GULF OF ALASKA NAVY TRAINING ACTIVITIES SUPPLEMENT TO THE 2020 DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT/ OVERSEAS ENVIRONMENTAL IMPACT STATEMENT

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GOA Supplement to the Draft SEIS/OEIS Project Manager
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Lead Agency: United States Department of the Navy
Cooperating Agency: National Marine Fisheries Service
Title of the Proposed Action: Gulf of Alaska Training Activities
Designation: Supplement to the 2020 Draft Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement

Abstract

This is a Supplement to the Draft Gulf of Alaska (GOA) Navy Training Activities Supplemental Environmental Impact Statement (SEIS)/Overseas Environmental Impact Statement (OEIS). Following publication of the Draft SEIS/OEIS on December 11, 2020, the United States Department of the Navy (Navy) determined the need to add the Western Maneuver Area (WMA) to the GOA Study Area, and where proposed training activities would occur within the WMA, would result in substantive changes to the Proposed Action. The purpose of this Supplement to the 2020 GOA Draft SEIS/OEIS is to present changes to the Proposed Action and include significant new information relevant to environmental concerns per 40 Code of Federal Regulations 1502.9.

The GOA Study Area now includes the WMA, in addition to the existing Temporary Maritime Activities Area (TMAA). This Supplement analyzes the impacts associated with training in the WMA. While the revised GOA Study Area is larger, the type and number of training events would not change, and the majority of training would still occur only in the TMAA. The activities conducted in the WMA would be limited to vessel movement and aircraft training, and events associated with these movements. The exception would be one non-explosive gunnery activity, 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.

Additionally, as a change to the Proposed Action, this supplement includes a mitigation area within the TMAA, referred to as the "Continental Shelf and Slope Mitigation Area." The Navy is proposing to expand its mitigation for explosives, and will 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 of the TMAA to protect marine species and biologically important habitat.

This Supplement to the 2020 GOA Draft SEIS/OEIS will be distributed for a 45-day public review period. Comments received during the public review period, as well as all comments received on the 2020 GOA Draft SEIS/OEIS, will be incorporated into the GOA Final SEIS/OEIS. The Final SEIS/OEIS will be published and circulated for a 30-day wait period.

Prepared by: United States Department of the Navy

Comments due by: May 2, 2022
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EXECUTIVE SUMMARY

ES.1 INTRODUCTION

Following the release of the Draft Gulf of Alaska (GOA) Navy Training Activities Supplemental Environmental Impact Statement (SEIS)/Overseas Environmental Impact Statement (OEIS) on December 11, 2020, the United States (U.S) Department of the Navy (Navy) determined that a Supplement to the Draft SEIS/OEIS was warranted because of a change in the Study Area that results in an overall change in how the Proposed Action is analyzed or where the activities are conducted. In addition to the existing Temporary Maritime Activities Area (TMAA), certain limited activities would be conducted in the Western Maneuver Area (WMA) in the GOA. This change in the Proposed Action warrants preparation of a Supplement to the 2020 GOA Draft SEIS/OEIS under 40 Code of Federal Regulations 1502.9(c)(1)(i).[1] In addition, the Navy 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.

ES.2 SCOPE AND CONTENT OF THIS SUPPLEMENT TO THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT/OVERSEAS ENVIRONMENTAL IMPACT STATEMENT

This Supplement includes new information and updated sections that supplement the Draft SEIS/OEIS released on December 11, 2020. Unless specifically included in this Supplement, the activities and the analyses of impacts on resources described in the original 2020 GOA Draft SEIS/OEIS remain valid, and are incorporated by reference.

ES.2.1 THE WESTERN MANEUVER AREA

The 2011 GOA Final Environmental Impact Statement/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 Supplement, 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, 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), which was created to address the need for a broader area in which to maneuver during training. The TMAA is unchanged from the 2011 *GOA Final Environmental Impact Statement/OEIS* and the 2016 *GOA 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 line, 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.

[1] This Supplement to the 2020 GOA Draft SEIS/OEIS complies with the Council on Environmental Quality regulations in 40 Code of Federal Regulations parts 1500–1508 (1978, as amended 1986 and 2005), because the Navy began creating the SEIS/OEIS prior to the release of the current regulations on July 16, 2020 (in effect September 14, 2020).

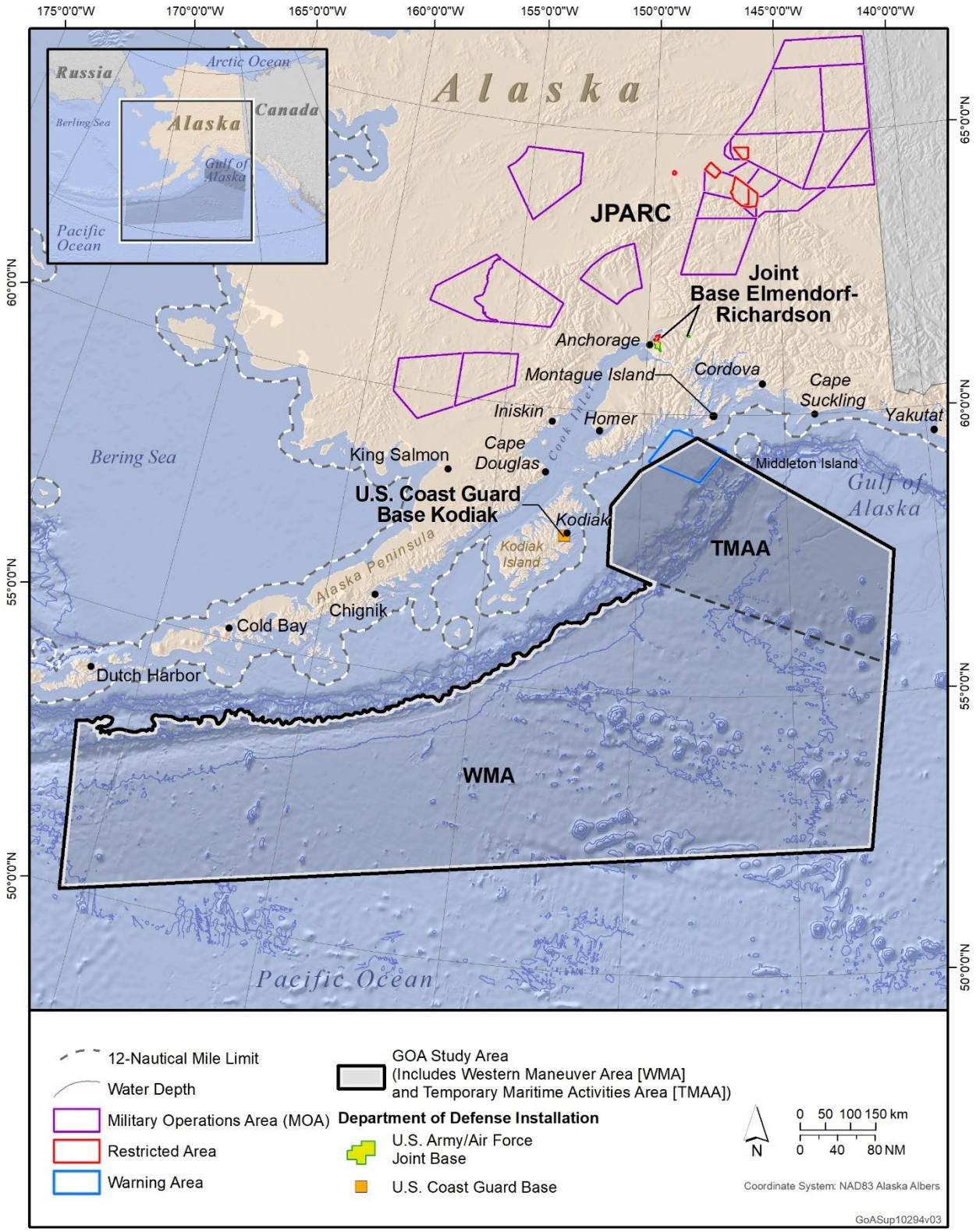

Figure ES-1: Gulf of Alaska Study Area

The addition of the WMA provides airspace for multiple air lanes and sea space for increased training complexity and maneuverability.

ES.2.2 Proposed Activities in the Western Maneuver Area

While the revised GOA Study Area is larger than the area discussed in the 2020 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 vessel movements and aircraft training, and several events associated with these movements. The exception would be one non-explosive gunnery activity, 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. They would only be conducted in the TMAA. Training activities proposed in the WMA are shown in Table ES-1 of this Supplement to the 2020 GOA Draft SEIS/OEIS.

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

Activity Name	*Activity Description*
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.
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.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. 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, 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 will 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.

ES. 4 SUMMARY OF ENVIRONMENTAL EFFECTS

Changes to environmental consequences as a result of implementation of the Navy's Proposed Action or alternatives have been analyzed in this Supplement to the 2020 GOA Draft SEIS/OEIS. Resource areas analyzed include fishes, sea turtles, marine mammals, birds, and socioeconomic resources and environmental justice. The Navy's method of analysis is identical to that used in the 2020 GOA Draft SEIS/OEIS. The updated changes to impacts and conclusions are summarized in Table ES-2 of this Supplement to the 2020 GOA Draft SEIS/OEIS.

ES.5 CUMULATIVE IMPACTS

This Supplement reassessed cumulative impacts resulting from the information explained above. 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 and Table 2.1-1 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. Therefore, potential cumulative impacts remain unchanged, and a detailed analysis of cumulative impacts from the stressors already analyzed for resources in the TMAA is not warranted within the WMA.

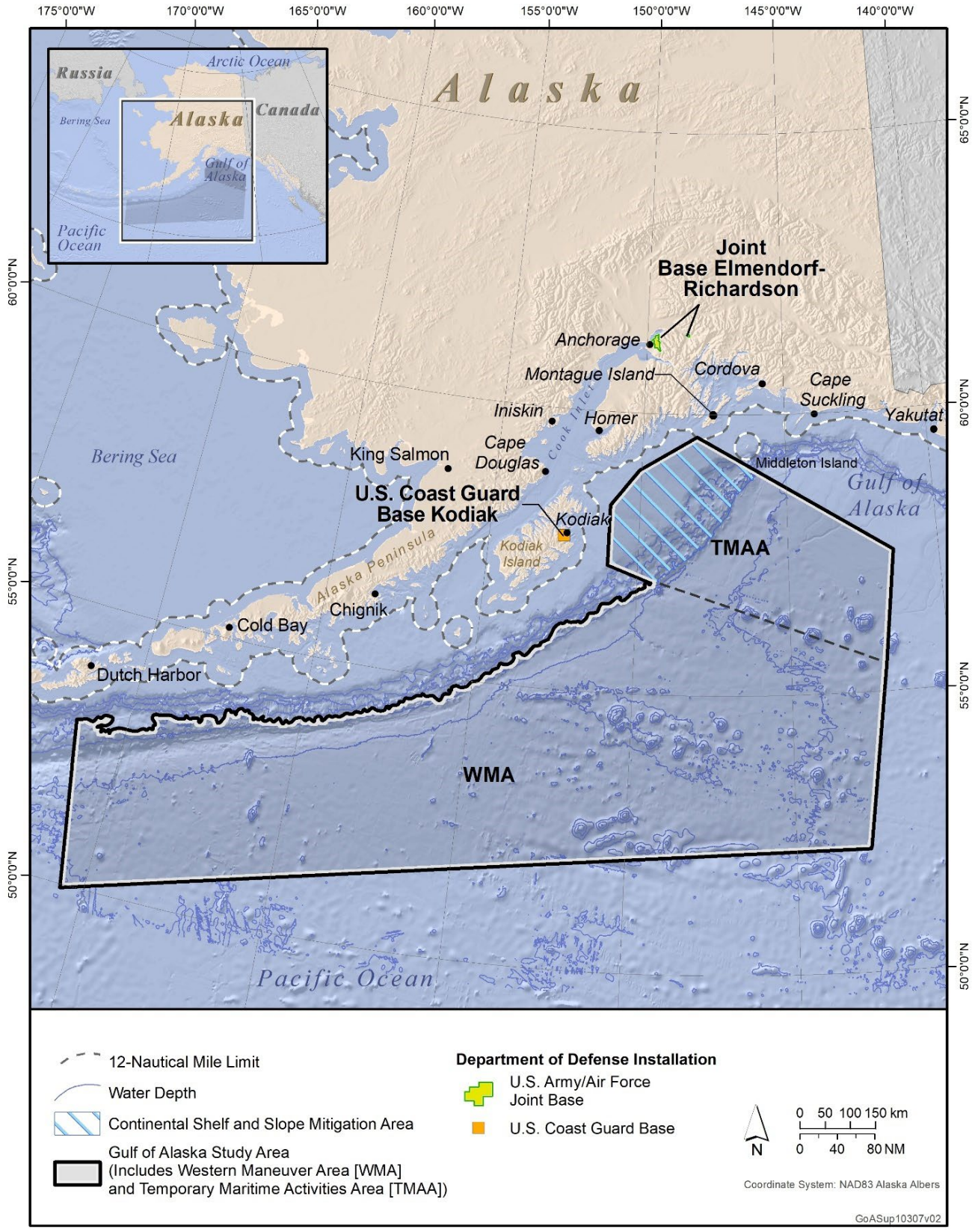

Figure ES-2: Continental Shelf and Slope Mitigation Area

Table ES-2: Summary of Environmental Impacts from Changes to the Proposed Action as a Result of the Addition of the Western Maneuver Area and the Continental Shelf and Slope Mitigation Area

Resource Category	*Summary of Environmental Impacts as a Result of the Addition of the WMA*	*Summary of Environmental Impacts as a Result of the Addition of the Continental Shelf and Slope Mitigation Area*
Fishes	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 Tables ES-1 and 2.1-1. These activities are the same as those described and analyzed in the TMAA and exclude activities using active sonar and other transducers or explosives. Based on the analysis provided in Section 3.6.1 below and in the 2020 GOA Draft SEIS/OEIS, activities in the WMA would be the same as those described and analyzed for the TMAA and would not significantly impact fishes.	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. Therefore, impacts from training activities in the Continental Shelf and Slope Mitigation Area would either remain the same, as previously analyzed in the 2020 GOA Draft SEIS/OEIS, or would be reduced.
Sea Turtles	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 Tables ES-1 and 2.1-1. These activities are the same as those described and analyzed in the TMAA and exclude activities using active sonar and other transducers or explosives. Based on the analysis provided in Section 3.7.1 below and in the 2020 GOA Draft SEIS/OEIS, activities in the WMA would be the same as those described and analyzed for the TMAA and would not significantly impact sea turtles.	As discussed in the 2020 GOA Draft SEIS/OEIS, sea turtles are not expected to be impacted by acoustic and explosive stressors within the TMAA. This conclusion was based on the best available science that addresses the known distribution of leatherback sea turtles within the Gulf of Alaska. Impacts from training activities in the Continental Shelf and Slope Mitigation Area would either remain the same as previously analyzed in the 2020 GOA Draft SEIS/OEIS or would be reduced.
Marine Mammals	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 Draft SEIS/OEIS.	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 in the 2020 GOA Draft SEIS/OEIS or would be further reduced.

Table ES-2: Summary of Environmental Impacts from the 2020 Draft SEIS/OEIS, Updated to Reflect Changes in the Proposed Action (continued)

Resource Category	*Summary of Environmental Impacts as a Result of the Addition of the WMA*	*Summary of Environmental Impacts as a Result of the Addition of the Continental Shelf and Slope Mitigation Area*
Marine Mammals (continued)	The limited number and types of training activities occurring in the WMA are described in Tables ES-1 and 2.1-1. These activities are the same as those described and analyzed in the TMAA and exclude activities using active sonar and other transducers or explosives. Based on the analysis provided in Section 3.8.1 below and in the 2020 GOA Draft SEIS/OEIS, activities in the WMA would be the same as those described and analyzed for the TMAA and would not be significant	
Birds	Activities using active acoustics or explosives would not occur in the WMA. The distance from shore that the aircraft activity would occur at 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 (see Figure 3.9-1 for satellite data on the distribution of short-tailed albatross in the GOA Study Area). The limited number and types of training activities occurring in the WMA are described in Tables ES-1 and 2.1-1. These activities are the same as those described and analyzed in the TMAA and exclude activities using active sonar and other transducers or explosives. Based on the analysis provided in Section 3.9.1 below and in the 2020 GOA Draft SEIS/OEIS, activities in the WMA would be the same as those described and analyzed for the TMAA and would not significantly impact seabirds.	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 in the 2020 GOA Draft SEIS/OEIS, or would be reduced.
Socioeconomic Resources and Environmental Justice	No significant impacts are expected on socioeconomic resources within the WMA under Alternative 1. 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.	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.

Table ES-2: Summary of Environmental Impacts from the 2020 Draft SEIS/OEIS, Updated to Reflect Changes in the Proposed Action (continued)

Resource Category	*Summary of Environmental Impacts as a Result of the Addition of the WMA*	*Summary of Environmental Impacts as a Result of the Addition of the Continental Shelf and Slope Mitigation Area*
Socioeconomic Resources and Environmental Justice (continued)	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.	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 in the 2020 GOA Draft SEIS/OEIS 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: ES = Executive Summary, ESA = Endangered Species Act, m = meter(s), SEIS/OEIS = Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement, TMAA = Temporary Maritime Activities Area, WMA = Western Maneuver Area.

TABLE OF CONTENTS

1 INTRODUCTION TO THE SUPPLEMENT 1-1

1.1 Scope and Content of this Supplement 1-2

2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES 2-1

2.1 Western Maneuver Area 2-1

2.1.1 Changes to Alternative 1 from Addition of the Western Maneuver Area 2-1

2.1.2 Changes to Alternative 1 from Addition of the Continental Shelf and Slope Mitigation Area 2-3

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES 3-1

3.0 Changes to Section 3.0.1 (Approach to Analysis) 3-1

3.1 Changes to Resource Sections (Sections 3.6, 3.7, 3.8, 3.9, and 3.11) 3-1

3.6 Fishes 3-2

3.6.1 Changes to Impacts from Addition of Training Activities in the Western Maneuver Area 3-2

3.6.1.1 Alternative 1 Changes to Environmental Consequences 3-2

3.6.2 Changes to Impacts from Addition of the Continental Shelf and Slope Mitigation Area 3-2

3.6.2.1 Alternative 1 Changes to Environmental Consequences 3-2

3.7 Sea Turtles 3-3

3.7.1 Changes to Impacts from Addition of Training Activities in the Western Maneuver Area 3-3

3.7.1.1 Alternative 1 Changes to Environmental Consequences 3-3

3.7.2 Changes to Impacts from Addition of the Continental Shelf and Slope Mitigation Area 3-3

3.7.2.1 Alternative 1 Changes to Environmental Consequences 3-3

3.8 Marine Mammals 3-4

3.8.1 Changes to Impacts from Addition of Training Activities in the Western Maneuver Area 3-4

3.8.1.1 Alternative 1 Changes to Environmental Consequences 3-4

3.8.2 Changes to Impacts from Addition of the Continental Shelf and Slope Mitigation Area 3-6

3.8.2.1 Alternative 1 Changes to Environmental Consequences 3-6

3.9 Birds 3-7

3.9.1 Changes to Impacts from Addition of Training Activities in the Western Maneuver Area 3-7

3.9.1.1 Alternative 1 Changes to Environmental Consequences 3-7

3.9.2 Changes to Impacts from Addition of the Continental Shelf and Slope Mitigation Area 3-7
3.9.2.1 Alternative 1 Changes to Environmental Consequences 3-8
3.11 Socioeconomic Resources and Environmental Justice 3-10
3.11.1 Changes to Impacts from Addition of Training Activities in the Western Maneuver Area 3-10
3.11.1.1 Commercial Shipping 3-10
3.11.1.2 Tourism and Recreation 3-10
3.11.1.3 Commercial and Recreational Fishing 3-11
3.11.1.4 Groundfish 3-11
3.11.1.5 Shellfish 3-11
3.11.1.6 Alternative 1 Changes to Environmental Consequences 3-11
3.11.2 Changes to Impacts from Addition of the Continental Shelf and Slope Mitigation Area 3-11
3.11.2.1 Alternative 1 Changes to Environmental Consequences 3-12
4 CUMULATIVE IMPACTS 4-1
5 STANDARD OPERATING PROCEDURES, MITIGATION, AND MONITORING 5-1
5.1 Continental Shelf and Slope Mitigation Area 5-1
5.2 Mitigation Summary 5-3
6 ADDITIONAL REGULATORY CONSIDERATIONS 6-1
7 REFERENCES CITED 7-1

LIST OF TABLES

TABLE 2.1-1: TRAINING ACTIVITIES PROPOSED TO OCCUR IN THE WESTERN MANEUVER AREA 2-3
TABLE 5.2-1: SUMMARY OF PROCEDURAL MITIGATION APPLICABLE TO THE WESTERN MANEUVER AREA 5-3

LIST OF FIGURES

FIGURE 2.1-1: GULF OF ALASKA STUDY AREA 2-2
FIGURE 2.1-2: CONTINENTAL SHELF AND SLOPE MITIGATION AREA 2-4
FIGURE 3.8-1: CRITICAL HABITAT AND BIOLOGICALLY IMPORTANT AREAS FOR MARINE MAMMALS IN PROXIMITY TO THE GULF OF ALASKA STUDY AREA 3-5
FIGURE 3.9-1: DISTRIBUTION OF SHORT-TAILED ALBATROSS WITHIN THE GULF OF ALASKA STUDY AREA AND CONTINENTAL SHELF AND SLOPE MITIGATION AREA 3-9
FIGURE 3.11-1: COMMERCIAL GROUNDFISH / HALIBUT AND SHELLFISH HARVEST IN THE WESTERN MANEUVER AREA, 2017–2021 3-13
FIGURE 5.1-1: CONTINENTAL SHELF AND SLOPE MITIGATION AREA AND HABITATS CONSIDERED DURING MITIGATION AREA DEVELOPMENT 5-2

1 INTRODUCTION TO THE SUPPLEMENT

On December 11, 2020, the United States (U.S.) Department of the Navy (Navy) released to the public a Draft Supplemental Environmental Impact Statement (SEIS)/Overseas Environmental Impact Statement (OEIS) to conduct training activities in the Gulf of Alaska (GOA) (U.S. Department of the Navy, 2020). A Notice of Availability for the *Gulf of Alaska Navy Training Activities Draft SEIS/OEIS* was published in the Federal Register on December 11, 2020 (85 Federal Register 80093). The 2020 GOA Draft SEIS/OEIS described the Proposed Action, Purpose and Need, alternatives considered, the existing environment, and environmental consequences (including short-term, long-term, and cumulative impacts) of training in the Temporary Maritime Activities Area (TMAA).

Following the release of the 2020 GOA Draft SEIS/OEIS, the Navy recognized that the size and shape of the TMAA (approximately 42,146 square nautical miles) in the GOA does not provide sufficient space for the realistic maneuvering of vessels and aircraft during training exercises. The GOA Study Area was revised to include the Western Maneuver Area (WMA), in addition to the existing TMAA. This additional space, an additional 185,806 square nautical miles (the WMA), would enable Navy personnel and units to practice more realistic, complex training scenarios in a safer, more efficient manner that would better prepare them to respond to real-world incidents. The WMA would provide air, surface, and submarine forces with sufficient maneuver areas for realistic training; the TMAA allows for only a single, predictable air axis approach, which is unrealistic in current real-world scenarios. The addition of the WMA provides airspace for multiple air lanes and sea space for increased training complexity and maneuverability. It would also maximize airfield diverts available for aircrew safety. As currently configured, the TMAA only allows for Anchorage divert, whereas the WMA would allow for Cold Bay and King Salmon diverts. It also would improve access for commercially based assets used as Opposition Force vessels (contracted fishing vessels), historically out of Kodiak; TMAA limitations require long transit to exercise areas and lost training time.

While the revised GOA Study Area is larger, the type and number of training events would not change, and the majority of training, approximately 70 percent, would still occur only in the TMAA. The activities conducted in the WMA would be limited to vessel movement and aircraft training, and events associated with these movements. The exception would be one non-explosive gunnery activity, which would only include training with non-explosive practice munitions in the WMA. Activities using active acoustics, such as sonar, or use of explosives during training events would not occur in the WMA.

In addition, the Navy proposes implementing a new mitigation area within the continental shelf and shelf slope area of the TMAA, called the “Continental Shelf and Slope Mitigation Area.” To protect marine species and biologically important habitat, use of explosives (up to 10,000 feet altitude) would be prohibited in this area.

The overall Purpose and Need for the Proposed Action has not changed. The purpose of this Supplement to the 2020 GOA Draft SEIS/OEIS is to present the changes to the Proposed Action and their impacts on the environment, and to allow for public review and comment on these changes.

This Supplement includes new information and updated sections that supplement the Draft SEIS/OEIS released on December 11, 2020. Unless specifically included in this Supplement, the activities and the analyses of impacts on resources described in the original 2020 GOA Draft SEIS/OEIS remain valid, and are incorporated by reference.

This Supplement to the 2020 GOA Draft SEIS/OEIS will be distributed for a 45-day public review period. Comments received during the public review period, as well as all comments received on the 2020 GOA Draft SEIS/OEIS, will be incorporated into the GOA Final SEIS/OEIS.

1.1 SCOPE AND CONTENT OF THIS SUPPLEMENT

This Supplement to the 2020 GOA Draft SEIS/OEIS includes analysis of Air Combat Maneuver, Air Defense Exercise, Maritime Interdiction, Sea Surface Control, Electronic Warfare Exercise, Surface-to-Surface Gunnery Exercise (non-explosive practice munitions only), and Deck Landing Qualification in the WMA. It also includes the addition of the Continental Shelf and Slope Mitigation Area.

Chapter 2 (Description of Proposed Action and Alternatives) of this Supplement describes the proposed activities in the WMA. Chapter 3 (Affected Environment and Environmental Consequences) presents the analysis of impacts that have changed from the 2020 GOA Draft SEIS/OEIS as a result of the changes in the proposed activities in the WMA. Chapter 4 (Cumulative Impacts) describes the changes in cumulative impacts, Chapter 5 (Standard Operating Procedures, Mitigation, and Monitoring), describes changes to mitigation measures, and Chapter 6 (Additional Regulatory Considerations) describes the changes to energy requirements.

Only those analyses and conclusions that changed as a result of the revised Study Area and Proposed Action are included in this Supplement. All other information contained in the 2020 GOA Draft SEIS/OEIS remains valid and is incorporated by reference.

2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This chapter includes descriptions of the substantive changes to the GOA Study Area and proposed activities.

2.1 WESTERN MANEUVER AREA

The 2011 GOA Final Environmental Impact Statement/OEIS Study Area consisted of three components: (1) 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 Supplement, these areas are referred to as the Joint Pacific Alaska Range Complex (JPARC). The 2020 GOA Draft 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, the GOA Study Area now includes the WMA in addition to the existing TMAA (Figure 2.1-1). 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° 29'N, 141° 59'W; to 52° 14'N, 142° 49'W; to 49° 55'N, 165° 38'W; to 52° 54'N, 166° 30'W; to 57° 01'N, 149° 18'W. The northern boundary of the WMA follows the bottom of the slope at the 4,000 meter (m) contour line 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 addition of the WMA provides 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.

2.1.1 CHANGES TO ALTERNATIVE 1 FROM ADDITION OF THE WESTERN MANEUVER AREA

The Proposed Action as described in Alternative 1 (the Preferred Alternative) of the 2020 GOA Draft SEIS/OEIS (U.S. Department of the Navy, 2020) and in Alternative 1 of the 2016 GOA Final SEIS/OEIS (U.S. Department of the Navy, 2016), for which a Record of Decision was issued in 2017 (U.S. Department of the Navy, 2017) has not changed. 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 one non-explosive gunnery activity, 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. They would continue to occur in the TMAA. Training activities proposed to occur in the WMA include Air Combat Maneuver, Air Defense Exercise, Maritime Interdiction, Sea Surface Control, Electronic Warfare Exercise, Surface-to-Surface Gunnery Exercise (non-explosive practice munitions only), and Deck Landing Qualification (Table 2.1-1).

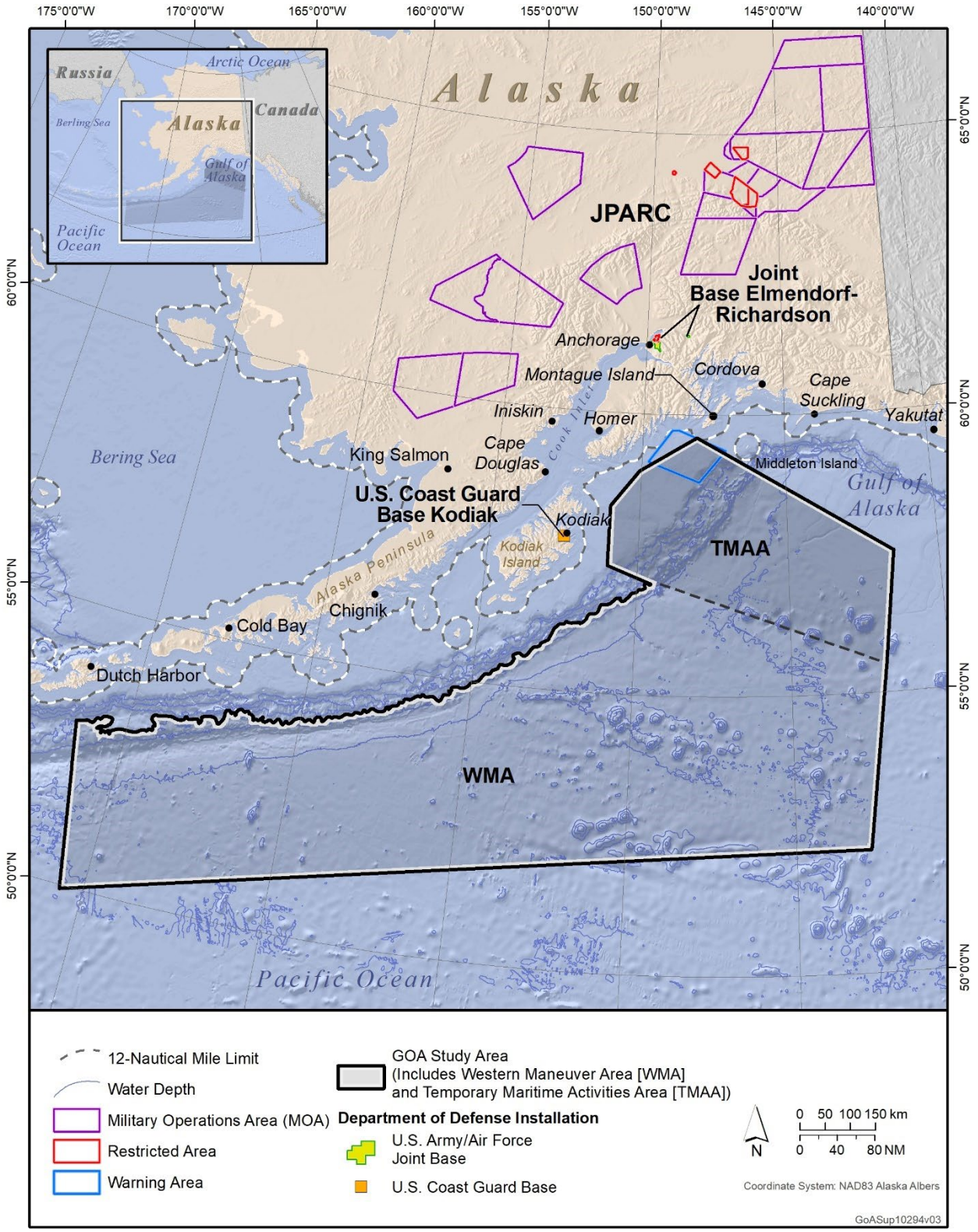

Figure 2.1-1: Gulf of Alaska Study Area

Table 2.1-1: Training Activities Proposed to Occur in the Western Maneuver Area

Activity Name	*Activity Description*
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 train 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 non-explosive small-caliber, medium-caliber, or large-caliber guns at surface targets.
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.

2.1.2 Changes to Alternative 1 from Addition of the Continental Shelf and Slope Mitigation Area

In the 2016 GOA Final SEIS/OEIS and associated consultation documents, the Navy restricted explosive use within the Portlock Bank area, 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, 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, described in detail in Section 5.1 (Continental Shelf and Slope Mitigation Area) and shown in Figure 2.1-2. The Navy is proposing to expand its mitigation for explosives, and will 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 mid-frequency (MF1) active sonar from June 1 to September 30 within the North Pacific Right Whale Mitigation Area.

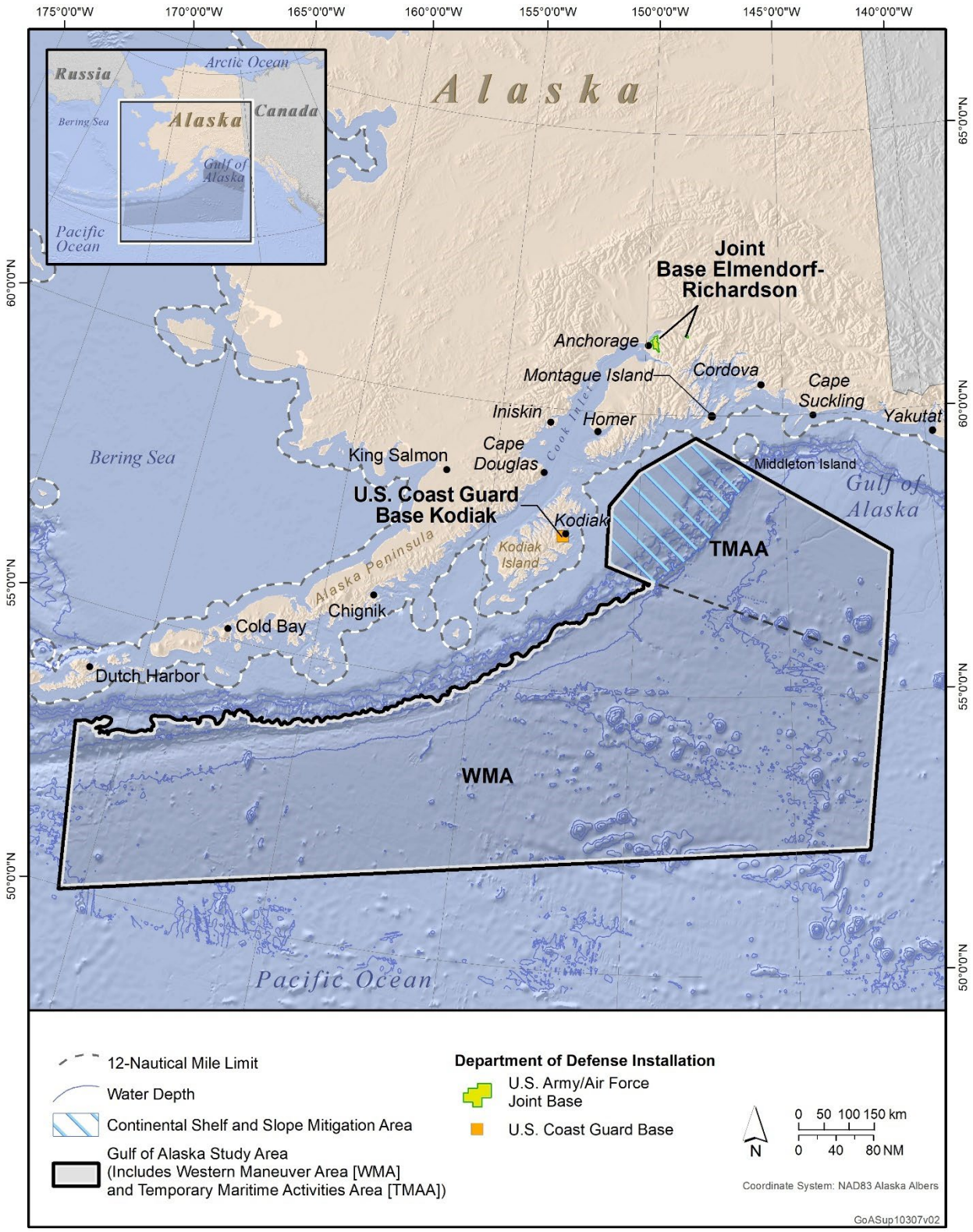

Figure 2.1-2: Continental Shelf and Slope Mitigation Area

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The changes to the Study Area and Proposed Action described in Chapter 2 (Description of Proposed Action and Alternatives) of this Supplement result in changes to the environmental consequences previously discussed in the GOA Draft SEIS/OEIS. Those changes to the environmental consequences are discussed here in this chapter of this Supplement to the 2020 GOA Draft SEIS/OEIS. The baseline environment of the Study Area has been updated when appropriate.

3.0 CHANGES TO SECTION 3.0.1 (APPROACH TO ANALYSIS)

In Section 3.0.1 (Approach to Analysis) of the 2020 GOA Draft SEIS/OEIS, stressors are identified and described; these stressors form the basis for the analysis of impacts to environmental resources. Although the size of the Study Area would increase with the addition of the WMA, the number and type of proposed training activities remains the same as in the 2020 GOA Draft SEIS/OEIS. Only limited training activities and the maneuvering of vessels and aircraft would occur in the WMA (see Table 2.1-1). Approximately 70 percent of training would still occur in the TMAA, and 30 percent would occur in the WMA. No training activities involving the use of active sonar or explosives would occur in the WMA. In the WMA, gunnery training events would only use non-explosive practice munitions.

Therefore, conclusions for impacts on fishes, sea turtles, marine mammals, birds, socioeconomic resources, and environmental justice presented for acoustics and explosives were not re-analyzed in this Supplement and remain unchanged from the conclusions under Alternative 1 in the 2020 GOA Draft SEIS/OEIS.

Physical disturbance and strike is a stressor carried forward for analysis for marine mammals due to ship maneuvering activities in the WMA, detailed analysis of the impacts from other stressors already analyzed for marine mammals in the TMAA is not warranted within the WMA; this is discussed in detail in Section 3.8 (Marine Mammals). Detailed analysis of the impacts from the stressors already analyzed for fishes, sea turtles, and birds in the TMAA is not warranted within the WMA and discussed in detail in Sections 3.6 (Fishes), 3.7 (Sea Turtles), and 3.9 (Birds).

3.1 CHANGES TO RESOURCE SECTIONS (SECTIONS 3.6, 3.7, 3.8, 3.9, AND 3.11)

Updates to the baseline environment, termed the affected environment, were included in respective resource sections if new species, habitats, or socioeconomic or environmental justice resources were found to occur in the WMA. Please refer to the affected environment discussions in the 2020 GOA Draft SEIS/OEIS for detailed discussion of the species, habitats, or socioeconomic and environmental justice resources that did not change as a result of the addition of the WMA.

Updates to the resources sections that follow correspond with the section numbers as presented in the 2020 GOA Draft SEIS/OEIS.

3.6 FISHES

3.6.1 CHANGES TO IMPACTS FROM ADDITION OF TRAINING ACTIVITIES IN THE WESTERN MANEUVER AREA

The WMA expands the Study Area west of the TMAA to offshore waters along the Alaska Peninsula and Aleutian Islands as far as Dutch Harbor. Due to its location beyond the continental shelf and slope, the WMA does not overlap or conflict with designated critical habitat or biologically important areas (Figure 3.8-1). Fish species present in the WMA would be the same as those described for the TMAA in the 2020 GOA Draft SEIS/OEIS.

3.6.1.1 Alternative 1 Changes to Environmental Consequences

No new training activities are proposed under Alternative 1 for this Supplement, 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. Only approximately 30 percent of maneuvering activities would occur in the WMA annually, and they would occur in deep (greater than 4,000 m) offshore waters located beyond the continental shelf and slope. The limited number and types of training activities occurring in the WMA are described in Tables ES-1 and 2.1-1. These activities are the same as those described and analyzed in the TMAA and exclude activities using active sonar and other transducers or explosives. Based on the analysis provided above and in the 2020 GOA Draft SEIS/OEIS, activities in the WMA would not significantly impact fishes. In addition, some fish species such as Endangered Species Act (ESA)-listed green sturgeon are primarily found in habitats on the continental shelf, are not expected to be present in the WMA, and would not be exposed to stressors from Navy activities in this area. Therefore, the detailed analysis of the impacts from the stressors already analyzed for fishes in the TMAA is not warranted for fishes within the WMA.

3.6.2 CHANGES TO IMPACTS FROM ADDITION OF THE CONTINENTAL SHELF AND SLOPE MITIGATION AREA

Fish species present in the Continental Shelf and Slope Mitigation Area would be the same as those described in the 2020 GOA Draft SEIS/OEIS for the TMAA.

3.6.2.1 Alternative 1 Changes to Environmental Consequences

The establishment of the Continental Shelf and Slope Mitigation Area under Alternative 1 would prohibit the use of explosives from the sea surface to 10,000 feet altitude over the continental shelf and slope within the TMAA. The mitigation area would extend seaward to the 4,000 m depth contour, which is used to define the termination of the continental slope (see Section 2.1.2, Changes to Alternative 1 from Addition of the Continental Shelf and Slope Mitigation Area; and Section 5.1, Continental Shelf and Slope Mitigation Area, for more details). Fish species occurring over the continental shelf and slope in the TMAA would no longer be impacted by acoustic stressors from the use of explosives over the shelf and slope. 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 fish species previously anticipated from the use of explosives in the area would not occur. For example, there would be a substantial decrease in exposure to acoustic and explosive stressors for ESA-listed salmonids such as Chinook and coho salmon that predominantly occur over the continental shelf. Therefore, impacts from training activities in the Continental Shelf and Slope Mitigation Area would either remain the same, as previously analyzed in the 2020 GOA Draft SEIS/OEIS, or would be reduced.

3.7 SEA TURTLES

3.7.1 CHANGES TO IMPACTS FROM ADDITION OF TRAINING ACTIVITIES IN THE WESTERN MANEUVER AREA

The leatherback sea turtle (*Dermochelys coriacea*) is the only sea turtle species present in the WMA. The limited occurrence of the leatherback is the same in the WMA as with the TMAA, described in the 2020 GOA Draft SEIS/OEIS.

3.7.1.1 Alternative 1 Changes to Environmental Consequences

No new training activities are proposed under Alternative 1 for this Supplement, 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. Only approximately 30 percent of maneuvering activities would occur in the WMA annually, and they would occur in deep (greater than 4,000 m) offshore waters located beyond the continental shelf and slope. The limited number and types of training activities occurring in the WMA are described in Tables ES-1 and 2.1-1. These activities are the same as those described and analyzed in the TMAA and exclude activities using active sonar and other transducers or explosives. Based on the analysis provided above and in the 2020 GOA Draft SEIS/OEIS, activities in the WMA would not significantly impact sea turtles. Therefore, a detailed analysis of the impacts from acoustic, explosive, and other stressors with respect to sea turtles within the WMA is not warranted.

3.7.2 CHANGES TO IMPACTS FROM ADDITION OF THE CONTINENTAL SHELF AND SLOPE MITIGATION AREA

Sea turtles present in the Continental Shelf and Slope Mitigation Area would be the same as those described in the 2020 GOA Draft SEIS/OEIS.

3.7.2.1 Alternative 1 Changes to Environmental Consequences

The establishment of the Continental Shelf and Slope Mitigation Area under Alternative 1 would prohibit the use of explosives from the sea surface to 10,000 feet altitude over the continental shelf and slope within the TMAA. The mitigation area would extend seaward to the 4,000 m depth contour, which is used to define the termination of the continental slope (see Section 2.1.2, Changes to Alternative 1 from Addition of the Continental Shelf and Slope Mitigation Area; and Section 5.1, Continental Shelf and Slope Mitigation Area, for more details).

Although the Navy anticipates that sea turtles (specifically, leatherback sea turtles) within the TMAA would be extremely rare, any sea turtles occurring over the continental shelf and slope in the TMAA would no longer be impacted by stressors from the use of explosives over the continental shelf and slope. Other training activities that do not use explosives would continue to be conducted as planned in the Continental Shelf and Slope Mitigation Area. Impacts from training activities in the Continental Shelf and Slope Mitigation Area would either remain the same as previously analyzed in the 2020 GOA Draft SEIS/OEIS or would be reduced.

3.8 MARINE MAMMALS

3.8.1 CHANGES TO IMPACTS FROM ADDITION OF TRAINING ACTIVITIES IN THE WESTERN MANEUVER AREA

The WMA expands the Study Area west of the TMAA to offshore waters along the Alaska Peninsula and Aleutian Islands as far as Dutch Harbor. However, the inclusion of the WMA does not introduce any marine mammal species into the Study Area that were not already analyzed in the 2020 GOA Draft SEIS/OEIS. Due to its location beyond the continental shelf and slope, the WMA does not overlap or conflict with designated critical habitat or biologically important areas (Figure 3.8-1). The Navy configured the WMA specifically to avoid overlap with and potential impacts on designated critical habitat, biologically important areas, and marine mammal migratory routes.

3.8.1.1 Alternative 1 Changes to Environmental Consequences

No new training activities are proposed under Alternative 1 for this Supplement, and the number of training activities that would be conducted annually remains the same as described in the 2020 GOA Draft SEIS/OEIS. Some aircraft and vessel maneuvering activities originally planned to take place in the TMAA would now be more widely distributed within both the TMAA and WMA to achieve more realistic training scenarios. Vessel maneuvering activities in the WMA would occur in deep offshore waters (greater than 4,000 m) located beyond the continental shelf and slope, where marine mammal occurrence and densities are generally lower. 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 in the 2020 GOA Draft SEIS/OEIS. The probability of a ship strike in the WMA would be lower than the already low probability for a strike in the TMAA, because (1) fewer activities would take place in the WMA, (2) the vessel maneuvering activities that would occur in the WMA would be dispersed over a larger area, and (3) the WMA does not overlap with habitat where most marine mammal species are expected to occur. 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 2020 SEIS/OEIS.

Activities using active sonar and other transducers 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. Those stressors would be distributed within a large area located farther offshore than the more productive shelf and slope habitat, where higher concentrations of marine mammals are known to occur. The low probability that marine mammals and training activities in the WMA would occur in the same place and at the same time substantially reduces the potential for impacts on individuals and populations of marine mammals in the WMA.

The limited types of training activities occurring in the WMA are described in Tables ES-1 and 2.1-1. These are the same activities occurring in the TMAA and analyzed for impacts on marine mammals in the 2020 GOA Draft SEIS/OEIS, which concluded that the activities would not significantly impact marine mammals, marine mammal critical habitat, or biologically important areas. Therefore, a detailed analysis of the impacts from vessel movements, aircraft training, and non-explosive practice ordnance on marine mammals within the WMA is not warranted. Therefore, activities in the WMA would not significantly impact marine mammals, marine mammal critical habitat, or biologically important areas.

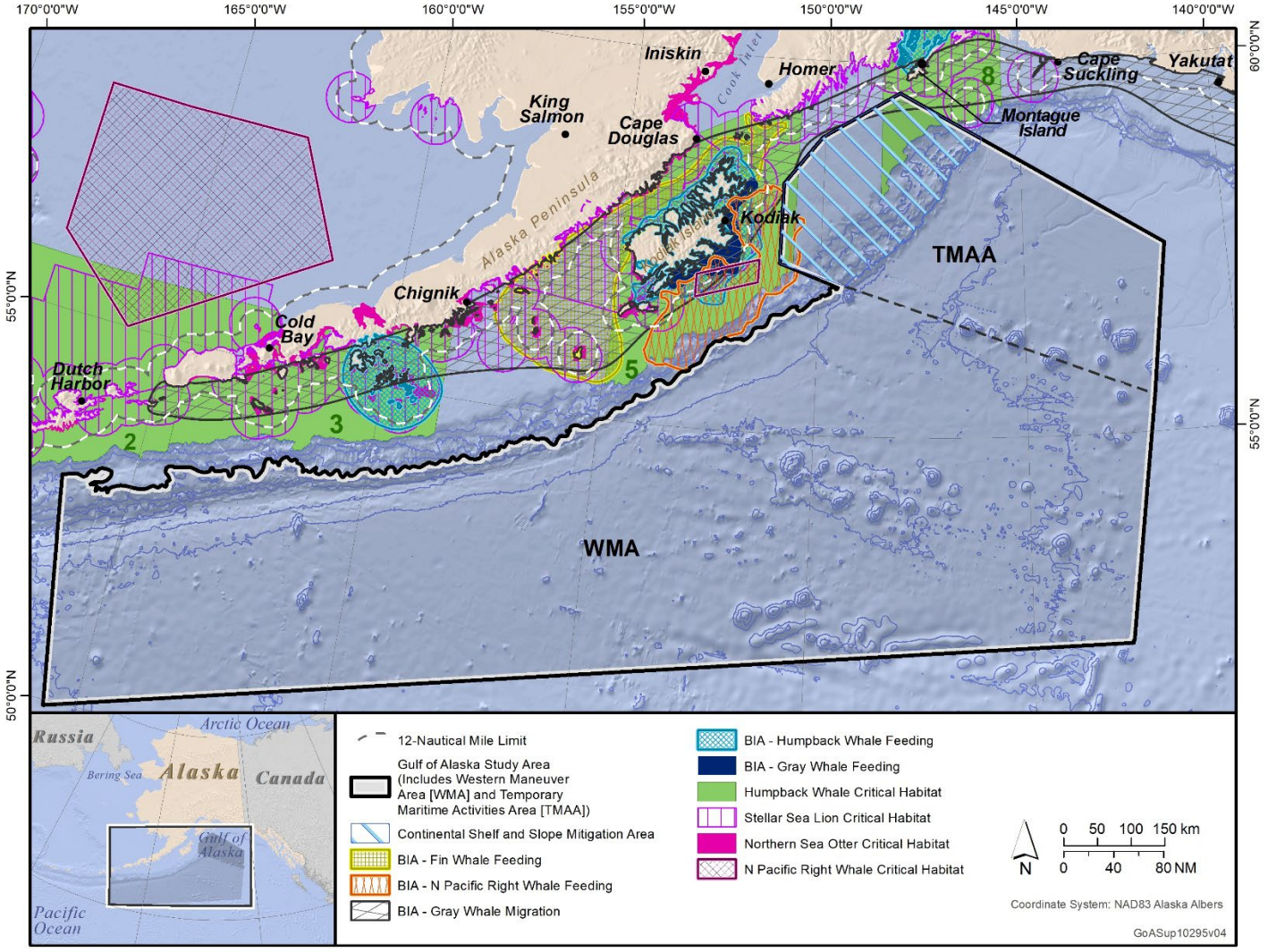

Figure 3.8-1: Critical Habitat and Biologically Important Areas for Marine Mammals in Proximity to the Gulf of Alaska Study Area

3.8.2 CHANGES TO IMPACTS FROM ADDITION OF THE CONTINENTAL SHELF AND SLOPE MITIGATION AREA

Marine mammal species potentially occurring in the Continental Shelf and Slope Mitigation Area would be the same as those described in the 2020 GOA Draft SEIS/OEIS for the TMAA.

3.8.2.1 Alternative 1 Changes to Environmental Consequences

The establishment of the Continental Shelf and Slope Mitigation Area under Alternative 1 would prohibit the use of explosives from the sea surface to 10,000 feet altitude over the continental shelf and slope within the TMAA. The mitigation area would extend seaward to the 4,000 m depth contour, which is used to define the termination of the continental slope (for details see Section 2.1.2, Changes to Alternative 1 from Addition of the Continental Shelf and Slope Mitigation Area; and Section 5.1, Continental Shelf and Slope Mitigation Area).

Marine mammals, including several cetacean and pinniped species, and important, productive habitat occurring in waters over the continental shelf and slope in the TMAA would no longer be impacted by stressors from the potential use of explosives during training activities over the shelf and slope. 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 marine mammals and their habitat previously anticipated from the use of explosives in the Continental Shelf and Slope Mitigation Area would not occur. Impacts from training activities in the Continental Shelf and Slope Mitigation Area would either remain the same as previously analyzed in the 2020 GOA Draft SEIS/OEIS or would be further reduced.

3.9 BIRDS

3.9.1 CHANGES TO IMPACTS FROM ADDITION OF TRAINING ACTIVITIES IN THE WESTERN MANEUVER AREA

Since the 2020 GOA Draft SEIS/OEIS, the Navy analyzed the distribution of seabird species and the ESA-listed short-tailed albatross (*Phoebastria albatrus*) within the WMA. Seabird species present in the WMA would be the same as those described for the TMAA in the 2020 GOA Draft SEIS/OEIS. In addition to the records provided by the U.S. Geological Society Alaska Science Center included in the 2020 GOA Draft SEIS/OEIS, the Navy conducted additional literature review and has incorporated recent satellite telemetry data of tagged short-tailed albatross within the Gulf of Alaska. Suryan and Kuletz (2018) collected tracking data over a 14-year period (2002–2015), with a total of 99 short-tailed albatrosses tracked. Most short-tailed albatross were captured at the main breeding colony on Torishima Island, Japan, with six albatrosses tagged on summer feeding grounds in the Aleutian Islands. Short-tailed albatross occur in the highest densities at the outer continental shelf-slope regions, which brings them close to shore in the Aleutian Archipelago, much farther offshore in the Bering Sea, and intermediate distances from shore in the Gulf of Alaska (Suryan & Kuletz, 2018). These locations are shown in Figure 3.9-1.

No significant impacts are anticipated from training activities proposed in the WMA. The WMA expands the Study Area west of the TMAA to offshore waters along the Alaska Peninsula and Aleutian Islands as far as Dutch Harbor. However, the inclusion of the WMA does not introduce any seabird species into the Study Area that were not already analyzed in the 2020 GOA Draft SEIS/OEIS. The Continental Shelf and Slope Mitigation Area within the TMAA would prohibit the use of explosives from the sea surface to 10,000 feet altitude during training in habitat used by several seabird species, including the short-tailed albatross. Refer to Chapter 5 (Standard Operating Procedures, Mitigation, and Monitoring) for more information on the Continental Shelf and Slope Mitigation Area.

3.9.1.1 Alternative 1 Changes to Environmental Consequences

No new training activities are proposed under Alternative 1 for this Supplement, 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. Only approximately 30 percent of maneuvering activities would occur in the WMA annually, and they would occur in deep (greater than 4,000 m) offshore waters located beyond the continental shelf and slope where seabirds likely occur. The limited number and types of training activities occurring in the WMA are described in Tables ES-1 and 2.1-1. These activities are the same as those described and analyzed in the TMAA and exclude activities using active sonar and other transducers or explosives. Based on the analysis provided above and in the 2020 GOA Draft SEIS/OEIS, activities in the WMA would not significantly impact seabirds. Therefore, a detailed analysis of the impacts from acoustic, explosive, and other stressors with respect to seabirds within the WMA is not warranted.

3.9.2 CHANGES TO IMPACTS FROM ADDITION OF THE CONTINENTAL SHELF AND SLOPE MITIGATION AREA

Seabirds present in the Continental Shelf and Slope Mitigation Area would be the same as those described in the 2020 GOA Draft SEIS/OEIS.

3.9.2.1 Alternative 1 Changes to Environmental Consequences

The establishment of the Continental Shelf and Slope Mitigation Area under Alternative 1 would prohibit the use of explosives from the sea surface to 10,000 feet altitude over the continental shelf and slope within the TMAA. The mitigation area would extend seaward to the 4,000 m depth contour, which is used to define the termination of the continental slope (see Section 2.1.2, Changes to Alternative 1 from Addition of the Continental Shelf and Slope Mitigation Area; and Section 5.1, Continental Shelf and Slope Mitigation Area, for more details).

The Continental Shelf and Slope Mitigation Area and other portions of the shelf and slope outside of the TMAA and WMA contain most of the satellite track locations compared to other deeper waters, suggesting that short-tailed albatross occurrence is more common on the shelf and slope. 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 seabirds previously anticipated from the use of explosives would not occur. For example, there would be a decrease in exposure to acoustic and explosive stressor for the ESA-listed short-tailed albatross that predominantly occur over the continental shelf. Therefore, impacts from training activities in the Continental Shelf and Slope Mitigation Area would either remain the same, as previously analyzed in the 2020 GOA Draft SEIS/OEIS, or would be reduced.

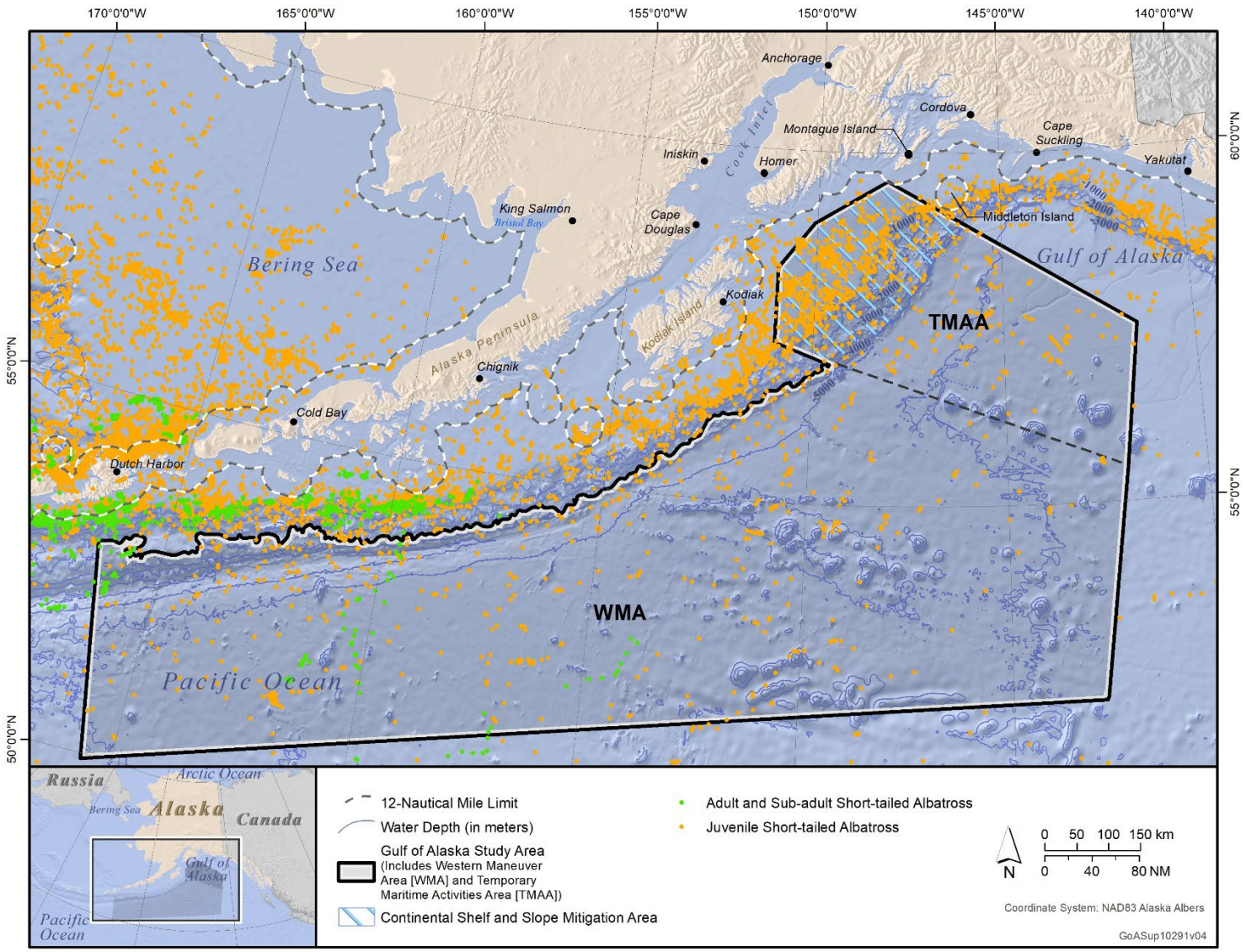

Figure 3.9-1: Distribution of Short-Tailed Albatross Within the Gulf of Alaska Study Area and Continental Shelf and Slope Mitigation Area

3.11 SOCIOECONOMIC RESOURCES AND ENVIRONMENTAL JUSTICE

The socioeconomic resources potentially impacted by aircraft and vessel activities in the WMA are commercial shipping, commercial and recreational fishing, and tourism and recreation. Each of these resources were analyzed in the 2020 GOA Draft SEIS/OEIS, and no significant impacts were anticipated from training activities in the TMAA. With fewer training activities occurring in the WMA, distributed over a larger area, in deeper waters, and more than 20 nautical miles offshore, potential conflicts with fishing, recreation, and tourism would be reduced or avoided entirely.

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 (see Figure 2.1-1). 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.

3.11.1 CHANGES TO IMPACTS FROM ADDITION OF TRAINING ACTIVITIES IN THE WESTERN MANEUVER AREA

3.11.1.1 Commercial Shipping

As reported in the 2020 GOA Draft SEIS/OEIS, the three commercial ports in Alaska that ranked in the top 150 U.S. ports by cargo tonnage in 2018 were Anchorage (81st), Nikishka (76th), and Valdez (21st) (U.S. Army Corps of Engineers, 2018). All three ports are located in inland waters north of the TMAA and would not be impacted by activities in the WMA. The port of Dutch Harbor, located on Amaknak Island in the Aleutians, is the only major port located in proximity to the WMA. With the western boundary of the WMA at approximately the same longitude as Dutch Harbor (see Figure 2.1-1), the port is aligned with the extreme western edge of the WMA and is unlikely to be impacted by training activities in the WMA, which would occur predominantly in the interior of the WMA and not at the boundaries of the WMA. Vessel traffic approaching Dutch Harbor would most commonly follow the route of the Alaska Marine Highway System and use inland and nearshore waterways along the coastline, or, in the case of commercial fishing vessels, approach the harbor from the south, potentially within the WMA (or from the Bering Sea to the north). Dutch Harbor is a major seafood processing port and in 2020 ranked as the top U.S. port based on tonnage, reporting over 800 million pounds of commercial landings (National Oceanic and Atmospheric Administration, 2022). Due to its location at the western boundary of the WMA, fishing vessels approaching Dutch Harbor from the south are unlikely to be impacted by vessels in the interior of the WMA transiting east in the direction of the TMAA.

3.11.1.2 Tourism and Recreation

As described in the 2020 GOA Draft SEIS/OEIS, tourism in Alaska has been steadily increasing since 2010 (excluding the worldwide decline in tourism in 2020 due to the coronavirus pandemic). The majority of coastal and marine tourism activities occur in relatively shallow waters over the continental shelf and do not require access to deep offshore waters, which includes waters in the WMA that are more the 20 nautical miles from shore and over 4,000 m deep. Smaller vessels supporting tourism in Alaska would most likely follow the Alaska Marine Highway System linking small towns and ports in the Aleutian Islands, including Dutch Harbor, and would avoid rough seas farther offshore. Similar to the TMAA, the proposed training activities in the WMA would be unlikely to occur in the same place and at the same time as marine tourism and recreational activities.

3.11.1.3 Commercial and Recreational Fishing

As described in Section 3.11.1.1.2 (Commercial and Recreational Fishing) of the 2020 GOA Draft SEIS/OEIS, commercial fishing within the Gulf of Alaska supports one of the most sustainable fisheries in the world (National Marine Fisheries Service, 2020). The most important commercial and recreational fisheries to the Alaska economy include groundfish, crab, shellfish, salmon, and Pacific herring. Information provided on each type of fishery within the TMAA is the same as the WMA.

3.11.1.4 Groundfish

As described in Section 3.11.1.1.2.1 (Commercial Fishing) of the 2020 GOA Draft SEIS/OEIS, groundfish includes 141 species in the Gulf of Alaska, including walleye pollock (the most commercially harvested fish in the United States), sablefish, and Pacific cod along with an aggregate of flatfish (including, but not limited to, Pacific halibut species) and rockfish species (Alaska Fisheries Science Center, 2019). Groundfish harvest that overlaps with the WMA is presented in Figure 3.11-1. Groundfish harvest in the WMA is very limited (Alaska Department of Fish and Game, 2022a), with low catches, likely due to the location of the WMA, which occurs in deep offshore waters (greater than 4,000 m) located beyond the continental shelf and slope.

3.11.1.5 Shellfish

Overlap of the commercial shellfish fisheries with the WMA is presented in Figure 3.11-1. As described in Section 3.11.1.1.2.1 (Commercial Fishing) of the 2020 GOA Draft SEIS/OEIS, shellfish harvest state-wide in Alaska has generally been decreasing since the mid-1990s. Shellfish harvest in the WMA is extremely limited (Alaska Department of Fish and Game, 2022b), partially due to where the species live, but also due to the location of the WMA, which occurs in deep offshore waters (greater than 4,000 m) located beyond the continental shelf and slope.

3.11.1.6 Alternative 1 Changes to Environmental Consequences

No new training activities are proposed under Alternative 1 for this Supplement, 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. Only approximately 30 percent of maneuvering activities would occur in the WMA annually, and they would occur in deep (greater than 4,000 m) offshore waters located beyond the continental shelf and slope. The limited number and types of training activities occurring in the WMA are described in Tables ES-1 and 2.1-1. These activities are the same as those described and analyzed in the TMAA and exclude activities using active sonar and other transducers or explosives. Based on the analysis provided above and in the 2020 GOA Draft SEIS/OEIS, activities in the WMA would not significantly impact socioeconomic resources. This is mainly due to most commercial shipping, commercial and recreational fishing, and tourism and recreation being concentrated in relatively shallow waters over the continental shelf rather than in deeper offshore waters in the TMAA. This would continue to be the case for activities conducted in the WMA. Therefore, for similar reasons, no significant impacts are expected on socioeconomic resources in the WMA.

3.11.2 Changes to Impacts from Addition of the Continental Shelf and Slope Mitigation Area

Commercial shipping, commercial and recreational fishing, and tourism and recreation activities potentially occurring in the Continental Shelf and Slope Mitigation Area would be the same as those described in the 2020 GOA Draft SEIS/OEIS for the TMAA.

3.11.2.1 Alternative 1 Changes to Environmental Consequences

The establishment of the Continental Shelf and Slope Mitigation Area under Alternative 1 would prohibit the use of explosives from the sea surface to 10,000 feet altitude over the continental shelf and slope within the TMAA. The mitigation area would extend seaward to the 4,000 m depth contour, which is used to define the termination of the continental slope (see Section 2.1.2, Changes to Alternative 1 from Addition of the Continental Shelf and Slope Mitigation Area; and Section 5.1, Continental Shelf and Slope Mitigation Area, for more details).

Socioeconomic resources occurring in waters over the continental shelf and slope in the TMAA, such as commercial fishing, would no longer be impacted by potential conflicts with Navy vessels using explosives during training activities over the shelf and slope. Designation of the Continental Shelf and Slope Mitigation Area would 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 in the 2020 GOA Draft SEIS/OEIS 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.

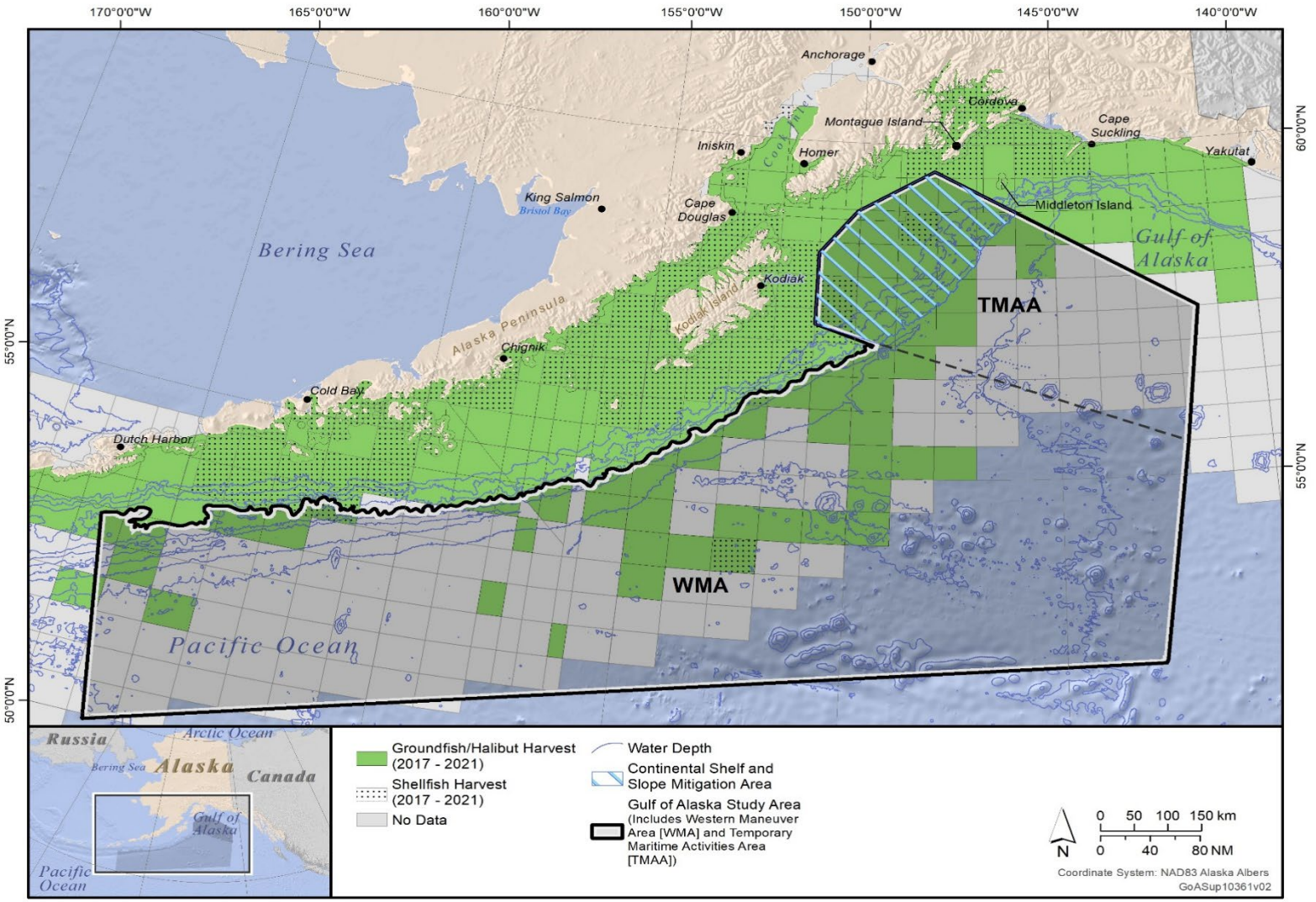

Figure 3.11-1: Commercial Groundfish / Halibut and Shellfish Harvest in the Western Maneuver Area, 2017–2021
Source: (Alaska Department of Fish and Game, 2022a, 2022b)

4 CUMULATIVE IMPACTS

No new training activities are proposed under Alternative 1 for this Supplement, and the number of training activities that would be conducted annually remains the same as described in the 2020 GOA Draft SEIS/OEIS. Some 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, which would spread any potential impacts over a wider area, decreasing any cumulative impacts on marine resources in the Study Area. Aircraft and vessel maneuvering activities in the WMA would occur in offshore waters greater than 4,000 m deep and located beyond the continental shelf and slope. The limited number and types of training activities occurring in the WMA are described in Tables ES-1 and 2.1-1. These activities are the same as those described and analyzed in the TMAA (with the exception of active acoustics or explosive use) and would not significantly impact resources in the GOA Study Area.

The establishment of the Continental Shelf and Slope Mitigation Area in the TMAA would further reduce potential cumulative impacts from the use of explosives on marine resources located over the continental shelf and slope. Excluding explosives use during training activities in the mitigation area may have potential benefits to marine species (i.e., fishes, marine mammals, and birds), commercial fisheries and fishing, and other socioeconomic resources. Therefore, cumulative impacts from training activities in the Continental Shelf and Slope Mitigation Area would either remain the same as previously analyzed in the 2020 GOA Draft SEIS/OEIS or would be further reduced.

5 STANDARD OPERATING PROCEDURES, MITIGATION, AND MONITORING

The Navy is updating Chapter 5 (Mitigation) of the 2020 GOA Draft SEIS/OEIS. Only the sections identified below in this Supplement to the 2020 GOA Draft SEIS/OEIS are being revised. All other sections in the 2020 GOA Draft SEIS/OEIS remain valid.

The Navy has Standard Operating Procedures for reducing the visibility of white lights from outside the ship. This procedure is referred to as "Darken Ship Bill" and is addressed in the Chief of Naval Operations Instruction 3120.32D. Compliance with this instruction will reduce the potential for light attraction to vessels by seabirds because no white lights shall be visible from outside the ship, other than required navigational running lights. The other procedural mitigations described in the 2020 GOA Draft SEIS/OEIS for weapon firing noise, non-explosive gunnery, and vessel movement will also apply within the WMA.

5.1 CONTINENTAL SHELF AND SLOPE MITIGATION AREA

In the 2016 GOA Final SEIS/OEIS and associated consultation documents, the Navy restricted all explosive use within Portlock Bank area, 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, Portlock Bank fishery resources, and other marine species that inhabit the highly productive waters of the mitigation areas.

The Navy is proposing to expand its mitigation for explosives, and will prohibit the use of explosives from the sea surface up to 10,000 feet altitude during training in this area to protect marine species and biologically important habitat within the TMAA. The Navy's restriction on the use of weapons systems using these explosives will now apply over the entire continental shelf and slope out to the 4,000 m depth contour in the TMAA in an area called the Continental Shelf and Slope Mitigation Area (Figure 5.1-1). The Navy expanded its mitigation area in order to avoid potential impacts from explosives within key habitat areas for ESA-listed species as discussed in Chapter 3 (Affected Environment and Environmental Consequences) of this Supplement, as well as additional marine species. The expanded mitigation area will prevent marine species from being exposed to detonations at or near the water surface throughout the highly productive waters of the continental shelf and slope. This includes all of the Portlock Bank area, and now a much broader area. Additional important habitats, including designated critical habitat, are located well inshore of the TMAA (within the 100 m isobath) and therefore outside of the Study Area (Figure 5.1-1). 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.

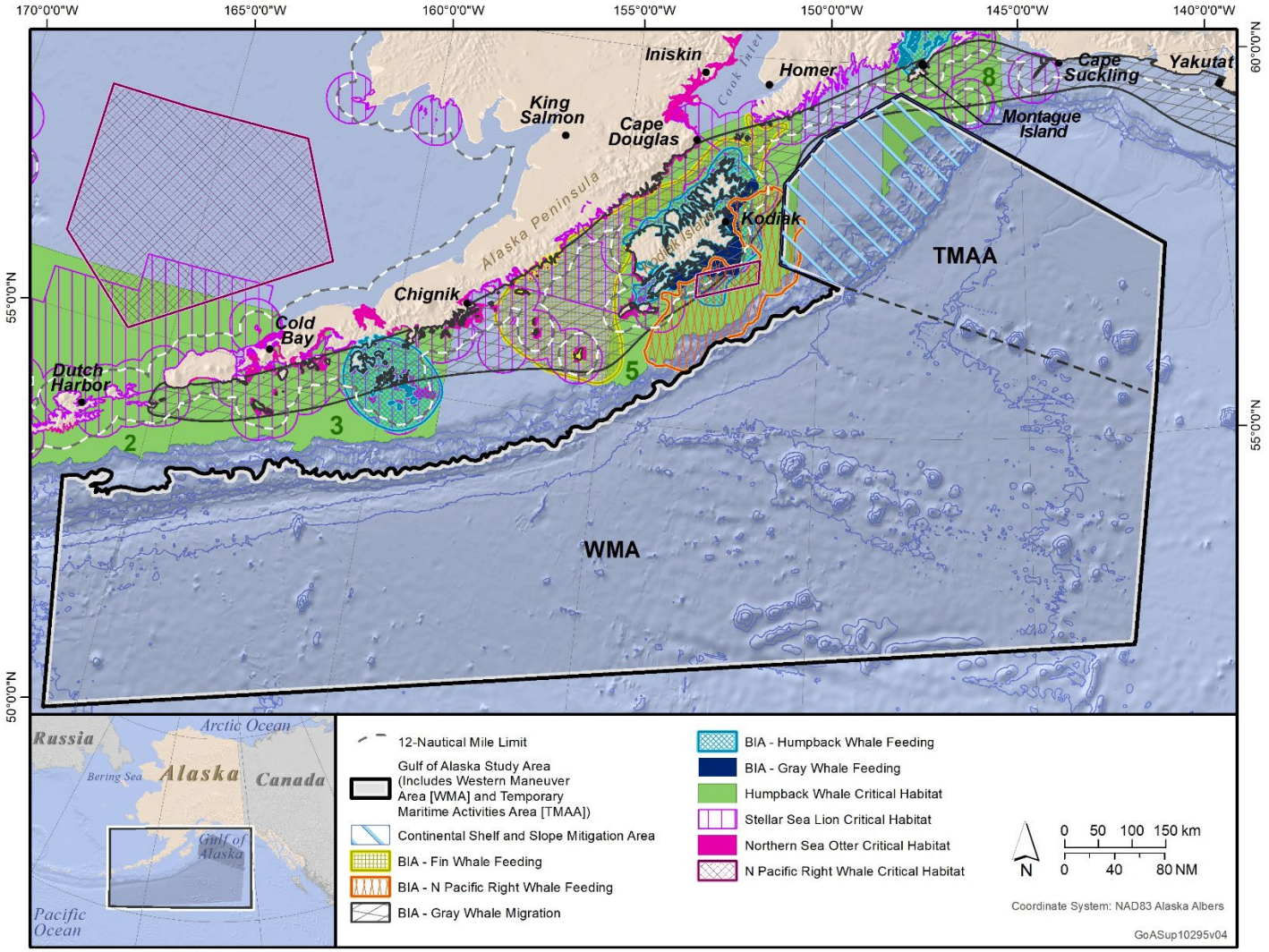

Figure 5.1-1: Continental Shelf and Slope Mitigation Area and Habitats Considered During Mitigation Area Development

5.2 MITIGATION SUMMARY

The Navy's procedural mitigation applicable to the WMA is summarized in Table 5.2-1.

Table 5.2-1: Summary of Procedural Mitigation Applicable to the Western Maneuver Area

Stressor, Activity, or Mitigation Category	*Summary of Mitigation Zone Sizes and Other Requirements*	*Relevant Protection Focus*
Environmental Awareness and Education	• Afloat Environmental Compliance Training program for applicable personnel	Marine mammals Sea turtles Seabirds (large-bodied e.g. albatross)
Weapon Firing Noise	• 1 Lookout • Mitigation zone: 30° on either side of the firing line out to 70 yards (yd.) from the muzzle of the weapon being fired	Marine mammals Sea turtles Seabirds (large-bodied e.g. albatross)
Vessel Movement	• 1 or more Lookouts on underway vessels • Mitigation zone: – 500 yd. around the vessel for whales – 200 yd. around the vessel for other marine mammals (except those intentionally swimming alongside or closing to swim alongside vessels, such as for bow-riding or wake-riding) and large-bodied seabirds – Vicinity (sea turtles)	Marine mammals Sea turtles Seabirds (large-bodied e.g. albatross)
Small-, Medium-, and Large-Caliber Non-Explosive Practice Munitions	• 200 yd. around the intended impact location	Marine mammals Sea turtles Seabirds (large-bodied e.g. albatross)

6 ADDITIONAL REGULATORY CONSIDERATIONS

In the 2020 GOA Draft SEIS/OEIS, Chapter 6 (Additional Regulatory Considerations) summarizes environmental compliance for the Proposed Action, including consistency with other applicable federal, state, and local plans, policies, and regulations; the relationship between short-term use of the environment and maintenance and enhancement of long-term productivity; irreversible or irretrievable commitment of resources; and energy requirements and conservation. The changes to the Proposed Action have no effect on any of these sections of this chapter.

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