

Management Practices, Monitoring, and Mitigation  
Measures

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## 5 MANAGEMENT PRACTICES, MONITORING, AND MITIGATION MEASURES

### 5.1 INTRODUCTION

#### 5.1.1 OVERVIEW

As part of the United States (U.S.) Navy (Navy) and Oregon National Guard (ORNG) commitment to sustainable use of resources and environmental stewardship, the Navy and ORNG incorporate measures that are protective of the environment into all of their activities. Navy and ORNG Environmental Management Systems provide a formal management framework to help them achieve environmental goals through repeatable and consistent control of its operations. Compliance with environmental regulations and associated Department of Defense (DoD), Navy, and ORNG policies is accomplished through a variety of well-established programs and related plans, processes, and procedures.

National Environmental Policy Act (NEPA) regulations require that an Environmental Impact Statement (EIS) include analysis of appropriate mitigation measures. The intention of mitigation is to reduce the adverse effects of an action on the environment. Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations 1508.20) identify five ways to mitigate environmental effects:

- Avoiding the impact altogether
- Minimizing impacts
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
- Compensating for the impact by replacing or providing substitute resources or environments

#### 5.1.2 APPROACH

The Navy and ORNG place a high priority on avoiding impacts. The process of identifying ways to reduce potential environmental effects of the Proposed Action started early in planning process for the proposed range enhancements and will continue through preparation of the Final EIS. For example, sensitive resources were identified during development of conceptual plans for the proposed range enhancements and the proposed ranges were sighted to avoid sensitive resources and reduce surface disturbance and site development requirements to the extent possible. In addition, several existing Navy and ORNG environmental programs and plans include established procedures, practices, or management actions that would avoid, minimize, or rectify potential impacts of the Proposed Action. In accordance with DoD, Navy, and ORNG policies, these plans are reviewed and revised on a regular basis, and would be updated to reflect changes at Naval Weapons Systems Training Facility (NWSTF) Boardman if the Proposed Action were implemented.

Accordingly, impact avoidance, minimization, and rectification measures are addressed in this EIS within the framework of existing Navy and ORNG environmental programs and plans, where appropriate. For the purposes of this EIS, these and other measures that avoid, minimize, or rectify potential impacts are referred to as best management practices (BMPs). Where appropriate, BMPs will also be incorporated into construction contracts to facilitate implementation. The Navy and ORNG also currently employ standard practices or standard operating procedures (SOPs) to provide for the safety of personnel and equipment, as well as the success of the training and testing activities. In many cases SOPs result in incidental environmental, socioeconomic, and cultural benefits, but they serve the primary purpose of providing for safety and mission success, and are implemented regardless of their secondary benefits.

1 Implementation of both BMPs and SOPs has been considered in the Chapter 3 environmental analyses  
2 for each resource.

3 If the analyses in Chapter 3 indicated that potential impacts could not be avoided, minimized, or  
4 rectified to an acceptable level, then the Navy and ORNG developed additional measures to reduce or  
5 eliminate the impact over time or compensate for the impact by replacing or providing substitute  
6 resources or environments. For the purposes of this EIS, such measures are referred to as proposed  
7 mitigation measures.

### 8 **5.1.3 MONITORING AND ADAPTIVE MANAGEMENT**

9 The Navy and ORNG are also proposing vegetation and wildlife monitoring to support implementation of  
10 the Proposed Action. Environmental monitoring involves systematic sampling of physical and biological  
11 resources to derive knowledge of the environment, its resources, and processes or activities that affect  
12 them. Monitoring can be conducted for a number of purposes, including establishing environmental  
13 baselines and trends, informing decision-making for management actions, assessing the effects of  
14 natural and human influences, assessing the effectiveness of BMPs and mitigation measures, and  
15 ensuring compliance with environmental regulations. Monitoring is an important component of the  
16 Navy's natural resources management strategy implemented under the *NWSTF Boardman Integrated*  
17 *Natural Resources Management Plan (INRMP)* (U.S. Department of the Navy 2012). The *NWSTF*  
18 *Boardman INRMP* would also be the primary means of designing and implementing monitoring to  
19 address the evolving management situation associated with construction and operation of the new  
20 ranges. Necessary updates to the *NWSTF Boardman INRMP* and associated monitoring programs would  
21 be accomplished during routine annual reviews conducted in cooperation with ORNG, U.S. Fish and  
22 Wildlife Service (USFWS), and Oregon Department of Fish and Wildlife. This process will help to ensure  
23 that a comprehensive and consistent approach to monitoring is accomplished for the entire NWSTF  
24 Boardman property.

25 The Council on Environmental Quality issued guidance for mitigation and monitoring on 14 January  
26 2011. This guidance affirms that federal agencies, including the Navy, should:

- 27 • commit to mitigation in decision documents when they have based environmental analysis upon  
28 such mitigation (by including appropriate conditions on grants, permits, or other agency  
29 approvals, and making funding or approvals for implementing the Proposed Action contingent  
30 on implementing the mitigation commitments);
- 31 • monitor the implementation and effectiveness of mitigation commitments;
- 32 • make information on mitigation and monitoring available to the public, preferably through  
33 agency web sites; and
- 34 • remedy ineffective mitigation when the federal action is not yet complete.

35 The CEQ guidance encourages federal agencies to develop internal processes for post-decision  
36 monitoring to ensure the implementation and effectiveness of the mitigation. It also states that federal  
37 agencies may use adaptive management as part of an agency's action. Adaptive management, when  
38 included in the NEPA analysis, allows for the agency to take alternate mitigation actions if mitigation  
39 commitments originally made in the planning and decision documents fail to achieve projected  
40 environmental outcomes. Adaptive management generally involves four phases: plan, act, monitor, and  
41 evaluate. This process allows the use of the results to update knowledge and adjust future management  
42 actions accordingly. As discussed in more detail in Section 5.7.2.4, the monitoring discussed in this  
43 section will be used to support adaptive management.

#### 1 **5.1.4 ONGOING CONFERENCING AND CONSULTATION**

2 As discussed Section 3.6 (Wildlife), the Navy and ORNG are engaged in early conferencing with the  
3 USFWS for the Washington ground squirrel and have requested technical assistance from the USFWS for  
4 the analysis of potential impacts to migratory birds in accordance with the DoD and USFWS  
5 Memorandum of Understanding to Promote the Conservation of Migratory Birds. In addition, as  
6 discussed in Section 3.10 (Cultural Resources), the Navy and ORNG are consulting with the Oregon State  
7 Historic Preservation Office and Confederate Tribes of the Umatilla Indian Reservation in accordance  
8 with Section 106 of the National Historic Preservation Act. During these processes, the agencies or  
9 Tribes may suggest that the Navy and ORNG consider additional BMPs, monitoring activities, or  
10 mitigation measures for inclusion in Final EIS. Any proposals for additional BMPs, monitoring activities,  
11 or mitigation measures should be based on an assessment of the likelihood that such measures will  
12 contribute to a notable reduction of the environmental impact. If additional measures are identified, the  
13 Navy and ORNG will analyze the effectiveness of the measures and whether the additional measures are  
14 consistent with training and testing objectives, range procedures, and safety requirements. This  
15 additional analysis will be presented in the Final EIS, and, the final suite of BMPs, monitoring activities,  
16 and mitigation measures resulting from the ongoing planning, conferencing, and consultation processes  
17 will be documented in the Record of Decision.

18 The following sections outline the current requirements and management practices established for each  
19 resource section. Any proposed BMPs, monitoring, or mitigation measures identified in each resource  
20 section is also identified after discussion of that resource's current practices. Proposed mitigation  
21 measures and parties responsible for their implementation are listed at the conclusion of this chapter, in  
22 Table 5-1.

### 23 **5.2 SOILS**

#### 24 **5.2.1 CURRENT REQUIREMENTS AND MANAGEMENT PRACTICES**

- 25 • Soils are managed from a natural resources perspective under the auspices of the *NWSTF*  
26 *Boardman INRMP*. Actions focus on minimizing mechanical disturbance and restoration of  
27 native habitats to minimize soil erosion, and stabilizing soils following a wildfire to the extent  
28 practicable.
- 29 • Incidental spills that could contaminate soils are avoided and minimized through the *Hazardous*  
30 *Waste Management Plan* (U.S. Department of the Navy 2009). Navy personnel at NWSTF  
31 Boardman receive initial and periodic refresher training in the proper storage, handling, and  
32 management of hazardous materials. ORNG personnel are trained and conduct spill response  
33 and cleanup in accordance with Oregon Army National Guard Regulation 420-47, *Hazardous*  
34 *Material, Waste, and Spill Management Plan, September 2009*.
- 35 • Potential soil contamination is addressed in the Range Condition Assessment and subsequent  
36 5-year reviews, in accordance with the *Range Sustainability Environmental Program Assessment*  
37 *Policy Implementation Manual* (U.S. Department of the Navy 2006).

#### 38 **5.2.2 PROPOSED BEST MANAGEMENT PRACTICES, MONITORING, AND MITIGATION MEASURES**

##### 39 **5.2.2.1 Proposed Best Management Practices**

40 The current management practices listed above would continue to be implemented under Alternatives 1  
41 and 2, and existing programs and plans would be updated to reflect new conditions. The following BMPs  
42 would be implemented to avoid and minimize potential impacts to soils under Alternatives 1 and 2:

- 1 • Applicable erosion control measures would be implemented during construction to avoid and  
2 minimize the potential for wind and water erosion in accordance with the Oregon Department  
3 of Environmental Quality *Erosion and Sediment Control Manual* (Oregon Department of  
4 Environmental Quality 2005).
- 5 • A Post-construction Habitat Restoration Plan (Appendix F) would be implemented following  
6 construction to reduce soil erosion.
- 7 • An Integrated Wildland Fire Management Plan (Appendix H) would be implemented avoid and  
8 minimize impacts associated with wildfire, including the indirect effects of soil erosion after a  
9 fire.
- 10 • Incidental fuel spills would be avoided during construction and training by conducting all  
11 refueling activities in a secondary containment area.
- 12 • Drip pads would be placed under equipment when parked to avoid soil contamination from  
13 leaking fluids.
- 14 • A Spill Prevention, Control, and Countermeasures Plan would be developed if quantities of fuel  
15 and other petroleum products above the spill prevention, containment, and countermeasures  
16 quantity threshold were stored at NWSTF Boardman or a Heavy Expanded Mobility Tactical  
17 Truck or fuel tanker truck were parked on NWSTF Boardman. The Plan would help to ensure  
18 rapid and effective response to incidental spills and avoid contaminant migration to  
19 groundwater.
- 20 • Any spills would be managed and cleaned up in accordance with Oregon Army National Guard  
21 Regulation 420-47; a Spill Prevention, Control, and Countermeasures Plan, if deemed necessary;  
22 AR 200-1; and applicable state and federal regulatory requirements. If the ORNG is unable to  
23 contain a spill or the spill exceeded 42 gallons (158.9 liters) of regulated material, the event  
24 would be immediately reported to the Oregon Emergency Response System.
- 25 • The NWSTF Boardman *Operational Range Clearance Plan* would be updated and implemented  
26 to address requirements for the new ranges.
- 27 • Range Condition Assessment 5-year Reviews would continue to be conducted and appropriate  
28 steps would be taken, if necessary, to prevent or respond to a release or substantial threat of a  
29 release of munitions constituents of potential concern to off-range areas that could pose  
30 unacceptable risks to human health or the environment.
- 31 • Assessments would be conducted for the DMPTR, MPMGR, and both CLFRs in accordance with  
32 the Army's Operational Range Assessment Program. These assessments would first determine  
33 qualitatively if munitions constituents were leaving the operational range footprint and whether  
34 pathways existed for human or ecological receptors. A quantitative assessment would be  
35 conducted if the qualitative assessment were inconclusive. The assessments would be  
36 conducted on a 5-year review cycle, even if the initial qualitative assessment identified no  
37 issues. In addition, ORNG would proactively manage the new ranges using applicable strategies  
38 outlined in the *Army Small Arms Training Range Environmental Best Management Practices*  
39 *Manual*.

#### 40 **5.2.2.2 Proposed Monitoring**

41 No specific monitoring needs were identified for soils. However, the need for soil sampling, analysis, or  
42 monitoring would continue to be considered during Range Condition Assessment 5-year Reviews  
43 conducted under the Navy's Range Sustainability Environmental Program Assessment and during  
44 Operational Range Assessments conducted by ORNG.

### 1 **5.2.2.3 Proposed Mitigation Measures**

2 No mitigation measures are warranted for soils based on the analysis presented in Section 3.1.3,  
3 implementation of current management practices, and implementation of proposed BMPs.

## 4 **5.3 AIR QUALITY**

### 5 **5.3.1 CURRENT REQUIREMENTS AND MANAGEMENT PRACTICES**

6 Equipment used by military units in the study area, including aircraft and vehicles, are properly  
7 maintained in accordance with applicable Navy and ORNG requirements. Operating equipment meets  
8 federal and state emission standards, where applicable.

### 9 **5.3.2 PROPOSED BEST MANAGEMENT PRACTICES, MONITORING, AND MITIGATION MEASURES**

#### 10 **5.3.2.1 Proposed Best Management Practices**

11 The Navy and the ORNG propose the following BMPs to avoid and minimize impacts to air quality under  
12 Alternatives 1 and 2:

- 13 • Water or another dust palliative product would be used as employed as necessary to minimize  
14 generation and downwind migration of fugitive dust, especially on dry, windy days and in  
15 disturbed areas where construction equipment is being used.
- 16 • Generation of dust would be minimized by placing and maintaining crushed rock or gravel on  
17 the road surfaces that are used for training. In addition, conditions would be evaluated prior to  
18 starting a training event and water or another dust palliative product would be used to minimize  
19 dust, if warranted.

#### 20 **5.3.2.2 Proposed Monitoring**

21 No specific monitoring needs were identified for air quality.

#### 22 **5.3.2.3 Proposed Mitigation Measures**

23 No mitigation measures are warranted for air quality based on the analysis presented in Section 3.2.3  
24 and implementation of proposed BMPs.

## 25 **5.4 WATER RESOURCES**

### 26 **5.4.1 CURRENT REQUIREMENTS AND MANAGEMENT PRACTICES**

- 27 • Incidental spills that could contaminate groundwater are avoided and minimized through the  
28 *Hazardous Waste Management Plan* (U.S. Department of the Navy 2009). Navy personnel at  
29 NWSTF Boardman receive initial and periodic refresher training in the proper storage, handling,  
30 and management of hazardous materials.
- 31 • Potential groundwater contamination issues are addressed in the Range Condition Assessment  
32 (U.S. Department of the Navy 2004) and subsequent 5-year reviews (U.S. Department of the  
33 Navy 2011), in accordance with the *Range Sustainability Environmental Program Assessment*  
34 *Policy Implementation Manual* (U.S. Department of the Navy 2006) (see Section 3.1.1.2.3 for a  
35 general description of Range Condition Assessment).
- 36 • Incidental spills from ORNG activities are addressed in Oregon Army National Guard Regulation  
37 420-47, *Hazardous Material, Waste, and Spill Management Plan, September 2009*.
- 38 • An *Operational Range Clearance Plan* (U.S. Department of the Navy 2010) is implemented at  
39 NWSTF Boardman in compliance with DoD Directive 4715.11 Environmental and Explosives

1 Safety Management. The *Operational Range Clearance Plan* includes provisions for safe  
2 management and removal of unexploded ordnance, and recycling of training munitions,  
3 munitions debris, and range scrap that has been rendered safe. It includes quality assurance and  
4 surveillance procedures (see Section 3.1.1.2.4 for a general description of operational range  
5 clearance).

## 6 **5.4.2 PROPOSED BEST MANAGEMENT PRACTICES, MONITORING, AND MITIGATION MEASURES**

### 7 **5.4.2.1 Proposed Best Management Practices**

8 The current management practices listed above would continue to be implemented under Alternatives 1  
9 and 2, and existing programs and plans would be updated to reflect new conditions. The following BMPs  
10 would be implemented to avoid and minimize potential impacts to water resources under Alternatives 1  
11 and 2:

- 12 • Incidental fuel spills would be avoided during construction and training by conducting all  
13 refueling activities in a secondary containment area.
- 14 • Drip pads would be placed under equipment when parked to avoid soil contamination from  
15 leaking fluids.
- 16 • A Spill Prevention, Control, and Countermeasures Plan would be developed if quantities of fuel  
17 and other petroleum products above the spill prevention, containment, and countermeasures  
18 quantity threshold were stored at the NWSTF Boardman or a Heavy Expanded Mobility Tactical  
19 Truck or fuel tanker truck were parked on NWSTF Boardman. The Plan would help to ensure  
20 rapid and effective response to incidental spills and avoid contaminant migration to  
21 groundwater.
- 22 • Any spills on bare ground would be managed and cleaned up in accordance with Oregon Army  
23 National Guard Regulation 420-47; a Spill Prevention, Control, and Countermeasures Plan, if  
24 deemed necessary; AR 200 1; and applicable state and federal regulatory requirements. If the  
25 ORNG is unable to contain a spill or the spill exceeded 42 gallons (158.9 liters) of regulated  
26 material, the event would be immediately reported to the Oregon Emergency Response System.
- 27 • Range Condition Assessment 5-year Reviews would continue to be conducted and appropriate  
28 steps would be taken, if necessary, to prevent or respond to a release or substantial threat of a  
29 release of munitions constituents of potential concern to off-range areas that could pose  
30 unacceptable risks to human health or the environment.
- 31 • Assessments would be conducted for the DMPTR, MPMGR, and both CLFRs in accordance with  
32 the Army's Operational Range Assessment Program. These assessments would first determine  
33 qualitatively if munitions constituents were leaving the operational range footprint and whether  
34 pathways existed for human or ecological receptors. A quantitative assessment would be  
35 conducted if the qualitative assessment were inconclusive. The assessments would be  
36 conducted on a 5-year review cycle, even if the initial qualitative assessment identified no  
37 issues. In addition, ORNG would proactively manage the new ranges using applicable strategies  
38 outlined in the Army Small Arms Training Range Environmental Best Management Practices  
39 Manual.

### 40 **5.4.2.2 Proposed Monitoring**

41 No specific monitoring needs were identified for water resources. However, the need for groundwater  
42 sampling, analysis, or monitoring would continue to be considered during Range Condition Assessment  
43 5-year Reviews conducted under the Navy's Range Sustainability Environmental Program Assessment  
44 program and during Operational Range Assessments conducted by ORNG.



### 1 **5.4.2.3 Proposed Mitigation Measures**

2 No mitigation measures are warranted for water resources based on the analysis presented in Section  
3 3.3.3, implementation of current management practices, and implementation of proposed BMPs.

## 4 **5.5 ACOUSTICS**

### 5 **5.5.1 CURRENT REQUIREMENTS AND MANAGEMENT PRACTICES**

6 Activities at NWSTF Boardman comply with numerous established acoustic control procedures to ensure  
7 that neither participants nor non-participants engage in activities that would endanger life or property.  
8 Aircraft SOPs are largely oriented toward safety, which also provide significant noise abatement  
9 benefits. For example, many SOPs involve flight routing and minimum altitudes. Each of these  
10 procedures increases the range of the noise source from human receptors, thus reducing noise impacts.  
11 As stated in Chief of Naval Operations Instruction 5090.1C (Department of the Navy 2011), noise control  
12 and abatement programs are developed to minimize noise impacts whenever practicable through  
13 implementation of operational alternatives that do not degrade mission requirements or aircraft safety  
14 to identify and address incompatible development in areas that are in the vicinity of air installations.  
15 Military personnel who might be exposed to sound in the air from military activities they are directly  
16 involved in, such as military aircraft or land detonations, are required to take precautions, such as the  
17 wearing of protective equipment, to reduce or eliminate potential harmful effects of such exposure.

### 18 **5.5.2 PROPOSED BEST MANAGEMENT PRACTICES, MONITORING, AND MITIGATION MEASURES**

#### 19 **5.5.2.1 Proposed Best Management Practices**

20 The current management practices listed above would continue to be implemented under Alternatives 1  
21 and 2, and existing programs and plans would be updated to reflect new conditions. The following BMPs  
22 would be implemented to avoid and minimize potential impacts from noise under Alternatives 1 and 2:

- 23 • Explosive Ordnance Disposal measures for reducing noise impacts during land detonation  
24 training include conducting detonation training only during normal working hours (10:00 a.m. to  
25 4:00 p.m.).

#### 26 **5.5.2.2 Proposed Monitoring**

27 No specific monitoring needs were identified for noise.

#### 28 **5.5.2.3 Proposed Mitigation Measures**

- 29 • Detonations of Net Explosive Weights (NEWs) above 50 lb. are restricted between February and  
30 August. Detonations of NEWs greater than 50 lb. NEW will be performed between September  
31 and January unless necessitated by operational or disposal requirements.
- 32 • Public notice would be given prior to detonation of 100 lb. NEW or greater.
- 33 • Detonation training would be conducted only during days when the weather is favorable.  
34 Studies have shown that variation of temperature and wind velocity with altitude can cause a  
35 noise event to be inaudible at one time (favorable) and audible at another time (unfavorable). A  
36 number of factors affect noise propagation during training events, and are considered by range  
37 managers and users when planning and conducting activities to help mitigate noise impacts.  
38 Conditions that can enhance the propagation of sound include steady winds; clear days on  
39 which 'layering' of smoke, fog, or clouds are observed; cold, hazy or foggy mornings; large  
40 temperature swings on the previous day; and high barometer/low temperatures. These  
41 conditions are avoided to the maximum extent possible when scheduling demolition activities.

## 1 5.6 VEGETATION

### 2 5.6.1 CURRENT REQUIREMENTS AND MANAGEMENT PRACTICES

- 3 • Vegetation is managed under the *NWSTF Boardman INRMP*. Actions focus on minimizing
- 4 disturbance, controlling invasive plants and weeds, and restoring of native habitats.
- 5 • All training and facility operation actions at NWSTF Boardman are reviewed by the Naval Air
- 6 Station Whidbey Island/NWSTF Boardman Natural Resources Manager for potential invasive
- 7 plant and noxious weed issues.

### 8 5.6.2 PROPOSED BEST MANAGEMENT PRACTICES, MONITORING, AND MITIGATION MEASURES

#### 9 5.6.2.1 Proposed Best Management Practices

10 The current management practices listed in Section 5.6.1 would continue to be implemented under  
11 Alternatives 1 and 2, and existing programs and plans would be updated to reflect new conditions. The  
12 following BMPs would be implemented to avoid and minimize potential impacts to vegetation under  
13 Alternatives 1 and 2:

- 14 • Surveys would be conducted during the project design phase to identify existing vegetation  
15 communities and evaluate habitat quality. This information would be used during project design  
16 to support micrositing decisions. Areas of higher quality habitat (e.g., undisturbed areas with a  
17 relatively high percentage of native plant cover) would be avoided in favor of areas of lower  
18 quality habitat (e.g., disturbed areas with a relatively high percentage of non-native plant cover),  
19 to the extent practicable. Micrositing efforts would be limited to buildings and structures, as  
20 opposed to targetry or other range components, because even minor changes to the range  
21 design could affect the associated surface danger zone or impact range safety in other ways. The  
22 survey data would also be used to support post-construction restoration efforts.
- 23 • Vegetation temporarily disturbed during construction would be restored in accordance with the  
24 proposed post-construction restoration plan (Appendix F). The restoration plan would be  
25 implemented by the ORNG in accordance with the Host-Tenant Agreement that would be  
26 updated prior to implementing the selected alternative.
- 27 • Invasive plants would continue to be managed and controlled under the *NWSTF Boardman*  
28 *INRMP*. The Plan would be updated in cooperation with ORNG, USFWS, Oregon Department of  
29 Fish and Wildlife, and The Nature Conservancy during routine annual reviews to reflect the  
30 evolving invasive plant management situation associated with construction and operation of the  
31 new ranges. Updates to the Plan would include provisions for short- and long-term monitoring  
32 of invasive plants (see Section below); responsibilities and procedures for integrating efforts of  
33 the Navy, ORNG, and The Nature Conservancy; criteria for prioritizing management actions and  
34 adaptive management strategies to control invasive plants; and annual work plans, including  
35 funding requirements and funding sources.
- 36 • The NWSTF Boardman Draft Integrated Wildland Fire Management Plan (Appendix H) would be  
37 finalized and implemented. In addition to other fire protection measures, the Plan includes  
38 proposed modifications to the existing system of fire breaks. The width of some fire breaks  
39 would be reduced to the width of the adjacent road, some fire breaks that do not follow roads  
40 would be eliminated, and some new fire breaks would be created (Figure 3.12-2). The total area  
41 of fire breaks that would be maintained annually by mechanical disturbance (plowing or disking  
42 with a tractor) would decrease from 462 ac. (187 ha) to 243 ac. (98 ha). A long-term re-  
43 vegetation plan (Appendix F) would be implemented to restore the areas removed from  
44 mechanical maintenance. These areas would be re-vegetated with native bunchgrasses,

1 primarily Sandberg's bluegrass with some needle and thread or bluebunch wheatgrass, to  
2 provide a low-structure and low-fuel load area next to the road/fire break, and also provide  
3 some wildlife habitat value. Grass revegetation would be considered successful if seeding results  
4 in a stand of grass providing a uniform coverage of at least 80% density of a representative  
5 bunchgrass stand area within two to three years of seeding. Selective herbicide treatments or  
6 other appropriate management actions would be used to control invasive plants until these  
7 areas are completely restored.

- 8 • As part of the *NWSTF Boardman INRMP*, the Navy, in cooperation with The Nature Conservancy,  
9 is proposing to relocate RNA-A to a more suitable location. Three RNAs (A, B, and C, Figure 1-5)  
10 were established on NWSTF Boardman in 1978 and are co-managed by The Nature Conservancy  
11 under a Memorandum of Understanding with the Navy. The RNA program was created to (1)  
12 preserve examples of all significant natural ecosystems for comparison with those influenced by  
13 man, (2) provide educational and research areas for ecological and environmental studies, and  
14 (3) preserve gene pools of threatened and endangered plants and animals. RNA-A encompasses  
15 the Main Target Area at NWSTF Boardman, which must be used and maintained to meet mission  
16 requirements. Portions of the Main Target Area are highly disturbed by military use. While the  
17 rationale for originally establishing RNA-A within the Main Target Area is uncertain, it has  
18 become clear that this area is not functioning as an RNA and is not providing the intended  
19 scientific and educational benefits of an RNA. Therefore, the Navy, in coordination with The  
20 Nature Conservancy, is proposing to relocate RNA-A to one or more suitable locations on  
21 NWSTF Boardman. The new RNA would be sited to avoid possible conflicts with military  
22 activities and the new location would be more representative of the unique habitat types RNAs  
23 are designed to protect. Similar to existing RNA-B and RNA-C, access to the relocated RNA would  
24 normally be limited to research activities, invasive plant control, and emergency response.  
25 Vegetation communities would benefit from the increased protection and management  
26 provided by relocating RNA-A to a more suitable location.

### 27 **5.6.2.2 Proposed Monitoring**

28 The current *NWSTF Boardman INRMP* includes several vegetation monitoring project recommendations  
29 for fiscal years 2012 through 2016, which will be implemented subject to the availability of funds  
30 properly authorized and appropriated under federal law. To the extent possible, vegetation monitoring  
31 conducted under the current *NWSTF Boardman INRMP* will be designed to support planning efforts  
32 associated with the Proposed Action, as well as existing management needs. In addition, the *NWSTF*  
33 *Boardman INRMP* would continue to be the primary means of designing and implementing vegetation  
34 monitoring to address the evolving management situation associated with construction and operation of  
35 the new ranges. Necessary updates to the *NWSTF Boardman INRMP* and associated monitoring would  
36 be accomplished during routine annual reviews conducted in cooperation with ORNG, USFWS, and  
37 Oregon Department of Fish and Wildlife. This process will help to ensure that a comprehensive and  
38 consistent approach to vegetation management and monitoring is accomplished for the entire NWSTF  
39 Boardman property. Vegetation monitoring project recommendations contained in the current *NWSTF*  
40 *Boardman INRMP* and their relevance and relationship to the Proposed Action are summarized below:

- 41 • **V-1: Monitor and control noxious weeds and invasive, non-native plants.** The annual  
42 monitoring component of this project is used to identify priority areas for invasive plant control  
43 actions. Similar annual monitoring would continue following implementation of the Proposed  
44 Action, with appropriate modifications to address conditions resulting from construction and  
45 operation of the new ranges.

- 1 • **V-2: Count, measure, re-tag, and map all junipers.** All juniper trees are located well outside the  
2 area of disturbance for the Proposed Action.
- 3 • **V-3: Use high-resolution aerial photography to map all vegetation; produce GIS-based**  
4 **vegetation map.** This project is currently programmed for fiscal year 2014 to update vegetation  
5 mapping that is more than 10 years old and to document changes in vegetation communities  
6 resulting from wildfires and changes that have occurred since grazing leases were terminated.  
7 This project will also provide new baseline data prior to implementing the Proposed Action and  
8 information to support micro-siting decisions.
- 9 • **V-4: Recover monumented vegetation plots and resurvey vegetation using established**  
10 **protocol; produce GIS data layers.** This project will resurvey plots established in the 1980s to  
11 provide ground truthing for the V-3 project above, trend analysis for vegetation change, and  
12 permanent locations to measure future vegetation change or stability. Plots located within the  
13 area of disturbance for the Proposed Action will provide new baseline data.
- 14 • **V-5: Monitor previously burned areas for vegetation recovery.** Pedestrian surveys conducted  
15 under this project will assist in evaluating natural recovery to pre-fire habitat types and identify  
16 priority areas for potential post-fire restoration measures. Information obtained during this  
17 project will also be used to identify potential restoration sites in the southern portion of NWSTF  
18 Boardman to mitigate impacts of the Proposed Action (see Section 5.6.2.3 below). Similar  
19 monitoring would be conducted in the area of disturbance for the Proposed Action to evaluate  
20 success of post-construction restoration efforts (see Section 5.6.2.1 and Appendix F).
- 21 • **V-8: Map noxious weeds and invasive, non-native plants.** This project is currently programmed  
22 for fiscal year 2014 to update the NWSTF Boardman-wide invasive plant survey conducted in  
23 1997 and to help prioritize control. This project will also provide new baseline data prior to  
24 implementing the Proposed Action, information to support micro-siting decisions, and help  
25 identify potential restoration sites in the southern portion of NWSTF Boardman to mitigate  
26 impacts of the Proposed Action (see Section 5.6.2.3 below).

### 27 **5.6.2.3 Proposed Mitigation Measures**

28 Based on the analysis presented in Section 3.5.3 and implementation of proposed BMPs for vegetation,  
29 additional mitigation measures are not required to further reduce adverse impacts on vegetation.  
30 However, mitigation measures proposed to reduce adverse impacts on the Washington ground squirrel  
31 (Section 3.6.3.4) would also result in benefits to vegetation communities at NWSTF Boardman. These  
32 proposed mitigation measures include restoration of native shrub steppe and grassland habitats in the  
33 southern portion of NWSTF Boardman.

34 The Navy and ORNG are proposing to implement a long-term habitat restoration program for selected  
35 locations on the southern portions of NWSTF Boardman to improve native plant communities that have  
36 been degraded by invasive plants and to enhance habitat for Washington ground squirrels, long-bill  
37 curlews, grasshopper sparrows, western burrowing owls, and other species. The southern portion of  
38 NWSTF Boardman consists of approximately 13,000 ac. (5,261 ha) that are located away from most of  
39 the ongoing and proposed training activities. The restoration program would be incorporated into and  
40 implemented under the purview of the *NWSTF Boardman INRMP*. The restoration program would be  
41 implemented under the direction of the Naval Air Station (NAS) Whidbey Island/NWSTF Boardman  
42 Natural Resources Program Manager, with support from Commander Pacific Fleet, Navy Region  
43 Northwest, National Guard Bureau, and ORNG in accordance with the Host-Tenant Agreement that  
44 would be updated prior to implementing the selected alternative.

## 1 **5.7 WILDLIFE**

### 2 **5.7.1 CURRENT REQUIREMENTS AND MANAGEMENT PRACTICES**

3 Current requirements and management practices applicable to wildlife at NWSTF Boardman are  
4 described in the *NWSTF Boardman INRMP*. Actions focus on minimizing disturbance, restoring native  
5 habitats, and monitoring.

### 6 **5.7.2 PROPOSED BEST MANAGEMENT PRACTICES, MONITORING, AND MITIGATION**

7 This section presents BMPs, monitoring, and mitigation measures currently proposed by the Navy and  
8 ORNG to avoid and minimize or reduce potential impacts to wildlife. As discussed above, the Navy and  
9 ORNG are engaged in early conferencing with the USFWS for the Washington ground squirrel. As part of  
10 the conferencing process, the Navy, ORNG, and USFWS may develop additional BMPs, monitoring  
11 activities, or mitigation measures. The Navy and ORNG also requested technical assistance from the  
12 USFWS for the analysis of potential impacts to migratory birds in accordance with the DoD and USFWS  
13 Memorandum of Understanding to Promote the Conservation of Migratory Birds. Additional  
14 management practices may be proposed or the currently proposed practices may be refined based on  
15 USFWS input.

#### 16 **5.7.2.1 Proposed Best Management Practices**

17 If Alternative 1 or 2 were selected for implementation, current requirements and management practices  
18 applicable to wildlife would continue to be implemented under the *NWSTF Boardman INRMP* and it  
19 would be updated to reflect new conditions. Updates would be accomplished in cooperation with  
20 ORNG, USFWS, and Oregon Department of Fish and Wildlife as part of the routine annual review  
21 process. The following BMPs would be implemented to avoid and minimize potential impacts on wildlife  
22 under Alternatives 1 and 2:

- 23 • Surveys would be conducted during the project design phase to identify existing habitat,  
24 evaluate habitat quality, and identify wildlife currently using these habitats. This information  
25 would be used during project design to support micro-siting decisions. Areas of higher quality  
26 habitat (e.g., undisturbed areas with a relatively high percentage of native plant cover) or high  
27 wildlife use (e.g., existing Washington ground squirrel burrows) would be avoided in favor of  
28 areas of lower quality habitat (e.g., disturbed areas with a relatively high percentage of non-  
29 native plant cover), to the extent practicable. Micro-siting efforts would be limited to buildings  
30 and structures, as opposed to targetry or other range components, because even minor changes  
31 to the range design could affect the associated surface danger zone or impact range safety in  
32 other ways. The survey data would also be used to support post-construction restoration  
33 efforts.
- 34 • Construction for each range enhancement would be initiated from September through January  
35 to avoid disturbance of nesting migratory birds and ensure compliance with the Migratory Bird  
36 Treaty Act. Birds would likely avoid nesting in areas where construction is underway. If  
37 necessary, additional management techniques such as passive hazing (e.g., installation of Mylar  
38 flagging, scare eye balloons, or other visual deterrents) would be used to deter birds from  
39 nesting in the immediate vicinity of an active construction site in coordination with USFWS and  
40 Oregon Department of Fish and Wildlife. In addition, potential nesting burrows for the western  
41 burrowing owl would be identified during pre-construction surveys in May, when the birds are  
42 most active and burrows easiest to locate. Potential nesting burrows identified within the  
43 construction area of disturbance, if vacant, would be filled with dirt to prevent burrowing owl

1 nesting in the area of disturbance. Potential nesting burrows identified within the construction  
2 area of disturbance, if occupied, would be geo-located and resurveyed the following fall. Pre-  
3 construction survey data would also be used to determine if the number of suitable nesting  
4 burrows is a factor that limits burrowing owl nesting at NWSTF Boardman. If determined to be  
5 necessary, burrowing owl nesting burrows would be replaced outside of area of disturbance  
6 using artificial burrows or human-made burrows.

- 7 • Habitat temporarily disturbed during construction would be restored with native plants in  
8 accordance with the proposed post-construction restoration plan (Appendix F). The restoration  
9 plan would be implemented by the ORNG in accordance with the Host-Tenant Agreement that  
10 would be updated prior to implementing the selected alternative.
- 11 • As discussed in Section 3.5.2.6, three RNAs (A, B, and C, Figure 1-5) were established on NWSTF  
12 Boardman in 1978 and are co-managed by The Nature Conservancy under a Memorandum of  
13 Understanding with the Navy. The RNA program was created to (1) preserve examples of all  
14 significant natural ecosystems for comparison with those influenced by man, (2) provide  
15 educational and research areas for ecological and environmental studies, and (3) preserve gene  
16 pools of threatened and endangered plants and animals. RNA-A encompasses the Main Target  
17 Area at NWSTF Boardman, which must be used and maintained to meet mission requirements.  
18 Portions of the Main Target Area are highly disturbed by military use. While the rationale for  
19 originally establishing RNA-A within the Main Target Area is uncertain, it has become clear that  
20 this area is not functioning as an RNA and is not providing the intended scientific and  
21 educational benefits of an RNA. Therefore, the Navy, in coordination with The Nature  
22 Conservancy, is proposing to relocate RNA-A to one or more suitable locations on NWSTF  
23 Boardman. The new RNA would be sited to avoid possible conflicts with military activities and  
24 the new location would be more representative of the unique habitat types RNAs are designed  
25 to protect. Similar to the existing RNA-B and RNA-C, the new RNA would be fenced to control  
26 access and access would normally be limited to research activities, invasive plant control, and  
27 emergency response. The Washington ground squirrel, as well as other wildlife species and  
28 wildlife habitat, would benefit from the increased protection and management provided by  
29 relocating RNA-A to a more suitable location.
- 30 • Invasive plants would continue to be managed and controlled under the NWSTF Boardman  
31 INRMP. The Plan would be updated in cooperation with ORNG, USFWS, Oregon Department of  
32 Fish and Wildlife, and The Nature Conservancy during routine annual reviews to reflect the  
33 evolving invasive plant management situation associated with construction and operation of the  
34 new ranges. Updates to the Plan would include provisions for short- and long-term monitoring  
35 of invasive plants (see Section 5.6.2.2); responsibilities and procedures for integrating efforts of  
36 the Navy, ORNG, and The Nature Conservancy; criteria for prioritizing management actions and  
37 adaptive management strategies to control invasive plants; and annual work plans, including  
38 funding requirements and funding sources.
- 39 • The NWSTF Boardman Draft Integrated Wildland Fire Management Plan would be finalized and  
40 implemented.

### 41 **5.7.2.2 Proposed Monitoring**

42 The current *NWSTF Boardman INRMP* includes several wildlife monitoring project recommendations for  
43 fiscal years 2012 through 2016, which will be implemented subject to the availability of funds properly  
44 authorized and appropriated under federal law. To the extent possible, wildlife monitoring conducted  
45 under the current *NWSTF Boardman INRMP* will be designed to support planning efforts associated with  
46 the Proposed Action, as well as existing management needs. In addition, the *NWSTF Boardman INRMP*

1 would continue to be the primary means of designing and implementing wildlife monitoring to address  
2 the evolving management situation associated with construction and operation of the new ranges.  
3 Necessary updates to the *NWSTF Boardman INRMP* and associated monitoring would be accomplished  
4 during routine annual reviews conducted in cooperation with ORNG, USFWS, and Oregon Department of  
5 Fish and Wildlife. This process will help to ensure that a comprehensive and consistent approach to  
6 wildlife management and monitoring is accomplished for the entire NWSTF Boardman property. Wildlife  
7 monitoring project recommendations contained in the current *NWSTF Boardman INRMP* and their  
8 relevance and relationship to the Proposed Action are summarized below:

- 9 • **WL-2: Conduct annual Washington ground squirrel surveys.** These surveys are currently  
10 programmed to start in fiscal year 2013 to update previous data and support management of  
11 this species. This project will also provide new baseline data prior to implementing the Proposed  
12 Action and information to support microsite decisions.
- 13 • **WL-3: Conduct burrowing owl surveys.** These surveys are currently programmed to be  
14 conducted three times between fiscal years 2012 and 2016 to update previous data and support  
15 management of this species. This project will also provide new baseline data prior to  
16 implementing the Proposed Action and information to support microsite decisions.
- 17 • **WL-4: Conduct long-billed surveys.** These surveys are currently programmed to be conducted  
18 three times between fiscal years 2012 and 2016 to update previous data and support  
19 management of this species. This project will also provide new baseline data prior to  
20 implementing the Proposed Action and information to support microsite decisions.

21 As the range enhancements are completed, annual wildlife surveys would be conducted to obtain  
22 information on Washington ground squirrel, long-billed curlew, grasshopper sparrow, and western  
23 burrowing owls at representative locations throughout NWSTF Boardman. Annual surveys would  
24 continue for a minimum of 10 years after the final range becomes operational to evaluate wildlife  
25 population responses to construction and operation of the ranges and to identify the need for adaptive  
26 management. The *NWSTF Boardman INRMP* would be updated in cooperation with ORNG, USFWS, and  
27 Oregon Department Fish and Game, to reflect a comprehensive wildlife monitoring program. The  
28 *NWSTF Boardman INRMP* updates would include standardized survey protocols, data quality  
29 management, and decision points and metrics to support adaptive management. The monitoring  
30 program would be implemented under the direction of the NAS Whidbey Island/NWSTF Boardman  
31 Natural Resources Program Manager, with support from Commander Pacific Fleet, Navy Region  
32 Northwest, National Guard Bureau, and ORNG in accordance with the Host-Tenant Agreement that  
33 would be updated prior to implementing the selected alternative. All surveys would be conducted by  
34 qualified surveyors recognized by the USFWS. Annual monitoring reports, including geospatial data,  
35 would be submitted to USFWS and Oregon Department of Fish and Game and would be reviewed by the  
36 parties during the annual operation and effect review of the *NWSTF Boardman INRMP*. The vegetation  
37 and habitat monitoring discussed in Section 3.5.3.4.2 would also be used to support wildlife  
38 management actions at NWSTF Boardman.

### 39 **5.7.2.3 Proposed Mitigation Measures**

40 Based on the analysis presented in Section 3.6.3 and implementation of proposed BMPs for wildlife,  
41 additional mitigation measures are not required to further reduce adverse impacts on wildlife with the  
42 exception of the Washington ground squirrel. However, mitigation measures proposed to reduce  
43 adverse impacts on the Washington ground squirrel would also result in benefits to some other wildlife  
44 species as well as wildlife habitat at NWSTF Boardman as a whole. These proposed mitigation measures

1 include restoration of native shrub steppe and grassland habitats in the southern portion of NWSTF  
2 Boardman.

3 The Navy and ORNG are proposing to implement a long-term habitat restoration program for selected  
4 locations on the southern portions of NWSTF Boardman to improve native plant communities that have  
5 been degraded by invasive plants and to enhance habitat for Washington ground squirrels, long-bill  
6 curlews, grasshopper sparrows, western burrowing owls, and other species. The southern portion of  
7 NWSTF Boardman consists of approximately 13,000 ac. (5,261 ha) that are located away from most of  
8 the ongoing and proposed training activities. The restoration program would be incorporated into and  
9 implemented under the purview of the *NWSTF Boardman INRMP*. The restoration program would be  
10 implemented under the direction of the Naval Air Station (NAS) Whidbey Island/NWSTF Boardman  
11 Natural Resources Program Manager, with support from Commander Pacific Fleet, Navy Region  
12 Northwest, National Guard Bureau, and ORNG in accordance with the Host-Tenant Agreement that  
13 would be updated prior to implementing the selected alternative..

14 Additionally, the Demolition Training Range will seasonally restrict the maximum explosive weight used.  
15 Between February and August, only detonations less than 50 lb. NEW will be authorized. Detonations of  
16 NEWs greater than 50 lb. NEW will be performed between September and January unless necessitated  
17 by operational or disposal requirements.

#### 18 **5.7.2.4 Adaptive Management Concepts**

19 The need for adaptive management actions to further mitigate impacts of the Propose Action would be  
20 based on the findings of the long-term monitoring program and decisions points contained in the  
21 updated *NWSTF Boardman INRMP*. If the need for additional mitigation measures were determined to  
22 be necessary, the Navy and ORNG would first complete a comprehensive review of ongoing training  
23 activities to determine if additional measures or BMPs could be implemented to avoid or minimize  
24 impacts on the resources of concern while still meeting training and readiness requirements. If  
25 appropriate measures could not be identified, then the Navy and ORNG would consider additional  
26 options such as:

- 27 • Expand the habitat restoration program for the southern portion of NWSTF Boardman.
- 28 • Initiate a search for suitable properties to serve as a compensatory mitigation site and pursue  
29 acquisition of an appropriate site under the Navy's Readiness and Environmental Protection  
30 Initiative or the Army's Compatible Land Use Buffer Program.

### 31 **5.8 LAND USE AND RECREATION**

#### 32 **5.8.1 CURRENT REQUIREMENTS AND MANAGEMENT PRACTICES**

##### 33 **5.8.1.1 Access Restrictions**

- 34 • Persons authorized to access NWSTF Boardman are all military and civilian employees of DoD, or  
35 authorized contractors and personnel from research organizations. Recreational use of NWSTF  
36 Boardman is not authorized at this time due to the nature of the facility being used as an active  
37 training range. However, the Well Springs site, Pioneer Cemetery, and a portion of the Oregon  
38 Trail on the southern range boundary are open to the public.
- 39 • Special Use Airspaces (SUAs) consist of airspace with defined vertical and lateral limits  
40 established for the purpose of separating certain military training activities from Instrument  
41 Flight Rules (IFR) traffic. Whenever a Military Operations Area (MOA) is being used, or is  
42 activated, nonparticipating IFR traffic may be cleared through the MOA if IFR separation can be



1 provided by Air Traffic Control. Otherwise, Air Traffic Control will reroute or restrict  
2 nonparticipating IFR traffic. At the cessation of military use of the MOA, the airspace is  
3 deactivated and nonparticipating IFR traffic is no longer restricted in the area.

- 4 • According to Federal Aviation Administration (FAA) and DoD policy, SUA should be made  
5 available for use by nonparticipating aircraft when all or part of the airspace is not needed by  
6 the using agency. To accommodate the joint use of SUA, a Letter of Agreement or a Letter of  
7 Procedure is drafted between the controlling agency and the using agency. In the case of R-5701  
8 [A-E] and R-5706 above NWSTF Boardman, a Letter of Agreement is in place between Seattle  
9 Center Air Route Traffic Control Center (ARTCC) and NAS Whidbey Island. Any new MOA, upon  
10 designation by the FAA, would be addressed through an update to the existing or a new letter of  
11 agreement. Through the Letter of Agreement, the Navy establishes the activation/deactivation  
12 procedures for the SUA and may outline periods when the FAA, with the Navy's concurrence,  
13 may route IFR traffic through the active SUA. (NASWHIDBEY INSTRUCTION 3770.1E, FAA JO  
14 7400. 8U)
- 15 • The aviation easements established to the east and west of NWSTF Boardman (Figure 3.7-1)  
16 grant the right-of-flight including the right to noise and dust inherent in aircraft flight; the right  
17 to restrict or prohibit lights, electromagnetic signals, and bird-attractants; the right to  
18 unobstructed airspace; and the right of entry upon the land to exercise those rights.  
19 Additionally, each of these aviation easements allows improvements so long as they are less  
20 than 100 feet (ft.) (30.5 meters [m]) in height and do not interfere with line of vision of pilots  
21 and as long as there are no overhead lines that exceed 35 ft. (10.7 m) in height.

#### 22 **5.8.1.2 Fire Management**

23 NAS Whidbey Island is currently working on a wildfire response plan for Boardman to request response  
24 from NAS Whidbey Island for large scale fires. This NAS Whidbey Island wildland fire response would  
25 include seven personnel, equipment and vehicles. Because of the distance between NWSTF Boardman  
26 and NAS Whidbey Island, it would be expected to have a six to eight hour response time. Additionally,  
27 NWSTF Boardman has a mutual aid agreement with wildland fire response with both the Umatilla  
28 Chemical Depot (UCD) fire department.

### 29 **5.8.2 PROPOSED BEST MANAGEMENT PRACTICES, MONITORING, AND MITIGATION MEASURES**

#### 30 **5.8.2.1 Proposed Management Practices**

31 Management practices in place for other resources (e.g., Acoustic Environment, Biological Resources,  
32 Wildfire), which affect land use on NWSTF Boardman, would continue to be implemented. These  
33 management practices would also serve to prevent impacts on land use surrounding NWSTF Boardman.  
34 No additional management practices are warranted for land use and recreation based on the analysis  
35 presented in Section 3.7.3.

#### 36 **5.8.2.2 Proposed Monitoring**

37 No monitoring measures are warranted for land use and recreation based on the analysis presented in  
38 Section 3.7.3, implementation of current management practices, and implementation of proposed  
39 BMPs.

### 1 **5.8.2.3 Proposed Mitigation Measures**

2 No mitigation measures are warranted for land use and recreation based on the analysis presented in  
3 Section 3.7.3, implementation of current management practices, and implementation of proposed  
4 BMPs.

## 5 **5.9 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE**

### 6 **5.9.1 CURRENT REQUIREMENTS AND MANAGEMENT PRACTICES**

7 There are no current mitigation measures related to socioeconomics or environmental justice. However,  
8 mitigation measures in place for other resources (e.g., Air Quality, Water Resources, Noise, and Public  
9 Health and Safety) ensure that non-participants are not affected by actions on NWSTF Boardman.

### 10 **5.9.2 PROPOSED BEST MANAGEMENT PRACTICES, MONITORING, AND MITIGATION MEASURES**

#### 11 **5.9.2.1 Proposed Best Management Practices**

12 No adverse socioeconomic effects were identified; therefore, no proposed BMPs, socioeconomics and  
13 environmental justice are warranted. However, BMPs for other resources that affect environmental  
14 justice (e.g., Air Quality [Section 3.2], Water Resources [Section 3.3], and Acoustic Environment [Section  
15 3.4]) would be implemented.

#### 16 **5.9.2.2 Proposed Monitoring**

17 No specific monitoring needs were identified for socioeconomics and environmental justice.

#### 18 **5.9.2.3 Proposed Mitigation Measures**

19 No mitigation measures are warranted for socioeconomics and environmental justice based on the  
20 analysis presented in Section 3.8.3 and implementation of proposed BMPs.

## 21 **5.10 TRANSPORTATION**

### 22 **5.10.1 CURRENT REQUIREMENTS AND MANAGEMENT PRACTICES**

23 The Navy strives to ensure that it retains access to training areas and SUA as necessary to accomplish its  
24 mission, while facilitating joint military-civilian use of such areas to the extent practicable and consistent  
25 with safety. These goals of military access, joint use, and safety are promoted through various  
26 coordination and outreach measures, including:

- R-5701, R-5706, and Boardman MOA activated from 0730 to 2359 Monday through Friday; and at other times by Notices to Airmen (6 hours advance notice).
- According to FAA and DoD policy, SUA should be made available for use by nonparticipating aircraft when all or part of the airspace is not needed by the using agency. To accommodate the joint use of SUA, a Letter of Agreement or a Letter of Procedure is drafted between the controlling agency and the using agency. In the case of R-5701 [A-E] and R-5706 within NWSTF Boardman, a Letter of Agreement is in place between Seattle Center ARTCC and Naval Air Station Whidbey Island. Through the Letter of Agreement, the Navy and FAA establish the activation/deactivation procedures for the SUA. (NASWHIDBEY INSTRUCTION 3770.1E). Any new MOA, upon designation by the FAA, would be addressed through an update to the existing or a new Letter of Agreement.
- Non-participating aircraft are prohibited to enter Restricted Areas at NWSTF Boardman unless they have prior approval from the controlling authority (Seattle ARTCC). Non-military aviators

1 must coordinate any flight activities that require entrance at any time into the Restricted  
2 Airspace with Seattle ARTCC, who in turn works with local aviators and military training schedule  
3 to determine available flight times. If scheduling conflicts arise, Seattle ARTCC contacts the local  
4 aviator.

## 5 **5.10.2 PROPOSED BEST MANAGEMENT PRACTICES, MONITORING, AND MITIGATION MEASURES**

6 There are no proposed mitigation measures for transportation for NWSTF Boardman.

### 7 **5.10.2.1 Proposed Best Management Practices**

8 No adverse transportation impacts were identified; therefore, no proposed BMPs are warranted.

### 9 **5.10.2.2 Proposed Monitoring**

10 No specific monitoring needs were identified for transportation.

### 11 **5.10.2.3 Proposed Mitigation Measures**

12 No mitigation measures are warranted for transportation based on the analysis presented in Section  
13 3.9.3 and implementation of proposed BMPs. There are mitigation measures in place for other  
14 resources (e.g., Acoustic Environment [Section 3.4] and Wildlife [Section 3.6]) that also apply to  
15 transportation at NWSTF Boardman, mainly through the stipulation of training parameters.

## 16 **5.11 CULTURAL RESOURCES**

### 17 **5.11.1 CURRENT REQUIREMENTS AND MANAGEMENT PRACTICES**

18 Cultural resources at NWSTF Boardman are managed in accordance with the National Historic  
19 Preservation Act, the American Indian Religious Freedom Act, the Archeological Resource Protection Act,  
20 the Native American Graves Protection and Repatriation Act, and appropriate Navy Instructions. The  
21 Navy is currently preparing an *Integrated Cultural Resources Management Plan* for NWSTF Boardman,  
22 which is scheduled for completion by December 2012 and will include these goals:

- 23 • Comply with federal laws and regulations governing the treatment of cultural resources, while  
24 causing the least disturbance to the military mission.
- 25 • Implement a cultural landscape planning approach to cultural resources management that  
26 recognizes the complexity of the human cultural interaction with the natural terrain through  
27 time.
- 28 • Inventory and evaluate cultural resources for eligibility to the National Register of Historic  
29 Places.
- 30 • Identify historic properties of religious and cultural significant to Native American Tribes.
- 31 • Avoid, minimize, or mitigate adverse effects on cultural resources that are listed on or meet  
32 criteria for inclusion in the National Register of Historic Places (historic properties).
- 33 • Develop efficient management procedures that focus on cultural resources eligible for the  
34 National Register of Historic Places as opposed to those resources of little or no potential for  
35 eligibility.
- 36 • Enforce federal laws that prohibit vandalism of cultural resources on federal properties through  
37 law enforcement, monitoring, and public awareness.
- 38 • Consider outside interests, including local governments and public groups.
- 39 • Consult with Native American Tribes.

- 1       • Establish a yearly review process for assessing ongoing appropriateness for the *Integrated*  
2       *Cultural Resources Management Plan*.

### 3 **5.11.2 PROPOSED MANAGEMENT PRACTICES, MONITORING, AND MITIGATION MEASURES**

#### 4 **5.11.2.1 Proposed Best Management Practices**

5 Cultural resources at NWSTF Boardman would continue to be managed in accordance with the National  
6 Historic Preservation Act, the American Indian Religious Freedom Act, the Native American Graves  
7 Protection and Repatriation Act, the Archaeological Resources Protection Act, and appropriate Navy  
8 Instructions under Alternatives 1 and 2. The *Integrated Cultural Resources Management Plan* for NWSTF  
9 Boardman (scheduled for completion by December 2012) would be updated to reflect new conditions.

#### 10 **5.11.2.2 Proposed Monitoring**

11 No specific monitoring needs were identified for cultural resources.

#### 12 **5.11.2.3 Proposed Mitigation Measures**

13 No mitigation measures are required for archaeological or architectural resources because no National  
14 Register of Historic Places-eligible or listed archaeological or architectural resources are located within  
15 the area of potential effects. If Native American resources are identified through ongoing government-  
16 to-government consultation and cannot be avoided, specific mitigation measures would be developed in  
17 further consultation with the Confederated Tribes of the Umatilla Indian Reservation, the Confederated  
18 Tribes of the Warm Springs of Oregon, the Confederated Tribes and Bands of the Yakama Nation, the  
19 Nez Perce Tribe, and the Oregon State Historic Preservation Office.

### 20 **5.12 PUBLIC HEALTH AND SAFETY AND PROTECTION OF CHILDREN**

#### 21 **5.12.1 CURRENT REQUIREMENTS AND MANAGEMENT PRACTICES**

22 There are specific and documented procedures in place to ensure that nonparticipants are not  
23 endangered by training actions. Medically trained personnel and first aid kits are on site for each  
24 training activity in the unlikely event of an injury. Monitored fences around NWSTF Boardman, and the  
25 use of gates and signs to control access, protect the public from potentially hazardous training activities.  
26 Monitoring of training events serves to identify potential public health and safety risks and avoid them.

- 27       • Factors considered in evaluating the impact of the training on public safety include proximity of  
28       the activity to public areas; access control; schedule (time of day, day of week); frequency,  
29       duration, and intensity of activities; range safety procedures; operational control of hazardous  
30       activities or events; and safety history. Range users are instructed to discuss planned activities  
31       with the range scheduler to ensure that current and applicable range procedures are applied  
32       prior to conducting any activities.
- 33       • Current range control procedures at NWSTF Boardman limit unanticipated interactions with the  
34       public. Public access to NWSTF Boardman is controlled per NASWHIDBEYINST 8020.8 Ground  
35       Entry/Access to NWSTF Boardman. NWSTF Boardman areas are fully fenced; entrance into these  
36       areas is controlled by unmanned gates. Signs also are posted to warn the public of potentially  
37       hazardous activities. Trainers and exercise participants are responsible for assuring that  
38       nonparticipants are not close enough that they are at risk during all training activities.
- 39       • NWSTF Boardman has a Hazardous Control and Management Plan, Authorized Use List, and a  
40       Hazard Communication Program. Material Safety Data Sheets are available for the hazardous  
41       materials stored there. Navy personnel at NWSTF Boardman receive initial and periodic

1 refresher training in the proper storage, handling, and management of hazardous materials.  
2 NWSTF Boardman maintains a Conditionally Exempt Small Quantity Generator status for  
3 hazardous waste, and the facility is not required to have an Environmental Protection Agency  
4 Hazardous Waste Generator Identification number. Hazardous wastes are disposed of through  
5 local vendors (e.g., Safety Kleen provides a parts-cleaning service for vehicle maintenance).  
6 Some hazardous materials that are no longer needed at NWSTF Boardman are transported to  
7 NAS Whidbey Island for reassignment in compliance with the Hazardous Materials  
8 Transportation Act, U.S. Department of Transportation and Oregon Department of  
9 Transportation regulations. Some of these materials may be determined to be excess at that  
10 point and may then be generated as hazardous wastes, but this would occur at NAS Whidbey  
11 Island.

- 12 • Currently, users on the ground of NWSTF Boardman are made aware of unexploded ordnance  
13 hazards by signage warning of areas where unexploded ordnance clearance has not been  
14 confirmed as well as safety briefings provided prior to conducting activities on NWSTF  
15 Boardman.
- 16 • Public notice would be given prior to detonation of 100 lb. NEW or greater.

## 17 **5.12.2 PROPOSED BEST MANAGEMENT PRACTICES, MONITORING, AND MITIGATION MEASURES**

### 18 **5.12.2.1 Proposed Best Management Practices**

19 Current measures in place to ensure that nonparticipants are not endangered by actions at NWSTF  
20 Boardman would continue (Section 3.11.2.4). The following BMPs would be implemented to reduce  
21 hazards associated with unexploded ordnance: (1) post signs warning of areas where unexploded  
22 ordnance clearance has not been confirmed and (2) after range development, restrict movement of  
23 Soldiers using the training range to designated areas that are known to be free of any unexploded  
24 ordnance. In addition, supplemental unexploded ordnance clearance operations would be conducted  
25 prior to construction of range enhancements and operation of the proposed training ranges.

### 26 **5.12.2.2 Proposed Monitoring**

27 No specific monitoring needs were identified for public health and safety.

### 28 **5.12.2.3 Proposed Mitigation Measures**

29 Mitigation measures for other resources that affect public health and safety (e.g., Air Quality [Section  
30 3.2] and Acoustic Environment [Section 3.4]) would be implemented. No additional mitigation measures  
31 are warranted.

## 32 **5.13 WILDFIRE**

### 33 **5.13.1 CURRENT REQUIREMENTS AND MANAGEMENT PRACTICES**

- 34 • Commander, Navy Region Northwest (CNRNW) has implemented a regional *Wildland Fire*  
35 *Management Plan*. The Navy is currently revising, updating, and expanding the specific portion  
36 of that plan applicable to NWSTF Boardman. The current fire strategy is to use the existing road  
37 system as the staging lines at which fires will be fought. The Navy currently maintains a system  
38 of 60-foot-wide fire breaks throughout NWSTF Boardman. The Navy is currently evaluating the  
39 effectiveness of the complete firebreak system.
- 40 • A detachment of six Navy personnel are stationed at NWSTF Boardman. Their responsibilities  
41 are to maintain the buildings, roads, wells, fences, and other infrastructure and provide security

1 in accordance with NASWHIDBEY INSTRUCTION 3120.6 (NWSTF Boardman Standard Operating  
2 Procedures).

- 3 • Navy personnel stationed at NWSTF Boardman are required to hold Wildland Firefighting Red  
4 Cards. Additionally, the Navy personnel stationed at NWSTF Boardman are equipped with  
5 appropriate wildland protective clothing and NWSTF Boardman firefighters have nine vehicles  
6 assigned to them; however, only two are used for actual firefighting operations, a dedicated  
7 firefighting vehicle (Type VI Brush truck) and a GSA truck that has a 250-gallon firefighting skid  
8 unit mounted (a “skid” is a water pump with a large water capacity that sits in the rear of a  
9 flatbed truck). In addition, the Navy leases a tractor and disc during the four month fire season  
10 to maintain fire/fuel breaks. In extreme situations, the tractor could also be used for incipient  
11 wildland fire suppression efforts when the application of foam lines are unavailable, exhausted,  
12 or ineffective.
- 13 • The Navy currently has a mutual aid agreement for wildland fire response with UCD fire  
14 department. However, the Depot completed its mission in late 2011 and is in the process of  
15 closing down through the Base Realignment and Closure process. Current plans include  
16 transferring the UCD fire department responsibilities to the Oregon Military Department, in  
17 which case the existing Mutual Aid Agreement will be revised or a new agreement drafted.
- 18 • According to the CNRNW *Wildland Fire Management Plan*, a risk management decision process  
19 should be established that will determine the need for special orders and closures for  
20 work/training during extreme fire conditions. The goal of risk management is to safely sustain  
21 long term military use and training activities over short term work or training tasks. Planning and  
22 scheduling of appropriate training activities and matching supporting fire protection resources  
23 to training level of training activity during fire season are possible tools to reduce and mitigate  
24 wildfire risk. The risk management decision process will consider: military work/training  
25 priorities and minimum requirements; fire weather and fuel conditions; appropriate  
26 management responses; availability of wildland firefighting resources; military, public and  
27 community safety; and fire management zone priorities.
- 28 • Oregon Revised Statutes requires owners and operators of forestland to take appropriate action  
29 to control, extinguish, and report wildland fires regardless of origin (ORS §477.066). In addition,  
30 state law indicates that the ORNG shall be subject to the duties, requirements or penalties of  
31 ORS §477.068 (Liability for cost of abatement), ORS §477.085 (Liability for cost of protecting  
32 land within a forest protection district) and ORS §477.090 (Civil liability), where the origin or  
33 subsequent spread of a fire was the direct result of training activity by the ORNG. (ORS  
34 §477.095). For regulatory purposes, any undeveloped wildland is considered forestland,  
35 whether or not trees are present. In summary, the ORNG is liable for wildland fire control when  
36 the origin or subsequent spread of a fire was the direct result of training activity by the ORNG.

## 37 **5.13.2 PROPOSED BEST MANAGEMENT PRACTICES, MONITORING, AND MITIGATION MEASURES**

### 38 **5.13.2.1 Proposed Best Management Practices**

39 After an internal study, the DoD in 2001 signed and adopted standards contained within the Review and  
40 Update of the 1995 Federal Wildland Fire Management Policy. The Department of the Army  
41 subsequently issued its Army Wildland Fire Policy Guidance in 2002. The Army Wildland Fire Policy  
42 Guidance adopted the following policies and standards:

- 43 • Review and Update of the 1995 Federal Wildland Fire Management Policy (2001)
- 44 • National Wildfire Coordinating Group: PMS 310-1, Wildland Fire Qualification System Guide,  
45 June 2011 (or current version)

- 1 • National Fire Protection Association (NFPA): Standard 1051 – Standard for Wildland Fire Fighter
- 2 Professional Qualifications, 2007 (or current version)
- 3 • NFPA: Standard 1143 – Standard for Wildland Fire Management, 2009 (or current version)
- 4 • NFPA: Standard 1144 – Standard for Reducing Structure Ignition Hazards from Wildland Fire,
- 5 2008 (or current version)
- 6 • NFPA: Standard 1561 – Standard on Emergency Services Incident Management System, 2008 (or
- 7 current version)
- 8 • DoD Instruction 6055.06: DoD Fire and Emergency Services (F&ES) Program, 21 December 2006
- 9 (or current version)

10 In addition to the above policies and standards, the U.S. Army Wildland Fire Policy requires the  
11 development and implementation of an Integrated Wildfire Management Plan for all facilities and  
12 training lands subject to potential wildland fires.

13 The Navy has implemented the *Navy Region Northwest Fire Management Plan*. The Navy is currently  
14 revising, updating and expanding the specific portion of that plan applicable to NWSTF-Boardman. The  
15 Navy, ORNG, and other range users would implement this NWSTF Boardman Integrated Wildland Fire  
16 Management Plan (Appendix H) as part of the Proposed Action. The following management practices  
17 would be applied.

- 18 • The use of tracer rounds and other incendiary devices would be limited to periods when the risk
- 19 of wildfire is at acceptable levels. Tracer rounds would be restricted during the fire season from
- 20 May to October and use would require appropriate approval from NAS Whidbey Island. Tracer
- 21 ammunition (tracer rounds) are bullets that are built with a small pyrotechnic charge in their
- 22 base. Ignited by the burning powder, the pyrotechnic composition burns very brightly, making
- 23 the projectile visible to the naked eye. This enables the shooter to follow the bullet trajectory in
- 24 order to make aiming corrections.
- 25 • To determine if the wildfire risk is at an acceptable level for the use of aerial flares and smoke-
- 26 grenades, and tracer rounds outside of the fire season, an internal Fire Danger Rating and
- 27 Wildland Fire Risk Management Matrix would be utilized. This protocol utilizes weather data
- 28 (temperature, relative humidity and precipitation), fire danger rating (low through extreme),
- 29 military activity, fire fighting assets available on site and other special considerations to identify
- 30 the appropriate use of aerial flares and smoke-grenades.
- 31 • Use of aerial flares and smoke-grenades would be addressed on a case-by-case basis based on
- 32 the risk assessment, application of ammunition, and timing during the fire season. Pyrotechnic
- 33 devices, such as smoke grenades, are to be used in metal containments during high fire risk
- 34 periods.
- 35 • Restrict mechanical equipment and weapons used during training to graveled surfaces. No off
- 36 road driving would be allowed except for rare circumstances (e.g., fire fighting) and with
- 37 authorization.
- 38 • Parking would be allowed only in graveled pullouts or parking lots.
- 39 • Past agricultural-related fences that are no longer needed (internal to NWSTF Boardman's
- 40 perimeter fence) would be removed, which would reduce fuel loading and increase fire
- 41 response
- 42 • Establish or repair and maintain water storage capabilities.
- 43 • The Navy currently maintains a system of 60-foot-wide fire breaks throughout NWSTF
- 44 Boardman. In addition to these fire breaks, roads and trails that are already part of NWSTF
- 45 Boardman would act as minor fire breaks in the event of low intensity fires. However,

1 approximately 219.6 acres of existing fire breaks will be no longer be maintained by disking, and  
2 will be re-vegetated to native short grasses. The fire break system will also be modified with the  
3 addition of 19.2 acres of new firebreaks. Section 3.12(Wildfire) and Appendix H present the  
4 recommended modifications to the NWSTF Boardman fire break system.

- 5 • Smoking during operation or use of the proposed training ranges would be banned except in  
6 authorized smoking areas.
- 7 • Fire prevention protocols developed in the Integrated Wildfire Management Plan would be  
8 included in the SOPs and emphasized during the facility orientation and safety briefing.
  - 9 ○ All units training at NWSTF Boardman are to be briefed on wildfire hazards. Briefings  
10 include instructions on reporting fires to Range Control, and procedures for fires  
11 occurring down range.
  - 12 ○ All maintained roads within NWSTF Boardman are considered firebreaks. A number of  
13 roads also have additional firebreaks disked alongside to a width of 32-48 feet. Range  
14 Operations personnel also clear vegetation from roads and reduce tumbleweed  
15 accumulations along fence lines annually.
  - 16 ○ On high, very high, and extreme fire danger days, the ORARNG Fire Captain will  
17 recommend either modifying, limiting, or prohibiting the use of pyrotechnics.
- 18 • The possibility of yearly fires exists within the heaviest use areas (i.e., weapons training ranges).  
19 Proper implementation of the Integrated Wildfire Management Plan would reduce the risk of  
20 large spread fires. The Integrated Wildfire Management Plan would be reviewed, and  
21 appropriate changes considered on an annual basis.

22 Additionally, NAS Whidbey Island is currently working on a wildfire response plan for Boardman to  
23 request response from NAS Whidbey Island for large scale fires. This NAS Whidbey Island wildland fire  
24 response would include seven qualified personnel, equipment and vehicles. Because of the distance  
25 between NWSTF Boardman and NAS Whidbey Island, it would be expected to have a six-to-eight-hour  
26 response time.

27 Oregon National Guard would have a trained, dedicated fire crew and a wildland fire truck on-site during  
28 weapons training during times of high fire risk. The ORNG also would have CH-47 or CH-60 helicopter  
29 aerial firefighting capability available during high fire risk seasons. During live fire operations, the ORNG  
30 would typically have one Type VI Brush Truck, up to two Type VII and three Type VI Bush Trucks with  
31 water and WFFF (Foam) capability, two to six personnel with Red Card training, and one Lead Forest  
32 Officer/Fire Captain.

### 33 **5.13.2.2 Proposed Monitoring**

34 Military personnel would monitor for fire at all times during range operations from observation towers  
35 and while on patrols. Post-operation fire monitoring training would be conducted by range operators  
36 while conducting range clearance duties.

### 37 **5.13.2.3 Proposed Mitigation Measures**

38 No mitigation measures are warranted for wildfire based on the analysis presented in Section 3.12.3 and  
39 implementation of proposed BMPs and monitoring.



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**Table 5-1: Proposed Mitigation Measures**

Proposed Mitigation Measure	Responsible Party
<b>Land demolition training</b>	
Nothing above 50 lb. between February and August. Greater than 50 will be performed September – January unless necessitated by operational or disposal requirements.	Navy
Public notice would be given prior to detonation of 100 lb. NEW or greater	Navy
Land demolition training would be conducted only during days when the weather is favorable. Studies have shown that variation of temperature and wind velocity with altitude can cause a noise event to be inaudible at one time (favorable) and audible at another time (unfavorable). A number of factors effect noise propagation during training events, and are considered by range managers and users when planning and conducting activities to help mitigate noise impacts: steady winds; clear days on which 'layering' of smoke, fog, or clouds are observed; cold, hazy or foggy mornings; large temperature swings on previous day; and high barometer/low temperature are all conditions that can enhance the propagation of sound, and are avoided to the maximum extent possible when scheduling demolition activities.	Navy
<b>Protect and Enhance Native Shrub Steppe and Grassland Habitats in the Southern Portion of NWSTF Boardman</b>	
Develop and implement a long-term habitat restoration program for selected locations on the southern portions of NWSTF Boardman to improve native plant communities that have been degraded by invasive plants and to enhance habitat for Washington ground squirrels, long-billed curlews, grasshopper sparrows, and western burrowing owls. The restoration program would be implemented under the direction of the NAS Whidbey Island/NWSTF Boardman Natural Resources Program Manager, with support from Commander Pacific Fleet, Navy Region Northwest, National Guard Bureau, and ORNG. Restoration activities would be implemented under the purview of the <i>NWSTF Boardman Integrated Natural Resources Management Plan</i> and would be integrated with ongoing and planned restoration projects outlined in the current Plan.	Navy/ORNG

Notes: ORNG = Oregon National Guard, NAS = Naval Air Station, NWSTF = Naval Weapons Systems Training Facility, lb. = pounds, NEW = Net Explosive Weight

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