery resources, and other marine species that inhabit the highly productive waters of the mitigation areas. The Proposed Action now includes the addition of the Continental Shelf and Slope Mitigation Area within the TMAA. In this area, shown on Figure ES-2, the Navy is proposing to expand its mitigation for explosives, and would prohibit the use of explosives from the sea surface up to 10,000 feet altitude during training over the entire continental shelf and slope out to the 4,000 m depth contour to protect marine species and biologically important habitat. The Navy will continue to restrict the use of surface ship hull mounted MF1 mid-frequency active sonar from June 1 to September 30 within the North Pacific Right Whale Mitigation Area.

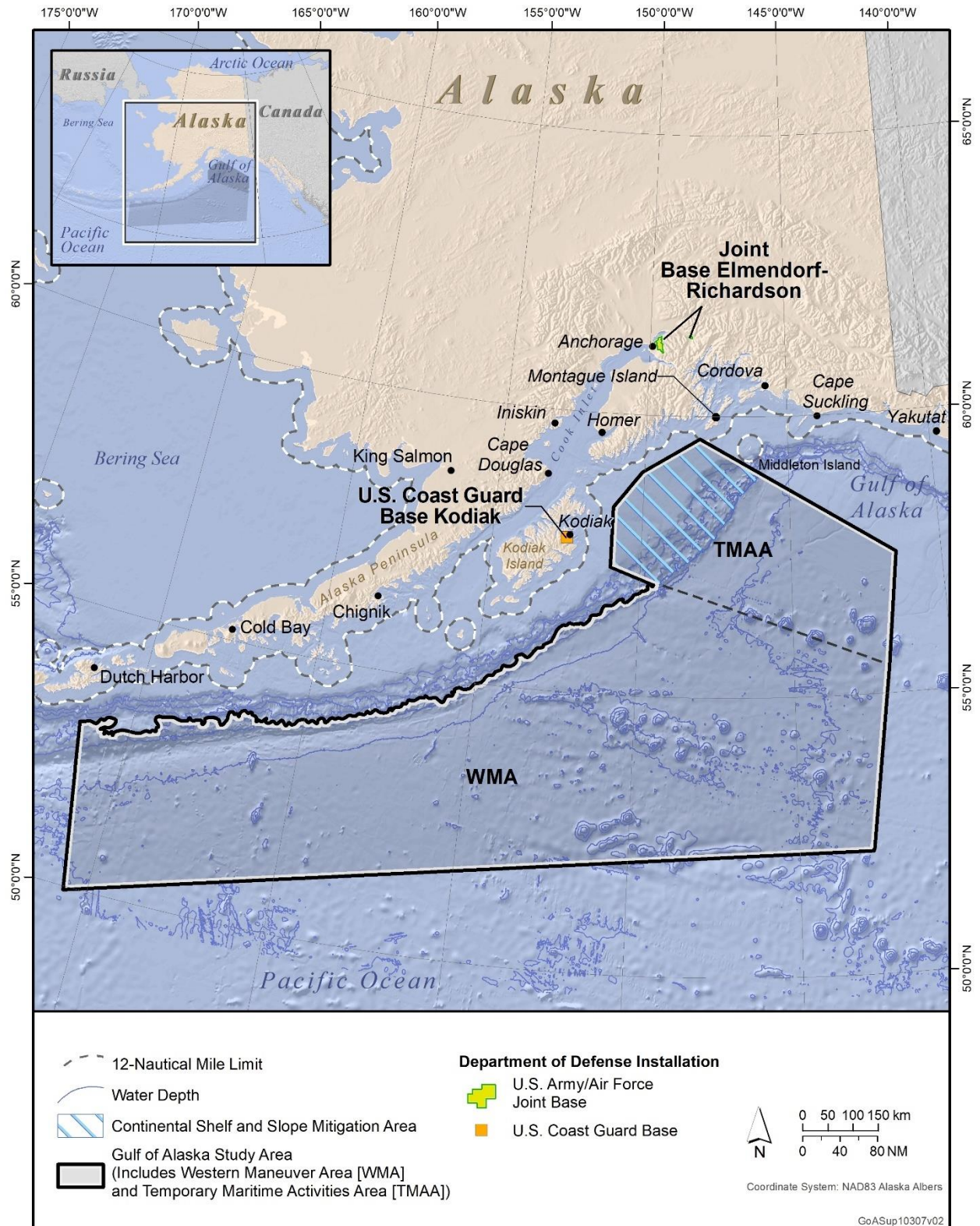


Figure ES-2: Continental Shelf and Slope Mitigation Area

ES.6 Summary of Environmental Impacts

Table ES-2 provides a listing of the potential environmental impacts of the Proposed Action. The same resources that were identified and analyzed in the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS were considered for reanalysis for this SEIS/OEIS and for reanalysis of cumulative impacts. Those physical resources include air quality, expended materials, water resources, and acoustic environment (airborne). Biological resources considered include marine plants and invertebrates, fish, sea turtles, marine mammals, and birds. Human resources and issues considered include cultural resources, transportation and circulation (e.g., traffic patterns), socioeconomics, environmental justice and protection of children, and public safety.

For purposes of consistency across all environmental compliance planning conducted under the Navy's At-Sea Policy (see Section 1.2, The Navy's Environmental Compliance and At-Sea Policy), the Navy realigned the resources in this SEIS/OEIS with those of other Navy at-sea projects. The same resources were analyzed, but that analysis in some instances has been shifted into new or renamed resource sections. The following resource sections remain unchanged: Section 3.1 (Air Quality), Section 3.7 (Sea Turtles), Section 3.8 (Marine Mammals), Section 3.9 (Birds), and Section 3.10 (Cultural Resources). See Table 3.0-1 in Section 3.0 of this SEIS/OEIS for a full description of the current organization of resources.

No new Navy training activities are proposed in the GOA Study Area in this SEIS/OEIS, and, for several of the resources, the existing baseline conditions have not changed appreciably. The Navy reviewed new research, literature, laws, and regulatory guidance as described in this SEIS/OEIS and determined that the new information resulted in little or no change to the findings of the impact analyses in the 2016 GOA Final SEIS/OEIS. Therefore, the impact assessments from the 2016 GOA Final SEIS/OEIS are incorporated by reference for each of the following resource areas (section numbers and names align with the new organization of sections described above): air quality, sediments and water quality, marine habitats, marine vegetation, marine invertebrates, cultural resources, and public health and safety. These resources are not analyzed further in this SEIS/OEIS and are therefore not included in the summary of impacts in Table ES-2 below.

Table ES-2: Summary of Environmental Impacts for the Proposed Action

<i>Resource Category</i>	<i>Summary of Impacts under Alternative 1</i>	<i>Explanation of Differences from 2016 SEIS/OEIS</i>
Fishes	<p><i>Impacts from acoustic and explosive stressors:</i></p> <ul style="list-style-type: none"> Pursuant to the ESA, acoustic and explosive stressors may affect ESA-listed salmonid species and green sturgeon. Impacts, however, are expected to be temporary and infrequent as most activities would be temporary, localized, and infrequent. More severe impacts such as mortality or injury could lead to permanent or long-term consequences for individuals, but overall long-term consequences for fish populations are not expected. 	<ul style="list-style-type: none"> Overall impact determinations for species analyzed the 2016 GOA Final SEIS/OEIS remain unchanged with some exceptions due to new and emergent data on species occurrence within the GOA Study Area and the implementation of a new mitigation measure. The addition of the Continental Shelf and Slope Mitigation Area will substantially decrease the overall take of ESA-listed salmonids, specifically Chinook and coho. In addition, the potential exposure of ESA-listed green sturgeon to an explosive stressor in the TMAA is extremely unlikely due to the demersal nature of this species. One Chinook salmon ESA candidate evolutionarily significant unit was added to the analysis. New analysis was conducted for green sturgeon to account for new literature on the species' occurrence. New analysis was conducted for stressors associated with vessel movements, aircraft training, and non-explosive practice ordnance within the WMA. Activities occurring in WMA are unlikely to significantly impact fishes as many fish species occur most frequently over the continental shelf and slope, and the WMA is in open ocean waters with a minimum depth of 4,000 m. Activities using active acoustics or explosives would not occur in the WMA. The limited number and types of training activities occurring in the WMA are described in Table ES-1. These activities are the same as those described and analyzed in the TMAA and exclude activities using active sonar and other transducers or explosives. For those activities that occur in both the WMA and the TMAA, the analysis for the WMA would be the same as for the TMAA and would not significantly impact fishes.
Sea Turtles	<p><i>All stressors:</i></p> <p>Sea turtles rarely occur in the GOA Study Area and are unlikely to co-occur with the Proposed Action; therefore, impacts are not expected to occur. Under the ESA, all stressors from the Proposed Action may affect but are not likely to adversely affect ESA-listed sea turtles.</p>	<ul style="list-style-type: none"> No change in impact determinations. Activities using active acoustics or explosives would not occur in the WMA. The limited number and types of training activities occurring in the WMA are described in Table ES-1. These activities are the same as those described and analyzed in the TMAA and exclude activities using active sonar and other transducers or explosives. For those activities that occur in both the WMA and the TMAA, the analysis for the WMA would be the same as for the TMAA and would not significantly impact sea turtles. Sea turtles are not expected to be impacted by acoustic and explosive stressors within the TMAA. This conclusion is based on the best available science characterizing the known distribution of leatherback sea turtles as rare within the GOA. Impacts from training activities in the Continental Shelf and Slope Mitigation Area would either remain the same as previously analyzed or would be reduced.

Table ES-2: Summary of Environmental Impacts for the Proposed Action (continued)

<i>Resource Category</i>	<i>Summary of Impacts under Alternative 1</i>	<i>Explanation of Differences from 2016 SEIS/OEIS</i>
Marine Mammals	<p><i>Impacts from acoustic and explosive stressors:</i></p> <ul style="list-style-type: none"> • Pursuant to the ESA, acoustic and explosive stressors may affect ESA-listed North Pacific right whales, humpback whales, blue whales, sei whales, grey whales, sperm whales, Steller sea lions, and northern sea otters. Model results showed that sonar use would not result in permanent hearing loss for any ESA-listed marine mammal. • The Navy's modeling of acoustic effects and analyses predicted some marine mammals would be exposed to acoustic and explosive stressors resulting in Level B and Level A harassment, as defined under the MMPA. • The modeling and analyses predicted no marine mammal mortalities as a result of acoustic or explosive stressors. • Impacts are expected to be temporary and infrequent as most training activities would be short term, localized, and infrequent. The level of effects varies by species, and not all species would be impacted. 	<ul style="list-style-type: none"> • No difference in the type of impacts predicted within the TMAA. • The addition of the Continental Shelf and Slope Mitigation Area would reduce impacts on marine mammals and important shelf and slope habitat in the TMAA by prohibiting the use of explosives over the shelf and slope in the TMAA. Impacts from training activities in the Continental Shelf and Slope Mitigation Area would either remain the same as previously analyzed or would be further reduced. • New analysis was conducted for stressors associated with vessel movements, aircraft training, and non-explosive practice ordnance within the WMA. Activities using active acoustics or explosives would not occur in the WMA. Marine mammals in the WMA would encounter only those stressors associated with vessel movements, aircraft training, and non-explosive practice ordnance. Vessel maneuvering activities in the WMA would introduce the risk of a ship strike, primarily for large cetaceans, in a region where training activities were not initially proposed. However, relocating some vessel maneuvering activities from the TMAA into the WMA would slightly reduce the probability of a ship strike in the TMAA, such that, when considered together, the probability of a ship strike would remain approximately the same as presented in the 2020 GOA Draft SEIS/OEIS. • The limited number and types of training activities occurring in the WMA are described in Table ES-1. These activities are the same as those described and analyzed in the TMAA and exclude activities using active sonar and other transducers or explosives. For those activities that occur in both the WMA and the TMAA, the analysis for the WMA would be the same as for the TMAA and would not significantly impact marine mammals.

Table ES-2: Summary of Environmental Impacts for the Proposed Action (continued)

<i>Resource Category</i>	<i>Summary of Impacts under Alternative 1</i>	<i>Explanation of Differences from 2016 SEIS/OEIS</i>
Birds	<p><i>Impacts from acoustic and explosive stressors:</i></p> <ul style="list-style-type: none"> • Under the MBTA, impacts would not result in a significant adverse effect on populations of seabirds, shorebirds, and other birds protected under the MBTA. • Under the ESA, impacts from sonar, vessel noise, and aircraft disturbance may include behavioral reactions, physiological stress, and masking. Model results showed that sonar use would not result in hearing loss. • In addition to behavioral reactions, physiological stress, and masking, impacts from weapon noise may include hearing loss, and impacts from explosives may include hearing loss, non-auditory injury and mortality; but mitigation would reduce the likelihood of adverse effects on individual birds. 	<ul style="list-style-type: none"> • Updated sound exposure level effects estimates and acoustic effects modeling. • Incorporated new information on ESA-listed short-tailed albatross presence in the TMAA, where the species was previously not anticipated to occur. • Seabirds, including the ESA-listed short-tailed albatross, are expected to occur in higher abundance along the continental shelf and slope. By prohibiting activities that introduce acoustic and explosive stressors to locations further offshore within the TMAA, the addition of the Continental Shelf and Slope Mitigation Area would reduce impacts on seabirds and important prey species. Therefore, impacts from training activities in the Continental Shelf and Slope Mitigation Area would either remain the same, as previously analyzed, or would be reduced. • Activities using active acoustics or explosives would not occur in the WMA. The distance from shore that the aircraft activity would occur in the WMA, and the altitude at which they would occur, would limit the potential for overlap with birds, as birds would be most likely to occur over the continental shelf and slope, and the WMA begins after water depths of 4,000 m in open ocean waters. The limited number and types of training activities occurring in the WMA are described in Table ES-1. These activities are the same as those described and analyzed in the TMAA and exclude activities using active sonar and other transducers or explosives. For those activities that occur in both the WMA and the TMAA, the analysis for the WMA would be the same as for the TMAA and would not significantly impact birds.

Table ES-2: Summary of Environmental Impacts for the Proposed Action (continued)

<i>Resource Category</i>	<i>Summary of Impacts under Alternative 1</i>	<i>Explanation of Differences from 2016 SEIS/OEIS</i>
Socioeconomic Resources and Environmental Justice	<ul style="list-style-type: none"> Significant impacts on socioeconomic resources, including commercial and recreational fishing, fisheries research and management, civilian access, and tourism are not expected to occur. Impacts on environmental justice are not expected to occur. 	<ul style="list-style-type: none"> No difference in the type of impacts predicted within the TMAA. New analysis was conducted for stressors associated with vessel movements, aircraft training, and non-explosive practice ordnance within the WMA. No significant impacts are expected on socioeconomic resources within the WMA. Most of the productive commercial fishing areas are located in shallower waters on the continental shelf, far inshore of the WMA. Similarly, most commercial shipping, tourism, and recreational activities would occur along to the coastline, over the continental shelf, and inshore of the WMA. No impacts on environmental justice are anticipated from activities in the WMA, which would occur in waters deeper than 4,000 m and more than 20 nautical miles offshore of sparsely populated areas along the Alaska Peninsula and Aleutian Islands between Kodiak Island and Dutch Harbor. Therefore, there would be no disproportionately high and adverse human health or environmental effects on any minority populations or low-income populations from activities proposed in the WMA. Designation of the Continental Shelf and Slope Mitigation Area would further reduce or eliminate potential conflicts between Navy activities and commercial fishing, commercial shipping, or recreation vessels that are known to utilize the area. Other training activities that do not use explosives would continue to be conducted as planned in the Continental Shelf and Slope Mitigation Area; however, any impacts on socioeconomic resources previously anticipated from the use of explosives in the TMAA would not occur. Impacts from training activities in the Continental Shelf and Slope Mitigation Area would either remain the same as previously analyzed or would be reduced. Therefore, the addition of the Continental Shelf and Slope Mitigation Area would not significantly impact socioeconomic resources and may benefit fisheries and commercial fishing.

Notes: Alt = Alternative, EIS/OEIS = Environmental Impact Statement/Overseas Environmental Impact Statement, ES = Executive Summary, ESA = Endangered Species Act, FR = Federal Register, GOA = Gulf of Alaska, m = meter(s), NMFS = National Marine Fisheries Service, SEIS = Supplemental Environmental Impact Statement, TMAA = Temporary Maritime Activities Area, MBTA = Migratory Bird Treaty Act, MMPA = Marine Mammal Protection Act, WMA = Western Maneuver Area.

ES.7 Cumulative Impacts

Marine mammals are the primary resource considered in the cumulative impacts analysis. Marine mammal species occurring in the GOA Study Area may be impacted by multiple ongoing and future actions related to human activities, including Navy training activities. Explosive detonations and non-impulsive sources, such as sonar, under Alternative 1 have the potential to disturb or injure marine mammals in the TMAA. However, explosives would not be used in the Continental Shelf and Slope Mitigation Area inside the TMAA, only in the deeper waters of the TMAA; as such, no mortalities and very few injuries are expected or predicted by the Navy's acoustic effects model. No explosives or non-impulsive acoustic sources would be used in the WMA.

The Proposed Action would contribute to cumulative impacts, but the relative contribution to overall cumulative impacts would be small compared to other human actions, such as commercial ship strikes, bycatch, entanglement, and ocean pollution. The predicted annual takes from the Proposed Action will have no measurable population-level effects when evaluated independently and incrementally with other actions.

For the remaining resource categories, the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS conclusions are still valid. No new training activities are proposed under Alternative 1, and the number of training activities that would be conducted annually remains the same as described in the 2020 GOA Draft SEIS/OEIS. Aircraft and vessel maneuvering activities originally planned for the TMAA would now be more widely distributed within both the TMAA and WMA to achieve more realistic training scenarios. Maneuvering activities in the WMA would occur in deep offshore waters (greater than 4,000 m) located beyond the continental shelf and slope. The types of training activities in the WMA described in Table ES-1 are the same as those described in the TMAA (with the exception of active acoustics or explosive use) and would not significantly impact resources in the GOA Study Area. Additionally, as described in Chapter 4 (Cumulative Impacts) of the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS, the potential cumulative impacts of the Proposed Action on the remaining resource categories would be negligible and cumulatively not significant.

ES.8 Standard Operating Procedures, Mitigation, and Monitoring

Within the GOA Study Area, the Navy implements standard operating procedures, mitigation measures, and marine species monitoring and reporting. Navy standard operating procedures have the indirect benefit of reducing potential impacts on marine resources. Mitigation measures are designed to help reduce or avoid potential impacts on marine resources. Marine species monitoring efforts are designed to track compliance with take authorizations under the MMPA and ESA, evaluate the effectiveness of mitigation measures, improve understanding of the effects training activities have on marine resources, and understand species habitat use and distribution within a study area.

ES.8.1 Standard Operating Procedures

The Navy currently employs standard practices to provide for the safety of Navy and non-Navy personnel and equipment, including ships and aircraft, as well as the success of the training activities. In many cases there are incidental environmental, socioeconomic, and cultural benefits resulting from standard operating procedures. Standard operating procedures serve the primary purpose of providing for safety and mission success and are implemented regardless of their secondary benefits. Because standard operating procedures are crucial to safety and mission success, the Navy will not modify them as a way to further reduce effects to environmental resources. Due to their importance for maintaining

safety and mission success, standard operating procedures have been considered as part of the Proposed Action, and therefore are included in the Chapter 3 (Affected Environment and Environmental Consequences) environmental analyses for each applicable resource.

ES.8.2 Mitigation

The Navy recognizes that the Proposed Action has the potential to impact the environment. Unlike standard operating procedures, which are established for reasons other than environmental benefit, mitigation measures are modifications to the Proposed Action that are implemented for the sole purpose of reducing a specific potential environmental impact on a particular resource. The Navy has coordinated with NMFS and the U.S. Fish and Wildlife Service on these measures through the consultation and permitting processes. The Navy ROD will document all mitigation measures the Navy will implement under the Proposed Action. Under the Proposed Action, the Navy ROD will document all mitigation measures the Navy will implement, and the NMFS ROD, MMPA Regulations and Letter of Authorization will include the mitigation measures applicable to the resources for which the Navy consults.

For the purposes of the ESA Section 7 consultation, the mitigation measures included in this SEIS/OEIS may be considered by NMFS as beneficial actions taken by the Federal agency or applicant (50 CFR 402.14[g][8]). If necessary to satisfy requirements of the ESA, NMFS may develop an additional set of measures contained in reasonable and prudent alternatives, reasonable and prudent measures, or conservation recommendations in the Biological Opinion issued for this Proposed Action.

Pursuant to the Navy's government-to-government consultations with federally recognized Alaska Native Tribes, agreements, both formal and informal, on protocols or tribal mitigations may be developed to reduce or eliminate impacts on protected tribal treaty reserved rights and protected tribal resources.

Mitigation measures that the military will implement under the Proposed Action are organized into two categories: procedural mitigation and mitigation areas. Procedural mitigation is mitigation that will be implemented whenever and wherever an applicable military readiness activity takes place within the GOA Study Area. Mitigation areas are geographic locations within the TMAA where the military will implement additional mitigation (i.e., in addition to procedural mitigation) to further avoid or reduce potential impacts on marine mammals, ESA-listed species, and fishery resources from active sonar, explosives, or physical disturbance and strike stressors.

ES.8.3 Mitigation Measures Considered but Eliminated

A number of possible additional mitigation measures were suggested during the public scoping period and public review of the Navy's 2020 Draft GOA SEIS/OEIS, as well as during comment periods of previous Navy environmental documents. Section 5.5 (Mitigation Measures Considered but Eliminated) contains information on measures that did not meet the appropriate balance between being effective and practical to implement, and therefore will not be implemented under the Proposed Action.

ES.8.4 Monitoring and Reporting

As described in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS, the Navy remains committed to demonstrating environmental stewardship while executing its national security mission, complying with the suite of federal environmental laws and regulations, and providing required and relevant reports to appropriate regulatory agencies. Since 2006 across all Navy range complexes (in the

Marianas, Pacific, Atlantic, Gulf of Mexico, and GOA), the Navy has produced various reports (Major Exercise Reports, Annual Exercise Reports, and Monitoring Reports) submitted to NMFS. These reports are aimed at understanding the Navy's impact on the environment as it carries out military readiness activities to accomplish its mission. As a complement to the Navy's commitment to avoiding and reducing impacts of the Proposed Action through mitigation, the Navy proposed to undertake monitoring efforts to track compliance with take authorizations, help investigate the effectiveness of implemented mitigation measures, and better understand the impacts of the Proposed Action on marine resources. For example, the Navy has been conducting a Lookout Effectiveness Study in association with the University of St. Andrews for several years to assess the ability of shipboard Lookouts to observe marine mammals while conducting hull-mounted sonar training activities at sea. The University of St. Andrews' final report was submitted to NMFS and then later posted publicly on the U.S. Navy's Marine Species Monitoring Program website in July 2022. Taken together, mitigation, monitoring, and adaptive management comprise the Navy's integrated approach for reducing environmental impacts from the Proposed Action. The Navy's overall monitoring approach will seek to leverage and build on existing research efforts whenever possible.

Consistent with the cooperating agency agreement with NMFS, mitigation and monitoring measures presented in this SEIS/OEIS focus on the requirements for protection and management of marine resources. Since monitoring will be required for compliance with the Final Rule issued for the Proposed Action under the MMPA, details of the monitoring program are being developed in coordination with NMFS through the regulatory process.

The Navy developed the Integrated Comprehensive Monitoring Program to serve as the overarching framework for coordinating its marine species monitoring efforts and as a planning tool to focus its monitoring priorities pursuant to ESA and MMPA requirements (U.S. Department of the Navy, 2009). The purpose of the Integrated Comprehensive Monitoring Program is to coordinate monitoring efforts across all regions and to allocate the most appropriate level and type of monitoring effort for each range complex based on a set of standardized objectives, regional expertise, and resource availability. Additional information about the U.S. Navy Marine Species Monitoring Program, including an introduction to adaptive management and strategic planning, is provided in Section 5.1.2.2.1 (Marine Species Research and Monitoring Programs).

The Navy is committed to documenting and reporting relevant aspects of its military readiness activities in order to reduce potential environmental impacts and improve future environmental assessments. Initiatives include training activity reporting and incident reporting. Additional information is available on the U.S. Navy Marine Species Monitoring Program website, <https://www.navy-marinespeciesmonitoring.us/>.

ES.8.5 Other Considerations

ES.8.5.1 Consistency with Other Federal, State, and Local Plans, Policies, and Regulations

Based on an evaluation of consistency with statutory obligations, the Navy's proposed training and testing activities would not conflict with the objectives or requirements of federal, state, regional, or local plans, policies, or regulations. While ESA consultation with the USFWS has been completed, the Navy is consulting, and will continue to consult, with other regulatory agencies as appropriate during the NEPA process and prior to implementation of the Proposed Action to ensure all legal requirements are met.

ES.8.5.2 Relationship Between Short-Term Use of the Human Environment and Maintenance and Enhancement of Long-Term Productivity

In accordance with NEPA, this SEIS/OEIS provides an analysis of the relationship between a project's short-term impacts on the environment and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. The Proposed Action may result in both short- and long-term environmental effects. However, the Proposed Action would not be expected to result in any impacts that would reduce environmental productivity; permanently narrow the range of beneficial uses of the environment; or pose long-term risks to health, safety, or the general welfare of the public.

ES.8.5.3 Irreversible or Irretrievable Commitment of Resources

For the Proposed Action, most resource commitments are neither irreversible nor irretrievable. Most impacts are short-term and temporary or, if long lasting, are negligible. No habitat associated with threatened or endangered species would be lost as a result of implementation of the Proposed Action. Since there would be no building or facility construction, the consumption of materials typically associated with such construction (e.g., concrete, metal, sand, fuel) would not occur. Energy typically associated with construction activities would not be expended and irreversibly lost.

Implementation of the Proposed Action would require the use of fuels by aircraft and ships. Since fixed- and rotary-wing flight and ship activities would occur but are not expected to increase, this nonrenewable resource would be considered irretrievably lost.

ES.8.5.4 Energy Requirements and Conservation Potential of Alternatives

Resources that will be permanently and continually consumed by project implementation include water, electricity, natural gas, and fossil fuels; however, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources. To the extent practicable, considerations for the prevention of introduction of potential contaminants are included.

Sustainable range management practices are in place that protect and conserve natural and cultural resources and preserve access to training areas for current and future training requirements while addressing potential encroachments that threaten to impact range and training area capabilities.

REFERENCES

- U.S. Department of the Navy. (2009). *Navy Integrated Comprehensive Monitoring Plan*. Washington, DC: U.S. Department of the Navy.
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