

FINAL
Environmental Assessment / Overseas Environmental
Assessment
(EA/OEA)

Ardent Sentry/Northern Edge 2007 Exercise

FOR

Commander, U.S. Pacific Fleet

April 2007

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DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY

FINDING OF NO SIGNIFICANT IMPACT AND FINDING OF NO SIGNIFICANT HARM FOR THE ENVIRONMENTAL ASSESSMENT/OVERSEAS ENVIRONMENTAL ASSESSMENT FOR ARDENT SENTRY/NORTHERN EDGE 2007 EXERCISE

Pursuant to section 102 (2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, and the Council on Environmental Quality regulations (40 Code of Federal Regulations (CFR) Parts 1500 through 1508) implementing the procedural provisions of NEPA, and Executive Order 12114, Environmental Effects Abroad of Major Federal Actions, the Department of Navy gives notice that an Environmental Assessment (EA)/ Overseas Environmental Assessment (EA/OEA) has been prepared. Based upon a Finding of No Significant Impact/No Significant Harm (FONSI/FONSH), neither an Environmental Impact Statement (EIS) nor an Overseas Environmental Impact Statement (OEIS) is required to participate in the joint training exercise Ardent Sentry/Northern Edge 2007 in Seward, Alaska, the Prince William Sound, and the Gulf of Alaska (GOA).

The Proposed Action is to participate in the joint training exercise Ardent Sentry/Northern Edge 2007 in the GOA, Prince William Sound, and Seward, Alaska during the period of 7-18 May 2007. Combining the two annual exercises will provide an enhanced joint exercise environment focused on maritime interdiction and homeland security and defense scenarios designed to evaluate proficiency in safeguarding strategic locations and major population centers of the West Coast of the United States and Canada. In turn, this will support the purpose and need for the proposed action. Ardent Sentry/Northern Edge 2007 will provide necessary maritime joint training within waters of the U.S. and its Exclusive Economic Zone to ensure operational readiness of naval assets and support the mission of North American Aerospace Defense Command (NORAD)-U.S. Northern Command (NORTHCOM). The Proposed Action is needed for joint forces maritime training in the state of Alaska and the waters of the GOA to enhance interoperability between the services, including the country of Canada, and to support the mission of NORAD-NORTHCOM and Joint Task Force - Alaska.

The EA/OEA analyzes one other alternative, the No Action alternative. Other alternatives such as reduced exercise duration, locations other than Alaska, alternate time frame, and computer simulation were considered by eliminated from further consideration because they did not meet the purpose and need for

the proposed action. Under the No Action alternative, naval assets would not participate in the joint training exercise Ardent Sentry/Northern Edge 2007. The No Action alternative was not selected since it would not meet the need for joint forces maritime training in the state of Alaska and the waters of the GOA. Operational effectiveness of naval forces in a real world Homeland Defense or Homeland Security situation would be reduced if the No-Action Alternative is implemented.

The EA/OEA shows that there would be no effects to federally-listed threatened and endangered species, marine mammals, or their critical habitat as a result of the Proposed Action. No tactical mid-frequency active sonar will be used during the Ardent Sentry/Northern Edge 2007 exercise. Established general maritime protective measures will be in effect during the exercise that will result in protection of marine species. Therefore, agency consultation under the Marine Mammal Protection Act and the Endangered Species Act is not required.

The EA/OEA shows that there would be no significant impacts resulting from the Proposed Action in the following resource areas: Water Quality or Water Resources including the State of Alaska coastal zone, Air Quality, Noise, Biological Resources including federally listed Threatened and Endangered species or their critical habitat, Essential Fish Habitat, Cultural Resources, Transportation and Traffic, Socioeconomics, Public Health and Safety, or Environmental Justice. Accumulation of environmental impacts due to the Proposed Action and other past, present, and reasonably foreseeable future actions is not anticipated to result in significant impacts to the environment.

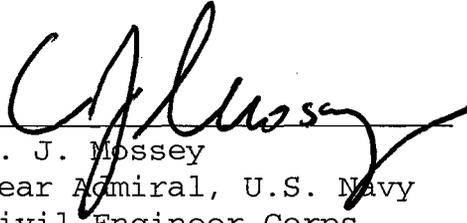
The Navy determined that the activities of AS/NE07 would not have an effect on any coastal use or resource. Therefore, neither a negative determination nor a consistency determination under CZMA is required.

Based on the analysis in the EA/OEA and the history of the previous annual Northern Edge exercises in Alaska, the Commander, U.S. Pacific Fleet finds that implementation of the Proposed Action within the Gulf of Alaska, Seward and Prince William Sound in May 2007 will not have significant impacts or cause significant harm to the environment, and as a result, an EIS/OEIS need not be prepared. Therefore, pursuant to NEPA and EO 12114, respectively, the Navy concludes with a FONSI and a FONSH for the Proposed Action. The Proposed Action of the preferred alternative is hereby implemented.

The EA/OEA and FONSI prepared by the Navy addressing this action may be obtained from Commanding Officer, Naval Facilities Engineering Command, Northwest, 1101 Tautog Circle, Suite 203, Silverdale, WA 98315, (Attn: Amy Burt, Code 05EC3.AB)

4/30/07

Date



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ACRONYMS AND ABBREVIATIONS

AAC	Alaska Administrative Code	MBTA	Migratory Bird Treaty Act
ADEC	Alaska Dept. of Environmental Conservation	MMPA	Marine Mammal Protection Act
ADFG	Alaska Dept. of Fish and Game	MMS	Mineral Management Service
AFB	Air Force Base	MPA	Maritime Patrol Aircraft
AGL	Above Ground Level	MRA	Marine Resources Assessment
AIROPS	Air Operations	MSA	Magnuson-Stevens Act
ALCOM	Alaska Command	MTR	Military Training Route
AOR	Area of Responsibility	NAAQS	National Ambient Air Quality Standards
AS	Ardent Sentry	NDAA	National Defense Authorization Act
C2	Command and Control	NE	Northern Edge
CAA	Clean Air Act	NEPA	National Environmental Policy Act
CEQ	Council on Environmental Quality	nm	Nautical Mile(s)
CFR	Code of Federal Regulations	NMFS	National Marine Fisheries Service
CO	Carbon Monoxide	NO ₂	Nitrogen Dioxide
CWA	Clean Water Act	NOAA	National Oceanic & Atmospheric Administration
CZMA	Coastal Zone Management Act	NORAD	North American Aerospace Defense Command
dB	decibel	NORTHCOM	U.S. Northern Command
DoD	Department of Defense	NOTAM	Notice to Airmen
DPS	Distinct Population Segment	NOTMAR	Notice to Mariners
DSCA	Defense Support of Civil Authorities	NPFMC	North Pacific Fishery Management Council
EA	Environmental Assessment	NRHP	National Register of Historic Places
EEZ	Exclusive Economic Zone	NRNW	Commander, Navy Region Northwest
EFH	Essential Fish Habitat	O ₃	Ozone
EIS	Environmental Impact Statement	OEA	Overseas Environmental Assessment
EMIO	Expanded Maritime Intercept Operation	OPAREA	Operating Area
EO	Executive Order	OPNAVINST	Chief of Naval Operations Instruction
EPA	U.S. Environmental Protection Agency	PM	Particulate Matter
ESA	Endangered Species Act	ppm	parts per million
ESU	Evolutionary Significant Unit	SAG	Surface Action Group
FAA	Federal Aviation Administration	SO ₂	Sulfur Dioxide
FAR	Federal Aviation Regulation	SSC	Sea Surface Control
FMP	Fishery Management Plan	TSS	Time Sensitive Strike
FR	Federal Register	UNDS	Uniform National Discharge Standards
FONSI	Finding of No Significant Impact	U.S.	United States
ft	Foot (Feet)	USAF	U.S. Air Force
GOA	Gulf of Alaska	USFWS	U.S. Fish and Wildlife Service
IN-PORT	In-Port Exercise	USCG	U.S. Coast Guard
IPCC	Intergovernmental Panel on Climate Change	U.S.C.	United States Code
JTF	Joint Task Force	VBSS	Vessel Boarding, Search & Seizure
km	Kilometer		
m	Meter(s)		

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CHAPTER 1

PURPOSE AND NEED FOR PROPOSED ACTION

1.1 INTRODUCTION

The Navy is proposing to participate in the Ardent Sentry/Northern Edge (AS/NE) joint training exercise at sea in the Gulf of Alaska (GOA) and Prince William Sound in the State of Alaska for 11 days in May 2007. The training locales include the following, as shown in Figure 1-1:

- Exercise Areas within the GOA, within the territorial waters of the United States and also the U.S. Exclusive Economic Zone (EEZ),
- Prince William Sound,
- and the town of Seward, Alaska.

This Environmental Assessment (EA)/Overseas EA (OEA) considers the maximum usage of ongoing naval training assets and exercises, including U.S. Coast Guard (USCG) and other contracted assets operating under Navy control during the exercise, that could be conducted within AS/NE07 and evaluates potential environmental impacts to determine whether to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI). This document has been prepared by the Department of the Navy (Navy) in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S. Code (U.S.C.) §4321 *et seq.*); the Council on Environmental Quality (CEQ) *Regulations for Implementing the Procedural Provisions of NEPA* (Title 40 Code of Federal Regulations (C.F.R.) §§ 1500-1508); Department of the Navy Procedures for Implementing NEPA (32 C.F.R. §775); and Executive Order 12114 (EO 12114), *Environmental Affects Abroad of Major Federal Actions*. The NEPA process ensures that environmental impacts of proposed major federal actions are considered in the decision-making process. NEPA evaluates possible environmental effects for actions that occur within the United States and the United States territorial waters, defined as the coastal waters out to 12 nm from shore. E.O. 12114 requires environmental consideration (i.e. preparation of an OEA) for actions that may affect the environment of the global commons, defined as outside U.S. territorial waters within the EEZ, defined as 12 nm to 200 nm from shore. This EA/OEA satisfies the requirements of both NEPA and EO 12114.

1.2 PURPOSE AND NEED

The purpose of the Proposed Action is to provide joint forces maritime training to ensure operational readiness of United States armed forces assets in support of Homeland Defense and Homeland Security.

The U.S. Navy has a need for joint forces maritime training in the state of Alaska and the waters of the GOA to enhance interoperability between the services, including the country of Canada, and to support the mission of North American Aerospace Defense Command (NORAD)-U.S. Northern Command (NORTHCOM) and Joint Task Force - Alaska. Joint forces training could involve participants from any of the U.S. armed forces, including USCG, U.S. Air Force, U.S. Army, U.S. Navy, and the armed forces of other foreign countries. The Proposed Action is designed to exercise interoperability between U.S. Pacific Command and North American Aerospace Defense Command (NORAD)-U.S. Northern Command (NORTHCOM) as the joint forces commanders for Alaska and the GOA during Homeland Defense, Homeland Security, and Defense Support of Civil Authorities (DSCA) operations.

The mission of AS/NE07 is to accomplish joint forces training in Alaska and the GOA in support of Homeland Defense and Security as directed by NORAD - NORTHCOM. NORAD-NORTHCOM will oversee the AS/NE07 exercise. All participants, including the U.S. Navy, USCG, Military Sealift Command, and Canadian forces, will report to NORAD-NORTHCOM. The mission statement of NORAD-NORTHCOM is to “Conduct operations to deter, prevent, and defeat threats and aggression aimed at the United States, its territories and interests within the assigned AOR; and provide defense support of civil authorities including consequence management operations” (U.S. Northern Command). NORAD-NORTHCOM’s AOR includes air, land and sea approaches and encompasses the continental United States, Alaska, Canada, Mexico and the surrounding water out to approximately 500 nautical miles (nm). It also includes the Gulf of Mexico and the Straits of Florida.

1.3 SCOPE OF THIS ENVIRONMENTAL ASSESSMENT/OVERSEAS ENVIRONMENTAL ASSESSMENT (EA/OEA)

Consistent with the CEQ regulations and Executive Order 12114, the scope of the analysis presented in this EA/OEA was defined by the range of potential environmental impacts that could result from the implementation of the Proposed Action and No Action Alternative. Only those resources with a potential for impacts were included in the EA/OEA analysis, to provide the decision maker with sufficient information and analysis for evaluation of the potential effects of the action.

The resource areas analyzed are: air quality, water resources, noise, biological resources, cultural resources, transportation and traffic, socioeconomics, environmental justice, and public health and safety. AS/NE07 exercises will be conducted outside the populated coastal areas of the GOA and over established military ranges, and therefore will not result in foreseeable impacts to geology, soils or land use. These resource areas are not further discussed in this EA/OEA.

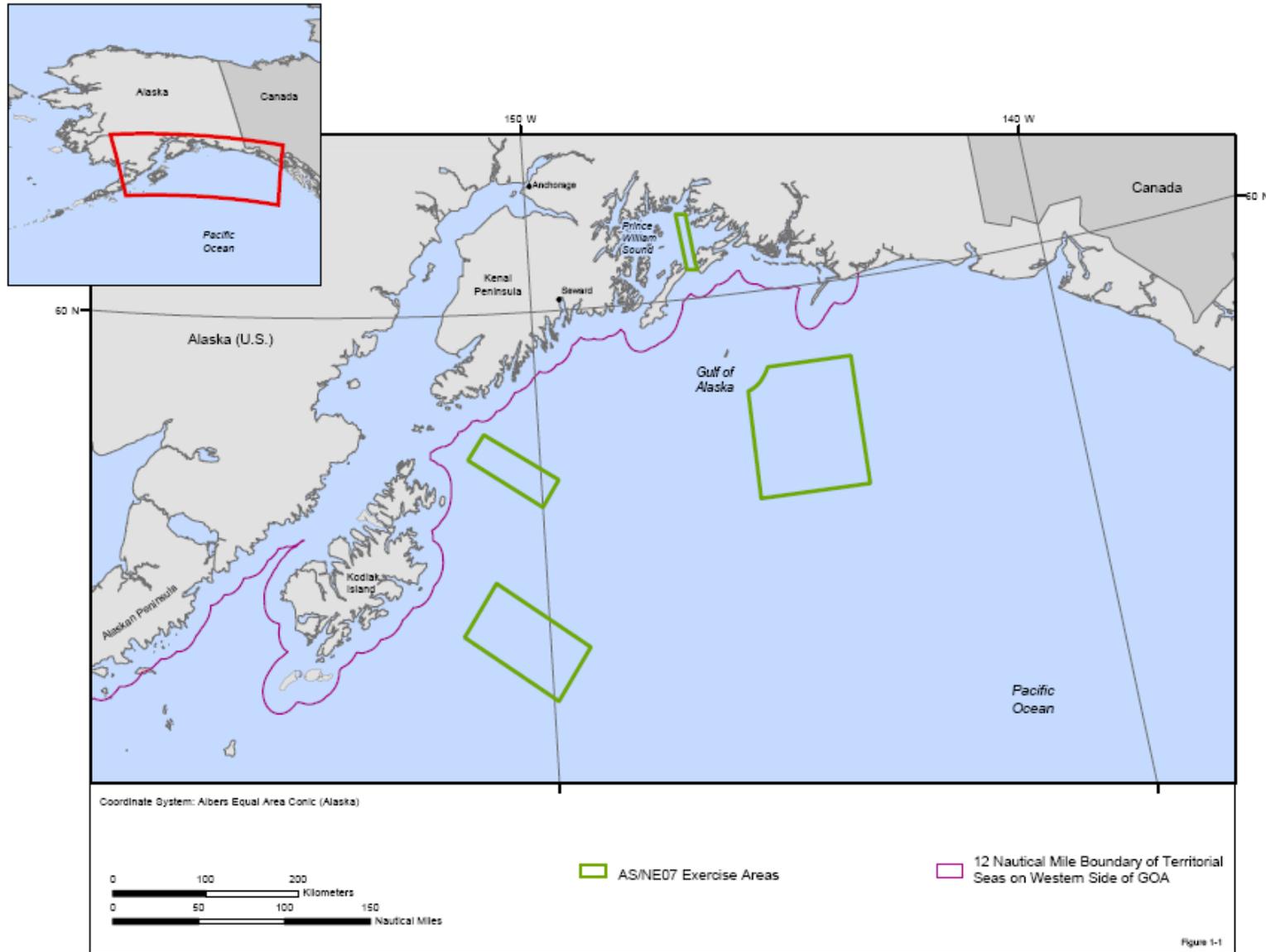


Figure 1-1. Vicinity Map, AS/NE07 exercise events

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CHAPTER 2

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 DESCRIPTION OF THE PROPOSED ACTION

2.1.1 Overview of Ardent Sentry & Northern Edge Exercises

Background

Ardent Sentry. Ardent Sentry (AS) is an annual NORAD-NORTHCOM conducted Field Training and Command Post Exercise. AS is a bi-national, multi-level exercise involving military and civilian agencies in Canada and the U.S. to test both countries' abilities to provide defense support to civil authorities. The objective of the AS exercise is to give federal, state and local authorities the opportunity to work together across a full spectrum of training opportunities to practice joint response to emergencies. Past exercise scenarios include issues related to terrorism threats, critical infrastructure protection, cross-border information sharing, public health and marine security. Canada Command is the Canadian Forces formation responsible for the conduct of all routine and contingency domestic operations for Canada.

Northern Edge. Northern Edge (NE) is conducted annually in Alaska as a joint forces training exercise designed to practice operations and enhance interoperability among the armed forces. NE annually involves up to 6,500 participants from the Navy, Air Force, Army, Marine Corps, and Coast Guard and contracted vessels. U.S. Pacific Command and NORAD-NORTHCOM share NE as a training venue with Pacific Command directing NE in the even years and NORAD-NORTHCOM in odd years. Pacific Command NE training exercises are two weeks long and focus on counter air, maritime interdiction, close air support, and personnel recovery.

Ardent Sentry/Northern Edge 2007. In 2007, NORAD-NORTHCOM will execute NE 07 concurrent with AS 07, so it will be titled AS/NE07. Combining the two exercises provides an economy of forces by conducting both NORAD-NORTHCOM sponsored exercises concurrently and allows forces the ability to train to the mission in a joint environment. AS/NE07 is designed to train NORAD-NORTHCOM forces in Homeland Security and Homeland Defense processes with an emphasis on DSCA and Expanded Maritime Intercept Operations (EMIO). AS/NE07 is an exercise involving both Canada and the United States that involves numerous federal, provincial, state and local agencies. AS/NE07 is a scenario-driven, free play exercise that is designed to evaluate the performance of the applicable groups or participants, the interoperability of joint forces, and both tactical level and operational level decision-making processes as a whole. AS/NE07 will present naval participants with specific pre-planned scenarios focusing on maritime interdiction operations of "vessels of interest" entering the waters of the United States in the GOA to evaluate response procedures. The maritime interdiction of a threat vessel in the GOA keeps the threat away from the major population centers on the West Coast of the United States. Canadian west coast cities could also be threatened by a vessel entering the GOA. The interplay of the various assets involved in the maritime interdiction operations also trains participants in working as a cohesive joint task force and under a unique command and control structure, which is the most likely situation for a real-world maritime interdiction situation. Joint Mission Essential Tasks (JMETs) will be tested during the AS/NE07 exercise. These are required tasks that all forces must complete and maintain proficiency as

necessary skills for deployment and real-world scenarios. The JMETS to be tested during AS/NE07 will include planning, command and control, situational awareness, and communications tasks.

Participants

Naval participants in AS/NE07 would include:

One (1) Surface Action Group (SAG) and supporting assets, including:

- One (1) Guided Missile Cruiser (CG)
- One (1) Guided Missile Destroyer (DDG)
- One (1) Oiler
- Three (3) USCG Cutters
- One (1) Canadian Helicopter Carrying Frigate (FFH)
- One (1) P-3 Orion and one (1) CP-140 Aurora (Canadian version of P-3 Orion)
- One (1) E-3 Sentry, two (2) F-16 and one (1) KC-135
- One (1) USCG C-130 and one (1) USCG HH-60
- Two thousand-five hundred (2,500) personnel (including land-based support personnel)

Locales

The exercise areas are located within the GOA, Prince William Sound, and the town of Seward, Alaska (see Figure 1-1). The scope of naval operations in each of the four locations is as follows:

- GOA - The exercise areas in the GOA are three polygons encompassing approximately 7,989 square nautical miles (nm²) (27,402 square kilometers (km²)) located off the south-central Alaskan coast (see Vicinity Map, Figure 1-1). The GOA exercise areas are all located outside of the territorial sea limits, 12 nm from shore. The GOA exercise areas are the location of all maritime at-sea exercises, including those involving air operations, in the GOA. Vessel transits within the GOA will also occur through the territorial seas, within 12 nm from shore, for assets traveling into Prince William Sound and Resurrection Bay. The establishment of the GOA temporary exercise areas will be coordinated with the Federal Aviation Administration (FAA) and Anchorage Air Traffic Control. A Notice to Airmen (NOTAM) and a Notice to Mariners (NOTMAR) will be published prior to the AS/NE07 exercise.
- Prince William Sound – Prince William Sound is an embayment of the GOA separated by many large islands at the mouth of the Sound (see Figure 2-1). Prince William Sound is mostly surrounded by the Chugach National Forest, and supports three towns and two native villages, with a total population of less than 10,000 people. The largest of these towns is Valdez, the southern terminus of the Trans-Alaska Pipeline System. The AS/NE07 exercise events to take place in the Prince William Sound consist of the escort of four to five vessels through the Prince William Sound during EMIO exercises. These exercises will take place in a 193 nm² (720 km²) area between Cape Hinchinbrook on Hinchinbrook Island at the mouth of the Prince William Sound and Bligh Reef, just west of Bligh Island at the mouth of the Valdez Arm of the Prince William Sound, as shown in Figure 2-1.
- Seward, Alaska – Seward is a town located on the north end of Resurrection Bay off the GOA on the Kenai Peninsula. Seward is 126 miles south of Anchorage. The only AS/NE07 exercise

event to take place in Seward is one joint interagency boarding onboard the Navy Oiler will occur during the three day in-port exercise period.

Table 2-1 provides the AS/NE07 exercise events and their locations. A more detailed description of each type of exercise follows the table in the text.

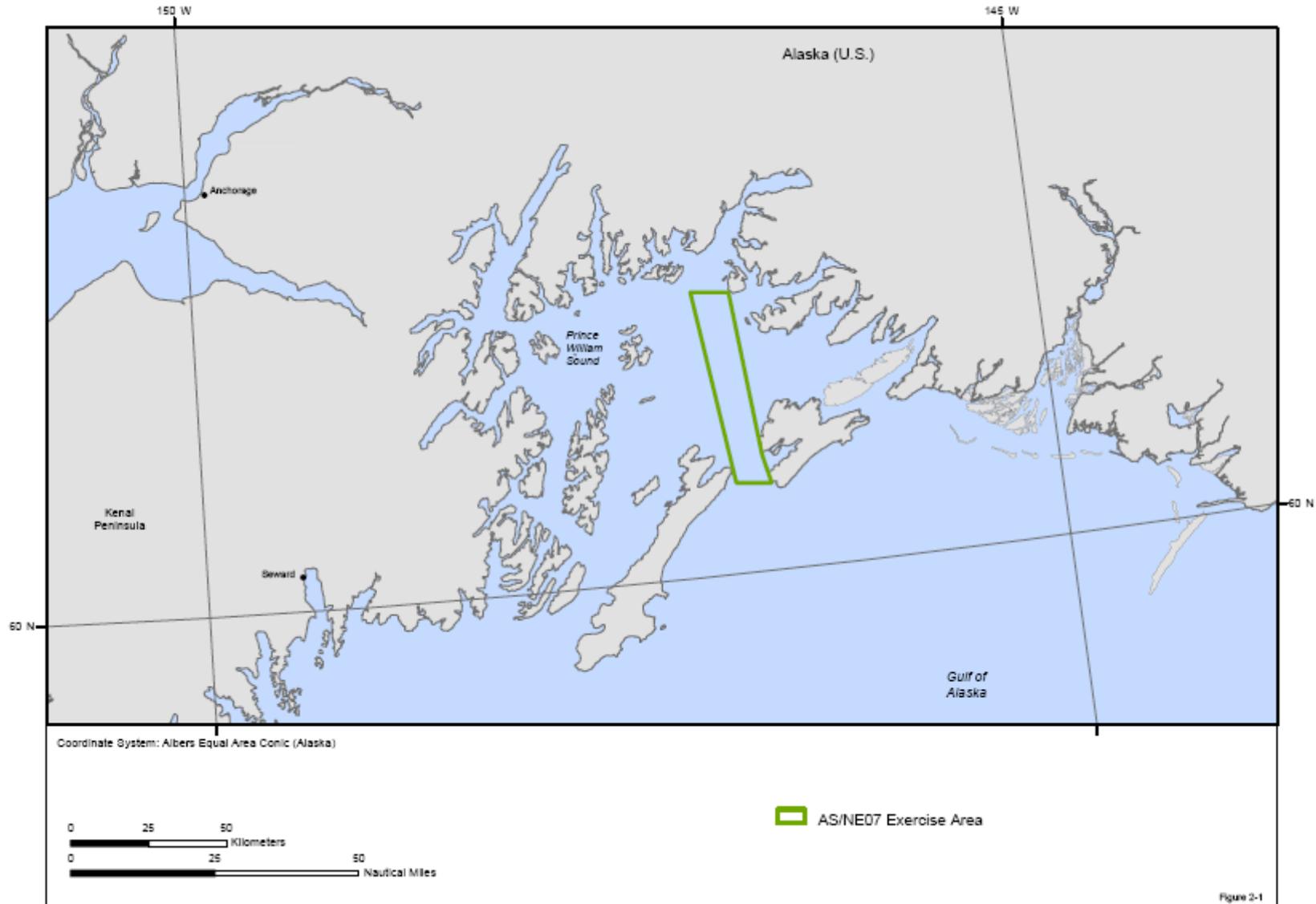


Figure 2-1. Prince William Sound AS/NE07 Exercise Area

Locales	Exercise Events						
	IN-PORT	C2	AIROPS	VBSS/ EMIO	TSS	SSC	MPA
GOA		X	X	X	X	X	X
Prince William Sound			X	X			
Seward	X						

Table 2-1. Exercise Event Locales for AS/NE07

2.1.2 In-Port Support Operations

The purpose of in-port operations is to give briefing and debriefing for exercises and in-port training. Simultaneously, major support activities are performed. Support includes the fact that ships in-port must be berthed, take on supplies, receive repairs, plan for refueling (normal refueling operations would take place at sea), load ammunition, and conduct other maintenance activities, as required. In-port operations will also include port security activities by USCG Port Security Units and Marine Safety and Security Teams. In-port security operations include measures such as establishment of security zones, vessel escorts, and patrols.

The Oiler will perform in-port operations for three days during AS/NE07 to support Vessel Boarding Search and Seizure (VBSS)/EMIO operations as described below. In-port operations would occur as a part of AS/NE07 at Seward, Alaska.

2.1.3 Command and Control

The purpose of Command and Control (C2) activities is to provide command and control support for the overall exercise. Each activity is monitored and coordinated for safety and on-time performance, as well as to ensure training objectives are accomplished, and to identify lessons learned for future activities and exercises.

AS/NE07 is a complex and lengthy exercise requiring support from personnel and staffs operating ashore. Two ashore support mechanisms are the Joint Exercise Control Group and opposing force (OPFOR) Command and Control. The Joint Exercise Control Group has the responsibility of monitoring the progress of the exercise, providing intelligence and scenario “injects” to stimulate actions by AS/NE forces, serving as umpire for tactical engagements, and ensuring exercise safety. To add realism to the

training, the AS/NE07 exercise will include a dedicated OPFOR (both surface and air assets) that reacts to and interacts with the AS/NE forces. The OPFOR needs to have a command and control cell to direct their actions in order to ensure that exercise and training objectives are achieved.

C2 operations support the exercise 24 hours a day for the duration of the AS/NE07 exercise.

The locations where C2 operations would occur as a part of AS/NE07 are:

- At-sea onboard a SAG asset to facilitate the exercise in GOA
- At-sea onboard contracted fishing vessels (as the OPFOR) in GOA

2.1.4 Aircraft Operations and Support Activities (AIROPS)

AIROPS encompasses operational and logistics support for SAGs, and the exercise as a whole, by Navy and USCG aircraft during an AS/NE exercise. AIROPS take place at military airfields and on ships at-sea in the GOA. It includes providing bed-down for the various types of aircraft, equipment for refueling and maintenance, and billeting for aircraft crews and support personnel.

AIROPS typically support the exercise for 12 hours each day for the duration of the AS/NE07 exercise.

The aircraft and sorties associated with AIROPS as a part of AS/NE07 are:

- Seven (7) Navy and USCG aircraft
 - Forty to sixty (40-60) sorties from Elmendorf Air Force Base (AFB) outside of Anchorage, Alaska ashore to the GOA at-sea operating areas, including tanking assets

The locations where AIROPS would occur as a part of AS/NE07 are:

- GOA (including ships operating within the GOA)
- Prince William Sound (approximately three (3) sorties)

2.1.5 Visit, Board, Search, and Seizure (VBSS)/Expanded Maritime Intercept Operations (EMIO)

VBSS operations consist of surface vessels interacting with vessels suspected of harboring terrorists or carrying contraband. Surface vessels involved in VBSS operations are transiting the exercise areas similar to other vessels in these areas, such as commercial and recreational fishing vessels and merchant vessels, such as container ships. VBSS missions are the principal type of EMIO used by naval forces. Highly trained teams of armed personnel, wearing body armor, flotation devices, and communications gear are deployed by small Zodiac boats or helicopters to board and inspect ships and vessels suspected of carrying contraband. Once aboard, the team takes control of the bridge, crew, and engineering plant, and inspects the ship's papers and its cargo. VBSS missions are assumed to be non-hostile, but team members are trained and prepared to deal with non-cooperation at all levels.

There are approximately 12 VBSS/EMIOs planned for AS/NE07 that occur throughout the duration of the exercise. VBSS/EMIOs typically last 3-4 hours.

AS/NE07 assets associated with a VBSS/EMIO include:

- One to three (1-3) ship(s), both Navy and contract vessels
- Two (2) small rubber boats (Zodiacs)

- One to two (1-2) helicopter(s)

AS/NE07 weapons associated with a VBSS/EMIO include:

- 9mm handguns (blanks)
- M16 machine guns (blanks)
- 7.62mm hull mounted M16 machine gun (blanks)

The locations where VBSS/EMIOs would occur as a part of AS/NE07 are:

- GOA
- Prince William Sound

2.1.6 Time Sensitive Strike (TSS)

The purpose of TSS operations is to test the SAG in the prosecution of time sensitive targets by testing intelligence-gathering and dissemination, command and control procedures, and strike aircraft execution. A typical scenario would have intelligence assets receive cueing about the location of a mobile target that needs to be confirmed or destroyed. That information would then be sent up the appropriate chain of command for a decision. Once the decision is made, the order needs to be relayed via multiple assets to the nearest or most capable strike platform, which would then investigate or prosecute the target before it moves to a new position. The actual prosecution of targets is simulated, but video footage is often obtained by onboard sensors.

During the AS/NE07 exercise, approximately one (1) TSS operation would occur, lasting 3 hours.

AS/NE07 participants in a TSS include:

- One to two (1-2) ship(s)
- One (1) E-3, two (2) F-16 and one (1) KC-135

The locations where TSS operations would occur as a part of AS/NE07 are:

- GOA

2.1.7 Sea Surface Control (SSC)

SSC operations involve aircraft performing reconnaissance of the surrounding battlespace. Under the direction of the Sea Combat Commander, the airborne assets investigate surface contacts of interest and attempt to identify, via onboard sensors or cameras, the type, course, speed, name, and other pertinent data about the ship of interest. Due to the curvature of the earth, surface assets are limited in their ability to see over the horizon. The airborne assets, due to their speed and altitude, can cover great distances in relatively short periods of time and see far beyond the capabilities of the surface ship. This enables them to report contacts that cannot be seen by ships. By using airborne assets, the Sea Combat Commander, in effect, is able to see beyond the horizon and develop a clear tactical picture well in advance.

During the AS/NE07 exercise, four to six SSC operations would occur with each operation lasting 2-3 hours.

AS/NE07 participants in an SSC operation include:

- One (1) USCG C-130 and one (1) USCG HH-60

- One to two (1-2) surface ship(s)

The locations where SSC operations would occur as a part of AS/NE07 are:

- GOA

2.1.8 Maritime Patrol Aircraft (MPA)

MPA operations utilize P-3C Orion and CP-140 Aurora aircraft conducting general search, localization, identification and tracking operations. P-3C Orion and CP-140 Aurora aircraft typically fly at lower altitudes and are capable of staying airborne for extended periods of time. Due to the many sensors onboard, the aircraft are able to perform a variety of missions and function well as reconnaissance platforms. Additionally, when airborne, they act as a deterrent to potentially hostile submarines.

During AS/NE07, 10-15 MPA operations will occur throughout the 11-day exercise, with each one lasting 4 hours.

AS/NE07 participants in MPA operations include:

- One to two (1-2) P-3C Orion or CP-140 Aurora aircraft traveling from Elmendorf AFB outside of Anchorage, Alaska

The location where MPA operations would occur as a part of AS/NE07 is:

- GOA

2.2 ALTERNATIVES

Alternatives to the Proposed Action must be considered in accordance with NEPA, CEQ regulations for implementing NEPA, and the DoN Procedures for Implement NEPA (32 C.F.R. § 775). Each of the alternatives must be reasonable and feasible in accordance with Navy guidance set forth in OPNAVINST 5090.1B and CEQ regulations published in 40 C.F.R. Part 1500 *et seq.* Reasonable alternatives include those that are practical or feasible from a technical and economic standpoint using common sense rather than simply evaluating based on those alternatives only desirable from the standpoint of the proponent. Additionally, reasonable alternatives must meet the stated purpose and need of the Proposed Action.

2.2.1 Alternatives Eliminated from Further Consideration

2.2.1.1 *Reduced exercise duration*

In order to meet the training objectives of AS/NE07, an 11-day schedule of operations has been planned. The warfare area exercises and scenarios require time, usually days, for the crews involved to progress to the advanced level operations scheduled in the latter days of the exercise. By exercising continuously over 11 days, all available units will have the opportunity to participate in multiple scenarios, thus allowing for multi-tasking and ultimately realizing the training objectives. Any reduction in the exercise duration would significantly impact the realism and prohibit some units from meeting their training objectives within the NORAD-NORTHCOM mission. Therefore, reducing the exercise duration does not meet the need, is not considered a reasonable alternative and is not analyzed further in this EA/OEA.

2.2.1.2 Locations other than Alaska

The GOA and the State of Alaska provide unique opportunities in terms of the Homeland Security and Homeland Defense training objectives of AS/NE07. The most significant of these training opportunities is the involvement and C2 support of JTF – Alaska. Alaska also has unique requirements for Homeland Defense and Homeland Security missions as the state is considered ‘overseas’ from the continental 48 states and also constitutes a significant portion of the U.S. border. This means that two operational commands are responsible for the Alaska area, both the U.S. Pacific Command, as their AOR includes the Asia-Pacific region, including Hawaii and Alaska, and NORAD-NORTHCOM, as their AOR includes all borders of the U.S. and waters out to approximately 500 nm. Naval forces requires joint forces training to exercise this unique Alaska C2 situation in a Homeland Security or Homeland Defense emergency scenario. The GOA is also a strategic location for maritime interdiction of threat vessels. An intercept of a threat vessel in the GOA keeps the threat away from the major population centers of the west coast of North America, including both Canada and the United States.

Consideration was given to other operating areas, but any other location would not achieve the joint, mission-focused training objectives for AS/NE07 or give the participants the unique opportunities that Alaska can offer for training. For these reasons, an exercise location other than Alaska does not satisfy the need, is not considered a reasonable alternative and is not analyzed further in this EA/OEA.

2.2.1.3 Alternate Time Frame

This alternative would conduct AS/NE07 in a time frame other than May 2007. The availability of training participants is affected by training schedules and deployments, and restricts asset availability to the proposed time frame of May 2007. The lack of availability of the assets in an alternate time frame would impact the effectiveness of joint training of maritime forces. An exercise timeframe within the winter months in the GOA would not be feasible due to extreme cold weather conditions and sea state conditions in the GOA in the winter months. Therefore, an alternate time frame does not satisfy the need, is not considered a reasonable alternative and is not analyzed further in this EA/OEA.

2.2.1.4 Computer Simulation

This alternative would utilize a computer simulation model to train armed forces assets. Training simulation technologies provide excellent tools for implementing a successful, integrated training program while reducing the risk and expense typically associated with military training. While computer simulation can be used to enhance combat performance, it does not simulate the complex issues posed by multiple organizations coordinating with one another to carry out separate but interrelated simultaneous tasks. Armed forces must be able to practice communicating, maneuvering, operating, and repairing equipment in a high-stress and realistic environment, for days at a time, in order to achieve necessary levels of readiness. Computer simulation would not create a high stress environment that would be encountered during an actual emergency Homeland Defense or Homeland Security situation and in almost every way duplicated during the proposed AS/NE07 joint training exercise. For these reasons, this alternative does not satisfy the need for the Proposed Action, therefore, is not considered a reasonable alternative and is not analyzed further in this EA/OEA.

2.3 ALTERNATIVES CONSIDERED

2.3.1 Preferred Alternative – Naval Assets Participate in AS/NE07

The Preferred Alternative is for naval assets, including USCG and other contracted assets operating under Navy control during the exercise, to participate in the joint training exercise AS/NE07. AS/NE07 would take place at sea in the GOA and Prince William Sound and in the town of Seward, Alaska for 11 days in May 2007 under the direction of NORAD-NORTHCOM. The exercise would consist of Homeland Defense and Homeland Security exercises involving joint forces, including the U.S. Navy, USCG, Military Sealift Command, and Canadian forces, to include C2 exercises and VBSS/EMIO exercises. The Preferred Alternative of AS/NE07 taking place in the GOA and the state of Alaska in May of 2007 satisfies the purpose and need for joint forces maritime training in Alaska.

2.3.2 No-Action Alternative

The No Action Alternative is for naval assets not to participate in the joint training exercise AS/NE07. Without the training provided by AS/NE07, naval assets would not have the opportunity to evaluate, investigate, and assess various Homeland Defense and Homeland Security operations in a joint forces exercise in Alaska. A reduction in the operational effectiveness of naval forces in a real-world Homeland Security or Homeland Defense situation would occur if the No-Action Alternative was implemented. Therefore, this alternative would not meet the purpose and need for the Proposed Action.

The No Action Alternative represents the existing conditions discussed in Chapter 3, Affected Environment. Impacts associated with the AS/NE07 exercise are discussed relative to these existing or “no action” conditions.

CHAPTER 3

AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

This chapter describes relevant existing environmental conditions for temporary operating areas potentially affected by the Proposed Action and No Action Alternative described in Chapter 2. Military facilities that provide only logistical support (i.e., aircraft bed-down) for AS/NE07 are not addressed in this chapter. This chapter discusses nine relevant resource areas potentially affected by AS/NE07: air quality, water quality and water resources, noise, biological resources, cultural resources, transportation and traffic, socioeconomics, public health and safety, and environmental justice.

3.1 AIR QUALITY

3.1.1 Affected Environment

Air quality is defined by ambient air concentrations of specific pollutants determined by the U.S. Environmental Protection Agency (EPA) to be of concern with respect to the health and welfare of the general public. Seven major pollutants of concern, called “criteria pollutants,” are carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), suspended particulate matter less than or equal to 10 microns in diameter (PM₁₀), fine particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5}), and lead. The EPA has established National Ambient Air Quality Standards (NAAQS) for these pollutants. The NAAQS define the maximum concentrations of the criteria pollutants that are considered safe, with an additional adequate margin of safety, to protect human health and welfare.

Ambient air quality refers to the atmospheric concentration (amount of pollutants in a specified volume of air) of a specific compound that occurs at a particular geographic location. Ambient air quality levels measured at a particular location are determined by the interactions of emissions, meteorology, and chemistry. Ambient air quality data are generally reported as a mass per unit volume (e.g., micrograms per cubic meter of air) or as a volume fraction (e.g., parts per million (ppm) by volume). Within a designated air basin, the air quality region of influence typically extends from the ground surface to an elevation where an inversion exists. The height of the inversion (layer of stable air) is a conservative estimate for an average height at which atmospheric conditions can significantly inhibit, if not effectively block, vertical mixing and dispersion of air pollutants. Emissions above this level are not expected to impact surface air quality. For most air quality analysis purposes, a height of 3,000 feet (ft) (914 m) above ground level (AGL) is used as the average inversion height (EPA, 1972).

Statutory air quality authorities for the state of Alaska are contained in the following agencies and regulations: EPA Region 10 at the federal level and the Alaska Department of Environmental Conservation (ADEC), Air and Water Quality Division at the state level. The EPA is responsible for enforcing the Clean Air Act (CAA) of 1970, as amended (1977 and 1990) (42 U.S.C. Section 7401 *et seq.*). Specific geographic areas are classified as either “attainment” or “nonattainment” areas for each criteria pollutant based upon the comparison of measured data with the NAAQS and state standards. If data are incomplete, or do not support a classification of attainment or nonattainment, then an area may be considered “unclassified” for that pollutant. The EPA requires each state to prepare a State Implementation Plan (SIP) that describes how that state will achieve compliance with the NAAQS. Section 176(c) of the CAA, the General Conformity Rule, requires Federal agencies to ensure that actions undertaken in nonattainment or maintenance areas are consistent with the applicable SIP. The state of

Alaska Air Quality Control Regulations are published in the Alaska Administrative Code (AAC), 18 AAC 50.

All at-sea GOA exercises, both surface ships and air operations, will be located outside of the territorial seas, therefore this portion of the exercise is not subject to NAAQS because there are no established criteria for emissions in offshore areas. The only areas currently designated non-attainment areas for any criteria pollutants are the Eagle River area, Anchorage, Alaska and the Mendenhall Valley area, Juneau, Alaska for PM₁₀. Two maintenance areas (areas that were previously non-attainment, but are now in attainment) for the criteria pollutant CO have also been designated in Anchorage and Fairbanks, Alaska (EPA). Aircraft operations associated with AS/NE07 would not occur in these nonattainment areas.

3.1.2 Environmental Consequences

3.1.2.1 Proposed Action

At-sea within the EEZ (OEA). The maritime operations within the EEZ proposed for naval assets participating in AS/NE07 will be minimal, with a total of seven surface ships, seven fixed-wing aircraft, and two helicopters. Emissions sources would include aircraft, ships, and generators. Emissions within the EEZ are not expected to affect air quality over land because of the temporary nature of the exercise, its offshore location, and the offshore direction of prevailing winds. Pollutant concentrations resulting from the small number of ship and aircraft operations within the GOA in the EEZ would not appreciably affect short-term or long-term regional ambient air quality.

Seward, Prince William Sound, and at-sea within territorial seas (12 nm) (EA). In the Prince William Sound, AS/NE07 operations would only occur between Cape Hinchinbrook and the Bligh Reef, with no naval assets moving into the Port of Valdez or Valdez Arm. After the operations in the Prince William Sound, naval assets will return to the GOA exercise area. The one In-Port exercise by the Oiler in Seward will have no air emissions for the majority of the three day exercise, as the Oiler will be in port and not underway. AS/NE07 would result in no significant amounts of emissions due to the brief nature of the exercise requiring the Oiler to enter and leave the port of Seward. The only operations taking place within the territorial seas would be transit of vessels into and out of Prince William Sound and Seward. For these reasons, AS/NE07 would result in no significant impacts to air quality in the action areas.

No portions of the AS/NE07 exercise would contribute to an increase in air emissions to the atmosphere as described above. In conclusion, no significant short-term or long-term impacts to air quality would occur as a result of proposed AS/NE07 operations.

3.1.2.2 No Action Alternative

Under the No Action Alternative, naval assets would not participate in the AS/NE07 exercise. Baseline air quality conditions, as described in Section 3.1.1, would not change. Therefore, no short-term or long-term impacts to air quality would occur with implementation of the No-Action Alternative.

3.2 WATER QUALITY AND WATER RESOURCES

3.2.1 Affected Environment

The Clean Water Act (CWA) (33 U.S.C. 1251 et seq.) addresses surface water quality in general and wetlands. EPA enforces the regulations promulgated under both laws. Under CWA Section 403(a), EPA or an authorized state may issue a permit for an ocean discharge only if the discharge complies with CWA guidelines for protection of marine waters. The state of Alaska has established state water quality standards, found in the AAC at 18 AAC 70. The Fiscal Year 1996 National Defense Authorization Act amended the CWA to authorize Department of Defense (DoD) and EPA to jointly establish Uniform National Discharge Standards (UNDS) for incidental liquid discharges from Armed Forces vessels. EPA has published final rules for Phase 1 of the UNDS program. In these rules, EPA and DoD identified which discharges will require control standards and a marine pollution control device. The rules also identify the mechanism by which states can petition EPA and DoD to review whether or not a discharge should require control by a marine pollution control device. Appendix A summarizes Navy pollution control discharge restrictions for ships.

The GOA is a relatively open marine system with landmasses to the east and the north. The GOA Exercise Area, which encompasses approximately 43,357 nm² (148,710 km²) located off the south-central Alaskan coast, is generally outside of the 100 fathom (183 m) bathymetric curve. Important bathymetric features in this region of the GOA include the continental shelf, the continental slope, and associated canyons.

The Prince William Sound is a deep, glacially-formed sound on the north side of the GOA. Prince William Sound is surrounded by the Chugach Mountains to the east, west and north. Fifty-mile long Montague Island and several smaller islands form natural breakwaters between the Sound and the GOA. Between the barrier islands stretch underwater sills separating the Sound's deep waters from the much shallower waters of the GOA. Deep water renewal occurs during the winter when cold winds from interior Alaska cool the surface waters causing them to sink, while the warmer bottom water rises to the surface. Certain beaches on the Prince William Sound have been listed on the ADEC Section 303(d) list of impaired waterbodies due to the crude oil spill from the tanker ship the *Exxon Valdez* in the Prince William Sound in 1989. The beaches are listed as Category 4(b), which is described as impaired waters with established "other pollution control requirements" to meet water quality standards (ADEC, 2006). Waters in this category are expected to meet water quality standards in a reasonable time period. The beaches are listed in this category because the *Exxon Valdez* Oil Spill Trustee Council oversees ecosystem restoration and manages projects and research in the Sound. The *Exxon Valdez* Oil Spill Trustee Council was formed in 1992 as a result of court settlements with the Exxon Mobil Corporation.

The town of Seward is located on Resurrection Bay, an inlet on the north shore of the GOA. Seward has only one location on the ADEC Section 303(d) list of impaired waterbodies. Clear Creek at Seward is listed as a Category 3 waterbody, which is described as lacking data or sufficient information to determine that the water quality standards for any of the designated uses are attained. Clear Creek is located on the northwest side of the town of Seward.

The Coastal Zone Management Act of 1972 (16 U.S.C. §1451 et seq.) was passed to preserve and protect the resources of the nation's coastal zone. Section 307 of the Coastal Zone Management Act states that Federal actions must be consistent to the maximum extent practicable with the enforceable policies of

approved state coastal management programs. The enforceable policies of Alaska's Coastal Management Program are found in 6 AAC 80.40-80.150. AS/NE07 operations taking place in Seward will be within the coastal zone of the state of Alaska.

In addition to shipboard oil/hazardous substance contingency plans, all naval assets operating within the Commander, Navy Region Northwest (NRNW) AOR, which includes Alaska, are covered by the NRNW Oil and Hazardous Substance Integrated Contingency Plan (COMNAVREGNWINST 5090.1). The Plan outlines procedures for planning and response to oil and hazardous substance pollution incidents originating from Navy vessels in the NRNW AOR, which includes Alaska and surrounding waters. For the vessels participating in AS/NE07, the Commanding Officer will serve as the Incident Commander should an oil/hazardous substance release occur.

For small waterborne spills, Navy and Coast Guard vessels have limited capability to clean up such spills; the Commanding Officer will maintain control of a spill event and deploy all resources that can be safely activated. In the event of a larger spill, the Navy has access to local response contractors through Coast Guard Basic Ordering Agreements, which are requested from the Navy On-Scene Coordinator. Additionally, equipment and responders are also available through the Navy's Supervisor of Salvage (SUPSALV), the Navy's response organization for offshore oil/hazardous substance spills and salvage assistance. An extensive inventory of equipment is maintained at one of the SUPSALV response bases in Anchorage, Alaska, and can be mobilized within four hours (more quickly during normal working hours). This equipment is "system" oriented and allows SUPSALV to operate independently in remote locations for open ocean spills, inland spills, arctic spills, spills relating to salvage, or other unique events. Equipment includes ocean and near-shore capable boom, skimmers, support craft, portable storage, logistics support systems, lightering systems, cleaning systems, and various systems to support this specialized mission.

3.2.2 Environmental Consequences

3.2.2.1 Proposed Action

At-sea within the EEZ (OEA). Maritime operations within the EEZ in the GOA will be in accordance with all Navy pollution management directives, including the Navy's Environmental and Natural Resources Program Manual, OPNAVINST 5090.1B, Chapter 3. Potential impacts could occur in the event of a release of fuel or hydraulic fluid into the GOA; however, the magnitude and duration of the spill would be minimized through established spill response procedures established in the Commander, Navy Region Northwest Oil and Hazardous Substance Integrated Contingency Plan, as described in Section 3.2.1. Combustion products and emissions from aircraft would be dispersed in the atmosphere before reaching the water surface and are not expected to affect water quality. With implementation of the Proposed Action, there will be no significant impacts to water quality.

AS/NE07 maritime operations in within the EEZ in the GOA are not expected to result in any reasonably foreseeable effects on the coastal resources. These exercises are located well outside the coastal zone and have no effect on the coastal resources. They involve overflights and ship operations with localized with little potential for any effect on any resources at sea. In accordance with 15 C.F.R. § 930.33 and 930.35, the Navy has determined that AS/NE07 operations within the EEZ will not have an reasonably foreseeable effect on any coastal use or resource. Therefore, neither a consistency determination nor a negative determination is required under the Coastal Zone Management Act.

Seward, Prince William Sound, and at-sea within territorial seas (12 nm) (EA). The Navy's Environmental and Natural Resources Program Manual (OPNAVINST 5090.1B Chapter 3) establishes operating procedures for pollution management practices and discharges of waste and ballast waters. The U.S. Navy Oiler visiting the port of Seward will have contracted support for offloading of gray and black water discharges and ballast water. No unauthorized discharges will enter the water in the Port of Seward as a result of the In-Port exercise for the Oiler in Seward. The one VBSS/EMIO exercise in the Prince William Sound will not release any pollutants or other discharges into the water. Potential impacts could occur in the event of a release of fuel or hydraulic fluid into the waters of Resurrection Bay, Prince William Sound, or the GOA; however, the magnitude and duration of the spill would be minimized through established spill response procedures, as described in Section 3.2.1. No intentional discharges to the waters of the territorial seas, including the GOA and Prince William Sound, would occur as a result of AS/NE07 operations.

AS/NE07 operations in Seward will consist of the Oiler berthing, and small USCG boats on security detail in the Port of Seward area during the three days the Oiler will be in-port. These exercises will utilize existing berthing facilities in the Port of Seward, and have no physical contact with the Seward shoreline or public access lands. AS/NE07 operations will have no effects on any coastal use or resource because Seward operations will only take place at established docks and piers for berthing. In accordance with 15 C.F.R. § 930.33 and 930.35, the Navy has determined that AS/NE07 operations at Seward will not have an effect on any coastal use or resource. Therefore, neither a consistency determination nor a negative determination is required under the Coastal Zone Management Act for the operations in Seward.

AS/NE07 exercise activities in compliance with Navy pollution control discharge restrictions and in accordance with established procedures, as described above, will have no significant, long-term impacts on water resources and water quality.

3.2.2.2 No Action Alternative

Under the No-Action Alternative, naval assets would not participate in AS/NE07. Baseline water quality and water resource conditions, as described in Section 3.2.1, would not change. Therefore, no impacts to water quality or water resources would occur with implementation of the No-Action Alternative.

3.3 NOISE

3.3.1 Affected Environment

Noise sources in the GOA and the Prince William Sound are primarily ambient sounds associated with sea states and storms, but also include vessel traffic, both commercial and recreational. These sources of noise vary with the number of vessels transiting.

The town of Seward is small, with approximately 3,000 full-time residents. This number of residents who are employed by local businesses more than doubles in the summer due to the tourism that brings hundreds of thousands of tourists through Seward on both the cruise ship industry and the Alaska Railroad. Ambient noise in the town includes railway traffic and boat traffic, both commercial and recreational, as the major noise sources.

Noise is defined as any sound that is undesirable because it interferes with communications, is intense

enough to damage hearing, or is otherwise annoying (Federal Interagency Committee on Noise, 1992). Human response to noise can vary according to the type and characteristics of the noise source, the distance between the noise source and the receptor, and the sensitivity of the receptor. Due to the wide variations in sound levels, sound levels are measured using a logarithmic scale expressed in decibels (dB). Thus, a 10 dB increase in noise corresponds to a 100 percent increase in the perceived sound. Under most conditions, a 5 dB change is necessary for noise increase to be noticeable (EPA, 1974). For the purposes of assessing potential noise effects on humans, A-weighted sound level measures are used. A single-event noise such as an overflight is described by the sound exposure level and by L_{max} (highest sound level measured). The frequency, magnitude, and duration of a single noise event vary according to aircraft type, engine type, power setting, and airspeed. Fixed wing, rotary wing and helicopters of different sizes and types emit intense engine sounds during flights. The propagation of aircraft noise from sources to receiver is a function of several factors including relative distance and atmosphere attenuation due to wind, humidity, and temperature.

Noise contributions from aircraft operations over the GOA were calculated for the Navy's EA/OEA for the joint exercise NE 2006. Section 3.3 and 3.4 of the NE 2006 EA/OEA are incorporated by reference into this analysis.

3.3.2 Environmental Consequences

3.3.2.1 Proposed Action

At-sea within the EEZ (OEA). VBSS/EMIO operations within the GOA exercise areas will be transient, temporary, and short-term in nature. Noise levels from surface ships will not be different from other surface ship traffic in the GOA during the exercise timeframe.. Aircraft operations over the GOA were modeled for the NE 2006 EA/OEA (Navy, 2006). AS/NE07 aircraft operations would consist of fewer sorties and fewer aircraft than NE 2006 operations (8 aircraft in AS/NE07 versus 114 aircraft in NE 2006). The NE06 EA/OEA analysis concluded that aircraft operations would not exceed ambient noise levels in the GOA. Since AS/NE07 aircraft operations would be on a much smaller scale, it is concluded that AS/NE07 aircraft operations would not exceed ambient noise levels in the GOA. The GOA exercise areas are outside of coastal areas so noise disturbances to populated human activity areas would not occur.

Seward, Prince William Sound, and at-sea within territorial seas (12 nm) (EA). VBSS/EMIO operations within the Prince William Sound will be transient, short-term in nature, and afterwards all naval assets would return to the GOA offshore exercise areas. The minimal amount of aircraft operations supporting VBSS/EMIO, utilizing one to two helicopters in the Prince William Sound, would have no significant noise impacts. The In-Port exercise by the Oiler in Seward will not involve any activities that would contribute additional noise to the ambient noise levels in Seward.

In conclusion, AS/NE07 exercise operations under the Proposed Action will have a decrease in the exercise noise levels seen in previous Navy exercises on the GOA, such as NE 2006, therefore, no significant impact on noise in the exercise areas will occur with implementation of the Proposed Action.

3.3.2.2 *No Action Alternative*

Under the No-Action Alternative, naval assets would not participate in AS/NE07. Baseline ambient noise conditions, as described in Section 3.3.1, would not change. Therefore, no noise impacts would occur with implementation of the No-Action Alternative.

3.4 BIOLOGICAL RESOURCES

3.4.1 Affected Environment

According to the GOA Marine Resource Assessment prepared by the Navy in 2006, the GOA is one of the world's most productive ecosystems. A significant upwelling phenomenon pulls rich deep-sea nutrients to the surface where they can be used by photosynthetic phytoplankton, the primary producers of the marine ecosystem. This concentrates prey, providing a very productive feeding area for marine mammals, seabirds, fish and turtles. These primary producers thrive closer to the coastal areas, in nutrient rich waters, making photosynthetic conditions more valuable closer to the coastal regions and within the Prince William Sound.

The town of Seward is located on Resurrection Bay on the north side of the GOA. For the purposes of this analysis, it is assumed that the same species that may be present in the GOA and Prince William Sound could be present in Resurrection Bay and at the Port of Seward. No additional marine mammals or other protected species are expected to occur in Resurrection Bay than would be present in the GOA and Prince William Sound as described above.

Fish

The GOA is a highly productive region for various marine fish and shellfish populations and supports some of the most productive fisheries in the U.S. (Lanksbury et al. 2005). It is also an important spawning area for many fishes supporting a diverse array of larval fish species influenced by bathymetric features (i.e., shelf, slope, etc.) in the spring and bathymetry/circulation features in the autumn (Doyle et al. 2002; Matarese et al. 2003; Doyle et al. 2005; Lanksbury et al. 2005). At least 383 species belonging to 84 families of marine and anadromous fishes have been reported from the predominant ecosystems found in the GOA: nearshore, continental shelf/slope, and offshore areas (Mecklenburg et al. 2002). In the GOA, the majority of the fishery resources are found along the broad continental shelf ecosystem (Richardson and Erickson 2005). Important marine species include salmonids (chinook, coho, chum, sockeye, and pink salmon), Pacific halibut, shelf and slope Groundfish (roundfish: walleye pollock, Pacific cod, sablefish; rockfishes, and flatfishes: rex sole, Dover sole, arrowtooth flounder), Dungeness crab, and scallops (NMFS-AKR 2005; Richardson and Erickson 2005).

Sea Turtles

The seasonal occurrence patterns for all sea turtles in the cold, temperate waters of the GOA are driven by the species that is most likely to occur in the region, the leatherback turtle (Navy, 2006). Most hard-shelled sea turtles have tropical/subtropical distributions, and are thus extremely rare inhabitants of ocean waters off Alaska. The leatherback, however, is a cold-tolerant species that could occur in the GOA area during warm summer months. As a result, sea turtles may occur throughout the GOA from May to October due to the probability that small numbers of leatherbacks venture into those waters seasonally, especially in "anomalous" environmental conditions, such as El Niño years. As water temperatures drop during the winter, sea turtle occurrence becomes rare throughout the GOA and vicinity, as even

leatherbacks will choose to inhabit warmer waters to the south. Four out of the seven species of sea turtles could occur within the GOA and vicinity: the leatherback, the green, the loggerhead, and the olive ridley turtles. All four of these species are listed under the Endangered Species Act (ESA) and are further described in Section 3.4.1.1.

Birds

The waters of the action areas provide both protected shallow water habitat for seabirds and sea ducks, which forage on the sea bottom, and nutrient-rich offshore areas for seabirds that rely on upwelling zones and shelf currents to transport prey to the surface. In general, seabird and sea duck distribution in the GOA is seasonally influenced by prey availability and weather patterns (Hunt and Schneider 1987). Those birds that are year-round residents, or migrate from northern waters frozen over in the winter, use the protected embayments of Kodiak Island and the mainland shoreline to avoid harsh winter storms. Since carbon flux for the benthic community is highest in the nearshore areas (Iverson et al. 1979), these waters provide good winter food sources for bottom-feeding ducks. Many of the larger seabirds, especially the albatrosses and the shearwaters, move into the GOA from more southern climates during the summer and fall months and feed along the Alaskan current as it traces the continental shelf break. Planktonic growth is stimulated as upwelling brings deepwater nutrients to the surface in the outer shelf (where bottom depth is 100 to 170 m). The distribution of seabirds mirrors the distribution of plankton and the associated species that feed on plankton.

The Migratory Bird Treaty Act (MBTA) of 1918 protects migratory birds and their parts (including eggs, nests, and feathers). Under the MBTA, taking, killing, or possession of migratory birds or their parts is prohibited. The Act affirms, or implements, the United States commitment to four international conventions with Canada (1916), Japan (1972), Mexico (1936), and Russia (1976) for the protection of shared migratory bird resources. Each convention protects selected species that are common to both countries at some point during their annual life cycle. The Bald Eagle and Golden Eagle Treaty Act of 1984 (16 U.S.C. §668) specifically prohibits any form of possession or taking of both bald and golden eagles.

The USFWS in Alaska divides migratory birds into several categories, including: waterfowl, loons, landbirds, seabirds, shorebirds, and raptors. Since the exercise activities are to occur primarily in offshore environments, seabirds are the most likely group of migratory birds to be encountered. Forty-five species of seabirds are identified within the GOA, and 26 nest in the region (Degange and Sanger, 1986). Densities of seabirds are highest along the continental shelf and shelf-break areas during the spring migration and summer. Relatively low numbers of birds would be expected in the open-ocean areas of the GOA Exercise Area. Bald eagles are relatively common in and around Seward and the Prince William Sound, and will be present during AS/NE07 operations in those areas.

Marine Mammals

Thirty-one marine mammal species are known to occur in Alaskan waters (Wynne 1992), of which 26 have confirmed or possible occurrence in the GOA and Prince William Sound, including 21 cetaceans (whales, dolphins, and porpoises), four pinnipeds (seals, sea lions, and fur seals), and one mustelid (sea otter) species (Table 3-1). The following detailed species information can be found in the GOA Marine Resource Assessment, completed by the Navy in 2006.

Cetaceans are divided into two major suborders: Mysticeti and Odontoceti (baleen and toothed whales, respectively). Toothed whales use teeth to capture prey, while baleen whales use baleen plates to filter their food from the water. Odontocetes bear teeth — typically numerous and peglike, and can navigate by

echolocation, producing sound waves using a complex system of nasal sacs and passages, and using the echoes to navigate. Mysticetes feed by straining small marine organisms out of the water using plates of baleen, a hornlike substance that forms filaments that hang down from the roof of the mouth. Some mysticetes are known for the strange and complex songs they produce; their function is not clear, but unlike toothed whales, baleen whales do not use their songs for echolocation.

Pinnipeds are carnivorous aquatic mammals that use flippers for movement on land and in the water. Seals, sea lions, and walruses all belong to the same taxonomic suborder called Pinnipedia or the "fin-footed." Pinnipeds spend the majority of their lives swimming and eating in water and have adopted their bodies to move easily through their aquatic habitat. Pinnipeds do not move well on land, however pinnipeds do venture onto land or ice floats to bear their young, sunbathe, and molt. There are 33 species of seals, sea lions, fur seals and walrus that populate the world's oceans. All pinnipeds breathe air and some are capable of very deep and prolonged dives.

Mustelids are a part of the weasel family, of which sea otters are the largest member. Sea otters spend most of their time in the water and are best adapted to aquatic life, as they are slow and awkward on land. Sea otters are the only specie of marine mammal that has no layer of fat. They depend on their dense waterproof fur, the densest of any marine mammal with more than half a million hairs per square inch, to maintain their body temperature. The sea otter is also the only non-primate mammal known to use a tool while foraging. It uses "anvil" stones to crack open the shellfish that form a significant part of its diet.

Marine Mammal Protection Act (MMPA)

Table 3-1 summarizes the marine mammals protected by the Marine Mammal Protection Act (MMPA) in the GOA and the Prince William Sound. The MMPA of 1972, 16 U.S.C. 1361 *et. seq.*, established a moratorium on the "taking" of marine mammals in waters or on lands under U.S. jurisdiction. The act further regulates "takes" of marine mammals in the global commons (i.e., the high seas) by vessels or persons under U.S. jurisdiction. The following paragraphs present the framework within which potential effects can be categorized.

Categorizing potential effects as either physiological or behavioral effects allows them to be related to the harassment definitions under MMPA. The National Defense Authorization Act (NDAA) of Fiscal Year 2004 (Public Law 108-136) amended the definition of harassment as applied to military readiness activities or scientific research activities conducted by or on behalf of the Federal government, consistent with Section 104(c)(3) [16 U.S.C. 1374 (c)(3)]. The Fiscal Year 2004 NDAA adopted the definition of "military readiness activity" as set forth in the Fiscal Year 2003 NDAA (PL 107-314). AS/NE07 operations constitute military readiness activities as that term is defined in PL 107-314 because training activities constitute "training and operations of the Armed Forces that relate to combat" and constitute "adequate and realistic testing of military equipment, vehicles, weapons, and sensors for proper operation and suitability for combat use." For military readiness activities, the relevant definition of harassment is any act that:

- Injures or has the significant potential to injure a marine mammal or marine mammal stock in the wild ("Level A harassment");
- Disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns including, but not limited to, migration, surfacing,

nursing, breeding, feeding, or sheltering to a point where such behavioral patterns are abandoned or significantly altered (“Level B harassment”) [16 USC 1362 (18)(B)(i)(ii)].

Table 3-1. Marine Mammal Species Potentially Found in the Exercise Areas

Common Name	Scientific Name	Status	Occurrence ^a
Order Cetacea			
Suborder Mysticeti (baleen whales)			
Family Balaenidae (right whales)			
North Pacific right whale	<i>Eubalaena japonica</i>	Endangered	Regular
Family Balaenopteridae (rorquals)			
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered	Regular
Minke whale	<i>Balaenoptera acutorostrata</i>		Regular
Sei whale	<i>Balaenoptera borealis</i>	Endangered	Regular
Fin whale	<i>Balaenoptera physalus</i>	Endangered	Regular
Blue whale	<i>Balaenoptera musculus</i>	Endangered	Regular
Family Eschrichtiidae (gray whale)			
Gray Whale	<i>Eschrichtius robustus</i>	^b	Regular
Suborder Odontoceti (toothed whales)			
Family Physeteridae (sperm whales)			
Sperm whale	<i>Physeter macrocephalus</i>	Endangered	Regular
Family Monodontidae			
Beluga Whales (Cook Inlet)	<i>Delphinapterus leucas</i>	In Review ^c	Rare
Family Ziphiidae (beaked whales)			
Cuvier's beaked whale	<i>Ziphius cavirostris</i>		Regular
Stejneger's beaked whale	<i>Mesoplodon stejnegeri</i>		Regular
Baird's beaked whale	<i>Berardius bairdii</i>		Regular
Family Delphinidae (dolphins)			
Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>		Regular
Northern right whale dolphin	<i>Lissodelphis borealis</i>		Rare
Risso's dolphin	<i>Grampus griseus</i>		Rare
False killer whale	<i>Pseudorca crassidens</i>		Rare
Killer whale	<i>Orcinus orca</i>	^d	Regular
Short finned pilot whale	<i>Globicephala macrorhynchus</i>		Rare
Family Phocoenidae (porpoises)			
Harbor Porpoise	<i>Phocoena phocoena</i>		Regular
Dall's Porpoise	<i>Phocoenoides dalli</i>		Regular
Order Carnivora			
Suborder Pinnipedia (seals, sea lions, walruses)			
Family Phocidae (true seals)			
Harbor seal	<i>Phoca vitulina</i>		Regular
Northern elephant seal	<i>Mirounga angustirostris</i>		Regular
Family Otariidae (sea lions and fur seals)			
Northern fur seal	<i>Callorhinus ursinus</i>		Regular
Steller sea lion	<i>Eumetopias jubatus</i>	Threatened ^e	Regular
California sea lion	<i>Zalophus californianus</i>		Rare
Family Mustelidae			
Sea Otter	<i>Enhydra lutris</i>	Threatened ^f	Regular

^a **Regular** = A species that occurs as a regular or normal part of the fauna of the area, regardless of how abundant or common it is

Rare = A species that only occurs in the area sporadically

^b Only the population which occurs in the western North Pacific is listed as endangered.

^c NOAA Fisheries initiated a status review in August 2006 of the Cook Inlet stock of Beluga whales in response to a petition to list the subspecies as Endangered under the ESA. Final rulemaking will be determined by August 2007.

^d Only the Southern Resident Killer Whale population that occurs in the Pacific Northwest is listed as endangered. The species as a whole is not listed.

^e The species as a whole is listed as threatened; the eastern population is listed as threatened while the western population is listed as endangered. Both populations are expected to occur in the GOA and Prince William Sound.

^f Three Distinct Population Segments (DPS) exist: the southeast, southcentral, and southwest Alaska populations. Both the southcentral DPS and the southwest DPS could occur in the action areas. Only the southwest Alaska DPS is listed as threatened.

3.4.1.1 Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973, 16 U.S.C. § 1531 *et. seq.*, requires Navy to consult with resource agencies, such as U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) to ensure that any action Navy authorizes, funds, or carries out does not jeopardize the continued existence of any threatened or endangered species or result in destruction or adverse modification of such species' critical habitats. Consultation with USFWS or NMFS and preparation of the Biological Assessment is required under Section 7 of the ESA if the agency determines that the action "may affect" a protected species.

ESA-protected species expected to occur in the GOA and the Prince William Sound include twenty-six salmonid evolutionary significant units (ESUs), four sea turtles, two marine bird species, and eight marine mammals. Table 3-2 shows those species listed as threatened or endangered under the ESA that could occur in the action area of the GOA and Prince William Sound, which are described in more detail below. The detailed discussions below are excerpted from the GOA Marine Resource Assessment, prepared for the Navy in 2006. As Resurrection Bay is an inlet of the Gulf of Alaska, it is assumed that the same ESA-protected species that may be present in the GOA and Prince William Sound could be present in Resurrection Bay and at the Port of Seward. No additional threatened or endangered species are expected to occur in Resurrection Bay than would be present in the GOA and Prince William Sound as shown in Table 3-2.

Fish (Salmonids)

There are five dominant species of salmon that occur in the GOA and have the potential of occurring in the action areas: chinook salmon, coho salmon, chum salmon, sockeye salmon, and pink salmon. Pacific salmon are federally protected by the designation of ESUs. ESUs are defined by NMFS as a population that is "substantially reproductively isolated from conspecific populations and represents an important component in the evolutionary legacy of the species" (Good et al. 2005). All Pacific salmon species spend their early lives in freshwater before migrating to the ocean to grow and mature. It should be noted that due to the anadromous life history of salmon, any of the Pacific Salmon ESUs could possibly occur in the action areas (Table 3-2). No salmonid species have designated critical habitat within the action areas but various ESUs from along the Pacific coast have ESA status, designated critical habitat, and the potential to occur in the action areas. Various ESUs of chinook salmon, coho salmon, chum salmon, sockeye salmon, and steelhead migrate north to mature in the GOA. Salmon (chinook and coho, in particular) support important traditional, commercial, and recreational fisheries in the GOA and Prince William Sound and have long been an integral part of the Native American culture (NPFMC 1990).

Sea Turtles

Four of the seven living species of sea turtles have the potential to occur in the GOA and vicinity: the leatherback, green, loggerhead, and olive ridley turtles (Table 3-2). All four of these species are protected under the ESA. The leatherback turtle is listed as endangered throughout its geographic range, while the loggerhead turtle is listed as threatened. As a species, the green and olive ridley turtles are also listed as threatened, although specific nesting populations in the eastern Pacific Ocean are currently listed as endangered. Green and olive ridley turtles occurring in the GOA area may come from either threatened or endangered nesting populations in the Pacific Ocean. For the purposes of this analysis, the assumption is made that all species potentially found in the GOA and Prince William Sound are endangered. Critical habitat has not been designated for any of these species in the U.S. Pacific Ocean. All four species of sea turtles have rare occurrence in the GOA.

Birds

Two species of marine birds that could occur within the GOA and Prince William Sound have been designated as threatened or endangered under the ESA (Table 3-2). Detailed descriptions of each of these species follows.

Short-tailed Albatross. The short-tailed albatross is the largest of the three North Pacific albatrosses. The short-tailed albatross was listed as endangered throughout its range under the ESA in 2000 (USFWS 2000). Recent observational and telemetry data (USFWS 2005) clearly show that, while at sea, short-tailed albatross concentrate along the shelf edge north and south of the Aleutian Islands and along the Bering Sea shelf. Piatt et al. (2006) believe that short-tailed albatross are so closely tied to Alaska shelf break upwelling zones that their distribution can be readily predicted. Short-tailed albatrosses are pelagic wanderers, traveling thousands of miles at sea during the non-breeding season. Their at-sea distribution includes the entire North Pacific north of about 20°N. They are regular visitors to the GOA.

Steller's Eider. The Steller's eider, the smallest of the four eider species, is a colorful sea duck. USFWS (2002b) currently recognizes three breeding populations of Steller's eiders - Russian Atlantic, Russian Pacific, and Alaska—of which the Alaska breeding population is further comprised of two subpopulations: a northern Alaska (North Slope arctic coastal plain) and a western Alaska subpopulation. Within the GOA, depending on the time of year, it is possible that individuals could be encountered, especially for activities occurring near marine coastal areas used for molting and overwintering (southwest Alaska and along the north and south shores of the Alaska Peninsula), or during spring migration. Steller's eiders have a rare occurrence in the GOA during the winter and spring seasons.

Marine Mammals

Eight species of marine mammals that could occur within the GOA and Prince William Sound have been designated as threatened or endangered under the ESA (Table 3-2). Detailed descriptions of each of these species are included below, excerpted from the GOA Marine Resources Assessment (Navy 2006).

North Pacific Right Whale. Right whales occur in subpolar to temperate waters. They are generally migratory, with at least a portion of the population moving between summer feeding grounds in temperate or high latitudes and winter calving areas in warmer waters (Kraus et al. 1986; Clapham et al. 2004). The North Pacific right whale is currently proposed to be listed as endangered. Until recently, right whales in the North Atlantic and North Pacific were classified together as a single species, referred to as the “northern right whale.” Genetic data indicate that these two populations represent separate species: the North Atlantic right whale (*Eubalaena glacialis*) and the North Pacific right whale (*Eubalaena japonica*) (Rosenbaum et al. 2000). NMFS has proposed to separate the northern hemisphere right whale species into two: a North Pacific right whale and a North Atlantic right whale and list both species as endangered species (71 FR 77694, Dec. 27, 2006). Currently, critical habitat is designated for the northern right whale in the Bering Sea and southeast of Kodiak Island, Alaska in the GOA, as shown in Figure 3-1. A revision to the species classification would also require re-designation of critical habitat for the new species North Pacific right whale, which has not yet occurred. For the purposes of this analysis, the assumption will be made that North Pacific right whales are endangered and are dependent on the existing listed critical habitat and may occur in the GOA and Prince William Sound action areas for AS/NE07.

Current distribution patterns and migration routes of the North Pacific right whale are not known (Scarff 1986; NMFS 2005b). Historical whaling records provide virtually the only information on North Pacific

right whale distribution. The North Pacific right whale historically occurred across the Pacific Ocean north of 35°N, with concentrations in the GOA, eastern Aleutian Islands, south-central Bering Sea, Okhotsk Sea, and the Sea of Japan (Omura et al. 1969; Brueggeman et al. 1986; Scarff 1986; Clapham et al. 2004). Presently, sightings are extremely rare, occurring primarily in the Okhotsk Sea and the eastern Bering Sea (Brownell et al. 2001; Shelden et al. 2005; Shelden and Clapham 2006; Wade et al. 2006). North Pacific right whales summer in the northern North Pacific and Bering Sea, apparently feeding off southern and western Alaska from May to September (Tynan et al. 2001). The GOA is an area of regular occurrence for the North Pacific right whale (Navy 2006), although due to the very low estimate populations, a sighting would be rare.

Humpback Whale. Listed as endangered in June 1970, humpback whales are primarily a coastal species that travel over deep pelagic waters migrating between high latitude feeding areas in Alaska and low latitude breeding grounds in Hawaii or Mexico. The humpback whale has a near cosmopolitan distribution, occurring in all ocean basins from Disko Bay in northern Greenland to the pack-ice zone around Antarctica (Rice 1998). Although it is considered a mainly coastal species feeding along the continental slope, it often traverses deep pelagic areas while migrating and sometimes feeds along offshore banks. Humpbacks begin migrating in March and April from breeding areas in Hawaii, Mexico, Costa Rica, and Japan to feeding areas in Alaska, British Columbia, and the west coast of the U.S.

The humpback whale has a regular occurrence in the GOA vicinity, however, sightings would be more likely in coastal and continental shelf/slope waters, where their primary food sources are abundant, and less likely in offshore waters. In central and western GOA, humpback whales are most commonly observed in Prince William Sound, Kodiak Island, Shelikof Strait, Barren Islands, and along the southern coastline of the Alaska Peninsula (Navy 2006).

Sei Whale. The sei whale was listed as endangered in June 1970. Historical whaling indicated that sei whales fed on copepods, euphausiids, and variety of fish (Flinn et al. 2002). The sei whale has a nearly worldwide distribution, with a marked preference for temperate oceanic waters. Sei whales spend the summer months feeding in the subpolar higher latitudes and return to the lower latitudes to calve in the winter. They are mainly pelagic and usually occur in small groups of up to six individuals. In the summer, sei whales in the eastern Pacific range from the Bering Sea and the northern GOA to the coast of southern California. Sei whale populations were depleted by whaling, and their current status is generally uncertain.

Sei whales are seasonal residents in the GOA area and prefer open ocean to coastal waters. They are a regular occurrence in offshore waters of the GOA action area and vicinity (Navy 2006).

Fin Whale. Fin whales are widely distributed in all the world's oceans, but typically occur in temperate and polar regions. They appear to have complex seasonal movements, and are likely seasonal migrants. Fin whales mate and calve in temperate waters during the winter, but migrate to northern latitudes during the summer to feed. They were listed as endangered in June 1970.

Fin whales were one of the most commonly encountered species during recent surveys of the GOA vicinity (Barlow, 2005). The likelihood of fin whales occurring in the action areas during the summer months is regular (Navy 2006).

Blue Whale. The blue whale is widely distributed throughout most of the world's oceans, occurring in coastal, shelf, and oceanic waters. All populations of blue whales have been exploited commercially, and

many have been severely depleted as a result. The blue whale was listed as endangered in June 1970. Generally, they are seasonal migrants between high latitudes in the summer, where they feed, and low latitudes in winter, where they mate and give birth (Lockyer and Brown 1981). However, some individuals may stay in low or high latitudes throughout the year (Reilly and Thayer 1990; Watkins et al. 2000b).

Blue whales are found most frequently along the edges of continental shelves and are seldom seen in nearshore Alaska waters. The likelihood of blue whales occurring in the action areas during the summer months is regular (Navy 2006). However, blue whales would be more likely to occur in deep, offshore waters beyond the continental shelf.

Sperm Whale. The sperm whale was first listed as endangered under the ESA in June 1970. However, it is a relatively common species on a worldwide basis. Sperm whales are the largest of the toothed whales, with an extensive worldwide distribution. They range as far north and south as the edges of the polar pack ice, although they are most abundant in tropical and temperate waters where temperatures are $>59^{\circ}\text{F}$ (15°C) (Rice 1989). Sperm whales generally are distributed over large areas that have high secondary productivity and steep underwater topography and in deep water, over and beyond the continental slope (Rice 1989; Jacquet and Whitehead 1996). They routinely dive to depths of hundreds of meters and may occasionally dive to 9,843 ft (3,000 m). They are capable of remaining submerged for longer than 2 hours, but most dives probably last a half-hour or less (Rice 1989). Commercial whaling severely reduced the abundance of sperm whales. Whitehead (2002) estimated that the worldwide stock was 32% of its original level in 1999, 10 years after the end of large-scale hunting.

Most of the information regarding sperm whale distribution in the GOA vicinity and Southeast Alaska comes from anecdotal observations from fishers and reports from fisheries observers aboard commercial fishing vessels. Given these reports of sperm whales in the GOA vicinity, the likelihood of sperm whales occurring in the GOA is regular (Navy, 2006). However, sperm whales would be more likely to occur in deep, offshore waters beyond the continental shelf.

Steller Sea Lion (Western & Eastern stock). Steller sea lions range from St. Lawrence Island through the Aleutians and coastal Alaska and south to about Santa Barbara Island; Steller sea lions are present in the GOA year round (NMFS 1992). Two stocks of Steller sea lions are recognized in Alaskan waters, based on differences in population dynamics and mitochondrial DNA sequence distribution. Cape Suckling (144° W longitude) forms the boundary between these two stocks, known as the Eastern and Western populations. The Steller sea lion was listed as threatened throughout its range in April 1990, and the Western stock was listed as endangered in May 1997 (NMFS 1997). These determinations were a result of the precipitous decline in the Alaskan population from 140,000 in 1956 to 60,000–68,000 in 1985 (Merrick et al. 1987). Worldwide, the population dropped from 240,000–300,000 to 116,000 during a 30-year period. The decline in numbers has been greatest for the Western stock, with some breeding rookeries in the Aleutians declining as much as 87% from 1960 to 1989 (Loughlin et al. 1992). A decline in juvenile survival appears to be an important cause of the decline in the Western stock of Steller sea lions. The ultimate causes of the decline in survivorship of the Western stock are not yet understood.

Critical habitat within the GOA and Prince William Sound has been designated for the Steller sea lion, as shown in Figure 3-1 (NMFS 1993, 1994, and 2006b). Critical habitat includes land 3,000 ft (0.9 km) inshore from the baseline or basepoint of each major rookery and major haulout in Alaska. It also includes waters 3,000 ft (0.9 km) seaward in state- and federally-managed waters from every major rookery and haulout east of 144°W , and 20 nm (37 km) seaward from every major rookery and haulout

west of 144°W. In addition, “no approach” zones have been identified wherein no vessel may approach within 3 nm (5.6 km) of listed rookeries. None of the “no approach” zones occur in the eastern GOA or southeast Alaska. There is also an altitude restriction of 3,000 ft (0.9 km) AGL over all known rookeries and haulout areas (NMFS 2006b).

Breeding adults occupy rookeries from late May to early July, and single pups are born each year at that time. Females frequently return to the same pupping site within the rookery in successive years, although the site may or may not be in the same territory within the rookery. Steller sea lions haul out on beaches and rocky shorelines of remote islands, often in areas exposed to wind and waves. Haulouts are areas used by sea lions at times other than the breeding season. During the breeding season, adults use some haulouts as rookeries, where males establish territories, pups are born, and breeding occurs.

Since known rookeries and haulout areas, and associated critical habitat, are found adjacent to the GOA and Prince William Sound action areas, the likelihood of encountering steller sea lions in coastal areas in proximity to rookeries and haulouts is high year-round.

Northern Sea Otter. Sea otters are the largest member of the weasel family and the smallest marine mammal. Ninety percent of the world’s sea otters live in coastal Alaska (USFWS). Three distinct subpopulations of sea otters exist in Alaska, the southeast Alaska Distinct Population Segment (DPS), the southcentral Alaska DPS, and the southwest Alaska DPS. The southeast DPS extends from Dixon Entrance to Cape Yakataga; the southcentral DPS extends from Cape Yakataga to Cook Inlet including Prince William Sound, the Kenai peninsula coast, and Kachemak Bay; and the southwest stock includes Alaska Peninsula and Bristol Bay coasts and the Aleutian, Barren, Kodiak, and Pribilof Islands. The USFWS listed the southwest Alaska DPS of the northern sea otter as threatened in 2005 (70 F.R. 46366). As this DPS occurs only in Alaska, Region 7 of the USFWS has responsibility for recovery of the southwest Alaska DPS of the northern sea otter.

Sea otters feed primarily on sessile and slow-moving marine invertebrates such as abalone, clam, crab, mussel, and sea urchin. Sea otters dive to gather food from the ocean floor in relatively shallow water in areas with both rocky substrates and soft bottom sediments. The species is most commonly observed within the 40 m depth contour since sea otters require frequent access to foraging habitat in subtidal and intertidal zones. Sea otters in Alaska are not migratory and generally do not disperse over long distances, although movements of tens of kilometers are normal.

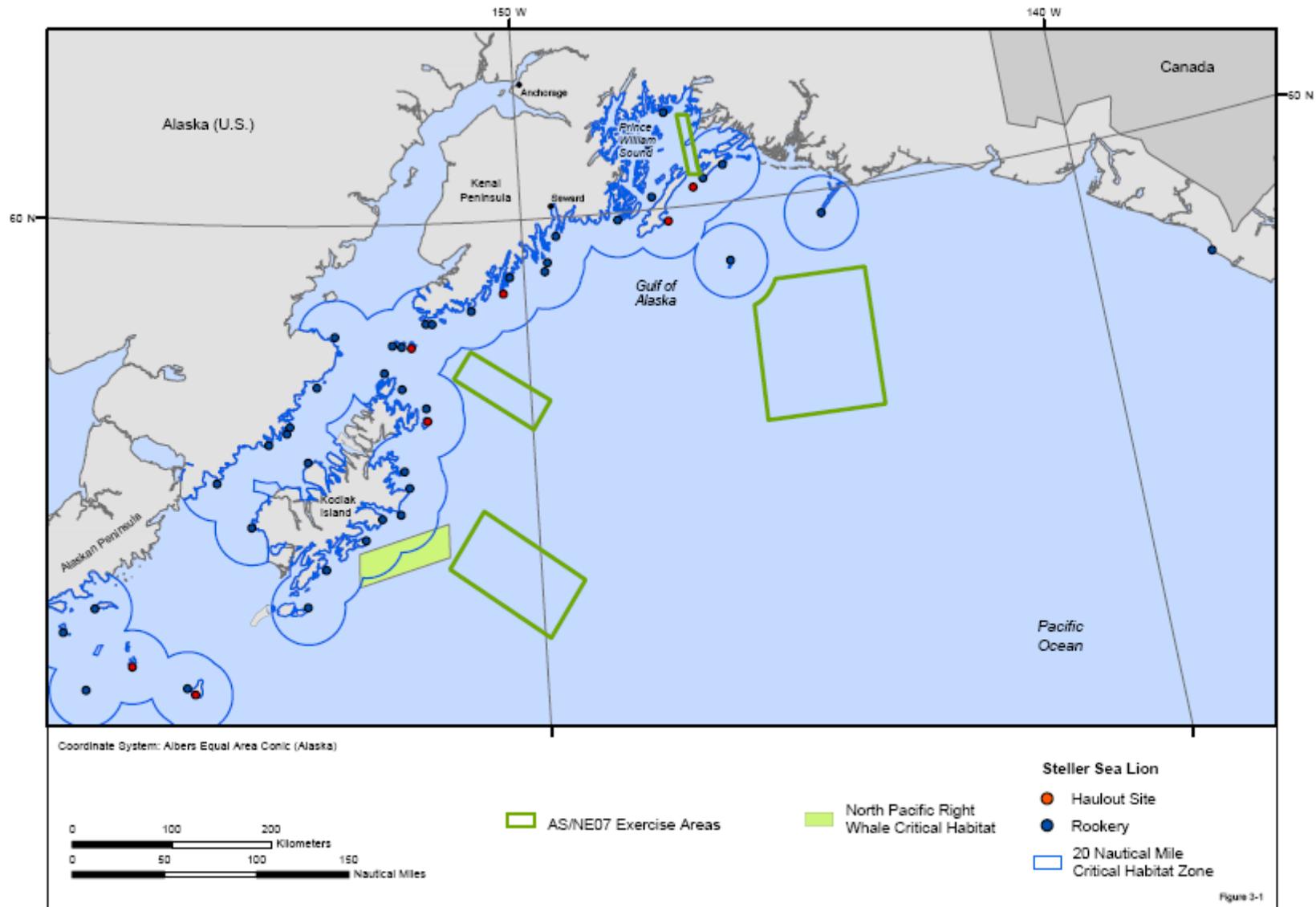


Figure 3-1. Critical Habitat Locations in Relation to AS/NE07 Operations

Table 3-2. ESA-Protected Species Potentially Found in the Exercise Areas

Common Name	Scientific Name	Status	Occurrence ^a
Marine Mammals			
North Pacific right whale	<i>Eubalaena japonica</i>	Endangered	Regular
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered	Regular
Sei whale	<i>Balaenoptera borealis</i>	Endangered	Regular
Fin whale	<i>Balaenoptera physalus</i>	Endangered	Regular
Blue whale	<i>Balaenoptera musculus</i>	Endangered	Regular
Sperm whale	<i>Physeter macrocephalus</i>	Endangered	Regular
Steller sea lion	<i>Eumetopias jubatus</i>	Threatened ^b	Regular
Sea Otter (SW Alaska DPS only)	<i>Enhydra lutris kenyoni</i>	Threatened	Regular
Sea Turtles			
Leatherback turtle	<i>Dermochelys coriacea</i>	Endangered	Rare
Green turtle	<i>Chelonia mydas</i>	Threatened ^c	Rare
Loggerhead turtle	<i>Caretta caretta</i>	Threatened	Rare
Olive ridley turtle	<i>Lepidochelys olivacea</i>	Threatened ^c	Rare
Birds			
Short-tailed Albatross	<i>Phoebastria albatrus</i>	Endangered	Regular
Steller's Eider	<i>Polysticta stelleri</i>	Threatened	Rare
Fish			
Chinook Salmon		<i>Oncorhynchus tshawytscha</i>	
Sacramento River Winter Run ESU		Endangered	Regular
Upper Columbia River Spring Run ESU		Endangered	Regular
Sanke River Spring/Summer Run ESU		Threatened	Regular
Snake River Fall Run ESU		Threatened	Regular
Central Valley Spring Run ESU		Threatened	Regular
California Coastal ESU		Threatened	Regular
Puget Sound ESU		Threatened	Regular
Lower Columbia River ESU		Threatened	Regular
Upper Willamette River ESU		Threatened	Regular
Coho Salmon		<i>Oncorhynchus kisutch</i>	
Central California Coast ESU		Endangered	Regular
S. Oregon/N. California Coasts ESU		Threatened	Regular
Lower Columbia River ESU		Threatened	Regular
Chum Salmon		<i>Oncorhynchus keta</i>	
Hood Canal Summer Run ESU		Threatened	Regular
Columbia River ESU		Threatened	Regular
Sockeye Salmon		<i>Oncorhynchus nerka</i>	
Snake River ESU		Endangered	Regular
Ozette Lake		Threatened	Regular
Steelhead Trout		<i>Oncorhynchus mykiss</i>	
Southern California ESU		Endangered	Regular
Upper Columbia River ESU		Endangered	Regular
Snake River Basin ESU		Threatened	Regular
Middle Columbia River ESU		Threatened	Regular
Lower Columbia River ESU		Threatened	Regular
Upper Willamette River ESU		Threatened	Regular
South-central California Coast ESU		Threatened	Regular
Central California Coast ESU		Threatened	Regular
Northern California ESU		Threatened	Regular
California Central Valley ESU		Threatened	Regular

^a **Regular** = A species that occurs as a regular or normal part of the fauna of the area, regardless of how abundant or common it is

Rare = A species that only occurs in the area sporadically

^b The species as a whole is listed as threatened; the eastern population is listed as threatened while the western population is listed as endangered. Both populations are expected to occur in the GOA and Prince William Sound.

^c Both species as a whole are listed as threatened; however specific stocks are listed as endangered. The conservative assumption is made that all species potentially found in the GOA and Prince William Sound are endangered.

3.4.1.2 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) contains provisions for the identification and protection of habitat essential to production of federally managed species. The MSA mandates that any Fishery Management Plan (FMP) must include a provision to describe and identify essential fish habitat (EFH) for the fishery, minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat. The NMFS and regional Fishery Management Councils develop EFH descriptions for federally managed fish species and include them in their respective FMPs. EFH is defined in the MSA Provisions under 50 C.F.R. § 600.10 as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.” The North Pacific Fishery Management Council oversees the management of the nation’s fisheries off the state of Alaska. They are responsible for preparing and maintaining the FMPs for the waters of Alaska. The final rule to implement FMP amendments identifying and describing EFH in the waters of Alaska became effective July 28, 2006 (71 F.R. 36694). The GOA has three established FMP that are currently in effect: 1) Salmon Fisheries in the Alaskan EEZ, 2) Alaska Scallops, and 3) Groundfish.

The MSA requires federal agencies to consult with NOAA Fisheries on activities that may adversely affect EFH. Adverse effect means any impact that reduces quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 C.F.R. §600.810(a)).

EFH for the Alaska salmon fishery in the GOA includes those waters and substrate necessary for salmon production needed to support a long-term sustainable salmon fishery and salmon contributions to a healthy ecosystem. Marine EFH includes all estuarine and marine areas utilized by Pacific salmon that could potentially occur in Alaska, extending from the influence of tidewater and tidally submerged habitats to the limits of the EEZ. Salmonid species with EFH in the GOA exercise area includes chinook (*Oncorhynchus tshawytscha*), chum (*Oncorhynchus keta*), coho (*Oncorhynchus kisutch*), pink (*Oncorhynchus gorbuscha*), and sockeye salmon (*Oncorhynchus nerka*).

In addition to Pacific salmon, EFH has been designated for groundfish and scallop fisheries in the GOA. This includes 59 species in the category of Groundfish Complex (including groundfish and other invertebrates) and four species of scallops. The species with designated EFH in the GOA are listed in Table 3-3. EFH for Pacific coast groundfish is generally defined as the aquatic habitat from the mean higher high water line, and the upriver extent of saltwater intrusion in river mouths seaward (Navy, 2006).

Table 3-3. Fish and Invertebrate species with designated EFH in the GOA, including Prince William Sound and Resurrection Bay

<u>Salmon Species</u>	Pelagic Shelf Assemblage (continued)
Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	Dusky rockfish (<i>Sebastes variabilis</i>)
Chum salmon (<i>Oncorhynchus keta</i>)	Widow rockfish (<i>Sebastes entomelas</i>)
Coho salmon (<i>Oncorhynchus kisutch</i>)	Yellowtail rockfish (<i>Sebastes flavidus</i>)
Pink salmon (<i>Oncorhynchus gorbuscha</i>)	Thornyheads
Sockeye salmon (<i>Oncorhynchus nerka</i>)	Longspine thornyhead (<i>Sebastolobus altivelis</i>)
<u>Scallops</u>	Shortspine thornyhead (<i>Sebastolobus alascanus</i>)
Pink or reddish scallop (<i>Chlamys rubida</i>)	Roundfishes
Rock scallop (<i>Crassadoma gigantea</i>)	Atka mackerel (<i>Pleurogrammus monoptyerygius</i>)
Spiny scallop (<i>Chlamys hastata</i>)	Pacific cod (<i>Gadus macrocephalus</i>)
Weathervane scallop (<i>Patinoplectin caurinus</i>)	Sablefish (<i>Anoplopoma fimbria</i>)
<u>Groundfish Species Complex</u>	Walleye pollock (<i>Theragra calcogramma</i>)
Target Species	Skates
<u>Flatfishes</u>	Alaska skate (<i>Bathyraja parmifera</i>)
Arrowtooth flounder (<i>Atheresthes stomias</i>)	Aleutian skate (<i>Bathyraja aleutica</i>)
Flathead sole (<i>Hippoglossoides elassodon</i>)	Bering skate (<i>Bathyraja interrupta</i>)
Rex sole (<i>Glyptocephalus zachirus</i>)	Big skate (<i>Raja binoculata</i>)
Shallow-water Assemblage	Longnose skate (<i>Raja rhina</i>)
Alaska plaice (<i>Pleuronectes quadrituberculatus</i>)	<u>Other Species</u>
Butter sole (<i>Isopsetta isopleis</i>)	<u>Sculpins</u>
English sole (<i>Parophrys vetulus</i>)	Bigmouth sculpin (<i>Hemitripterus bolini</i>)
Northern rock sole (<i>Lepidopsetta polyxystra</i>)	Great sculpin (<i>Myoxocephalus polyacanthocephalus</i>)
Southern rock sole (<i>Lepidopsetta bilineatus</i>)	Plain sculpin (<i>Myoxocephalus jaok</i>)
Sand sole (<i>Psettichthys melanostictus</i>)	Red Irish lord (<i>Hemilepidotus hemilepidotus</i>)
Starry Flounder (<i>Platichthys stellatus</i>)	Yellow Irish lord (<i>Hemilepidotus jordani</i>)
Yellowfin sole (<i>Limanda aspera</i>)	Sharks
Deepwater Assemblage	Salmon shark (<i>Lamna ditropis</i>)
Deepsea sole (<i>Embassichthys bathybius</i>)	Pacific sleeper shark (<i>Somniosus pacificus</i>)
Dover sole (<i>Microstomus pacificus</i>)	Spiny dogfish (<i>Squalus acanthias</i>)
Greenland turbot (<i>Reinhardtius hippoglossoides</i>)	Squids
Rockfishes	Boreal or common clubhook squid (<i>Onchoteuthis banksii borealjaponicus</i>)
Slope Assemblage	Eastern Pacific bobtail squid (<i>Rossia pacifica</i>)
Boccaccio (<i>Sebastes paucispinus</i>)	Giant or robust clubhook squid (<i>Moroteuthis robusta</i>)
Darkblotched rockfish (<i>Sebastes crameri</i>)	Red or magistrate armhook squid (<i>Berryteuthis magister</i>)
Greenstriped rockfish (<i>Sebastes elongatus</i>)	Octopuses
Harlequin rockfish (<i>Sebastes variegatus</i>)	North Pacific giant octopus (<i>Enteroctopus doffein</i>)
Northern rockfish (<i>Sebastes polyspinis</i>)	Pelagic octopus (<i>Vampyroteuthis infernalis</i>)
Pacific ocean perch (<i>Sebastes alutus</i>)	Forage Fish Species
Pygmy rockfish (<i>Sebastes wilsoni</i>)	Bristlemouths (Gonostomatidae)
Redbanded rockfish (<i>Sebastes babcocki</i>)	Deepsea smelts (Bathylagidae)
Redstripe rockfish (<i>Sebastes proriger</i>)	Gunnels (Pholidae)
Rougheye rockfish (<i>Sebastes aleutianus</i>)	Krill or Euphausiids (Euphausiacea: <i>Thysanopoda</i> , <i>Euphausia</i> , <i>Thysanoessa</i> , and <i>Stylocheiron</i>)
Sharpchin rockfish (<i>Sebastes zacentrus</i>)	Lanternfishes (Myctophidae)
Shortraker rockfish (<i>Sebastes borealis</i>)	Pricklebacks (Stichaeidae)
Silvergray rockfish (<i>Sebastes brevispinus</i>)	Sand Lances (Ammodytidae)
Splitnose rockfish (<i>Sebastes diplorea</i>)	Pacific sand lance (<i>Ammodytes hexapterus</i>)
Vermilion rockfish (<i>Sebastes miniatus</i>)	Sandfishes (Trichodontidae)
Demersal Shelf Assemblage	Pacific sand fish (<i>Trichodon trichodon</i>)
Canary rockfish (<i>Sebastes pinniger</i>)	Smelts (Osmeridae)
China rockfish (<i>Sebastes nebulosus</i>)	Capelin (<i>Mallotus villosus</i>)
Copper rockfish (<i>Sebastes caurinus</i>)	Eulachon (<i>Thaleichthys pacificus</i>)
Quillback rockfish (<i>Sebastes maliger</i>)	
Rosethorn rockfish (<i>Sebastes helvomaculatus</i>)	
Tiger rockfish (<i>Sebastes nigrocinctus</i>)	
Yelloweye rockfish (<i>Sebastes ruberrimus</i>)	
Pelagic Shelf Assemblage	
Dark rockfish (<i>Sebastes ciliatus</i>)	

Source: Turgeon et al. (1998); Nelson et al. (2004); McLaughlin et al. (2005)

3.4.2 Environmental Consequences

3.4.2.1 Proposed Action

At-sea within the EEZ (OEA). Maritime operations within the EEZ in the GOA will occur within the GOA exercise areas. No tactical mid-frequency active sonar would be utilized during the AS/NE07 exercise. Detailed discussion of environmental consequences for biological resources within the at-sea portion of the AS/NE07 action area is found below.

Fish Species

The Proposed Action would not include any underwater activities that might affect fish species. The use of seven surface vessels and contracted vessels that normally operate in the action areas would not affect any fish species within the EEZ in the GOA. The general nature of the Proposed Action (short in duration, transitory, and only involving activities on or above the surface) would not cause impacts to fish or fisheries resources. AS/NE07 would have no effect on any fish species in the GOA action areas within the EEZ. Threatened and endangered fish species impacts are evaluated below in a separate section. EFH impacts are also evaluated below in a separate section.

Sea Turtles

As all four possibly occurring sea turtle species in the action areas are listed under ESA, the effects analysis for these species is located below.

Birds

The limited amount of surface vessel traffic associated with AS/NE07 operations and the nature of the operations themselves makes it unlikely that the Proposed Action would affect any bird species, including marine bird species that could potentially be foraging within the at-sea GOA EEZ action areas or their prey species. Implementation of the Proposed Action would have no effects on any bird species in the GOA action areas within the EEZ. Threatened and endangered bird species impacts are evaluated below.

Marine Mammals

The Proposed Action would not include any underwater activities that might affect marine mammal species. The use of seven surface vessels and contracted vessels that normally operate in the action areas would not affect any marine mammal species within the EEZ in the GOA. Numerous commercial and recreational vessels transit the GOA daily, including fishermen, merchants, divers and other recreational boaters (Navy 2006). The addition of the AS/NE07 exercise assets to this amount of sea surface traffic is inconsequential, as seven additional surface vessels would not change the existing conditions of the GOA substantially. The general nature of the Proposed Action (11 days of operations, transitory, and only involving activities on or above the surface) would not cause significant impacts to marine mammals or related resources within the GOA action areas within the EEZ.

Ship collisions may cause major wounds and may occasionally cause fatalities to sea turtles and marine mammals. The most vulnerable marine mammals are those that spend extended periods of time at the surface in order to restore oxygen levels within their tissues after deep dives (*e.g.*, sperm whale). The Navy's standard operating procedures for lookouts significantly reduce the potential of collision with marine mammals and sea turtles. (see Table 3-4).. Based on these protective measures, collisions with cetaceans, pinnipeds, and sea turtles are not expected. Personnel are aware that they are not to harm or

harass marine mammals or sea turtles. These protective measures will be included in the Environmental Annex to the AS/NE07 Exercise Plan for all maritime participants of AS/NE07.

Noise impacts of overflights associated with aircraft operations in AS/NE07 have been analyzed in Section 3.3.2. AS/NE07 aircraft operations would not exceed ambient noise levels in the GOA, based on the analysis in the NE 2006 EA/OEA. Therefore, AS/NE07 aircraft operations are not expected to affect marine mammals in the GOA.

Therefore, as a result of implementing the Proposed Action and the maritime protective measures, no adverse effects to marine mammals are expected to result in any type of Level B or A harassment that could require take authorization under MMPA. ESA-listed threatened and endangered marine mammal species are evaluated separately below.

Maritime Protective Measures: Lookout and Watchstander Responsibilities
On the bridge of surface ships, there will always be at least three people on watch whose duties include observing the water surface around the vessel.
Personnel on lookout and officers on watch on the bridge will have at least one set of binoculars available for each person to aid in the detection of marine mammals.
Personnel on lookout will employ visual search procedures employing a scanning methodology in accordance with the Lookout Training Handbook (NAVEDTRA 12968-B).
After sunset and prior to sunrise, lookouts will employ Night Lookouts Techniques in accordance with the Lookout Training Handbook.
Personnel on lookout will be responsible for reporting all objects or anomalies sighted in the water (regardless of the distance from the vessel) to the Officer of the Deck, since any object or disturbance (e.g., trash, periscope, surface disturbance, discoloration) in the water may be indicative of a threat to the vessel and its crew or indicative of a marine species that may need to be avoided as warranted.
Maritime Protective Measures: Operating Procedures
An Environmental Annex to the Exercise Plan will be issued prior to the exercise to further disseminate the personnel training requirement and general marine mammal protective measures.
Commanding Officers will make use of marine species detection cues and information to limit interaction with marine species to the maximum extent possible consistent with safety of the ship.
Navy aircraft participating in exercises at sea will conduct and maintain, when operationally feasible and safe, surveillance for marine species of concern as long as it does not violate safety constraints or interfere with the accomplishment of primary operational duties.

Table 3-4. Maritime Protective Measures included in AS/NE07

Threatened and Endangered Species

Implementation of the Proposed Action will have **no effect** on any threatened or endangered species listed under the ESA within the EEZ in the GOA. Accordingly, consultation with NMFS or USFWS is not required for implementation of the Proposed Action. Maritime operations within the EEZ in the GOA will occur outside of all designated critical habitat for both North Pacific right whales and Steller sea lions, as shown in Figure 3-1. The small number of surface ships participating in AS/NE07 over large geographic areas in the GOA would not impact threatened and endangered species due to the very distant and minimal nature of AS/NE07 exercises. The maritime protective measures that will be implemented as a part of the Proposed Action will further reduce the possibility for impacts to threatened and endangered species by employing lookouts to search for marine mammals during exercise activities. No tactical mid-frequency active sonar would be utilized during the AS/NE07 exercise. A detailed discussion on each listed species is included below.

Fish (Salmonids)

Implementation of the Proposed Action would have **no effect** on ESA-listed salmonids within the EEZ in the GOA. The Proposed Action would not involve any underwater activities that might affect fish species. The use of seven surface vessels and contracted fishing vessels that normally operate in the GOA area would have no effect on any fish species within the GOA and action areas. The general nature of the Proposed Action (11 days of operations, transitory, and only involving activities on or above the surface) would not cause impacts to ESA-listed fish species.

Sea Turtles

Implementation of the Proposed Action would have **no effect** on ESA-listed sea turtles as they are extremely rare within the EEZ in the GOA action area and vicinity. If a sea turtle did occur within the action area, because of the limited amount of surface vessel traffic associated with AS/NE07, the large exercise areas, and the nature of the training operations themselves; it is unlikely that the Proposed Action would have any effects on sea turtles.

Birds

Implementation of the Proposed Action would have **no effect** on ESA-listed short-tailed albatross or steller's eiders, because of the limited amount of surface vessel traffic associated with AS/NE07 operations and the nature of the operations themselves. It is unlikely that the Proposed Action would affect short-tailed albatross potentially foraging within the action areas or their prey species. It is expected that albatross would avoid the limited operations of AS/NE07 for the relatively short period of time that they are operating within the exercise areas. Steller's eiders are not in the GOA exercise areas during the summer season, when AS/NE07 will occur.

Marine Mammals

Implementation of the Proposed Action would have **no effect** on ESA-listed marine mammals in the exercise areas. The Proposed Action would not involve any underwater activities that might affect marine mammal species. The use of seven surface vessels and contracted vessels that normally operate in the action areas would not affect any ESA-listed marine mammal species within the EEZ in the GOA. Numerous commercial and recreational vessels transit the GOA daily, including fishermen, merchants, divers and other recreational boaters (Navy 2006). The addition of the AS/NE07 exercise assets to this amount of sea surface traffic is inconsequential, as seven additional surface vessels would not change the existing conditions of the GOA substantially. The general nature of the Proposed Action (11 days of

operations, transitory, and only involving activities on or above the surface) would not cause significant impacts to ESA-listed marine mammals within the GOA action areas within the EEZ.

Ship collisions can cause major wounds and may occasionally cause fatalities to sea turtles and cetaceans. The most vulnerable marine mammals are those that spend extended periods of time at the surface in order to restore oxygen levels within their tissues after deep dives (*e.g.*, sperm whale). Accordingly, the Navy has adopted maritime protective measures as a part of their standard operating procedures to reduce the potential for collisions with surfaced marine mammals and sea turtles (see Table 3-4). Based on these protective measures, collisions with cetaceans, pinnipeds, and sea turtles are not expected. Personnel are aware that they are not to harm or harass marine mammals or sea turtles. These protective measures will be included in the Environmental Annex to the AS/NE07 Exercise Plan for all maritime participants of AS/NE07. Noise impacts of overflights associated with aircraft operations in AS/NE07 have been analyzed in Section 3.3.2. AS/NE07 aircraft operations would not exceed ambient noise levels in the GOA, based on the analysis in the NE 2006 EA/OEA. Therefore, AS/NE07 aircraft operations are not expected to affect ESA-listed threatened and endangered marine mammals in the GOA.

Therefore, as a result of implementing the Proposed Action and the maritime protective measures, **no effects** to ESA-listed marine mammals are likely to occur.

Blue Whale, Fin Whale, Humpback Whale, Sei Whale, and Sperm Whale. The general protective measures for marine mammals listed in Table 3-4 will aid in the surface vessel detection and avoidance of any blue, fin, humpback, sei, or sperm whales in the GOA exercise areas. Due to the size of the GOA exercise areas relative to the types and duration of activities proposed and the low number of surface vessels, implementation of the Proposed Action would have **no effect** on ESA-listed blue, fin, humpback, sei, or sperm whales in the GOA exercise areas.

North Pacific Right Whale. North Pacific right whales within the EEZ in the GOA are very rare due to extremely low population numbers. However, critical habitat has been designated within the GOA east of Kodiak Island, as shown in Figure 3-1. No maritime AS/NE07 operations will occur within the designated critical habitat area in the GOA. The general protective measures for marine mammals listed in Table 3-4 will aid in the surface vessel detection and avoidance of any North Pacific right whales in the GOA exercise areas. Due to the size of the GOA exercise areas relative to the types and duration of activities proposed and the low number of surface vessels, implementation of the Proposed Action would have **no effect** on ESA-listed North Pacific right whales in the GOA exercise areas.

Steller Sea Lion. Since known Steller sea lion rookeries and haulout areas, and associated critical habitat, are found within the GOA exercise areas, the likelihood of encountering Steller sea lions in proximity to rookeries and haulouts is high during the Proposed Action in the EEZ within the GOA. Insert female info. Per NMFS guidelines and critical habitat requirements (NMFS, 2006b), helicopters enroute to/from the GOA action areas, will maintain 3,000 ft (914 m) AGL over critical habitat. If unable to maintain 3,000 ft (914 m) AGL due to weather, they will remain within the critical habitat clearance corridor to the southeast from Seward. No maritime AS/NE07 operations will occur within Steller sea lion critical habitat areas, as shown in Figure 3-1. Therefore, implementation of the Proposed Action would have **no effect** on Steller sea lions or their critical habitat.

Northern Sea Otter. Due to the expected low densities of Northern sea otters within the EEZ in the GOA, the minimal nature of AS/NE07 operations and the number of surface vessels and transits,

implementation of the Proposed Action would have **no effect** on the Northern sea otter populations at sea within the EEZ in the GOA exercise areas.

Based on the analysis, there will be **no effect** to any federally listed threatened or endangered species occurring in the at-sea exercise areas in the EEZ within the GOA as a result of implementing the Proposed Action.

Essential Fish Habitat (EFH)

Due to the short and transitory nature of the Proposed Action in the at-sea EEZ within the GOA, impacts to the waters and substrates necessary for fish for spawning, breeding, feeding or growth to maturity would be insignificant. No changes to the established EFH in the EEZ portion of the GOA would occur with implementation of the Proposed Action. The potential for the release of toxic materials will be minimized through compliance with OPNAVINST 5090.1B CH 3, Pollution Prevention, OPNAVINST 5090.1B Ch 19, Environmental Compliance Afloat, OPNAVINST 5090.1B Ch 12, Ocean Dumping, and OPNAVINST 5090.1B Appendix E, Environmental Effects Abroad of Major Navy Actions. The Proposed Action will have **no adverse effects** on EFH in the GOA for Pacific salmon, Groundfish, or Alaska scallops.

Seward, Prince William Sound, and at-sea within territorial seas (12 nm) (EA). AS/NE07 operations within territorial seas, including transits into Prince William Sound and Resurrection Bay and Seward will take place in established maritime traffic routes and in port in Seward. No tactical mid-frequency active sonar would be utilized during the AS/NE07 exercise. Detailed discussion of environmental consequences for biological resources within the territorial sea areas of AS/NE07 is found below.

Fish Species

The Proposed Action would not use tactical mid-frequency active sonar or other underwater activities that might affect fish species. The use of three to four surface vessels that normally operate in the Prince William Sound and Resurrection Bay action areas would not affect any fish species. The general nature of the Proposed Action (short in duration, transitory, and only involving activities on or above the surface) would not cause impacts to fish or fisheries resources. AS/NE07 would have no effect on any fish species in the nearshore action areas. Threatened and endangered fish species impacts are evaluated below in a separate section. EFH impacts are also evaluated below in a separate section.

Sea Turtles

As all four possibly occurring sea turtle species in the action areas are listed under ESA, the effects analysis for these species is located below.

Birds

The limited amount of surface vessel traffic associated with AS/NE07 operations and the nature of the operations themselves makes it unlikely that the Proposed Action would affect any bird species, including marine bird species that could potentially be foraging within the nearshore action areas or their prey species. Bald eagles in the action area will not be disturbed by AS/NE07 events, as operations within Seward and Prince William Sound will be minimal and not different from typical maritime activities in the areas. Implementation of the Proposed Action would have no effects on any bird species in the Prince William Sound and Resurrection Bay action areas, including Bald Eagles. Threatened and endangered bird species impacts are evaluated below.

Marine Mammals

The Proposed Action would not use tactical mid-frequency active sonar or other underwater activities that might affect marine mammal species. Established general maritime protective measures will be implemented during the AS/NE07 exercise and will be included in the Environmental Annex to the AS/NE07 Exercise Plan for all maritime participants of AS/NE07. These protective measures are listed in Table 3-4. The use of three to four surface vessels that normally operate in the action areas would not affect any marine mammal species within the Prince William Sound or Resurrection Bay. Numerous commercial and recreational vessels transit the GOA and its bays daily, including fishermen, merchants, divers and other recreational boaters (Navy 2006). The addition of the AS/NE07 exercise assets to this amount of sea surface traffic is inconsequential, as three to four additional surface vessels would not change the existing conditions of the nearshore action areas substantially. The general nature of the Proposed Action (short in duration, transitory, and only involving activities on or above the surface) would not cause significant impacts to marine mammals or related resources. Therefore, as a result of implementing the Proposed Action, no adverse effects to marine mammals are expected to result in any type of Level B or A harassment that could require take authorization under MMPA. ESA-listed threatened and endangered marine mammal species are evaluated separately below.

Threatened and Endangered Species

Implementation of the Proposed Action will have **no effect** on any threatened or endangered species listed under the ESA within the territorial sea areas of AS/NE07 to include Prince William Sound and Resurrection Bay into Seward. Accordingly, preparation of a Biological Assessment or consultation with NMFS or USFWS is not required for the Proposed Action. Vessel transits from the GOA into the Prince William Sound and into Resurrection Bay will require transit of designated critical habitat areas for Steller sea lions, as shown in Figure 3-1. All transits will follow established maritime traffic routes for ingress and egress of these areas. No tactical mid-frequency active sonar would be utilized during the AS/NE07 exercise. A detailed discussion on each listed species is included below.

Fish (Salmonids)

Implementation of the Proposed Action would have **no effect** on ESA-listed salmonids within the nearshore exercise areas. The Proposed Action would not utilize tactical mid-frequency active sonar or other underwater activities that might affect fish species. The use of three to four surface vessels that normally operate in the Prince William Sound and Resurrection Bay areas would have no effect on any fish species within the nearshore action areas. The general nature of the Proposed Action (short in duration, transitory, and only involving activities on or above the surface) would not cause impacts to ESA-listed fish species.

Sea Turtles

Implementation of the Proposed Action would have **no effect** on ESA-listed sea turtles as they are extremely rare within the nearshore action areas and vicinity. If a sea turtle did occur within the action area, because of the limited amount of surface vessel traffic associated with AS/NE07, the large exercise areas, and the nature of the training operations themselves; it is unlikely that the Proposed Action would have any effects on sea turtles.

Birds

Implementation of the Proposed Action would have **no effect** on ESA-listed short-tailed albatross or steller's eiders, because of the limited amount of surface vessel traffic associated with AS/NE07 operations and the nature of the operations themselves. It is unlikely that the Proposed Action would

affect short-tailed albatross potentially foraging within the nearshore action areas or their prey species. It is expected that albatross would avoid the limited operations of AS/NE07 for the relatively short period of time that they are within the action areas. Steller's eiders are not in the nearshore action areas during the summer season, when AS/NE07 will occur.

Marine Mammals

Implementation of the Proposed Action would have **no effect** on ESA-listed marine mammals in the nearshore action areas. The minimal nature of AS/NE07 operations will prevent impacts to any ESA-listed marine mammals. The Proposed Action would not use tactical mid-frequency active sonar or other underwater activities that might affect marine mammal species. Established general maritime protective measures for marine mammals will be implemented during the AS/NE07 exercise and will be included in the Environmental Annex to the AS/NE07 Exercise Plan for all maritime participants of AS/NE07. These protective measures are listed in Table 3-4.

Blue Whale, Fin Whale, Humpback Whale, Sei Whale, and Sperm Whale. The general protective measures for marine mammals listed in Table 3-4 will aid in the surface vessel detection and avoidance of any blue, fin, humpback, sei, or sperm whales in the nearshore action areas within the Prince William Sound and Resurrection Bay. All vessel transits into these action areas will be located in established maritime vessel traffic routes, and will not include any operations out of the ordinary for these traffic routes. Due to the short-term duration and non-invasive nature of AS/NE07 exercises and the low number of surface vessels, implementation of the Proposed Action would have **no effect** on ESA-listed blue, fin, humpback, sei, or sperm whales in the nearshore action areas.

North Pacific Right Whale. North Pacific right whales within the nearshore areas are very rare due to extremely low population numbers. The general protective measures for marine mammals listed in Table 3-4 will aid in the surface vessel detection and avoidance of any North Pacific right whales in the Prince William Sound and Resurrection Bay action areas. Due to the short-term duration and non-invasive nature of AS/NE07 exercises and the low number of surface vessels, implementation of the Proposed Action would have **no effect** on ESA-listed North Pacific right whales in the GOA action area.

Steller Sea Lion. Since known Steller sea lion rookeries and haulout areas, and associated critical habitat, are found within the territorial seas of the GOA and Prince William Sound, the likelihood of encountering steller sea lions in coastal areas in proximity to rookeries and haulouts is high during the Proposed Action. Per NMFS guidelines and critical habitat requirements (NMFS, 2006b), helicopters enroute to/from the action areas, will maintain 3,000 ft (914 m) AGL over critical habitat. If unable to maintain 3,000 ft (914 m) AGL due to weather, they will remain within the critical habitat clearance corridor to the southeast from Seward. Vessels transiting to and from the Prince William Sound and Resurrection Bay will transit through critical habitat areas. All transits will follow established maritime traffic routes for ingress and egress of these areas. Therefore, implementation of the Proposed Action would have **no effect** on Steller sea lions or their critical habitat.

Northern Sea Otter. Due to the expected low nearshore coastal impacts of AS/NE07 activities and the low number of surface vessels and transits, implementation of the Proposed Action would have **no effect** on the Northern sea otter populations in the GOA and action areas.

Based on the analysis, there will be **no effect** to any federally listed threatened or endangered species occurring in the action areas in the territorial seas within the GOA, Prince William Sound, or Resurrection Bay as a result of implementing the Proposed Action.

Essential Fish Habitat (EFH)

Due to the short and transitory nature of the Proposed Action in the GOA territorial seas, Prince William Sound, and Resurrection Bay, impacts to the waters and substrates necessary for fish for spawning, breeding, feeding or growth to maturity would be insignificant. No changes to the established nearshore EFH in the Prince William Sound and Resurrection Bay would occur with implementation of the Proposed Action. The potential for the release of toxic materials will be minimized through compliance with OPNAVINST 5090.1B CH 3, Pollution Prevention, OPNAVINST 5090.1B Ch 19, Environmental Compliance Afloat, OPNAVINST 5090.1B Ch 12, Ocean Dumping, and OPNAVINST 5090.1B Appendix E, Environmental Effects Abroad of Major Navy Actions. The Proposed Action will have **no adverse effects** on EFH in the GOA, Prince William Sound, or Resurrection Bay for Pacific salmon, Groundfish, or Alaska scallops.

3.4.2.2 No Action Alternative

Under the No Action Alternative, naval assets would not participate in AS/NE07. Baseline GOA and Prince William Sound conditions and species, as described in Section 3.4.1, would not change. Therefore, no significant impacts to biological resources in the action area would occur with implementation of the No-Action Alternative. No effect to threatened or endangered species protected under ESA would occur with implementation of the No-Action Alternative. No adverse impacts to any marine mammal species would occur under the No-Action Alternative. No adverse effects to EFH would occur with implementation of the No-Action Alternative.

3.5 CULTURAL RESOURCES

3.5.1 Affected Environment

Cultural resources include prehistoric and historic archaeological resources, historic architectural resources, and traditional cultural properties. A traditional cultural property can be defined as a property that is eligible for inclusion in the National Register of Historic Places (NRHP) because of its association with cultural practices or beliefs of a living community.

Cultural resources are protected under Section 106 of the National Historic Preservation Act of 1966, as amended. An adverse effect to a cultural resource is found when an undertaking may alter, directly or indirectly, characteristics of a property or resource that is eligible for inclusion in the National Register. To be eligible for inclusion, archeological or historic resources must meet one or more of the criteria (as defined in 36 CFR § 60.4) for inclusion on the NRHP. Shipwrecks may also be considered an historic resource and are mapped by the U.S. Department of Interior Minerals Management Service (MMS).

Shipwrecks in the GOA area are the result of navigational hazards (storms, reefs, and/or shoals), human errors (nautical equipment breakdowns, fire/explosions, strandings, foundering, groundings, and collisions), and intentional sinkings (artificial reefs). Many historic records exist of shipwrecks in the GOA, Prince William Sound and Resurrection Bay (MMS). The exact location of most of these shipwrecks is unknown or estimated. Two shipwrecks are listed on the NRHP for the state of Alaska.

One is the *S.S. Aleutian*, located in Larson Bay off of Kodiak Island. The other is the *S.S. Northwestern*, located in the Aleutians at Unalaska. No NRHP-listed sites are documented in the GOA Exercise Area, Prince William Sound or Resurrection Bay and the Port of Seward (NRHP). For this reason, consultation under Section 106 of the National Historic Preservation Act is not required for the Proposed Action.

3.5.2 Environmental Consequences

3.5.2.1 Proposed Action

At-sea within the EEZ (OEA). The only potential effects to cultural resources from maritime operations in the EEZ could be from falling debris affecting submerged sites or shipwrecks. The only two shipwrecks listed in the NRHP in Alaska are a great distance from all action areas for AS/NE07 operations. Larson Bay is the closest site, and it is located on the west side of Kodiak Island, the opposite side from which the GOA operations within the EEZ will be taking place.

Seward, Prince William Sound, and at-sea within territorial seas (12 nm) (EA). Potential effects to cultural resources from maritime operations in the territorial seas could be from falling debris affecting submerged sites or shipwrecks or from striking submerged wreck sites. Avoidance of these known submerged wreck sites and established maritime traffic routes into and out of port in both Prince William Sound and Seward will reduce any likelihood of potential cultural resource impacts from transiting vessels.

In conclusion, implementation of the Proposed Action would have no adverse effects on listed or eligible NRHP properties or any other identified cultural resource in the action areas.

3.5.2.2 No Action Alternative

Under the No Action Alternative, naval assets would not participate in AS/NE07. Baseline cultural resource conditions, including NRHP listed sites and shipwrecks, would not change. Therefore, no impacts to any cultural resources would occur with implementation of the No-Action Alternative.

3.6 TRANSPORTATION AND TRAFFIC

3.6.1 Affected Environment

The USCG has established maritime traffic routes in the action areas to control transportation and traffic. The major purpose of the routes (often referred to as shipping lanes) is to allow access to major ports for large commercial vessels while providing adequate separation space from other types of offshore activities. Ocean traffic flow in congested waters, especially near coastlines, is controlled by the use of directional shipping lanes for large vessels (cargo, container ships, and tankers). Traffic flow controls are also implemented to ensure that harbors and ports-of-entry remain as uncongested as possible. There is less control on ocean traffic involving recreational boating, sport fishing, commercial fishing, and activity by naval vessels. In most cases, the factors that govern shipping or boating traffic include the following: adequate depth of water; weather conditions (primarily affecting recreational vessels); the availability of fish of recreational or commercial value; and water temperature (higher water temperatures will increase recreational boat traffic and diving activities).

Ships may travel through the action areas for a variety of reasons, including access to shipping lanes, commercial and recreational fishing, private recreation, and cruise ships. The Alaska Marine Highway System is the official ferry system serving Alaska coastal communities. The southcentral Alaska ferry routes, as shown in Figure 3-2, connect to both the southwestern and southeastern Alaska Marine Highway ferry routes. May is the beginning of the cruise ship tourist industry in the GOA, Prince William Sound and the town of Seward. An average of nine to eleven cruise ships per week will travel up to and return from the southcentral Alaska Peninsula as a part of this important tourist industry.

Local Notice to Mariners (NOTMAR) are published by local U.S. Coast Guard District Commanders. These notices publish information affecting navigation safety including: changes to aids to navigation, reported dangers, scheduled construction or other disruptions, chart corrections, and similar information. The 17th Coast Guard District (Alaska) is responsible for issuing NOTMARs in the area affected by AS/NE07.



Figure 3-2. Alaska Marine Highway Southcentral Alaska Ports of Call

3.6.2 Environmental Consequences

3.6.2.1 Proposed Action

At-sea within the EEZ (OEA). All vessels participating in AS/NE07 within the EEZ in the GOA will operate with due regard for other vessels in accordance with established international protocols. A NOTMAR will be published to encompass the AS/NE07 exercise time frame and locations. There is a slight potential the presence and operation of participating ships in the GOA EEZ areas could temporarily hinder navigation of commercial and private recreational vessels. This could occur if transiting vessels have to detour around a limited area in which AS/NE07 surface assets are conducting a VBSS/EMIO operation. However, impacts will be insignificant due to the short-term nature of the exercise, the small number of ships participating in the exercise, and the minimal nature of naval operations as a part of AS/NE07. Due to the limited scope and duration of the Proposed Action, and with procedures in place to provide a NOTMAR, impacts to vessel transportation under implementation of the Proposed Action would not be significant.

Seward, Prince William Sound, and at-sea within territorial seas (12 nm) (EA). All vessels participating in AS/NE07 within the territorial seas in the GOA, Prince William Sound, and Resurrection Bay and Seward will operate with due regard for other vessels in accordance with established

international protocols. A NOTMAR will be published to encompass the AS/NE07 exercise time frame and locations. The only AS/NE07 operations taking place within these action areas are transits into and out of Seward and Prince William Sound. These transits will take place in established maritime traffic lanes into and out of these areas. Therefore, impacts to vessel transportation within the territorial seas, Prince William Sound, and Resurrection Bay and Seward under implementation of the Proposed Action would not be significant.

3.6.2.2 No Action Alternative

Under the No Action Alternative, naval assets would not participate in AS/NE07. No changes to vessel transportation and traffic within the GOA or the Prince William Sound would occur. No changes to transportation via air flight routes over Alaska and the GOA would occur. No changes to traffic patterns in the city or Port of Seward would occur. Therefore, no impacts to transportation and traffic would occur with implementation of the No Action Alternative.

3.7 SOCIOECONOMICS

3.7.1 Affected Environment

Alaska is lightly populated, with 641,700 people distributed over 570,374 square miles of land, according to the U.S. Census Bureau's American Community Survey in 2005, distributed between the small cities of Anchorage (260,200), Fairbanks (82,800) and Juneau (30,700), a few smaller towns, and many villages and rural settlements. Average annual population growth was more than 3% per year in the 1980s declining to about 1.5% per year in the 1990s, where it is projected to remain, giving a projected total state population that reaches 885,000 by 2025 (U.S. Census Bureau, 2000). Native peoples comprise about 16% of Alaska's population. The State of Alaska median household income, just over \$56,200 in the 2005 American Community Survey, is the seventh highest in the nation. The economy is dominated by government and natural resources, with Federal civilian and military payrolls, and the State's Permanent Fund, contributing 44% of total incomes.

The North Slope oil fields, which provide 19% of US crude oil production (8% of US consumption), provide a further 35% of the state's incomes, while fisheries provide an additional 7%. Other significant income shares include tourism (5%), timber (2%), and mining (2%), with the remainder miscellaneous (agriculture contributes 0.1%) (Goldsmith, 1997). In addition, diverse forms of subsistence livelihood are practiced throughout the state, primarily, but not exclusively, by native communities. These activities depend on fish, marine mammals, and wildlife - including partly commercial reindeer herding - and play a social and cultural role vastly greater than their contribution to monetary incomes.

The town of Seward, Alaska is a summer destination in the southcentral Alaska region. Visitors to the area can travel via the Alaska Railroad, the Seward Highway from Anchorage, air, bus, or cruise ship. Seward is the southernmost terminus of the Alaska Railroad, which makes it a desirable port for incoming freight to head north to the interior of Alaska. Seward is also an endpoint for many northbound cruise ships, providing passengers with ground transportation options to the interior of Alaska. Seward is the seventh most lucrative fisheries port in the United States per value. In 2004, 49.7 million dollars worth of fish and shellfish passed through Seward according to the National Marine Fisheries Service.

Past Northern Edge exercises have brought in significant revenues to the state of Alaska. The influx of transient personnel in connection with Navy operations bring in revenue for local businesses, in many years, the number is at or above 2500 personnel. Visiting Navy ships make port calls into different towns along the coast, providing revenue to local businesses, including shopping and dining. Assets involved in past Northern Edge exercises have also been stationed at times in different areas, such as air wings at Elmendorf Air Force Base in Anchorage, or ships pulled in to port, for example, the Navy Oiler that will be in Seward for three days during AS/NE07.

The habitats of the GOA support some of the largest fisheries in the United States (Heifetz et al. 2003). Alaska leads all other states in pounds of fish landed and their dockside value. In 1995, the dockside value of these resources (salmon, groundfish and shellfish) totaled more than \$1.4 billion. Fishing occupies a traditional place in the state's economy, and is considered part of Alaska's heritage. Fishing is the largest nongovernmental employer in the state, and the export of fish products from Alaska plays a major role in reducing the nation's trade deficit. Recreational fishing is also an important part of Alaska's economy. Approximately one-third of the recreational fishing occurred in coastal waters. Alaska's recreational fishing industry has far-reaching benefits, generating over \$17 million in Federal income taxes. Potential socioeconomic impacts resulting from AS/NE07 would be related primarily to the commercial fishing industry and, to a lesser extent, sport and subsistence fishing in the GOA. The three types of fisheries supported by the action areas are examined in detail below.

3.7.1.1 Commercial Fisheries

In the EEZ, groundfish is the predominant resource for Alaskan commercial fisheries (Hiatt et. al., 2003). The commercial groundfish catch off Alaska totaled 2.2 million tons in 2004. The real ex-vessel¹ value of the catch was \$593 million in 2004 and the gross value of the 2004 catch after primary processing was approximately \$1.7 billion. The groundfish fisheries accounted for the largest share (51%) of the ex-vessel value of all commercial fisheries off Alaska in 2004. In the GOA, a total of 809 vessels participated in the groundfish catch in 2004 (Hiatt et. al., 2004). Catcher/hook and line vessels are the most common types of ground fishery vessels that report catch in locations near or overlapping with the exercise area. Between 1998 and 2002, an average of 225 vessels reported catch in June (Hiatt et. al., 2003).

Fishing seasons are determined for species, gear type, and location. A limited number of fishing seasons are open during mid-May (Alaska Dept. of Fish and Game, 2007). In the Prince William Sound area and out to sea in the GOA during mid-May, the following commercial fishing seasons are open: 1) Chinook salmon, 2) Sockeye salmon, 3) sac roe, 4) shrimp, 5) Pacific cod, and 6) rockfish. In the Kodiak area and out to sea in the GOA during mid-May, the following commercial fishing seasons are open: 1) sac roe, 2) Dungeness crab, 3) shrimp, 4) cod, and 5) rockfish.

¹ Ex-vessel is the price for fish paid to fishermen when a commercial fishing boat lands or unloads a catch.

3.7.1.2 *Recreational Fisheries*

In 2001, U.S. residents over the age of 16 spent an estimated \$537 million on fishing trips and equipment in Alaska (USFWS, 2001). Expenditures for sport fishing in Alaska in 2001 generated 11,064 jobs, and \$238 million in wages and salaries. These jobs and income generated an estimated total of \$960 million in spending (Alaska Dept. of Fish and Game, 2006).

Most of the recreational fishing in the GOA occurs in inland and near-shore areas. Recreational fishing beyond 12 miles (19 km) from shore would be limited to some groundfish, including halibut and ocean perch. In most areas of the state, groundfish, except halibut and rockfish, are not highly regarded as sportfish. While recreational use of groundfish has been on the increase, virtually all of the sport catch is taken in the south-eastern and south-central regions of the state, and is associated with the larger population centers (NPFMC, 2002).

3.7.1.3 *Subsistence*

The Alaska Native Interest Lands Conservation Act of 1980 recognized the importance of subsistence use of natural resources and gave priority use on federal public lands to rural Alaska residents. In the Chugach region surrounding the Prince William Sound and the town of Seward, the Chugach Alaska Corporation owns large tracts of land, both surface and subsurface. On Resurrection Bay and in the town of Seward, only two small parcels are owned by the Chugach Alaska Corporation. Two parcels of subsurface estate are located north of the town of Seward. On the Prince William Sound, the Chugach Alaska Corporation owns many parcels on the eastern shores of the sound. Native Alaskans utilize the GOA and the Prince William Sound for subsistence fishing areas year-round.

3.7.2 **Environmental Consequences**

3.7.2.1 *Proposed Action*

At-sea within the EEZ (OEA). Under implementation of the Proposed Action, AS/NE07 operations at sea within the EEZ in the GOA will be spread out, transitory, and occurring over 11 days. A NOTMAR and NOTAM will be published to inform the commercial, recreational, and subsistence fishery communities of the AS/NE07 exercise areas and activities. No usage restrictions of any sort will be required as a part of AS/NE07 operations. As discussed in Section 3.4.2, the Proposed Action is not expected to affect fishery stocks. Proposed training activities would not disturb the water or subsurface significantly, nor would there be any changes in access to commercial, recreational, and subsistence fishing areas.

Seward, Prince William Sound, and at-sea within territorial seas (12 nm) (EA). AS/NE07 operations in the Prince William Sound and Resurrection Bay will involve transits in established maritime traffic routes into and out of the action areas. A NOTMAR and NOTAM will be published to inform the commercial, recreational, and subsistence fishery communities of the AS/NE07 exercise locations and activities. No usage restrictions of any sort within territorial waters will be required as a part of AS/NE07 operations. As discussed in Section 3.4.2, the Proposed Action is not expected to affect fishery stocks. The Navy Oiler berthing in Seward for three days will have no significant impacts on the local economy of the town of Seward. No other potential visitors or tourists would be restricted by naval operations at Seward. The addition of transient population members will increase local revenues.

For these reasons, implementation of the Proposed Action would have no significant impacts on the commercial fishing industry, recreational fisheries, or subsistence fisheries, and no significant impacts on local socioeconomics in the action area.

3.7.2.2 *No Action Alternative*

Under the No Action Alternative, naval assets would not participate in AS/NE07. The revenue to the state of Alaska that would be brought in by visiting personnel and the federal government hiring contract vessel support for the AS/NE07 exercise also would not occur. This would result in negative impacts to socioeconomics in the action area as a result of implementing the No Action Alternative.

3.8 PUBLIC HEALTH AND SAFETY

3.8.1 Affected Environment

AS/NE07 operations at sea will require naval assets participating in the exercise to transit over large distances and utilize designated transit/shipping lanes and also areas outside of designated traffic areas in the GOA, Prince William Sound, and Resurrection Bay. AS/NE07 operations in Seward will require vessels entering and leaving the Port of Seward and mooring the Navy Oiler for three days. A NOTMAR and NOTAM will be published to inform all affected mariners and aviators of the AS/NE07 surface ship and air assets operating in these areas for the duration of the AS/NE07 exercise.

3.8.2 Environmental Consequences

3.8.2.1 *Proposed Action*

At-sea within the EEZ (OEA). Naval assets observe every possible precaution in planning and executing operations to prevent injury to people and damage to property or the environment. All naval assets participating in AS/NE07 will follow all vessel and personnel safety procedures at all times. Implementation of the Proposed Action in the GOA within the EEZ would have no adverse impacts on the health and safety of any individual due to the short-term and transitory nature of AS/NE07 operations in the GOA.

Seward, Prince William Sound, and at-sea within territorial seas (12 nm) (EA). Naval assets observe every possible precaution in planning and executing operations to prevent injury to people and damage to property or the environment. All naval assets participating in AS/NE07 will follow all vessel and personnel safety procedures at all times. AS/NE07 assets using designated maritime traffic routes into and out of Prince William Sound and Resurrection Bay into Seward will follow all applicable standard operating procedures for travel within these areas. Vessel mooring in the Port of Seward will comply with all established safety requirements of the Port of Seward. Implementation of the Proposed Action within the territorial seas of the GOA, Prince William Sound, and Seward and Resurrection Bay would have no adverse impacts on the health and safety of any individual due to the short-term and transitory nature of AS/NE07 operations in these areas.

3.8.2.2 *No Action Alternative*

Under the No Action Alternative, naval assets would not participate in AS/NE07. There would be no changes to existing hazards to public health and safety in the action areas. Therefore, no impacts to public health and safety would occur with implementation of the No Action Alternative.

3.9 ENVIRONMENTAL JUSTICE

3.9.1 Affected Environment

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued on February 11, 1994. This EO requires each Federal agency to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations. The EPA and the CEQ have emphasized the importance of incorporating environmental justice review in the analyses conducted by Federal agencies under NEPA and of developing protective measures that avoid disproportionate environmental effects on minority and low-income populations. All exercises taking place during AS/NE07 would occur within the state of Alaska or at sea in the GOA. No permanent or long-term actions would occur as a part of AS/NE07 to any portion of the state of Alaska.

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires federal agencies to identify any adverse impacts from a federal action to the health and safety of children.

3.9.2 Environmental Consequences

3.9.2.1 *Proposed Action*

At-sea within the EEZ (OEA). AS/NE07 exercises taking place within the EEZ in the GOA will have no significant adverse impacts on any population or socioeconomic resource. No impacts to water quality, air quality, noise, socioeconomics, or human health and safety that may affect minority or low-income populations have been identified in this analysis. The implementation of the Proposed Action is not expected to alter access to subsistence fishing areas or affect subsistence fishing resources, as described in Section 3.7.2.1. Therefore, no disproportionately high and adverse impacts on any low-income or minority group will occur with implementation of the Proposed Action.

Seward, Prince William Sound, and at-sea within territorial seas (12 nm) (EA). AS/NE07 exercises within the territorial seas of the GOA and Prince William Sound will not be located in heavily populated areas. No impacts to water resources, air quality, noise, socioeconomics, or human health and safety that may affect minority or low-income populations have been identified in this analysis. These exercises will have no significant impacts on commercial or recreational fishery areas or resources, as described in Section 3.7.2.1. Therefore, no adverse impacts on any low-income or minority group will occur. AS/NE07 exercises in the GOA territorial seas and Prince William Sound are unlikely to have any adverse impacts on the health and safety of any population or individual; therefore, no adverse impacts to children will occur with implementation of the Proposed Action.

The In-Port exercise that will take place as a part of AS/NE07 in Seward, Alaska would be similar to any other vessel traveling into and out of Seward and pulling into port for three days. Due to the short-term and temporary nature of exercises in the locales of the GOA, Prince William Sound, and Seward, the Proposed Action will have no significant adverse impacts on environmental justice in these action areas.

3.9.2.2 *No Action Alternative*

Under the No Action Alternative, naval assets would not participate in AS/NE07. There would be no change to the current socioeconomic conditions in the action areas; therefore, no significant adverse impacts on environmental justice would occur with implementation of the No Action Alternative.

3.10 **SUMMARY OF IMPACTS**

The following Table 3-5 shows a comparison summary of impacts of the Proposed Action and No-Action Alternatives.

Table 3-5. Summary of Impacts by Alternative

Environmental Elements	ALTERNATIVES	
	Proposed Action	No Action Alternative
Air Quality	<p>OEA - Pollutant concentrations resulting from the small number of ship and aircraft operations within the GOA in the EEZ would not appreciably affect short-term or long-term regional ambient air quality.</p> <p>EA - Due to the small number of sorties (less than five on any given day) of AS/NE07 assets, there would be no significant impacts to air quality in the Anchorage vicinity. AS/NE07 would result in no significant impacts to ambient air quality in the action areas.</p>	No change from present conditions.
Water Quality/Water Resources	<p>OEA – Combustion products and emissions from aircraft would be dispersed in the atmosphere before reaching the water surface and are not expected to affect water quality. No discharges would occur as a result of AS/NE07 operations within the EEZ.</p> <p>EA – All AS/NE07 activities will be in compliance with Navy pollution control discharge restrictions. Potential impacts from an oil spill would be minimized through standard operating procedures for naval assets. No discharges to the waters of the territorial seas, including the GOA and Prince William Sound, would occur as a result of AS/NE07 operations.</p>	No change from present conditions.
Noise	<p>OEA – AS/NE07 operations will be minor, temporary, and short-term in nature, only lasting 11 days. Noise from naval assets will be no different from other commercial and recreational traffic in the GOA, and will be within ambient noise levels.</p> <p>EA – Helicopter overflights in Prince William Sound will be short-term and temporary, lasting only three to four days for approximately four hours.</p>	No change from present conditions.
Biological Resources	<p>OEA – Vessel operations which are very similar to existing types of vessel operations in the GOA would have no effect on fish, sea turtles,</p>	No change from present conditions.

	<p>marine birds, or marine mammals. Established general maritime protective measures will be implemented during AS/NE07 for additional protection for marine species.</p> <p>EA – AS/NE07 operations will take place in established maritime traffic routes into and out of port and have no effect on fish, sea turtles, marine birds, or marine mammals. Established general maritime protective measures will be implemented during AS/NE07 for additional protection for marine species.</p>	
Threatened and Endangered Species	<p>OEA – All AS/NE07 operations in the GOA will occur outside of all designated critical habitat in the GOA for Steller sea lions and North Pacific right whales. Established general maritime protective measures will be implemented during AS/NE07 for additional protection for threatened and endangered species. There would be no effect on ESA-listed species.</p> <p>EA – Established general maritime protective measures will be implemented during AS/NE07 for additional protection for threatened and endangered species. There would be no effect on ESA-listed species due to the short-term and minor nature of operations in the nearshore areas of Prince William Sound and Seward.</p>	No change from present conditions.
Essential Fish Habitat	<p>OEA – No adverse effects to EFH in the GOA will occur due to short and transitory nature of AS/NE07 maritime exercises.</p> <p>EA - No adverse effects to EFH areas in the Prince William Sound and Resurrection Bay will occur due to short and transitory nature of AS/NE07 maritime exercises.</p>	No change from present conditions.
Cultural Resources	<p>OEA – No impacts to cultural resources as there are no historic shipwrecks located within the GOA action areas.</p> <p>EA – No impacts to cultural resources, no historic shipwrecks in the Prince William Sound or Resurrection Bay, and transit would occur in established maritime traffic routes.</p>	No change from present conditions.
Transportation and	<p>OEA – No access restrictions will occur as a part of AS/NE07 operations in the GOA. A NOTMAR will be published to inform other vessel</p>	No change from present conditions.

Traffic	<p>operators of the exercises, therefore no significant impacts to transportation and traffic will occur.</p> <p>EA - No access restrictions will occur as a part of AS/NE07 operations in the GOA. A NOTMAR will be published to inform other vessel operators of the exercises, therefore no significant impacts will occur. All transits would occur in established maritime traffic lanes.</p>	
Socioeconomics	<p>OEA - No access restrictions will occur as a part of AS/NE07 operations in the GOA. A NOTMAR will be published to inform other vessel operators of the exercises, therefore no significant impacts will occur to recreational, commercial, or subsistence fisheries in the GOA.</p> <p>EA - No access restrictions will occur as a part of AS/NE07 operations in the GOA. A NOTMAR will be published to inform other vessel operators of the exercises, therefore no significant impacts will occur to recreational, commercial, or subsistence fisheries in the nearshore areas. All transits would occur in established maritime traffic lanes.</p>	No change from present conditions.
Public Health and Safety	<p>OEA – No impacts to public health and safety would occur due to operations in accordance with all applicable safety procedures.</p> <p>EA - No impacts to public health and safety would occur due to operations in accordance with all applicable safety procedures.</p>	No change from present conditions.
Environmental Justice	<p>OEA – AS/NE07 activities will have no adverse impacts to subsistence fishing in the GOA by Native Alaskan cultures, or any other low-income or minority group.</p> <p>EA - AS/NE07 activities will have no adverse impacts to subsistence fishing in the GOA by Native Alaskan cultures, or any other low-income or minority group.</p>	No change from present conditions.
Cumulative Impacts	No cumulative impacts have been identified that would combine with the effects of the Proposed Action to have significant and long-term impacts.	No change from present conditions.

CHAPTER 4

CUMULATIVE IMPACTS

Federal and Navy regulations implementing NEPA (42 U.S.C. § 4321 *et. seq.* and 32 C.F.R. § 775 respectively) require that cumulative impacts of a Proposed Action be assessed. CEQ regulations implementing the procedural provisions of NEPA define cumulative impacts as: "...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future action regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (40 C.F.R. § 1508.7)

The relationship of a Proposed Action to the overall cumulative impact in a region of influence can be that a single project may have individually minor impacts; however, when considered together with other projects, the effects may be collectively significant. A cumulative impact is, therefore, the additive effect of all projects in the same geographic area. In general, the effects of a particular action or group of actions must meet all of the following criteria to be considered cumulative impacts:

- Effects of several actions occur in a common locale or region
- Effects on a particular resource are similar in nature, such that the same specific element of a resource is affected in the same specific way
- Effects are long-term, as short-term impacts dissipate over time and cease to contribute to cumulative impacts

4.1 PAST AND PRESENT ACTIONS

The Navy has historically performed training missions in Alaska. These have included both routine training for Alaskan forces and coordinated joint training exercises. The type of exercises proposed for AS/NE07 routinely occur in open-ocean, nearshore, and terrestrial environments associated with the GOA and inland areas. Joint training exercises have included the same or similar exercises included in the Proposed Action, and have also included homeland security-focused exercises in the coastal areas of the GOA. Past analyses of environmental impacts associated with Alaska Joint Training Exercises have identified no significant or long-term environmental impacts to resources in the GOA, coastal, or inland areas as a result of these past exercises.

Present actions in the GOA and Prince William Sound include commercial fishing, as well as subsistence and limited recreational fishing. In the EEZ, the predominant fishing activity is the commercial groundfishery (Hiatt *et. al.*, 2003). In the GOA, a total of 809 vessels participated in the groundfish catch in 2004 (Hiatt *et. al.*, 2004). A NOTMAR and NOTAM will be published to inform the commercial, recreational, and subsistence fishery communities of the AS/NE07 exercise locations and activities. No usage restrictions of any sort will be established as a part of AS/NE07 operations. The seven vessels participating in AS/NE07 will be a very small portion of the total vessels in the GOA and transiting the GOA area, including Prince William Sound and Resurrection Bay, during the month of May. In consideration of the size of the GOA and the short timeframe of the exercise, AS/NE07 is not likely to

affect the catch locations and travel of commercial fishing vessels operating in the GOA and Prince William Sound. No other actions in the GOA or Prince William Sound have been identified that would combine with AS/NE07 to produce cumulative impacts to commercial, subsistence, or recreational fisheries.

Past and present commercial fishing may negatively affect fish populations, habitat, and overall biodiversity in the GOA. In addition, climate cycles are thought to affect the success of some fish species in the GOA by affecting water temperatures, currents, and nutrient availability (NMFS, 2005b). More recent management actions have sought to reverse downward trends in population levels of some species caused by past fishing practices, and planned future actions by NMFS and the North Pacific Fishery Management Council, such as GOA groundfish rationalization, are meant to do the same (NMFS, 2005b). AS/NE07 is not anticipated to impact fish species or habitat in the GOA; therefore, the exercise will not combine with the effects of past and present fishing, climate effects, or non-fishing activities to produce cumulative effects on fish populations, habitat, or biodiversity in the GOA or Prince William Sound.

4.2 REASONABLY FORSEEABLE FUTURE ACTIONS

No specific future actions have been identified. Maritime traffic, both commercial and private, will continue in the the GOA and Prince William Sound. The Alaska cruise ship season begins in late May, at this time, many transits of cruise ships will also be occurring in the GOA and Prince William Sound. No cumulative impacts with any future actions have been identified.

4.3 COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS

The Proposed Action involves Navy and USCG assets participating in a joint training exercise, AS/NE07, to take place in the GOA, Prince William Sound, and the town of Seward for 11 days in May of 2007. Based on analysis of the Proposed Action, the project does not conflict with the objectives of federal, regional, state and local plans, policies, or regulations. Table 4-1 provides a summary of compliance of the Proposed Action with all applicable specific plan, policy, or regulation.

Table 4-1. Summary of Compliance with All Applicable Plans, Policies, and Regulations

Plans, Policies, and Regulations	Responsible Agency	Status of Compliance
National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321 et seq.) Department of the Navy Procedures for Implementing NEPA (32 Code of Federal Regulations [CFR] 775) OPNAVINST 5090.1B Chapter 2 Change 4	U.S. Navy	The Proposed Action would have no significant impacts.
Executive Order 12114, Environmental Affects Abroad of Major Federal Actions OPNAVINST 5090.1B, Appendix E	U.S. Navy	The Proposed Action would not result in significant harm to the global commons.
Coastal Zone Management Act (CZMA) (16 CFR 1451 et seq.)	Alaska Coastal Management Program, Office of Project Management and Permitting, Alaska Department of Natural Resources Kenai Peninsula Borough, Alaska	The Proposed Action would have no effects on any coastal use or resource. In accordance with 15 C.F.R. § 930.35, the Navy has determined that the Proposed Action will not have an effect on any coastal use or resource. Therefore, a consistency determination was not required under the CZMA.
Clean Water Act Section 401/402 (§§ 401-402, 33 USC 1251 et seq.), Section 404 (§ 404, 33 USC 1251 et seq.)	U.S. Environmental Protection Agency U.S. Army Corps of Engineers	No discharges would occur as a result of the Proposed Action. Established spill response procedures would be followed in the event of a spill. Neither a Section 401, 402, or 404 (b) (1) permit in compliance with the Clean Water Act is required.
Clean Air Act (CAA), as amended (42 USC 7401 et seq.)	U.S. Environmental Protection Agency Alaska Dept. of Environmental Conservation	The Proposed Action would not have short or long-term impacts on regional ambient air quality. Therefore, no conformity determination is required.
Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds (66 Federal Register 11) Bald Eagle and Golden Eagle Treaty Act of 1984 (16 U.S.C. §668)	U.S. Navy	No impacts to any migratory birds would occur as a result of the Proposed Action. No impacts to bald eagles will occur as a result of implementing the Proposed Action.
Endangered Species Act (16 USC 1531)	U.S. Fish and Wildlife Service (USFWS) National Marine Fisheries Service (NMFS)	No effects would occur to any threatened or endangered species as a result of implementing the Proposed Action. No consultation with USFWS or NMFS is required.

Plans, Policies, and Regulations	Responsible Agency	Status of Compliance
Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801-1802)	National Marine Fisheries Service	The Proposed Action would not adversely affect to Essential Fish Habitat.
Marine Mammal Protection Act (MMPA) (16 USC 1431 et seq.)	National Marine Fisheries Service	The Proposed Action would have no adverse effects to marine mammals expected to result in any type of Level B or A harassment that could require take authorization under MMPA.
Executive Order 12998, Federal Actions to Address Environmental Justice in Minority populations and Low- Income Populations (59 Federal Register 7629 [Section 1-101])	U.S. Navy	The Proposed Action would not result in disproportionately high and adverse human health or environmental effects on minority or low-income populations.
Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks (62 Federal Register 1985)	U.S. Navy	The Proposed Action would not result in health and safety risks to children.
National Historic Preservation Act (NHPA) (§ 106, 16 USC 470 et seq.)	U.S. Navy	The Proposed Action would have no effect on historic properties.

CHAPTER 5

CONCLUSIONS AND FINDINGS

The following conclusion is provided in accordance with NEPA 40 CFR Parts 1500-1508, the Navy's *Environmental and Natural Resources Program Manual*.

The Proposed Action meets the need for joint forces maritime training in the state of Alaska and the waters of the GOA. Table 4-1 shows compliance of the Proposed Action with all applicable laws, policies, and regulations. Based on the analysis in this document, the Proposed Action would not cause significant environmental impacts. Therefore, a finding of no significant impact (FONSI) is recommended for the Proposed Action. Based on the analysis in this document, the Proposed Action would not cause significant environmental impacts to the U.S. territorial seas.

5.1 FINDINGS

The following information is provided in accordance with OPNAVINST 5090.1B Appendix E and Executive Order 12114, *Environmental Effects Abroad of Major Federal Actions*.

The anticipated impacts of AS/NE07 are primarily minor and short-term, and would cause no significant harm to the global commons. Specifically, the Navy finds:

- No significant impacts on ambient air quality from pollutant concentrations resulting from air operations over the EEZ.
- No significant long-term impacts on water resources from exercise activities.
- No impacts to marine mammals, sea turtles, fish, and protected birds from GOA operations within the EEZ.
- No adverse impacts to EFH within the EEZ
- No effects to threatened and endangered species from GOA operations would occur.
- No takes of any marine mammals would occur from operations within the EEZ.
- No significant impacts to socioeconomic resources that exist within the EEZ, including commercial, subsistence, and recreational fisheries.
- No impacts to transportation and traffic, cultural resources, or public health and safety.
- No disproportionate adverse effects on specific minority, low income, or Native American or Alaskan groups.

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CHAPTER 6

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APPENDIX A

Summary of Navy Pollutant Control Discharge Restrictions

SUMMARY OF NAVY POLLUTION CONTROL DISCHARGE RESTRICTIONS

AREA	SEWAGE ("BLACK WATER")	GRAYWATER	OILY WASTE
US Internal Waters & Territorial Seas (0-3 nm)	No discharge.	If equipped to collect graywater in CHT system or dedicated graywater system, collect and pump to shore only when pierside. If no collection capability exists, direct discharge permitted.	No Sheen. If equipped with OCM, discharge <15 ppm oil. (1)
US Contiguous Zone (3-12 nm)	Direct discharge permitted.	Direct discharge permitted.	No sheen. If equipped with OCM, discharge <15 ppm oil. (1)
12-25 nm	Direct discharge permitted.	Direct discharge permitted.	If equipped with OCM, discharge <15 ppm oil. Ships with OWS but no OCM must process all machinery space bilge water through OWS. (2, 3)
>25 nm	Direct discharge permitted.	Direct discharge permitted.	Same as 12-25 nm. (2, 3)
>50 nm & High Seas	Direct discharge permitted.	Direct discharge permitted.	Same as 12-25 nm. (2, 3)
Comments	Direct discharge allowed within 3 nm under emergency conditions.	The collection of graywater inside 3 nm from shore and prior to pierside may significantly reduce tank capacity and might result in the unnecessary overboard discharge of sewage before reaching pier facilities or unrestricted waters.	State/local rules may vary; check SOPA regulations.

Table A-1: Summary of Discharge Restrictions

Notes:

- OWS – Oil/Water Separator (1) If operating properly, OWS discharge will routinely be less than 15 ppm.
- OCM - Oil Content Monitor (2) Ships without operable OWS systems must retain oily waste for shore disposal. If operating conditions require at-sea disposal, minimal discharge is permitted discharge is permitted beyond 50 nm from nearest land.
- (3) If equipped with OWS and OCM and operating Afloat conditions prevent achieving <15 ppm, limit discharge to < 100 ppm.

SOPA - Senior Officer Present
 WOCT – Waste Oil Collecting Tank
 BWPT – Bilge Oil Processing Tank

SUMMARY OF NAVY POLLUTION CONTROL DISCHARGE RESTRICTIONS (Continued)

AREA	GARBAGE (NON-PLASTICS)	GARBAGE (PLASTICS) (NON-FOOD CONTAMINATED)	GARBAGE (PLASTICS) (FOOD- CONTAMINATED)
US Internal Waters/Territorial Seas (0-3 nm)	No discharge.	No discharge.	No discharge.
US Contiguous Zone (3-12 nm)	Pulped or comminuted food and pulped paper and cardboard waste may be discharged >3 nm.	No discharge.	No discharge.
12-25 nm	Bagged shredded glass and metal waste may be discharged >12 nm.	No discharge.	No discharge.
>25 nm	Direct discharge permitted. See note (4).	No discharge.	No discharge.
>50 nm & High Seas	Direct discharge permitted. See note (4).	No discharge.	No discharge.
Comments	Garbage discharged should be processed to eliminate floating marine debris. Retain surplus material for shore disposal.	Record-keeping requirements exist for at-sea discharge. Minimal discharge authorized if plastic processors inoperable and necessary for safety of ship/health of crew. Report discharge commencement to appropriate operational commander.	Record-keeping requirements exist for at-sea discharge. Minimal discharge authorized if plastic processors inoperable and necessary for safety of ship/health of crew. Report discharge commencement to appropriate operational commander.

Table A-2: Summary of Garbage Discharge Restrictions

(4) If equipped, use pulpers and shredders for all discharges of food products, paper, cardboard, glass and metal wastes. Shredded metal and glass must be bagged prior to disposal.

SUMMARY OF NAVY POLLUTION CONTROL DISCHARGE RESTRICTIONS (Continued)

AREA	HAZARDOUS WASTES	MEDICAL WASTES (INFECTIOUS & SHARPS)
US Internal Waters/Territorial Seas (0-3 nm)	No discharge.	Steam sterilize, store, and transfer ashore. No discharges.
US Contiguous Zone (3-12 nm)	No discharge.	Steam sterilize, store, and transfer ashore. No discharges.
12-25 nm	No discharge except as per note (5).	Steam sterilize, store, and transfer ashore. No discharges.
>25 nm	No discharge except as per note (5).	Steam sterilize, store, and transfer ashore. No discharges.
>50 nm & High Seas	No discharge unless > 200 nm or as permitted in note (5).	If health and safety are threatened, steam sterilize waste, package and weight for negative buoyancy, log, and discharge. No discharge of sharps permitted.
Comments		Dispose of all sharps ashore. Do not incinerate plastic, wet materials. Steam sterilization requirement not applicable to submarines. Other noninfectious waste may be disposed of as garbage and does not require steam sterilization.

Table A-3: Summary of Medical Waste Discharge Restrictions

(5) All medical/dental chemicals and materials must be containerized for shore disposal ashore except for antiseptics and disinfectants such as Isopropyl Alcohol for which overboard discharge is permitted beyond 12 nm of shore.