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## 2 Description of Proposed Action and Alternatives



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

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## 2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

The United States (U.S.) Department of the Navy's (Navy's) Proposed Action is to continue ongoing military training activities in the Gulf of Alaska (GOA). The National Marine Fisheries Service's (NMFS') Proposed Action is to issue regulations and a 7-year Letter of Authorization under the Marine Mammal Protection Act (MMPA), that would authorize Level A and Level B take of certain marine mammals incidental to the use of sonar and other transducers and explosives. This analysis is a supplement to the 2011 GOA Navy Training Activities Final Environmental Impact Statement (EIS)/ Overseas Environmental Impact Statement (OEIS) (U.S. Department of the Navy, 2011a), hereinafter referred to as the 2011 GOA Final EIS/OEIS, and Record of Decision (ROD) for the 2011 GOA Final EIS/OEIS (U.S. Department of the Navy, 2011b), and the 2016 GOA Final Supplemental EIS (SEIS)/OEIS (U.S. Department of the Navy, 2016) and ROD for the 2016 GOA Final SEIS/OEIS (U.S. Department of the Navy, 2017), pursuant to the guidance of 40 Code of Federal Regulations (CFR) section 1502.9(c) (2019).

At-sea joint exercises in the GOA, historically referred to as Northern Edge, and described in the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS, support the training of combat-capable naval forces. The Proposed Action in this SEIS/OEIS is consistent with the Proposed Action analyzed in the previous documents. In this SEIS/OEIS, the Navy reevaluated potential impacts from the ongoing military training activities in the GOA Temporary Maritime Activities Area (TMAA), as well as the addition of the Western Maneuver Area (WMA), collectively referred to as 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.

### 2.1 Description of the Joint Pacific Alaska Range Complex

As noted in Section 1.1 (Introduction) of the 2016 GOA Final SEIS/OEIS, the term "Alaska Training Areas" was changed to the "Joint Pacific Alaska Range Complex" (JPARC). The JPARC was described in the 2011 GOA Final EIS/OEIS in Section 2.1 (Description of the Alaska Training Areas). This SEIS/OEIS only analyzes activities occurring within the GOA Study Area. Information on the JPARC can be found in the Environmental Impact Statement for the Modernization and Enhancement of Ranges, Airspace, and Training Areas in the Joint Pacific Alaska Range Complex in Alaska (U.S. Department of Army & Air Force, 2013).

#### 2.1.1 Gulf of Alaska Temporary Maritime Activities Area

The TMAA is depicted in Figure 2-1 and is described in Section 2.1.1 (Gulf of Alaska Temporary Maritime Activities Area) of the 2011 GOA Final EIS/OEIS. The Navy has added a mitigation area to the TMAA, referred to as the "Continental Shelf and Slope Mitigation Area." 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 meter (m) depth contour of the TMAA. The TMAA is located entirely in international waters and is 12 nautical miles (NM) or greater from land. A full description of the TMAA is provided in Section 1.5 (Overview and Strategic Importance of the Temporary Maritime Activities Area and Western Maneuver Area) of this SEIS/OEIS.

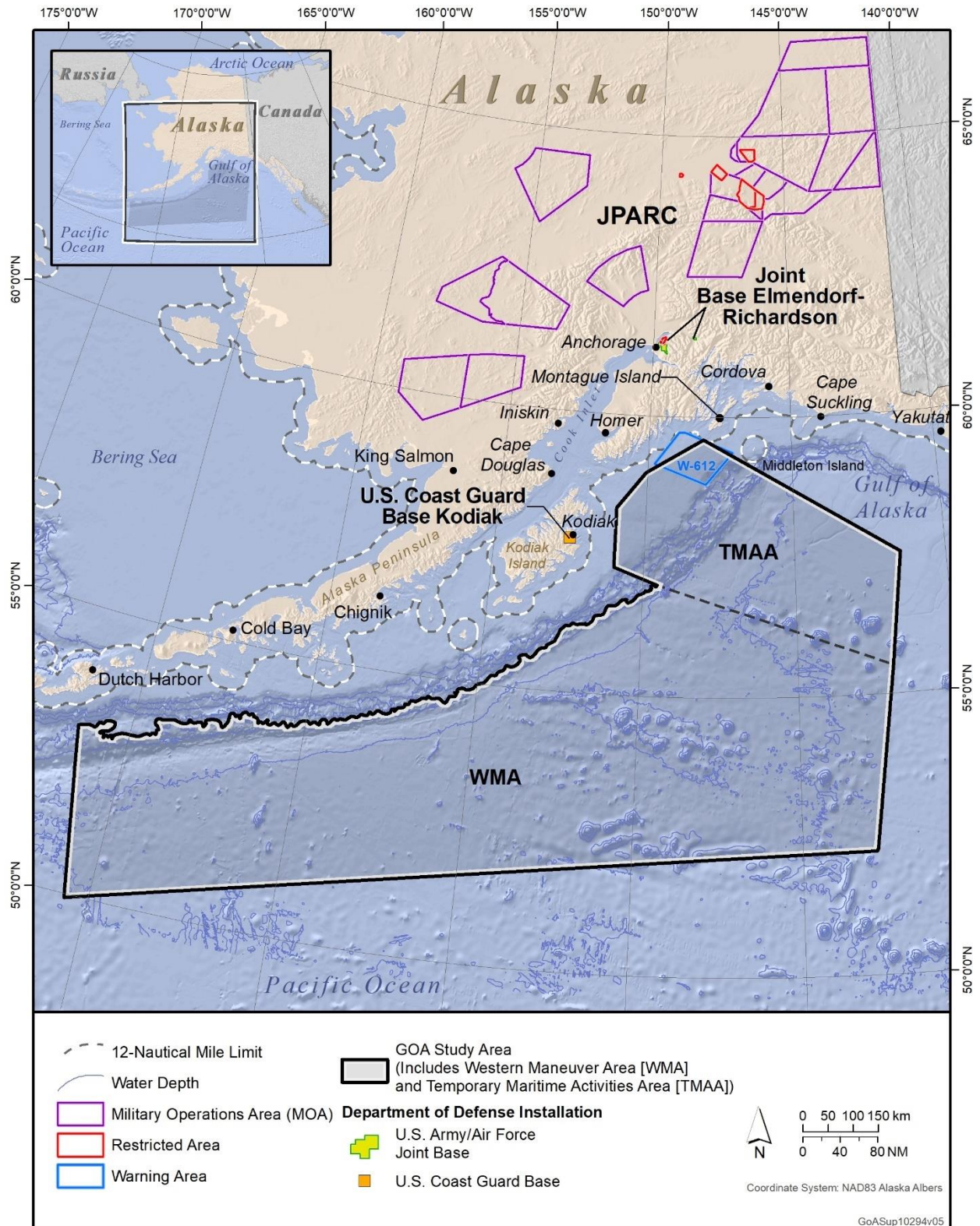


Figure 2-1: Gulf of Alaska Study Area

### 2.1.2 Western Maneuver Area

The 2020 Draft GOA SEIS/OEIS only analyzed activities occurring within the TMAA, a component of the JPARC. 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 (Figure 2-1). 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 WMA is bounded by the following coordinates: 55° 30'N, 142° 00'W; to 52° 14'N, 142° 49'W; to 49° 55'N, 165° 38'W; to 52° 54'N, 166° 30'W; following the -4,000 m isobath to 57° 01'N, 149° 18'W. The northern boundary of the WMA follows the bottom of the slope at the 4,000 m depth contour, and was configured to avoid overlap and impacts to 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 and/or scenarios which are unpredictable. The addition of the WMA provides access to more controlled airspace for multiple air lanes and sea space for increased training complexity. Airspace training in the WMA would be conducted following procedures for international flight in airspace over the high seas (U.S. Department of the Navy, 2021). Training in the WMA is expected to continue into the reasonably foreseeable future.

## 2.2 Primary Mission Areas

The Navy categorizes many of its training activities into functional warfare areas called primary mission areas. The Navy's proposed activities for the GOA TMAA generally fall into the following six primary mission areas:

- air warfare
- surface warfare
- anti-submarine warfare
- electronic warfare
- naval special warfare
- strike warfare

Most activities addressed in this SEIS/OEIS are categorized under one of these primary mission areas; activities that do not fall within one of these areas are listed as "support operations." Each warfare community (aviation, surface, and subsurface) may train in some or all of these primary mission areas.

A description of the sonar, munitions, targets, systems, and other material used during training activities within these primary mission areas is provided in Appendix A (Navy Activities Descriptions).

### 2.2.1 Air Warfare

The mission of air warfare (named anti-air warfare in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS, but since changed by the Navy to "Air Warfare") is to destroy or reduce enemy air and missile threats (including unmanned airborne threats) and serves two purposes: to protect U.S. forces from attacks from the air and to gain air superiority. Air warfare provides U.S. forces with adequate attack warnings, while denying hostile forces the ability to gather intelligence about U.S. forces.

Aircraft conduct air warfare training through radar search, detection, identification, and engagement of airborne threats. Surface ships conduct air warfare training through an array of modern anti-aircraft weapon systems such as aircraft detecting radar, naval guns linked to radar-directed fire-control systems, surface-to-air missile systems, and radar-controlled guns for close-in point defense.

### **2.2.2 Surface Warfare**

The mission of surface warfare (named anti-surface warfare in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS, but since changed by the Navy to “Surface Warfare”) is to obtain control of sea space from which naval forces may operate, and entails offensive action against other surface targets while also defending against enemy forces. In surface warfare, aircraft use guns, air-launched cruise missiles, or other precision-guided munitions; ships employ naval guns, and surface-to-surface missiles; and submarines attack surface ships using torpedoes or submarine-launched, anti-ship cruise missiles.

Surface warfare training includes surface-to-surface gunnery and missile exercises, air-to-surface gunnery and missile exercises, submarine missile or torpedo launch events, and use of other munitions against surface targets.

### **2.2.3 Anti-Submarine Warfare**

The mission of anti-submarine warfare (ASW) (see the 2011 GOA Final EIS/OEIS) is to locate, neutralize, and defeat hostile submarine forces that threaten Navy surface forces. ASW is based on the principle that surveillance and attack aircraft, ships, and submarines all search for hostile submarines. These forces operate together or independently to gain early warning and detection, and to localize, track, target, and attack submarine threats.

ASW training addresses basic skills such as detecting and classifying submarines, as well as evaluating sounds to distinguish between enemy submarines and friendly submarines, ships, and marine life. For a discussion on differentiating sound and noise, see Appendix B (Acoustic and Explosive Concepts), Section B.1.2 (Signal Versus Noise). More advanced training integrates the full spectrum of ASW, from detecting and tracking a submarine to attacking a target using either exercise torpedoes (i.e., torpedoes that do not contain a warhead) or simulated weapons. These integrated ASW training exercises are conducted in coordinated, at-sea training events involving submarines, ships, and aircraft.

### **2.2.4 Electronic Warfare**

The mission of electronic warfare (named Electronic Combat in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS, but since changed by the Navy to “Electronic Warfare”) is to degrade the enemy’s ability to use electronic systems, such as communication systems and radar, and to confuse or deny them the ability to defend their forces and assets. Electronic warfare is also used to detect enemy threats and counter their attempts to degrade the electronic capabilities of the Navy.

Typical electronic warfare activities include threat avoidance training, signals analysis for intelligence purposes, and use of airborne and surface electronic jamming devices (that block or interfere with other devices) to defeat tracking, navigation, and communications systems.

### **2.2.5 Naval Special Warfare**

Naval special warfare conducts military activities in five Special Operations mission areas: unconventional warfare, direct action, special reconnaissance, foreign internal defense, and counterterrorism.

Naval special warfare training involves specialized tactics, techniques, and procedures, employed in training events that could include insertion/extraction activities using parachutes, rubber boats, or helicopters and other equipment.



### **2.2.6 Strike Warfare**

Strike Warfare addresses combat (or interdiction) activities by air and surface forces against hostile land-based forces and assets. Strike warfare activities include training of fixed-wing fighter/attack aircraft in delivery of precision-guided munitions, nonguided munitions, rockets, and other ordnance against land targets in all weather and light conditions.

Training events typically involve a strike mission with four or more aircraft. The strike mission practices attacks on long-range targets (i.e., those geographically distant from friendly ground forces), or close air support of targets within close range of friendly ground forces. Laser designators from aircraft or ground personnel may be employed for delivery of precision-guided munitions. Some strike missions involve no-drop events in which prosecution of targets is practiced, but video footage is often obtained by onboard sensors. Strike exercises occur over land in air training ranges that are outside of the GOA Study Area as identified in the Environmental Impact Statement for the Modernization and Enhancement of Ranges, Airspace, and Training Areas in the Joint Pacific Alaska Range Complex in Alaska (U.S. Department of Army & Air Force, 2013), and their impacts are covered under its environmental analysis. The activity in the TMAA is limited to the launch and recovery of aircraft conducting strike training in the land and air training ranges.

### **2.2.7 Support Operations**

Other training (see the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS) is conducted in the TMAA that falls outside of the primary mission areas, but supports overall readiness.

## **2.3 Proposed Activities**

Training activities proposed by the Navy in this SEIS/OEIS are identified in Table 2-2 and Table 2-3 at the end of this chapter. These tables list the current name of the activity and a brief description of the activity. More information about each activity can be found in Appendix A (Navy Activities Descriptions).

### **2.3.1 Changes to Proposed Activities**

The activities analyzed in this SEIS/OEIS are a continuation of activities that have been ongoing and were analyzed previously in the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS. This SEIS/OEIS includes the analysis of those at-sea activities projected to meet readiness requirements beyond 2022 and into the reasonably foreseeable future and reflects the most up-to-date compilation of training activities deemed necessary to accomplish military readiness requirements. Though the types of activities and number of events in the Proposed Action are the same as in 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 (PUTR) is no longer proposed. Consistent with the previous analysis for Alternative 1, the sinking exercise activity will not be part of the Proposed Action for this SEIS/OEIS.

While the revised GOA Study Area is larger than the area analyzed 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 would still occur in the TMAA, approximately 70 percent, and approximately 30 percent would occur in the WMA. The activities conducted in the WMA would be limited to vessel and aircraft training, and several events associated with these activities. The exception would be non-explosive gunnery activities in the WMA. Activities

using active acoustics or explosives would not occur in the WMA. They would continue to occur in the TMAA. Training activities proposed to occur in the WMA include Air Combat Maneuver, Air Defense Exercise, Maritime Security Operations, Sea Surface Control, Electronic Warfare Exercise, Surface-to-Surface Gunnery Exercise (non-explosive practice munitions only), and Deck Landing Qualification (Table 2-2).

### **2.3.2 Standard Operating Procedures**

For training to be effective, units must be able to safely use their sensors and weapons systems as they are intended to be used in military missions and combat operations and to their optimum capabilities. Standard operating procedures applicable to training have been developed through years of experience, and their primary purpose is to provide for safety (including public health and safety) and mission success. Because they are essential to safety and mission success, standard operating procedures are part of the Proposed Action and are considered in the Chapter 3 (Affected Environment and Environmental Consequences) environmental analysis for applicable resources.

In many cases, standard operating procedures benefit environmental and cultural resources (some of which have high socioeconomic value in the GOA Study Area). Those standard operating procedures that are recognized as providing a benefit to the resources analyzed in this SEIS/OEIS are included in Appendix A (Navy Activities Descriptions), as applicable. The following standard operating procedure categories apply to the Proposed Action and are generally consistent with those included in these specified sections in Chapter 5 (Standard Operating Procedures, Mitigation, and Monitoring) of the 2016 GOA Final SEIS/OEIS:

- Section 5.1.1 (General Safety)
- Section 5.1.2 (Vessel Safety)
- Section 5.1.3 (Aircraft Safety)
- Section 5.1.4 (Laser Procedures)
- Section 5.1.5 (Weapons Firing Procedures)
- Section 5.1.6 (Unmanned Aerial Vehicle Procedures)
- Section 5.1.7 (Unmanned Surface Vehicle and Unmanned Underwater Vehicle Procedures)
- Section 5.1.8 (Towed In-Water Device Procedures)
- Section 5.1.9 (Best Management Practices)

Standard operating procedures that apply to the Proposed Action and were not included in, or require a clarification from, the 2016 GOA Final SEIS/OEIS are discussed in the sections below.

#### **2.3.2.1 Sea Space and Airspace Deconfliction**

U.S. Indo-Pacific Command (USINDOPACOM) determines exercise dates and locations within the Study Area based on a number of factors, to include weather conditions, effectiveness of training, availability of forces, deployment schedules, maintenance periods, other exercise schedules within the Pacific region, as well as important environmental considerations. Airspace and sea space deconfliction allows for the necessary separation of multiple military units to prevent interference with equipment sensors and to avoid interaction with established commercial air traffic routes, commercial shipping lanes, and non-military use of the Study Area (e.g., Alaska Native tribal, recreational, and commercial fishing). These factors are considered to ensure the safety of military personnel, the public, commercial aircraft, commercial and recreational vessels, and military assets. Military aircraft fly in accordance with

Federal Aviation Administration Regulations (Part 91, General Operating and Flight Rules, Annex 2 Rules of the Air to the Convention of International Civil Aviation), or with due regard for the safety of all air traffic, which govern such flight components as operating near other aircraft, right-of-way rules, aircraft speed, and minimum safe altitudes. These rules include the use of tactical training and maintenance test-flight areas, arrival and departure routes, and airspace restrictions as appropriate to help control air operations.

These standard operating procedures benefit public health and safety (by reducing the potential for interactions with training activities. Additional information on the Navy's communication and cooperation with Tribes and communities is presented in Section 3.14 (Public Safety) of the 2016 GOA Final SEIS/OEIS.

#### **2.3.2.2 Target Deployment and Retrieval Safety**

The standard operating procedures for target deployment and retrieval safety apply to weapons firing activities that involve small boats deploying or retrieving targets. These activities are typically conducted in daylight hours in Beaufort Sea state number 4 conditions or better to ensure safe operating conditions during target deployment and recovery. These standard operating procedures benefit public health and safety, marine mammals, sea turtles, and seabirds by increasing the effectiveness of visual observations for mitigation, thereby reducing the potential for interactions with the weapons firing activities associated with the use of applicable deployed targets.

During activities that involve recoverable targets (e.g., aerial drones), the military recovers the target and any associated decelerators/parachutes to the maximum extent practicable consistent with personnel and equipment safety. Recovery of these items helps minimize the amount of materials that remains on the surface or on the seafloor. This standard operating procedure benefits biological resources (e.g., marine mammals, sea turtles, fish, seabirds) by reducing the potential for physical disturbance and strike, entanglement, or ingestion of applicable targets and any associated decelerators/parachutes.

#### **2.3.2.3 Vessel Lighting**

Addressed in Chief of Naval Operations Instruction 3120.32D, the "Darken Ship Bill" requires darkened ships to ensure that white lights are not visible from outside the ship. This standard operating procedure reduces the potential for light attraction to vessels by seabirds.

### **2.3.3 Mitigation Measures**

The Navy will implement mitigation measures to avoid or reduce potential impacts from Alternative 1 of the Proposed Action on environmental and cultural resources. Chapter 5 (Mitigation) of this SEIS/OEIS provides a full description of each mitigation measure that would be implemented under Alternative 1. It also presents a discussion of how the Navy developed and assessed each measure and includes a map of the marine species habitats that overlap the mitigation areas. The Navy has updated Chapter 5 (Mitigation) in its entirety based on its ongoing analysis of the best available science and practicality of implementing potential mitigation measures. 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, Endangered Species Act (ESA) Biological Opinion, and other consultation documents will include the mitigation measures applicable to the resources for which the Navy has consulted.

Mitigation measures are organized into two categories: procedural mitigation and mitigation areas. The Navy will implement procedural mitigation measures whenever and wherever applicable training

activities take place within the Study Area. Mitigation areas are geographic locations within the Study Area where the Navy will implement additional mitigation during all or part of the year. A list of the activity categories, stressors, and mitigation areas for which the Navy developed mitigation measures is provided in Table 2-1.

**Table 2-1: Overview of Mitigation Categories**

<b>Mitigation Category</b>	<b>Chapter 5 (Mitigation) Section</b>	<b>Applicable Activity Category, Stressor, or Mitigation Area</b>
<b>Procedural Mitigation</b>	Section 5.3.2 (Acoustic Stressors)	Active Sonar Weapon Firing Noise
	Section 5.3.3 (Explosive Stressors)	Explosive Large-Caliber Projectiles Explosive Bombs
	Section 5.3.4 (Physical Disturbance and Strike Stressors)	Vessel Movement Towed In-Water Devices Small-, Medium-, and Large-Caliber Non-Explosive Practice Munitions Non-Explosive Bombs
<b>Mitigation Areas</b>	Section 5.4 (Geographic Mitigation to be Implemented)	North Pacific Right Whale Mitigation Area Continental Shelf and Slope Mitigation Area Temporary Maritime Activities Area

Mitigation developed for the Proposed Action is generally in line with the type of mitigation included in Chapter 5 (Standard Operating Procedures, Mitigation, and Monitoring) of the 2016 GOA Final SEIS/OEIS. However, for this SEIS/OEIS, the Navy has added a newly developed mitigation area, known as the Continental Shelf and Slope Mitigation Area (Figure 2-2), that represents a substantial increase in mitigation over what was included in the 2016 GOA Final SEIS/OEIS. Previously, the Navy restricted explosive use within Portlock Bank (see Figure 5-2 in Section 5.4, Geographic Mitigation to be Implemented, of this SEIS/OEIS), and from June 1 to September 30 within the North Pacific Right Whale Mitigation Area. As described in the 2020 GOA Draft SEIS/OEIS, these previous restrictions were designed to avoid or reduce potential impacts on North Pacific right whales, fishery resources, and other marine species that inhabit the highly productive waters of these areas. Mitigation within the new Continental Shelf and Slope Mitigation Area would prohibit explosive detonations below 10,000 ft. altitude (including at the water surface) over the entire continental shelf and slope out to the 4,000-meter (m) depth contour within the TMAA. As described in Section 5.4.2.2 (Continental Shelf and Slope Mitigation Area), the new mitigation area overlaps important fishery habitats, North Pacific right whale feeding habitat, gray whale migration habitat, NMFS-designated critical habitat for humpback whale feeding, migration, maturation, and foraging habitat for juvenile, immature, or maturing adult salmonids (Chinook salmon, coho, chum, green sturgeon, sockeye, and steelhead), and foraging habitat for ESA-listed short-tailed albatross. The Navy will continue to restrict the use of surface ship hull-mounted mid-frequency (MF1) active sonar from June 1 to September 30 within the North Pacific Right Whale Mitigation Area.

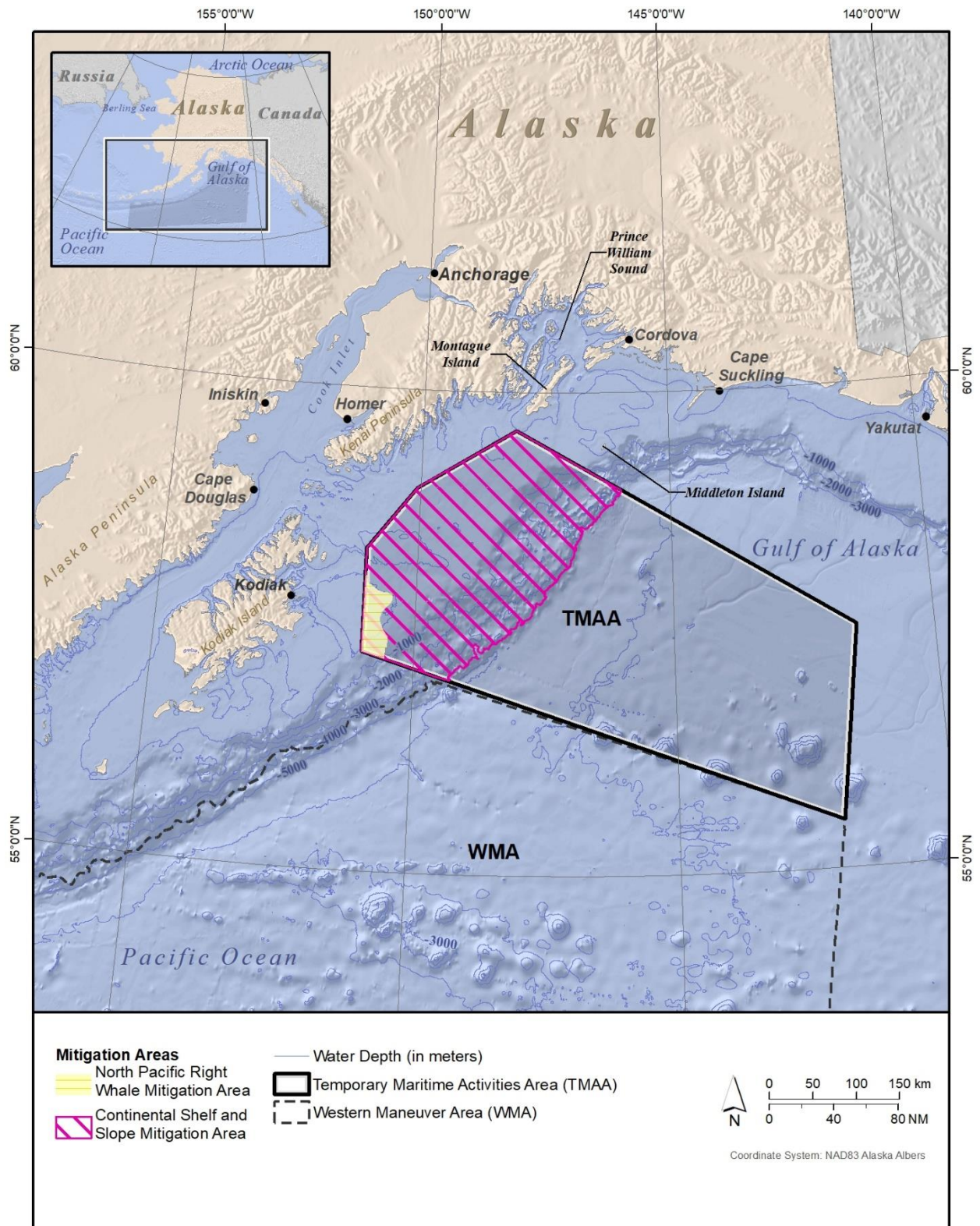


Figure 2-2: Mitigation Areas

## **2.4 Action Alternatives Development**

The identification, consideration, and analysis of alternatives are critical components of the National Environmental Policy Act (NEPA) process and contribute to the goal of objective decision-making. The Council on Environmental Quality (CEQ) developed regulations to implement NEPA, and these regulations require the decision maker to consider the environmental effects of the proposed action and a range of alternatives (including the No Action Alternative) to the proposed action (40 CFR section 1502.14). CEQ guidance further provides that an EIS must rigorously and objectively explore all reasonable alternatives for implementing the proposed action and, for alternatives eliminated from detailed study, briefly discuss the reasons for having been eliminated. To be reasonable, an alternative, except for the No Action Alternative, must meet the stated purpose of and need for the proposed action.

The action alternative and the mitigation measures that are incorporated in the action alternative were developed to meet both the Navy's purpose and need to train; and NMFS's independent purpose and need to evaluate the potential impacts of the Navy's activities. In order for NMFS to determine whether incidental take resulting from the Navy's activities would have a negligible impact on affected marine mammal species and stocks, and prescribe measures to affect the least practicable adverse impact on species or stocks and their habitat, the Navy has incorporated these requirements into the analysis of the Proposed Action.

The Navy developed the alternatives considered in this SEIS/OEIS after careful assessment by subject matter experts, including military commands that utilize the ranges, military range management professionals, and Navy environmental program managers and scientists. However, there was only one action alternative that met both the purpose and need and was practical and feasible to implement.

## **2.5 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 and are discussed below. After a thorough consideration of each alternative, the Navy once again determined that they did not meet the purpose of and need for the Proposed Action, and they were eliminated from further analysis.

### **2.5.1 Alternative 2 from 2011 GOA Final EIS/OEIS**

As described in Section 2.6 (Alternative 2 - Increase Training Activities, Accommodate Force Structure Changes, Conduct One Additional Annual Exercise, and Conduct One SINKEX During Each Summertime Exercise) from the 2011 GOA SEIS/OEIS, Alternative 2 was eliminated from consideration in this SEIS/OEIS because including one additional Carrier Strike Group exercise during the summer months and conducting two sinking exercises goes beyond the Navy's need for training at this time and into the near future. As a result, this alternative is neither reasonable nor practicable, does not meet the purpose of and need for the Proposed Action, and has been eliminated from detailed study.

### **2.5.2 Alternative Training Locations**

As described in Section 2.3.2.1 (Alternative Locations) in the 2011 GOA Final EIS/OEIS, the proposed locale encompasses existing training areas with unique sizes, characteristics, and cold-water capabilities; and training areas that have the continuity and capability to support joint training purposes in Alaska waters. There are no other proximate alternative locations that provide for this capability. As a result,

this alternative is neither reasonable nor practicable, does not meet the purpose of and need for the Proposed Action, and has been eliminated from detailed study.

### **2.5.3 Reduced Training**

As described in Section 2.3.2.2 (Reduced Training) in the 2011 GOA Final EIS/OEIS, a cessation or reduction of training would prevent the military services from meeting statutory requirements and adequately preparing forces for operations ranging from disaster relief to armed conflict. Therefore, this alternative does not meet the purpose of and need for the Proposed Action and has been eliminated from detailed study.

### **2.5.4 Alternate Time Frame**

As described in Section 2.3.2.3 (Alternate Time Frame) in the 2011 GOA Final EIS/OEIS, an alternate period in which to hold Navy training in the TMAA, such as in the winter months, would not be feasible. Weather conditions in the GOA preclude conducting an integrated exercise during the winter. Winter sea conditions, storms, fog, fewer daytime hours, and other environmental conditions would lead to navigational safety concerns for both ships and airplanes involved in any winter exercise. Additionally, other services' training requirements prohibit overwater training when the water temperature decreases below a certain level (typical during the winter months in the GOA), as this needlessly jeopardizes the health and safety of exercise participants. Therefore, an alternate time frame would not meet the appropriate weather conditions for safety of maritime training activities at sea, as described in Section 2.3.1 (Alternatives Development) of the 2011 GOA Final EIS/OEIS.

### **2.5.5 Simulated Training**

As described in Section 2.3.2.4 (Simulated Training) in the 2011 GOA Final EIS/OEIS, the Navy continues to use computer simulation and other types of simulation for training activities whenever possible; however, there are limits to the realism that current simulation technology can provide, and its use cannot substitute for live training. Training through simulated means cannot replicate the conditions in which Navy personnel and platforms are required to conduct military operations. While beneficial as a complementing medium to train and test personnel and platforms, simulation alone cannot accurately replicate both the conditions and the stresses that must be placed on personnel and platforms during actual training. These conditions and stresses are absolutely vital to adequately preparing Naval forces to conduct the broad spectrum of military operations required of them by operational Commanders. Therefore, simulation as an alternative that completely replaces training in the field does not meet the purpose of and need for the Proposed Action and has been eliminated from further analysis.

### **2.5.6 Training Without the Use of Active Sonar**

In order to be proficient in detecting and countering submarines, the Navy needs to routinely train using both passive and active sonar. Sonar proficiency is a complex and perishable skill that requires regular, hands-on training in realistic and diverse conditions. Training with active sonar is needed to find and counter newer-generation submarines around the world, which are growing in number and are true threats to global commerce, national security, and the safety of military personnel. As a result, defense against enemy submarines is a top priority for the Navy. The detection and countering of submarines is paramount to national security. Naval forces cannot counter this threat without the use of active sonar. Because the Navy is statutorily responsible to provide combat-ready forces to operational commanders, it must train in the manner in which it will be utilized in military operations. Accordingly, training without active sonar is not a reasonable alternative and will not be carried forward.

### **2.5.7 Alternatives Including Geographic Mitigation Measures Within the Study Area**

The Navy considered, but did not develop, an alternative based solely on geographic mitigation. Developing such an alternative would mean that geographic or temporal restrictions would be included for one action alternative but not for others. Such a framework would not meet the Navy's purpose and need for the reasons described below and outlined in Chapter 1 (Purpose and Need).

NEPA regulations allow agencies to "Include appropriate mitigation measures not already included in the Proposed Action or alternatives" (40 CFR section 1502.14[f]). The Navy defines its Proposed Action and alternatives prior to conducting its environmental analyses. As a general approach, the Navy develops mitigation outside of (i.e., after) the alternatives development framework, and mitigation is designed to be implemented under all action alternatives carried forward. This approach allows the Navy to refine and tailor its mitigation measures based on the findings of its environmental analyses, potential benefits to marine resources, suggestions received through public comments during scoping and on the Draft SEIS/OEIS, consultations with environmental regulatory agencies, and operational practicality assessments. The Navy carries over applicable existing mitigation measures developed during previous EIS/OEIS projects and develops new mitigation as appropriate. For the GOA SEIS/OEIS, the Navy developed the new Continental Shelf and Slope Mitigation Area, which represents a substantial increase in geographic mitigation over what was carried over from the previous GOA EIS/OEIS projects.

As described in Section 5.2 (Mitigation Development Process), the Navy conducts extensive biological effectiveness and operational practicality assessments of all potential mitigations. Navy Senior Leadership reviews and approves all mitigations included in a Draft or Final SEIS/OEIS. Therefore, if the Navy were to create a geographic mitigation alternative, all mitigations included in that alternative would have been verified as effective and practical, and approved by Navy Senior Leadership prior to publication of the Draft EIS/OEIS. From an MMPA compliance standpoint, NMFS would consequently require the Navy to implement those mitigations that benefit marine mammals under all action alternatives (i.e., not only the mitigation alternative) in order to meet the least practicable adverse impact standard. In other words, approved and effective mitigation would be implemented regardless of its association with an alternative; therefore, basing an alternative solely on geographic mitigation would not be reasonable. Overall, the Navy's mitigation development process ensures that it includes the maximum level of mitigation that is practical to implement under the Proposed Action.

### **2.6 Alternatives Carried Forward**

Three alternatives were analyzed in the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS: the No Action Alternative, Alternative 1, and Alternative 2. For this SEIS/OEIS, only two Alternatives are being carried forward, the No Action Alternative and Alternative 1 (the Preferred Alternative).

The No Action Alternative in the 2011 GOA Final EIS/OEIS and the 2016 GOA Final SEIS/OEIS consisted of training activities of the types and levels of training intensity as conducted prior to 2011 and did not include ASW training activities involving the use of active sonar. Alternative 1 included all training activities addressed in the No Action Alternative and an increase in training activities. This increase would encompass conducting one large-scale carrier strike group (CSG) exercise, as well as the inclusion of ASW activities and the use of active sonar, occurring over a maximum time period of up to 21 consecutive days during the months of April–October. Navy policy defines the "baseline" composition of deployable naval forces. The baseline is intended as an adaptable structure to be tailored to meet specific requirements. Thus, while the baseline composition of a CSG calls for a specified number of ships, aviation assets, and other forces, a given CSG may include more or fewer units, depending on



their mission. The typical baseline naval force structures established by Navy policy for a CSG are as follows: one Aircraft Carrier; one Carrier Air Wing consisting of four Strike Fighter squadrons, one Electronic Combat squadron, one tactical airborne early warning squadron, two Combat Helicopter squadrons, and two logistics aircraft; five Surface Combatant Ships where “Surface Combatant” refers to guided missile cruisers, destroyers, frigates, and Littoral Combat Ship platforms; one attack submarine; and one logistic support ship.

Alternative 2 included all elements of Alternative 1 plus one additional CSG exercise during the months of April–October. Additionally, Alternative 2 included conducting one sinking exercise per CSG exercise for a total of two exercises per year. Alternative 2 was the Preferred Alternative and was selected in the ROD issued on May 11, 2011, while the ROD issued on April 21, 2017, selected Alternative 1 instead of the preferred Alternative 2.

The Navy’s anticipated level of training activity evolves over time based on numerous factors. Based on the assessment of the training activities in the TMAA and future requirements, the Navy has determined the level of activity analyzed in Alternative 1 from the 2016 GOA Final SEIS/OEIS will continue to meet the Navy’s training requirements for the reasonably foreseeable future, and no new training activities are proposed for the Study Area. Therefore, this SEIS/OEIS will only carry forward the No Action Alternative, as described below, and Alternative 1 as described in the 2016 GOA Final SEIS/OEIS and 2017 GOA ROD. Consistent with the previous analysis for Alternative 1, the sinking exercise activity will not be part of the Proposed Action for this SEIS/OEIS and, as described earlier, the use of the PUTR is no longer proposed.

As previously discussed, in addition to meeting the Navy’s purpose and need to train, the action alternative, and in particular the mitigation measures that are incorporated in the action alternative, were developed to meet NMFS’s independent purpose and need to evaluate the potential impacts of the Navy’s activities; determine whether incidental take resulting from the Navy’s activities would have a negligible impact on affected marine mammal species and stocks; and prescribe measures to effect the least practicable adverse impact on species or stocks and their habitat, as well as monitoring and reporting requirements.

#### **2.6.1 No Action Alternative**

As mentioned in Section 2.4 (Action Alternatives Development), the CEQ implementing regulations require that a range of alternatives to the Proposed Action, including a No Action Alternative, be analyzed to provide a clear basis for choice among options by the decision maker and the public (40 CFR section 1502.14). CEQ guidance identifies two approaches in developing the No Action Alternative (46 Federal Register 18026). One approach is applicable to ongoing, continuing actions as the present course of action under the current management direction or intensity. For example, the continuation of training activities conducted at levels analyzed in the 2011 GOA Final EIS/OEIS could be a viable No Action Alternative, even if separate legal authorizations under the MMPA and ESA are required to continue the activities. 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. The Navy applied the second approach in this SEIS/OEIS as it better illustrates the projected environmental impacts of the

Proposed Action and further supports NMFS' regulatory process by presenting the scenario where no authorization will be issued.

Under the No Action Alternative analyzed in this SEIS/OEIS, the Navy would not conduct the proposed training activities in the GOA Study Area. Consequently, the No Action Alternative of not conducting the proposed live, at-sea training activities in the GOA Study Area is unreasonable in that it does not meet the purpose and need (see Section 1.4, Purpose of and Need for Proposed Military Readiness Training Activities) for the reasons noted below. However, the analysis associated with the No Action Alternative is carried forward in order to compare the magnitude of the potential environmental effects of the Proposed Action with the conditions that would occur if the Proposed Action did not occur (see Section 3.0.1, Approach to Analysis).

From NMFS' perspective, pursuant to its obligation to grant or deny take authorization applications under the MMPA, the No Action Alternative involves NMFS denying the Navy's application for an incidental take authorization under Section 101(a)(5)(A) of the MMPA. If NMFS were to deny the Navy's application, the Navy would not be authorized to incidentally take marine mammals, and the Navy would not conduct the proposed training activities in the GOA Study Area.

Cessation of proposed Navy at-sea training activities would not meet the purpose and need and would mean that the Navy would be unable to (1) meet its statutory requirements, (2) adequately prepare to defend itself and the United States from enemy forces, (3) successfully detect enemy submarines, and (4) effectively use its weapons systems or defensive countermeasures due to a lack of training.

#### **2.6.2 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, less the requirement to use the PUTR. While the revised GOA Study Area is larger than the area analyzed 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 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.

While the revised GOA Study Area is larger than the area analyzed 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 would still occur in the TMAA, approximately 70 percent in the TMAA and 30 percent in the WMA. The activities conducted in the WMA would be limited to vessel movements and aircraft training, and several events associated with these movements. The exception would be non-explosive gunnery activities in the WMA. Activities using active acoustics or explosives would not occur in the WMA. They would continue to occur in the TMAA. Training activities proposed to occur in the WMA include Air Combat Maneuver, Air Defense Exercise, Maritime Security Operations, Sea Surface Control, Electronic Warfare Exercise, Surface-to-Surface Gunnery Exercise (non-explosive practice munitions only), and Deck Landing Qualification (Table 2-2).

**Table 2-2: Training Activities Proposed to Occur in the Western Maneuver Area**

<b>Activity Name</b>	<b>Activity Description</b>
<b>Air Warfare</b>	
Air Combat Maneuver	Fixed-wing aircrews aggressively maneuver against threat aircraft to gain a tactical advantage.
Air Defense Exercise	Aircrew and ship crews conduct defensive measures against threat aircraft or simulated missiles.
<b>Surface Warfare</b>	
Maritime Security Operations	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	Aircraft, unmanned aerial systems, ships, and submarines use all available sensors to collect data on threat vessels.
Surface-to-Surface Gunnery Exercise (Non-Explosive Practice Munitions)	Surface ship crews fire non-explosive small-caliber, medium-caliber, or large-caliber guns at surface targets.
<b>Electronic Warfare</b>	
Electronic Warfare Exercise	Aircraft and surface ship crews control portions of the electromagnetic spectrum used by enemy systems.
<b>Other Training Activities</b>	
Deck Landing Qualification	Ship's personnel launch and recover helicopters to achieve qualifications and certifications.

Table 2-3 lists the level of activities of Alternative 1. Although they are consistent with the level of activities addressed in Alternative 1 of the 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 PUTR is no longer proposed. The table describes the activities in terms of the activity name and the number of annual events. The quantity of ordnance and expendables (i.e., items not recovered during training) used in the TMAA is consistent with the levels identified for Alternative 1 in both the 2011 GOA Final EIS/OEIS and 2016 GOA Final SEIS/OEIS. Details of each activity, including acoustic and explosive in the TMAA, are presented in Appendix A (Navy Activities Descriptions) of this SEIS/OEIS.

**Table 2-3: Current and Proposed Training Activities Within the GOA Study Area<sup>1</sup>**

<i>Range Activity</i>	<i>No. of events<sup>2</sup> (annual)</i>	
	<i>Alternative 1 (2016 Final SEIS/OEIS)</i>	<i>Alternative 1 (Proposed)</i>
<b>Air Warfare</b>		
Aircraft Combat Maneuver	300 sorties <sup>3</sup>	300 sorties <sup>3</sup>
Air Defense Exercise	4 events	4 events
Surface-to-Air Gunnery Exercise	3 events	3 events
Air-to-Air Missile Exercise	3 events	3 events
Surface-to-Air Missile Exercise	3 events	3 events
<b>Surface Warfare</b>		
Maritime Security Operations <sup>4</sup>	26 events	26 events
Air-to-Surface Bombing Exercise	18 events	18 events
Air-to-Surface Gunnery Exercise	7 events	7 events
Surface-to-Surface Gunnery Exercise	6 events	6 events
Air-to-Surface Missile Exercise	2 events	2 events
Sea Surface Control	6 events	6 events
<b>Anti-Submarine Warfare (ASW)</b>		
ASW Tracking Exercise – Helicopter	22 events	22 events
ASW Tracking Exercise – Maritime Patrol Aircraft	13 events	13 events
ASW Tracking Exercise – Submarine	2 events	2 events
ASW Tracking Exercise – Surface Ship	2 events	2 events
<b>Electronic Warfare (EW)</b>		
Counter Targeting Exercise	4 events	4 events
Chaff Exercise	2 events	2 events
Electronic Warfare Exercise	5 events	5 events
<b>Naval Special Warfare</b>		
Special Warfare Operations	10 events	10 events
<b>Strike Warfare</b>		
Air-to-Ground Bombing Exercise <sup>2</sup>	150 sorties <sup>3</sup>	150 sorties <sup>3</sup>
Personnel Recovery <sup>2</sup>	4 events	4 events
<b>Support Operations</b>		
Deck Landing Qualification	6 events	6 events

<sup>1</sup>The majority of training would occur only in the TMAA (approximately 70 percent in the TMAA and 30 percent in the WMA). The use of sonar or explosives would only occur in the TMAA.

<sup>2</sup>This SEIS/OEIS covers the launch and recovery of aircraft from vessels in the GOA Study Area. The training is conducted in the Air Force Special Use Airspace and Army Training Lands that are covered under separate National Environmental Policy Act analysis.

<sup>3</sup>A sortie is defined as a single activity by one aircraft (i.e., one complete flight from takeoff to landing).

Notes: SEIS = Supplemental Environmental Impact Statement, OEIS = Overseas Environmental Impact Statement, TMAA = Temporary Maritime Activities Area.

<sup>4</sup>Maritime Security Operations was previously two separate activities: Visit, Board, Search, and Seizure; and Maritime Interdiction. The two activities have been combined in this SEIS/OEIS to align with current Navy naming conventions.

## **REFERENCES**

- U.S. Department of Army and Air Force. (2013). *Final Environmental Impact Statement for the Modernization and Enhancement of Ranges, Airspace, and Training Areas in the Joint Pacific Alaska Range Complex*. Washington, DC: U.S. Department of Army and Air Force.
- U.S. Department of the Navy. (2011a). *Gulf of Alaska Final Environmental Impact Statement/Overseas Environmental Impact Statement*. Silverdale, WA: Naval Facilities Engineering Command, Northwest.
- U.S. Department of the Navy. (2011b). *Record of Decision for Final Environmental Impact Statement/Overseas Environmental Impact Statement for the Gulf of Alaska Navy Training Activities*. Arlington, VA: Department of the Navy, Department of Defense.
- U.S. Department of the Navy. (2016). *Gulf of Alaska Navy Training Activities Final Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement Final Version*. Silverdale, WA: U.S. Pacific Fleet.
- U.S. Department of the Navy. (2017). *Record of Decision for the Gulf of Alaska Final Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement*. Washington, DC: Department of Defense.
- U.S. Department of the Navy. (2021). *NATOPS General Flight and Operating Instructions*. San Diego, CA: Commander Naval Air Force Pacific. Retrieved from <https://www.cnatra.navy.mil/assets-global/docs/cnaf-m-3710.7.pdf>.

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