

Introduction

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3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.0 INTRODUCTION

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 alternatives. Due to the concerns regarding wildfire, and the frequency of fires in the region, the potential for wildfire as a result of military activities at Naval Weapons Systems Training Facility (NWSTF) Boardman is addressed in its own resource category. As discussed in Chapter 2, training activities would continue at current levels under the No Action Alternative. In accordance with Council on Environmental Quality regulations (40 Code of Federal Regulations [C.F.R.] § 1502.14[d]), analysis of the No Action Alternative is required to provide a baseline against which the effects of a proposed action and all other alternatives can be compared. The No Action Alternative analyzed in this Environmental Impact Statement (herein referred to as EIS) involves continuing military training and testing activities at NWSTF Boardman at regular and historic levels. No range enhancements would be made under the No Action Alternative and no new airspace would be established. The potential impacts of the No Action Alternative are compared to the potential impacts of activities proposed under Alternative 1 and Alternative 2.

The affected environment and environmental consequences are described and analyzed according to 12 resource categories. The resource categories and their sections in this EIS are as follows:

- Soils (3.1)
- Air Quality (3.2)
- Water Resources (3.3)
- Acoustic Environment (3.4)
- Vegetation (3.5)
- Wildlife (3.6)
- Land Use and Recreation (3.7)
- Socioeconomics and Environmental Justice (3.8)
- Transportation (3.9)
- Cultural Resources (3.10)
- Public Health and Safety and Protection of Children (3.11)
- Wildfire (3.12)

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 and land training areas of NWSTF Boardman. For some resources, the ROI encompasses broader regions.

Describing the environment and analyzing impacts requires a comprehensive and systematic review of relevant literature and data to ensure only the best available information is used for analysis. Section 3.0.1 describes what data were used and the characteristics of the best available data.

1 The overall approach to analysis is provided in Section 3.0.2. This section describes how the Proposed
2 Action is broken down into stressors that are analyzed for each resource. It provides a general analysis
3 framework, preliminary impact screening, resource-specific individual stressor analysis, synthesis of
4 ecosystem effects of the Proposed Action, and introduction to cumulative impacts analysis.

5 This chapter concludes by assessing impacts to physical resources, biological resources, and human
6 resources (Sections 3.1 through 3.12). Each resource section has a more focused description of the
7 regulatory framework applicable to that resource, a more focused approach to analysis, a discussion of
8 the affected environment of that resource, the environmental consequences of the Proposed Action and
9 alternatives, a summary of the impacts to that resource, and the regulatory determination of impacts to
10 that resource.

11 In determining environmental consequences, this chapter incorporates current resource protection
12 measures such as standard operating procedures, best management practices, and conservation
13 measures that are integral to the activities covered by the Proposed Action and its Alternatives. If the
14 analysis in a resource section identifies a potential impact to the resource from the Proposed Action,
15 methods are proposed that would minimize or mitigate the potential impacts identified. These
16 mitigation measures are discussed at the end of each resource section and summarized in Chapter 5.

17 **3.0.1 DATA SOURCES AND BEST AVAILABLE DATA**

18 A systematic review of relevant literature, regulatory requirements, mitigation provisions, and data was
19 conducted to complete the technical and compliance analysis for each resource category. Both
20 published and unpublished documents were used, including journals, books, periodicals, bulletins,
21 Department of Defense operations reports, theses, dissertations, endangered species recovery plans,
22 species management plans, and other technical reports published by government agencies, private
23 businesses, or consulting firms.

24 **3.0.2 GENERAL APPROACH TO ANALYSIS**

25 The EIS interdisciplinary team composed of United States (U.S.) Department of the Navy (Navy) and
26 National Guard subject matter experts used a screening process to analyze training activities to identify
27 specific activities in the alternatives that could act as stressors to resources. Other information that was
28 evaluated to identify and analyze stressors included public and agency scoping comments, previous
29 environmental analyses, agency consultations, resource-specific information, and applicable laws,
30 regulations, and executive orders. This process was used to focus the information presented and
31 analyzed in the affected environment and environmental consequences sections of this EIS. Table 3.0-1
32 summarizes range activities, the number of yearly training activities of each type that would be
33 associated with each alternative, and the stressors that potentially would occur within each range
34 activity because of those activities. The stressors and some of the sources that would result in stress
35 include:

- 36 • Noise (Fixed-Wing Aircraft Noise, Helicopter Noise, Small Arms Firing Noise, Large Arms Firing
37 Noise, Non-explosive Practice Munitions Impact, Explosions [Land Demolition]),
38 Vehicle/Equipment Noise)
- 39 • Physical Strikes (Non-explosive Practice Munitions, Vehicle/Equipment , or Aircraft Colliding with
40 Organisms/Habitat)

- 1 • Ground Disturbing Activities or Alteration of Habitat (Construction, Vehicle/Equipment
- 2 Operations, Non-explosive Practice Munitions Impact, Target Maintenance, Military Equipment
- 3 Drops, Helicopter Landings, Dismounted Maneuvers, Increased Potential for Wildfire)
- 4 • Energy (Electromagnetic Radiation, Lasers)
- 5 • Changes in Air, Water, or Soil Quality (Air Pollutant Emissions, Military Expended Materials,
- 6 Incidental Spills)

7 **Table 3.0-1: Range Activities and Potential Stressors**

Range Activity	Location	Annual Number of Training Events			Stressors				
		No Action Alternative	Alternative 1	Alternative 2	Noise	Physical Strike	Ground Disturbing Activities/Alteration of Habitat	Energy	Changes in Air, Water, or Soil Quality
Construction of Range Elements	Rangewide	N/A	N/A	N/A	✓	✓	✓		✓
Anti-Air Warfare									
Surface to Air Counter Tactics and Low Altitude Tactical Training	Boardman MOA, Boardman Northeast MOA (proposed) Restricted Areas	257	1,047	1,047	✓	✓			✓
Strike Warfare									
Air-to-Ground Bombing Exercise	Main Target Area	133	133	133	✓	✓	✓	✓	✓
Air-to-Ground Gunnery Exercise	Main Target Area, Strafe Pit, MPTR (proposed)	20	70	70	✓	✓	✓	✓	✓
Air-to-Ground Missile Exercise/ High Speed Anti-Radiation Missile Exercise (non-firing)	Main Target Area, Boardman MOA, Restricted Areas	65	180	180	✓	✓		✓	✓
Intelligence, Surveillance, and Reconnaissance	Boardman MOA, Restricted Areas	9	9	9	✓	✓			
Electronic Combat									
Chaff and Electronic Attack and Electronic Support	Boardman MOA, Restricted Areas	193	500	500	✓	✓		✓	✓

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Table 3.0-1: Range Activities and Potential Stressors (continued)

Range Activity	Location	Annual Number of Training Events ¹			Stressors				
		No Action Alternative	Alternative 1	Alternative 2	Noise	Physical Strike	Ground Disturbing Activities / Alteration of Habitat	Energy	Changes in Air, Water, or Soil Quality
Support Activities									
Unmanned Aerial System/Tactical Unmanned Aerial Systems Operations	TUAS Airfield, R-5701 (all), R-5706	896	1,709	1,709	✓	✓			✓
Insertion and Extraction	Drop Zone (Proposed)	0	12 Days	12 Days	✓	✓	✓ ²		✓
Small Arms Training	Main Target Area, MPMGR (Proposed)	13 Days	18 Days	18 Days	✓	✓	✓		✓
Mortar Firing	Main Target Area	0	0	18	✓	✓	✓ ²		✓
Conduct Airborne Operations									
Night Vision Goggle Low-Level Training	Boardman MOA, Restricted Areas	21	48	48	✓	✓		✓	
Conduct Fire Support									
Convoy Live Fire Training	CLFR (Proposed)	0	45 Days	45 Days	✓	✓	✓		✓
DMPTR Training ³	DMPTR (Proposed)	0	21 Days	21 Days	✓	✓	✓	✓	✓
Multi-Purpose Machine Gun Range Training ⁴	MPMGR (Proposed)	0	117 Days	117 Days	✓	✓	✓		✓
Ordnance Disposal and Demolition									
Explosive Demolition Training	DTR (Proposed)	0	50	50	✓		✓		✓

¹Annual number of events unless noted otherwise

²While there will be no ground disturbing construction activities, personnel will still be present at these locations, thus potentially disturbing the area

³Vehicle-mounted, crew-served weapons and helicopter door gunnery training and qualification

⁴Crew-served machine gun and sniper rifle training and qualification

Notes: MOA = Military Operations Area, MPTR = Multi-Purpose Training Range, TUAS = Tactical Unmanned Aerial Systems, MPMGR = Multi-Purpose Machine Gun Range, DMPTR = Digital Multi-Purpose Training Range, CLFR = Convoy Live Fire Range, DTR = Demolition Training Range

2 **3.0.2.1 Resources and Issues Evaluated**

3 Physical resources and issues evaluated include soils, water quality, and air quality. Biological resources
 4 (including threatened and endangered species) evaluated include, but are not limited to mammals, birds

1 (including migratory birds), and vegetation. Human resources evaluated in this EIS include land use,
2 cultural resources, socioeconomics, and public health and safety. The methods used in this EIS to assess
3 resource impacts associated with the proposed alternatives include the procedural steps outlined
4 below:

- 5 1. Describe existing resource conditions
- 6 2. Review existing federal and state regulations and standards relevant to resource-specific
7 management and/or protection
- 8 3. Identify critical resource conditions or areas that require specific analytical attention, such as
9 designated listed species critical habitat
- 10 4. Analyze the activities to determine what stressors may affect the particular resource
- 11 5. Review and analyze data sources for information on stressor impacts to the resource, including
12 modeling efforts and scientific research
- 13 6. Determine specific impacts to the resource associated with the stressors that could result from
14 Navy and Guard activities
- 15 7. Adjust initial impact determinations to account for use of standard operating procedures, Best
16 Management Practices, and other mitigation measures
- 17 8. Determine overall impacts to the resource associated with the Proposed Action and
18 Alternatives, given the applicable regulatory framework
- 19 9. Summarize impact findings with respect to resource effects and compliance with applicable
20 laws, regulations, and Navy and National Guard Bureau policies for each alternative

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

23 **3.0.2.2 Resource-Specific Effects Analysis for Stressors**

24 The direct and indirect effects of each stressor carried forward for further analysis were analyzed for
25 each resource. Quantitative and semi-quantitative methods were used to the extent possible, but
26 inherent scientific limitations required the use of qualitative methods for most stressor/resource
27 interactions. Resource-specific methods are described in respective sections of Chapter 3, where
28 applicable. While specific methods used to analyze the effects of individual stressors varied by resource,
29 the following generalized approach was used for all stressor/resource interactions:

- 30 • The frequency, duration, and spatial extent of exposure to stressors were analyzed for each
31 resource. The frequency of exposure to stressors or frequency of a proposed activity was
32 characterized as intermittent or continuous, and was quantified in terms of number per unit of
33 time when possible. Duration of exposure was expressed as short- or longer-term, and was
34 quantified in units of time (seconds, minutes, hours, etc.) when possible. The spatial extent of
35 exposure was generally characterized as widespread or localized, and the stressor footprint or
36 area (ft.², km², etc.) was quantified when possible.
- 37 • An analysis was conducted to determine whether and how resources are likely to respond to
38 stressor exposure or be altered by stressor exposure based upon available scientific knowledge.
39 This step included reviewing available scientific literature and empirical data. For many
40 stressor/resource interactions, a range of likely responses or endpoints was identified. For
41 example, exposure of an organism to sound produced by an explosion could result in no
42 response, a physiological response such as increased heart rate, a behavioral response such as
43 being startled, or injury or mortality.

- 1 • The information obtained from steps 1 and 2 above was used to analyze the likely effects of
2 individual stressors on a resource and to characterize the type, duration, and intensity (severity)
3 of effects. The type of effect was generally defined as beneficial or adverse, and further defined
4 as a specific endpoint (e.g., change in behavior, mortality, change in concentration, loss of
5 habitat, etc.). When possible, the endpoint was quantified. The duration of an effect was
6 generally characterized as short-term (e.g., minutes, days, weeks, months, depending on the
7 resource), long-term (e.g., months, years, decades, depending on the resource), or permanent.
8 For biological resources, the analysis started with individual organisms and their habitats, and
9 then addressed populations, species, and communities, as appropriate.

10 **3.0.2.3 Cumulative Impacts**

11 A cumulative impact is the impact on the environment that results when the incremental impact of the
12 action is added to other past, present, and reasonably foreseeable future actions. The cumulative
13 impacts analysis (Chapter 4) considers other actions regardless of what agency (federal or non-federal)
14 or person undertakes the actions. Cumulative impacts can result from individually minor but collectively
15 significant actions taking place over a period of time (40 C.F.R. § 1508.7). The goal of the analysis is to
16 provide the decision makers with a “big picture” view of the effects on the future sustainability of
17 important resources, not only of the proposed action and alternatives, but all other actions occurring
18 within the same geographic region.

19 Similar to the resource-specific combined effects analysis described above, the cumulative impact
20 analysis considered additive, synergistic, and antagonistic effects in relation to past, present, and
21 reasonably foreseeable actions. The following process was used to identify the cumulative impacts of
22 the Proposed Action and alternatives.

- 23 1. Other past, present, and reasonably foreseeable future actions that have affected, or will affect,
24 the same resources as the proposed action were identified through the scoping process,
25 communications with other agencies, a review of other military activities, literature review, and
26 previous National Environmental Policy Act (NEPA) analyses. Individual actions were grouped to
27 the extent possible so that the cumulative impacts analysis could focus on aggregate effects of
28 the actions.
- 29 2. The effects of past, present, and reasonably foreseeable future actions on each resource were
30 identified and summarized. Available information concerning the effects of other actions was
31 derived from existing NEPA documents, the literature, and best professional judgment.
- 32 3. The incremental effects of each alternative were analyzed to determine if a significant
33 cumulative effect would occur when added to the effects of past, present, and reasonably
34 foreseeable actions.