
3 Affected Environment and Environmental Consequences

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes existing environmental conditions (affected environment) for resources potentially affected by the alternatives described in Chapter 2. Potential biological, physical, cultural, and social resource impacts (environmental consequences) are identified, described, and evaluated for the Proposed Action and its Alternatives. As discussed in Chapter 2 under the No Action Alternative, training activities would continue at current levels. Although the No Action Alternative would not meet the Navy's long-term training needs in the Alaska Training Areas (ATA), existing conditions serve as the baseline for analyzing the impacts of the Action Alternatives (Alternative 1 and Alternative 2, the Preferred Alternative).

The affected environment and environmental consequences are described and analyzed according to 14 categories of resources. The resource categories and their sections in this Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS), from here on referred to as EIS/OEIS are:

- Air Quality (3.1)
- Expended Materials (3.2)
- Water Resources (3.3)
- Acoustic Environment (Airborne) (3.4)
- Marine Plants and Invertebrates (3.5)
- Fish (3.6)
- Sea Turtles (3.7)
- Marine Mammals (3.8)
- Birds (3.9)
- Cultural Resources (3.10)
- Transportation and Circulation (3.11)
- Socioeconomics (3.12)
- Environmental Justice and Protection of Children (3.13)
- Public Safety (3.14)

Land-based resource categories (Land Use, Geology and Soils, and Terrestrial Biological Resources), are not analyzed in this EIS/OEIS, as existing and proposed Navy activities and impacts to these resources have already been considered and analyzed in separate environmental documents by the United States (U.S.) Air Force (Air Force) and the U.S. Army (Army). Resource areas carried forward for analysis include reference to the appropriate Air Force/Army environmental analyses for addressing inland areas and their associated impacts from Navy training activities. Proposed Navy training activities that have the potential to affect land areas are evaluated in the aforementioned Air Force and Army environmental documents. Existing and planned activities were accounted for by Army and Air Force range planners. Proposed Navy training activities that do not have the potential to affect land areas are addressed and analyzed as appropriate in the resource sections listed above. Therefore, as noted in Chapter 2, separate environmental analyses of impacts from Navy training activities conducted in the inland training areas on Air Force/Army ranges is not required.

During the environmental impact analysis process, the resources analyzed are identified and the expected geographic scope of potential impacts for each resource is defined. Known as the resource's Region of Influence (ROI), this area is defined as the geographic area in which impacts to the subject resource have

the potential to occur. For the majority of resource categories, the ROI coincides with the air, sea, and undersea training areas of the Gulf of Alaska (GOA) Temporary Maritime Activities Area (TMAA). For some resources, the ROI encompasses broader regions within the GOA.

In determining environmental consequences, this chapter incorporates current resource protection measures such as Standard Operating Procedures (SOPs), Best Management Practices (BMPs), and conservation measures that are integral to the activities covered by the Proposed Action and its Alternatives. Mitigation measures are discussed at the end of each resource section and summarized in Chapter 5.

The specific contributions of a particular project to global or regional climate change generally cannot be identified based on existing scientific knowledge, because they typically are extremely small. Also, climate processes are understood at only a general level. Cumulative regional contributions to climate change are addressed in Chapter 4.

3.0 GENERAL APPROACH TO ANALYSIS

The methods used in this EIS/OEIS to assess resource impacts associated with the proposed alternatives include the procedural steps outlined below:

- Describe existing resource conditions.
- Review existing federal and state regulations and standards relevant to resource-specific management and/or protection.
- Identify critical resource conditions or areas that require specific analytical attention, such as designated endangered species critical habitat.
- Analyze the warfare areas and activities to determine what stressors may affect the particular resource.
- Review and analyze data sources for information on stressor impacts to the resource, including modeling efforts and scientific research.
- Determine specific impacts to the resource associated with the stressors that result from Navy activities.
- Adjust initial impact determinations to account for use of SOPs, BMPs, and other mitigation measures.
- Determine overall impacts to the resource associated with the Proposed Action and Alternatives, given the applicable regulatory framework.
- Summarize impact findings with respect to resource effects and compliance with regulations and Navy policies for each alternative.

Additional steps may be added to some resource evaluations to address unique resource characteristics or specific regulatory and public-issue concerns.

3.0.1 Stressors

The EIS/OEIS interdisciplinary team and Navy subject matter experts used a screening process to analyze the warfare areas and training activities to identify specific activities in the alternatives that could act as stressors to resources. Other information that was evaluated to identify and analyze stressors included public and agency scoping comments, previous environmental analyses, agency consultations, resource-specific information, and applicable laws, regulations, and executive orders. This process was used to

focus the information presented and analyzed in the affected environment and environmental consequences sections of this EIS/OEIS. Table 3-1 summarizes warfare areas, the number of yearly training activities of each type that would be associated with each alternative, and the stressors that potentially would occur within each warfare area because of those activities. The stressors and some of the mechanisms that would result in stress include:

- Vessel movements (disturbance and collisions);
- Low-altitude aircraft overflights (disturbance and strikes);
- Sonar (harassment);
- Weapons firing/nonexplosive practice ordnance (disturbance, strikes, and habitat alteration);
- High-explosive ordnance (harassment, strikes, and habitat alteration); and
- Expended materials (habitat alteration, entanglement, ingestion, and hazardous materials).

Table 3-1: Summary of Potential Stressors

Warfare Area and Activity	Training Area(s)	Number of Activities			Stressors					
		No Action Alternative	Alternative 1	Alternative 2	Vessel Movements	Aircraft Overflights	SONAR	Weapons Firing/Non-Explosive Practice Ordnance	High-Explosive Ordnance	Expended Materials
Anti-Air Warfare (AAW)										
Air Combat Maneuver (ACM)	TMAA, Air Force Special-Use Airspace (SUA)	300	300	600		✓				✓
Air Defense Exercise (ADEX)	TMAA	3	4	8	✓	✓				✓
Surface-to-Air Missile Exercise (S-A MISSILEX)	TMAA	2	3	6	✓	✓		✓	✓	✓
Surface-to-Air Gunnery Exercise (S-A GUNEX)	TMAA	2	3	6	✓	✓		✓	✓	✓
Air-to-Air (A-A) MISSILEX	TMAA, Air Force SUA	2	3	6		✓		✓	✓	✓
Anti-Surface Warfare (ASUW)										
Visit Board Search and Seizure (VBSS)	TMAA	12	12	24	✓	✓				
Air-to-Surface (A-S) MISSILEX	TMAA	1	2	4	✓	✓		✓	✓	✓
Air-to-Surface Bombing Exercise (A-S BOMBEX)	TMAA	12	18	36	✓	✓		✓	✓	✓
Air-to-Surface (A-S) GUNEX	TMAA	5	7	14	✓	✓		✓	✓	✓
Surface-to-Surface (S-S) GUNEX	TMAA	5	6	12	✓			✓	✓	✓
Maritime Interdiction Exercise (MI)	TMAA	14	14	28	✓	✓	✓			✓
Sea Surface Control (SSC)	TMAA	6	6	12	✓	✓				
Sinking Exercise (SINKEX)	TMAA	N/A	N/A	2	✓	✓		✓	✓	✓

Table 3-1: Summary of Potential Stressors (continued)

Warfare Area and Activity	Training Area(s)	Number of Activities			Stressors					
		No Action Alternative	Alternative 1	Alternative 2	Vessel Movements	Aircraft Overflights	SONAR	Weapons Firing/Non-Explosive Practice Ordnance	High-Explosive Ordnance	Expended Materials
Anti-Submarine Warfare (ASW)										
ASW Tracking Exercise – Helicopter (TRACKEX-Helo)	TMAA	N/A	22	44	✓	✓	✓		✓	✓
ASW Tracking Exercise – Maritime Patrol Aircraft (TRACKEX-MPA)	TMAA	N/A	13	26	✓	✓	✓		✓	✓
ASW Tracking Exercise - Extended Echo Ranging (EER) (Includes IEER and AEER)	TMAA	N/A	2	4		✓	✓		✓	✓
ASW Tracking Exercise - Surface Ship (TRACKEX-Surface)	TMAA	N/A	2	3	✓		✓			✓
ASW Tracking Exercise – Submarine (TRACKEX-Sub)	TMAA	N/A	2	3	✓	✓	✓			✓
Electronic Combat (EC)										
Electronic Combat (EC) Exercises	TMAA, Air Force SUA	4	5	10	✓	✓				✓
Chaff Exercise (CHAFFEX)	TMAA, Air Force SUA	2	2	4	✓	✓				✓
Counter Targeting Exercises	TMAA	4	4	8	✓	✓				
Naval Special Warfare (NSW)										
Special Warfare Operations	TMAA, Air Force SUA, Army Ranges	10	10	20	✓	✓		N/A		N/A

Table 3-1: Summary of Potential Stressors (continued)

		Number of Activities			Stressors					
		No Action Alternative	Alternative 1	Alternative 2	Vessel Movements	Aircraft Overflights	SONAR	Weapons Firing/Non-Explosive Practice Ordnance	High-Explosive Ordnance	Expended Materials
Warfare Area and Activity	Training Area(s)									
Strike Warfare										
Air-to-Ground Bombing Exercise (A-G BOMBEX)	Air Force SUA, Army Ranges	150	150	300		N/A		N/A	N/A	N/A
Personnel Recovery (PR)	TMAA, Air Force SUA, Army Ranges	3	4	8	✓	✓				
Support Operations										
Deck Landing Qualifications (DLQs)	ATA	4	6	12	✓	✓				

Note: N/A – Not Applicable because activity and stressors have been analyzed in previous environmental documents by the United States Air Force and/or the United States Army.

Table 3-2 shows the relationships between stressors and the physical and biological resources that are evaluated in this EIS/OEIS. These tables provide the organizational framework for the description of environmental impacts presented in the following sections.

Table 3-2: Physical and Biological Resources That Could Be Affected by Stressors Associated with the Alternatives

Potential Stressor	Water Resources	Marine Plants and Invertebrates	Fish and EFH	Sea Turtles	Marine Mammals	Birds
Vessel Movements						
Vessel Disturbance		✓	✓	✓	✓	✓
Vessel Collisions		✓	✓	✓	✓	✓
Aircraft Overflights						
Aircraft Disturbance			✓	✓	✓	✓
Aircraft Strikes						✓
SONAR						
Mid- and High-Frequency Sonar			✓	✓	✓	
Weapons Firing/Nonexplosive Practice Ordnance						
Weapons Firing Disturbance			✓	✓	✓	✓
Nonexplosive Ordnance Strikes		✓	✓	✓	✓	✓
Nonexplosive Ordnance Disturbance		✓	✓	✓	✓	✓
High Explosive Ordnance						
At-sea Explosions	✓	✓	✓	✓	✓	✓
Explosive Ordnance		✓	✓	✓	✓	✓
Expendable Materials						
Ordnance-Related Materials	✓	✓	✓	✓	✓	
MK-58 Marine Markers			✓	✓	✓	✓
Target Related Materials		✓	✓	✓	✓	✓
Expendable Mobile ASW Training Targets		✓	✓	✓	✓	
Sonobuoys	✓	✓	✓	✓	✓	✓
Chaff	✓	✓	✓	✓	✓	✓
Flares	✓					

3.0.2 Data Sources

A systematic review of relevant literature, regulatory requirements, mitigation provisions, and data was conducted to complete the technical and compliance analysis for each resource category. Both published and unpublished documents were used, including journals, books, periodicals, bulletins, Department of Defense operations reports, theses, dissertations, endangered species recovery plans, species management plans, and other technical reports published by government agencies, private businesses, or consulting firms. The scientific literature was also consulted during the search for geographic location data (geographic coordinates) on the occurrence of marine resources within the GOA.

This page intentionally left blank.