
Chapter 2

Proposed Action and Alternatives

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CHAPTER 2

PROPOSED ACTION AND ALTERNATIVES

2.1 CHANGES BETWEEN THE DRAFT EIS AND FINAL EIS

As a result of public comments, best science, cooperating agency coordination, and internal review of the Draft RMPA/EIS, the BLM's Preferred Alternative, identified as Alternative D in the Draft RMPA/EIS, has been modified and is now the Proposed Plan/RMPA for managing BLM-administered lands within the Oregon Sub-region. The Proposed Plan/RMPA focuses on addressing public comments, while continuing to meet the BLM's legal and regulatory mandates.

Changes made to the Proposed RMPA/FEIS from the preferred alternative (Alternative D) in Draft RMPA/EIS are the following:

- Allocations for PHMA and GHMA — Allocations in the proposed plan/FEIS provide more opportunities for uses in GHMA, while still maintaining conservation management by establishing screening criteria for project/activity review in GRSG habitat. Allocations that were changed between the Preferred Alternative and the Proposed Plan include the following:
 - Fewer acres would be closed to grazing under the Proposed Plan than the Preferred Alternative;
 - BLM-administered lands containing PHMA and GHMA would be retained under the Proposed Plan, while only PHMA would be retained under the Preferred Alternative; and
 - In the Proposed Plan, all PHMA would be stipulated NSO, while PHMA within 4 miles of leks would be stipulated NSO in the Preferred Alternative.
- Sagebrush Focal Areas (SFAs) — These areas have been identified in the Proposed Plan based on recommendations in a USFWS memorandum, and are proposed to be managed as PHMA with the

following additional management: recommended for withdrawal; NSO without waiver, exception, or modification for fluid mineral leasing; and prioritized for management and conservation actions including, but not limited to review of livestock grazing permits/leases. SFAs are a subset of PHMA, occurring in Harney, Lake and Malheur counties. These areas and the activities or actions proposed were previously analyzed in alternatives in the DEIS. For example, in Alternative E, all Core habitat (same as PHMA) was analyzed as new ROW exclusion areas, closed to mineral leasing and recommended for withdrawal from locatable minerals. SFAs comprise about 40 percent of PHMA. Alternatives B, C, D, and F identified recommendation for withdrawal, NSO, and or prioritization for grazing and analyzed the impacts of those decisions (see DEIS Table 2-6). As such, the management of these areas as SFAs and the impacts of the associated management decisions was addressed in the DEIS and is qualitatively within the spectrum of alternatives analyzed.

- BLM will manage these areas, totaling approximately 1,929,580 acres within the Oregon sub-region, as SFAs because of the importance of this habitat to the conservation of the species range-wide. Specifically, SFAs include characteristics such as existing high-quality sagebrush habitat; highest breeding densities; have been identified as essential to conservation and persistence of the species; represent a preponderance of current federal ownership and in some cases are adjacent to protected areas that serve to anchor the conservation importance of the landscape. In light of the landscape level approach to sage grouse conservation provided through this planning effort and as defined by the characteristics set forth above, as well as additional considerations, including potential for impacts from climate change, fire and invasives, these areas have been identified as SFAs. DEIS Table I-5 noted that among the issues brought forward for analysis was the use of best available science to designate PPH, PGH, and non-habitat categories and accurately monitor the impact of land uses on GRSG.
- As noted in the DEIS, one of the goals/objectives of this planning effort is to protect both the habitat and the species (see Special Status Species in Table 2-4). The habitat in the SFAs exhibits areas of high-quality sagebrush habitat, areas with highest breeding densities, and areas identified as essential to conservation and persistence of the species.
- Oregon Priority Areas for Conservation (PAC) — The USFWS in concert with the respective state wildlife management agencies identified key areas as Priority Areas for Conservation (PACs) in the Conservation Objectives Team Report (USFWS 2013a). In Oregon, PACs overlap ODFW Core Areas (Hagen 2011) which

overlap PPH identified in the DEIS. The ODFW grouped the PACs into 20 individual units and gave each unit a unique name. These areas are referred to as “Oregon PACs.” See **Figure 2-3**. Biologically significant units (BSUs) are a geographic unit of PHMA within GRSG habitat that contains relevant and important habitats. In Oregon, BSUs are synonymous with Oregon PACs, which are used in the calculation of the anthropogenic disturbance threshold and in the adaptive management habitat trigger.

- **USGS Buffer Study** — Included a management action to incorporate the lek buffer-distances identified in the USGS report titled Conservation Buffer Distance Estimates for Greater Sage Grouse—A Review: USGS Open File Report 2014-1239 (Mainer et al. 2014) during NEPA analysis at the implementation stage. Although the buffer report was not available at the time of the DEIS release, protective buffer distances were analyzed in the DEIS. Specifically, Alternatives B, C, D, E, and F and the Proposed Plan identified and analyzed allocation restrictions, such as buffer distances for livestock grazing, fluid mineral, ROW and recreation activities in various alternatives, including Alternatives B, D, and E. Alternative A (No Action) identified and analyzed fewer restrictions on development in GRSG habitat. Accordingly, the management decision to require lek buffers for development within certain habitat types is within the range of alternatives analyzed. In the DEIS, buffers were generally identified for ROWs, fluid minerals, and recreation activities.
- **Adaptive management** — The adaptive management strategy was fully developed between the DEIS and FEIS, including identification of specific hard and soft triggers for both habitat and population. The hard trigger section includes a list of actions the BLM will immediately take upon identifying that a hard trigger has been reached; these immediate actions were analyzed within the range of the alternatives in the DEIS. Chapter 2 of the DEIS identified that the BLM would further develop the adaptive management approach by identifying hard and soft triggers and responses. All of the adaptive management hard trigger responses were analyzed within the range of alternatives. For example, if a hard trigger is reached in PHMA, and PHMA would be managed as restricted to ROW authorizations in the Proposed Plan, the response would be to manage it as excluded from ROW authorizations. This exclusion was analyzed under Alternatives B, C, E, and F in the Draft EIS.
- **Monitoring and Disturbance** — The monitoring framework was further refined in the FEIS, and further clarification as to how disturbance cap calculations would be measured were developed for the FEIS. During the public comment period, BLM received comments on how monitoring and disturbance cap calculations

would occur at implementation. The DEIS outlined the major components of the monitoring strategy, as well as provided a list of anthropogenic disturbances that would count against the disturbance cap. A BLM Disturbance and Monitoring Sub-team further enhanced Appendix G in the FEIS. The Oregon sub-region planning team developed a detailed explanation of the disturbance cap calculation methodology in **Appendix I** in the FEIS.

- Mitigation Strategy; Net Conservation Gain in all PHMA and GHMA — The net conservation gain strategy is in response to the overall landscape-scale goal which is to enhance, conserve, and restore GRSG and its habitat. The DEIS Preferred Alternative analyzed if a proposed project that would disturb GRSG or its habitat is in PHMA with evidence of GRSG use, the mitigation goal would be no net loss with a net gain (DEIS Chapter 2, page 24). In the DEIS Alternative E, the mitigation goal for GRSG habitat outside of Core Areas would be no net loss with a net benefit. All of the action alternatives provided management actions to meet the landscape-scale goal. The overarching goal in the DEIS was to maintain and/or increase abundance and distribution of GRSG on BLM-administered lands by conserving, enhancing, or restoring the sagebrush ecosystem upon which populations depend, in cooperation with other conservation partners (Alternatives B and D).
- WAFWA Management Zone Cumulative Effects Analysis on GRSG — A quantitative cumulative effects analysis for GRSG was included in the FEIS. This analysis was completed to analyze the effects of management actions on GRSG at a biologically significant scale which as determined to be at the WAFWA Management Zone. The DEIS, in Chapter 4, included a qualitative analysis and identified that a quantitative analysis would be completed for the FEIS at the WAFWA Management Zone.
- Public Comment on DEIS — Updated the FEIS based on public comment received on the DEIS (see Appendix V, Public Comment Report).
- **Chapter 2** has been reorganized for consistency with all sub-regional GRSG RMPAs/EISs.
- The GRSG adaptive management plan has been further defined in **Section 2.7.1**, Adaptive Management Plan.
- The GRSG monitoring strategy has been further defined in **Section 2.7.2**, Monitoring for the Greater Sage-Grouse Planning Strategy, and **Appendix G** of the Final EIS.
- The GRSG mitigation strategy has been further defined in **Section 2.7.3**, Regional Mitigation, and **Appendix E** of the Final EIS.

- Disturbance calculations have been further refined in **Appendix I**. A proposed project must clear the disturbance cap at two distinct scales: Oregon PAC (equivalent to BSU) and project.
- Naming conventions have changed from preliminary priority management area (PPMA) and preliminary general management area (PGMA) to priority habitat management area (PHMA) and general habitat management area (GHMA). PHMA, PPH, and core area habitat cover the same areas. GHMA and PGH cover the same areas and are made up of both low-density habitat and occupied habitat (**Figure 2-1**, Greater Sage-Grouse Habitat in the Planning Area).
- Biologically significant units (BSU) are a geographic unit of PHMA within GRSG habitat that contains relevant and important habitats. In Oregon, BSUs are synonymous with Oregon Priority Area for Conservation (PAC), which are used in the calculation of the anthropogenic disturbance threshold and in the adaptive management habitat trigger.
- Updated and additional data were added to acreage allocation **Tables 2-10** and **2-11**. A number of corrections were also made; for example, in the DEIS, split-estate was incorrectly applied to other federal surface land, including USFS-administered land rather than only state and private surface. Additional information, such as for minerals and lands and realty, was also added.
- Naming conventions for the Oregon Sub-region have changed from GRSG focal areas to GRSG strategic areas.
- DEIS **Appendix I** information was summarized and placed in **Chapter 3**, Special Designations.
- Updated, as appropriate, based on public comments received on the DEIS.
- Inconsistent GRSG dates were corrected to the following:
 - Breeding, including lekking, pre-nesting, nesting, and early brood rearing (seasonal use period March 1 to June 30)
 - Brood-rearing/summer, including late-brood rearing, summering, and early autumn (seasonal use period July 1 to October 31)
 - Winter, including late autumn and winter (seasonal use period November 1 to February 28)

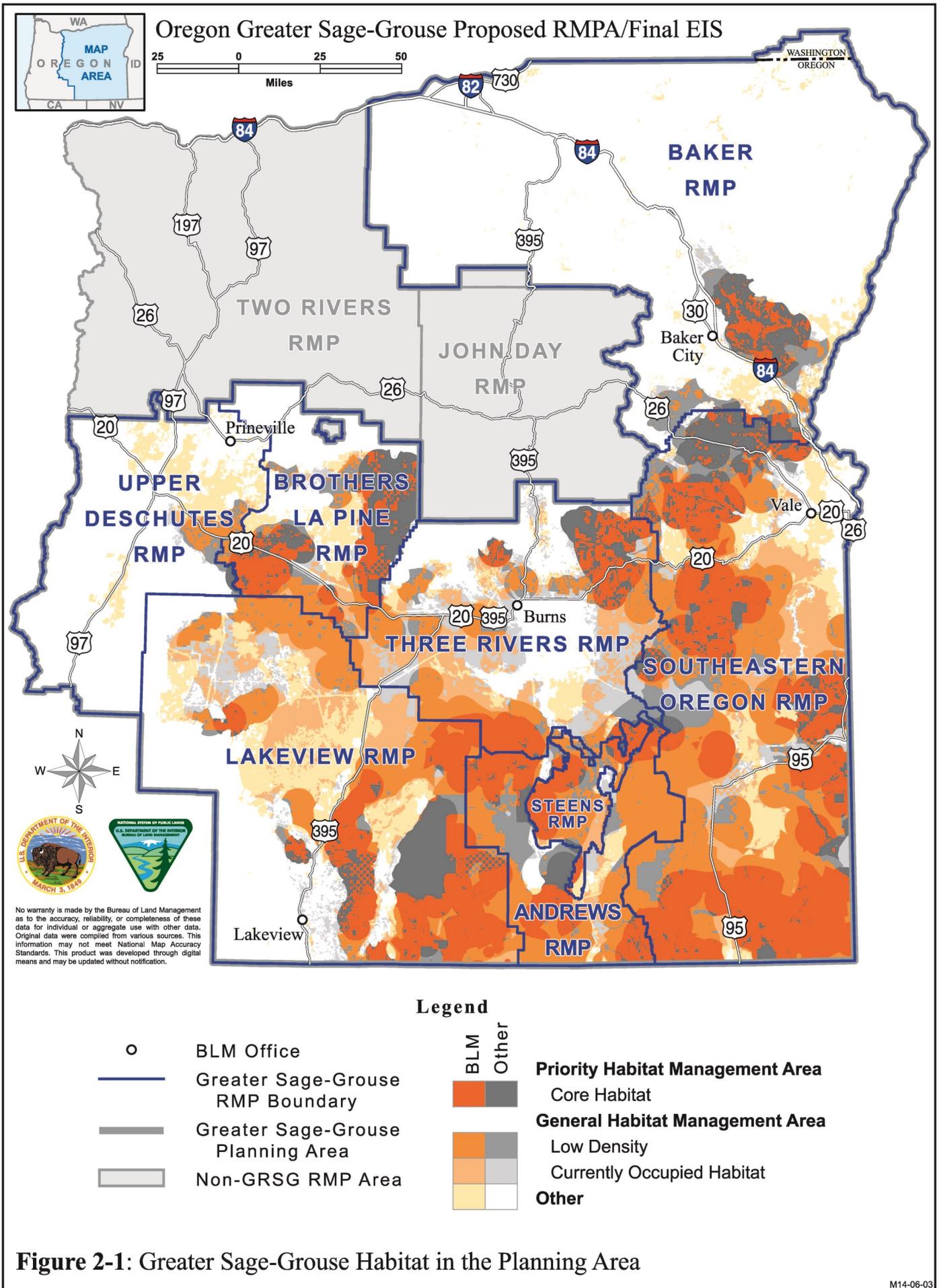


Figure 2-1: Greater Sage-Grouse Habitat in the Planning Area

NEPA requires agencies to prepare a supplement to the draft EIS: 1) if the agency makes substantial changes in the proposed action that are relevant to environmental concerns; or 2) if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. A supplement is not necessary if a newly formulated alternative is a minor variation of one of the alternatives is qualitatively within the spectrum of alternatives analyzed in the Draft EIS.

The Proposed RMPA includes components of the alternatives analyzed in the Draft EIS. Taken together, these components present a suite of management decisions that present a minor variation of alternatives identified in the Draft RMP/Draft EIS and are qualitatively within the spectrum of alternatives analyzed.

As such, the BLM has determined that the Proposed RMPA is a minor variation and that the impacts of the Proposed RMPA would not affect the human environment in a substantial manner or to a significant extent not already considered in the EIS. The impacts disclosed in the Proposed RMP/Final EIS are similar or identical to those described Draft RMP/Draft EIS.

2.2 INTRODUCTION

The RMPA/EIS complies with NEPA, which directs the BLM to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources...” (NEPA Section 102[2][e]). At the heart of the alternative development process is the required development of a reasonable range of alternatives. Public and internal (within BLM) scoping (see **Section 1.6**, Scoping and Identification of Issues for Development of the Proposed Plan and Draft Alternatives) identified issues that present opportunities for alternative courses of action, while the purpose and need for action described in **Section 1.3**, Purpose and Need, provides sideboards for determining “reasonableness.”

This chapter introduces and details the Proposed Plan. As a result of public comments, best science, cooperating agency coordination, and internal review of the Draft RMPA/EIS, the BLM’s Preferred Alternative, identified as Alternative D in the Draft RMPA/EIS, has been modified and is now the Proposed Plan/RMPA for managing BLM-administered lands within the Oregon Sub-region. The alternatives that were in the Draft RMPA/EIS are also included in this chapter. These include the No Action Alternative, which would continue the existing policies of the BLM; six action alternatives; and the alternatives considered but eliminated from detailed analysis.

The identification of the Preferred Alternative in the Draft RMPA/EIS did not constitute a commitment or decision in principle, and there is no requirement to select the Preferred Alternative or any of the separate alternatives presented in the Draft RMPA/EIS in the Final RMPA/EIS as the Proposed Plan. The BLM has the discretion to select any of the alternatives as their Preferred Alternative in the Draft RMPA/EIS. The agency also has the discretion to modify the Preferred

Alternative between the Draft EIS and the Final EIS into the Proposed Plan. The modifications are allowable as long as the actions presented in the Proposed Plan within the Proposed RMPA/Final EIS were within the range of alternatives analyzed in the Draft EIS. The various parts of the separate alternatives that were analyzed in the Draft EIS can be “mixed and matched” to develop an alternative—known as the Proposed Plan - in the Final EIS, as long as the reasons for doing so are explained (40 CFR 1506.2(b)).

2.3 INTRODUCTION TO DRAFT ALTERNATIVES

RMP decisions consist of identifying and clearly defining goals and objectives (desired outcomes) for resources and resource uses, followed by developing allowable uses and management actions necessary for achieving the goals and objectives. These determinations guide future land management actions and subsequent site-specific implementation actions to meet multiple use and sustained yield mandates while sustaining land health.

2.3.1 Components of Alternatives

Goals are broad statements of desired (RMP-wide and resource- or resource-use-specific) outcomes and are not quantifiable or measurable. Objectives are specific measurable desired conditions or outcomes intended to meet goals. Goals and objectives can vary across alternatives, resulting in different allowable uses and management actions for some resources and resource uses.

Management actions and allowable uses are designed to achieve objectives. Management actions are measures that guide day-to-day and future activities. Allowable uses delineate which uses are permitted, restricted, or prohibited, and may include stipulations or restrictions. Allowable uses also identify lands where specific uses are excluded to protect resource values, or where certain lands are open or closed in response to legislative, regulatory, or policy requirements. Implementation decisions are site-specific on-the-ground actions and are typically not addressed in RMPs.

2.3.2 Purpose of Alternatives Development

Land use planning and NEPA regulations require the BLM to formulate a reasonable range of alternatives. Alternative development is guided by established planning criteria (as outlined for the BLM at 43 CFR 1610) (see **Chapter I**).

The NEPA regulations at 40 CFR Part 1501.2(c) state that Federal agencies shall: “Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflict concerning alternatives uses of available resources....”

The basic goal of alternative development is to produce distinct potential management scenarios that:

- Address the identified major planning issues;

- Explore opportunities to enhance management of resources and resource uses;
- Resolve conflicts among resources and resource uses; and
- Meet the purpose of and need for the RMP or RMPA.

Pursuit of this goal provides the BLM and the public with an appreciation for the diverse ways in which conflicts regarding resources and resource uses might be resolved, and offers the decision maker a reasonable range of alternatives from which to make an informed decision. The components and broad aim of each alternative considered for the Oregon Sub-Region Greater Sage-Grouse RMPA are discussed below.

2.4 ALTERNATIVE DEVELOPMENT PROCESS FOR THE OREGON SUB-REGION GREATER SAGE-GROUSE LAND USE PLAN AMENDMENT

The Oregon sub-region planning team employed the BLM planning process (outlined in **Section 1.5**, Planning Process) to develop a reasonable range of alternatives for the RMPA/EIS. The BLM complied with NEPA and the CEQ implementing regulations at 40 CFR Part 1500 in the development of alternatives for this Proposed RMPA/EIS, including seeking public input and analyzing reasonable alternatives. Where necessary to meet the planning criteria, to address issues and comments from cooperating agencies and the public, or to provide a reasonable range of alternatives, the alternatives include management options for the planning area that would modify or amend decisions made in the applicable RMP. Since this RMPA/EIS will specifically address GRSG conservation, many decisions within existing RMPs that do not impact GRSG are acceptable and reasonable; in these instances, there is no need to develop alternative management prescriptions.

Public input received during the scoping process was considered to identify significant issues deserving of detailed study to help identify alternatives. The planning team developed planning issues to be addressed in the RMPA/EIS, based on broad concerns or controversies related to conditions, trends, needs, and existing and potential uses of planning area lands and resources. All comments were reviewed to determine whether they identified significant issues or unresolved conflicts.

2.4.1 Develop a Reasonable Range of Alternatives

Based on scoping and collaboration efforts, the BLM finalized its planning criteria and identified 14 key planning issues to help frame the alternatives development process. Following the close of the public scoping period on March 23, 2012, the BLM began the alternatives development process. In August 2012, the planning team (BLM and cooperating agencies) began to develop management goals and to identify objectives and actions to address the goals. The various groups met numerous times throughout this period to refine their work. As outcomes of this process, the planning team:

- Developed one No Action Alternative (Alternative A) and five preliminary action alternatives. The first action alternative (Alternative B) is based on *A Report on National Greater Sage-Grouse Conservation Measures* (NTT 2011).
- Two alternatives (Alternatives C and F) are based on proposed alternatives submitted by conservation groups.
- Customized the goals, objectives, and actions from the NTT-based alternative (Alternative B) to develop a third action alternative (Alternative D) that strives for balance among competing interests.
- Incorporated proposed GRSG protection measures recommended by Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (Alternative E).

Each of the preliminary action alternatives in the Draft RMPA/EIS was designed to:

- Address the 14 planning issues (identified in **Section 1.6.2**);
- Fulfill the purpose and need for the RMPA (outlined in **Section 1.3**, Purpose and Need); and
- Meet the multiple use mandates of the FLPMA (43 CFR, Part 1716).

2.4.2 Resulting Range of Alternatives in Draft RMPA/EIS

The five resulting action alternatives (Alternatives B, C, D, E, and F) in the Draft RMPA/EIS offer a range of management approaches to maintain or increase GRSG abundance and distribution of GRSG by conserving, enhancing, or restoring the sagebrush ecosystem upon which GRSG populations depend in collaboration with other conservation partners. While the goal is the same across all the alternatives, each alternative contains a discrete set of objectives and management actions constituting a separate RMPA. The goal is met in varying degrees, with the potential for different long-range outcomes and conditions.

The relative emphasis given to particular resources and resource uses differs as well, including allowable uses, restoration measures, and specific direction pertaining to individual resource programs. When resources or resource uses are mandated by law or are not tied to planning issues, there are typically few or no distinctions between alternatives.

The meaningful differences among the alternatives are described in **Section 2.8**, Comparison of Proposed Plan Amendment and Draft Alternatives. **Section 2.9**, Detailed Description of Draft Alternatives, also provides a complete description of the proposed decisions for each alternative, including the project goal and objectives, management actions, and allowable uses for individual resource programs. Figures in **Appendix A** provide a visual representation of differences

between alternatives. In some instances, varying levels of management overlap a single area, or polygon, due to management prescriptions from different resource programs. In instances where varying levels of management prescriptions overlap a single polygon, the stricter of the management prescriptions would apply.

PHMA are identified for Alternatives B, C, D, F, and the Proposed Plan, and core area habitat is identified for Alternative E. GHMA are identified for Alternatives B, C, D, F, and the Proposed Plan, and low-density habitat is identified for Alternative E. PHMA, PPH, and core area habitat cover the same areas. GHMA and PGH cover the same areas. They are also made up of both low-density and occupied habitat (**Figure 2-1**, Greater Sage-Grouse Habitat in the Planning Area).

ODFW will update its core area boundaries, as explained in Hagen (2011, pp. 87-88) not more frequently than every five years. The BLM may update PHMA and GHMA, in cooperation with ODFW and using the best available information. This would likely require land use plan maintenance or amendment. GRSG habitat maps can be refined as often as the BLM and ODFW need without affecting the management area boundaries. When GRSG habitat maps are updated, it would not trigger a plan amendment because priority habitat and general habitat are not land allocations, while PHMA and GHMA are. The number of GRSG habitat acres does not vary by alternative.

2.5 BLM RESOURCE PROGRAMS FOR ADDRESSING GRSG THREATS

The direction for managing GRSG habitat in this document is focused on responding to the threats identified by the USFWS in its 2010 “warranted but precluded” finding on listing the GRSG, as well as in its Conservation Objectives Team (COT) report. The USFWS threats do not necessarily align with BLM resource program areas and are often integrated into several different resource program areas. **Table 2-1** provides a cross-walk among the USFWS’s 2010 finding and COT-identified threats and the BLM program addressing these threats, with references to specific sections of the RMPA/Proposed Plan.

Table 2-1
USFWS-Identified Threats to GRSG and Their Habitat, Applicable BLM Proposed Plan Resource Program Areas Addressing these Threats

USFWS-Identified Threats to GRSG and Its Habitat (2010 warranted but precluded finding)	COT Report-Identified Threats to GRSG and Its Habitat (2013)	Applicable BLM Proposed Plan Resource Program Addressing Threat
Wildland Fire	Fire	Wildland Fire Management (WFM)
Invasive Species	Non-native, Invasive Plants Species	Vegetation Management (VG), Range Management (LG/RM), Wildland Fire Management (WFM), and Recreation (RC)
Oil and Gas For wind energy development, see <i>Infrastructure—power lines/pipelines, roads (below)</i>	Energy Development	Lands and Realty (LR) and Fluid Minerals (MLS)
Prescribed Fire	Sagebrush Removal	Vegetation Management (VG) and Wildland Fire Management (WFM)
Grazing	Grazing	Range Management (LG/RM), Wild Horse and Burro Management (WHB), Special Status Species (SSS), and Vegetation Management (VG)
<i>See Grazing Management (above)</i>	Range Management Structures	Range Management (LG/RM)
<i>No similar threat identified</i>	Free-Roaming Equid Management	Wild Horse and Burro Management (WHB)
Conifer Encroachment	Pinyon and/or Juniper Expansion	Wildland Fire Management (WFM) and Vegetation Management (VG)
Agriculture and Urbanization	Agricultural Conversion and Ex-Urban Development	Lands and Realty (LR)
Hard Rock Mining	Mining	Lands and Realty (LR), Locatable Minerals (MLM), Salable Minerals (MSM), and Non-energy Leasable Minerals (MNL)
<i>See Infrastructure, Roads</i>	Recreation	Recreation (RC) and Trails and Travel Management (TM)
Infrastructure <ul style="list-style-type: none"> • Power lines/pipelines • Roads • Communication sites • Railroads Range improvements (see below)	Infrastructure	Lands and Realty (LR) and Trails and Travel Management (TM)
Infrastructure—Range Improvements	Range Management Structures	Range Management (LG/RM)
Water Developments	No similar threat identified	All applicable programs
Climate Change	No similar threat identified	<i>There is no BLM resource program in the Proposed Plan addressing this threat.</i>
Weather	No similar threat identified	<i>There is no BLM resource program in the Proposed Plan addressing this threat.</i>
Predation	No similar threat identified	All applicable programs
Disease	No similar threat identified	All applicable programs

Table 2-1
USFWS-Identified Threats to GRSG and Their Habitat, Applicable BLM Proposed Plan Resource Program Areas Addressing these Threats

USFWS-Identified Threats to GRSG and Its Habitat (2010 warranted but precluded finding)	COT Report-Identified Threats to GRSG and Its Habitat (2013)	Applicable BLM Proposed Plan Resource Program Addressing Threat
Hunting	No similar threat identified	<i>There is no BLM resource program in the Proposed Plan addressing this threat.</i>
Contaminants	No similar threat identified	<i>There is no BLM resource program in the Proposed Plan addressing this threat.</i>

Source: USFWS 2010a, 2013a

2.6 PROPOSED PLAN AMENDMENT

2.6.1 Development of Proposed RMPA

In developing the Proposed Plan Amendment, the BLM made modifications to the Preferred Alternative identified in the Draft RMPA/EIS. The modifications are based on public comments received on the Draft RMPA/EIS, internal BLM review, new information and best available science, the need for clarification in the plans, and ongoing coordination with stakeholders across the range of the GRSG. As a result, the Proposed Plan Amendment provides consistent GRSG habitat management across the range, prioritizes development outside of GRSG habitat, and focuses on a landscape-scale approach to conserving GRSG habitat.

As a result of public comments, best science, cooperating agency coordination, and internal review of the Draft RMPA/EIS, the BLM's Preferred Alternative, identified as Alternative D as presented in the Draft RMPA/EIS, has been modified and is now considered the Proposed Plan/RMPA for managing BLM-administered lands within the Oregon Sub-region. The Proposed Plans/RMPA focus on addressing public comments, while continuing to meet the BLM's legal and regulatory mandates.

Since release of the Draft RMPA/EIS, the BLM has continued to work closely with a broad range of governmental partners, including Governors, Oregon Department of Fish and Wildlife, the USFWS, Indian tribes, county commissioners and many others. Through this cooperation, the BLM has developed a Proposed Plan Amendment that takes into account state, Tribal, and local plans, polices and strategies in accordance with applicable law and contributes to the long-term conservation of the GRSG.. The BLM also received many substantive public comments on the Draft RMPA (see **Appendix V**), which greatly informed the BLM's development of the Proposed Plan Amendment.

The BLM's Proposed Plan Amendment considers documents related to the conservation of GRSG that have been released since the publication of the draft

RMPA/EIS. For example, this Proposed Plan Amendment considers the USFWS' October 27, 2014 memorandum "Greater Sage-Grouse: Additional Recommendations to Refine Land Use Allocations in Highly Important Landscapes" (USFWS 2014a) and the USGS' November 21, 2014 report "Conservation Buffer Distance Estimates for Greater Sage-Grouse—A Review" (USGS 2014). Based on these documents, the BLM is proposing to designate Sagebrush Focal Areas (SFAs) to further protect highly valuable habitat and is proposing to include lek-buffer distances when authorizing activities near leks. The BLM also updated the Proposed Plan Amendment to reflect new GRSG state conservation concepts.

The BLM has refined the Proposed Plan Amendment to provide a layered management approach that offers the highest level of protection for GRSG in the most valuable habitat. Land use allocations in the Proposed Plan would limit or eliminate new surface disturbance in PHMA, while minimizing disturbance in GHMA. In addition to establishing protective land use allocations, the Proposed Plan Amendment would implement a suite of management tools such as disturbance limits (**Appendix I**), GRSG habitat objectives and monitoring (**Appendix G**), mitigation approaches (**Appendix E**), adaptive management triggers and responses (**Appendix D**), and lek buffer-distances (**Appendix S** and **Table 2-8**, Greater Sage-Grouse Buffers) throughout the range. These overlapping and reinforcing conservation measures would work in concert to improve GRSG habitat condition and provide clarity and consistency on how the BLM would manage activities in GRSG habitat.

2.6.2 BLM Proposed Plan Amendment

Table 2-2, Description of the Proposed Plan Goals and Objectives by BLM Resource Program, and **Table 2-3**, Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program, show the RMP decisions for the Proposed Plan.

Table 2-2
Description of the Proposed Plan Goals and Objectives by BLM Resource Program

Proposed Plan
Special Status Species (SSS)—Greater Sage-Grouse
Goal SSS 1: Conserve, enhance, and restore the sagebrush ecosystem upon which Greater Sage-Grouse populations depend in an effort to maintain and/or increase their abundance and distribution, in cooperation with other conservation partners.
Objective SSS 1: Protect PHMA necessary to conserve 90 percent of Oregon's Greater Sage-grouse population with emphasis on highest density and important use areas that provide for breeding, wintering, and connectivity corridors. Protect GHMA necessary to conserve occupied seasonal or year-round habitat outside of PHMA.
Objective SSS - 2: Maintain or improve habitat connectivity between PHMA within Oregon and adjoining states to promote Greater Sage-grouse movement and genetic diversity.

Table 2-2
Description of the Proposed Plan Goals and Objectives by BLM Resource Program

Proposed Plan
Objective SSS 3: In addition to the net conservation gain mitigation requirement, manage Oregon PACs so that: discrete anthropogenic disturbances, whether temporary or permanent, cover less than 3 percent of the total available Greater Sage-grouse habitat, regardless of ownership.
Objective SSS 4: Manage land resource uses in GRSG habitat to meet the desired conditions described in Table 2-4 , Fine and Site-scale Seasonal Habitat Indicators and Desired Condition Values for Greater Sage-Grouse Habitat on Oregon BLM Lands in the Planning Area. Use the desired conditions to evaluate management actions that are proposed in GRSG habitat to ensure that habitat conditions are maintained if they are currently meeting objectives or habitat conditions move toward these objectives if the current conditions do not meet these objectives.
Objective SSS 5: Manage anthropogenic uses and GRSG predator subsidies on public lands (landfills, transfer stations, predator perches and nest sites) to reduce the effects of predation on GRSG.
Vegetation (VG)
Goal VG 1: Increase the resistance of Greater Sage-grouse habitat to invasive annual grasses and the resiliency of Greater GRSG habitat to disturbances such as fire and climate change to reduce habitat loss and fragmentation.
Goal VG 2: Within Greater Sage-grouse habitat, re-establish sagebrush cover, native grasses, and forbs in areas where they have been reduced below desired levels or lost. Use ecological site descriptions to determine appropriate levels of sagebrush cover and appropriate native grasses and forbs.
Goal VG 3: Use integrated vegetation management to control, suppress, and eradicate invasive plant species per BLM Handbook H-1740-2. Apply ecologically based invasive plant management principles in developing responses to invasive plant species.
Objective VG 1: Within the boundaries of each Field Office establish a mix of sagebrush classes as identified in Table 2-5, Desired Mix of Sagebrush Classes by Sagebrush Type for Proposed Plan and Alternative D, on BLM-administered lands in Greater Sage-grouse habitat. Evaluate progress toward the objective every 10 years.
Objective VG 2: Reduce encroaching conifer cover to zero within 1.0 mile of all occupied or pending leks and to less than 5 percent within 4.0 miles of such leks at a rate at least equal to the rate of encroachment. Priorities for treatment are phase I and phase II juniper, and phase III juniper with a grass-forb understory. Retain all old trees, culturally significant trees, and trees in active use by special status species (e.g. nest, den, and roost trees) and all old growth stands of juniper within 4.0 miles of occupied or pending leks. See OSU Technical Bulletin 152, or its successor, for the key characteristics of old trees. Old growth stands are those where the dominant trees in the stand meet the key characteristics for old trees. Pending occupied leks and pending unoccupied leks are hereafter collectively referred to as “pending leks” (see Chapter 8 , Acronyms and Glossary).
Objective VG 3: Reduce the area dominated by invasive annual grasses to no more than 5 percent within 4.0 miles of all occupied or pending leks. Manage vegetation to retain resistance to invasion where invasive annual grasses dominate less than 5 percent of the area within 4.0 miles of such leks.
Objective VG 4: Thin sagebrush stands that exceed 30 percent cover in cool-moist sagebrush and 25 percent cover warm-dry sagebrush to no less than 15 percent cover within 4.0 miles of all occupied or pending leks.
Objective VG 5: Increase native plant diversity (number of species) to at least 50 percent of the potential diversity listed for the relevant ecological site description and sagebrush cover where it is less than 15 percent in half of crested wheatgrass seedings in PHMA. If existing diversity equals or exceeds 50 percent of the potential diversity, no forb restoration is needed.

**Table 2-2
Description of the Proposed Plan Goals and Objectives by BLM Resource Program**

Proposed Plan

Objective VG 6: Conduct vegetation treatments based on the following 10-year (decadal) acreage objectives within four miles of occupied and pending leks, using results of the fire and invasives assessment tool (FIAT; Fire and Invasive Assessment Team 2014) to establish the priority PACs and treatments within PACs:

Treatment Objective	Average Annual Acres	Average Decadal Acres
Conifer reduction	40,250	402,500
Sagebrush thinning	53,217	532,170
Invasive plant control*	12,700	127,000
Crested wheatgrass restoration	1,844	18,440
*Principally annual grasses		
These acreage estimates represent an objective for treatment over a ten-year (decadal) period to support achievement or progress toward GRSG habitat objectives. These estimates account for variability in funding and do not reflect a maximum or minimum acreage for any one treatment objective should funding and site-specific conditions allow for more or less treatment acreage than described in order to meet habitat objectives.		

Objective VG 7: Each Oregon PAC has at least 5 percent sagebrush cover on a minimum of 70 percent of the area within the Oregon PAC that is capable of supporting sagebrush plant communities. Use ecological site descriptions to determine which sites are capable of supporting sagebrush plant communities.

Objective VG 8: Coordinate vegetation management activities with adjoining landowners.

Objective VG 9: In all Sagebrush Focal Areas and Priority Habitat Management Areas, the desired condition is to maintain a minimum of 70% of lands capable of producing sagebrush with 10 to 30% sagebrush cover. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Tech Ref 1734-6) (See Table 2-5).

Wildland Fire Management (WFM)

Objective WFM 1: Manage wildland fire and hazardous fuels to protect, enhance, and restore Greater Sage-grouse habitat.

Objective WFM 2: Use a combination of vegetation management and wildfire response to minimize the probability of a wildfire tripping an adaptive management trigger for habitat within an Oregon PAC. (See **Appendix D** for adaptive management triggers).

Objective WFM 3: Within 4.0 miles of occupied or pending leks, maintain or develop a mosaic of structure and species of sagebrush consistent with site potential and vegetation management objectives.

See Vegetation Objectives section for desired outcomes and conditions.

Livestock Grazing/Range Management (LG/RM)

Objective LG/RM 1: Manage livestock grazing to maintain or improve Greater Sage-grouse habitat by achieving Standards for Rangeland Health (SRH).

Objective LG/RM 2: On BLM-managed lands, 12,083,622 acres would continue to be available for livestock grazing in Greater Sage-grouse habitat.

In key RNAs, 22,765 acres are unavailable to livestock grazing. See **Table 2-6**, Key ACECs and RNAs for Proposed Plan.

Table 2-2
Description of the Proposed Plan Goals and Objectives by BLM Resource Program

Proposed Plan
<p>Objective LG/RM 3: Complete rangeland health assessments for grazing permits/leases that have not been renewed and prioritized by Allotment Categories I, M, and C. The priority order for completing rangeland health assessments in Greater Sage-grouse habitat is:</p> <ol style="list-style-type: none"> 1. Allotments containing SFA that have never been evaluated. 2. Allotments containing SFA that have not been re-evaluated in 10 or more years. 3. Allotments containing PHMA that have never been evaluated. 4. Allotments containing PHMA that have not been re-evaluated in 10 or more years. 5. Allotments containing GHMA that have never been evaluated. 6. Allotments containing GHMA that have not been re-evaluated in 10 or more years.
<p>Wild Horse and Burro (WHB)</p> <p>Objective WHB 1: Manage wild horses and burros as components of BLM-administered lands in a manner that preserves and maintains a thriving natural ecological balance in a multiple use relationship.</p> <p>Objective WHB 1: Manage wild horse and burro population levels within established appropriate management levels (AML).</p> <p>Objective WHB 2: Complete assessments of Greater Sage-grouse habitat indicators for HMAs containing PHMA and GHMA. The priorities for conducting evaluations are:</p> <ol style="list-style-type: none"> 1. HMAs containing SFA. 2. HMAs containing PHMA. 3. HMAs containing GHMA. 4. HMAs without GRSG Habitat
<p>Leasable Minerals—Unleased Federal Fluid Mineral Estate (Including Geothermal) (MLS)</p> <p>Objective MLS 1: Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMA and GHMA. When analyzing leasing and authorizing development of fluid mineral resources, including geothermal, in PHMA and GHMA, and subject to applicable stipulations for the conservation of Greater Sage-grouse, priority will be given to development in non-habitat areas first and then in the least suitable habitat for Greater Sage-grouse. The implementation of these priorities will be subject to valid existing rights and any applicable law or regulation, including, but not limited to, 30 U.S.C. 226(p) and 43 C.F.R. 3162.3-1(h)</p>
<p>Leasable Minerals—Leased Federal Fluid Mineral Estate (Including Geothermal) (MLS)</p> <p>Objective MLS 2: Where a proposed fluid mineral development project on an existing lease could adversely affect GRSG populations or habitat, the BLM will work with the lessees, operators, or other project proponents to avoid, minimize, and provide compensatory mitigation to reduce adverse impacts on GRSG to the extent compatible with lessees' rights to drill and produce fluid mineral resources. The BLM will work with the lessee, operator, or project proponent in developing an Application for Permit to Drill (APD) or Geothermal Permit to Drill (GPD) on the lease to avoid and minimize impacts on GRSG or its habitat and will ensure that the best information about the GRSG and its habitat informs and helps to guide development of such Federal leases.</p>
<p>Travel Management (TM)</p> <p>Objective TM 1: Manage OHV/ORV designations (open, limited, and closed) to conserve Greater Sage-grouse habitat and populations by taking actions that create neutral or positive responses.</p> <p>Objective TM 2: Reduce disturbance to Greater Sage-grouse by evaluating or modifying OHV/ORV designations and route selection in accordance with minimization criteria.</p>

Table 2-2
Description of the Proposed Plan Goals and Objectives by BLM Resource Program

Proposed Plan
<i>Special Designations—Areas of Critical Environmental Concern (SD)</i>
Objective SD 1: Provide for Conservation of Greater Sage-grouse within Key Areas of Critical Environmental Concern (ACECs) (Table 2-6) and Research Natural Areas (RNAs).
Objective SD 2: Manage all ACECs and RNAs for the values for which they were designated, per district resource management plans, following existing management actions, and consistent with proposed actions for PHMA and GHMA.
Objective SD 3: Manage habitat maintenance and restoration, and conservation actions in key ACECs for Greater Sage-grouse consistent with the values the areas were designated.
Objective SD 4: Manage key RNAs, or large areas within the RNAs, as undisturbed baseline reference areas for the sagebrush plant communities they represent that are important for Greater Sage-grouse. Manage key RNAs for minimum human disturbance allowing natural succession to proceed.

Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program

Proposed Plan
<i>Special Status Species—Greater Sage-Grouse</i>
Action SSS 1: -Designate PHMA on 4,589,568 acres. -Designate GHMA on 5,628,628 acres.
Action SSS—2: Designate Sagebrush Focal Areas (SFA) (1,929,580 acres) as shown on Figure 2-2 , Sagebrush Focal Areas and Sage-Grouse Habitat in the Planning Area Proposed Plan. SFAs will be managed as PHMA, with the following additional management: <ol style="list-style-type: none"> 1) Recommended for withdrawal from the General Mining Law of 1872, as amended, subject to valid existing rights. 2) Managed as NSO, without waiver, exception, or modification, for fluid mineral leasing. 3) Prioritized for management and conservation actions in these areas, including, but not limited to review of livestock grazing permits/leases (see livestock grazing section for additional actions).
Action SSS 3: If the 3% anthropogenic disturbance cap, not to exceed 1% increase per decade, is exceeded on lands (regardless of landownership) within GRSG Priority Habitat Management Areas in the affected Oregon PAC , then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the General Mining Law of 1872, as amended, valid existing rights, etc.) will be permitted by BLM within GRSG Priority Habitat Management Areas in the affected Oregon PAC until the disturbance has been reduced to less than the cap.
Action SSS 4: If the 3% disturbance cap, not to exceed 1% increase per decade, is exceeded on all lands (regardless of landownership) within a proposed project analysis area in Priority Habitat Management Areas, then no further anthropogenic disturbance will be permitted by BLM until disturbance in the proposed project analysis area has been reduced to maintain the area under the cap (subject to applicable laws and regulations, such as General Mining Law of 1872, as amended, valid existing rights, etc.).

Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program

Proposed Plan
<p>Action SSS 5: Subject to applicable laws and regulations and valid existing rights, if the average density of one energy and mining facility per 640 acres (the density cap) is exceeded on all lands (regardless of land ownership) in the Priority Habitat Management Area within a proposed project analysis area, then no further disturbance from energy or mining facilities will be permitted by BLM: (1) until disturbance in the proposed project analysis area has been reduced to maintain the limit under the cap; or (2) unless the energy or mining facility is co-located into an existing disturbed area, as described in Appendix I.</p>
<p>Action SSS 6: Using the habitat disturbance cap calculation methodology (Appendix I), in cooperation with ODFW, measure the direct area of influence of infrastructure, facilities, energy, and mining within Oregon PACs (Figure 2-3, Oregon Priority Areas of Conservation and Sage-Grouse Populations in the Planning Area) and maintain a current database of anthropogenic disturbance.</p>
<p>Action SSS 7: Verify the accuracy of Greater Sage-grouse habitat data layers at the site/project scale. Consider ecological site potential when assessing habitat suitability for Greater Sage-grouse. Periodically update PHMA and GHMA in cooperation with ODFW using the best available information.</p>
<p>Action SSS 8: When fine and site-scale Greater Sage-grouse habitat assessment and monitoring is needed or required, (e.g., as a component of a rangeland health assessment), measure the Greater Sage-grouse habitat suitability indicators for seasonal habitats identified in Table 2-4. Site suitability values may be adjusted regionally where there is scientific justification for doing so. When using the indicators to guide management actions or during land health assessments, consider that the indicators are sensitive to the ecological processes operating at the scale of interest and that a single habitat indicator does not necessarily define habitat suitability for an area or particular scale.</p>
<p>Action SSS 9: Apply buffers and seasonal restrictions in Table 2-8 to all occupied or pending leks in PHMA and GHMA to avoid direct disturbance to Greater Sage-grouse. In undertaking BLM management actions, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM will apply the lek buffer-distances identified in the USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse—A Review (Open File Report 2014-1239) (Manier et al. 2014; Appendix S).</p>
<p>Action SSS 10: In undertaking BLM management actions, and, consistent with valid existing rights and applicable law, in authorizing third party actions that result in habitat loss and degradation, the BLM will require and ensure mitigation that provides a net conservation gain to the species including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions.</p>
<p>Action SSS 11: Anthropogenic disturbances or activities disruptive to GRSG (including scheduled maintenance activities) do not occur in seasonal GRSG habitats unless the project plan and NEPA document demonstrate the project would not impair the life-cycle or behavioral needs of GRSG populations. Seasonal avoidance periods vary by GRSG seasonal habitat as follows:</p> <ul style="list-style-type: none"> • In breeding habitat within four (4) miles of occupied and pending leks from March 1 through June 30. Lek hourly restrictions are from two hours before sunset to two hours after sunrise at the perimeter of an occupied or pending lek. • Brood-rearing habitat from July 1 to October 31 • Winter habitat from November 1-February 28
<p>The seasonal dates may be modified due to documented local variations (e.g., higher/lower elevations) or annual climactic fluctuations (e.g., early/late spring, long and/or heavy winter) in coordination with ODFW, in order to better protect GRSG.</p>

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan
<p>Action SSS 12: Identify Greater Sage-grouse habitat outside of PHMA that can function as connecting habitat. Consider the habitat connectivity map developed by The Nature Conservancy and BLM for Oregon (Jones, A. and M. Schindel 2015). When conducting analysis for project level NEPA, include Greater Sage-grouse habitat and populations in adjoining states within 4 miles of leks in Oregon.</p>
<p>Action SSS 13: All authorized actions in Greater Sage-Grouse habitat are subject to RDFs and BMPs in Appendix C and these disturbance screening criteria: Where avoidance is not possible, disturbance would be allowed under the following conditions:</p> <ul style="list-style-type: none"> • Development in each Oregon PAC and PHMA does not exceed the disturbance cap at either the Oregon PAC scale or the project scale (Appendix I). • New anthropogenic disturbance does not occur within 1.0 mile of an occupied or pending lek in PHMA or GHMA. • Development meets noise restrictions in PHMA and GHMA. • Analyze through implementation level NEPA seasonal protection and timing limitations of occupied and pending leks in PHMA and GHMA. • All disturbance is subject to net conservation gain mitigation to Greater Sage-grouse and its habitat (see Appendix E, Mitigation) in PHMA and GHMA. • All new permitted activities will follow Required Design Features (Appendix C) in PHMA and GHMA. • To the extent feasible, development should only occur in non-habitat areas. If this is not possible, then development must occur in the least suitable habitat for Greater Sage-grouse. • Apply buffers and seasonal restrictions in Table 2-8 to all occupied or pending leks in PHMA and GHMA to avoid direct disturbance to Greater Sage-grouse. • Screening criteria and conditions would not be applicable to vegetation treatments being conducted to enhance GRSG habitat, except noise and seasonal restrictions would apply.
<p>Action SSS 14: Assist ODFW and other partners with surveillance and, where appropriate, control of West Nile virus. Report observations of dead or sick Greater Sage-grouse or other bird deaths that could be attributed to disease or parasites.</p>
<p>Action SSS 15: Implement adaptive management responses to hard and soft triggers established in the Adaptive Management Strategy (Appendix D). Hard trigger responses will be removed, either through a plan amendment or when the criteria for recovery have been met (see Appendix D - Longevity of Responses). Removal of the hard trigger responses returns management direction in the affected Oregon PAC to the plan decisions that are in force within those Oregon PACs that have not tripped a hard trigger.</p>
<p>Vegetation (VG)—Habitat Restoration including Fuels Treatment</p>
<p>Action VG 1: Priority areas for Greater Sage-grouse habitat restoration and maintenance projects are*:</p> <ul style="list-style-type: none"> • Sites with a higher probability of success. • Seasonal habitats thought to be limiting to Greater Sage-grouse populations. • Connectivity corridors between Greater Sage-grouse populations and subpopulations. • Following stand-replacing events at least 100 acres in size.
<p>*Not in priority order. Incorporate these priorities in the assessments conducted using the process detailed in Appendix H.</p>

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan
Action VG 2: Base species composition, function, and structure of sagebrush communities on ecological site descriptions. Use climate change science concerning projected changes in species ranges and changes in site capability to adjust expected and desired native species compositions as that information becomes available.
Action VG 3: Do not treat sagebrush during nesting and early brood-rearing within 4.0 miles of occupied or pending leks. Conduct pre-treatment lek surveys to determine if the lek is active. Breeding and brood-rearing typically occur from March 1 to June 30; use local information to further refine this period.
Action VG 4: Cutting of juniper can occur within 4.0 miles of an occupied or pending lek during the breeding season from two hours after sunrise and two hours before sunset.
Action VG 5: Vegetation management activities that are timing-sensitive for maximum effectiveness, such as herbicide application or seeding operations, can occur during the breeding season within 4.0 miles of occupied or pending leks. Limit operations to no more than 5 days and to the period beginning two hours after sunrise and ending two hours before sunset during the breeding and early brood rearing period. Conduct pre-treatment surveys for nests and do not damage or destroy identified nests during treatment operations. Conduct operations so as to minimize the risk of accidentally killing chicks. Breeding and early-brood-rearing typically occur from March 1 through June 30; use local information to further refine this period.
Action VG 6: Use adaptive management principles (for example, monitoring and adjusting seed mixes, planting methods or timing of planting to increase success rates) to provide for persistence of seeded or planted species important to Greater Sage-grouse.
Action VG 7: Do not use non-specific insecticides in brood-rearing habitat during the brood-rearing period. Use instar-specific insecticides to limit impacts on Greater Sage-grouse chick food sources.
Action VG 8: Use native plant materials for restoration and rehabilitation based on availability, adaptive capacity, and probability of successful establishment (see Table 3-4). Where native plant material availability or probability of successful establishment is low, use desirable non-native plant materials that are of a similar functional/structural group as native plant species (e.g. deep-rooted, tall perennial bunchgrass, tap-rooted perennial forb).
Action VG 9: When sufficient native plant materials are available, use native plant materials unless the area is immediately threatened by invasive plant species spread or dominance. Use non-native plant materials as necessary to: <ol style="list-style-type: none"> 1. Limit or control invasive plant species spread or dominance. 2. Create fuel breaks along roads and ROWs. 3. Create defensible space within 0.5 mile of human residences.
Action VG 10: When seedings include non-native plant materials, evaluate post-planting within 10 years to determine the need to increase native species populations or compositions to be more representative of the ecological site description and capability. When existing native herbaceous diversity is less than 50 percent of the potential diversity for the applicable ecological site description, conduct treatments to increase the diversity.
Action VG 11: Do not conduct forage enhancement solely for domestic livestock in PHMA.
Action VG 12: Adjust discretionary land uses, such as active use for livestock grazing or recreational uses or seasons, as needed to facilitate attainment and persistence of vegetation restoration objectives.

Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program

Proposed Plan
Action VG 13: Use provisional and established seed zones identified by the Great Basin Native Plant Project (http://www.fs.fed.us/rm/grassland-shrubland-desert/research/projects/gbnpsip/) to determine appropriate seed sources for grasses, forbs, and shrubs. Identify sagebrush seed collection areas to provide locally adapted sagebrush seed sources.
Action VG 14: Allowable methods for vegetation treatment include mechanical, biological (including targeted grazing), chemical, or wildland fire or combinations of these general treatment categories.
Action VG 15: Create mosaics of varying sagebrush density using spot treatments within the treatment area. Sagebrush density shall be equivalent to Classes 1 through 4 in cool-moist sagebrush and Classes 1 through 3 in warm-dry sagebrush (see Table 2-5). Maximum stand-replacement patch size shall not exceed 25 acres and total stand-replacement patches shall not exceed 15 percent of the treatment block. See Required Design Features for additional details.
Action VG 16: Test new potential restoration methods in areas with a sagebrush overstory and an annual grass understory.
Action VG 17: Remove conifers encroaching into sagebrush habitats. Prioritize treatments closest to occupied GRSG habitats and near occupied leks, and where juniper encroachment is phase 1 or phase 2. Use site-specific analysis and tools such as VDDT and the FIAT process (Appendix H), or their successors, to refine the specific locations to be treated.
Action VG 18: Apply additional restoration treatments, such as seeding or planting, in conjunction with juniper removal in areas with more than trace amounts of invasive annual grasses or where the pre-treatment understory has less than 2 healthy bunchgrass plants per 10 square feet in cool-moist sagebrush or less than 4 healthy bunchgrass plants per 10 square feet in warm-dry sagebrush.
Action VG 19: Conduct jackpot burning of cut juniper when soils are frozen or snow-covered and moisture content of felled trees is low enough to promote complete or near complete consumption of branches. Leaving the bole portion is acceptable.
Vegetation (VG)—Integrated Invasive Species
Action VG 20: In priority treatment areas for invasive annual grasses, apply early detection-rapid response principles on*: <ul style="list-style-type: none"> • New infestations. • Satellite populations. • Isolated populations. • Where invasive annual grasses are still sub-dominant. • Edges of large infestations • Where sites are frequently or commonly used for temporary infrastructure such as incident base camps, spike camps, staging areas, and helicopter landing areas.
*Not in priority order. Incorporate these priorities in the assessments conducted using the process detailed in Appendix H (FIAT process).
Action VG 21: Allowable methods of invasive plant control include mechanical, chemical, biological (including targeted grazing, biocides, and bio-controls), or prescribed fire or combinations of these methods.

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan
Action VG 22: Use of approved herbicides, biocides, and bio-controls is allowed on all land allocations currently providing or reasonably expected to provide Greater Sage-grouse habitat. Follow the guidance in the 2010 Record of Decision for Vegetation Treatments Using Herbicides on BLM Lands in Oregon and subsequent step-down decision records, when complete, or successor/subsequent decisions governing the use of additional herbicides and biocides.
Action VG 23: On Type I through Type III wildfires provide and require the use of weed washing stations and acceptable disposal of subsequent waste water and material to minimize the risk of further spread. Wash all vehicles and equipment arriving from outside the local area before initial use in the fire area and during post-fire emergency stabilization and rehabilitation operations. Wash all vehicles and equipment prior to release from the incident to reduce the probability of transporting invasive plant materials to other locations.
Action VG 24: Wash vehicles and equipment used in field operations prior to use in areas without known infestations of invasive plants. Wash vehicles and equipment used in areas with known infestations prior to use in another area to limit the further spread of invasive species to other locations.
Action VG 25: Locate base camps, spike camps, coyote camps, or other temporary infrastructure in areas that lack invasive plant populations. Where no such options are available provide for post-operation invasive plant treatments.
Wildland Fire Management (WFM) (Also, see Vegetation section for other applicable direction.)
Action WFM 1: Complete an interagency landscape-scale assessment (Appendix H) to prioritize at-risk habitats and identify fuels management, preparedness, suppression, and restoration priorities based on the quality of habitat at risk as directed in the Secretarial Order for Rangeland Fire SO3336. Update these assessments as necessary or when major disturbances occur. Within Greater Sage-grouse habitat, prioritize suppression and fuels management activities based on an assessment of the quality of habitat at risk.
Action WFM 2: Firefighter and public safety are highest priority. Prioritize Greater Sage-grouse habitat commensurate with property values and other habitat to be protected, with the goal to restore, enhance, and maintain these areas.
Action WFM 3: Within PHMA and GHMA, prioritize fire management activities in order to protect and restore Greater Sage-grouse habitat and reduce the impacts of large wildfires as follows: <ol style="list-style-type: none"> 1. Habitat within 4.0 miles of an occupied or pending lek. 2. Greater Sage-grouse winter range.
Action WFM 4: Incorporate locations of priority Greater Sage-grouse protection areas into the dispatch system. Provide local Greater Sage-grouse habitat maps to dispatch offices and initial attack Incident Commanders for use in prioritizing wildfire suppression resources and designing suppression tactics.
Action WFM 5: During fire management operations, retain unburned areas of sagebrush, including interior islands and patches between roads and the fire perimeter unless there is a compelling safety, resource protection, or wildfire management objective at risk.
Action WFM 6: Follow established direction in the current Interagency Standards for Fire Operations (Red Book) with respect to use of resource advisors, annual review of fire management plans for updates relevant to Greater Sage-grouse habitat, and contents of the Delegation of Authority letters.

Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program

Proposed Plan
<p>Action WFM 7: Allow retardant and other fire suppressant chemicals use on all land allocations except where expressly prohibited by land allocation direction. Use of retardant and other fire suppressant chemicals can be specifically allowed by the authorized official when prohibited by land allocation direction. Allow retardant use on all land allocations regardless of management direction when there is imminent threat to human life.</p>
<p>Action WFM 8: Allow mechanical fire line except:</p> <ul style="list-style-type: none"> • Where prohibited by other resource direction (e.g., wilderness, soils, hydrology, and riparian management) • Where inconsistent with direction for specific land allocations <p>The authorized official may approve exceptions.</p>
<p>Action WFM 9: Allow use of naturally ignited wildfires to meet resource management objectives to improve Greater Sage-grouse habitat such as reducing juniper encroachment and creating mosaics of sagebrush classes. When natural ignitions occur, utilize an interdisciplinary process (including a wildlife biologist familiar with GRSg habitat requirements) to determine if the fire could be managed to meet GRSg and vegetation objectives.</p>
<p>Action WFM 10: Locate base camps, spike camps, drop points, staging areas, helicopter landing areas, and other temporary wildfire infrastructure in areas where physical disturbance to Greater Sage-grouse habitat can be minimized, to the extent feasible.</p>
<p>Action WFM 11: Develop a system of fuel breaks to protect larger intact blocks of Greater Sage-grouse habitat. Locate these fuel breaks along existing roads and ROWs, where possible.</p>
<p>Action WFM 12: In Greater Sage-grouse habitat, reduce hazardous fuels created by other management actions, such as establishment of new roads, trails, or ROWs within 3 years of project completion. The reduction should be sufficient to limit fire spread or undesirable fire behavior or fire effects in sagebrush ecosystems.</p>
<p>Action WFM 13: Use interagency- coordinated fire restrictions and public service announcements to reduce the number of human starts in or near Greater Sage-grouse habitat during periods of elevated fire danger.</p>
<p>Action WFM 14: Develop annual treatment and fire management programs in coordination with interagency partners and across jurisdictional boundaries based on priorities identified in the local District Landscape Wildfire and Invasive Species Assessment.</p>
<p>Action WFM 15: Complete an annual review of landscape assessment implementation efforts with interagency partners.</p>
<p>Action WFM 16: Implement appropriate fire operations and fuels management RDFs identified in Appendix C.</p>
<p>Action WFM 17: Include information on the resource value of Greater Sage-grouse habitat in existing prevention plans.</p>
<p>Action WFM 18: If prescribed fire is used in Greater Sage-Grouse habitat, the NEPA analysis for the Burn Plan will address:</p> <ul style="list-style-type: none"> • why alternative techniques were not selected as a viable options; • how Greater Sage-Grouse goals and objectives would be met by its use; • how the COT Report objectives would be addressed and met; • a risk assessment to address how potential threats to Greater Sage-Grouse habitat would be minimized.

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan
<p>a) Prescribed fire as a vegetation or fuels treatment shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Prescribed fire could be used to meet specific fuels objectives that would protect Greater Sage-Grouse habitat in PHMA (e.g., creation of fuel breaks that would disrupt the fuel continuity across the landscape in stands where annual invasive grasses are a minor component in the understory, burning slash piles from conifer reduction treatments, used as a component with other treatment methods to combat annual grasses and restore native plant communities).</p> <p>b) Prescribed fire in known winter range shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Any prescribed fire in winter habitat would need to be designed to strategically reduce wildfire risk around and/or in the winter range and designed to protect winter range habitat quality.</p>
<p>Livestock Grazing/Range Management (LG/RM)</p> <p>Action LG/RM 1: All or portions of key RNAs will be unavailable to grazing (Table 2-6). Determine whether to remove fences, corrals, or water storage facilities (e.g. reservoirs, catchments, ponds).</p> <p>Action LG/RM 2: When renewing term grazing permits or leases, or when revising or developing new allotment management plans, or when SRH are not being met and livestock grazing is a significant factor within Greater Sage-grouse habitat, adjust permits and take actions prior to the start of the next grazing season to make progress toward meeting SRH.</p> <p>Changes must include one or more of the following:</p> <ul style="list-style-type: none"> • Season or timing of use. • Numbers of livestock (includes temporary nonuse or livestock removal). • Intensity of use. • Type of livestock (e.g., cattle, sheep, horses, and goats). • Adjustments in allowable utilization level. • Extended rest or temporary closure from grazing through BLM administrative actions. • Make allotment unavailable to grazing. <p>*Not in Priority Order*</p> <p>When SRH are being met no changes in current management or activity plans or permits/leases are required, but could occur to meet other LUP or resource management objectives.</p> <p>Action LG/RM 3: The timing and location of livestock turnout and trailing shall not contribute to livestock congregation on occupied or pending leks during the Greater Sage-grouse breeding season of March 1 through June 30.</p> <p>Action LG/RM 4: When fine and site-scale Greater Sage-grouse habitat assessment and monitoring is needed or required, (e.g., as a component of a rangeland health assessment), measure the Greater Sage-grouse habitat suitability indicators for seasonal habitats identified in Table 2-4. Site suitability values may be adjusted regionally where there is scientific justification for doing so. When using the indicators to guide management actions or during land health assessments, consider that the indicators are sensitive to the ecological processes operating at the scale of interest and that a single habitat indicator does not necessarily define habitat suitability for an area or particular scale.</p>

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan

Action LG/RM 5: During drought conditions use a recognized drought indicator, such as the Drought Monitor or Palmer Drought Severity Index, to determine when abnormally dry or drought conditions are developing, present, or easing. When such conditions are developing or present:

1. Conduct pre- season assessments prior to livestock turn out.
2. Monitor vegetation conditions during authorized livestock use periods to determine need for early removal or other changes to meet seasonal PHMA and GHMA objectives.

If livestock grazing is deferred due to drought, reevaluate vegetation and Greater Sage-grouse habitat indicators that measure Greater Sage-grouse habitat prior to reauthorization of grazing.

Action LG/RM 6: Authorize new, relocate, or modify existing range improvements that use seeps or springs as a water source to enhance their year round functionality. Install or retrofit wildlife escape ramps in all livestock water troughs or water storage facilities (e.g., catchments, storage tanks).

Maintain, enhance, or reestablish riparian areas in PHMA and GHMA.

Action LG/RM 7: Identify playas, wetlands, and springs that have been modified for livestock watering within PHMA and GHMA. Identify those water improvements that have Greater Sage-grouse population limiting implications, and develop projects for rehabilitation. Further actions should be instigated for development of water off site; new water should be available before existing water is eliminated.

Action LG/RM 8: Design new and maintain existing water projects to avoid standing pools of shallow water that would spread West Nile Virus.

Action LG/RM 9: Remove, modify, or mark fences identified as high risk for collisions, generally within 1.2 miles of occupied or pending leks.

Action LG/RM 10: Avoid construction of livestock facilities and supplemental feeding of livestock within 1.2 mile of occupied or pending leks in Greater Sage-grouse habitat unless it is part of an approved habitat improvement project or approved by the authorized officer to improve ecological health or to create mosaics in dense sagebrush stands that are needed for optimum Greater Sage-grouse habitat. Supplemental feeding in Greater Sage-grouse habitat must be part of an approved habitat improvement plan or approved by the authorized officer.

Action LG/RM 11: Sagebrush Focal Areas will be prioritized for management and conservation actions, including, but not limited to review of livestock grazing permits/leases.

Action LG/RM 12: The BLM will prioritize (1) the review of grazing permits/leases, in particular to determine if modification is necessary prior to renewal, and (2) the processing of grazing permits/leases in Sagebrush Focal Areas (SFAs) followed by PHMA outside of the SFAs. In setting workload priorities, precedence will be given to existing permits/leases in these areas not meeting Land Health Standards, with focus on those containing riparian areas, including wet meadows. The BLM may use other criteria for prioritization to respond to urgent natural resource concerns (ex., fire) and legal obligations.

Action LG/RM 13: The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include lands within SFAs and PHMA will include specific management thresholds based on GRSG Habitat Objectives Table, Land Health Standards (43 CFR 4180.2) and ecological site potential, and one or more defined responses that will allow the authorizing officer to make adjustments to livestock grazing that have already been subjected to NEPA analysis.

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan
Action LG/RM 14: Allotments within SFAs, followed by those within PHMA, and focusing on those containing riparian areas, including wet meadows, will be prioritized for field checks to help ensure compliance with the terms and conditions of the grazing permits. Field checks could include monitoring for actual use, utilization, and use supervision.
Action LG/RM 15: At the time a permittee or lessee voluntarily relinquishes a permit or lease, the BLM will consider whether the public lands where that permitted use was authorized should remain available for livestock grazing or be used for other resource management objectives, such as reserve common allotments or fire breaks.
Wild Horse and Burro (WHB)
Action WHB1: Manage herd management areas (HMAs) in GRSG habitat within established AML ranges to achieve and maintain GRSG habitat objectives (Table 2-4).
Action WHB 2: Complete rangeland health assessments for HMAs containing GRSG habitat using an interdisciplinary team of specialists (e.g. range, wildlife, and riparian). The priorities for conducting assessments are: <ol style="list-style-type: none"> 1. HMAs containing SFA; 2. HMAs containing PHMA; 3. HMAs containing only GHMA; 4. HMAs containing sagebrush habitat outside of PHMA and GHMA mapped habitat; 5. HMAs without GRSG habitat.
Action WHB 3: Prioritize gathers and population growth suppression techniques in HMAs in GRSG habitat, unless removals are necessary in other areas to address higher priority environmental issues, including herd health impacts. Place higher priority on Herd Areas not allocated as Herd Management Areas and occupied by wild horses and burros in SFAs followed by PHMA.
Action WHB 4: In SFAs and PHMA outside of SFA, assess and adjust AMLs through the NEPA process within HMAs when wild horses or burros are identified as a significant causal factor in not meeting land health standards, even if current AML is not being exceeded.
Action WHB 5: In SFAs and PHMA outside of SFA, monitor the effects of WHB use in relation to GRSG seasonal habitat objectives on an annual basis to help determine future management actions.
Action WHB 6: Develop or amend herd management area plans (HMAPs) to incorporate GRSG habitat objectives and management considerations for all HMAs within GRSG habitat, with emphasis placed on SFAs and other PHMA.
Action WHB 7: Consider removals or exclusion of WHB during or immediately following emergency situations (such as fire, floods, and drought) to facilitate meeting GRSG habitat objectives where HMAs overlap with GRSG habitat.
Action WHB 8: When conducting NEPA analysis for wild horse/burro management activities, water developments, or other rangeland improvements for wild horses, address the direct and indirect effects on GRSG populations and habitat. Implement any water developments or rangeland improvements using the criteria identified for domestic livestock.
Action WHB 9: Coordinate with professionals from other federal and state agencies, researchers at universities, and others to utilize and evaluate new management tools (e.g., population growth suppression, inventory techniques, and telemetry) for implementing the WHB program.

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan
<p>Action WHB 10: When WHB are a factor in not meeting Greater Sage-grouse habitat objectives or influence declining Greater Sage-grouse populations in PHMA, Oregon's gather priority for consideration by the Washington Office is as follows:</p> <ol style="list-style-type: none"> 1. Response to an emergency. (e. g., fire, insect infestation, disease or other events of unanticipated nature). 2. Greater Sage-grouse habitat. 3. Maintain a thriving natural ecological balance.
<p>Action WHB 11: In PHMA, design any new and modify existing structural WHB improvements to conserve, enhance, or restore Greater Sage-grouse habitat.</p>
<p><i>Lands and Realty (LR)—Land Tenure (Land tenure adjustments could include acquisition, donation, disposal, or exchanges)</i></p>
<p>Action LR 1: Designate PHMA and GHMA as Z-1 and retain public ownership. Lands classified as priority habitat and general habitat for Greater Sage-Grouse will be retained in federal management. Exception: (1) the agency can demonstrate that disposal of the lands will provide a net conservation gain to the Greater Sage-Grouse or (2) the agency can demonstrate that the disposal of the lands will have no direct or indirect adverse impact on conservation of the Greater Sage-Grouse.</p>
<p><i>Lands and Realty (LR)—Right-of-Way (including permits and leases)</i></p>
<p>All Lands and Realty actions must comport with SSS 13 disturbance screening criteria</p>
<p>Action LR 2: Designate PHMA as an exclusion area for new wind or solar ROWs at utility/commercial scale development, except in Lake, Harney, and Malheur Counties.</p>
<p>Action LR 3: Designate PHMA outside of sagebrush focal areas (SFA) in Lake, Harney, and Malheur Counties as an avoidance area for new wind or solar ROWs at utility/commercial scale development. Where a PHMA occurs in more than one county, the allocation for each county applies to the respective PHMA.</p>
<p>Action LR 4: Designate Sagebrush Focal Areas as exclusion areas for new wind or solar ROWs at utility/commercial scale development.</p>
<p>Action LR 5: Priority Habitat Management Areas (PHMA) and General Habitat Management Areas (GHMA) are designated as avoidance areas for high voltage (100kV or greater) transmission lines and major pipelines (24" or greater in diameter) ROWs (including permits and leases). All authorizations in these areas, other than the excepted projects, must comply with the conservation measures outlined in this Proposed Plan, including the RDFs (Appendix C) and screening criteria (see SSS 13) of this document. The BLM is currently processing an application for Boardman to Hemingway Transmission Line Project and the NEPA review for this project is well underway. The BLM is analyzing GRSG mitigation measures through the Boardman to Hemingway NEPA review process.</p>
<p>Place new high voltage transmission lines in designated utility corridors where technically feasible; where not technically feasible, locate lines adjacent to existing infrastructure.</p>
<p>If an existing transmission line is upgraded to a higher voltage the following is required:</p> <ul style="list-style-type: none"> • The existing transmission line must be removed within a reasonable amount of time after the new line is installed and energized. • The new line must be constructed in the same alignment (ROW boundary) as the existing line unless an alternate route would benefit Greater Sage-grouse or its habitat.

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan

Outside of designated corridors, bury new transmission lines where technically and financially feasible.

- Where burying transmission lines is not technically and financially feasible, locate new transmission lines adjacent to existing transmission lines, and would be subject to Greater Sage-grouse ROW screening criteria.
- Where determined to have a negative impact on Greater Sage-grouse or its habitat, remove existing guy wires or mark with bird flight diverters to make them more visible to Greater Sage-grouse in flight.

Outside of designated corridors, bury new pipelines where technically and financially feasible. Pipelines should be located adjacent to existing infrastructure.

Action LR 6: Designated existing utility corridors would remain open in PHMA and GHMA to utility rights-of-way.

Action LR 7: Designate other ROWs (including permits and leases) in PHMA as avoidance areas:

Road ROWs

- New road ROWs would be authorized only when necessary for public safety, administrative access, or subject to valid existing rights. If the new ROW is necessary for public safety, administrative access, or subject to valid existing rights and creates new surface disturbance, mitigate the impacts on protect the Greater Sage-grouse or their habitat. New road ROWs would be allowed if the ROW applicant is pursuing a Title V FLPMA ROW grant and would create no new surface disturbance.
- Only allow use of existing roads, or realignment of existing roads, when renewing or amending existing authorizations.
- Co-locate new ROWs as close as technically possible to existing ROWs or where the ROW best minimize Greater Sage-grouse impacts. Use existing roads, or realignments, to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then construct any new road to the minimum standard necessary.
- Existing Federal Highway Act (FHWA) appropriation ROWs are valid existing rights and new FHWA ROWs would continue to be considered subject to all disturbance screening criteria. See disturbance screening criteria in SSS 13.

New proposals for power lines, access roads, pump storage, and other hydroelectric facilities licensed by FERC would be subject to all Greater Sage-grouse ROW screening criteria.

Communication Sites:

Locate new communication towers within an existing communication site where technically feasible. If not feasible, new sites would be considered where necessary for public safety but would have to adhere to the ROW disturbance screening criteria as listed in SSS 13.

Action LR 8: Renewing, Amending or Terminating ROW Grants in PHMA and GHMA:

- Conduct rehabilitation when FLPMA ROW grant expires, is relinquished, or terminated, rehabilitation is required in compliance with 43 CFR 2805.12(i).
- Remove overhead lines and other infrastructure to eliminate existing avian predator nesting opportunities (e.g. remove power line and communication facilities no longer in service) when a ROW grant expires or is relinquished or terminated.

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan
<ul style="list-style-type: none"> • Add additional stipulations, if necessary, when renewal or amendment of existing ROW grants. • Mitigate impacts on GRSG or their habitats during amendment of an existing ROW grant. Mitigation could include the disturbance screening criteria.
<p>Action LR 9: Designated ROW Corridors in PHMA and GHMA:</p> <ul style="list-style-type: none"> • Manage existing designated ROW corridors as open. • Allow placement of new ROWs in existing designated corridors. Construct new ROWs as close as technically feasible to existing linear ROW infrastructure to limit disturbance to the smallest footprint.
<p>Action LR 10: Designate GHMA as an avoidance area for new wind or solar rights-of-way at utility/commercial scale development.</p> <p>If new utility/commercial scale wind or solar development in GHMA is unavoidable apply the following measures:</p> <ol style="list-style-type: none"> 1. If possible, construct meteorological towers without guy wires. 2. If guy wires are necessary, mark with anti-strike devices. 3. Analyze potential alternative site locations with known wind or solar potential outside of Greater Sage-grouse habitat in NEPA documents for ROW applications.
<p>Action LR 11: GHMA is open to other ROWs/Land Use Authorization/Permits but must adhere to screening criteria in SSS I3.</p> <ul style="list-style-type: none"> • Existing Federal Highway Act (FHWA) Appropriation ROWs are valid existing rights. New FHWA ROWs would be subject to all Greater Sage-grouse screening criteria. • Construct new high-voltage transmission lines and new pipelines in GHMA as close as technically feasible to existing infrastructure (e.g. roads, distribution/transmission lines and pipelines) to limit disturbance to the smallest footprint.
<p><i>Leasable Minerals—Unleased Federal Fluid Mineral Estate (Including Geothermal) (MLS)</i></p>
<p>Action MLS 1: Stipulate all leases within PHMA as NSO.</p> <p>No waivers or modifications to a fluid mineral lease no-surface-occupancy stipulation will be granted. The authorized officer may grant an exception to a fluid mineral lease no-surface-occupancy stipulation only where the proposed action:</p> <ol style="list-style-type: none"> (i) Would not have direct, indirect, or cumulative effects on Greater Sage-grouse or its habitat; or (ii) Is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel, and would provide a clear conservation gain to GRSG. <p>Exceptions based on conservation gain (ii) may only be considered in (a) PHMA of mixed ownership where federal minerals underlie less than fifty percent of the total surface, or (b) areas of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMP amendment. Exceptions based on conservation gain must also include measures, such as enforceable institutional controls and buffers, sufficient to allow the BLM to conclude that such benefits will endure for the duration of the proposed action's impacts.</p> <p>Any exceptions to this lease stipulation may be approved by the Authorized Officer only with the concurrence of the State Director. The Authorized Officer may not grant an exception unless the</p>

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan
applicable state wildlife agency, the USFWS, and the BLM unanimously find that the proposed action satisfies (i) or (ii). Such finding shall initially be made by a team of one field biologist or other GRSG expert from each respective agency. In the event the initial finding is not unanimous, the finding may be elevated to the appropriate BLM State Director, USFWS State Ecological Services Director, and state wildlife agency head for final resolution. In the event their finding is not unanimous, the exception will not be granted. Approved exceptions will be made publically available at least quarterly.
Action MLS 2: Stipulate all leases within Sagebrush Focal Areas as NSO, without waiver, exception, or modification.
Action MLS 3: GHMA is considered open for unleased fluid minerals with moderate constraints, including CSU and TL. Areas within 1.0 mile of an occupied or pending lek within GHMA would be open to leasing fluid minerals subject to NSO stipulations. Apply Fluid Mineral Stipulations, identified in Appendix F .
Action MLS 4: Allow geophysical exploration within PHMA and GHMA subject to seasonal restrictions, see Appendix F
<i>Leasable Minerals—Leased Federal Fluid Mineral Estate (Including Geothermal) (MLS)</i>
Action MLS 5: In PHMA, apply the conservation measures through RMP implementation decisions (e.g., approval of a Geothermal Permit to Drill) and upon completion of the environmental record of review (43 CFR, Part 3162.5), including appropriate documentation of compliance with NEPA. In this process evaluate, among other things: <ol style="list-style-type: none"> 1. Whether the conservation measure is “reasonable” (43 CFR, Part 3101.1-2) with the valid existing rights. 2. Whether the action is in conformance with the approved RMP. <p>Additionally, apply the 3 percent disturbance cap for development within Oregon PACs and PHMA (see Appendix I).</p> <p>Issue written orders of the authorized office requiring reasonable protective measures consistent with the lease terms where necessary to avoid or minimize impacts on Greater Sage-grouse populations and its habitat in accordance with the project habitat mitigation plan.</p>
Action MLS 6: Implement RDFs in PHMA and GHMA as detailed in Appendix C , as allowed by law for existing leases.
Action MLS 7: Complete Master Development Plans in lieu of APD by APD or Operations/Utilization plans for geothermal processing within PHMA.
Action MLS 8: Within an Oregon PAC, when permitting APDs or GPDs (Geothermal Permit to Drill) on existing leases that are not yet developed, the proposed anthropogenic disturbance must be under the 3 percent cap for that area, to the extent allowed by law.
Action MLS 9: Require unitization when the BLM determines it is necessary for proper development and operation of an area according to the Federal Lease Form, 3100-11 Sections 4 and 6. Where 10 percent or less of the land is federal, encourage rather than require unitization to minimize adverse impacts on Greater Sage-grouse.
Action MLS 10: Identify areas where land acquisitions including mineral rights or conservation easements would benefit Greater Sage-grouse habitat. Proceed with acquisition process where appropriate.

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan
<i>Locatable Minerals (MLM)</i>
Action MLM 1: To the extent consistent with the rights of a mining claimant under existing laws and regulations, limit surface disturbance, and provide recommendations for net conservation gain of Greater Sage-grouse habitat.
Action MLM 2: If a 3809 Plan of Operation is filed on mining claims in PHMA or GHMA, identify and evaluate mitigation measures to avoid or minimize adverse effects on PHMA and GHMA, through the Plan of Operation NEPA process, as appropriate and to the extent allowable by law. For notice and casual use levels of activity, apply RDFs (to the extent consistent with applicable law) in Appendix C .
Action MLM—3: Sagebrush Focal Areas are recommended for withdrawal from the General Mining Law of 1872, as amended, subject to valid existing rights.
<i>Mineral Materials (Salables; MSM)</i>
Action MSM 1: PHMA are closed to new mineral material sales. However, these areas remain “open” to free use permits and the expansion of existing active pits, only if the following criteria are met: <ul style="list-style-type: none"> • The activity is within the Oregon PAC (also called BSU) and project area disturbance cap. • The activity is subject to the provisions set forth in the mitigation framework in Appendix E. • All applicable required design features are applied and the activity is permissible under screening criteria (see SSS 13). <p>Federal Highway Act material sites are a ROW and not subject to mineral sale requirements. See ROW section for management.</p>
Action MSM 2: GHMA remains open subject to stipulations that would protect Greater Sage-grouse and its habitat; see RDFs and BMPs in Appendix C .
<i>Nonenergy Leasable Minerals (MNL)</i>
Action MNL 1: Close PHMA to new leases and permits. Consider expansion of existing operations if the disturbance is within the cap and subject to compensatory mitigation.
Action MNL 2: GHMA remains open to new leases subject to stipulations that would protect Greater Sage-grouse and its habitat; see RDFs and BMPs in Appendix C .
<i>Mineral Split Estate (MSE)</i>
Action MSE 1: Where the federal government owns the mineral estate in PHMA and GHMA, and the surface is in non-federal ownership, apply the same stipulations, COAs, and/or conservation measures and RDFs as applied if the mineral estate is developed on BLM-administered lands in that management area, to the maximum extent permissible under existing authorities, and in coordination with the landowner.
Action MSE 2: Where the federal government owns the surface and the mineral estate is in non-federal ownership in PHMA and GHMA, apply appropriate surface use COAs, stipulations, and mineral RDFs through ROW grants or other surface management instruments, to the maximum extent permissible under existing authorities, in coordination with the mineral estate owner/lessee.
<i>Comprehensive Travel and Travel Management (TM)</i>
Action TM 1: Unless already designated limited or closed all PHMA and GHMA shall be designated as limited to existing roads, primitive roads, and trails, including existing SRMAs. Where areas are currently designated “closed” under existing applicable RMPs the closed designations shall be maintained.
Travel management planning would be deferred to future implementation/activity level planning or concurrent with future RMP planning.

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

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In addition to the minimization criteria, districts would adopt the following Greater Sage-grouse specific planning elements only for BLM administered roads during implementation level planning.

- During travel management planning, avoid designating roads, primitive roads, and motorized trails within 1.0 mile of occupied or pending leks when road traffic volume is greater than 8 vehicle trips per 24 hour period in accordance with the ODFW mitigation framework.
- When existing high traffic roads and primitive roads are closer than 1.0 mile to an occupied or pending lek, and are the only access, consider a seasonal restriction from March 1 to June 30.
- When an existing road or primitive road is found to have an effect on Greater Sage-grouse population trends, work with the interdisciplinary team and ODFW to determine the best reroute or closure point for a section of an existing road.

In addition, implementation level travel planning efforts would be guided by the goals, objectives and guidelines outlined in the GRSG section, relevant National and Oregon specific guidance, and the following:

- A timeline to complete travel planning efforts in would be identified, prioritized and updated annually in all relevant planning areas to accelerate the accomplishment of: data collection, route evaluation and selection, and on the ground implementation efforts including signing, monitoring and rehabilitation.
- During subsequent travel management planning, consultation “with interested user groups, Federal, State, county and local agencies, local landowners, and other parties in a manner that provides an opportunity for the public to express itself and have its views given consideration.” Consequently, a public outreach plan to fully engage all interested stakeholders would be incorporated into future travel management plans.
- Among other designation criteria from “areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention would be given to protect endangered or threatened species and their habitats.”
- During subsequent travel management planning, all routes would undergo a route evaluation to determine its purpose and need and the potential resource and/or user conflicts from motorized travel. Where resource and/or user conflicts outweigh the purpose and need for the route, the route would be considered for closure or considered for relocation outside of sensitive GRSG habitat.
 - During subsequent travel planning, threats to GRSG and their habitat would be considered when evaluating route designations and/or closures.
 - During subsequent travel management planning, routes that do not have a purpose or need would be considered for closure.
 - During subsequent travel management planning, routes that are duplicative, parallel, or redundant would be considered for closure.
 - During subsequent travel management planning, seasonal restrictions on OHV use would be considered in important seasonal habitats where OHV use is a threat. During subsequent travel management planning, consider limiting over snow vehicles (OSV) designed for use over snow and that runs on a track or tracks and/or a ski or skis, while in use over snow to designated routes or consider seasonal closures in GRSG wintering areas from November 1 through March 31.

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan
<ul style="list-style-type: none"> - During subsequent travel management planning, routes not required for public access or recreation with a current administrative/agency purpose or need would be evaluated for administrative access only. - During subsequent travel management planning, consider prioritizing restoration of routes not designated in a Travel Management Plan. - During subsequent travel management plan implementation, consider using seed mixes or transplant techniques that would maintain or enhance GRSG habitat when rehabilitating linear disturbances. - During subsequent travel management plan implementation, consider scheduling road maintenance to avoid disturbance during sensitive periods and times to the extent practicable. Consider using time of day limits (exclude activities from 2 hours before sunset to 2 hours after sunrise) to reduce impacts on GRSG during breeding periods.
<p>Action TM 2: ORV-OHV designations that are “closed” would be maintained as closed to motorized vehicles. OHV Areas designated as “limited to existing” within PHMA and GHMA would be managed as “limited to existing roads, primitive roads, and trails” until the completion of an implementation level travel planning (travel management planning).</p> <p>Individual route designations would occur during subsequent implementation level travel management planning efforts. Upon the completion of implementation level travel management plans OHV areas designated as “Limited” would transition to “limited to designated roads, primitive roads and trails.”</p>
<p>Action TM 3: Avoid upgrading existing roads or construction of new roads that are found to contribute to Greater Sage-grouse mortality or lek abandonment.</p>
<p>Action TM 4: In PHMA and GHMA complete transportation plans in accordance with National BLM Travel Management guidance, requiring the BLM to maintain a current action plan and planning schedule to most effectively target available resources. The following GRSG population areas are Oregon’s top priority areas to designate comprehensive travel management plans:</p> <ol style="list-style-type: none"> 1. In Oregon PACs with declining population trends. 2. In all other Oregon PACs. 3. In all GHMA. <p>In PHMA and GHMA, travel systems would be managed with an emphasis on improving the sustainability of the travel network in a comprehensive manner to minimize impacts on GRSG, maintain motorist safety, and prevent unauthorized cross country travel while meeting access needs. To do so, it may be necessary to improve portions of existing routes, close existing routes or create new routes that meet user group needs, thereby reducing the potential for pioneering unauthorized routes. The emphasis of the comprehensive travel and transportation planning would be placed on having a neutral or positive effect on GRSG habitat.</p>
<p>Action TM 5: Initiate travel management planning within 5 years of RMP revisions.</p>
<p>Action TM 6: In PHMA and GHMA, limit route construction or realignment of existing designated routes to result in net conservation gain for PHMA and GHMA</p>
<p>Action TM 7: Eliminate parallel roads travelling to the same destination when the destination can be accessed from the same direction and topography in PHMA and GHMA.</p>

**Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program**

Proposed Plan
Action TM 8: Within 4.0 miles of occupied or pending leks, do not allow any upgrading of primitive roads that would change the maintenance level except for public safety, administrative use, and valid existing rights.
Action TM 9: Use proactive methods when necessary to reclaim roads. See BMPs in Appendix C .
Action TM 10: In PHMA and GHMA, temporary closures will be considered in accordance with 43 CFR subpart 8364 (Closures and Restrictions); 43 CFR subpart 8351 (Designated National Area); 43 CFR subpart 6302 (Use of Wilderness Areas, Prohibited Acts, and Penalties); 43 CFR subpart 8341 (Conditions of Use).
Temporary closure or restriction orders under these authorities are enacted at the discretion of the authorized officer to resolve management conflicts and protect persons, property, and public lands and resources. Where an authorized officer determines that off-highway vehicles are causing or will cause considerable adverse effects upon soil, vegetation, wildlife, wildlife habitat, cultural resources, historical resources, threatened or endangered species, wilderness suitability, other authorized uses, or other resources, the affected areas shall be immediately closed to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and measures implemented to prevent recurrence. (43 CFR 8341.2) A closure or restriction order should be considered only after other management strategies and alternatives have been explored. The duration of temporary closure or restriction orders should be limited to 24 months or less; however, certain situations may require longer closures and/or iterative temporary closures. This may include closure of routes or areas.
Recreation (RC)
Action RC 1: Do not issue new non-motorized special recreation permits (SRPs) in PHMA or GHMA within 3.0 miles of occupied or pending leks from March 1 to June 30. Limited exceptions (e.g. river permits) are allowed and must be based on site specific rationale that biological impacts on Greater Sage-grouse are being avoided.
Evaluate and modify existing SRPs lacking Greater Sage-grouse stipulations in PHMA.
Action RC 2: Do not issue motorized and/or race SRPs, or competitive SRPs within 4.0 miles of an occupied or pending leks during breeding season from March 1 to June 30.
Action RC 3: Evaluate and modify, if necessary, recreation sites in PHMA and GHMA to reduce avian predator perch sites.
Action RC 4: In PHMA, do not construct new recreation facilities (e.g., campgrounds, trails, trailheads, staging areas) unless the development would have a net conservation gain to GRS habitat (such as concentrating recreation, diverting use away from important areas, etc.), or unless the development is required for visitor health and safety or resource protection.
Action RC 5: Evaluate recreation SRMAs for consistency with the Adaptive Management Strategy (Appendix D).
For existing SRMAs, recreation facilities or sites in all PHMA and GHMA, apply one or more of the following to get a neutral or positive response from Greater Sage-grouse populations using the adaptive management actions. Potential actions include, but are not limited to: <ul style="list-style-type: none"> • Seasonally close areas from March 1 to June 30 annually, and limit to existing roads, primitive roads, and trails, then designated routes upon completion of travel management plans. • Re-locate SRMAs in whole or in part, through land use plan amendments, in order to reduce

Table 2-3
Description of the Proposed Plan Actions by BLM Resource Program by BLM Resource Program

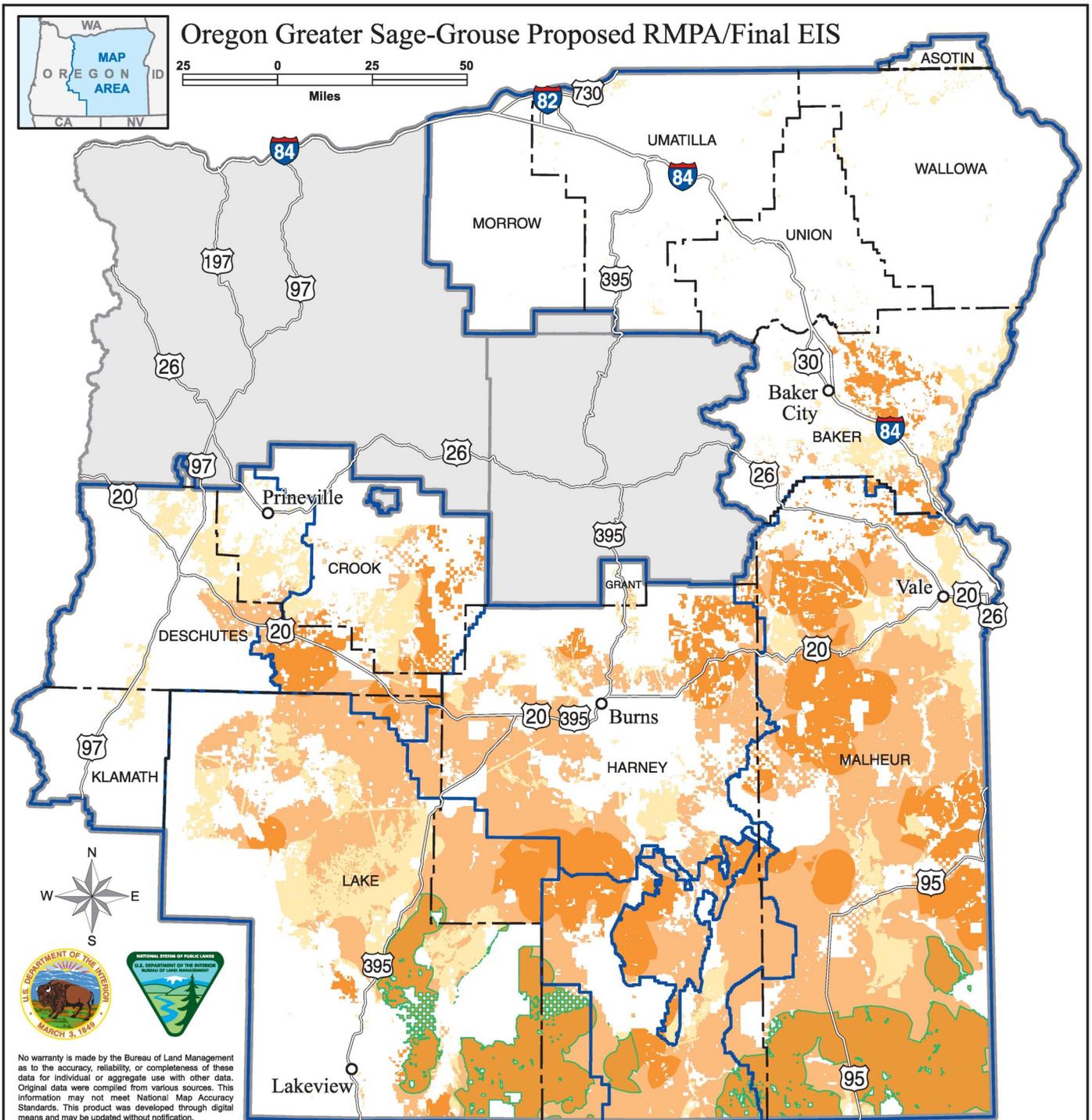
Proposed Plan
negative effects on GRSG.
Action RC 6: Promote and encourage education and outreach regarding Greater Sage-grouse at kiosks and other public education sites. Promote, publish and engage public regarding the American Birding Association Principles of Birding Ethics.

On October 27, 2014, the USFWS provided the BLM and Forest Service a memorandum titled "[Greater Sage-Grouse: Additional Recommendations to Refine Land Use Allocations in Highly Important Landscapes](#)". The memorandum and associated maps provided by the USFWS identify areas that represent recognized "strongholds" for GRSG that have been noted and referenced as having the highest densities of GRSG and other criteria important for the persistence of the species. Within these areas, the BLM/Forest Service identified Sagebrush Focal Areas (SFAs), which are PHMA with the following additional management (**Figure 2-2**):

1. Recommended for withdrawal from the Mining Law of 1872, subject to valid existing rights.
2. Managed as NSO, without waiver, exception, or modification, for fluid mineral leasing.
3. Prioritized for management and conservation actions in these areas, including, but not limited to review of livestock grazing permits/leases (see livestock grazing section for additional actions).

Habitat Objectives

Seasonal habitat indicators and desired condition values (i.e., habitat objectives) for GRSG habitat on Oregon BLM lands in the planning area are identified in **Table 2-4**, Fine and Site-scale Seasonal Habitat Indicators and Desired Condition Values for Greater Sage-Grouse Habitat on Oregon BLM Lands in the Planning Area. Habitat indicator values are derived from Connelly et al. (2000) with adjustments made to some values where supported by regional plant productivity and habitat use data from peer reviewed studies conducted within Oregon. The BLM recognizes a large degree of spatial and temporal variation exists in the indicators. Herbaceous production is closely tied to annual precipitation and temperature, which vary widely. Thus, in dry years, some indicator values may be unachievable, particularly at low elevation.



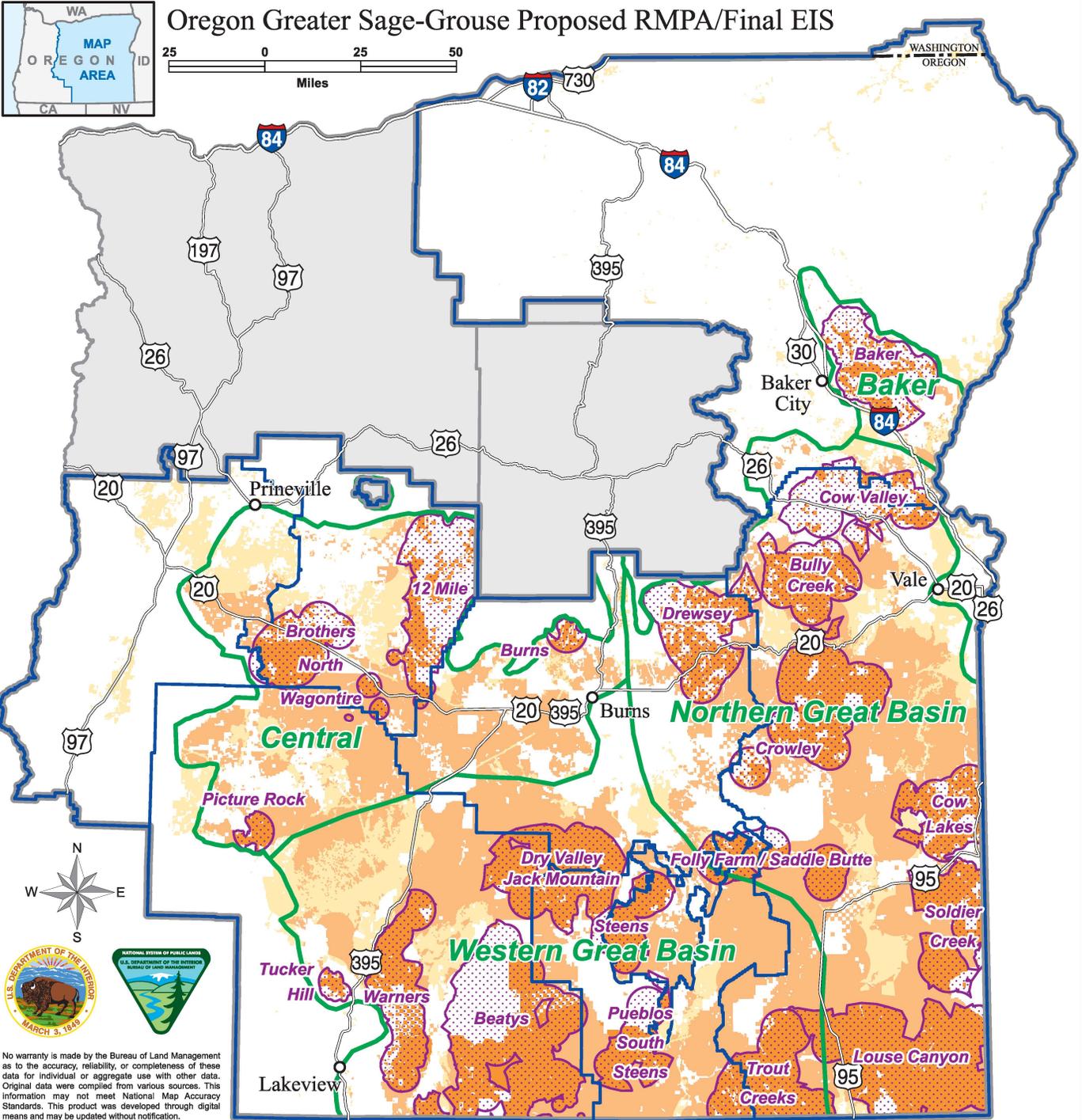
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Legend

- BLM Office
- Greater Sage-Grouse RMP Boundary
- Greater Sage-Grouse Planning Area
- Non-GRSG RMP Area
- BLM Administered Land
 - Priority Habitat Management Area
 - Sagebrush Focal Area
 - General Habitat Management Area
 - Other BLM

Figure 2-2: Sagebrush Focal Areas and Greater Sage-Grouse Habitat in the Planning Area Proposed Plan

Oregon Greater Sage-Grouse Proposed RMPA/Final EIS



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Legend

- BLM Office
- Greater Sage-Grouse RMP Boundary
- Greater Sage-Grouse Planning Area
- Non-GRSG RMP Area
- ▨ Oregon Priority Area for Conservation
- ▨ Greater Sage-Grouse Population
- BLM Administered Land**
- Priority Habitat Management Area
- General Habitat Management Area
- Other BLM

Figure 2-3: Oregon Priority Areas of Conservation and Sage-Grouse Populations in the Planning Area

The desired conditions are not to be used as strict prescriptions, but would be used in conjunction with the applicable land health standard in GRSG habitats. The objectives can be used to characterize the habitat within a specific seasonal range, consistent with the steps described in the Sage-Grouse Habitat Assessment Framework (Stiver et al. 2010, or as updated). However, some indicators are appropriately measured only at the site or stand scale. Furthermore, a single habitat indicator does not necessarily define habitat suitability for an area or particular scale (Stiver et al. 2010, or as updated). Overall site suitability descriptions require an interpretation of the relationships between the indicators and other factors. Indicators must be collectively reviewed and assessed relative to ecological site potential, and put into spatial and temporal context to correctly determine habitat suitability, which would include more than one scale and multiple indicators.

BLM based the habitat objectives in the plan on extensive research conducted throughout the range of GRSG, including study areas in Oregon. However, the spatial scale used to characterize GRSG habitat in nearly all studies is unclear. This discrepancy in scale between how researchers typically measure sagebrush structure and the scale at which BLM actually manages can lead to interpretation problems. Determining whether the herbaceous cover values meet the habitat guidelines carries a high degree of uncertainty.

BLM would address the uncertainty of measuring GRSG habitat quality indicators at the appropriate scales by using an appropriate sample design, described in the Greater Sage-Grouse Habitat Assessment Framework (Stiver et al. 2010, or as updated). Defining the scale of interest prior to sampling is critical to an appropriate study design. Stratified, random sampling of the seasonal habitat area based on land cover types and soils (ecological sites) would be appropriate for most habitat measurements. Moreover, no single habitat indicator value determines whether a given site is suitable for greater GRSG (Stiver et al. 2010, or as updated). Overall site suitability descriptions require an interpretation of the relationships between the indicators and other factors. Professional expertise and judgment are required for these assessments. In addition, the type of year (poor, average, or good production year) and time of year (phenology of plants) affects estimates of herbaceous cover on a given site (Elzinga et al. 1998).

The Habitat Objectives for Greater Sage-Grouse (**Table 2-4**) are a list of indicators and values that describe Greater Sage-Grouse seasonal habitat conditions. The values for the indicators were derived using a synthesis of current local and regional GRSG habitat research and data and reflect variability of ecological sites. The habitat cover indicators are consistent with existing indicators used by the BLM.

When determining if a site is meeting habitat objectives, the measurements from that particular site will be assessed based on the range of values for the indicators in the habitat objectives table. The habitat objectives table is one

component of sage-grouse multi-scale habitat assessment (see Monitoring Framework, Appendix G). The results of the habitat assessment will be used during the land health evaluation to ascertain if the land health standard applicable to sage-grouse habitat (e.g., special status species habitat standard) is being met.

When authorizing activities in sage-grouse habitat, the BLM will consider if habitat objectives are being achieved. If the habitat objectives are not being achieved, and the site has the potential for achieving these objectives, the BLM will determine the causal factor(s) and make the necessary management adjustments to address the causal factor(s), following current BLM regulations and policy.

These habitat objectives in **Table 2-4** summarize the characteristics that research has found represent the seasonal habitat needs for Greater Sage-Grouse. The specific seasonal components identified in the Table were adjusted based on local science and monitoring data to define the range of characteristics used in this sub-region. Thus, the habitat objectives provide the broad vegetative conditions we strive to obtain across the landscape that indicate the seasonal habitats used by sage-grouse. These habitat indicators are consistent with the rangeland health indicators used by the BLM.

Table 2-4
Fine and Site-scale Seasonal Habitat Indicators and Desired Condition Values for Greater Sage-Grouse Habitat on Oregon BLM Lands in the Planning Area

Attribute	Indicator	Desired Condition	Reference
Breeding Including Lekking, Pre-nesting, Nesting, and Early Brood Rearing (Seasonal Use Period March 1-June 30)			
Lek Security	Proximity of trees or other tall structures	No conifers or tall structures within 1.0 mile of lek center, and conifer cover less than 5% within 4.0 miles of lek, excluding old trees, culturally significant, actively used by special status species, and old growth juniper stands.	Connelly et al. 2000; Freese 2009; Baruch-Mordo et al. 2013; Knick et al. 2013
	Proximity of sagebrush to leks	Lek has adjacent sagebrush cover	Connelly et al. 2000
Cover	Sagebrush cover (%)	10 to 25	Doescher et al. 1986; Gregg et al. 1994; Hanf et al. 1994; Coggins 1998; Crawford and Carver 2000; Bates and Davies 2014; BLM 2015a
	Sagebrush height (inches)		Gregg et al. 1994; Hanf et al. 1994; Coggins 1998;
	Arid sites (warm-dry) Mesic sites (cool-moist)	11 to 31 15 to 31	Crawford and Carver 2000;

Table 2-4
Fine and Site-scale Seasonal Habitat Indicators and Desired Condition Values for Greater Sage-Grouse Habitat on Oregon BLM Lands in the Planning Area

Attribute	Indicator	Desired Condition	Reference
			Freese 2009
	Predominant sagebrush shape	Spreading	Connelly et al. 2000
	Perennial grass cover (%)		Gregg et al. 1994; Coggins 1998; Crawford and Carver 2000; Freese 2009; NRCS 2015; Bates and Davies 2014; Jon Bates, USDA ARS, pers. comm. 2/10/2015; BLM 2015a; BLM 2015b
	Arid sagebrush		
	Warm-dry	10 to 30	
	Shallow-dry	10 to 25	
	Mesic sagebrush		
	Cool-moist	20 to 45	
	Warm-moist	20 to 50	
	Perennial grass and forb height (inches) - most important and appropriately measured in nest area; excludes shallow-dry sites ¹		Gregg et al. 1994; Hanf et al. 1994; Crawford and Carver 2000; Hagen et al. 2007; Jon Bates, USDA ARS, pers. comm. 2/10/2015
	Arid sites (warm-dry)	≥ 7	
	Mesic sites (cool-moist)	≥ 9	
	Perennial forb cover (%) ²		Drut 1992; Drut et al. 1994; Crawford and Carver 2000; Freese 2009; NRCS 2015; Bates and Davies 2014; BLM 2015a; Jon Bates, USDA ARS, pers. comm. 2/10/2015; BLM 2015b
	Arid sagebrush		
	Warm-dry	2 to 10	
	Shallow-dry	2 to 10	
	Mesic sagebrush		
	Cool-moist	6 to 12	
	Warm-moist	5 to 15	
Food	Preferred forb diversity and availability	Preferred forbs are common with 5 to 10 species present. ²	Hanf et al. 1994; Crawford and Carver 2000; Freese 2009; Bates and Davies 2014; BLM 2015a; Jon Bates, USDA ARS, pers. comm. 2/10/2015
Available	% of seasonal habitat within		Connelly et al. 2000; Karl and Sadowski 2005; Evers 2010; Hagen 2011; NRCS 2015
Suitable	4.0 miles of leks meeting a		
Habitat	majority of the desired		
(Landscape	conditions		
Context)	Arid sagebrush	70 (55-85)	
	Mesic sagebrush	75 (60-90)	
Brood-rearing/Summer Including Late-brood Rearing, Summering, and Early Autumn (Seasonal Use Period July 1-October 31)			
Cover	Sagebrush cover (%)	10 to 25	Doescher et al. 1986; Drut et al. 1994; Connelly et al. 2000; Crawford and Carver 2000; Bates and Davies 2014; Jon Bates, USDA ARS, pers. comm. 2/10/2015

Table 2-4
Fine and Site-scale Seasonal Habitat Indicators and Desired Condition Values for Greater Sage-Grouse Habitat on Oregon BLM Lands in the Planning Area

Attribute	Indicator	Desired Condition	Reference
	Sagebrush height (inches)	15 to 31	Gregg et al. 1994; Hanf et al. 1994; Crawford and Carver 2000; Freese 2009
	Perennial herbaceous (grass and forbs) cover (%)		Drut et al. 1994; NRCS 2015; Bates and Davies 2014; BLM 2015b; Jon Bates, USDA ARS, pers. comm. 2/10/2015;
	Arid sagebrush	15 to 30	
	Warm-dry	10 to 25	
	Shallow-dry	20 to 45	
	Mesic sagebrush	30 to 55	
	Cool-moist	≥50	
	Warm-moist		
	Riparian ³		
	Riparian areas/mesic meadows	Majority of areas are in PFC	Stiver et al. 2010, or as updated
Food	Upland and riparian perennial forb availability	Preferred forbs are common with 5 to 10 species present. ⁴	Hanf et al. 1994; Freese 2009; Bates and Davies 2014; BLM 2015b; Jon Bates, USDA ARS, pers. comm. 2/10/2015
Available Suitable Habitat (Landscape Context)	% of seasonal habitat within 4.0 miles of leks meeting a majority of the desired conditions		Connelly et al. 2000; Karl and Sadowski 2005; Evers 2010; Hagen 2011; NRCS 2015
	Arid sagebrush	70 (55-85)	
	Mesic sagebrush	75 (60-90)	
Winter Including Late Autumn and Winter (Seasonal Use Period November 1-February 28)			
Cover and Food	Sagebrush cover above snow (%)	≥ 10	Willis 1990 (in Hagen 2011); Bruce 2011
	Sagebrush height above snow (inches)	≥ 10	Willis 1990 (in Hagen 2011); Bruce 2011
Available Suitable Habitat (Landscape Context)	% of wintering habitat meeting a majority of the desired conditions		Connelly et al. 2000; Karl and Sadowski 2005; Evers 2010; NRCS 2015
	Arid sagebrush	70 (55-85)	
	Mesic sagebrush	85 (68-100)	

¹Perennial grass and forb minimum height may not be achievable in years with below normal precipitation. Other indicators of desired conditions may still render the site suitable, however.

²In very dry years, forb cover and availability may not be at the desired condition, and in certain plant associations such as Wyoming big sagebrush/Needle and Thread, these indicators may rarely be achieved even in years with normal precipitation.

³Riparian includes swales, wet meadows, and intermittent/ephemeral streams.

⁴Sage grouse preferred forbs are listed in Chapter 3, Vegetation.

The habitat objectives will be part of the sage-grouse habitat assessment to be used during land health evaluations (see Monitoring Framework, Appendix G). These habitat objectives are not obtainable on every acre within the designated GRSG habitat management areas. Therefore, the determination on whether the objectives have been met will be based on the specific site's ecological ability to meet the desired condition identified in the table.

All BLM use authorizations will contain terms and conditions regarding the actions needed to meet or progress toward meeting the habitat objectives. If monitoring data show the habitat objectives have not been met nor progress being made towards meeting them, there will be an evaluation and a determination made as to the cause. If it is determined that the authorized use is a cause, the use will be adjusted by the response specified in the instrument that authorized the use.

The Proposed Plan's primary objective is to maintain or enhance GRSG habitat to establish a mix of sagebrush classes (**Table 2-5, Desired Mix of Sagebrush Classes by Sagebrush Type for Proposed Plan and Alternative D**) so as to provide a sustainable habitat for the GRSG. The sagebrush and cover classes identified in the table are derived from the ODFW's Greater Sage-Grouse Conservation Assessment and Strategy for Oregon: A Plan to Maintain and Enhance Populations and Habitat (Hagen 2011) and Assessing Big Sagebrush at Multiple Spatial Scales: An Example in Southeast Oregon (Karl and Sadowski 2005). The BLM has modified the mix to account for the amount of vegetation cover that can currently be supported by the landscape.

**Table 2-5
Desired Mix of Sagebrush Classes by Sagebrush Type for Proposed Plan and Alternative D**

Sagebrush Type	General Description	Characteristic Plant Community	Class 1 (A) ²	Class 2 (A) ²	Class 3 (A, B) ²	Class 4 (A, B) ²	Class 5 (A) ²
Shallow-dry	Very shallow soils and very dry sites not capable of producing at least 600 pounds per acre of grass on any sites or in any type of year. ¹	Low sagebrush/Sandberg's bluegrass; includes the driest Wyoming big sagebrush types	20% (15-25%)	50% (35-60%)	30% (20-45%)	N/A ³	N/A ³
Warm-dry	Shallow to moderately deep soils and dry sites capable of producing at least 600 pounds	Wyoming big sagebrush/bluebunch wheatgrass-Thurber's needlegrass; includes some moderately productive low	15% (0-25%)	15% (0-25%)	25% (10-40%)	45% (25-70%)	N/A ³

**Table 2-5
Desired Mix of Sagebrush Classes by Sagebrush Type for Proposed Plan and Alternative D**

Sagebrush Type	General Description	Characteristic Plant Community	Class 1 (A)²	Class 2 (A)²	Class 3 (A, B)²	Class 4 (A, B)²	Class 5 (A)²
	per acre of grass only on best sites or in wet years. ¹	sagebrush sites and dry mountain big sagebrush sites					
Cool-moist	Moderately deep to deep soils and moist sites capable of producing at least 600 pounds per acre of grass on average and high productivity sites or average and wet years. ¹	Mountain big sagebrush-Idaho fescue; includes productive low sagebrush communities and highly productive Wyoming big sagebrush sites; may include antelope bitterbrush as a co-dominant with big sagebrush	5% (0-5%)	10% (0-15%)	20% (10-30%)	35% (20-60%)	30% (20-60%)

Note:

¹ Based on ecological site descriptions

² Median value and range, modified from Evers 2010

³ Site not capable of producing this class

Class 1: Early Seral; Class 2: Midseral Open Canopy; Class 3: Late Seral Closed Canopy for the Shallow-Dry Sagebrush Group, Late Seral Open Canopy for the Warm-Dry Sagebrush Group and Midseral Open Canopy for the Cool-Moist Sagebrush Group; Class 4: Late Seral Closed Canopy for the Warm-Dry Sagebrush Group and Late Seral Open Canopy for the Cool-Moist Group; Class 5: Late Seral Closed Canopy for the Cool-Moist Sagebrush Group (Karl and Sadowski 2005).

Key Areas of Critical Environmental Concern and Research Natural Areas

The Proposed Plan identifies three key ACECs and 15 key RNAs (Table 2-6, Key ACECs and RNAs for Proposed Plan) for GRSG conservation. These ACECs and RNAs were already designated under the existing district RMPs; the BLM is not designating any new ACEC or RNA under the Proposed Plan, and is not removing any existing ACEC or RNA. This subset of existing ACECs/RNAs identified areas having a high value for conservation of GRSG. These areas were identified because of the GRSG plant communities they contain and represent, they are predominantly in PHMA habitat, are used by GRSG, or are in close proximity to occupied habitat or leks.

A subset of Key ACECs/RNAs found in Alternative D was selected for the Proposed Plan using the following refined criteria. Key RNAs would include those with very high proportion of PHMA, are in PACs, either contain leks, are utilized by GRSG and have leks nearby (0.1 - 4 miles), and are comprised of an array of plant communities important to GRSG. For the Proposed Plan, two Key

**Table 2-6
Key ACECs and RNAs for Proposed Plan**

ACEC/RNA Name	Type	District	ACEC/RNA		
			ACEC/RNA Acres	RNA Acres Unavailable to Grazing	Estimated Reduction of AUMs
Abert Rim	ACEC	Lakeview	18,039	0	0
High Lakes	ACEC	Lakeview	38,952	0	0
Red Knoll	ACEC	Lakeview	11,119	0	0
TOTAL KEY ACEC			68,110	0	0
Black Canyon	RNA	Vale	2,639	2,640	225
Dry Creek Bench	RNA	Vale	1,637	622	101
East Fork Trout Creek	RNA	Burns	361	304	47
Fish Creek Rim	RNA	Lakeview	8,718	2,750	110
Foley Lake	RNA	Lakeview	2,228	1,269	51
Foster Flat *	RNA	Burns	2,687	0	0
Guano Creek—Sink Lakes *	RNA	Lakeview	11,185	0	0
Lake Ridge	RNA	Vale	3,860	769	229
Mahogany Ridge	RNA	Vale	682	155	22
North Ridge Bully Creek	RNA	Vale	1,569	164	46
Rahilly-Gravelly	RNA	Lakeview	18,678	8,282	630
South Bull Canyon	RNA	Vale	790	747	89
South Ridge Bully Creek	RNA	Vale	621	397	166
Spring Mountain	RNA	Vale	996	995	137
Toppin Creek Butte	RNA	Vale	3,998	2,865	504
TOTAL KEY RNA			60,652	21,957	2,388

Note: *Permitted livestock grazing is already removed

ACECs (Kiger Mustang and Powder River) were dropped from consideration as a key ACEC. Kiger Mustang ACEC was designated for its unique wild horse management value, not always compatible with GRSG management. The Powder River ACEC is within a Wild and Scenic River designation where GRSG values are already protected. Permitted activities that could impair scientific or education values of the RNAs (e.g., energy development, logging, road building, livestock grazing, and recreation use) are generally limited, restricted, or not allowed so to provide areas within the RNA that have intact ecological conditions and processes. The Proposed Plan Key RNAs would be unavailable for livestock grazing on 22,765 acres. Seven potential Key RNAs identified in Alternative D, were dropped from consideration because they either had lower amounts of PHMA (Hawksie Walksie, Keating Riparian), already had protections limiting actions (Jordan Craters, Little White Horse), were areas where fencing the area was extremely difficult or because of wild horses or other factors (Palomino Playa and Coal Mine Basin), or the RNA did not have the array plant communities important for GRSG (Spanish Lake), even though it was in predominately in PHMA.

In the three key ACECs, BLM actions and activities would continue following existing RMP direction as well as the goals, objectives and actions, and other applicable PHMA and GHMA actions defined in other program areas (e.g. vegetation, fire, livestock, realty, etc.). Permitted actions like livestock grazing would continue following existing allotment management plans and ACEC direction in the BLM Manual 1613 (ACEC). While GRSG is a value identified for High Lakes ACEC and Red Knoll ACEC in the existing RMP, it would be added as a value for the Abert Rim ACEC. GRSG leks occur in all three key ACECs. Site specific ACEC activity plans identifying actions to conserve and manage the ACEC values and GRSG would be developed within five years.

Permitted livestock grazing would be unavailable for grazing within 5 years on all or portions of 13 of the 15 key RNAs. Permitted livestock grazing has already been removed from 2 of the 15 key RNAs (Guano Creek-Sink Lakes RNA and Foster Flat RNA). Fencing 21,957 acres with approximately 39 miles of fence in 13 RNAs would provide areas where natural successional processes would proceed for long-term monitoring of the plant communities important for GRSG and research. Additionally, to minimize fencing miles, and to avoid disturbance to existing leks, and use existing pasture fences, it is necessary to fence 800 acres of small areas adjacent to 9 of the 15 RNAs in order to reduce the miles of fence, tie into existing pasture fences, and minimize any impacts on existing leks. Grazing would continue to be authorized in the remaining pastures within the allotments and in the remaining open areas in the RNA following the current AMPs. Site specific RNA activity plans identifying actions to conserve and manage the RNA values and to utilize these areas for baseline research for plant communities important for GRSG will be developed for the 15 Key RNAs within 5 years following BLM Manual 1613 and Oregon State Office BLM Manual Supplement 1623. The other 30 RNAs, as well as the 45 ACECs within PHMA or GHMA would remain open to livestock grazing following existing RMPs.

Habitat Disturbance Cap

GRSG have low tolerance for human disturbances, such as frequently traveled roads, oil and gas development, and exurban development (Aldridge et al. 2008; Kirol 2012; Holloran 2005; Johnson et al. 2011; Knick and Connelly 2011; Copeland 2013; Knick et al. 2013; Leu and Hanser 2011; Wisdom et al. 2011). Knick et al. (2013) reported 99 percent of leks (3,184) known to be active between 1998 and 2007 were in landscapes with less than 3 percent development. All lands surrounding leks were less than 14 percent developed and had less than 25 percent agriculture and little conifer or grassland cover. The National Technical Team (NTT 2011) has recommended managing priority GRSG habitats (i.e., PHMA) such that discrete anthropogenic disturbances cover less than 3 percent of the total GRSG habitat, regardless of ownership. Because population declines can occur in areas with less than 3 percent human disturbance (Knick 2013), the proposed disturbance cap is best viewed as a metric to be avoided rather than an objective or allowance to be attained. Thus, the disturbance cap would be combined with other regulatory and voluntary

approaches to address direct and indirect threats to all GRSG habitats. However, BLM has management authority only for the lands it administers. The disturbance cap would be administered cooperatively by the BLM and the State of Oregon. Disturbance calculations have been further refined in **Appendix I**.

There is a 3 percent habitat disturbance cap, regardless of land ownership, for Alternatives B and D and the Proposed Plan. The threats that cause habitat disturbance or degradation are identified in Table 2 of the GRSG Monitoring Framework (Appendix G). The habitat disturbance cap for Alternatives B and D and the Proposed Plan applies to these threats. The method for calculating the disturbance cap is explained in **Appendix I**. A proposed project must clear the disturbance cap at two distinct scales: Oregon PAC (equivalent to BSU) and project. If a proposed project would reach or exceed the cap at either scale, the BLM could not authorize the project. Threats that reduce sagebrush availability, including agriculture, urbanization, wildfire, conifer encroachment, vegetation treatments, and invasive plant species, do not count toward the habitat disturbance cap. However, the cap for Alternative F applies to anthropogenic disturbances and fire. Under all action alternatives, the disturbance cap on anthropogenic disturbances must be combined with other mitigation measures to ensure that all direct and indirect threats to GRSG habitat are fully mitigated (see Appendix E, Mitigation).

Strategic Areas

The Proposed Plan establishes management actions across GRSG habitat on BLM-administered lands in Oregon. It also recognizes that not all GRSG habitat is of equal importance and that the BLM's resources must be prioritized and directed toward areas that would most benefit the GRSG over the long term. In the Draft RMPA/DEIS Alternative D, a focal area concept was identified. That term has been changed to Strategic Areas. Thus, in order to focus the BLM's management attention and resources, this alternative identifies a network of GRSG strategic (this replaces the Oregon focal area concept in the DEIS/RMPA) areas (see **Table 2-7**, Strategic Areas in Planning Area) within eastern Oregon (**Figure 2-4**, Strategic Areas in the Planning Area). The strategic areas cover a total of 5,169,871 acres, with 3,778,694 acres in PHMA and 1,391,178 acres in GHMA. Strategic areas are not land allocations. Strategic areas represent local options for restoration activities related to projects or potential locations for compensatory mitigation. The boundaries of strategic areas would change over time as habitat shifts and GRSG populations move across the landscape. These boundaries would be updated as new information becomes available and would complement SFA and priorities determined by Fire and Invasives Assessments.

As mentioned above, the Proposed Plan identifies a network of GRSG strategic areas. This network is composed of three types of areas: climate change consideration areas, high-density breeding areas, and restoration opportunity areas. Climate change consideration areas are generally high elevation areas

**Table 2-7
Strategic Areas in Planning Area**

Proposed GRSG Strategic Areas	GHMA Acres	PHMA Acres	Outside of GRSG Habitat	Total Strategic Area Acres
Climate change consideration areas	738,075	1,484,514	249,019	2,222,588
High-density breeding areas	70,839	2,194,123	6,747	2,264,962
Restoration opportunity areas	693,181	1,853,720	38,999	2,546,901
Any strategic area regardless of type	1,391,178	3,778,694	280,995	5,450,866

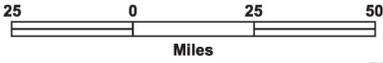
Note: Many of the strategic areas may have multiple classifications. As an example, one area may be classified as a high-density breeding area and a climate change consideration area. Acres were calculated by classification and thus are duplicated for those areas with more than one classification.

(typically above 5,000 feet) with limited habitat disturbance. The BLM has identified these areas as likely to provide the best habitat for the GRSG over the long term, according to recent climate change modeling. High-density breeding areas are high-quality habitat with a high density of active GRSG leks (patches of ground used for communal display in the breeding season). Restoration opportunity areas are within existing GRSG habitat that, if restored, can provide better quality habitat and greater habitat connectivity for GRSG; these areas can also serve as a buffer to protect higher priority strategic areas. The BLM has identified these areas in order to help focus and prioritize the following:

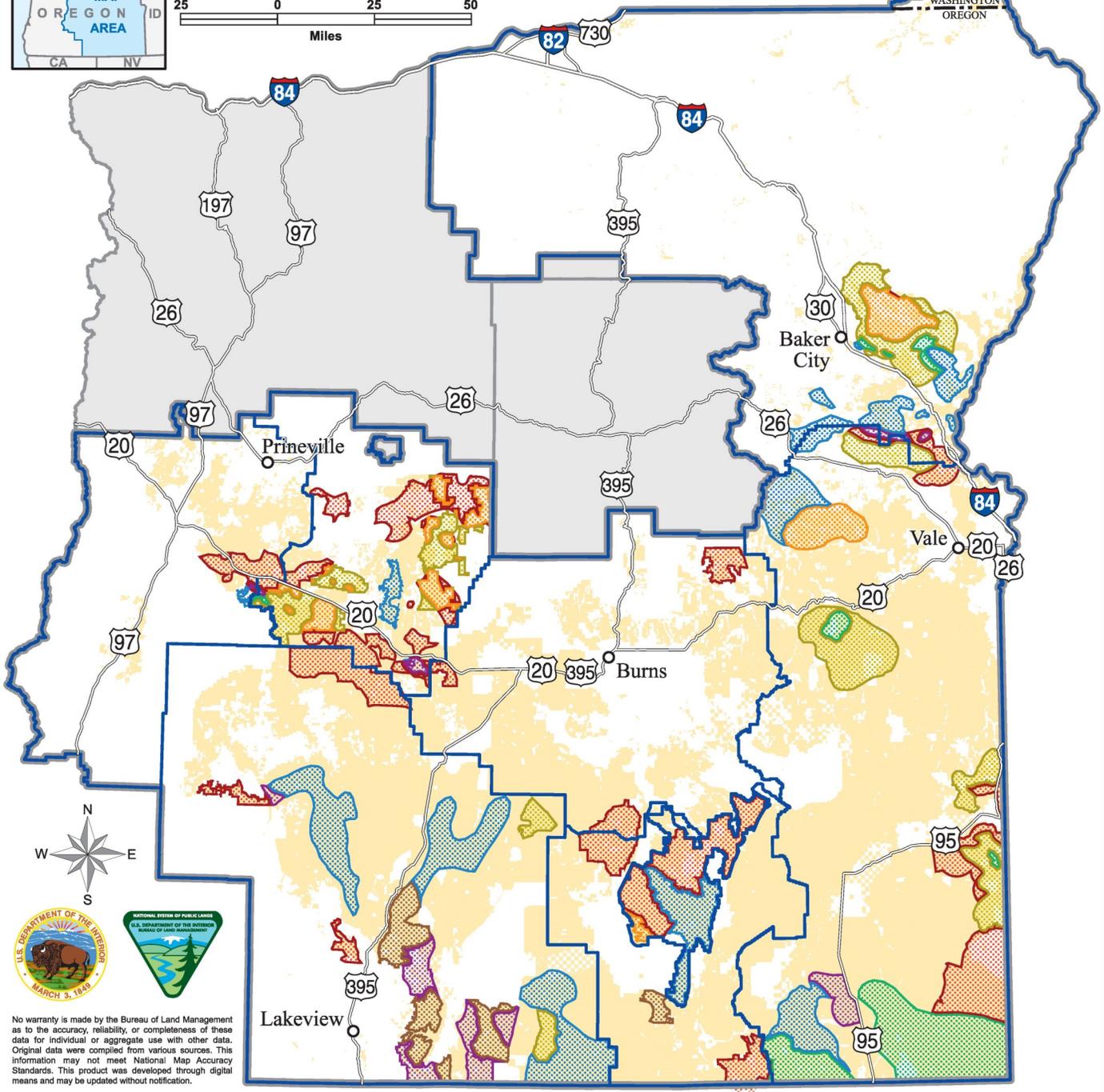
Unlike land allocations, the GRSG strategic areas do not have any management actions defined for them, as they establish priorities for only certain types of BLM administrative actions and do not restrict or prohibit activities. Furthermore, the strategic areas are not meant to be permanently fixed to a given area and are expected to shift over time as the landscape changes and the habitat most important to the GRSG shifts.

Changes to strategic area boundaries would be based on the best available science and data and would be made conservatively, when there are clear habitat or population shifts. The intent of the strategic areas is to benefit the GRSG over the long term; thus, changes to boundaries would be made only on a time-scale relevant to observing such benefits. Thus, for restoration opportunity areas and high-density breeding areas, boundary changes would be made approximately every ten years; in climate change consideration areas boundary changes would be made every 20 years. The BLM would coordinate as needed with and seek the input of USFWS and ODFW on any changes to the strategic area boundaries.

Oregon Greater Sage-Grouse Proposed RMPA/Final EIS



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OREGON



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Legend

- | | | | |
|---|-----------------------------------|--|--|
| ○ | BLM Office | | |
| — | Greater Sage-Grouse RMP Boundary | | Climate Change Consideration Area (CCCA) |
| — | Greater Sage-Grouse Planning Area | | Restoration Opportunity Area (ROA) |
| — | Non-GRSG RMP Area | | High Density Breeding Area (HDBA) |
| | BLM Administered Land | | CCCA / ROA |
| | | | CCCA / HDBA |
| | | | ROA / HDBA |
| | | | CCCA / ROA / HDBA |

Figure 2-4: Strategic Areas in the Planning Area

Additionally, unlike land allocations, the strategic areas include private lands. These are identified in order to provide information about potential restoration opportunities to private landowners who might be interested in partnering with the BLM to conserve quality GRSG habitat. As always, the BLM's decisions are limited to the lands it administers. Finally, in a number of instances the GRSG strategic areas overlap existing land allocations. These include congressionally designated areas and administratively designated areas. In all cases, BLM management would remain consistent with the underlying congressional or administrative designation. Management to conserve the GRSG would not impair the values for which these areas were designated.

Strategic areas may be designated for more than one reason (for example, restoration opportunity areas and climate change consideration areas), so there is some overlap of the total acres.

Climate change is likely to alter habitat conditions for GRSG in ways that BLM cannot mitigate, although the timing of when such changes would occur is not known. Climate change is neither linear nor steady, instead proceeding in fits and starts with periods of slow change and rapid change. While climate scientists have high confidence that temperatures will increase, confidence in precipitation changes remains only moderate at best. Yet, precipitation amount, type, and timing are major drivers of rangeland vegetation (Polley et al. 2013, Reeves et al. 2014) and, hence, quality and quantity of GRSG habitat. Several studies indicate that the range for big sagebrush is likely to shift northward and upward, although there is considerable variation in results (e.g., Schlaepfer et al. 2012, Schlaepfer et al. 2015, Still and Richardson 2015).

Buffers

Spatial and temporal buffers are used to prevent disturbance to GRSG (**Table 2-8**, Greater Sage-Grouse Buffers). Buffers were developed based on peer-reviewed literature (Connelly et al. 2000; Holloran 2005; Doherty et al. 2011; Johnson et al. 2011; Stevens 2012; Wisdom et al. 2011; Patricelli et al. 2012; Coates et al. 2013). Additional information and references used to establish lek buffers are found in Hagen (2011), ODFW (2012), and Manier et al. (2014).

Spatial buffers establish a distance (radius) from the center of a lek within which certain human activities would not be permitted. Temporal buffers establish a season and/or time of day when specific human activities would not be allowed within the spatial buffer. In addition, upper limits to noise resulting from authorized activities are identified in the RDFs. Breeding season, from March 1 through June 30, tends to be the most sensitive time of year for GRSG. Birds on leks are especially sensitive to human disturbance. Males appear on leks just prior to sunrise during the early part of the display season and depart shortly after sunrise (Jenni and Hartzler 1978). As the season progresses, males arrive

**Table 2-8
Greater Sage-Grouse Buffers**

Resource Program	Activity	Temporal Buffer	Spatial Buffer Miles from Lek	
			PHMA	GHMA
Vegetation - Habitat Restoration Action VG 3	Sagebrush cutting or removal	nesting and early brood-rearing (March 1 through June 30)	4	4
Vegetation - Habitat Restoration Action VG 4	Juniper cutting	breeding season (March 1 through June 30) - two hours before and after sunrise and sunset.	4	4
Vegetation - Habitat Restoration Action VG 5	Vegetation management activities that are timing-sensitive for maximum effectiveness	no more than 5 days during the breeding and early brood-rearing period (March 1 through June 30; use local information to further refine this period)	4	4
Livestock Grazing and Range Management Action LG/RM 9	Reduce collision risk through fence removal, modification, or marking in areas with "high" collision risk	NA	1.2	1.2
Livestock Grazing and Range Management Action LG/RM 10	Livestock facilities and placement of livestock supplements	NA	1.2	1.2
Special Status Species Action SSS 13	Infrastructure: New anthropogenic disturbance.	NA	1	1
Leasable Minerals— Unleased Federal Fluid Mineral Estate Action MLS 3	Fluid minerals development in GHMA	NA	NA	1
Recreation Action RC 1	New non-motorized SRPs	breeding season (March 1 to June 30)	3	3
Recreation Action RC 2	Motorized and/or race SRPs, or competitive SRPs	breeding season (March 1 to June 30)	4	4
Travel Management Action TM 8	Upgrading primitive roads	NA	4	4

on the leks earlier and remain later, especially when hens are present (Jenni and Hartzler 1978). During peak attendance, males may display for up to 3-4 hours each morning and often during the late evening and night (Connelly et al. 2004).

Based on radio telemetry data (n = 493) from Oregon, >80% and 50% of nests were within 4.0 and 1.65 miles of the nearest lek, respectively (Hagen 2011). Coates et al. (2013) found that nearly 90 percent of seasonal use in the GRSG Bi-State Distinct Population Segment bordering California and Nevada occurred within 3 miles of active leks. Smaller buffers can provide protection to birds on the lek and in adjacent suitable habitat used for feeding, loafing, and nesting. Sagebrush adjacent to the lek is also used as escape cover from predators or other types of disturbance. Stevens et al (2012) noted the risk of GRSG collision with fences extends out to 1.2 miles of leks. The basis for the smallest buffer radius, 1 mile from a lek, is data from studies of daytime movements of adult male GRSG during the breeding season (Carr 1967; Wallestad and Schladweiler 1974; Rothenmaier 1979; Emmons 1980; Schoenberg 1982).

Required Design Features and Best Management Practices

Required Design Features (RDFs) are means, measures, or practices intended to reduce or avoid adverse environmental impacts. This RMPA/EIS proposes a suite of design features that would establish the minimum specifications for water developments, certain mineral development, and fire and fuels management and would mitigate adverse impacts. These design features would be required to provide a greater level of regulatory certainty than through implementing Best Management Practices (BMPs).

In general, the design features are accepted practices that are known to be effective when implemented properly at the project level. However, their applicability and overall effectiveness cannot be fully assessed except at the project-specific level when the project location and design are known. Because of site-specific circumstances, some features may not apply to some projects (e.g., when a resource is not present on a given site) or may require slight variations from what is described in the RMPA/EIS (e.g., a larger or smaller protective area). All variations in design features would require appropriate analysis and disclosure as part of future project authorizations. Additional mitigation measures may be identified and required during individual project development and environmental review. The proposed RDFs and BMPs are presented in **Appendix C**, Greater Sage-Grouse Habitat Required Design Features and Best Management Practices.

Fire

Continued use of prescribed fire in GRSG habitat is scientifically controversial with most GRSG biologists against the use of prescribed fire and most fire ecologists supporting the use of prescribed fire to achieve specific management objectives. The Proposed Plan intends to increase heterogeneity in dense sagebrush, thereby potentially altering wildfire burn patterns, limiting dominance

potential of invasive annual grasses, and increasing production of forbs important to GRSG while maintaining at least 15 percent sagebrush cover. The Proposed Plan involves a paradigm shift for prescribed fire, where BLM redefines burning success as heterogeneous burn patterns with less than half of the burn block blackened. This paradigm shift requires that fire managers develop new burning prescriptions and new approaches to ignition. Such prescriptions and techniques are untested so BLM does not know with certainty whether the required design features for prescribed burning in sagebrush would result in the desired outcomes. Early trials are likely to have mixed results as fire managers test different prescriptions and ignition patterns to determine what works and what does not.

2.7 ADAPTIVE MANAGEMENT, MONITORING, AND MITIGATION

In making amendments to this plan, the BLM will coordinate with the FWS as BLM continues to meet its objective of conserving, enhancing and restoring GRSG habitat by reducing, minimizing or eliminating threats to that habitat.

Adaptive management strategies would be applied to the Proposed Plan and Alternative D.

2.7.1 Adaptive Management Plan

Adaptive management is a decision process that promotes flexible resource management decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps with adjusting resource management directions as part of an iterative learning process. Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a ‘trial and error’ process, but rather emphasizes learning while doing. Adaptive management does not represent an end in itself, but rather a means to more effective decisions and enhanced benefits.

In relation to the BLM’s National Greater Sage-grouse Planning Strategy, adaptive management will help identify if GRSG conservation measures presented in this FEIS provide effective habitat and population protections. Principles of adaptive management are incorporated into the conservation measures in the plan to ameliorate threats to a species, thereby increasing the likelihood that the conservation measure and plan will be effective in reducing threats to that species. The following provides the BLM’s adaptive management strategy for the Oregon sub-region is found in **Appendix D**.

Adaptive Management and Monitoring

This EIS contains a monitoring framework plan (**Appendix G**) that includes an effectiveness monitoring component. The agency intends to use the data collected from the effectiveness monitoring to identify any changes in habitat conditions related to the goals and objectives of the plan and other range-wide conservation strategies (US Department of the Interior 2004; Stiver et al. 2006;

U.S. Fish and Wildlife Service 2013). The information collected through the Monitoring Framework Plan will be used by the BLM to determine when adaptive management hard and soft triggers (discussed below) are met.

Adaptive management requires stakeholder involvement as well as agency involvement in order to succeed. Subject to the provisions of FACA, the adaptive management working team will contact representatives from other federal agencies, research, environmental groups, producer groups, user groups, tribes, and local government as needed for suggestions and comments on potential final responses (see **Appendix D**).

Adaptive Management Triggers

Soft Triggers

Soft triggers represent an intermediate threshold indicating that management changes are needed at the project/implementation level to address habitat and population losses. If a soft trigger is reached, the BLM will apply more conservative or restrictive implementation conservation measures to mitigate for the specific causal factor in the decline of populations and/or habitats, with consideration of local knowledge and conditions. For example, monitoring data within an already federally authorized project area within a given GRSG population area indicates that there has been a slight decrease in GRSG numbers in this area. Data also suggests the decline may be attributed to GRSG collisions with monitoring tower guy-wires from this federally authorized project. BLM then receives an application for a new tower within the same GRSG population area. The response would be to require the new authorization's tower guy-wires to be flagged. Monitoring data then shows the decline is curtailed. The adaptive management soft trigger response is to require future applications to flag for guy-wires. These types of adjustments will be made to reduce the probability of tripping a "hard" trigger (which signals more severe habitat loss or population declines). While there should be no expectation of hitting a hard trigger, if unforeseen circumstances occur that trip either a habitat or population hard trigger, more restrictive management will be required. The soft trigger and the proposed management response to this trigger are presented in **Appendix D**.

Hard Triggers

Hard triggers represent a threshold indicating that immediate plan-level action is necessary to stop a severe deviation from GRSG conservation objectives as set forth in the BLM plans. The hard trigger and the proposed management response to this trigger are presented in **Appendix D**.

2.7.2 Monitoring for the Greater Sage-grouse Planning Strategy

The BLM's planning regulations, specifically 43 CFR 1610.4-9, require that land use plans establish intervals and standards for monitoring based on the sensitivity of the resource decisions. Land use plan monitoring is the process of

tracking the implementation of land use plan decisions (implementation monitoring) and collecting data/information necessary to evaluate the effectiveness of land use plan decisions (effectiveness monitoring). For GRSG, these types of monitoring are also described in the criteria found in the Policy for Evaluation of Conservation Efforts When Making Listing Decisions (50 CFR Vol. 68, No. 60). One of the Policy for Evaluation of Conservation Efforts When Making Listing Decisions criteria evaluates whether provisions for monitoring and reporting progress on implementation (based on compliance with the implementation schedule) and effectiveness (based on evaluation of quantifiable parameters) of the conservation effort are provided.

A guiding principle in the BLM National Sage-grouse Conservation Strategy (US Department of the Interior 2004) is that “the Bureau is committed to GRSG and sagebrush conservation and will continue to adjust and adapt our National Sage-grouse Strategy as new information, science, and monitoring results evaluate effectiveness over time.” In keeping with the WAFWA Sage-grouse Comprehensive Conservation Strategy (Stiver et al. 2006) and the Greater Sage-grouse Conservation Objectives: Final Report (USFWS 2013), the BLM will monitor implementation and effectiveness of conservation measures in GRSG habitats.

On March 5, 2010, USFWS’ 12-Month Findings for Petitions to List the Greater Sage-Grouse (*Centrocercus urophasianus*) as Threatened or Endangered were posted as a Federal Register notice (75 Federal Register 13910-14014, March 23, 2010). This notice stated:

“...the information collected by BLM could not be used to make broad generalizations about the status of rangelands and management actions. There was a lack of consistency across the range in how questions were interpreted and answered for the data call, which limited our ability to use the results to understand habitat conditions for sage-grouse on BLM lands.”

Standardization of monitoring methods and implementation of a defensible monitoring approach (within and across jurisdictions) will resolve this situation. The BLM and other conservation partners use the resulting information to guide implementation of conservation activities.

Monitoring strategies for GRSG habitat and populations must be collaborative, as habitat occurs across jurisdictional boundaries (52 percent on BLM-administered lands, 31 percent on private lands, 8 percent on National Forest System lands, 5 percent on state lands, 4 percent on tribal and other federal lands) (75 *Federal Register* 13910, March 23, 2010), and state fish and wildlife agencies have primary responsibility for population level wildlife management, including population monitoring. Therefore, population efforts will continue to be conducted in partnership with state fish and wildlife agencies. The BLM has finalized a monitoring framework, which can be found in **Appendix G**. This framework describes the process that the BLM will use to monitor

implementation and effectiveness of RMP decisions. The monitoring framework includes methods, data standards, and intervals of monitoring at broad and mid scales; consistent indicators to measure and metric descriptions for each of the scales; analysis and reporting methods; and the incorporation of monitoring results into adaptive management. The need for fine-scale and site-specific habitat monitoring may vary by area depending on existing conditions, habitat variability, threats, and land health. Indicators at the fine and site scales will be consistent with the Habitat Assessment Framework; however, the values for the indicators could be adjusted for regional conditions.

More specifically, the framework discusses how the BLM will monitor and track implementation and effectiveness of planning decisions (e.g., tracking of waivers, modifications, site-level actions). The BLM will monitor the effectiveness of RMP decisions in meeting management and conservation objectives. Effectiveness monitoring will include monitoring disturbance in habitats, as well as landscape habitat attributes. To monitor habitats, the BLM will measure and track attributes of occupied habitat, priority habitat, and general habitat at the broad scale, and attributes of habitat availability, patch size, connectivity, linkage/connectivity habitat, edge effect, and anthropogenic disturbances at the mid-scale. Disturbance monitoring will measure and track changes in the amount of sagebrush in the landscape and changes in the anthropogenic footprint, including change energy development density. The framework also includes methodology for analysis and reporting for field offices, states, and BLM districts, including geospatial and tabular data for disturbance mapping (e.g., geospatial footprint of new permitted disturbances) and management actions effectiveness.

The BLM, in cooperation with the ODFW and USFWS will use monitoring data to verify GRSG habitat suitability and PHMA and GHMA. Habitat suitability maps can be updated without changing habitat management areas. The ODFW plans to update and revise its core area and low-density maps. This will be done as new information is acquired on winter habitat use, lek distribution, disturbance thresholds to various types of development, and success of mitigation measures (Hagen 2011). The BLM will use this and other information to determine if adjustments to PHMA and GHMA are needed. Management area adjustments will be made periodically through plan maintenance or amendment.

2.7.3 Regional Mitigation

Consistent with the Proposed Plan's goal, the intent of the Oregon Sub-region Greater Sage-Grouse Proposed Plan Amendment is to provide a net conservation gain to the species. Net conservation gain is the actual benefit or gain above baseline conditions. To do so, in undertaking BLM management actions, and, consistent with valid existing rights and applicable law, in authorizing third party actions that result in habitat loss and degradation, the BLM will require and ensure mitigation that provides a net conservation gain to the species including accounting for any uncertainty associated with the

effectiveness of such mitigation. Actions which result in habitat loss and degradation include those identified as threats which contribute to GRSG disturbance as identified by the USFWS in its 2010 listing decision (75 FR 13910) and shown in Table 2 in Appendix G. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions. This is also consistent with BLM Manual 6840—Special Status Species Management, Section .02B, which states “to initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of the need for listing of these species under the ESA.”

Mitigation Standards

In undertaking BLM management actions, and, consistent with valid existing rights and applicable law, in authorizing third party actions that result in habitat loss and degradation, the BLM will require and ensure mitigation that provides a net conservation gain to the species including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions. Mitigation will follow the regulations from the White House Council on Environmental Quality (CEQ) (40 CFR 1508.20; e.g. avoid, minimize, and compensate), hereafter referred to as the mitigation hierarchy. If impacts from BLM management actions and authorized third party actions that result in habitat loss and degradation remain after applying avoidance and minimization measures (i.e. residual impacts), then compensatory mitigation projects will be used to provide a net conservation gain to the species. Any compensatory mitigation will be durable, timely, and in addition to that which would have resulted without the compensatory mitigation (see the concepts of durability, timeliness, and additionality as described further in **Appendix E**).

Greater Sage-Grouse Conservation Team

The BLM will establish a WAFWA Management Zone Greater Sage-Grouse Conservation Team (hereafter, Team) to help guide the conservation of greater GRSG, within 90 days of the issuance of the Record of Decision. This Team will develop a WAFWA Management Zone Regional Mitigation Strategy (hereafter, Regional Mitigation Strategy). The Team will also compile and report on monitoring data (including data on habitat condition, population trends, and mitigation effectiveness) from States across the WAFWA Management Zone (see Monitoring section). Subsequently, the Team will use these data to either modify the appropriate Regional Mitigation Strategy or recommend adaptive management actions (see Adaptive Management section).

The BLM will invite governmental and Tribal partners to participate in this Team, including the State Wildlife Agency and U.S. Fish and Wildlife Service, in compliance with the exemptions provided for committees defined in the Federal Advisory Committee Act and the regulations that implement that act. The BLM will strive for a collaborative and unified approach between Federal agencies (e.g. FWS, BLM), Tribal governments, state and local government(s), and other

stakeholders for greater GRSG conservation. The Team will provide advice, and will not make any decisions that impact Federal lands. The BLM will remain responsible for making decisions that affect BLM-administered lands.

Developing a Regional Mitigation Strategy

The Team will develop a Regional Mitigation Strategy to inform the mitigation components of NEPA analyses for BLM management actions and third party actions that result in habitat loss and degradation. The Strategy will be developed within one year of the issuance of the Record of Decision. The BLM's Regional Mitigation Manual MS-1794 will serve as a framework for developing the Regional Mitigation Strategy. The Regional Mitigation Strategy will be applicable to the States/Field Offices within the WAFWA Management Zone's boundaries.

Regional mitigation is a landscape-scale approach to mitigating impacts on resources. This involves anticipating future mitigation needs and strategically identifying mitigation sites and measures that can provide a net conservation gain to the species. The Regional Mitigation Strategy developed by the Team will elaborate on the components identified above (i.e. avoidance, minimization, and compensation; additionality, timeliness, and durability) and further explained in **Appendix E**.

In the time period before the Strategy is developed, BLM will consider regional conditions, trends, and sites, to the greatest extent possible, when applying the mitigation hierarchy and will ensure that mitigation is consistent with the standards set forth in the first paragraph of this section.

Incorporating the Regional Mitigation Strategy into NEPA Analyses

The BLM will include the avoidance, minimization, and compensatory recommendations from the Regional Mitigation Strategy in one or more of the NEPA analysis' alternatives for BLM management actions and third party actions that result in habitat loss and degradation and the appropriate mitigation actions will be carried forward into the decision.

Implementing a Compensatory Mitigation Program

Consistent with the principles identified above, the BLM needs to ensure that compensatory mitigation is strategically implemented to provide a net conservation gain to the species, as identified in the Regional Mitigation Strategy. In order to align with existing compensatory mitigation efforts, this compensatory mitigation program will be implemented at a State-level (as opposed to a WAFWA Management Zone or a Field Office), in collaboration with our partners (e.g. Federal, Tribal, and State agencies).

To ensure transparent and effective management of the compensatory mitigation funds, the BLM will enter into a contract or agreement with a third-party to help manage the State-level compensatory mitigation funds, within one year of the issuance of the Record of Decision. The selection of the third-party

compensatory mitigation administrator will conform to all relevant laws, regulations, and policies. The BLM will remain responsible for making decisions that affect Federal lands.

2.8 DRAFT RMPA/EIS ALTERNATIVES

The following are alternatives to the Proposed Plan and were presented and analyzed in the Draft RMPA/EIS. Some alternatives have been refined based on public comment; for example, Alternative D management actions were clarified or revised for wildland fire, invasive species, conifer encroachment, and livestock grazing. Alternatives D and F management actions were clarified or revised for ACECs/RNAs. Also, management actions common to all alternatives were expanded.

2.8.1 Management Common to All Alternatives

Allowable uses and management actions from the existing RMPs that remain valid and do not require revision have been carried forward to all of the proposed alternatives. Although each alternative emphasizes a slightly different mix of resources and resource uses, all of the alternatives contain the following common elements:

- Compliance with state and federal laws, regulations, policies, and standards, including FLPMA multiple use mandates. This would include authorization of future actions qualifying as federal undertakings under Section 106. Those actions would require separate NEPA analyses and decisions at a later time.
- Implementation of actions originating from laws, regulations, and policies and conformance with day-to-day management, monitoring, and administrative functions not specifically addressed.
- Preservation of valid existing rights, which include any leases, claims, or other use authorizations established before a new or modified authorization, change in land designation, or new or modified regulation is approved; existing fluid mineral leases are managed through conditions of approval.
- Collaboration through partnerships and communication with adjacent landowners, federal and state agencies, tribes, communities, and other agencies, individuals, and organizations, as needed, to monitor and implement decisions to achieve desired resource conditions. This includes outreach and education, monitoring, and project-specific activities.
- In 2012, the Sage-Grouse Conservation Partnership (SageCon) was convened at the request of the Oregon Governor's office to formulate an "all lands, all threats" approach to GRSG conservation both to address the USFWS's GRSG listing decision in 2015 and to support community sustainability in central and eastern Oregon. SageCon's overarching goal is to demonstrate how Oregon is

implementing the policies and conservation actions needed to adequately reduce threats to GRSG and Oregon's sagebrush ecosystem. The primary product of SageCon will be an amendment to the Oregon Sage-Grouse Plan for Oregon. The plan will achieve the following:

- update the status of the species and its habitat conditions,
- identify existing conservation measures that have been implemented in Oregon since 2010 to reduce threats to the species
- formulate new regulatory and voluntary programs in Oregon.

The plan has been developed in cooperation with local governments and public and private land managers to create more predictability and certainty in the permitting process and to ensure that mitigation dollars are invested in the highest value GRSG habitat.

- Protection of people and property from wildfire.
- Interagency coordination with cooperating agencies, such as rangeland fire protection associations (RFPAs) and rural fire protection districts (RFPDs), for fire management is addressed in Fire Management Plans and Cooperative Agreements. No changes in RMPs are required to implement, revise, or enhance these agreements.
- Continuation of BLM policies on vegetation management, such as using best available science, using native plant species in rehabilitation and restoration, and controlling invasive plant species.
- The BLM would develop and implement candidate conservation agreements (CCAs) or their successors, in cooperation with the USFWS and permittees. The Programmatic CCA, signed in May 2013, is an agreement among the USFWS, the BLM, and the Oregon Cattlemen's Association (OCA). This umbrella agreement identifies conservation measures that benefit GRSG and enrolls individual livestock grazing allotments. These agreements are voluntary and would help lessen threats to GRSG, while supporting livestock grazing practices that are beneficial or neutral to GRSG. Monitoring is required. No changes in existing laws, regulations, or policies are needed to implement the CCA.
- Candidate conservation agreements with assurances (CCAAs) are voluntary agreements between USFWS and private landowners, that leverage beneficial land management practices to further reduce threats across the landscape. Private landowners who enroll under

the GRSG Programmatic CCAA commit to implement specific conservation measures on their property in exchange for an Enhancement of Survival permit. This is in accordance with Section 10(a)(1)(A) of the USFWS's Endangered Species Act (ESA), which assures the enrolled landowner that additional conservation measures will not be required. It also assures them that additional land, water, or resource use restrictions will not be imposed under the ESA if GRSG are listed on the ESA after landowners have enrolled (Sitz 2014).

- This landscape-scale, integrated approach to conservation across landownerships provides the greatest likelihood that listing will not be necessary; thus, this approach carries the greatest certainty that additional conservation measures beyond those in the CCA will not be necessary.
- The BLM has considerable discretion through its grazing regulations to determine and adjust stocking levels, seasons-of-use, and grazing management activities. It also can allocate forage to the lands it administers. Existing regulatory mechanisms, including the fundamentals for rangeland health, would continue to provide the basis for managing grazing in GRSG habitat. However, the proposed alternative would provide additional consistency in applying the standards for rangeland health for GRSG habitats. It would provide additional guidance for prioritizing land health assessments and review of grazing permits. This is to ensure that grazing management is compatible with attaining GRSG habitat objectives in the planning area. In addition, RDFs and best management practices would be adopted to reduce the effects of range improvements.
- The process described in The Indicators of Rangeland Health (Tech Ref 1734-6 Version 4 2005) is the foundation. In conjunction with other monitoring/inventory methods (for example, PFC and ESI), it evaluates the 17 core indicators that represent land health condition and trends. The BLM's Assessment Inventory and Monitoring Strategy (Toevs et al. 2011) assesses six core indicators and uses standardized methods of data collection. Assessments are conducted using either of these documents to determine if Oregon's five standards for rangeland health are met (see **Appendix N**). Specific to GRSG habitat and to supplement these assessment tools to determine attainment of Standard 5 (Native, Threatened and Endangered, and Locally Important Species), a fine and site-scale GRSG habitat assessment would be completed. This assessment would measure the GRSG habitat suitability indicators for seasonal habitats identified in the Habitat Assessment Framework (HAF; see **Appendix G**). Use of standardized monitoring method/assessment tools would allow the BLM to

report the status of public land health and implement management actions to address undesirable GRSG habitat conditions.

At the request of permittees whose allotments contain priority habitat on BLM-administered lands, candidate conservation agreements or their successors will be implemented. The purposes of these voluntary agreements are to remove or reduce threats to GRSG on BLM-administered lands and to assist in integrating private lands in the overall management strategy.

The priorities for gathering horses to maintain AML are based on population inventories, gather schedules, resource conditions, and budget. Gathers are also conducted in emergency situations, when the health of the population is at risk for lack of forage or water.

Direction for prioritizing horse gathers and maintaining AML is not based on GRSG habitat needs, although this is implicit in the congressional directive to maintain a thriving natural ecological balance. The national priorities for removals are as follows:

- Emergencies
- Court orders
- Situations of critical public safety and health due to nuisance animals
- Impacts on threatened, endangered, or sensitive species
- Animals located outside the HMA in areas not designated for their long-term maintenance
- Requests by private landowners
- Necessity of achieving and maintaining population size within AML
- Coordination of gathers across state, district, or field office boundaries

Gathers would be conducted jointly whenever possible to improve gather efficiency and implementation of other population control measures, such as application of fertility control and sex ratio adjustments. States annually submit their priorities for removal based on these criteria, but the BLM in Washington, DC, makes the final decision on removals.

Decisions made by this RMPA/EIS are anticipated to be subsequently implemented. Restrictions on resource uses (e.g., areas closed to leasing) made through this amendment apply for the life of the RMPs. Actions taken or authorized by the BLM during RMP implementation would comply with standard practices. Therefore, these practices are considered part of each alternative.

Where more restrictive land use allocations or decisions are made in existing RMPs, those more restrictive land use allocations or decisions will remain in effect and will not be amended by this RMPA.

2.8.2 Alternative A (No Action)

The No Action Alternative (Alternative A) represents the continuation of current management direction and proposes no new plan or management actions. CEQ regulations require a no action alternative to provide a baseline for comparing the other alternatives (CEQ 1981).

Alternative A would continue current management direction and prevailing conditions derived from the existing RMPs. Goals and objectives for resources and resource uses are based on the most recent RMP decisions, along with associated amendments, activity and implementation level plans, and other management decision documents. Laws, regulations, and BLM policies that supersede RMP decisions would apply.

Goals and objectives for BLM-administered lands and mineral estate would not change. Appropriate and allowable uses and restrictions pertaining to such activities as utility corridor construction, livestock grazing, mineral leasing and development, and recreation would also remain the same; however, education and outreach would occur according to the American Birding Association Principles of Birding Ethics. The BLM would not modify existing or establish additional criteria to identify site-specific use levels for implementation.

No single factor is the cause of declining GRSG populations. However, USFWS findings identify threats that have adversely affected the number of GRSG and the amount, distribution, and quality of their habitat. In its finding to list the GRSG, the USFWS identified the inadequacy of regulatory mechanisms as a major risk to the GRSG. The principal regulatory mechanism in BLM RMPs, as identified by the USFWS, is conservation measures.

The Oregon BLM planning team reviewed this RMPA/EIS for management decisions related to GRSG and their habitat. RMPs address the management of GRSG and their habitat in varying levels of detail and specificity.

Alternative A is composed of decisions established in the current RODs for the following RMPs: Andrews, Brothers/La Pine, Baker, Lakeview, Southeastern Oregon, the Steens Mountain Cooperative Management and Protection Area, Three Rivers, and Upper Deschutes. Alternative A also is composed of associated amendments, activity- and implementation-level plans, and other management decision documents. It also includes laws, regulations, and BLM policies that supersede RMP decisions.

IM 2012-044, the BLM National Greater Sage-Grouse Land Use Planning Strategy, requires that the BLM “consider all applicable conservation measures when revising or amending its RMPs in GRSG habitat,” including those developed by the NTT. IM 2012-044 would be superseded by the direction established in the ROD for the GRSG plan amendments, of which this Draft EIS is a part.

The IM provides interim guidance and does not provide the regulatory certainty that the USFWS has requested. Regulatory certainty will be an important factor in its decision on whether to list the GRSG under the ESA; however, regulatory certainty alone would not be enough for the USFWS to not list the species. As the IM and other existing guidance constitute existing decisions, the BLM has the option of carrying forward those decisions as part of the final ROD.

The individual RMPs in eastern Oregon addressed GRSG habitats and GRSG specifically at varying levels of priority; all of the RMP decisions in eastern Oregon were made before the new interim guidance was issued. For these reasons, there is often a disconnect between the new policy and existing policy. This adds to the uncertainty surrounding the management of the GRSG in eastern Oregon, which is especially evident with respect to vegetation management. This is because many of the RMPs do not address the specific habitat needs of the GRSG; therefore, they do not provide a strong basis for GRSG habitat conservation decisions.

Furthermore, the current RMPs do not address climate change. Based on current climate models and over the long term, changing climate conditions are expected to generally limit the area in which GRSG habitat could survive to above 5,000 feet in eastern Oregon (McKenney et al. 2007, 2011).

Also, many of the current RMPs do not address potential renewable energy development, which is an important consideration, both for economic purposes and for the conservation of GRSG habitat. This is because many of the same areas targeted for renewable development include GRSG habitat.

Finally, the current interim policy provides direction across a wide range of resources but without regard to specific local conditions; not all of the factors causing population decline across the range of the GRSG are equally relevant to eastern Oregon, and threats to habitat can and do vary within WAFWA MZs. For example, while high numbers of wild horses in Nevada have shown significant impacts on GRSG habitat, wild horse numbers have generally been maintained within AML in Oregon, minimizing those impacts. Also, disturbance of GRSG habitat from grazing are not consistent range wide. Habitat fragmentation is a bigger threat in the Prineville District than in the southern portions of the Burns and Vale Districts.

Appendix B, Greater Sage-Grouse Management in Oregon Sub-region Resource Management Plans, lists management actions in the current RMPs that are specific to GRSG and their habitat. These actions are from the RMPs being amended by this RMPA/EIS. Due to the variability and number of RMPs being amended, the description of Alternative A above is a broad discussion of general GRSG management, whereas **Appendix B** provides a more comprehensive collection of specific GRSG and sagebrush management.

2.8.3 Alternative B

The BLM used GRSG conservation measures in the National Technical Team (NTT) report (NTT 2011) to form management direction under Alternative B. The BLM was one of the members of the NTT. Its management actions, in concert with other state and federal agencies and private landowners, play a crucial role in the future trends of GRSG populations.

To ensure BLM management actions are effective and are based on the best available science, the National Policy Team (NPT) created the NTT in August 2011. The BLM's objective for chartering this planning strategy was to develop new or revised regulatory mechanisms, through RMPs to conserve and restore GRSG and its habitat on BLM-administered lands range-wide and over the long term. The key distinction about Alternative B is that its conservation measures are focused on PHMA (areas that have the highest conservation value to maintain or increase GRSG populations). They are also focused on Great Basin-wide concerns for GRSG.

2.8.4 Alternative C

During scoping for this RMPA/EIS, individuals and conservation groups submitted management direction recommendations for protecting and conserving GRSG and its habitat range-wide. The recommendations, in conjunction with resource allocation opportunities and internal sub-regional BLM input, were reviewed to develop BLM management direction for GRSG under Alternatives C and F. These alternatives contain a mixture of conservation measures from the NTT report and public input.

Conservation measures under Alternative C are focused on a passive restoration approach to PHMA and GHMA. GHMA is occupied seasonal or year-round habitat outside of PHMA. These areas have been identified by state fish and wildlife agencies in coordination with respective BLM offices. A noteworthy difference between Alternatives C and F is that Alternative C provides minimal guidance for resources, other than livestock grazing, and that most of the management allocations apply to both PHMA and GHMA.

Alternative C would use the authority under FLPMA to create large ACECs in all PHMA. These areas would be managed following the actions defined for PHMA under this alternative. These management actions constitute the special management attention following policy in BLM Manual 1613. ACECs already designated in the various RMPs would be managed according to that previously defined special management attention.

2.8.5 Alternative D

Alternative D is the BLM's Preferred Alternative. It emphasizes balancing resources and resource use among competing human interests and land uses and conserves natural and cultural resource values. At the same time it sustains and enhances ecological integrity across the landscape, including plant, wildlife, and fish habitat. Alternative D incorporates local adjustments to the NTT

report and habitat boundaries. This is to provide a balanced level of protection, restoration, enhancement, and use of resources and services to meet ongoing programs and land uses. Conservation measures under Alternative D are focused on both PHMA and GHMA.

Habitat Objectives

Alternative D's primary objective is to maintain or enhance GRSG habitat to establish a mix of sagebrush classes (**Table 2-5**) so as to provide a sustainable habitat for the GRSG. The sagebrush and cover classes identified in the table are derived from the ODFW's Greater Sage-Grouse Conservation Assessment and Strategy for Oregon: A Plan to Maintain and Enhance Populations and Habitat (Hagen 2011) and Assessing Big Sagebrush at Multiple Spatial Scales: An Example in Southeast Oregon (Karl and Sadowski 2005).

The BLM has modified the mix to account for the amount of vegetation cover that currently can be supported by the landscape. This objective allows for human-caused disturbance (including on-the-ground disturbance) to cover less than three percent of PHMA, regardless of ownership; it requires appropriate mitigation for habitat disturbance within PHMA and GHMA. It prioritizes enhancement and restoration of GRSG habitat in order to maintain or increase GRSG abundance and distribution. It also includes management actions, requirements, and stipulations to meet those objectives that are targeted to the resource issues and challenges specific to eastern Oregon GRSG. Actions described in this and all alternatives are subject to valid existing rights.

Key Areas of Critical Environmental Concern and Research Natural Areas

There were five key areas of critical environmental concern (ACECs) and 22 research natural areas (RNAs). These were identified from existing ACECs/RNAs, where the native plant communities they contain were thought to have value for conserving GRSG (**Table 2-9**). In the five key ACECs, on 142,112 acres, management would follow the existing RMP direction and applicable actions defined in other program areas, but the management of GRSG would be identified as a priority for these areas. In the 22 RNAs on 117,710 acres, the management objective is to provide areas where natural successional processes will proceed for long-term baseline monitoring of plant communities important for GRSG.

Permitted activities that could impair scientific or education values of the RNAs (e.g., energy development, logging, road building, livestock grazing, and recreation) are generally limited, restricted, or not allowed. This is to provide areas in the RNA that have intact ecological conditions and processes. Given this, these lands would be unavailable for livestock grazing on 63,287 acres. The criteria used to select key RNAs were those containing more than 20 percent PHMA or more than 50 percent GHMA, or both, and had plant communities important for GRSG.

**Table 2-9
Key ACECs and RNAs for Alternative D**

Name	Type	District	ACEC/RNA		Estimated AUM Reduced
			ACEC/RNA Acres	Acres Unavailable to Grazing	
Abert Rim	ACEC	Lakeview	18,039	0	0
High Lakes	ACEC	Lakeview	38,952	0	0
Red Knoll	ACEC	Lakeview	11,119	0	0
Kiger Mustang	ACEC	Burns	68,092	0	0
Powder River	ACEC	Vale	5,910	0	0
TOTAL ALTERNATIVE D KEY ACECs			142,112	0	0
Black Canyon	RNA	Vale	2,641	2,641	217
Coal Basin	RNA	Vale	756	756	71
Dry Creek Bench	RNA	Vale	1,637	1,637	262
East Fork Trout Creek	RNA	Burns	361	361	40
Fish Creek Rim	RNA	Lakeview	8,718	8,718	349
Foley Lake	RNA	Lakeview	2,228	2,228	87
Foster Flat*	RNA	Burns	2,687	0	0
Guano Creek—Sink Lakes*	RNA	Lakeview	11,185	0	0
Hawksie Walksie	RNA	Lakeview	17,307	17,307	818
Jordan Craters*	RNA	Vale	31,399	14,932	1,290
Keating Riparian	RNA	Vale	2,174	2,174	415
Lake Ridge	RNA	Vale	3,860	3,860	1,136
Little Whitehorse Creek*	RNA	Vale	61	0	0
Mahogany Ridge	RNA	Vale	682	682	82
North Ridge Bully Creek	RNA	Vale	1,569	1,569	431
Palomino Playa	RNA	Vale	646	646	22
Rahilly-Gravelly	RNA	Lakeview	18,678	18,681	1,419
South Bull Canyon	RNA	Vale	790	790	94
South Ridge Bully Creek	RNA	Vale	621	621	187
Spanish Lake	RNA	Lakeview	4,706	4,706	187
Spring Mountain	RNA	Vale	1,003	1,003	135
Toppin Creek Butte	RNA	Vale	3,998	3,998	703
TOTAL ALTERNATIVE D RNAs	RNA		117,660	98,446	7,948

*Partially or fully closed already

Long-term baseline monitoring would occur on 117,660 acres on the 22 RNAs. Grazing would be removed from 98,446 acres, reducing AUMs by 7,948. This represents a 0.82 percent reduction in all AUMs in the plan area.

Alternative D responds to the USFWS-identified threats to GRSG and their habitat in Oregon, as follows:

- Wildfire, invasive species, and conifer encroachment—Alternative D provides priorities for wildfire, fuels, sagebrush, and juniper treatments through FIAT assessments (see **Appendix H**); these follow the strategic approach detailed in Chambers et al. 2014. This strategic approach for conserving sagebrush ecosystems and GRSG focuses on threats to GRSG habitat from invasive annual grasses and altered fire regimes. It focuses on the sagebrush ecosystems and their resilience to disturbance and resistance to invasive annual grasses. Additionally, it considers the distribution, relative abundance, and persistence of GRSG populations. This is to develop conservation strategies at both broad landscape and site-specific scales.

A GRSG habitat matrix links the relative resilience and resistance of sagebrush ecosystems with GRSG habitat requirements to help land managers assess the relative risks and determine the appropriate management strategies to mitigate those risks. Focal areas for management actions are prioritized by overlaying matrix components with GRSG priority areas for conservation (PACs), breeding bird densities, and specific habitat threats. Decision tools are included to help determine the most appropriate management treatments for each of the focal areas that are identified.

- Mining—Where the COT report identifies mining as a threat to PPH, for example, for the central Oregon population, Alternative D allows for withdrawals from mineral entry but does not recommend areas for withdrawal itself. With regard to fluid mineral development, Alternative D establishes various regulatory mechanisms to protect PHMA and GHMA, including various applications of no surface occupancy (NSO) stipulations (**Appendix F**). Also, PHMA would be closed to new salable mineral material site development, but existing sites would be maintained.
- Livestock grazing—GRSG habitat objectives are more likely to be achieved where rangeland health standards are being met. Where rangeland health standards are not being met due to livestock grazing, the BLM would prescribe adjustments to grazing at the allotment level, including adjusting permits and other necessary actions. This is to achieve or progress toward achieving rangeland health standards, which should help maintain or improve GRSG habitat with suitable rating.
- The BLM will also implement as appropriate the habitat assessment framework (Stiver et al. 2010, or as updated), or values adjusted for regional conditions, in priority landscapes to provide the greatest benefit to GRSG. Also, in designated wild horse and burro herd management areas, HMA plans would incorporate direction

regarding priority GRSG habitat characteristics to attain a suitable habitat rating.

- Infrastructure—Management of the GRSG under Alternative D is directed primarily at PHMA. This is identified as an avoidance area, with several exceptions, for new realty actions, including ROWs. Also in PHMA, motorized travel would be limited to existing routes. Exceptions would be granted for administrative access and other specifically exempted uses.
- Roads and trails would be seasonally restricted March 1 through June 30; they would be limited to existing routes the rest of the year. Again, exceptions would be granted for administrative access and other specifically exempted uses. Maps of existing routes in the planning area are held on file in the BLM Oregon State Office and are available for public review at the following BLM websites: <http://www.blm.gov/wo/st/en/prog/more/sagegrouse/oregon.html> and <http://www.blm.gov/or/energy/opportunity/sagebrush.php>.

Alternative D follows the same approach as Alternative B; it targets GHMA for conservation, enhancement, or restoration to restore GRSG habitat connectivity. It also identifies GHMA for potential to become PHMA and prioritizes those areas for enhancement and restoration.

Strategic Area Approach

Alternative D establishes management actions across GRSG habitat in eastern Oregon. It also recognizes that not all GRSG habitat is of equal importance and that the BLM's resources must be prioritized and directed toward areas that will most benefit the GRSG over the long term. Thus, in order to focus the BLM's management attention and resources, this alternative identifies a network of GRSG strategic areas (**Table 2-7**) in eastern Oregon. The strategic areas cover a total of 5,169,871 acres, with 3,778,694 acres in PHMA and 1,391,178 acres in GHMA.

Strategic areas are not land allocations but represent the best options for restoration for projects or for potential locations for compensatory mitigation sites. The boundaries of these strategic areas will change over time as habitat shifts and GRSG populations move across the landscape. These boundaries will be updated as new information becomes available. The strategic areas network is composed of three types of strategic areas: climate change consideration areas, high-density breeding areas, and restoration opportunity areas.

Climate change consideration areas are typically above 5,000 feet, with limited habitat disturbance. The BLM has identified these areas as likely to provide the best habitat for the GRSG over the long term, according to recent climate change modeling.

High-density breeding areas are high-quality habitat with a high density of active GRSG leks (patches of ground used for communal display in the breeding season).

Restoration opportunity areas are those in existing GRSG habitat that, if restored, can provide better quality habitat and greater habitat connectivity for GRSG; these areas can also serve as a buffer to protect higher priority strategic areas. The BLM has identified these areas in order to help focus and prioritize the following:

- Habitat restoration
- Compensatory mitigation, consistent with the principles and standards of the Draft BLM Manual MS-1794 (Off[-]Site Mitigation). The following website is for MS-1794, as of November 1, 2013: http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/im_attachments/2013.Par.57631.File.dat/IM2013-142_att1.pdf
- Conservation partnering
- GRSG habitat and population monitoring and assessments
- Post-fire emergency stabilization and rehabilitation

Restoration opportunity areas are afforded special consideration during fire suppression to help sustain productive GRSG habitat. This approach establishes management actions to conserve GRSG habitat across PHMA and GHMA. It also prioritizes actions to benefit the GRSG, for which there are limited resources, and directs them to the identified strategic areas.

The GRSG strategic areas are not land allocations, nor are any management actions defined for them, as they establish priorities for only certain types of BLM administrative actions and do not restrict or prohibit activities.¹ Furthermore, the strategic areas are not meant to be permanently fixed to a given area; they are expected to shift over time as the landscape changes and the habitat most important to the GRSG shifts adaptively.

Changes to strategic area boundaries would be based on the best available science and data and would be made conservatively, when there are clear habitat or population shifts. The intent of the strategic areas is to benefit the GRSG over the long term; thus, boundaries would be changed only on a timescale relevant to observing such benefits. Thus, for restoration opportunity areas and high-density breeding areas, boundary changes would be made only

¹See the Land Use Planning Handbook BLM H-1601-1, p. 13: “Land use plans must identify uses, or allocations, that are allowable, restricted, or prohibited on the public lands and mineral estate. These allocations identify surface lands and/or subsurface mineral interests where uses are allowed, including any restrictions that may be needed to meet goals and objectives.”

every ten years; in climate change consideration areas boundary changes would be made every 20 years. The BLM would coordinate as needed with and seek the input of the USFWS and ODFW on any changes to the strategic area boundaries.

Additionally, unlike land allocations, the strategic areas include private lands. These are identified in order to provide private landowners who might be interested in partnering with the BLM to conserve quality GRSG habitat. As always, the BLM's decisions are limited to the lands it administers. Finally, in a number of instances the GRSG strategic areas overlap existing land allocations. These include congressionally designated areas and administratively designated areas. In all cases, BLM management will remain consistent with the underlying congressional or administrative designation. Management to conserve the GRSG will not impair the values for which these areas were designated.

Strategic areas may be designated for more than one reason (for example, restoration opportunity areas and climate change consideration areas), so there is some overlap of the total acres.

Habitat Mitigation

CEQ regulations for NEPA state that mitigation includes avoiding, minimizing, rectifying, reducing, eliminating, or compensating for adverse environmental impacts (CEQ 1981). Mitigation measures must be analyzed as part of the EIS process (40 CFR, Part 1505.2[c]). The BLM's off-site mitigation policy is guided by the Draft Regional Mitigation Manual, Section 1794 (BLM 2013a). The manual provides policies, procedures, and instructions for identifying and implementing appropriate mitigation on-site or outside the area of impact for particular land use authorizations.

On-site mitigation measures are implemented in the area of impact. They are the primary and best means of avoiding, minimizing, rectifying, reducing, or eliminating the impacts of proposed actions (see also 40 CFR, Part 1508.20, or BLM 2008a, Section 6.8.4). On-site mitigation measures are most frequently incorporated into the proposed action or the alternatives as project design features or BMPs and are not usually specifically recognized as mitigation actions during a NEPA analysis.

Compensatory mitigation is supplemental to on-site mitigation.

PHMA and GHMA—In priority and general management areas, the applicable BLM district office would analyze, at the NEPA project level, specific compensatory mitigation measures. The purpose would be to compensate for the adverse environmental impacts. This would be in areas where adverse environmental impacts could not be avoided, minimized, rectified, or reduced to acceptable levels through on-site mitigation. Those unavoidable adverse impacts would be mitigated for.

In PHMA, it is the BLM's intention that adverse environmental impacts would be a rare occurrence; all efforts to avoid such impacts would be taken before determining that adverse environmental impacts were unavoidable. Similarly, in GHMA, the BLM would make every effort to avoid adverse environmental impacts before determining that adverse environmental impacts were unavoidable.

Site selection—Compensatory mitigation would be directed to GRSG strategic areas, principally those identified as restoration opportunity areas. These are zones with an increased likelihood of success for restoration. Restoration opportunity areas should benefit GRSG and other sagebrush-dependent species. The BLM would identify potential mitigation sites, looking first to nearby strategic areas. Mitigation sites should be of similar habitat potential to the impacted area. They would be selected based on the potential success of habitat enhancement or restoration to bring the area to the same quality or better as the impacted habitat. Priority would be given to mitigation sites near the impacted area, and mitigation would be implemented consistent with the principles and standards in the Draft BLM Manual MS-1794 (Off[-]Site Mitigation).

Quantification of the impacted area—To quantify the area of impact and to determine how much mitigation is required, the unavoidable impacted area and corresponding off-site mitigation ratios and acreage would be determined in coordination with the ODFW and USFWS. This would be consistent with the ODFW Mitigation Framework for Sage-Grouse Habitats (ODFW 2012) and with this plan's mitigation goal of no net loss, with net benefit to GRSG habitat.

Mitigation ratios may be increased due to the years to decades typically required to restore sagebrush habitat that GRSG depend on and because of the uncertainty of the successful in-kind mitigation for any loss of GRSG habitat. By coordinating with the state's mitigation framework, federal, state, and local agencies in Oregon are more likely to calculate mitigation requirements in a consistent manner across the GRSG range in Oregon, regardless of landownership (**Appendix E**).

Collaboration—The BLM would collaborate with the ODFW and USFWS in selecting off-site compensatory mitigation measures.

2.8.6 Alternative E

Greater Sage-Grouse Conservation Assessment and Strategy for Oregon: A Plan to Maintain and Enhance Populations and Habitat (the state plan) and supporting background information are intended to promote effective management of GRSG and intact functioning sagebrush (*Artemisia* spp.) in Oregon (Hagen 2011). The state plan describes the ODFW's proposed management of GRSG. It also provides guidance for public land management agencies and land managers for GRSG conservation. GRSG conservation guidelines in the state plan are designed to maintain (at a minimum) or enhance

the quality (the optimum) of current habitats. The guidelines will also assist resource managers in achieving the population and habitat objectives of the state plan.

Alternative E contains GRSG conservation guidelines from the state plan. Not all issues identified in the guidelines (e.g., juniper encroachment) are relevant to all regions of the state; because of this, only GRSG conservation guidelines from the state plan that are applicable to the areas covered by this RMPA/EIS are incorporated into Alternative E.

Greater Sage-Grouse Conservation Strategy for Oregon

Goals, policies, and objectives for GRSG population management and habitat management have been adopted into Oregon Administrative Rule (OAR), Chapter 635, Division 140. This OAR chapter establishes the state policy for the protection and enhancement of GRSG in Oregon. This policy will be implemented by ODFW staff, as described in the state plan.

According to OAR 635-140-0000 (<http://www.dfw.state.or.us/OARs/140.pdf>), in accordance with the Wildlife Policy (Oregon Revised Statutes 496.012), the primary goal is to restore, maintain, and enhance populations of GRSG such that multiple uses of populations and their habitats can continue. Regional and state population objectives would be identified based on the best information available.

The following population management is found in OAR 635-140-0005:

- Policy—Manage GRSG statewide to maintain or enhance their abundance and distribution at the 2003 spring breeding population level, which is approximately 30,000 birds over the next 50 years
- Objectives—Consistent with the population management policy, achieve the following regional population objectives:
 - Baker Resource Area BLM—maintain or enhance GRSG abundance and distribution at the 2003 spring breeding population level, approximately 2,000 birds
 - Vale District BLM (excluding Baker Resource Area BLM)—maintain or enhance GRSG abundance and distribution at the 2003 spring breeding population level, approximately 11,000 birds
 - Burns District BLM—maintain or enhance GRSG abundance and distribution at the 2003 spring breeding population level, approximately 4,300 birds
 - Lakeview District BLM—maintain or enhance GRSG abundance and distribution at the 2003 spring breeding population level, approximately 9,400 birds

- Prineville District BLM—restore GRSG abundance and distribution near the 1980 spring breeding population level, approximately 3,000 birds

The following habitat management is found in OAR 635-140-0010:

- Habitat goals
 - maintain or enhance the distribution of sagebrush habitats within GRSG range in Oregon
 - manage those habitats in a variety of structural stages to benefit GRSG
- Policy
 - manage a minimum of 70 percent of GRSG range for sagebrush habitat in advanced structural stages, sagebrush class 3, 4, or 5, with an emphasis on classes 4 and 5; The remaining approximately 30 percent includes areas of juniper encroachment, non-sagebrush shrubland, and grassland and should be managed to increase available habitat within GRSG range
- Objective—To maintain and enhance existing sagebrush habitats and enhance potential habitats that have been disturbed such that there is no net loss of sagebrush habitat in
 - Baker Resource Area BLM—82 percent sagebrush and 18 percent disturbed habitats
 - Vale District BLM (excluding Baker Resource Area)—70 percent sagebrush and 30 percent disturbed habitats
 - Burns District BLM—68 percent sagebrush and 32 percent disturbed habitats
 - Lakeview District BLM—72 percent sagebrush and 28 percent disturbed habitats
 - Prineville District BLM—47 percent sagebrush and 53 percent disturbed habitats

Fish and Wildlife Habitat Mitigation Policy

The ODFW’s Fish and Wildlife Habitat Mitigation Policy (OAR, Chapter 635, Division 415) guides it in evaluating the potential impact of development actions on fish and wildlife habitat. The policy classifies habitat into one of six categories, depending on the importance of the habitat to a specific species of fish or wildlife. The more important the habitat is to a particular species, the greater the potential that disturbing the habitat would have a negative impact on the species.

The policy sets guidelines to reduce, offset, or avoid the impact on fish and wildlife habitat. Specific terms are used in the policy to define the importance of

the habitat to a particular species (ODFW 2012a; <http://www.dfw.state.or.us/OARs/415.pdf>).

According to the Fish and Wildlife Habitat Mitigation Policy, category I habitat is irreplaceable essential habitat for a fish or wildlife species or population or for a unique assemblage of species. It is limited on either a physiographic province or site-specific basis, depending on the individual species, population, or unique assemblage.

The mitigation goal for category I habitat is no loss of either quantity or quality. The ODFW would protect category I habitats by recommending or requiring one of the following:

- Avoid impacts through alternatives to the proposed development action
- Do not authorize the proposed development action if impacts could not be avoided

Mitigation Framework for Sage-Grouse Habitats

Mitigation Framework for Sage-Grouse Habitats (ODFW 2012b) outlines interim guidance for developing ODFW habitat mitigation recommendations. These are associated with renewable energy development and associated infrastructure or other landscape-scale industrial-commercial developments in GRSG habitat. The guidance is interim until empirical data are available that quantify the effects of such development on GRSG populations. The following website is for mitigation framework for sage-grouse habitats: http://www.dfw.state.or.us/wildlife/sagegrouse/docs/Oregon_Sage-grouse_Mitigation_Framework_3-20-12_Revision.pdf.

Mitigation framework for sage-grouse habitats focuses on GRSG habitat needs only as they pertain to sagebrush. There may be other species that also require mitigation. Sagebrush habitats not in core or low-density areas may serve as important links for GRSG movement and provide habitat for sagebrush-dependent species. These habitats will be categorized under the ODFW's mitigation policy, but such sites will be evaluated on a case-by-case basis to determine the appropriate classification (ODFW 2012b).

The framework outlined in Mitigation Framework for Sage-Grouse Habitats provides a method for quantifying only the area of impact. Basic project design rules or stipulations related to construction and maintenance (e.g., micro-siting, timing restrictions, and general project design) would remain an integral part of recommendations to decision-makers (ODFW 2012b). These recommendations are to be implemented under the core area approach, as described in Greater Sage-Grouse Conservation Assessment and Strategy for Oregon: A Plan to Maintain and Enhance Populations and Habitats (Hagen 2011). Specifically, the

proposed method of habitat quantification is intended for projects that will impact GRSG habitat (ODFW 2012b).

As project proposals are submitted to land management and planning authorities, ODFW biologists will consider available information, including on-site analysis to answer the following questions (ODFW 2012b):

- Are the habitats those on which GRSG depend?
- Is there evidence of GRSG presence?
- Is the site-specific habitat both essential and irreplaceable?

If the project were in a core area and a site-specific analysis were to result in affirmative answers to these questions, then the ODFW recommendation would be to avoid impacts on those habitats. This would be consistent with habitat category I recommendations under the Fish and Wildlife Habitat Mitigation Policy (ODFW 2012b).

To meet the objective of the Fish and Wildlife Habitat Mitigation Policy with respect to GRSG habitats in low-density areas, mitigation sites would be prioritized and selected based on the following criteria in order of preference (ODFW 2012b):

1. Core areas that occur in a conservation opportunity area or other landscapes with on-going GRSG conservation actions
2. Core areas that occur outside of a conservation opportunity area
3. Low-density areas that occur in a conservation opportunity area or other landscapes with ongoing GRSG conservation actions
4. Low-density areas that occur outside of a conservation opportunity area

Conservation opportunity areas are landscapes of high biological integrity, as identified in the Oregon Conservation Strategy (ODFW 2006). These areas have an increased likelihood of success with respect to conservation actions and should benefit GRSG and other sagebrush-dependent species.

ODFW Greater Sage-Grouse Habitats

IM 2012-044 directs the BLM to collaborate with state wildlife agencies to identify and map PPH and PGH. In Oregon, the BLM developed a PPH and PGH map based on the ODFW's sage-grouse core areas map (ODFW 2011). The map did not include all general GRSG habitat, so the BLM collaborated with the ODFW and the BLM National Operations Center to add a layer with general habitat data. However, the terminology used to define GRSG habitat differs between agencies, and this could cause confusion during the land use planning process.

The discussion below describes the interagency coordination to map PPH and PGH and to address various terminologies.

The ODFW GRSG core areas map identified two categories of habitat: core area habitat and low-density habitat. Definitions for these habitats were consistent with PPH and PGH, respectively; however, low-density habitat and PGH were not interchangeable. Whereas PGH included all known occupied or suitable sagebrush habitat, low-density habitat did not. Of the 10,742,785 acres of sagebrush habitat identified in Table 17 of the ODFW GRSG Strategy (Hagen 2011), 2,272,203 acres occurred outside identified core and low-density areas. ODFW will remap GRSG habitat approximately every five years.

Recognizing the need to capture all GRSG habitat in its PPH and PGH map, the BLM modeled occupied habitat for baseline year 2006, modified by removing habitat within fire perimeters for 2007 through 2010. The model assumed a total removal of sagebrush within the fire perimeter and did not consider the possibility of unburned interior islands; thus it likely underestimated the total amount of suitable habitat. GRSG are assumed to be present within a mapping unit at least once in the last 10 years. This currently occupied habitat (1,739,093 acres) was added to the low-density habitat to create the PGH layer.

In summary, the Oregon BLM GRSG PPH and PGH map was developed by the BLM and the ODFW using the best available data. PPH is equivalent to core area habitat, and PGH is composed of low-density and currently occupied habitat. The BLM did not modify the ODFW's low-density habitat when it created PGH, and the ODFW has accepted the BLM's PPH and PGH GIS layer. In the Proposed Plan, PPH and PGH are designated as PHMA and GHMA, respectively. The map may change as new information becomes available; such changes would be coordinated with the ODFW so that the delineation of PHMA and GHMA would provide for sustainable populations. Significant changes to the boundaries of PHMA and GHMA will require a plan amendment.

2.8.7 Alternative F

During scoping for this RMPA/EIS, individuals and conservation groups submitted management direction recommendations for protecting and conserving GRSG and habitat range-wide. The recommendations, in conjunction with resource allocation opportunities and internal sub-regional BLM input, were reviewed in order to develop BLM management direction for GRSG under Alternatives C and F. These alternatives contain a mixture of conservation measures from the NTT report and public input.

Conservation measures under Alternative F are focused on PHMA and GHMA. GRSG GHMA is occupied seasonally or year-round and is outside of PHMA. These areas have been identified by state fish and wildlife agencies in coordination with respective BLM offices. A noteworthy difference between Alternatives C and F is that Alternative F provides greater restrictions on allowable uses and less resource management flexibility.

Alternative F would create 17 new ACECs on 4,041,905 acres following the authority in FLPMA. These areas all contain GRSG, key natural processes, and systems that are crucial for GRSG. These proposed areas have the following characteristics:

- Contain the higher density lekking sites that are known in Oregon
- Serve as refugia for GRSG
- Are spatially arrayed to connect to existing ACECs and RNAs and key GRSG habitats in Nevada and Idaho
- Include habitats that GRSG may move into in the future as climate change causes a shift in habitat

Management actions would follow the actions for PHMA and GHMA defined under Alternative F. These management actions constitute the special management attention following policy in BLM Manual 1613.

2.9 SUMMARY COMPARISON OF PROPOSED PLAN AMENDMENT AND DRAFT ALTERNATIVES

This section summarizes and compares Alternatives A through F and the BLM Proposed Plan considered in the Final EIS. Combined with the appendices and figures, **Table 2-10**, Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Excluding Mineral Resources), and **Table 2-11**, Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Only Mineral Resources), provide the differences among the alternatives relative to what they establish and where they occur. The table compares the differences with the most potential to affect resources among the alternatives. **Table 2-10** displays allocations on BLM-administered surface lands for the Oregon GRSG RMP amendments. **Table 2-11** displays minerals allocations and split estate lands.

Table 2-10
Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Excluding Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Sage-Grouse Habitat Areas (acres)	<i>Appendix A Figure 2-5</i>	<i>Appendix A Figure 2-5</i>					
Preliminary Priority Habitat (PPH)	4,547,043	NA	NA	NA	NA	NA	NA
Preliminary General Habitat (PGH)	5,662,632	NA	NA	NA	NA	NA	NA
PHMA	NA	4,547,043	4,547,043	4,547,043	NA	4,547,043	2,659,988
PHMA with SFA	NA	NA	NA	NA	NA	NA	1,929,580
GHMA	NA	5,662,632	5,662,632	5,662,632	NA	5,662,632	5,628,628
Core areas	NA	NA	NA	NA	4,547,043	NA	NA
Low density	NA	NA	NA	NA	3,923,539	NA	NA
Other habitat (currently occupied habitat 2006)	NA	NA	NA	NA	1,739,093	NA	NA
Non-Habitat	2,408,353	2,408,353	2,408,353	2,408,353	2,408,353	2,408,353	2,408,730
Total	12,618,028	12,618,028	12,618,028	12,618,028	12,618,028	12,618,028	12,615,834
Resource or Resource Use							
Livestock Grazing (acres)¹	<i>Appendix A Figure 2-6</i>	<i>Appendix A Figure 2-6</i>	<i>Appendix A Figure 2-7</i>	<i>Appendix A Figure 2-8</i>	<i>Appendix A Figure 2-6</i>		<i>Appendix A Figure 2-41</i>
Total Acres—Available for livestock grazing (acres)	12,258,337	12,258,337	787,139	12,183,315	12,258,337	7,506,632 (75% of Sum of PPH and PGH Open for Alt A)	12,232,499
Available (PPH/PHMA/Core Area habitat)	4,470,799	4,470,799	0	4,408,539	4,470,799	3,354,243 (75% of PPH)	4,477,931
Available (PGH/GHMA/Low Density habitat)	5,511,327	5,511,327	0	5,514,479	3,826,015	4,152,389 (75% of PGH)	5,478,656

¹ Allotments unavailable to grazing are those allotments that have been classified as “Not Allocated” or are management exclusions. These allotments have been closed to grazing either through a land use plan, legislation or have been excluded from grazing to protect resource values such as recreation sites, wildlife guzzlers, wells, disposal sites or are otherwise not suitable for grazing. All other allotments are considered available for grazing. These acre calculations include the whole allotment even if it goes over the planning area boundary, except for portions of allotments that go into Nevada. Note that acres of PPH/PGH for grazing allotments may differ from Sage-Grouse Habitat acres, as there are areas of PPH/PGH where there is no allotment. For Alternative F, closed acreages were calculated based on areas currently available to grazing.

Table 2-10
Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Excluding Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
<i>Total Acres—Unavailable to livestock grazing (acres)</i>	253,504	253,504	11,762,357	335,588	253,504	2,502,210 (25% of Sum of PPH and PGH of Alt A)	279,342
Unavailable (PPH/PHMA/Core Area habitat)	46,187	46,187	4,537,788	116,165	46,187	1,118,081 (25% of PPH)	70,469
Unavailable (PGH/GHMA/Low Density habitat)	123,715	123,715	5,680,757	153,658	79,589	1,384,129 (25% of PGH)	125,006
Wild Horse and Burro (acres)²							
<i>Total Acres—Herd Management Areas</i>	2,657,537	2,657,537	2,657,537	2,657,537	2,657,537	2,657,537	2,657,537
PPH/PHMA/Core Area habitat	800,757	800,757	800,757	800,757	800,757	800,757	808,316
PGH/GHMA/Low Density habitat	1,562,111	1,562,111	1,562,111	1,562,111	1,107,814	1,562,111	1,554,165
Lands and Realty (acres)³							
Land Tenure Zone	Appendix A Figure 2-9	Appendix A Figure 2-10	Appendix A Figure 2-11	Appendix A Figure 2-10	Appendix A Figure 2-9	Appendix A Figure 2-10	Appendix A Figure 2-42
<i>Total Acres—Land Tenure—Zone 1</i>	9,170,893	10,220,409	11,757,136	10,220,409	9,170,893	10,220,409	11,730,105
Zone 1: PPH/PHMA/Core Area habitat	3,501,415	4,547,043	4,547,043	4,547,043	3,501,415	4,547,043	4,587,974
Zone 1: PGH/GHMA/Low Density habitat	4,142,251	3,544,858	5,662,631	3,544,858	2,989,001	3,544,858	5,625,642
<i>Total Acres—Land Tenure—Zone 2</i>	3,299,184	3,307,072	818,812	3,307,072	3,299,184	3,307,072	839,286
Zone 2: PPH/PHMA/Core Area habitat	991,662	0	0	0	991,662	0	17
Zone 2: PGH/GHMA/Low Density habitat	1,468,460	1,468,460	0	1,468,460	907,742	1,468,460	0
<i>Total Acres—Land Tenure—Zone 3</i>	138,834	88,419	39,810	88,419	138,834	88,419	39,866
Zone 3: PPH/PHMA/Core Area habitat	50,395	0	0	0	50,395	0	0

² Total Acreage calculations are for Herd Management Areas (HMA) and does not include Herd Areas (HA), areas assumed to have been in the original 1971 Herd Areas, but which may never have had populations to manage. For Alternative E, we are reporting acres of HMA in Low Density only. Alternative A reports acres of HMA in GHMA, which includes Low Density and currently occupied habitat. Currently occupied habitat adds 454,298 acres to the total.

³ Avoidance areas for Alternative D were calculated by obtaining the remainder of lands in PPH not in exclusion areas. There are 257,154 acres of exclusion areas in PPH. The remainder of the 4,547,043 acres of PPH is 4,289,889 acres. These areas are avoidance areas in Alternative D.

Table 2-10
Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Excluding Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Zone 3: PGH/GHMA/Low Density habitat	48,595	48,595	0	48,595	23,864	48,595	0
Solar and Wind Rights of Ways							Appendix A Figure 2-43
<i>Total Acres—exclusion areas</i>	NA	NA	NA	NA	NA	NA	3,021,993
Exclusion Area: PPH/PHMA/Core Area habitat	NA	NA	NA	NA	NA	NA	2,449,816
Exclusion Area: PGH/GHMA/Low Density habitat	NA	NA	NA	NA	NA	NA	266,110
<i>Total Acres—avoidance areas</i>	NA	NA	NA	NA	NA	NA	7,935,975
Avoidance Area: PPH/PHMA/Core Area Habitat	NA	NA	NA	NA	NA	NA	2,139,604
Avoidance Area: PGH/GHMA/Low Density Habitat	NA	NA	NA	NA	NA	NA	5,362,004
Major Transmission Line and Pipeline Rights-of-Way (ROW)	Appendix A Figure 2-12	Appendix A Figure 2-13	Appendix A Figure 2-14	Appendix A Figure 2-15	Appendix A Figure 2-16	Appendix A Figure 2-17	Appendix A Figure 2-44
<i>Total Acres—Major Right-of-way (ROW) exclusion areas</i>	857,564	4,866,030	10,682,124	857,564	4,866,030	10,682,124	858,203
Exclusion Area: PPH/PHMA/Core Area habitat	257,154	4,547,043	4,547,043	257,154	4,547,043	4,547,043	265,403
Exclusion Area: PGH/GHMA/Low Density habitat	288,195	0	5,669,422	288,195	156,523	5,669,422	286,733
<i>Total Acres—Major ROW avoidance areas</i>	3,445,685	6,106,923	292,671	5,964,814	1,821,721	292,671	9,914,490
Avoidance Area: PPH/PHMA/Core Area habitat	1,336,146	0	0	4,289,889	0	0	4,229,620
Avoidance Area: PGH/GHMA/Low Density habitat	1,672,025	5,662,632	0	1,672,025	1,384,208	0	5,250,480
Other Rights-of-Way (ROW) - Minor							Appendix A Figure 2-45
<i>Total Acres—Minor Right-of-way (ROW) exclusion areas</i>	NA	NA	NA	NA	NA	NA	853,203
Exclusion Area: PPH/PHMA/Core Area habitat	NA	NA	NA	NA	NA	NA	265,403

Table 2-10
Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Excluding Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Exclusion Area: PGH/GHMA/Low Density habitat	NA	NA	NA	NA	NA	NA	286,733
<i>Total Acres—Minor ROW avoidance areas</i>	NA	NA	NA	NA	NA	NA	6,397,996
Avoidance Area: PPH/PHMA/Core Area habitat	NA	NA	NA	NA	NA	NA	4,297,531
Avoidance Area: PGH/GHMA/Low Density habitat	NA	NA	NA	NA	NA	NA	1,666,098
Comprehensive Travel and Transportation Management (acres)	Appendix A Figure 2-18	Appendix A Figure 2-19	Appendix A Figure 2-20	Appendix A Figure 2-19	Appendix A Figure 2-21	Appendix A Figure 2-19	Appendix A Figure 2-46
<i>Total Acres—Open to cross-country motorized travel</i>	6,811,890	4,141,539	1,202,694	4,141,539	3,913,675	4,141,539	1,202,682
Open in PPH/PHMA/Core Area habitat	2,669,145	0	0	0	0	0	31
Open in PGH/GHMA/Low Density habitat	2,940,051	2,938,846	0	2,938,846	1,610,288	2,938,846	0
<i>Total Acres—Closed—Off-Road use is prohibited</i>	300,328	300,328	300,328	300,328	274,965	300,328	367,108
Closed in PPH/PHMA/Core Area habitat	48,450	48,450	48,450	48,450	48,450	48,450	82,726
Closed in PGH/GHMA/Low Density habitat	143,637	143,637	143,637	143,637	70,566	143,637	144,931
<i>Total Acres—Limited—Vehicle use only on existing roads and trails with additional seasonal restrictions.</i>	5,325,377	7,996,165	10,937,171	7,996,165	6,043,851	7,996,165	11,043,240
Limited in PPH/PHMA/Core Area habitat	1,828,999	4,498,590	4,498,590	4,498,590	4,498,590 with seasonal buffers	4,498,590 with seasonal buffers	4,506,296
Limited in PGH/GHMA/Low Density habitat	2,576,796	2,576,796	5,518,995	2,576,796	1,710,392	2,576,796	5,481,426

Table 2-10
Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Excluding Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Areas of Critical Environmental Concern (acres)	<i>Appendix A Figure 2-22</i>	<i>Appendix A Figure 2-22</i>	<i>Appendix A Figure 2-23</i>	<i>Appendix A Figure 2-22</i>	<i>Appendix A Figure 2-22</i>	<i>Appendix A Figure 2-24</i>	
Total Acres	715,048	715,048	5,063,388 ⁴	715,048	715,048	4,755,249 ⁵	716,818
PPH/PHMA/Core Area habitat	200,399	200,399	4,546,622	200,399	200,399	2,760,783	205,186
PGH/GHMA/Low Density habitat	251,233	251,233	251,233	251,233	129,409	1,492,804	247,716

Source: Oregon/Washington BLM 2015

Notes:

Acreage calculations are for BLM-administered surface lands, unless otherwise stated, in Burns, Lakeview, Prineville, and Vale districts and do not include the Klamath Falls Resource Area or the John Day and Two Rivers RMP planning areas.

Resource allocations in the RMPs being amended by this RMPA/EIS were not created to directly manage PPH or PGH. This is because these habitat areas were not identified until after the RMPs were adopted. However, resource allocations in the RMPs can still affect PPH and PGH that happen to share the same area as a resource allocation. In these instances, existing RMP resource allocations (which were adopted before the identification of PPH and PGH) influence these recently identified GRSG habitats and the species. Consequently, Alternative A identifies where resource allocations happen to coincide with PPH and PGH. Alternatives B, C, D, and F, contain resource allocations for PHMA and GHMA. Alternative E contains resource allocations for Core Area habitat and Low Density habitat. PPH, PHMA, and Core Area habitat cover the same geographic areas. PGH and GHMA cover the same geographic areas. PGH and GHMA are made up of both Low Density habitat and currently occupied habitat.

Total Acres for each resource include acres in PPH/PHMA/Core Area habitat, PGH/GHMA/Low Density habitat and non-habitat. A non-habitat area acreage is part of each total calculation but is displayed in this table only for GRSG habitat.

Alternative A displays existing habitat as PPH and PGH for comparison purposes only. The BLM is not designating habitat under this alternative.

Table 2-11
Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Only Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Sage-Grouse Habitat Areas (acres)	<i>Appendix A Figure 2-5</i>						
PPH/PHMA/Core Area habitat	5,106,929	5,106,929	5,106,929	5,106,929	5,106,929	5,106,929	5,162,359
PGH/GHMA/Low Density habitat	6,127,850	6,127,850	6,127,850	6,127,850	4,188,655	6,127,850	6,072,420

⁴ The total includes existing ACECs from Alternative A.

⁵ The total includes existing ACECs from Alternative A.

Table 2-11
Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Only Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Other Habitat (Currently Occupied Habitat, 2006)	NA	NA	NA	NA	1,939,196	NA	NA
Non-Habitat	2,913,361	2,913,361	2,913,361	2,913,361	2,913,361	2,913,361	2,913,361
Total	14,148,139						
Mineral Estate (acres)							
Full Estate (BLM surface/Federal minerals)- Total Acres	12,046,058						
Full Estate in PPH/PHMA/Core Area habitat	4,371,643	4,371,643	4,371,643	4,371,643	4,371,643	4,371,643	4,403,038
Full Estate in PGH/GHMA/Low Density habitat	5,379,931	5,379,931	5,379,931	5,379,931	3,726,166	5,379,931	5,348,537
Full Estate in Non-habitat	2,294,485	2,294,485	2,294,485	2,294,485	3,948,251	2,294,485	2,294,485
Split Estate (State or Private Surface/Federal minerals)—Total Acres	2,102,079						
Split Estate in PPH/PHMA/Core Area habitat	735,285	735,285	735,285	735,285	735,285	735,285	759,321
Split Estate in PGH/GHMA/Low Density habitat	747,918	747,918	747,918	747,918	747,918	747,918	723,883
Split Estate in Non-habitat	618,876	618,876	618,876	618,876	618,876	618,876	618,876
Reverse Split Estate (BLM surface/Other minerals)—Total Acres	569,826						
Reverse Split Estate in PPH/PHMA/Core Area habitat	175,362	175,362	175,362	175,362	175,362	175,362	175,362
Reverse Split Estate in PGH/GHMA/Low Density habitat	280,219	280,219	280,219	280,219	280,219	280,219	280,219
Reverse Split Estate in Non-habitat	114,245	114,245	114,245	114,245	114,245	114,245	114,245

Table 2-11

Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Only Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Resource or Resource Use							
Fluid Mineral Leasing (acres)	<i>Appendix A Figure 2-25</i>	<i>Appendix A Figure 2-26</i>	<i>Appendix A Figure 2-27</i>	<i>Appendix A Figure 2-28</i>	<i>Appendix A Figure 2-29</i>	<i>Appendix A Figure 2-30</i>	<i>Appendix A Figure 2-47</i>
Closed to fluid mineral leasing							
Full Estate -Total Acres	3,073,567	6,327,708	10,167,888	3,073,567	6,327,708	10,167,888	3,073,567
Closed to leasing in PPH/PHMA/Core Area habitat	1,117,502	4,371,643	4,371,643	1,117,502	4,371,643	4,371,643	1,118,805
Closed to leasing in PGH/GHMA/Low Density habitat	1,539,752	1,539,752	5,379,932	1,539,752	1,230,341	5,379,932	1,538,449
Closed to leasing in Non-habitat	416,312	416,312	416,312	416,312	725,724	416,312	416,312
Split Estate -Total Acres	423,535	889,820	1,531,541	423,535	889,820	1,531,541	423,535
Closed to leasing in PPH/PHMA/Core Area habitat	269,000	735,285	735,285	269,000	735,285	735,285	292,787
Closed to leasing in PGH/GHMA/Low Density habitat	106,198	106,198	747,918	106,198	85,490	747,918	82,410
Closed to leasing in Non- habitat	48,337	48,337	48,337	48,337	69,045	48,337	48,337
Open to leasing subject to standard terms and conditions (i.e., not subject to NSO or CSU stipulations)							
Full Estate - Total Acres	3,830,575	2,633,287	899,375	899,375	2,633,287	899,375	899,375
Open to leasing subject to standard terms and conditions in PPH/PHMA/Core Area habitat	1,197,289	0	0	0	0	0	0
Open to leasing subject to standard terms and conditions in PGH/GHMA/Low Density habitat	1,733,911	1,733,911	0	0	987,481	0	0
Open to leasing subject to standard terms and conditions in Non-habitat	899,375	899,375	899,375	899,375	1,645,806	899,375	899,375

Table 2-11

Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Only Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Split Estate - Total Acres	1,678,516	1,212,230	570,522	570,522	1,212,230	570,522	570,537
Open to leasing subject to standard terms and conditions in PPH/PHMA/Core Area habitat	466,285	0	0	0	0	0	0
Open to leasing subject to standard terms and conditions in PGH/GHMA/Low Density habitat	641,708	641,708	0	0	376,986	0	0
Open to leasing subject to standard terms and conditions in Non-habitat	570,522	570,522	570,522	570,522	835,244	570,522	570,537
Open to leasing subject to No Surface Occupancy (NSO)							
Full Estate -Total Acres	860,003	586,757	187,825	3,413,017	586,757	187,825	3,867,197
Open to leasing subject to NSO in PPH/PHMA/Core Area habitat	273,246	0	0	2,621,648	0	0	3,284,233
Open to leasing subject to NSO in PGH/GHMA/Low Density habitat	398,931	398,931	0	603,544	345,253	0	395,127
Open to leasing subject to NSO in Non- habitat	187,825	187,825	187,825	187,825	241,504	187,825	187,837
Split Estate - Total Acres	14	14	1	406,767	14	1	466,547
Open to leasing subject to NSO in PPH/PHMA/Core Area habitat	0	0	0	378,258	0	0	466,534
Open to leasing subject to NSO in PGH/GHMA/Low Density habitat	13	13	0	28,509	13	0	13
Open to leasing subject to NSO in Non- habitat	1	1	1	1	1	1	1
Open to leasing subject to Conditional Surface Use (CSU)							
Full Estate—Total Acres	4,281,916	2,498,309	790,972	4,660,101	2,498,309	790,972	4,205,921
Open to leasing subject to CSU in PPH/PHMA/Core Area habitat	1,783,606	0	0	632,493	0	0	0
Open to leasing subject to CSU in PGH/GHMA/Low Density habitat	1,707,337	1,707,337	0	3,236,636	1,163,091	0	3,414,961

Table 2-11

Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Only Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Open to leasing subject to CSU in Non- habitat	790,972	790,972	790,972	790,972	1,335,218	790,972	790,960
Split Estate -Total Acres	15	15	15	701,255	15	15	641,460
Open to leasing subject to CSU in PPH/PHMA/Core Area habitat	0	0	0	88,028	0	0	0
Open to leasing subject to CSU in PGH/GHMA/Low Density habitat	0	0	0	613,212	0	0	641,460
Open to leasing subject to CSU in Non- habitat	15	15	15	15	15	15	0
Locatable Minerals (acres)	Appendix A Figure 2-31	Appendix A Figure 2-32	Appendix A Figure 2-33	Appendix A Figure 2-34	Appendix A Figure 2-35	Appendix A Figure 2-36	Appendix A Figure 2-48
Withdrawn from locatable mineral entry							
Full Estate- Total Acres	1,016,278						
Withdrawn from locatable mineral entry in PPH/PHMA/Core Area habitat	261,590	261,590	261,590	261,590	261,590	261,590	261,590
Withdrawn from locatable mineral entry in PGH/GHMA/Low Density habitat	614,093	614,093	614,093	614,093	614,093	614,093	614,093
Withdrawn from locatable mineral entry in Non- habitat	140,595	140,595	140,595	140,595	140,595	140,595	140,595
Split Estate - Total acres	419,633						
Withdrawn from locatable mineral entry in PPH/PHMA/Core Area habitat	266,232	266,232	266,232	266,232	266,232	266,232	290,020
Withdrawn from locatable mineral entry in PGH/GHMA/Low Density habitat	105,327	105,327	105,327	105,327	105,327	105,327	81,540
Withdrawn from locatable mineral entry in Non - habitat	48,073	48,073	48,073	48,073	48,073	48,073	48,073

Table 2-11

Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Only Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Recommended for withdrawal from locatable mineral entry							
Full Estate -Total Acres	24,443	4,118,660	8,876,177	24,443	4,118,660	4,118,660	1,816,802
Recommended for withdrawal from locatable mineral entry in PPH/PHMA/Core Area habitat	15,836	4,110,053	4,110,053	15,836	4,110,053	4,110,053	1,811,749
Recommended for withdrawal from locatable mineral entry in PGH/GHMA/Low Density habitat	8,321	8,321	4,765,838	8,321	8,225	8,321	5,040
Recommended for withdrawal from locatable mineral entry in Non-habitat	286	286	286	286	382	286	13
Split Estate -Total acres	0	469,053	1,111,687	0	469,053	469,053	18,960
Recommended for withdrawal from locatable mineral entry in PPH/PHMA/Core Area habitat	0	469,053	469,053	0	469,053	469,053	18,960
Recommended for withdrawal from locatable mineral entry in PGH/GHMA/Low Density habitat	0	0	642,634	0	0	0	0
Recommended for withdrawal from locatable mineral entry in Non-habitat	0	0	0	0	0	0	0
Open to locatable mineral exploration or development							
Full Estate - Total Acres	11,005,338	6,911,121	2,153,603	11,005,338	6,911,121	6,911,121	9,212,979
Open to locatable mineral exploration or development in PPH/PHMA/Core Area habitat	4,094,217	0	0	4,094,217	0	0	2,329,698
Open to locatable mineral exploration or development in PGH/GHMA/Low Density habitat	4,757,518	4,757,518	0	4,757,518	3,258,748	4,757,518	4,729,404

Table 2-11

Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Only Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Open to locatable mineral exploration or development in Non- habitat	2,153,603	2,153,603	2,153,603	2,153,603	3,652,373	2,153,603	2,153,877
Split Estate—Total Acres	1,682,572	1,213,519	570,885	1,682,572	1,213,519	1,213,519	1,663,613
Open to locatable mineral exploration or development in PPH/PHMA/Core Area habitat	469,053	0	0	469,053	0	0	450,342
Open to locatable mineral exploration or development in PGH/GHMA/Low Density habitat	642,634	642,634	0	642,634	377,733	642,634	642,386
Open to locatable mineral exploration or development in Non- habitat	570,885	570,885	570,885	570,885	835,786	570,885	570,885
Mineral Materials (acres)	Appendix A Figure 2-37	Appendix A Figure 2-38	Appendix A Figure 2-39	Appendix A Figure 2-38	Appendix A Figure 2-40	Appendix A Figure 2-38	Appendix A Figure 2-49
Closed to mineral materials disposal							
Full Estate— Total Acres	3,188,080	6,421,645	10,221,771	6,421,645	6,421,645	6,421,645	6,453,084
Closed to mineral materials disposal in PPH/PHMA/Core Area habitat	1,138,077	4,371,643	4,371,643	4,371,643	4,371,643	4,371,643	4,403,038
Closed to mineral materials disposal in PGH/GHMA/Low Density habitat	1,579,806	1,579,806	5,379,932	1,579,806	1,250,580	1,579,806	1,579,825
Closed to mineral materials disposal in Non- habitat	470,196	470,196	470,196	470,196	799,423	470,196	470,220
Split Estate—Total Acres	423,665	889,950	1,531,659	889,950	889,951	889,950	890,199
Closed to mineral materials disposal in PPH/PHMA/Core Area habitat	269,000	735,285	735,285	735,285	735,285	735,285	759,321
Closed to mineral materials disposal in PGH/GHMA/Low Density habitat	106,253	106,253	747,961	106,253	85,503	106,253	82,466
Closed to mineral materials disposal in Non- habitat	48,412	48,412	48,412	48,412	69,163	48,412	48,412

Table 2-11

Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Only Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Open for consideration for mineral materials disposal							
Full Estate—Total Acres	8,857,980	5,624,414	1,824,289	5,624,414	5,624,414	5,624,414	5,592,976
Open for consideration for mineral materials disposal in PPH/PHMA/Core Area habitat	3,233,565	0	0	0	0	0	0
Open for consideration for mineral materials disposal in PGH/GHMA/Low Density habitat	3,800,125	3,800,125	0	3,800,125	2,475,586	3,800,125	3,768,712
Open for consideration for mineral materials disposal in Non-habitat	1,824,288	1,824,288	1,824,289	1,824,288	3,148,828	1,824,288	1,824,265
Split Estate—Total Acres	1,678,530	1,212,245	570,537	1,212,245	1,212,245	1,212,245	1,211,997
Open for consideration for mineral materials disposal in PPH/PHMA/Core Area habitat	466,285	0	0	0	0	0	0
Open for consideration for mineral materials disposal in PGH/GHMA/Low Density habitat	641,708	641,708	0	641,708	376,986	641,708	641,460
Open for consideration for mineral materials disposal in Non-habitat	570,537	570,537	570,537	570,537	835,259	570,537	570,537
Non-Energy Solid Leasable Minerals (acres)							Appendix A Figure 2-50
Closed to non-energy solid leasable mineral exploration and development							
Full Estate - Total Acres	3,073,567	6,327,708	10,167,888	3,073,567	6,327,708	6,327,708	6,357,799
Closed to non-energy solid leasable mineral exploration and development in PPH/PHMA/Core Area habitat	1,117,502	4,371,643	4,371,643	1,117,502	4,371,643	4,371,643	4,403,038

Table 2-11

Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Only Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Closed to non-energy solid leasable mineral exploration and development in PGH/GHMA/Low Density habitat	1,539,752	1,539,752	5,379,932	1,539,752	1,230,341	1,539,752	1,538,449
Closed to non-energy solid leasable mineral exploration and development in Non- habitat	416,312	416,312	416,312	416,312	725,724	416,312	416,312
Split Estate—Total Acres	0	889,820	1,531,541	423,535	889,820	889,820	890,068
Closed to non-energy solid leasable mineral exploration and development in PPH/PHMA/Core Area habitat	0	735,285	735,285	269,000	735,285	735,285	759,321
Closed to non-energy solid leasable mineral exploration and development in PGH/GHMA/Low Density habitat	0	106,198	747,918	106,198	85,490	106,198	82,410
Closed to non-energy solid leasable mineral exploration and development in Non- habitat	0	48,337	48,337	48,337	69,045	48,337	48,337
Open for consideration of non-energy solid leasable mineral exploration or development							
Full Estate—Total Acres	8,970,104	5,716,123	1,876,098	8,970,419	5,716,123	5,716,123	5,688,260
Open for consideration of non-energy solid leasable mineral exploration or development in PPH/PHMA/Core Area habitat	3,253,981	0	0	3,254,141	0	0	0
Open for consideration of non-energy solid leasable mineral exploration or development in PGH/GHMA/Low Density habitat	3,840,026	3,840,026	0	3,840,180	2,495,722	3,840,026	3,810,088

Table 2-11

Comparative Summary of Allocation Decisions of the Proposed Plan Amendment and Draft Alternatives (Only Mineral Resources)

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Open for consideration of non-energy solid leasable mineral exploration or development in Non- habitat	1,876,098	1,876,098	1,876,098	1,876,098	3,220,401	1,876,098	1,878,173
Split Estate—Total Acres	1,678,544	1,212,259	570,538	1,678,544	1,212,259	1,212,259	1,212,011
Open for consideration of non-energy solid leasable mineral exploration or development in PPH/PHMA/Core Area habitat	466,285	0	0	466,285	0	0	0
Open for consideration of non-energy solid leasable mineral exploration or development in PGH/GHMA/Low Density habitat	641,721	641,721	0	641,721	376,999	641,721	641,472
Open for consideration of non-energy solid leasable mineral exploration or development in Non- habitat	570,538	570,538	570,538	570,538	835,260	570,538	570,539

Source: Oregon/Washington BLM 2015

Notes:

Mineral acreage calculations are for federal mineral estate with BLM, private, and state surface lands, unless otherwise stated, in Burns, Lakeview, Prineville, and Vale districts and do not include the Klamath Falls Resource Area or the John Day and Two Rivers RMP planning areas.

Resource allocations in the RMPs being amended by this RMPA/EIS were not created to directly manage PPH or PGH. This is because these habitat areas were not identified until after the RMPs were adopted. However, resource allocations in the RMPs can still affect PPH and PGH that happen to share the same area as a resource allocation. In these instances, existing RMP resource allocations (which were adopted before the identification of PPH and PGH) influence these recently identified GRSG habitats and the species. Consequently, Alternative A identifies where resource allocations happen to coincide with PPH and PGH. Alternatives B, C, D, and F, contain resource allocations for PHMA and GHMA. Alternative E contains resource allocations for Core Area habitat and Low Density habitat. The Proposed alternative contains resource allocations for PHMA and GHMA. PPH, PHMA, PHMA, and Core Area habitat cover the same geographic areas. PGH, PHMA, and GHMA cover the same geographic areas. PGH, PHMA, and GHMA are made up of both Low Density habitat and currently occupied habitat.

Alternative A displays existing habitat as PPH and PGH for comparison purposes only. The BLM is not designating habitat under this alternative.

2.10 DETAILED DESCRIPTION OF DRAFT ALTERNATIVES

2.10.1 How to Read Tables 2-12 and 2-13

The following describes how **Table 2-12**, Description of Alternatives B Through F Goals and Objectives by BLM Resource Program, and **Table 2-13**, Description of Alternatives B Through F Actions by BLM Resource Program, are written and formatted to show the land use plan decisions proposed for each alternative. These tables are nearly identical to tables presented in the Draft RMP.

In accordance with Appendix C of the BLM's *Land Use Planning Handbook* (H-1601-1), land use plan and plan amendment decisions are broad-scale decisions that guide future land management actions and subsequent site-specific implementation decisions (BLM 2005). Land use plan decisions fall into two categories, which establish the base structure for desired outcomes (goals and objectives), and allowable uses and actions to achieve outcomes.

- Goals are broad statements of desired outcomes that usually are not quantifiable.
- Objectives identify specific desired outcomes for resources. They may be quantifiable and measurable and may have established timeframes for achievement, as appropriate.
- Allowable uses identify uses, or allocations, that are allowable, restricted, or prohibited on BLM-administered lands and mineral estate.
- Actions identify measures or criteria to achieve desired objectives, including actions to maintain, restore, or improve land health.

Stipulations (NSO and CSU, which fall under the allowable uses category) are also applied to surface-disturbing activities to achieve desired outcomes (i.e., objectives).

In general, only those resources and resource uses that have been identified as planning issues have notable differences between the alternatives.

Actions that are applicable to all alternatives are shown in one cell across a row. These particular objectives and actions would be implemented regardless of which alternative is ultimately selected.

Actions that are applicable to more than one but not all alternatives are indicated by either combining cells for the same alternatives, or by denoting those objectives or actions as the "same as Alternative A," for example.

In some cells, "No Similar Action" is used to indicate that there is no similar goal, objective or action to the other alternatives, or that the similar goal, objective or action is reflected in another management action in the alternative.

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Special Status Species—Greater Sage-Grouse (SSS)				
Goal B-SSS I: Maintain or increase Sage-Grouse abundance and distribution by conserving, enhancing, or restoring the sagebrush ecosystem that populations depend on, in cooperation with other conservation partners.	Goal C-SSS I: Similar to Alternative F with an emphasis on passive restoration and considering all occupied habitat as equally important.	Goal D-SSS I: Same as Alternative B.	Goal E-SSS I: Restore, maintain, and enhance populations of GRSG, such that multiple uses of populations and their habitats can continue.	Goal F-SSS I: Maintain and increase current Sage-Grouse abundance and distribution by conserving, enhancing, or restoring the sagebrush ecosystem.
Objective B-SSS I: Protect priority Sage-Grouse habitats from human disturbances that would reduce distribution or abundance of Sage-Grouse.	Objective C-SSS I: Same as Alternative A.	Objective D-SSS I: Maintain or improve connectivity to and within PHMA and GHMA to promote movement and genetic diversity for population persistence and expansion.	Objective E-SSS I: Maintain or enhance GRSG abundance and distribution at 2003 spring breeding population level, or approximately 30,000 birds over the next 50 years.	Objective F-SSS I: —
Sub-objective B-SSS I: Designate priority Sage-Grouse habitats for each Western Association of Fish and Wildlife Agencies management zone (Stiver et al. 2006). Extend priority habitats across the current geographic range of Sage-Grouse that are large enough to stabilize populations in the short term and enhance populations over the long term.	Sub-objective C-SSS I: —	Sub-objective D-SSS I: —	Sub-objective E-SSS I: Implement Core area approach, which identifies the least amount of area necessary to conserve 90% of Oregon's GRSG population with emphasis on highest density and important use areas that provide for breeding, wintering, and connectivity corridors. Identify Low density areas that provide breeding, summer, and migratory habitats.	Sub-objective F-SSS I: —

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>Sub-objective B-SSS 2: Develop quantifiable habitat and population objectives with Western Association of Fish and Wildlife Agencies and other conservation partners at the management zone or other appropriate scales. Develop a monitoring and adaptive management strategy to track whether these objectives are being met and allow for revisions to management approaches if they are not.</p>	<p>Sub-objective C-SSS 2: —</p>	<p>Sub-objective D-SSS 2: —</p>	<p>Sub-objective E-SSS 2: —</p>	<p>Sub-objective F-SSS 2: —</p>
<p>Sub-objective B-SSS 3: Manage priority Sage-Grouse habitats so that human disturbance covers less than 3% of the total Sage-Grouse habitat regardless of ownership. Human features include paved highways, graded gravel roads, transmission lines, substations, wind turbines, oil and gas wells, geothermal wells and associated facilities, pipelines, landfills, homes, and mines.</p> <ul style="list-style-type: none"> • In priority habitats where the 3% disturbance threshold is already 	<p>Sub-objective C-SSS 3: —</p>	<p>Sub-objective D-SSS 3: Manage PHMA so that human disturbance covers less than 3% of the total Sage-Grouse habitat regardless of ownership. Human features include paved highways, graded gravel roads, transmission lines, substations, wind turbines, oil and gas wells, geothermal wells and associated facilities, pipelines, landfills, homes, and mines.</p>	<p>Sub-objective E-SSS 3: Avoid impacts on Core areas if there is evidence of GRSG presence and the site-specific habitat is both essential and irreplaceable. Do not authorize development action in these areas if the impacts cannot be avoided. GRSG presence may include observation of birds using the site or recent signs of lek attendance (e.g., fresh droppings and feathers).</p> <p>If a proposed project is in a Low Density area or in any other sagebrush habitat</p>	<p>Sub-objective F-SSS 3: —</p>

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>exceeded from any source, the BLM would permit no further human disturbances until enough habitat has been restored to maintain the area under this threshold (subject to valid existing rights).</p> <ul style="list-style-type: none"> In this instance, an additional objective would be designated for the priority area to prioritize and reclaim/restore human disturbances so that 3% or less of the total priority habitat area is disturbed within 10 years. 			<p>outside of Core areas with documented GRSG habitat and GRSG presence, and impacts cannot be avoided, then mitigate for those habitats such that there is "no net loss and with a net benefit."</p>	
<p>Sub-objective B-SSS 4: Quantify and delineate general habitat for capability to provide connectivity among priority areas (Knick and Hanser 2011).</p>	<p>Sub-objective C-SSS 4: —</p>	<p>Sub-objective D-SSS 4: —</p>	<p>Sub-objective E-SSS 4: Develop and maintain maps that identify Core area habitats necessary to conserve 90% of Oregon's GRSG population with emphasis on highest density and important use areas that provide for breeding, wintering and connectivity corridors.</p>	<p>Sub-objective F-SSS 4: —</p>

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>Sub-objective B-SSS 5: Conserve, enhance, or restore Sage-Grouse general habitat and connectivity (Knick and Hanser 2011) to promote movement and genetic diversity, with emphasis on those habitats occupied by GRSG.</p>	<p>Sub-objective C-SSS 5: —</p>	<p>Sub-objective D-SSS 5: Same as Alternative B. Also, identify general habitat that has the potential to become priority; prioritize restoration and enhancement.</p>	<p>Sub-objective E-SSS 5: —</p>	<p>Sub-objective F-SSS 5: —</p>
<p>Sub-objective B-SSS 6: Assess general Sage-Grouse habitats to determine potential to replace lost priority habitat caused by perturbations and/or disturbances and provide connectivity (Knick and Hanser 2011) between priority areas.</p> <ul style="list-style-type: none"> • These habitats should be given some priority over other general Sage-Grouse habitats that provide marginal or substandard Sage-Grouse habitat. • Restore historical general habitat functionality to support Sage-Grouse populations guided by objectives to maintain or enhance connectivity. Total area and locations 	<p>Sub-objective C-SSS 6: —</p>	<p>Sub-objective D-SSS 6: In general habitat, require mitigation to avoid, minimize, and compensate impacts on GRSG habitat from BLM-administered activities.</p>	<p>Sub-objective E-SSS 6: In Low Density and all other GRSG habitat outside of Core habitat, require mitigation to avoid, minimize, and mitigate impacts on GRSG habitat caused by BLM-administered activities. Follow the Oregon Department of Fish and Wildlife mitigation policy or its successor.</p> <p>Develop Core area maps and climate change models to identify those Core areas likely to persist as sagebrush into the future. Identify opportunities to conserve and protect those resilient habitats.</p>	<p>Sub-objective F-SSS 6: —</p>

**Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
would be determined at the land use plan level. <ul style="list-style-type: none"> Enhance general sage-grouse habitat such that population declines in one area are replaced elsewhere within the habitat. 				
Objective B-SSS 2: —	Objective C-SSS 2: —	Objective D-SSS 2: —	Objective E-SSS 2: —	Objective F-SSS 2: Restore and maintain sagebrush steppe to its ecological potential in occupied GRSG habitat.
Objective B-SSS 3: —	Objective C-SSS 3: —	Objective D-SSS 3: —	Objective E-SSS 3: —	Objective F-SSS 3: Establish a system of sagebrush reserves to anchor recovery by protecting the highest quality habitats.
Objective B-SSS 4: —	Objective C-SSS 4: —	Objective D-SSS 4: —	Objective E-SSS 4: —	Objective F-SSS 4: Develop and implement methods for prioritizing and restoring sagebrush steppe invaded by nonnative plants.
Vegetation (VG)				
Goal B-VG 1: In order to maintain or increase current populations, manage or restore priority areas so that at least 70% of the land cover provides adequate sagebrush habitat to meet Sage-Grouse needs.	Goal C-VG 1: —	Goal D-VG 1: Maintain or enhance GRSG habitat (includes both PHMA and GHMA) to establish a mix of sagebrush classes, as identified in Table 2-5. Also provide priorities for sagebrush treatments and juniper treatments based on	Goal E-VG 1: Retain >70% of GRSG range as sagebrush habitat in advanced structural stages, sagebrush class 3, 4, and 5, with an emphasis on 4 and 5. Remaining <30% could include areas of juniper encroachment, non-sagebrush	Goal F-VG 1: —

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		<p>ecological and management characteristics. Maintain or enhance the quantity and quality of GRSG habitat within the existing range of the species.</p> <p>Where possible and feasible, restore lost habitat to functionality as GRSG habitat.</p> <p>Where feasible, increase the resiliency of GRSG habitat to disturbances and climate change and reduce fragmentation.</p> <p>Limit or halt the further spread of existing invasive plant species, avoid the introduction of new invasive species, and reduce the extent of current infestations into GRSG habitat.</p> <p>Create a mix of sagebrush classes by sagebrush type as measured at the 5th field hydrologic unit scale. Classes are defined in GRSG Conservation Assessment and Strategy for Oregon, page 73 and Appendix II (Hagen 2011) and BLM Tech Note 417 (Karl and Sadowski 2005).</p>	<p>shrubland, and grassland with the potential for enhancement.</p>	

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Objective B-VG 1: —	Objective C-VG 1: —	Objective D-VG 1: Treat approximately 30% of GRSG habitat over the next 10 years, averaging 3% per year, to reduce the probability of large homogeneous burn patterns and unacceptable wildfire effects, to limit juniper encroachment, and to control invasive species. Treatment assessment should include evaluation of acceptable wildfire effects and recovery and use of unplanned naturally ignited fires.	Objective E-VG 1: To maintain and enhance existing sagebrush habitats and enhance potential habitats that have been disturbed such that there is no net loss of sagebrush habitat in the following regions: (a) Baker Resource Area BLM: 82% sagebrush and 18% disturbed habitats. (b) Vale District BLM (excluding Baker Resource Area): 70% sagebrush and 30% disturbed habitats. (c) Burns District BLM: 68% sagebrush and 32% disturbed habitats. (d) Lakeview District BLM: 72% sagebrush and 28% disturbed habitats. (e) Prineville District BLM: 47% sagebrush and 53% disturbed habitats	Objective F-VG 1: —
Goal B-VG 2: —	Goal C-VG 2: —	Goal D-VG 2: —	Goal E-VG 2: Current and future land management would need to examine landscape patterns of	Goal F-VG 2: —

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			<p>sagebrush habitat and seek strategies to ensure that large connected patches of sagebrush are present. The implementation of the connectivity model and habitat monitoring techniques suggested in the ODFW plan would help minimize the impacts of habitat loss and fragmentation.</p> <p>Vegetation manipulations should benefit the long-term health of sagebrush habitat. Apply best management practices to maximize benefits of vegetative treatment to GRSG.</p>	
Goal B-VG 3: —	Goal C-VG 3: —	Goal D-VG 3: —	<p>Goal E-VG 3: Juniper removal methods should promote the return sagebrush, native grasses, and forbs.</p> <p>Post-treatment management of juniper removal areas should promote the return of native grasses and forbs to the treatment area.</p>	Goal F-VG 3: —
Goal B-VG 4: —	Goal C-VG 4: —	Goal D-VG 4: —	Goal E-VG 4: The goal of weed management should be to establish and maintain a healthy, functioning sagebrush	Goal F-VG 4: —

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			<p>plant community that has some degree of invasion resistance by maximizing ecological site occupation by native plants.</p> <p>Minimize the impact of invasive noxious weeds on GRSG habitat.</p> <p>Maximize benefits of vegetation treatments for GRSG through best management practices.</p>	
Goal B-VG 5: —	Goal C-VG 5: —	Goal D-VG 5: —	Goal E-VG 5: Minimize the effects of climate change on GRSG populations and habitats.	Goal F-VG 5: —
Goal B-VG 6: —	Goal C-VG 6: —	Goal D-VG 6: —	Goal E-VG 6: Minimize the effects of predation on isolated, translocated, or declining populations where predation has been identified as a limiting factor and other management tools have not stabilized declining population.	Goal F-VG 6: —
Wild Horse and Burro (WHB)				
Goal B-WHB I: —	Goal C-WHB I: —	Goal D-WHB I: —	Goal E-WHB I: The management goals for wild horses are to manage them as components of the BLM-	Goal F-WHB I: —

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			administered lands in a manner that preserves and maintains a thriving natural ecological balance in a multiple use relationship.	
Objective B-WHB 1: Manage wild horse and burro population levels within established appropriate management levels (AML).	Objective C-WHB 1: Same as Alternative A.	Objective D-WHB 1: Same as Alternative B. Also, prioritize gathers in priority GRSG habitat, unless removals are necessary in other areas to counteract impacts on rangeland health conditions and animal welfare, including herd health impacts. Review existing AMLs and modify when warranted to enhance or maintain GRSG habitat quality and quantity	Objective E-WHB 1: —	Objective F-WHB 1: Associated with the reduction in livestock grazing, reduce wild horse appropriate management levels by 25 percent for herd management areas that contain PHMA and GHMA to reduce grazing pressure on vegetation.
Objective B-WHB 2: Prioritize gathers in priority GRSG habitat, unless removals are necessary in other areas to prevent catastrophic environmental issues, including herd health impacts.	Objective C-WHB 2: Same as Alternative A.	Objective D-WHB 2: Same as Alternative B.	Objective E-WHB 2: Prioritize wild horse gathers in GRSG areas that are over AML. Further measures may be warranted to conserve GRSG habitat even if horses are at, above, or below the appropriate AML.	Objective F-WHB 2: Same as Alternative B.
Wildland Fire Management (WFM)				
Goal B-WFM 1: Fire and fuels management would contribute to the protection and enhancement of sagebrush habitat that support GRSG populations	Goal C-WFM 1: —	Goal D-WFM 1: Fire and fuels management would contribute to the protection and enhancement of sagebrush habitat that support GRSG populations (including large	Goal E-WFM 1: Reduce negative impacts of wildfire on GRSG through prompt and appropriate habitat reclamation or rehabilitation.	Goal F-WFM 1: —

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
(including large contiguous blocks of sagebrush).		contiguous blocks of sagebrush). Manage wildland fire and hazardous fuels to protect, enhance and restore GRSG habitat.	Reduce negative impacts of prescribed fire on GRSG through appropriate strategic planning and field techniques. Reduce negative impacts of wildfire on GRSG through efficient fire suppression techniques.	
Objective B-WFM 1: —	Objective C-WFM 1: —	Objective D-WFM 1: Limit the occurrence of large homogeneous burn patterns in GRSG habitat through rapid response and appropriate tactics based on conditions present at the time of the fire.	Objective E-WFM 1: —	Objective F-WFM 1: —
Objective B-WFM 2: —	Objective C-WFM 2: —	Objective D-WFM 2: GRSG habitat protection is a high priority for the fire management program. A full range of fire management activities and options would be used to protect GRSG habitat within acceptable risk levels. Local agency administrators, resource advisors, and partner agencies would convey protection priorities for GRSG and their habitat to incident commanders.	Objective E-WFM 2: —	Objective F-WFM 2: —
Objective B-WFM 3: —	Objective C-WFM 3: —	Objective D-WFM 3: No more than approximately 30% of a 5th field hydrological unit should be in the early seral stages of	Objective E-WFM 3: —	Objective F-WFM 3: —

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		sagebrush, consistent with the biophysical settings/ecological sites present.		
Livestock Grazing/Range Management (LG/RM)				
Goal B-LG/RM I: —	Goal C-LG/RM I: Prohibit grazing in occupied GRSG habitat.	Goal D-LG/RM I: —	<p>Goal E-LG/RM I: Promote vegetation that supports nesting, brood-rearing and winter habitats including maintenance or recovery of shrub and herbaceous (native grasses and forbs) cover. Retain residual cover adequate to conceal GRSG nests and broods from predation, and plant communities that provide a diversity of plant and insect food sources.</p> <p>Minimize the effects of West Nile virus (or other pathogens) on populations.</p>	Goal F-LG/RM I: —
Objective B-LG/RM I: —	Objective C-LG/RM I: —	Objective D-LG/RM I: Continue to make GRSG PHMA and GHMA available for livestock grazing. The number of AUMs on a permit may be adjusted during site-specific evaluations conducted during term permit renewals, allotment management plan development, or other appropriate	Objective E-LG/RM I: —	Objective F-LG/RM I: Encourage partners to monitor effects of retiring grazing permits in GRSG habitat.

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		<p>implementation activity. Additionally, temporary adjustments can be made annually to livestock numbers, the number of AUMs, season of use, and other aspects of grazing within the terms and conditions of the permit, based on the permittees' livestock operation or an evaluation of a variety of forage and resource site-specific conditions.</p> <p>Manage livestock grazing to maintain or improve priority GRSG habitat by achieving land health standards.</p>		
Objective B-LG/RM 2: —	Objective C-LG/RM 2: —	<p>Objective D-LG/RM 2: Manage grazing to provide adequate cover and sufficient forb diversity in nesting and brood-rearing habitat, consistent with ecological site capability, to reduce predation during nesting and to maintain integrity of riparian and wetland habitats.</p> <p>The objective is to provide habitat conditions consistent with the fine- and site-scale indicators and values that are consistent with the Habitat Assessment Framework or with</p>	Objective E-LG/RM 2: —	Objective F-LG/RM 2: —

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		values adjusted for regional conditions.		
Objective B-LG/RM 3: —	Objective C-LG/RM 3: —	Objective D-LG/RM 3: —	Objective E-LG/RM 3: —	Objective F-LG/RM 3: Reduce by 25% the area grazed.
Recreation (RC)				
Goal B-RC 1: —	Goal C-RC 1: —	Goal D-RC 1: —	Goal E-RC 1: Minimize the impact of recreational activities on GRSG habitats while ensuring continued enjoyment of the sagebrush steppe ecosystem.	Goal F-RC 1: —
Lands and Realty (LR)				
Goal B-LR 1: —	Goal C-LR 1: —	Goal D-LR 1: —	Goal E-LR 1: Minimize impacts of land-exchanges and the construction of anthropogenic features on GRSG habitat.	Goal F-LR 1: —
Leasable Minerals—Leased Federal Fluid Mineral Estate (MLS)				
Objective B-MLS 1: —	Objective C-MLS 1: Conduct any oil, gas, or geothermal activity to maximize avoidance of impacts, based on evolving scientific knowledge of impacts.	Objective D-MLS 1: —	Objective E-MLS 1: Reduce risk of (avoid, minimize, and mitigate) impacts from energy development, transmission lines and associated infrastructure on GRSG habitat in accordance with habitat mitigation policy (OAR 635-415-0000).	Objective F-MLS 1: —

**Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Special Designations—Areas of Critical Environmental Concern (SD)				
Objective B-SD 1: —	Objective C-SD 1: <ul style="list-style-type: none"> • Designate all of PHMA as new ACECs. Manage ACECs for GRSG conservation. • Manage existing ACECs for the values for which they were designated, per district resource management plans, following existing management actions described in the plans. 	Objective D-SD 1: <ul style="list-style-type: none"> • Prioritize maintenance, habitat restoration and conservation actions in priority ACEC for GRSG. • Priority ACECs contain high amounts of quality GRSG habitat, either primary or general habitat, or known leks. • Manage non-GRSG priority ACECs for the values for which they were designated, per district resource management plans, following existing management actions described in the plans. • Manage Research Natural Areas, a special type of ACEC, as undisturbed vegetative reference areas for the plant community cells they represent that are important for GRSG. Use RNAs as part of a national interagency network of natural areas, which contain important ecological and scientific values and manage them for minimum human disturbance. Manage to 	Objective E-SD 1: —	Objective F-SD 1: <ul style="list-style-type: none"> • Designate 17 new ACECs within high-quality GRSG habitat to maintain and increase current GRSG abundance and to conserve or enhance the sagebrush ecosystem. • Manage existing ACECs for the values for which they were designated, per district resource management plans following existing management actions described in the plans.

Table 2-12
Description of Alternatives B Through F Goals and Objectives by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		<p>preserve examples of all significant natural ecosystems and plant communities important for GRSG, for comparison with those influenced by human and BLM actions, to provide educational and research areas for ecological and environmental studies, and to preserve gene pools of typical and rare plants and animals.</p>		

Note: In some cells, there is a “—” as a placeholder that indicates that there is no similar goal or objective to the other alternatives, or that the similar goal or objective is reflected in another portion of the alternative.

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Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Special Status Species—Greater Sage-Grouse				
Action B-SSS 1: Designate PHMA and GHMA acres according to Table 2-10.	Action C-SSS 1: Same as Alternative B.	Action D-SSS 1: Same as Alternative B.	Action E-SSS 1: Designate Core Area and Low Density Area acres according to Table 2-10.	Action F-SSS 1: Same as Alternative B.
Action B-SSS 2: Apply a 3% surface disturbance cap to anthropogenic disturbances (not including fire) in PHMA. Once the habitat disturbance cap is exceeded, no additional disturbance would be allowed until the disturbance is below 3%.	Action C-SSS 2: Apply a 0% surface disturbance cap to anthropogenic disturbances (not including fire) in PHMA and GHMA, unless there are valid existing rights.	Action D-SSS 2: Apply a 3% surface disturbance cap to anthropogenic disturbances (not including fire) in PHMA, regardless of ownership. Mitigation would be mandatory. Once the habitat disturbance cap is exceeded, no additional disturbance would be allowed until the disturbance is below 3%.	Action E-SSS 2: Apply a 0% surface disturbance cap to anthropogenic disturbances (not including fire) in Core Areas, unless non-habitat.	Action F-SSS 2: Apply a 3% surface disturbance cap to anthropogenic disturbances (including fire) in PHMA. Once the habitat disturbance cap is exceeded, no additional disturbance would be allowed until the disturbance is below 3%.
Vegetation (VG)—Habitat Restoration (Also, see Wildland Fire Management section below for other applicable direction.)				
Action B-VG 1: Prioritize implementation of restoration projects based on environmental variables that improve chances for project success in areas most likely to benefit GRSG (Meinke et al. 2009). Prioritize restoration in seasonal habitats that are thought to be limiting GRSG distribution and abundance.	Action C-VG 1: Same as Alternative B.	Action D-VG 1: Priority locations for restoration projects should be in the Restoration Opportunity Areas. Other considerations include: <ul style="list-style-type: none"> • Sites with a higher probability of success • Seasonal habitats thought to be limiting to GRSG distribution or abundance • PHMA • Connecting corridors between PHMA • GHMA • Following stand-replacing events in sagebrush at least 100 acres in size • Opportunities to improve or restore GRSG habitat *Not in priority order Coordinate restoration activities with adjacent landowners/land managers as opportunities arise.	Action E-VG 1: Sagebrush conversion on BLM-administered lands (e.g., crested wheatgrass seedings) should be avoided if the sole purpose is to increase livestock forage. Alfalfa may provide foraging habitats for GRSG, but typically this occurs at the edge of extensive agricultural areas. A small number of alfalfa fields in an expanse of sagebrush may provide late-season brood habitat. Typically conversion to alfalfa is at the discretion of a private landowner.	Action F-VG 1: Prioritize implementation of restoration projects based on environmental variables that improve chances for project success in areas most likely to benefit GRSG (Meinke et al. 2009). Prioritize restoration in seasonal habitats that are thought to be limiting sage-grouse distribution and abundance and where factors causing degradation have already been addressed (e.g., changes in livestock management).
Action B-VG 2: Include GRSG habitat parameters as defined by Connelly et al. (2000a), Hagen et al. (2007) or if available, state GRSG conservation plans and appropriate local information in habitat restoration objectives. Make meeting these objectives within PHMA the highest restoration priority.	Action C-VG 2: Same as Alternative A.	Action D-VG 2: —	Action E-VG 2: The conservation focus for habitat should include an objective that conserves ≥70% of GRSG rangelands that are capable of supporting sagebrush habitats in advanced structural stages, sagebrush class 3, 4 or 5, with an emphasis on classes 4 and 5. The remaining 30% should include areas of juniper encroachment, non-sagebrush shrublands, annual grasslands and	Action F-VG 2: Include sage-grouse habitat objectives in habitat restoration projects. Make meeting these objectives within occupied sage-grouse habitat the highest restoration priority.

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
			<p>non-native perennial grasslands that potentially can be rehabilitated or enhanced. The “70/30” goal is based on a habitat assessment described in BLM Technical Bulletin 417 (Karl and Sadowski 2005).</p>	
<p>Action B-VG 3: —</p>	<p>Action C-VG 3: Make composition, function, and structure of native vegetation communities consistent with the reference state of the appropriate ESD and provide for healthy, resilient, and recovering GRSG habitat components.</p>	<p>Action D-VG 3: Species composition, function, and structure of sagebrush communities should be consistent with ecological site capability.</p>	<p>Action E-VG 3: Current and future land management would need to examine landscape patterns of sagebrush habitat and seek strategies to ensure that large connected patches of sagebrush are present. The implementation of the connectivity model and habitat monitoring techniques suggested in the ODFW plan would help minimize the impacts of habitat loss and fragmentation.</p>	<p>Action F-VG 3: —</p>
<p>Action B-VG 4: —</p>	<p>Action C-VG 4: —</p>	<p>Action D-VG 4: Avoid conducting vegetation management activities during nesting and early brood-rearing where GRSG are present (generally within 4 miles of an active lek). Breeding and early brood-rearing typically occur from March through July; use local information to further refine the avoidance period. When achieving the maximum effectiveness for a particular management action is sensitive to the timing of that action, for example herbicide application or seeding operations, conducting the action during the avoidance period is permitted.</p>	<p>Action E-VG 4: Minimize disturbance to GRSG populations and do not conduct any vegetation treatments during nesting and early-brood rearing periods when GRSG are present.</p>	<p>Action F-VG 4: —</p>
<p>Action B-VG 5: Require use of native seeds for restoration based on availability, adaptation (ecological site potential), and probability of success (Richards et al. 1998). Where probability of success or adapted seed availability is low, nonnative seeds may be used as long as they support GRSG habitat objectives (Pyke 2011).</p>	<p>Action C-VG 5: Seed local native ecotypes in areas of more intensive disturbance.</p>	<p>Action D-VG 5: Prioritize the use of native plant materials for restoration/rehabilitation based on availability, adaptive capacity, and probability of successful establishment. Where the probability of success or adapted native plant material availability is low, nonnative plant materials may be used as long as they provide the same functional/structural group as native species. Within designated wilderness and wilderness study areas, projects must follow the direction in BLM Manuals 6340 and 6330 for restoration and vegetation management projects.</p>	<p>Action E-VG 5: Encourage the development of native seed sources and the use of native seed by land management entities. Crested wheatgrass may be used (seeded at low rates [1 to 2 pounds per acre]) in conjunction with native plants in rehabilitating disturbance to sagebrush habitats, as an intermediate step in rehabilitating disturbances to sagebrush habitats.</p>	<p>Action F-VG 5: Same as Alternative B.</p>

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-VG 6: —	Action C-VG 6: —	<p>Action D-VG 6: When sufficient native plant materials are available, nonnative plant materials should not be used:</p> <ol style="list-style-type: none"> 1. When nonnative species were not present prior to a disturbance or vegetation treatment. 2. In areas not immediately threatened by invasive plant spread or dominance. 3. As forage enhancement. <p>Nonnative plant materials can be used as necessary to:</p> <ol style="list-style-type: none"> 1. Limit or control invasive plant spread or dominance and to create fuel breaks along roads and rights-of-way. 2. Create defensible space in wildland-urban interface settings (within ½ mile of human residences). <p>Seed mixes that include more than 2 pounds per acre of crested/desert wheatgrass shall not be considered “native” even when native plant materials are a majority of the mix.</p>	<p>Action E-VG 6: Crested wheatgrass can be planted (1 to 2 pounds per acre) but preferably in a mixture with native species, because it is readily available, can successfully compete with cheatgrass, and establishes itself more readily than natives. The use of crested wheatgrass is an intermediate step in rehabilitating disturbances to sagebrush habitats.</p>	Action F-VG 6: —
<p>Action B-VG 7: Design post restoration management to ensure long-term persistence. This could include changes in livestock grazing management, wild horse and burro management and travel management, etc., to achieve and maintain the desired condition of the restoration effort that benefits GRSG (Eiswerth and Shonkwiler 2006).</p>	<p>Action C-VG 7: Same as Alternative A.</p>	<p>Action D-VG 7: Adjust discretionary land uses, such as authorized use for livestock grazing, wild horse and burro populations, or recreational uses or seasons, following restoration projects as needed to facilitate achievement of restoration objectives.</p>	<p>Action E-VG 7: Sagebrush conversion on BLM-administered lands (e.g., crested wheatgrass seedings) should be avoided if the sole purpose is to increase livestock forage.</p>	<p>Action F-VG 7: Same as Alternative B.</p>
<p>Action B-VG 8: Consider potential changes in climate (Miller et al. 2011a) when proposing restoration seedings when using native plants. Consider collection from the warmer component of the species current range when selecting native species (Kramer and Havens 2009).</p>	<p>Action C-VG 8: Same as Alternative A.</p>	<p>Action D-VG 8: See Air Quality and Climate Change section.</p>	<p>Action E-VG 8: Resilient sagebrush habitats need to be identified and protected. Use Core Area maps and climate change models to identify those Core Areas that are likely to persist as sagebrush into the future. Identify opportunities to conserve and protect those resilient habitats.</p>	<p>Action F-VG 8: Same as Alternative B.</p>
<p>Action B-VG 9: Restore native (or desirable) plants and create landscape patterns that most benefit GRSG.</p>	<p>Action C-VG 9: Exotic seedings would be rehabilitated, interseeded, restored to recover sagebrush in areas to expand occupied habitats.</p>	<p>Action D-VG 9: —</p>	<p>Action E-VG 9: Aggressively treat noxious weeds and other invasive plants where they threaten quality of GRSG habitat and apply BMPs to prevent infestations from occurring.</p>	<p>Action F-VG 9: —</p>

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-VG 10: Make re-establishment of sagebrush cover and desirable understory plants (relative to ecological site potential) the highest priority for restoration efforts.	Action C-VG 10: Same as Alternative A.	Action D-VG 10: —	Action E-VG 10: —	Action F-VG 10: —
Action B-VG 11: In fire prone areas where sagebrush seed is required for GRSG habitat restoration, consider establishing seed harvest areas that are managed for seed production (Armstrong 2007) and are a priority for protection from outside disturbances.	Action C-VG 11: Same as Alternative A.	Action D-VG 11: Establish sagebrush seed collection areas to provide locally adapted sagebrush seed sources.	Action E-VG 11: Land managers should encourage development of native seed banks (both in the private and government sectors).	Action F-VG 11: Same as Alternative B.
Action B-VG 12: —	Action C-VG 12: —	<p>Action D-VG 12: Priorities for sagebrush treatment are:</p> <ul style="list-style-type: none"> • Large, contiguous areas of Class 5 sagebrush in Cool-Moist Sagebrush or Class 4 sagebrush in Warm-Dry Sagebrush • Crested/desert wheatgrass seedings • Lower quality brood-rearing habitat • Lower quality nesting habitat • Lower quality connectivity habitat • Sites with minimal presence of invasive species or low probability of colonization by invasive species <p>An individual site may fall into a single priority or in multiple priorities listed. All other sagebrush sites are of lower priority for restoration.</p> <p>All areas should have minimal presence of invasive plant species and low probability of colonization from invasive plant species.</p> <p>Coordinate restoration activities with adjacent landowners/land managers as opportunities arise.</p>	Action E-VG 12: Avoid vegetation treatments in GRSG habitat in areas that are highly susceptible to cheatgrass or other exotic species invasion. Accompany any vegetation treatments conducted in cheatgrass-dominated communities by rehabilitation, and if necessary, reseeding to achieve reestablishment of native vegetation.	Action F-VG 12: —
Action B-VG 13: —	Action C-VG 13: —	Action D-VG 13: Allowable methods for treating sagebrush include mechanical, chemical, biological, or fire methods or combinations of these.	Action E-VG 13: —	Action F-VG 13: —

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>Action B-VG 14: —</p>	<p>Action C-VG 14: —</p>	<p>Action D-VG 14: —</p>	<p>Action E-VG 14: There is potential for GRSG mortality if organophosphorus insecticides are applied to agricultural fields to limit insect damage.</p> <p>Recently similar treatments have been applied to rangelands for grasshopper outbreaks. Such treatments could lead to direct mortality or have indirect effects by removing important foods for chicks.</p> <p>Evaluate necessity of insecticide application.</p> <p>Avoid use of any insecticide in brood-rearing habitats.</p> <p>Avoid use of non-specific insecticides in GRSG habitats. Use instar specific insecticides to limit the impacts on other invertebrate species.</p>	<p>Action F-VG 14: —</p>
<p>Action B-VG 15: —</p>	<p>Action C-VG 15: —</p>	<p>Action D-VG 15: Sagebrush treatments should produce mosaics of sagebrush structure types consistent with sagebrush type, ecological site capability and disturbance regimes (see also Table 2-5).</p>	<p>Action E-VG 15: Use brush beating (or other appropriate treatment) in strips (or a mosaic pattern) 4 to 16 meters (12 to 50 feet) wide (with untreated interspaces 3 times the width of the treated strips) in areas and with relatively high shrub cover (>25%) to improve herbaceous understory for brood rearing habitats, where such habitats may be limiting. Such treatments should not be conducted in known winter habitat (Dahlgren et al. 2006).</p> <p>Manage a minimum of 70% of GRSG range for sagebrush habitat in advanced structural stages, sagebrush class 3, 4 or 5, with an emphasis on classes 4 and 5. The remaining approximately 30% includes areas of juniper encroachment, non-sagebrush shrubland, and grassland and should be managed to increase available habitat within GRSG range.</p>	<p>Action F-VG 15: —</p>

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>Action B-VG 16: —</p>	<p>Action C-VG 16: Active restoration practices:</p> <ol style="list-style-type: none"> 1. Removal of livestock water troughs, pipelines, and wells. 2. Where possible, without further damage to springs and water sources, remove waterline piping and maximize water at spring/stream sources supporting diverse riparian and meadow vegetation. 3. Promote natural healing of headcuts to the maximum extent possible by limiting disturbance throughout the watershed. At times, a combination of methods may need to be used, but gabions and structural devices and boulder dumping should be limited, and restoration should strive for a functioning system. 4. Ripping and recontouring of roads and seeding with native local ecotypes of shrubs and grasses. 	<p>Action D-VG 16: See Livestock Grazing/Range Management section.</p>	<p>Action E-VG 16:</p> <p>Locate and/or relocate livestock water development within GRSG habitat to maintain or enhance habitat quality.</p> <p>Spring development should be constructed and/or modified to maintain their free-flowing natural and wet meadow characteristics.</p> <p>Rehabilitate playas, wetlands, and springs that have been hydrologically modified for livestock watering and develop off-site livestock watering facilities.</p>	<p>Action F-VG 16: —</p>
<p>Action B-VG 17: —</p>	<p>Action C-VG 17: Active restoration of crested wheatgrass seedings. This can be accomplished following targeted restoration planning to expand, reconnect, or recover habitats required by GRSG by:</p> <ol style="list-style-type: none"> 1. Inter-seeding sagebrush seed or seedlings. 2. Removal of crested wheatgrass through plowing while minimizing use of herbicides. Subsequent re-seeding with local native ecotypes. 3. Active restoration of cheatgrass infestation areas. <p>In all cases, local native plant ecotype seeds and seedlings must be used.</p>	<p>Action D-VG 17: When seedings include nonnative plant materials, evaluate post-planting within 10 years to determine the need for interseeding or interplanting to increase native species populations or compositions to that more representative of the ecological site description and capability.</p>	<p>Action E-VG 17: —</p>	<p>Action F-VG 17: —</p>
<p>Action B-VG 18: —</p>	<p>Action C-VG 18: —</p>	<p>Action D-VG 18: —</p>	<p>Action E-VG 18: Sagebrush conversion on BLM-administered lands (e.g., crested wheatgrass seedings) should be avoided if the sole purpose is to increase livestock forage. Alfalfa may provide foraging habitats for GRSG, but typically this occurs at the edge of extensive agricultural areas. A small number of alfalfa fields in an expanse of sagebrush may provide late-season brood habitat. Typically conversion to alfalfa is at the discretion of private landowner.</p>	<p>Action F-VG 18: Avoid sagebrush reduction/treatments to increase livestock or big game forage in occupied habitat and include plans to restore high-quality habitat in areas with invasive species.</p>

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-VG 19: —	Action C-VG 19: —	Action D-VG 19: —	Action E-VG 19: The use of herbicides (primarily tebuthiuron) at low (0.1 to 0.3 kilogram active ingredient per hectare) application rates may effectively thin sagebrush cover while increasing herbaceous plant production (Olson and Whitson 2002). These treatments should be applied in strips or mosaic patterns. Site conditions must be critically evaluated prior to treatment (including fire rehabilitation, new seedings and seeding renovations) to increase likelihood of the desired vegetation response.	Action F-VG 19: —
Action B-VG 20: —	Action C-VG 20: —	Action D-VG 20: —	Action E-VG 20: Promote education and outreach through Soil and Water Conservation District and local Implementation Teams to encourage participation in the NRCS's Sage-Grouse Initiative.	Action F-VG 20: —
Action B-VG 21: —	Action C-VG 21: —	Action D-VG 21: Test new potential restoration methods in areas with a sagebrush overstory and annual grass understory.	Action E-VG 21: —	Action F-VG 21: —
Action B-VG 22: —	Action C-VG 22: —	Action D-VG 22: Priorities for juniper treatments are: 1. Phase I and II juniper within PHMA 2. Phase I and II juniper within GHMA 3. Phase III juniper with a grass-forb understory within PHMA 4. Phase III juniper with a grass-forb understory within GHMA Give higher priority to sites with minimal presence of invasive plant species or low probability for colonization by invasive plant species over sites that would also require seeding to control or limit invasive plant species.	Action E-VG 22: Juniper succession stage (Phase I, II, or III) and site conditions should be considered when selecting removal and post-treatment methods.	Action F-VG 22: —
Action B-VG 23: —	Action C-VG 23: —	Action D-VG 23: Following juniper treatments, seed or apply other restoration treatments in areas with more than a minimal presence of invasive plants.	Action E-VG 23: Same as D-VG 23.	Action F-VG 23: —

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-VG 24: —	Action C-VG 24: —	Action D-VG 24: Remove all branches on cut juniper stumps to prevent regrowth and leave no stumps or branches greater than four feet above the ground or one foot above the general height of the sagebrush, whichever is shorter, to eliminate remaining perch sites for GRSB predators. Where cut trees would be burned later after drying, do not require limbing.	Action E-VG 24: For Phase I juniper less than 6 feet (2 meters), felling and leaving may be effective. Consider limbing any branches larger than 4 feet (1.5 meters) in height on a felled tree.	Action F-VG 24: —
Action B-VG 25: —	Action C-VG 25: —	Action D-VG 25: To the extent possible, jackpot burning of cut juniper should occur when soils are frozen or snow-covered and moisture content of felled trees is low enough to promote complete or near complete consumption of branches. Leaving the bole portion and larger diameter limbs after burn is acceptable. When not possible, burn under conditions when fire spread is expected to be minimal.	Action E-VG 25: For Phase I and Phase II where jackpot burning is the most appropriate method of slash removal, consider a spring burn of juniper (March through April) when soils tend to be frozen but the moisture content of the felled trees is low.	Action F-VG 25: —
Action B-VG 26: —	Action C-VG 26: —	Action D-VG 26: —	Action E-VG 26: Broadcast burns of juniper-invaded sagebrush should be conducted judiciously and such that only one-third of the treatment area is burned (e.g., not to exceed 160 acres). Once sagebrush has begun to recruit a broadcast burn can be conducted for another one-third of the treatment area, and so on for the final third of the area.	Action F-VG 26: —
Action B-VG 27: —	Action C-VG 27: —	Action D-VG 27: Include restoration seeding where the pre-treatment understory has less than 2 to 5 healthy bunchgrass plants per 10 square feet (i.e., a minimum of 2 plants in all sites and up to 5 plants in low productivity sites).	Action E-VG 27: Seeding prior to juniper treatment should be considered when current perennial grass community is in poor condition (fewer than 2 plants per 10 square feet, less than 1 plant per 10 square feet on dry and wet sites) or if invasive plant species are present. Broadcast seeding prior to soil disturbance or under slash may increase the chances of establishment.	Action F-VG 27: —
Action B-VG 28: —	Action C-VG 28: —	Action D-VG 28: —	Action E-VG 28: Length of rest from grazing following juniper treatment depends on understory composition at time of treatment and response of desirable vegetation following treatment. This typically varies from less than 1 to more than 3 years.	Action F-VG 28: —

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-VG 29: —	Action C-VG 29: —	Action D-VG 29: —	Action E-VG 29: If seeding is necessary after wildfire, use appropriate mixtures of sagebrush, native grasses and forbs and appropriate non-native perennials to increase the probability of recovering ecological processes and habitat features of the site.	Action F-VG 29: —
<i>Vegetation (VG)—Integrated Invasive Species</i>				
Action B-VG 30: —	Action C-VG 30: —	Action D-VG 30: —	Action E-VG 30: —	Action F-VG 30: In GRSG habitat, ensure that soil cover and native herbaceous plants are at their ESD potential to help protect against invasive plants. In areas without ESDs, reference sites would be utilized to identify appropriate vegetation communities and soil cover.
Action B-VG 31: —	Action C-VG 31: —	Action D-VG 31: —	Action E-VG 31: Systematic and strategic detection surveys should be developed and conducted in a manner maximizing the likelihood of finding new patches before they expand. Once patches are located, seed production should be stopped and the weeds should be eradicated. The most effective tools for eradication of many weeds are herbicides and possibly bio-controls.	Action F-VG 31: —
Action B-VG 32: —	Action C-VG 32: —	Action D-VG 32: In general, treatment priorities* should be: 1. New infestations 2. Satellite populations 3. Isolated populations 4. Invasive species still subdominant 5. Edges of large infestations 6. Sites frequently or commonly used for temporary infrastructure such as incident base camps, spike camps, staging areas, helispots, and so forth. *Not in priority order	Action E-VG 32: Areas with an adequate understory (greater than 20% composition) of desired vegetation should be identified and prioritized as high for control since they have higher likelihood of successful rehabilitation than areas where desired species are completely displaced.	Action F-VG 32: —
Action B-VG 33: —	Action C-VG 33: —	Action D-VG 33: Allowable methods of invasive plant control include mechanical, chemical, biological, or prescribed fire methods or combinations of these methods.	Action E-VG 33: —	Action F-VG 33: —

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-VG 34: —	Action C-VG 34: —	Action D-VG 34: —	<p>Action E-VG 34: Weed Prevention Areas (WPAs) should be established in areas with limited infestation. Spread vector analysis should be used to determine the highest probability spread mechanisms.</p> <p>“Invasive Plant Prevention Guidelines” developed by the Center for Invasive Plant Management should be followed to reduce the risk of spreading invasive noxious weeds into sagebrush communities.</p>	Action F-VG 34: —
Action B-VG 35: —	Action C-VG 35: —	<p>Action D-VG 35: Use of approved herbicides, biocides, and bio-controls is allowed on all land allocations currently providing or reasonably expected to provide GRS habitat.</p>	<p>Action E-VG 35: Containment programs for large infestations should be maintained. Border spraying infestations, planting aggressive (even appropriate nonnative species) plants as a barrier, establishing seed feeding biological control agents, and grazing weeds to minimize seed production are all methods that could help contain large infestations.</p>	Action F-VG 35: —
Action B-VG 36: —	Action C-VG 36: —	Action D-VG 36: —	<p>Action E-VG 36: A rehabilitation and restoration plan should be developed and implemented for areas with inadequate understory (less than 20% composition) of desired vegetation. The species of choice should include these with similar niche as the invasive weeds. The goal should be to maximize niche occupation with desired species.</p>	Action F-VG 36: —
Action B-VG 37: —	Action C-VG 37: —	Action D-VG 37: —	<p>Action E-VG 37: Work with various agencies and the courts to remove herbicide injunction.</p>	Action F-VG 37: —
Action B-VG 38: —	Action C-VG 38: —	<p>Action D-VG 38: On Type III through I wildfires, provide and require the use of weed washing stations and acceptable disposal of subsequent waste water and material that minimizes the risk of further spread. All vehicles and equipment arriving from outside the local area should be washed before initial use in the fire area and during post-fire emergency stabilization and rehabilitation operations. All vehicles and equipment should be washed prior to release from the incident to reduce the probability of transporting invasive plants to other locations.</p>	Action E-VG 38: —	Action F-VG 38: —

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-VG 39: —	Action C-VG 39: —	Action D-VG 39: Wash vehicles and equipment used in field operations prior to use in areas without known infestations of invasive plants. Wash vehicles and equipment used in areas with known infestations prior to use in another area to limit the further spread of invasive species.	Action E-VG 39: —	Action F-VG 39: —
Action B-VG 40: —	Action C-VG 40: —	Action D-VG 40: Locate base camps, spike camps, coyote camps or other temporary infrastructure in areas that lack invasive plant populations. Where no such options are available, provide for post-operation invasive plant treatments.	Action E-VG 40: —	Action F-VG 40: —
Action B-VG 41: —	Action C-VG 41: —	Action D-VG 41: Minimize cross-country vehicle travel through invasive plant infested areas during emergency and planned operations, such as during wildfire response; spot applying herbicides to invasive plants, conducting vegetation inventory, and so forth.	Action E-VG 41: —	Action F-VG 41: —
Action B-VG 42: —	Action C-VG 42: —	Action D-VG 42: —	Action E-VG 42: Aggressively treat noxious weeds and other invasive plants where they threaten quality of GRSG habitat, and apply best management practices to prevent infestations from occurring.	Action F-VG 42: —
Action B-VG 43: Same as Alternative D.	Action C-VG 43: Same as Alternative D.	Action D-VG 43: Integrated Vegetation Management would be used to control, suppress, and eradicate, where possible, noxious and invasive species per BLM Handbook H-1740-2. Apply Ecologically Based Invasive Plant Management principles in developing responses to noxious and invasive plant species.	Action E-VG 43: Same as Alternative D.	Action F-VG 43: Same as Alternative D.
Wild Horse and Burro (WHB)				
Action B-WHB 1: Within PHMA, develop or amend BLM Herd Management Area Plans (HMAPs) to incorporate GRSG habitat objectives and management considerations for all BLM herd management areas (HMAs).	Action C-WHB 1: Same as Alternative A.	Action D-WHB 1: Same as Alternative B.	Action E-WHB 1: —	Action F-WHB 1: Same as Alternative B.
Action B-WHB 2: For all BLM HMAs within PHMA, prioritize the evaluation of all AMLs based on indicators that address structure, condition, and composition of vegetation and measurements specific to achieving GRSG habitat objectives.	Action C-WHB 2: Same as Alternative A.	Action D-WHB 2: For all HMAs within PHMA, an interdisciplinary team would prioritize the evaluation of HMAs based on the Habitat Assessment Framework (HAF) indicators or with values adjusted for regional conditions. The GRSG Monitoring Framework is in Appendix G . The	Action E-WHB 2: The total Appropriate Management Level (AML) for horse numbers should be kept within current AML (1,340 to 2,655) in herd management areas. Management agencies are strongly encouraged to prioritize funding for wild	Action F-WHB 2: Associated with the reduction in livestock grazing, reduce wild horse AML by 25% for herd management areas that contain PHMA and GHMA to reduce grazing pressure on vegetation.

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		<p>priorities for conducting evaluations are: 1. The portions of the HMA in PHMA 2. The portions of the HMA in GHMA 3. All other areas</p> <p>Modify the AML based on rangeland health analysis and monitoring data if GRSG habitat objectives are not being met as a result of wild horse and burro management.</p> <p>Funding priorities are established nationally and subject to change due to escalating issues or emergencies. The priorities for gathers are: 1. PHMA 2. GHMA 3. All other areas</p> <p>Gathers can be conducted in priority 2 and 3 areas ahead of PHMA to prevent detrimental impacts on rangeland health, herd health, and other identified multiple use goals and objectives.</p>	<p>horse round-ups in GRSG areas that are over AML.</p> <p>Evaluate the AMLs for impacts on sagebrush habitat.</p> <p>Further measures may be warranted to conserve GRSG habitat even if horses are at, above, or below the AML for an HMA.</p>	
<p>Action B-WHB 3: Coordinate with other resources (Range, Wildlife, and Riparian) to conduct land health assessments to determine existing structure, condition, and composition of vegetation within all BLM HMAs.</p>	<p>Action C-WHB 3: Same as Alternative A.</p>	<p>Action D-WHB 3: —</p>	<p>Action E-WHB 3: —</p>	<p>Action F-WHB 3: Same as Alternative B.</p>
<p>Action B-WHB 4: When conducting NEPA analysis for wild horse and burro management activities, water developments or other rangeland improvements for wild horses in PHMA, address the direct and indirect effects on GRSG populations and habitat. Implement any water developments or rangeland improvements using the criteria identified for domestic livestock identified above in PHMA.</p>	<p>Action C-WHB 4: Same as Alternative A.</p>	<p>Action D-WHB 4: —</p>	<p>Action E-WHB 4: —</p>	<p>Action F-WHB 4: Same as Alternative B.</p>
<p>Wildland Fire Management (WFM) (Also, see Vegetation section above for other applicable direction.)</p>				
<p>Action B-WFM 1: In PHMA, design and implement fuels treatments with an emphasis on protecting existing sagebrush ecosystems.</p>	<p>Action C-WFM 1: Same as Alternative B.</p>	<p>Action D-WFM 1: Fuel management actions are detailed below and in Appendix H, Fire and Invasives Assessment Tool.</p>	<p>Action E-WFM 1: Preventing fire from entering at-risk communities (e.g., cheatgrass in understory/overstory sagebrush) should be a high priority for protecting GRSG</p>	<p>Action F-WFM 1: Design and implement fuels treatments with an emphasis on protecting existing sagebrush ecosystems. 1. Do not reduce sagebrush canopy cover to</p>

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<ol style="list-style-type: none"> 1. Do not reduce sagebrush canopy cover to less than 15% (Connelly et al. 2000a; Hagen et al. 2007) unless a fuels management objective requires additional reduction in sagebrush cover to meet strategic protection of PHMA and conserve habitat quality for the species. Closely evaluate the benefits of the fuel break against the additional loss of sagebrush cover in future NEPA documents. 2. Apply appropriate seasonal restrictions for implementing fuels management treatments according to the type of seasonal habitats present in a PHMA. 3. Allow no fuels treatments in known winter range unless the treatments are designed to strategically reduce wildfire risk around or in the winter range and would maintain winter range habitat quality. 4. Do not use fire to treat sagebrush in less than 12-inch precipitation zones (e.g., Wyoming big sagebrush or other xeric sagebrush species; Connelly et al. 2000a; Hagen et al. 2007; Beck et al. 2009). However, if as a last resort and after all other treatment opportunities have been explored and site specific variables allow, the use of prescribed fire for fuel breaks that would disrupt the fuel continuity across the landscape could be considered, in stands where cheatgrass is a very minor component in the understory (Brown 1982). 5. Monitor and control invasive vegetation post-treatment. 6. Rest treated areas from grazing for two full growing seasons unless vegetation recovery dictates otherwise (WGFD 2011). 7. Require use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success (Richards et al. 1998). Where probability of success 		<p>Develop a system of fuel breaks to protect larger intact blocks of GRSG habitat. When possible, locate these fuel breaks along existing roads and rights-of-way.</p> <p>Treat GRSG habitat to reduce the probability of large homogeneous burn patterns and unacceptable wildfire effects, to limit juniper encroachment, and to control invasive species. Treatment assessment should include evaluation of acceptable wildfire effects and recovery and use of unplanned naturally ignited fires.</p> <p>Complete an interagency landscape-scale assessment to prioritize at-risk habitats and identify fuels management, preparedness, suppression, and restoration priorities.</p> <p>See Vegetation section for desired outcomes and conditions post-treatment.</p>	<p>habitat.</p>	<p>less than 15% (Connelly et al. 2000a; Hagen et al. 2007) unless a fuels management objective requires additional reduction in sagebrush cover to meet strategic protection of occupied GRSG habitat and conserve habitat quality for the species.</p> <ol style="list-style-type: none"> 2. Closely evaluate the benefits of the fuel break against the additional loss of sagebrush cover in the EA process. 3. Apply appropriate seasonal restrictions for implementing fuels management treatments according to the type of seasonal habitats present. 4. Allow no fuels treatments in known winter range unless the treatments are designed to strategically reduce wildfire risk around or in the winter range and would maintain winter range habitat quality. 5. Do not use fire to treat sagebrush in less than 12-inch precipitation zones (e.g., Wyoming big sagebrush or other xeric sagebrush species; Connelly et al. 2000a; Hagen et al. 2007; Beck et al. 2009). However, if as a last resort and after all other treatment opportunities have been explored and site specific variables allow, the use of prescribed fire for fuel breaks that would disrupt the fuel continuity across the landscape could be considered, in stands where cheatgrass is a very minor component in the understory (Brown 1982). 6. Design post fuels management projects to ensure long-term persistence of seeded or pre-treatment native plants, including sagebrush. This may require temporary or long-term changes in livestock grazing management, wild horse and burro management, travel management, or other activities to achieve and maintain the desired condition of the fuels management project (Eiswerth and Shonkwiler 2006).

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>or native seed availability is low, nonnative seeds may be used as long as they meet GRSG habitat objectives (Pyke 2011).</p> <p>8. Design post fuels management projects to ensure long-term persistence of seeded or pre-treatment native plants. This may require temporary or long-term changes in livestock grazing management, wild horse and burro management, travel management, or other activities to achieve and maintain the desired condition of the fuels management project (Eiswerth and Shonkwiler 2006).</p>				
<p>Action B-WFM 2: —</p>	<p>Action C-WFM 2: —</p>	<p>Action D-WFM 2: See Vegetation section above for allowable treatment methods and desired outcomes.</p>	<p>Action E-WFM 2: Burns should be conducted in such a way that there is a mosaic of sagebrush and burned areas. These treatments should occur at higher elevations (in the absence of cheatgrass) near juniper encroachment areas. Remove juniper encroaching from mountain big sagebrush communities through cutting of juniper and burning piled trees and limbs (“jack-pot burning”). Prescribed fires at lower elevations generally should be avoided as a management tool. This tool should be used only when:</p> <ol style="list-style-type: none"> 1. No other options are available 2. A pre-burn evaluation has determined that the risk of cheatgrass or other invasive weeds is minimal 	<p>Action F-WFM 2: —</p>
<p>Action B-WFM 4: —</p>	<p>Action C-WFM 4: Focus any fuels treatments on interfaces with human habitation or significant existing disturbances.</p>	<p>Action D-WFM 4: —</p>	<p>Action E-WFM 4: —</p>	<p>Action F-WFM 4: —</p>
<p>Action B-WFM 5: Design fuels management projects in PHMA to strategically and effectively reduce wildfire threats in the greatest area. This may require fuels treatments implemented in a more linear versus block design (Launchbaugh et al. 2007).</p>	<p>Action C-WFM 5: Same as Alternative A.</p>	<p>Action D-WFM 5: See Vegetation section for desired outcomes.</p>	<p>Action E-WFM 5: —</p>	<p>Action F-WFM 5: —</p>

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-WFM 6: During fuels management project design, consider the utility of using livestock to strategically reduce fine fuels (Diamond et al. 2009), and implement grazing management that accomplishes this objective (Davies et al. 2011; Launchbaugh et al. 2007). Consult with ecologists to minimize impacts on native perennial grasses.	Action C-WFM 6: Same as Alternative A.	Action D-WFM 6: See Vegetation section for allowable treatment methods.	Action E-WFM 6: —	Action F-WFM 6: —
Action B-WFM 7: In PHMA, prioritize suppression, immediately after life and property, to conserve the habitat.	Action C-WFM 7: Same as Alternative A.	Action D-WFM 7: Same as Alternative B, in PHMA, prioritize suppression, immediately after life and property, to conserve the habitat. GRSG habitat protection is a high priority for the fire management program. A full range of fire management activities and options would be utilized to protect GRSG habitat within acceptable risk levels. Local agency administrators, resource advisors, and partner agencies would convey protection priorities for GRSG and their habitat to Incident Commanders.	Action E-WFM 7: Give wildfire suppression priority to known GRSG habitat within the framework of the Federal Wildland Fire Management Policy (human life and safety as the first priority, with property and natural resources as second priorities; DOI and USDA 1995).	Action F-WFM 7: Same as Alternative B.
Action B-WFM 8: In GHMA, prioritize suppression where wildfires threaten PHMA.	Action C-WFM 8: Same as Alternative A.	Action D-WFM 8: Within GRSG habitat (PHMA and GHMA), prioritize protection as follows: 1. Nesting habitat within 3 miles of a lek 2. Sage-grouse winter range 3. PHMA Incorporate locations of priority GRSG protection areas into the dispatch system. Provide local GRSG habitat maps to dispatch offices and initial attack Incident Commanders for use in prioritizing wildfire suppression resources and designing suppression tactics.	Action E-WFM 8: Land within 3 miles (5 kilometers) of a lek, as well as identified winter range, should be given top priority in fire suppression. Judiciously use heavy equipment and limit brush removal to only the level necessary to expeditiously extinguish the fire.	Action F-WFM 8: —
Action B-WFM 9: —	Action C-WFM 9: —	Action D-WFM 9: Retain unburned areas, including interior islands and patches between roads and the fire perimeter, of sagebrush unless there is a compelling safety, resource protection, or wildfire management objective at risk.	Action E-WFM 9: Retain unburned areas (including interior islands and patches between roads and the fire perimeter) of GRSG habitat unless there is a compelling safety, resource protection, or control objectives at risk.	Action F-WFM 9: —

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-WFM 10: —	Action C-WFM 10: —	Action D-WFM 10: Follow established direction in the current Interagency Standards for Fire Operations (Red Book) with respect to use of resource advisors, annual review of fire management plans for updates relevant to GRSG habitat, contents of the Delegation of Authority letters, and so forth.	Action E-WFM 10: Train and use resource advisors to assist with prioritizing fires during suppression activities and work with Incident Commanders and Incident Management Teams as appropriate. Fire specialists and wildlife biologists should review District Fire Management Plans (Phase I) annually to incorporate new GRSG information (e.g., lek and habitat viability maps) in setting wildfire suppression priorities. Updates to Phase-I Fire Plans should be distributed to dispatchers for initial attack planning.	Action F-WFM 10: —
Action B-WFM 11: —	Action C-WFM 11: —	Action D-WFM 11: —	Action E-WFM 11: Use direct attack tactics when it is safe and effective at reducing amount of burned habitat.	Action F-WFM 11: —
Action B-WFM 12: —	Action C-WFM 12: —	Action D-WFM 12: Use of retardant and other fire suppressant chemicals is allowed on all land allocations except where expressly prohibited by land allocation direction. Use of retardant is allowed on all land allocations regardless of management direction when there is imminent threat to human life (entrapment).	Action E-WFM 12: —	Action F-WFM 12: —
Action B-WFM 13: —	Action C-WFM 13: —	Action D-WFM 13: Use of mechanical fire line is allowed except where prohibited by other resource direction (e.g., Soils, Hydrology, and Riparian management) and where inconsistent with direction for specific land allocations without approval of the District Manager.	Action E-WFM 13: —	Action F-WFM 13: —
Action B-WFM 14: —	Action C-WFM 14: —	Action D-WFM 14: Use of naturally ignited wildfires is allowed to meet resource management objectives such as reducing juniper encroachment and creating mosaics of sagebrush classes. Include decision criteria in the fire management plan for determining when use of a naturally ignited wildfire is appropriate.	Action E-WFM 14: —	Action F-WFM 14: —
Action B-WFM 15: —	Action C-WFM 15: —	Action D-WFM 15: To the extent feasible, locate base camps, spike camps, drop points, staging areas, helibases, and other temporary wildfire infrastructure in areas where physical disturbance to GRSG habitat can be minimized.	Action E-WFM 15: —	Action F-WFM 15: —

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Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-WFM 16: Require BMPs in the NTT Report, Appendix F (BMPs for Fire and Fuels) (Appendix C , Required Design Features and Best Management Practices).	Action C-WFM 16: Same as Alternative B.	Action D-WFM 16: Same as Alternative B.	Action E-WFM 16: —	Action F-WFM 16: Same as Alternative B.
Action B-WFM 17: Prioritize native seed allocation for use in GRSG habitat in years when preferred native seed is in short supply. This may require reallocation of native seed from Emergency Stabilization and Rehabilitation (ES&R) projects outside of PHMA to those inside it. Use of native plant seeds for ES&R seedings is required based on availability, adaptation (site potential), and probability of success (Richards et al. 1998). Where probability of success or native seed availability is low, nonnative seeds may be used as long as they meet GRSG habitat conservation objectives (Pyke 2011). Re-establishment of appropriate sagebrush species/subspecies and important understory plants, relative to site potential, shall be the highest priority for rehabilitation efforts.	Action C-WFM 17: Same as Alternative A.	Action D-WFM 17: Evaluate wildfires of approximately 100 acres and larger for rehabilitation needs to restore functioning sagebrush ecosystems, limit water and wind erosion, and limit the spread of invasive plant species. Determine the need for: 1. Increased plant cover relative to ecological site capability 2. Invasive species control needs 3. Wind or water erosion control needs 4. Increased abundance of native species to meet GRSG habitat needs	Action E-WFM 17: Wildfires burning greater than 10 acres of GRSG habitat should be evaluated to determine if seeding is necessary to recover ecological processes and achieve habitat objectives. If seeding is necessary, managers should use appropriate mixtures of sagebrush, native grasses and forbs, and appropriate nonnative perennials that increase the probability of recovering ecological processes and habitat features of the site. Wyoming big sagebrush sites should be re-seeded or planted with seedlings of Wyoming big sagebrush when available. Wildfires burning greater than 10 acres of habitat that is at high risk of invasive plant invasions should be seeded with an appropriate mixture to reduce the probability of cheatgrass establishment.	Action F-WFM 17: Same as Alternative B.
Action B-WFM 18: —	Action C-WFM 18: —	Action D-WFM 18: See Vegetation section for direction concerning emergency stabilization and rehabilitation.	Action E-WFM 18: —	Action F-WFM 18: —
Action B-WFM 19: —	Action C-WFM 19: —	Action D-WFM 19: See Vegetation section for direction concerning seed mixes.	Action E-WFM 19: If native plant and sagebrush seed is unavailable crested wheatgrass can be planted in lieu of native species or as a mixture with native species, because it is readily available, can successfully compete with cheatgrass, and establishes itself more readily than natives. If crested wheatgrass is planted initially specific efforts or plans are needed to interseed native grasses, forbs and shrubs in the rehabilitation area. This might include an initial seed-mix of 1 to 2 pounds per acre of crested wheatgrass mixed with natives. Use of crested wheatgrass is an intermediate step in rehabilitating disturbances to sagebrush habitats.	Action F-WFM 19: —
Action B-WFM 20: —	Action C-WFM 20: —	Action D-WFM 20: See Vegetation section for direction concerning seed mixes.	Action E-WFM 20: Sagebrush should be included in fire rehabilitation seeding mixtures or as seedlings as often as possible.	Action F-WFM 20: —

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-WFM 21: —	Action C-WFM 21: —	Action D-WFM 21: —	Action E-WFM 21: Decrease the probability of cheatgrass invasion after a fire.	Action F-WFM 21: —
Action B-WFM 22: —	Action C-WFM 22: —	Action D-WFM 22: Upon completion of fuels, restoration or rehabilitation projects, monitor to ensure long-term success, including persistence of seeded species and other treatment components.	Action E-WFM 22: Post-treatment monitoring would be needed to determine if rehabilitation efforts need to be repeated if initial attempts fail due to drought.	Action F-WFM 22: —
Action B-WFM 23: Design post ES&R management to ensure long-term persistence of seeded or pre-burn native plants. This may require temporary or long-term changes in livestock grazing, wild horse and burro, and travel management, etc., to achieve and maintain the desired condition of ES&R projects to benefit GRSG (Eiswerth and Shonkwiler 2006).	Action C-WFM 23: Same as Alternative A.	Action D-WFM 23: —	Action E-WFM 23: —	Action F-WFM 23: Same as Alternative B.
Action B-WFM 24: Consider potential changes in climate (Miller et al. 2011a) when proposing post-fire seedings using native plants. Consider seed collections from the warmer component within a species' current range for selection of native seed. (Kramer and Havens 2009).	Action C-WFM 24: Same as Alternative A.	Action D-WFM 24: See Air Quality and Climate Change section.	Action E-WFM 24: —	Action F-WFM 24: Same as Alternative B.
Action B-WFM 25: —	Action C-WFM 25: —	Action D-WFM 25: —	Action E-WFM 25: Land managers should encourage development of native seed banks (both in the private and government sectors).	Action F-WFM 25: Establish and strengthen networks with seed growers to assure availability of native seed for ES&R projects.
Action B-WFM 26: —	Action C-WFM 26: —	Action D-WFM 26: See Livestock Grazing/Range Management section.	Action E-WFM 26: —	Action F-WFM 26: Post fire recovery must include establishing adequately sized exclosures (free of livestock grazing) that can be used to assess recovery.
Action B-WFM 27: —	Action C-WFM 27: —	Action D-WFM 27: See Livestock Grazing/Range Management section.	Action E-WFM 27: —	Action F-WFM 27: Livestock grazing should be excluded from burned areas until woody and herbaceous plants achieve GRSG habitat objectives.
Action B-WFM 28: —	Action C-WFM 28: —	Action D-WFM 28: See Livestock Grazing/Range Management section.	Action E-WFM 28: —	Action F-WFM 28: Where burned GRSG habitat cannot be fenced from other unburned habitat, the entire area (e.g., allotment/pasture) should be closed to grazing until recovered.

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Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-WFM 29: —	Action C-WFM 29: Use grass mowing in any fuel break fuels-reduction project (roadsides or other areas).	Action D-WFM 29: Develop a system of fuel breaks to protect larger intact blocks of GRSG habitat. Where possible, locate these fuel breaks along existing roads and rights-of-way. Within GRSG habitat, prioritize suppression and fuels management activities based on an assessment of the quality of habitat at risk.	Action E-WFM 29: Consider establishing fire breaks or green-stripping along existing roadways to provide a fuel break and safe zone from which to fight fire. Establish green strips no larger than 50 feet (15 meters) on either side of the road to provide foraging habitat for GRSG and provide more than 100 feet (30 meters) of fuel breaks. Consider planting crested wheat in fuel breaks where invasive plant species are prevalent (see guideline on fire restoration for seeding rate).	Action F-WFM 29: —
Action B-WFM 30: —	Action C-WFM 30: —	Action D-WFM 30: Reduce hazardous fuels created through other vegetation treatments, such as establishment or maintenance of roads, trails, or rights-of-way, within 3 years of its creation. The reduction should be sufficient to limit fire spread or unacceptable fire behavior or fire effects in sagebrush ecosystems.	Action E-WFM 30: —	Action F-WFM 30: —
Action B-WFM 31: —	Action C-WFM 31: —	Action D-WFM 31: Use interagency-coordinated fire restrictions and public service announcements to reduce the number of human starts in or near GRSG habitat during periods of increased and elevated fire danger.	Action E-WFM 31: —	Action F-WFM 31: —
Action B-WFM 32: —	Action C-WFM 32: —	Action D-WFM 32: BLM districts, in coordination with USFWS and relevant state agencies, would complete and continue to update GRSG Landscape Wildfire and Invasive Species Habitat Assessments by April 2015 to prioritize at-risk habitats, and identify fuels management, preparedness, suppression, and restoration priorities necessary to maintain sagebrush habitat to support interconnecting GRSG populations. These assessments and subsequent assessment updates would be a coordinated effort with an interdisciplinary team to take into account other GRSG priorities identified in this plan. Appendix H, Fire and Invasives Assessment Tool , describes a minimal framework example and suggested approach for this assessment.	Action E-WFM 32: —	Action F-WFM 32: —

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-WFM 33: —	Action C-WFM 33: —	Action D-WFM 33: Implementation actions would be tiered to the local unit level GRSG Landscape Wildfire and Invasive Species Assessment described in Action D-WFM 32, utilizing best available science related to the conservation of GRSG.	Action E-WFM 33: —	Action F-WFM 33: —
Action B-WFM 34: —	Action C-WFM 34: —	Action D-WFM 34: In coordination with USFWS and relevant state agencies, BLM districts would identify annual treatment needs for wildfire and invasive species management as identified in local unit level Landscape Wildfire and Invasive Species Assessments. Coordinate annual treatment needs across state/regional scales and across jurisdictional boundaries for long-term conservation of GRSG.	Action E-WFM 34: —	Action F-WFM 34: —
Action B-WFM 35: —	Action C-WFM 35: —	Action C-WFM 35: Annually complete a review of landscape assessment implementation efforts with appropriate USFWS and state agency personnel.	Action C-WFM 35: —	Action C-WFM 35: —
Action B-WFM 36: Fuels Management: Implement as RDFs the measures identified in Appendix C , Required Design Features and Best Management Practices.	Action C-WFM 36: Fuels Management: Implement as RDFs the measures identified in Appendix C , Required Design Features and Best Management Practices.	Action D-WFM 36: Fuels Management: Implement as “required design features”, the measures identified in Appendix C , Required Design Features and Best Management Practices.	Action E-WFM 36:	Action F-WFM 36: Fuels Management: Implement as RDFs the measures identified in Appendix C , Required Design Features and Best Management Practices.
Action B-WFM 37: —	Action C-WFM 37: —	Action D-WFM 37: Fuel treatments would be designed though an interdisciplinary process to expand, enhance, maintain, and protect GRSG habitat. Use green strips and/or fuel breaks, where appropriate, to protect seeding efforts from subsequent fire events. In coordination with USFWS and relevant state agencies, BLM districts with large blocks of GRSG habitat would develop, using the assessment process described in Appendix H , Fire and Invasives Assessment Tool, a fuels management strategy that considers an up-to-date fuels profile, LUP direction, current and potential habitat fragmentation, sagebrush and GRSG ecological factors, and active vegetation management steps to provide crucial breaks in fuel continuity, where appropriate by December 2014. When developing this	Action E-WFM 37: —	Action F-WFM 37: —

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		strategy, planning units would consider the risk of increased habitat fragmentation from a proposed action versus the risk of large scale fragmentation posed by wildfires if the action is not taken.		
Action B-WFM 38: —	Action C-WFM 38: —	Action D-WFM 38: Utilizing an interdisciplinary approach, a full range of fuel reduction techniques would be available. Fuel reduction techniques such as grazing, prescribed fire, chemical, biological and mechanical treatments are acceptable.	Action E-WFM 38: —	Action F-WFM 38: —
Action B-WFM 39: —	Action C-WFM 39: —	Action D-WFM 39: Prioritize the use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success. Where probability of success or native seed availability is low, non-native seeds may be used to meet GRSG habitat objectives to trend toward restoring the fire regime. When reseeding, use fire resistant native and non-native species, as appropriate, to provide for fuel breaks.	Action E-WFM 39: —	Action F-WFM 39: —
Action B-WFM 40: —	Action C-WFM 40: —	Action D-WFM 40: Upon project completion, monitor and manage fuels projects to ensure long-term success, including persistence of seeded species and/or other treatment components. Control invasive vegetation post-treatment.	Action E-WFM 40: —	Action F-WFM 40: —
Action B-WFM 41: —	Action C-WFM 41: —	Action D-WFM 41: Apply seasonal restriction, as needed, for implementing fuels management treatments according to the type of seasonal habitat present.	Action E-WFM 41: —	Action F-WFM 41: —
Action B-WFM 42: Preparedness: Implement as RDFs, the measures identified in Appendix C , Required Design Features and Best Management Practices.	Action C-WFM 42: Preparedness: Implement as RDFs, the measures identified in Appendix C , Required Design Features and Best Management Practices.	Action D-WFM 42: Preparedness: Implement as RDFs, the measures identified in Appendix C , Required Design Features and Best Management Practices.	Action E-WFM 42: Preparedness: Implement as RDFs, the measures identified in Appendix C , Required Design Features and Best Management Practices.	Action F-WFM 42: Preparedness: Implement as RDFs, the measures identified in Appendix C , Required Design Features and Best Management Practices.
Action B-WFM 43: —	Action C-WFM 43: —	Action D-WFM 43: Implement a coordinated interagency approach to fire restrictions based upon National Fire Danger Rating System thresholds (fuel conditions, drought conditions and predicted weather patterns) for GRSG habitat.	Action E-WFM 43: —	Action F-WFM 43: —

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-WFM 44: —	Action C-WFM 44: —	Action D-WFM 44: Develop wildfire prevention plans that explain the resource value of GRSG habitat and include fire prevention messages and actions to reduce human-caused ignitions.	Action E-WFM 44: —	Action F-WFM 44: —
Action B-WFM 45: Fire Management (Suppression): Implement as RDFs, the measures identified in Appendix C , Required Design Features and Best Management Practices.	Action C-WFM 45: Fire Management (Suppression): Implement as RDFs, the measures identified in Appendix C , Required Design Features and Best Management Practices.	Action D-WFM 45: Fire Management (Suppression): Implement as RDFs, the measures identified in Appendix C , Required Design Features and Best Management Practices.	Action E-WFM 45: Fire Management (Suppression): Implement as RDFs, the measures identified in Appendix C , Required Design Features and Best Management Practices.	Action F-WFM 45: Fire Management (Suppression): Implement as RDFs, the measures identified in Appendix C , Required Design Features and Best Management Practices.
Action B-WFM 46: Same as Alternative D.	Action C-WFM 46: Same as Alternative D.	Action D-WFM 46: Fire fighter and public safety are the highest priority. Sage-grouse habitat would be prioritized commensurate with property values and other important habitat to be protected, with the goal to restore, enhance, and maintain areas suitable for GRSG.	Action E-WFM 46: Same as Alternative D.	Action F-WFM 46: Same as Alternative D.
Action B-WFM 47: —	Action C-WFM 47: —	Action D-WFM 47: Within GRSG habitat, PHMA (and PACs, if so determined by individual RMP efforts) are the highest priority for conservation and protection during fire operations and fuels management decision making. The PHMA (and PACs, if so determined by individual RMP efforts) would be viewed as more valuable than GHMA when priorities are established. When suppression resources are widely available, maximum efforts would be placed on limiting fire growth in GHMA polygons as well. These priority areas would be further refined following completion of the GRSG Landscape Wildfire and Invasive Species Habitat Assessments described in Appendix H , Fire and Invasives Assessment Tool.	Action E-WFM 47: —	Action F-WFM 47: —
Action B-WFM 48: —	Action C-WFM 48: —	Action D-WFM 48: Within acceptable risk levels, utilize a full range of fire management strategies and tactics, including the management of wildfires to achieve resource objectives, across the range of GRSG habitat consistent with land use plan direction.	Action E-WFM 48: —	Action F-WFM 48: —

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Livestock Grazing/Range Management (LG/RM)				
<p>Action B-LG/RM 1: The number of AUMs would be the same as Alternative A. There would be 771,773 AUMs on GRSG habitat in the planning area.</p>	<p>Action C-LG/RM 1: Prohibit grazing in occupied GRSG habitat. There would be 0 AUMs on GRSG habitat in the planning area.</p>	<p>Action D-LG/RM 1: Close all RNAs that contain over 20% PHMA acres and/or 50% GHMA that are not meeting rangeland health standards due to current livestock grazing management and do not have a suitable habitat rating consistent with the HAF or with values adjusted for regional conditions to maintain native plant community cells in relatively undisturbed condition to serve as a baseline for understanding the impacts of grazing and not grazing GRSG habitat.</p> <p>Maintain closed RNAs as closed until attainment of rangeland health standards can be documented and a suitable habitat rating that is consistent with the HAF or with values adjusted for regional conditions is achieved.</p> <p>There would be 763,825 AUMs on GRSG habitat in the planning area.</p>	<p>Action E-LG/RM 1: The number of AUMs would be the same as Alternative A. There would be 771,773 AUMs on GRSG habitat in the planning area.</p>	<p>Action F-LG/RM 1: Reduce by 25% the area grazed. There would be 289,414 AUMs on GRSG habitat in the planning area.</p>
<p>Action B-LG/RM 2: Within PHMA, incorporate GRSG habitat objectives and management considerations into all BLM grazing allotments through Allotment Management Plans (AMPs) or permit renewals.</p>	<p>Action C-LG/RM 2: —</p>	<p>Action D-LG/RM 2: When renewing term grazing permits or leases and revising or drafting new allotment management plans within GRSG PHMA, incorporate habitat indicators and associated values that are consistent with the HAF or with values adjusted for regional conditions, into management objectives and actions</p> <p>The timing and location of livestock turnout and trailing should not contribute to livestock concentrations on leks during the GRSG breeding season.</p>	<p>Action E-LG/RM 2: —</p>	<p>Action F-LG/RM 2: Same as Alternative B.</p>
<p>Action B-LG/RM 3: In PHMA, work cooperatively on integrated ranch planning within GRSG habitat so operations with deeded BLM allotments can be planned as single units.</p>	<p>Action C-LG/RM 3: —</p>	<p>Action D-LG/RM 3: Same as Alternative A.</p>	<p>Action E-LG/RM 3: —</p>	<p>Action F-LG/RM 3: Same as Alternative B.</p>

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>Action B-LG/RM 4: Prioritize completion of land health assessments and processing grazing permits within PHMA. Focus this process on allotments that have the best opportunities for conserving, enhancing or restoring habitat for GRSG. Utilize BLM Ecological Site Descriptions (ESDs) to conduct land health assessments to determine if standards of rangeland health are being met.</p>	<p>Action C-LG/RM 4: —</p>	<p>Action D-LG/RM 4: Prioritize the processing of grazing permits or leases in the following way: Category “I” allotments receive the highest priority for revision followed by Category “M” and lastly by Category “C” allotments. A description of these categories can be found in Chapter 3, Affected Environment.</p>	<p>Action E-LG/RM 4: —</p>	<p>Action F-LG/RM 4: Same as Alternative B.</p>
<p>Action B-LG/RM 5: In PHMA, conduct land health assessments that include (at a minimum) indicators and measurements of structure/condition/composition of vegetation specific to achieving GRSG habitat objectives (Doherty et al. 2011a). If local/state seasonal habitat objectives are not available, use GRSG habitat recommendations from Connelly et al. 2000b and Hagen et al. 2007.</p>	<p>Action C-LG/RM 5: —</p>	<p>Action D-LG/RM 5: Within 10 years, complete land health assessments when grazing permits/leases come up for renewal reflective of the aforementioned categories. Priority order for land health assessments are:</p> <ol style="list-style-type: none"> 1. Allotments or pastures in PHMA that have never been evaluated 2. Allotments or pastures in PHMA that have not been reevaluated in 10 or more years 3. Allotments or pastures in GHMA that have never been evaluated 4. Allotments or pastures in GHMA that have not been reevaluated in 10 or more years 	<p>Action E-LG/RM 5: —</p>	<p>Action F-LG/RM 5: Same as Alternative B.</p>
<p>Action B-LG/RM 6: —</p>	<p>Action C-LG/RM 6: —</p>	<p>Action D-LG/RM 6: When conducting rangeland health assessments, use habitat indicators and associated values that are consistent with the HAF or with values adjusted for regional conditions to determine the suitability of PHMA.</p> <p>For allotments or pastures not meeting the indicators and associated values for suitable GRSG habitat, and livestock grazing is a factor, changes in grazing management must be made as soon as practical but prior to the start of the next grazing season.</p> <p>If all rangeland health standards and guidelines are met and GRSG habitat is rated as suitable as per the HAF or per values adjusted for regional conditions, require no changes in current management or activity plans or permits/leases.</p>	<p>Action E-LG/RM 6: Where livestock grazing management results in a forage use level detrimental to habitat quality, it is recommended changes in grazing management be made as soon as possible to recover habitat quality. Adjustments to grazing management should be conducted in accordance with regulations of responsible land management agency. Adaptive management that should be considered include:</p> <ol style="list-style-type: none"> 1. changes in salting and watering locations 2. change in the season, fencing, duration or intensity of use 3. reducing grazing use levels 4. temporary livestock nonuse (rest) extended livestock nonuse until specific local objectives are met as identified by implementation group. 	<p>Action F-LG/RM 6: —</p>

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		<p>Within PHMA managing livestock grazing to provide residual cover of herbaceous vegetation consistent with habitat indicators and associated values found in the HAF or as adjusted for regional conditions. Management practices that should be considered include:</p> <ol style="list-style-type: none"> 1. rotational grazing 2. changes in salting and watering locations 3. change in season, duration, or intensity of use 4. temporary livestock nonuse (rest) 5. re-locating fences 6. extended livestock nonuse until specific local objectives are met 		
<p>Action B-LG/RM 7: Develop specific objectives to conserve, enhance or restore PHMA based on BLM ESDs and assessments (including within wetlands and riparian areas). If an effective grazing system that meets GRSG habitat requirements is not already in place, analyze at least one alternative that conserves, restores or enhances GRSG habitat in the NEPA document prepared for the permit renewal (Doherty et al. 2011b; Williams et al. 2011).</p>	<p>Action C-LG/RM 7: —</p>	<p>Action D-LG/RM 7: Develop specific objectives to conserve, enhance or restore PHMA based on ESDs and assessments (including within wetlands and riparian areas). If an effective grazing system that meets GRSG habitat requirements is not already in place, analyze at least one alternative that conserves, restores or enhances GRSG habitat in the NEPA document prepared for the permit renewal (Doherty et al. 2011b; Williams et al. 2011). The objective is to attain a suitable habitat rating that is consistent with the HAF or with values adjusted for regional conditions.</p>	<p>Action E-LG/RM 7: —</p>	<p>Action F-LG/RM 7: —</p>
<p>Action B-LG/RM 8: In PHMA, manage for vegetation composition and structure consistent with ecological site potential and within the reference state to achieve GRSG seasonal habitat objectives.</p>	<p>Action C-LG/RM 8: —</p>	<p>Action D-LG/RM 8: Same as Alternative B.</p>	<p>Action E-LG/RM 8: —</p>	<p>Action F-LG/RM 8: Manage for vegetation composition and structure consistent with ecological site potential and within the reference state to achieve GRSG habitat objectives.</p>
<p>Action B-LG/RM 9: Implement management actions (grazing decisions, AMP/Conservation Plan development, or other agreements) to modify grazing management to meet seasonal GRSG habitat requirements (Connelly et al. 2011b). Consider singly, or in combination, changes in:</p> <ol style="list-style-type: none"> 1. Season or timing of use 2. Numbers of livestock (includes temporary nonuse or livestock removal) 	<p>Action C-LG/RM 9: —</p>	<p>Action D-LG/RM 9: Where rangeland health standards are not being met in PHMA or GHMA, modify grazing management (grazing decisions, AMP/Conservation Plan development, or other agreements) to meet seasonal GRSG habitat requirements and to achieve a suitable rating consistent with the HAF or with values adjusted for regional conditions. Consider the following changes in:</p> <ol style="list-style-type: none"> 1. Season or timing of use 	<p>Action E-LG/RM 9: —</p>	<p>Action F-LG/RM 9: Implement management actions (grazing decisions, AMP/Conservation Plan development, or other plans or agreements) to modify grazing management to meet seasonal sage-grouse habitat requirements (Connelly et al. 2011b). Consider singly, or in combination, changes in:</p> <ol style="list-style-type: none"> 1. Season, timing, or frequency of livestock use 2. Numbers/AUMs of livestock (includes

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>3. Distribution of livestock use 4. Intensity of use; and 5. Type of livestock (e.g., cattle, sheep, horses, llamas, alpacas, and goats; Briske et al. 2011).</p>		<p>2. Numbers of livestock (includes temporary nonuse or livestock removal) 3. Distribution of livestock use 4. Intensity of use 5. Type of livestock (e.g., cattle, sheep, horses, llamas, alpacas, and goats; Briske et al. 2011) 6. Adjustments in allowable utilization level 7. Extended rest or temporary closure from grazing 8. Permanent closure to grazing</p>		<p>temporary nonuse or livestock removal) 3. Distribution of livestock use 4. Intensity of livestock use 5. Type of livestock (e.g., cattle, sheep, horses, llamas, alpacas, and goats; Briske et al. 2011).</p>
<p>Action B-LG/RM 10: During drought periods, prioritize evaluating effects of the drought in PHMA relative to their needs for food and cover. Since there is a lag in vegetation recovery following drought (Thurow and Taylor 1999; Cagney et al. 2010), ensure that post-drought management allows for vegetation recovery that meets GRSG needs in PHMA.</p> <p>Follow guidance in Washington Office IM 2013-094 (Resource Management During Drought) or most current BLM policy when making grazing adjustments during drought.</p>	<p>Action C-LG/RM 10: Follow guidance in Washington Office IM 2013-094 (Resource Management During Drought) or most current BLM policy when making grazing adjustments during drought.</p>	<p>Action D-LG/RM 10: During drought conditions, make the principal focus to maintain long-term health and productivity of public rangelands in PHMA.</p> <p>Follow guidance in Washington Office IM 2013-094 (Resource Management During Drought) or most current BLM policy when making grazing adjustments during drought. Use a recognized drought indicator, such as the Drought Monitor or Palmer Drought Severity Index, to determine when abnormally dry or drought conditions are developing, present, or easing. When such conditions are developing or present:</p> <ol style="list-style-type: none"> 1. Conduct pre- season assessments prior to livestock turn out 2. Monitor vegetation conditions during authorized livestock use periods to determine need for early removal or other changes to meet seasonal GRSG habitat objectives. <p>As drought conditions appear to be easing and prior to re- authorizing livestock use, evaluate vegetation conditions utilizing methods that measure habitat suitability, particularly in breeding and nesting areas using an interdisciplinary team to determine whether existing vegetation conditions can both support livestock grazing and GRSG habitat needs. Work cooperatively with public land users and other stakeholders to develop and implement drought-responsive actions during drought conditions.</p>	<p>Action E-LG/RM 10: Follow guidance in Washington Office IM 2013-094 (Resource Management During Drought) or most current BLM policy when making grazing adjustments during drought.</p>	<p>Action F-LG/RM 10: During drought periods, prioritize evaluating effects of drought in sage-grouse habitat areas relative to their biological needs, as well as drought effects on ungrazed reference areas. Since there is a lag in vegetation recovery following drought (Thurow and Taylor 1999; Cagney et al. 2010), ensure that post-drought management allows for vegetation recovery that meets sage-grouse needs in sage-grouse habitat areas based on GRSG habitat objectives.</p> <p>Follow guidance in Washington Office IM 2013-094 (Resource Management During Drought) or most current BLM policy when making grazing adjustments during drought.</p>

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-LG/RM 11: Manage riparian areas and wet meadows for proper functioning condition within PHMA.	Action C-LG/RM 11: —	Action D-LG/RM 11: —	Action E-LG/RM 11: —	Action F-LG/RM 11: Same as Alternative B.
Action B-LG/RM 12: Within PHMA and GHMA, manage wet meadows to maintain a component of perennial forbs with diverse species richness relative to site potential (e.g., reference state) to facilitate brood rearing. Also conserve or enhance these wet meadow complexes to maintain or increase amount of edge and cover within that edge to minimize elevated mortality during the late brood rearing period (Hagen et al. 2007; Kolada et al. 2009; Atamian et al. 2010).	Action C-LG/RM 12: —	Action D-LG/RM 12: Manage wet meadows and riparian areas to maintain the characteristic species composition for the given ecological site. Include as a habitat objective(s) in AMPs or activity plans: 1. Maintain sufficient cover for broods both along edges and within meadows. 2. Manage lotic and lentic riparian community succession in an upward trend to achieve PFC.	Action E-LG/RM 12: —	Action F-LG/RM 12: Within GRSG habitats, manage wet meadows to maintain a component of perennial forbs with diverse species richness and productivity relative to site potential (e.g., reference state) to facilitate brood rearing. Conserve or enhance these wet meadow complexes to maintain or increase the amount of edge and cover within that edge to minimize elevated mortality during the late brood-rearing period (Hagen et al. 2007; Kolada et al. 2009; Atamian et al. 2010).
Action B-LG/RM 13: Where riparian areas and wet meadows meet proper functioning condition, strive to attain reference state vegetation relative to the ecological site description.	Action C-LG/RM 13: —	Action D-LG/RM 13: Same as above.	Action E-LG/RM 13: —	Action F-LG/RM 13: Same as Alternative B.
Action B-LG/RM 14: Within PHMA, reduce hot season grazing on riparian and meadow complexes to promote recovery or maintenance of appropriate vegetation and water quality. Utilize fencing/herding techniques or seasonal use or livestock distribution changes to reduce pressure on riparian or wet meadow vegetation used by GRSG in the hot season (summer; Aldridge and Brigham 2002; Crawford et al. 2004; Hagen et al. 2007).	Action C-LG/RM 14: —	Action D-LG/RM 14: Same as above	Action E-LG/RM 14: —	Action F-LG/RM 14: —
Action B-LG/RM 15: —	Action C-LG/RM 15: —	Action D-LG/RM 15: Same as Alternative E	Action E-LG/RM 15: The timing and location of livestock turnout and trailing should not contribute to livestock concentrations on leks during the GRSG breeding season.	Action F-LG/RM 15: —
Action B-LG/RM 16: Authorize new water development for diversion from spring or seep source only when PHMA would benefit from the development. This includes developing new water sources for livestock as part of an AMP/conservation plan to improve GRSG habitat.	Action C-LG/RM 16: —	Action D-LG/RM 16: Authorize new and relocate or modify existing water developments to enhance functionality during time periods when livestock are absent from the allotment and retrofit with wildlife escape ramps to maintain, enhance, or reestablish riparian areas located within in PHMA and GHMA as well as areas in the sagebrush biome outside of GRSG.	Action E-LG/RM 16: Locate new or relocate livestock water developments within GRSG habitat to maintain or enhance habitat quality.	Action F-LG/RM 16: Authorize no new water developments for diversion from spring or seep sources within sage-grouse habitat.

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-LG/RM 17: Analyze springs, seeps and associated pipelines to determine if modifications are necessary to maintain the continuity of the predevelopment riparian area within PHMA. Make modifications where necessary, considering impacts on other water uses when such considerations are neutral or beneficial to GRSG.	Action C-LG/RM 17: —	Action D-LG/RM 17: Same as above	Action E-LG/RM 17: Spring developments both new and old should be constructed or modified to maintain their free-flowing natural and wet meadow characteristics.	Action F-LG/RM 17: Analyze springs, seeps and associated water developments to determine if modifications are necessary to maintain the continuity of the predevelopment riparian area within sage-grouse habitats. Make modifications where necessary, including dismantling water developments.
Action B-LG/RM 18: —	Action C-LG/RM 18: —	Action D-LG/RM 18: Same as Alternative E	Action E-LG/RM 18: Ensure wildlife accessibility to water and install escape ramps in all new and existing water troughs.	Action F-LG/RM 18: —
Action B-LG/RM 19: —	Action C-LG/RM 19: —	Action D-LG/RM 19: —	Action E-LG/RM 19: Construct new livestock facilities (livestock troughs, fences, corrals, handling facilities, “dusting bags,” etc.) at least 0.6 mile (1 kilometer) from leks to avoid concentration of livestock, reduce collision hazards to flying birds, or eliminate avian predator perches.	Action F-LG/RM 19: —
Action B-LG/RM 20: —	Action C-LG/RM 20: —	Action D-LG/RM 20: For playas, wetlands, and springs that have been hydrologically modified for livestock watering, identify those water improvements that have population limiting implications, and develop plans for rehabilitation. Further actions should be instigated for development of water off site; new water should be available before existing water is eliminated. Assist in surveillance with ODFW if an outbreak of West Nile virus is discovered.	Action E-LG/RM 20: For playas, wetlands, and springs that have been hydrologically modified for livestock watering, local working groups should identify water improvements that have population limiting implications. These should be rehabilitated and off-site livestock watering facilities developed; new water should be available before existing water is eliminated.	Action F-LG/RM 20: —
Action B-LG/RM 21: —	Action C-LG/RM 21: —	Action D-LG/RM 21: Evaluate feasibility of mosquito control including: 1. Mitigate water sources that provide breeding habitat for mosquitoes 2. Change irrigation techniques from flood to sprinkler systems 3. Control water overflow 4. Use larvicides in areas where mosquito habitat cannot be reduced 5. Evaluate the effectiveness of spraying for adult mosquitoes 6. Consider using mosquito specific insecticides	Action E-LG/RM 21: Same as Alternative D. Additionally, continue to educate public about West Nile virus and GRSG.	Action F-LG/RM 21: —

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-LG/RM 22: In PHMA, only allow treatments that conserve, enhance or restore GRSG habitat (this includes treatments that benefit livestock as part of an AMP/Conservation Plan to improve GRSG habitat).	Action C-LG/RM 22: —	Action D-LG/RM 22: In PHMA, forage enhancement treatments must also conserve, enhance, or restore GRSG habitat in order to be authorized.	Action E-LG/RM 22: —	Action F-LG/RM 22: Ensure that vegetation treatments create landscape patterns that most benefit sage-grouse. Only allow treatments that are demonstrated to benefit GRSG and retain sagebrush height and cover consistent with GRSG habitat objectives (this includes treatments that benefit livestock as part of an AMP/Conservation Plan to improve sage-grouse habitat).
Action B-LG/RM 23: Evaluate the role of existing seedings that are currently composed of primarily introduced perennial grasses in and adjacent to PHMA to determine if they should be restored to sagebrush or habitat of higher quality for GRSG. If these seedings are part of an AMP/Conservation Plan or if they provide value in conserving or enhancing the rest of the PHMA, then no restoration would be necessary. Assess the compatibility of these seedings for GRSG habitat or as a component of a grazing system during the land health assessments (Davies et al. 2011).	Action C-LG/RM 23: —	Action D-LG/RM 23: Same as Alternative B	Action E-LG/RM 23: —	Action F-LG/RM 23: Evaluate the role of existing seedings that are currently composed of primarily introduced perennial grasses in and adjacent to sage-grouse habitat to determine if they should be restored to sagebrush or habitat of higher quality for sage-grouse. If these seedings provide value in conserving or enhancing GRSG habitat, then no restoration would be necessary. Assess the compatibility of these seedings for sage-grouse habitat during the land health assessments.
Action B-LG/RM 24: In PHMA, design any new structural range improvements and location of supplements (salt or protein blocks) to conserve, enhance, or restore GRSG habitat through an improved grazing management system relative to GRSG objectives. Structural range improvements, in this context, include but are not limited to: cattle guards, fences, exclosures, corrals or other livestock handling structures; pipelines, troughs, storage tanks (including moveable tanks used in livestock water hauling), windmills, ponds/reservoirs, solar panels and spring developments. Potential for invasive species establishment or increase following construction must be considered in the project planning process and monitored and treated post-construction.	Action C-LG/RM 24: —	Action D-LG/RM 24: Same as Alternative B.	Action E-LG/RM 24: Reduce physical disturbance to GRSG leks from livestock through managing locations of salt or mineral supplements by placing them greater than 1 km (0.6 mi) from lek locations.	Action F-LG/RM 24: Avoid all new structural range developments in occupied GRSG habitat unless independent peer-reviewed studies show that the range improvement structure benefits GRSG. Structural range developments, in this context, include but are not limited to cattle guards, fences, exclosures, corrals or other livestock handling structures; pipelines, troughs, storage tanks (including moveable tanks used in livestock water hauling), windmills, ponds/reservoirs, solar panels and spring developments. Potential for invasive species establishment or increase following construction must be considered in the project planning process and monitored and treated post-construction. Consider the comparative cost of changing grazing management instead of constructing additional range developments.

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-LG/RM 25: In PHMA, evaluate existing structural range improvements and location of supplements (salt or protein blocks) to make sure they conserve, enhance or restore GRSG habitat.	Action C-LG/RM 25: —	Action D-LG/RM 25: Same as Alternative B.	Action E-LG/RM 25: —	Action F-LG/RM 25: Same as Alternative B.
Action B-LG/RM 26: To reduce outright GRSG strikes and mortality, remove, modify, or mark fences in high risk areas within PHMA based on proximity to lek, lek size, and topography (Christiansen 2009; Stevens 2011).	Action C-LG/RM 26: —	Action D-LG/RM 26: Same as Alternative B.	Action E-LG/RM 26: Those fences identified as detrimental to local GRSG populations or within 1 mile (1.6 kilometers) of an active lek or known seasonal use area should be marked with anti-strike markers.	Action F-LG/RM 26: Remove, modify, or mark fences in areas of moderate or high risk of GRSG strikes within sage-grouse habitat based on proximity to lek, lek size, and topography (Christiansen 2009; Stevens 2011).
Action B-LG/RM 27: In PHMA, monitor for, and treat invasive species associated with existing range improvements (Gelbard and Belnap 2003; Bergquist et al. 2007).	Action C-LG/RM 27: —	Action D-LG/RM 27: —	Action E-LG/RM 27: —	Action F-LG/RM 27: Same as Alternative B.
Action B-LG/RM 28: Maintain retirement of grazing privileges as an option in PHMA when the current permittee is willing to retire grazing on all or part of an allotment. Analyze the adverse impacts of no livestock use on wildfire and invasive species threats (Crawford et al. 2004) in evaluating retirement proposals.	Action C-LG/RM 28: —	Action D-LG/RM 28: Same as Alternative B.	Action E-LG/RM 28: —	Action F-LG/RM 28: Same as Alternative B.
Action B-LG/RM 29: —	Action C-LG/RM 29: —	Action D-LG/RM 29: —	Action E-LG/RM 29: —	Action F-LG/RM 29: In each planning process, identify grazing allotments where permanent retirement of grazing privileges would be potentially beneficial to GRSG.
Action B-LG/RM 30: —	Action C-LG/RM 30: —	Action D-LG/RM 30: —	Action E-LG/RM 30: Measurement of grazing levels should be conducted on that portion of the pasture that is known to be GRSG habitat, not on average use throughout the entire pasture.	Action F-LG/RM 30: —
Action B-LG/RM 31: —	Action C-LG/RM 31: —	Action D-LG/RM 31: —	Action E-LG/RM 31: —	Action F-LG/RM 31: Any vegetation treatment plan must include pretreatment data on wildlife and habitat condition, establish nongrazing exclosures, and include long-term monitoring where treated areas are monitored for at least three years before grazing returns. Continue monitoring for five years after livestock are returned to the area, and compare to treated, ungrazed exclosures, as well as untreated areas.

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-LG/RM 32: —	Action C-LG/RM 32: —	Action D-LG/RM 32: Avoid supplemental winter feeding of livestock in PHMA and GHMA unless it is part of a plan to improve ecological health or to create mosaics in dense sagebrush stands that are needed for optimum GRSG habitat. Supplemental feeding must be approved by the authorized official as per IM OR 2011-039, or subsequent direction.	Action E-LG/RM 32: Avoid supplemental winter feeding of livestock in known/occupied habitat unless it is part of a plan to improve ecological health or to create mosaics in dense sagebrush stands that are needed for optimum grouse habitat.	Action F-LG/RM 32: —
Action B-LG/RM 33: —	Action C-LG/RM 33: —	Action D-LG/RM 33: Develop and implement strategies to deal with disease outbreaks.	Action E-LG/RM 33: Same as Alternative D. Additionally investigate and record GRSG deaths that could be attributed to disease or parasites. Monitor radio-marked GRSG populations during West Nile virus season (July–September) where applicable.	Action F-LG/RM 33: —
Recreation (RC)				
Action B-RC 1: Only allow BLM Special Recreation Permits (SRPs) in PHMA that have neutral or beneficial impacts on PHMA.	Action C-RC 1: Same as Alternative A.	Action D-RC 1: Evaluate, and change if necessary, allowances for existing SRPs and recreation use permits (RUPs) with stipulations in PHMA in order to reduce direct and indirect disturbance to GRSG. When evaluating the permits, particular attention should be paid to noise and permitted activities within 3.2 miles of a lek during breeding and nesting season. Consideration should be given to including mitigation stipulations in permits for direct and indirect disturbance related to vehicle use, noise, type and season of recreation activities near occupied or pending leks.	Action E-RC 1: Protect existing leks and provide secure GRSG breeding habitat with minimal disturbance and harassment through seasonal closures of roads and areas.	Action F-RC 1: Same as Alternative B.
Action B-RC 2: —	Action C-RC 2: Same as Alternative A.	Action D-RC 2: Evaluate permitted recreation actions (SRPs and RUPs) for GRSG disturbance before issuing new permits. Avoid construction of facilities that provide avian predator perches unless they include mitigating features such as perch deterrents. Incorporate other activity level plan options as necessary to meet GRSG objectives (e.g., seasonal closures of non-street-legal vehicles or seasonal closure with all vehicles).	Action E-RC 2: —	Action F-RC 2: Seasonally prohibit camping and other nonmotorized recreation within 4 miles of active GRSG leks.

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-RC 3: —	Action C-RC 3: —	<p>Action D-RC 3: Evaluate OHV Recreation SRMAs and ensure consistency with GRSG conservation guidance during the Travel Management activity-level planning. These areas may include:</p> <ul style="list-style-type: none"> • Virtue Flats (Baker) • Radar Hill (Burns) • Millican Valley (Prineville) <p>Overall SRP Management: Insure that SRPs are issued with seasonal and area guidelines regarding GRSG. Do not issue SRPs during breeding season in PHMA and GHMA unless neutral or beneficial impacts on GRSG.</p> <p>Evaluate Recreation Sites for season of use relative to PHMA and GHMA</p>	Action E-RC 3: —	Action F-RC 3: —
Action B-RC 4: —	Action C-RC 4: —	Action D-RC 4: Overlay leks and compare with designated Special Recreation Management Areas and evaluate season of use, SRPs allowed, and make changes as necessary based on seasonal restriction.	Action E-RC 4: —	Action F-RC 4: —
Action B-RC 5: —	Action C-RC 5: —	Action D-RC 5: Reduce or eliminate direct and indirect disturbance based on season of use, type of use (motorized type) and recreation sites located within PHMA.	Action E-RC 5: Provide GRSG habitats security from direct human disturbance during the winter and breeding seasons (when birds are concentrated and susceptible to harassment).	Action F-RC 5: —
Action B-RC 6: —	Action C-RC 6: —	Action D-RC 6: —	Action E-RC 6: If alternative measures have not been successful in reducing disturbances initiate seasonal or area closures as necessary to protect GRSG habitats.	Action F-RC 6: —
Action B-RC 7: —	Action C-RC 7: —	Action D-RC 7: —	Action E-RC 7: Assist with developing public viewing areas of GRSG leks with oversight from ODFW and land management agencies to minimize disturbance.	Action F-RC 7: —
Action B-RC 8: —	Action C-RC 8: —	<p>Action D-RC 8: Facilities (i.e., kiosks, toilets, and signs) should be constructed to minimize disturbance in known/occupied GRSG nesting and early brood rearing habitat.</p> <p>As appropriate, develop signs and kiosks to educate visitors about GRSG conservation. Promote education and outreach through</p>	Action E-RC 8: Facilities (e.g., kiosks, toilets, and signs) should be constructed at least 2 miles from leks to minimize disturbance during the breeding season. Facilities (e.g., kiosks, toilets, and signs) should be constructed to minimize disturbance in known/occupied GRSG nesting and early brood rearing habitat. Avoid construction of facilities that provide	Action F-RC 8: —

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		Soil and Water Conservation Districts (SWCD) and local Implementation Teams to encourage participation in the NRCS's Sage-Grouse Initiative at kiosk and other public education sites.	avian predator perches unless they include mitigating features such as perch guards.	
Action B-RC 9: —	Action C-RC 9: —	Action D-RC 9: —	Action E-RC 9: Maintain biological data collection from hunter harvests for estimating productivity, gender ratios, hatch dates, and nesting success, and surveying the prevalence of West Nile virus. Continue to collect blood samples from hunter harvested GRSG to monitor the presence of the disease over a broad area.	Action F-RC 9: —
Action B-RC 10: —	Action C-RC 10: —	Action D-RC 10: —	Action E-RC 10: Reevaluate regulations every 5 years consistent with the ODFW Upland Game Bird Framework.	Action F-RC 10: —
Comprehensive Travel and Transportation Management (TM)				
Action B-TM 1: In PHMA, limit motorized travel to existing roads, primitive roads, and trails at a minimum, until such time as travel management planning is complete and routes are either designated or closed.	Action C-TM 1: In occupied habitat, limit motorized travel to existing roads and trails.	Action D-TM 1: Same as Alternative B, as well as the following. A final TMP due within 5 years of RMP Amendment completion. In PHMA currently managed as closed would remain closed (Alternative A). In PHMA, aside from those closed, would become limited OHV areas. The extent and intensity of OHV use should be assessed, as appropriate, prior to travel management planning.	Action E-TM 1: Restrict OHV use to areas greater than 2 miles (3.2 kilometers) from leks during the breeding season (approximately March 1 through July 15). OHV use should be restricted to on-trail or on-road use during the nesting season in areas known to be occupied by GRSG. Some playas serve as breeding display sites and could be impacted by off-road use. The extent and intensity of OHV use should be assessed. Quantifying OHV use (e.g., daily and seasonal use) assists in mitigating potential conflicts with GRSG habitat needs and recreational pursuits.	Action F-TM 1: Same as Alternative B.
Action B-TM 2: —	Action C-TM 2: Same as Alternative A.	Action D-TM 2: —	Action E-TM 2: Recommend no new development in Core habitat areas if it is GRSG habitat and there has been evidence of GRSG presence.	Action F-TM 2: Prohibit new road construction within 4 miles of active GRSG leks, and avoid new road construction in occupied GRSG habitat.
Action B-TM 3: In PHMA, travel management should evaluate the need for permanent or seasonal road or area closures.	Action C-TM 3: Same as Alternative A.	Action D-TM 3: —	Action E-TM 3: —	Action F-TM 3: Same as Alternative B.

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-TM 4: Complete activity level travel plans within 5 years of the record of decision. During activity level planning, where appropriate, manage routes in PHMA with current administrative/agency purpose and need as administrative access only.	Action C-TM 4: Same as Alternative A.	Action D-TM 4: Same as Alternative B.	Action E-TM 4: —	Action F-TM 4: Same as Alternative B.
Action B-TM 5: —	Action C-TM 5: Same as Alternative A.	Action D-TM 5: —	Action E-TM 5: —	Action F-TM 5: In PHMA, limit route construction to realignments of existing routes if that realignment has a minimal impact on sage-grouse habitat, eliminates the need to construct a new road, or is necessary for motorist safety. Mitigate any impacts with methods that have been demonstrated to be effective to offset the loss of GRSG habitat.
Action B-TM 6: —	Action C-TM 6: Same as Alternative A.	Action D-TM 6: —	Action E-TM 6: —	Action F-TM 6: Allow no upgrading of existing routes that would change route category (road, primitive road, or trail) or capacity unless it is necessary for motorist safety, or eliminates the need to construct a new road. Any impacts shall be mitigated with methods that have been demonstrated to be effective to offset the loss of GRSG habitat.
Action B-TM 7: —	Action C-TM 7: Same as Alternative A.	Action D-TM 7: —	Action E-TM 7: —	Action F-TM 7: When reseeding closed roads, primitive roads and trails, use appropriate native seed mixes and require the use of transplanted sagebrush.
Lands and Realty (LR)—Right-of-Way				
<p>Action B-LR 1: Make PHMA exclusion areas for new BLM ROW authorizations.</p> <p>Subject to valid existing rights: where new ROWs associated with valid existing rights are required, co-locate new ROWs within existing ROWs or where GRSG impacts would be minimized. Use existing roads, or realignments as described above, to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary, and add the surface disturbance to the total disturbance in the PHMA. If that disturbance exceeds 3% for that area, then evaluate and implement additional effective mitigation on a case-by-</p>	<p>Action C-LR 1: New transmission corridors, ROWs for corridors (oil, gas, water/aquifer mining), and communication or other towers are prohibited in ACECs and occupied habitats.</p> <p>Site new corridors/facilities in non-habitat, and bundle them with existing corridors to the maximum extent possible.</p>	<p>Action D-LR 1: PHMA currently managed as exclusion areas for new BLM ROW authorizations (Alternative A) would remain exclusion areas. All other PHMA would be designated as avoidance areas for new ROW authorizations.</p> <p>Development should only occur in non-habitat areas. If development would occur in PHMA and non-habitat areas are unfeasible, then development must occur in the least suitable habitat for GRSG. Require mitigation for impacts on GRSG habitat with no net loss, net benefit standard in PHMA. Disturbance may cause temporary habitat loss that would be mitigated over time to achieve no net loss.</p>	<p>Action E-LR 1: Same as Alternative B, unless non-habitat.</p> <p>Use existing communication/emitter sites to consolidate activities of new construction, except where topographically impossible, and install new communication sites in forested landscapes. However, off-site mitigation should be considered if the area of impact from new construction is less than or equal to 640 acres; disturbance of larger areas for communication sites should be critically evaluated.</p> <p>Disturbance from high volume roads can lead to avoidance of otherwise suitable habitat or direct mortality of birds. Minimize the construction of new roads through</p>	<p>Action F-LR 1: Occupied sage-grouse habitat areas shall be exclusion areas for new ROWs. Consider the following exceptions:</p> <ol style="list-style-type: none"> 1. Within designated ROW corridors encumbered by existing ROW authorizations: new ROWs may be co-located only if the entire footprint of the proposed project (including construction and staging) can be completed within the existing disturbance associated with the authorized ROWs. 2. Subject to valid existing rights: where new ROWs associated with valid existing rights are required, co-locate new ROWs within existing ROWs or where it best minimizes GRSG impacts. Use existing roads, or realignments as described

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>case basis to offset the resulting loss of GRSG habitat.</p>		<p>Development could occur within the avoidance areas if that disturbance was within or under the 3% allowable as measured at the appropriate scale, then evaluate and implement effective mitigation to offset the resulting loss of GRSG habitat.</p> <p>Disturbance could be allowed up to 3%. Applicant must apply restoration mitigation to a nearby area prior to causing new disturbance to ensure 3% threshold is not exceeded. Examples of mitigation would be burying a power line, decommissioning and revegetating a road, or restoring a mined area.</p> <p>New disturbance would not be allowed in PHMA if the new disturbance would cause the 3% threshold to be exceeded. ROWs within PHMA may be allowed if they do not create new disturbance, even where the 3% threshold is currently exceeded; for example, an applicant requests a ROW over an existing road.</p> <p>Allow private landowners a reasonable degree of access to private land. If feasible, landowner would be required to take an alternate route that was not through PHMA; if an alternate route is infeasible mitigation would be considered to either keep disturbance under 3% or return disturbance levels to those occurring at the time the application was received.</p> <p>Where new ROWs are allowed within the avoidance area, co-locate new ROWs within existing ROWs where possible. If not possible, consider effective mitigation to offset the resulting loss of GRSG habitat. Conduct additional, effective, mitigation first within the same population area where the impact is realized. If not possible, conduct mitigation within the same management zone as the impact.</p>	<p>occupied GRSG habitat, especially lek, nesting and brood-rearing areas.</p> <p>Recommend no development in Core habitat areas if it has been identified as GRSG habitat and there has been evidence of GRSG presence.</p> <p>Use guidance provided by Core Area approach in Mitigation Framework Plan for GRSG habitats (ODFW 2012b or subsequent version) for siting developments. Use Fish and Wildlife Habitat Mitigation Policy (ODFW 2012a or subsequent version) to avoid, minimize, and mitigate impacts on GRSG habitat.</p>	<p>above, to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary, and add the surface disturbance to the total disturbance in the PHMA. If that disturbance exceeds 3% for that area, then make additional mitigation that has been demonstrated to be effective to offset the resulting loss of sage-grouse habitat.</p>

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-LR 2: Evaluate and take advantage of opportunities to remove, bury, or modify existing power lines within priority GRS habitat areas.	Action C-LR 2: Same as Alternative A.	Action D-LR 2: Evaluate power lines in PHMA by District and identify which power lines would provide the most benefit to the species by being buried, modified, or relocated. At renewal or amendment discuss with the ROW holder the technical and financial feasibility of burying or relocating the existing power lines. If it is technically and financially feasible to bury or relocate the existing power lines require the ROW holder to do so.	Action E-LR 2: In some cases power lines should be buried to minimize the disturbance.	Action F-LR 2: Same as Alternative B
Action B-LR 3: Where existing leases or ROWs have had some level of development (road, fence, well, etc.) and are no longer in use, reclaim the site by removing these features and restoring the habitat.	Action C-LR 3: Same as Alternative A.	Action D-LR 3: When a ROW grant expires, is relinquished, or terminated, required rehabilitation is a term and condition of the FLPMA ROW grant, in compliance with 43 CFR 2805.12(i) and 43 CFR 2805.12 (l)(3)(5).	Action E-LR 3: —	Action F-LR 3: Same as Alternative B
Action B-LR 4: Planning Direction Note: Relocate existing ROW corridors crossing PHMA void of any authorized ROWs, outside of the PHMA. If relocation is not possible, undesignate that entire corridor during the planning process.	Action C-LR 4: Planning Direction Note: Same as Alternative A.	Action D-LR 4: —	Action E-LR 4: —	Action F-LR 4: Planning Direction Note: Same as Alternative B.
Action B-LR 5: Manage GHMA as avoidance areas for new ROWs.	Action C-LR 5: Same as Alternative A.	Action D-LR 5: GHMA would be managed the same as under Alternative A, except, for all new ROWs proposed in GHMA, the local BLM Wildlife Biologist, in cooperation with ODFW, shall conduct a field evaluation to determine if the proposal would impact occupied, suitable or potential habitat for GRS habitat. If the habitat is determined to be occupied, impacts would be avoided. If the habitat is unoccupied but apparently suitable or potential habitat for GRS habitat, impacts would be minimized to the full extent possible. Impacts that cannot be entirely avoided would be mitigated to achieve no net loss of GRS habitat.	Action E-LR 5: In Low Density and all other GRS habitat outside of Core Area, require mitigation to avoid, minimize, and mitigate impacts on GRS habitat caused by BLM-administered activities. Appropriate set-back distances (thresholds) regarding density (number of units per area), size (total area disturbed), and noise levels of energy developments need examination to determine what the effects are on GRS habitat. Until better information is available, managers should err on the side of the birds' biology and use the greatest set-back distance where feasible and necessary.	Action F-LR 5: —

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-LR 6: Where new ROWs are necessary in GHMA, co-locate new ROWs within existing ROWs where possible.	Action C-LR 6: Same as Alternative A.	Action D-LR 6: Same as Alternative B.	Action E-LR 6: Use existing utility corridors and rights-of-ways to consolidate activities to reduce habitat loss, degradation, and fragmentation by new construction. Where topographically possible, install new power lines within existing power line corridors or highway rights-of-way.	Action F-LR 6: —
Action B-LR 7: —	Action C-LR 7: —	Action D-LR 7: Same as Alternative E.	Action E-LR 7: Meteorological towers should be constructed without guy wires. If guy wires are necessary, they should be marked with anti-strike devices.	Action F-LR 7: Do not site wind energy development in occupied GRSG habitat (Jones 2012).
Action B-LR 8: —	Action C-LR 8: —	Action D-LR 8: —	Action E-LR 8: —	Action F-LR 8: Site wind energy development at least 5 miles from active GRSG leks.
Action B-LR 9: —	Action C-LR 9: Prohibit industrial solar projects in ACECs and occupied habitats.	Action D-LR 9: —	Action E-LR 9: —	Action F-LR 9: —
Action B-LR 10: —	Action C-LR 10: Amend ROWs to require features that enhance GRSG habitat security. Existing designated corridors in ACECs may be accessed for maintenance.	Action D-LR 10: —	Action E-LR 10: —	Action F-LR 10: —
Lands and Realty (LR)—Land Tenure (Land tenure adjustments could include acquisition, donation, disposal, or exchanges)				
Action B-LR 11: Retain public ownership of PHMA. Consider exceptions where: I. There is mixed ownership, and land exchanges would allow for additional or more contiguous federal ownership patterns within PHMA. Under PHMA with minority federal ownership, include an additional, effective mitigation agreement for any disposal of federal land. As a final preservation measure consideration should be given to pursuing a permanent conservation easement.	Action C-LR 11: Retain public ownership of all BLM-administered lands in occupied habitats and identified restoration and rehab land areas.	Action D-LR 11: Retain public ownership of PHMA. Sales of BLM-administered lands in PHMA are not allowed. BLM-administered lands within PHMA would be Z-I lands. Land Exchange Exception: There is mixed ownership, and land exchanges would allow for additional or more contiguous federal ownership patterns within PHMA, provided that such exchange results in additional or more contiguous GRSG habitat of equal or better quality of BLM-administered land. Prioritize restoration activities for acquired lands based on Focal Areas.	Action E-LR 11: Evaluate GRSG habitat values when federal or state lands are being considered for sale or exchange. This should apply to the quality of the habitat as well as the quantity (i.e., should not be swapping high-quality sagebrush for low quality sagebrush). Maintain existing GRSG habitats, with particular attention to areas of intact habitat.	Action F-LR 11: Same as Alternative B, without exceptions for disposal to consolidate ownership that would be beneficial to GRSG.
Action B-LR 12: Where suitable management actions cannot be achieved in PHMA, seek to acquire state and private lands with intact subsurface mineral estate by donation, purchase or exchange in order	Action C-LR 12: Strive to acquire important private lands in BLM-designated ACECs. Prioritize acquisition over easements.	Action D-LR 12: Same as Alternative B.	Action E-LR 12: To meet the objective of the Mitigation Policy with respect to GRSG habitats within Low Density areas, prioritize and select mitigation sites based on the following criteria (in order of preference):	Action F-LR 12: —

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
to best conserve, enhance or restore sage-grouse habitat.	Reclassify BLM-administered lands within PHMA as Z-I lands.		1) Core Areas that occur within a Conservation Opportunity Area or other landscapes with on-going GRSG conservation actions 2) Core Areas that occur outside of a Conservation Opportunity Area 3) Low Density Areas that occur within a Conservation Opportunity Area or other landscapes with on-going GRSG conservation actions 4) Low Density Areas that occur outside of a Conservation Opportunity Area Conservation Opportunity Areas are landscapes of high biological integrity as identified in The Oregon Conservation Strategy (ODFW 2006).	
Leasable Minerals—Leased Federal Fluid Mineral Estate (Including Geothermal) (MLS)				
Action B-MLS I: In PHMA, apply the following conservation measures through RMP implementation decisions (e.g., approval of an Application for Permit to Drill and Sundry Notice) and upon completion of the environmental record of review (43 CFR 3162.5), including appropriate documentation of compliance with NEPA. In this process evaluate, among other things: 1. Whether the conservation measure is “reasonable” (43 CFR 3101.1-2) with the valid existing rights 2. Whether the action is in conformance with the approved RMP	Action C-MLS I: Same as Alternative A.	Action D-MLS I: Same as Alternative B. Additionally, apply the 3% disturbance limitation for development within PHMA. Issue Written Orders of the Authorized Office requiring reasonable protective measures consistent with the lease terms where necessary to avoid or minimize impacts on GRSG populations and its habitat. Include actions in the authorization that would minimize habitat loss and promote restoration of habitat when development activities cease in areas where GRSG populations have been substantially diminished and where few birds remain.	Action E-MLS I: No development in Core Areas if it is GRSG habitat and there has been evidence of GRSG presence. Use guidance provided by Core Area approach in Mitigation Framework for Sage-Grouse Habitats (ODFW 2012b or subsequent version) for siting developments. Use Fish and Wildlife Habitat Mitigation Policy (ODFW 2012a or subsequent version) to avoid, minimize, and mitigate impacts on GRSG habitat.	Action F-MLS I: Apply the following conservation measures as Conditions of Approval at the project and well permitting stages, and through RMP implementation decisions and upon completion of the environmental record of review (43 CFR § 3162.5), including appropriate documentation of compliance with NEPA. In this process evaluate, among other things: 1. Whether the conservation measure is “reasonable” (43 CFR § 3101.1-2) with the valid existing rights; and 2. Whether the action is in conformance with the approved RMP.
Conservation Measure B-MLS I: In PHMA, provide the following conservation measures as terms and conditions of the approved RMP: Do not allow new surface occupancy on federal leases within PHMA, this includes winter concentration areas (Doherty et al.	Conservation Measure C-MLS I: Same as Alternative A.	Conservation Measure D-MLS I: In PHMA, provide the following as terms and conditions of the approved RMP to the extent allowed by law: Areas outside PHMA but within 1 mile of an occupied lek, if the lek is located within PHMA, would be open to leasing fluid	Conservation Measure E-MLS I: —	Conservation Measure F-MLS I: Same as Alternative B.

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>2008; Carpenter et al. 2010) during any time of the year. Consider an exception:</p> <ol style="list-style-type: none"> If the lease is entirely within PHMA, apply a 4-mile NSO stipulation around the lek, and limit permitted disturbances to 1 per section with no more than 3% surface disturbance in that section. If the entire lease is within the 4-mile lek perimeter, limit permitted disturbances to 1 per section with no more than 3% surface disturbance in that section. Require any development to be placed at the most distal part of the lease from the lek, or, depending on topography and other habitat aspects, in an area that is less demonstrably harmful to GRSG. 		<p>minerals, subject to NSO stipulations.</p> <p>PHMA within 4 miles of an occupied lek, if the lek is located within PHMA, would be designated as open to fluid mineral leasing subject to NSO stipulations.</p> <p>PHMA beyond 4 miles of an occupied lek, if the lek is located within PHMA, would be designated as open to fluid mineral leasing subject to CSU stipulations (see list below) and the following TL stipulations:</p> <ol style="list-style-type: none"> March 1 to June 30: Breeding (includes lek, nesting and early-brood rearing) July 1 - September 30: Late Brood-rearing October 1 - February 28: Wintering <p>Where leasing/development is allowed within PHMA, development could occur if it adhered to the following controlled surface use stipulations:</p> <ol style="list-style-type: none"> The development meets noise restrictions (noise at occupied leks does not exceed 10 decibels above ambient sound levels from 2 hours before to 2 hours after sunrise and sunset during breeding season); The development meets tall structure restrictions (a tall structure is any structure that has the potential to disrupt lekking or nesting birds by creating new perching/nesting opportunities and/or decrease the use of an area; a determination as to whether something is considered a tall structure would be based on local conditions such as vegetation or topography). Operators must submit a site-specific plan of development for roads, wells, pipelines, and other infrastructure prior to any development being authorized. This plan should outline how development on the lease would limit habitat fragmentation. The development does not exceed the 3% disturbance limit. 		

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		<p>Areas outside PHMA and within 4 miles of an occupied lek, if the lek is located within PHMA, would be designated as open to fluid mineral leasing subject to CSU stipulations. Development in these areas could occur if it adhered to the following CSU stipulations:</p> <ol style="list-style-type: none"> 1. The development meets noise restrictions (noise at occupied leks does not exceed 10 decibels above ambient sound levels from 2 hours before to 2 hours after sunrise and sunset during breeding season). 2. The development meets tall structure restrictions (a tall structure is any structure that has the potential to disrupt lekking or nesting birds by creating new perching/nesting opportunities and/or decrease the use of an area; a determination as to whether something is considered a tall structure would be determined based on local conditions such as vegetation or topography). <p>The design features identified in Appendix C (of the NTT report) would be attached as lease notices to all new leases in PHMA and would be applied as technically feasible during the permitting process unless doing so would not be beneficial to GRSG.</p>		
<p>Conservation Measure B-MLS 2: Apply a seasonal restriction on exploratory drilling that prohibits surface-disturbing activities during the nesting and early brood-rearing season in all PHMA during this period.</p>	<p>Conservation Measure C-MLS 2: Require timing avoidance periods.</p>	<p>Conservation Measure D-MLS 2: Same as Alternative B.</p>	<p>Conservation Measure E-MLS 2: —</p>	<p>Conservation Measure F-MLS 2: Apply a seasonal restriction on exploratory drilling that prohibits surface-disturbing activities during the nesting and brood-rearing season in all occupied sage-grouse habitat during this period. This seasonal restriction shall also to apply to related activities that are disruptive to GRSG, including vehicle traffic and other human presence.</p>
<p>Conservation Measure B-MLS 3: The BLM should closely examine the applicability of categorical exclusions in PHMA. If extraordinary circumstances review is applicable, the BLM should determine whether those circumstances exist.</p>	<p>Conservation Measure C-MLS 3: Same as Alternative A.</p>	<p>Conservation Measure D-MLS 3: Same as Alternative B.</p>	<p>Conservation Measure E-MLS 3: —</p>	<p>Conservation Measure F-MLS 3: Same as Alternative B.</p>

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Conservation Measure B-MLS 4: Complete Master Development Plans in lieu of Application for Permit to Drill (APD)-by-APD processing for all but wildcat wells.	Conservation Measure C-MLS 4: Same as Alternative A.	Conservation Measure D-MLS 4: Same as Alternative B.	Conservation Measure E-MLS 4: —	Conservation Measure F-MLS 4: Same as Alternative B.
Conservation Measure B-MLS 5: When permitting APDs on existing leases that are not yet developed, the proposed surface disturbance cannot exceed 3% for that area. Consider an exception if: I. Additional, effective mitigation is demonstrated to offset the resulting loss of GRSG. a. When necessary, conduct additional, effective mitigation in i) PHMA or, less preferably, ii) GHMA (dependent upon the area-specific ability to increase GRSG populations). b. Conduct additional, effective mitigation first within the same population area where the impact is realized, and if not possible then conduct mitigation within the same Management Zone as the impact, per GRSG Comprehensive Conservation Strategy (Stiver et al. 2006, pp. 2-17).	Conservation Measure C-MLS 5: Same as Alternative A.	Conservation Measure D-MLS 5: Same as Alternative B.	Conservation Measure E-MLS 5: —	Conservation Measure F-MLS 5: When permitting APDs on existing leases that are not yet developed, the proposed surface disturbance cannot exceed 3% per section for that area. Consider an exception if: I. Additional, effective mitigation is demonstrated to offset the resulting loss of GRSG (see Objectives). a. When necessary, conduct additional, effective mitigation in occupied habitat (dependent upon the area-specific ability to increase GRSG populations). b. Conduct additional, effective mitigation first within the same population area where the impact is realized, and if not possible then conduct mitigation within the same Management Zone as the impact, per GRSG Comprehensive Conservation Strategy (Stiver et al. 2006, pp. 2-17).
Conservation Measure B-MLS 6: Require unitization when deemed necessary for proper development and operation of an area (with strong oversight and monitoring) to minimize adverse impacts on GRSG according to the Federal Lease Form, 3100-11 Sections 4 and 6.	Conservation Measure C-MLS 6: Same as Alternative A.	Conservation Measure D-MLS 6: Same as Alternative B, except that where 10% or less of the land is federal, encourage rather than require unitization to minimize adverse impacts on GRSG according to the Federal Lease Form, 3100-11 Sections 4 and 6.	Conservation Measure E-MLS 6: —	Conservation Measure F-MLS 6: Same as Alternative B.
Conservation Measure B-MLS 7: Identify areas where acquisitions (including subsurface mineral rights) or conservation easements, would benefit GRSG habitat.	Conservation Measure C-MLS 7: Same as Alternative A.	Conservation Measure D-MLS 7: Same as Alternative B.	Conservation Measure E-MLS 7: —	Conservation Measure F-MLS 7: Same as Alternative B.

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Conservation Measure B-MLS 8: For future actions, require a full reclamation bond specific to the site in accordance with 43 CFR 3104.2, 3104.3, and 3104.5. Insure bonds are sufficient for costs relative to reclamation (Connelly et al. 2000a; Hagen et al. 2007) that would result in full restoration of the lands to the condition it was found prior to disturbance. Base the reclamation costs on the assumption that contractors for the BLM would perform the work.	Conservation Measure C-MLS 8: Same as Alternative A.	Conservation Measure D-MLS 8: Same as Alternative B.	Conservation Measure E-MLS 8: —	Conservation Measure F-MLS 8: Same as Alternative B.
Conservation Measure B-MLS 9: Make BMPs in NTT Report Appendix D (BMPs for Fluid Mineral Development) required (Appendix C , Required Design Features and Best Management Practices).	Conservation Measure C-MLS 9: Same as Alternative B.	Conservation Measure D-MLS 9: Same as Alternative B.	Conservation Measure E-MLS 9: —	Conservation Measure F-MLS 9: Same as Alternative B.
Action B-MLS 2: —	Action C-MLS 2: Same as Alternative A.	Action D-MLS 2: —	Action E-MLS 2: —	Action F-MLS 2: Prohibit the construction of evaporation or infiltration reservoirs to hold coalbed methane wastewater.
Action B-MLS 3: —	Action C-MLS 3: Agencies would explore options to amend, cancel, or buy out leases in ACECs and occupied habitats.	Action D-MLS 3: —	Action E-MLS 3: —	Action F-MLS 3: —
Action B-MLS 4: —	Action C-MLS 4: Include conditions that require relinquishment of leases/authorizations if doing so would: 1. mitigate the impact of a proposed development 2. mitigate the unanticipated impacts of an approved development.	Action D-MLS 4: —	Action E-MLS 4: —	Action F-MLS 4: —
Action B-MLS 5: —	Action C-MLS 5: —	Action D-MLS 5: —	Action E-MLS 5: Appropriate set-back distances (thresholds) regarding density (number of units per area), size (total area disturbed), and noise levels of energy developments need examination to determine what the effects are on GRSG. Until better information is available, managers should err on the side of the birds' biology and use the greatest set-back distance where feasible and necessary.	Action F-MLS 5: —
Leasable Minerals—Unleased Federal Fluid Mineral Estate (MLS)				
Action B-MLS 6: Close PHMA to fluid mineral leasing. Consider an exception when there is an opportunity for the BLM to influence conservation measures where surface or mineral ownership is not entirely	Action C-MLS 6: Issue no new leases or permits. (Includes PHMA and GHMA.)	Action D-MLS 6: Areas outside GRSG PHMA but within 1 mile of an occupied lek, if the lek is located within PHMA, would be open to leasing fluid minerals, subject to NSO stipulations.	Action E-MLS 6: Recommend no development in Core Areas if habitat classifications determine 1) the habitats are those upon which GRSG depend, and 2) the site-specific habitat is both essential and	Action F-MLS 6: Upon expiration or termination of existing leases, do not accept nominations/expressions of interest for parcels within occupied habitat.

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
<p>federal (i.e., checkerboard ownership). In this case, a plan amendment may be developed that opens the PHMA for new leasing. The plan must demonstrate long-term population increases in the PHMA through mitigation (prior to issuing the lease) including lease stipulations, off-site mitigation, etc., and avoid short-term losses that put the GRSG population at risk from stochastic events leading to extirpation.</p>		<p>PHMA within 4 miles of an occupied lek, if the lek is located within PHMA, would be designated as open to fluid mineral leasing subject to NSO stipulations.</p> <p>PHMA beyond 4 miles of an occupied lek, if the lek is located within PHMA, would be designated as open to fluid mineral leasing subject to CSU stipulations (see list below) and the following TL stipulations:</p> <ol style="list-style-type: none"> 1. March 1 to June 30: Breeding (includes lek, nesting, and early brood rearing) 2. July 1 - September 30: Late Brood Rearing 3. October 1 - February 28: Wintering <p>Where leasing/development is allowed within PHMA, development could occur if it adhered to the following controlled surface use stipulations:</p> <ol style="list-style-type: none"> 1. The development meets noise restrictions (noise at occupied leks does not exceed 10 decibels above ambient sound levels from 2 hours before to 2 hours after sunrise and sunset during breeding season). 2. The development meets tall structure restrictions (a tall structure is any structure that has the potential to disrupt lekking or nesting birds by creating new perching/nesting opportunities and/or decrease the use of an area; a determination as to whether something is considered a tall structure would be determined based on local conditions such as vegetation or topography). 3. Operators must submit a site-specific plan of development for roads, wells, pipelines, and other infrastructure prior to any development being authorized. This plan should outline how development on the lease would limit habitat fragmentation. 4. The development does not exceed the 3% disturbance limit. 	<p>irreplaceable.</p> <p>Use guidance provided by Core Area approach in Mitigation Framework for Sage-Grouse Habitats (ODFW 2012b or subsequent version) for siting developments. Use Fish and Wildlife Habitat Mitigation Policy (ODFW 2012a or subsequent version) to avoid, minimize, and mitigate impacts on GRSG habitat.</p>	<p>Close occupied sage-grouse habitat areas to fluid mineral leasing. Consider an exception:</p> <p>When there is an opportunity for the BLM to influence conservation measures where surface or mineral ownership is not entirely federal (i.e., checkerboard ownership). In this case, a plan amendment may be developed that opens GRSG habitat for new leasing. The plan must demonstrate long-term population increases in the PHMA through mitigation (prior to issuing the lease) including lease stipulations and off-site mitigation, and avoid short-term losses that put the sage-grouse population at risk from stochastic events leading to extirpation.</p>

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		<p>Areas outside PHMA and within 4 miles of an occupied lek, if the lek is located within PHMA, would be designated as open to fluid mineral leasing subject to CSU stipulations. Development in these areas could occur if it adhered to the following controlled surface use stipulations:</p> <ol style="list-style-type: none"> 1. The development meets noise restrictions (noise at occupied leks does not exceed 10 decibels above ambient sound levels from two hours before to two hours after sunrise and sunset during breeding season). 2. The development meets tall structure restrictions (a tall structure is any structure that has the potential to disrupt lekking or nesting birds by creating new perching/nesting opportunities and/or decrease the use of an area; a determination as to whether something is considered a tall structure would be determined based on local conditions such as vegetation or topography). <p>The design features identified in Appendix C (of the NTT report) would be attached as lease notices to all new leases in PHMA and would be applied as technically feasible during the permitting process unless doing so would not be beneficial to GRSG.</p> <p>A minimum lease size of 640 contiguous acres of federal mineral estate would be applied within PHMA. Smaller parcels may be leased only when 640 contiguous acres of federal mineral estate is not available and leasing is necessary to remain in compliance with laws, regulations and policy (e.g., to protect the federal mineral estate from drainage or to commit the federal mineral estate to unit or communitization agreements.)</p>		
Action B-MLS 7: —	Action C-MLS 7: —	Action D-MLS 7: For unleased fluid minerals within GHMA: Areas within 1 mile of an occupied lek, if the lek is located within GHMA, whether the	Action E-MLS 7: —	Action F-MLS 7: Close occupied sage-grouse habitat areas to fluid mineral leasing. Consider an exception:

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		<p>area is in occupied or unoccupied GRSG habitat, would be open to leasing fluid minerals, subject to NSO stipulations.</p> <p>GHMA beyond 1 mile of an occupied lek, if the lek is located within GHMA, would be designated as open to fluid mineral leasing subject to controlled surface use stipulations (see list below) and the following timing stipulations:</p> <ol style="list-style-type: none"> 1. March 1 to June 30: Breeding (includes lek, nesting and early brood rearing) 2. July 1 - September 30: Late Brood Rearing 3. October 1 - February 28: Wintering <p>Where leasing/development is allowed within GHMA, development could occur if it adhered to the following controlled surface use stipulations:</p> <ol style="list-style-type: none"> 1. The development meets noise restrictions (noise at occupied leks does not exceed 10 decibels above ambient sound levels from 2 hours before to 2 hours after sunrise and sunset during breeding season). 2. The development meets tall structure restrictions (a tall structure is any man-made structure that has the potential to disrupt lekking or nesting birds by creating new perching/nesting opportunities and/or decrease the use of an area; a determination as to whether something is considered a tall structure would be determined based on local conditions such as vegetation or topography). <p>GHMA within and beyond the 1.0 mile NSO area would require coordination with ODFW during project implementation, and implementation of best management practices (e.g., anti-perch devices for raptors).</p> <p>The design features identified in Appendix C (of the NTT report) would be attached as lease notices to all new leases in GHMA and</p>		<p>When there is an opportunity for the BLM to influence conservation measures where surface or mineral ownership is not entirely federal (i.e., checkerboard ownership). In this case, a plan amendment may be developed that opens GRSG habitat for new leasing. The plan must demonstrate long-term population increases in the PHMA through mitigation (prior to issuing the lease) including lease stipulations and off-site mitigation, and avoid short-term losses that put the sage-grouse population at risk from stochastic events leading to extirpation.</p>

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Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		<p>would be applied as technically feasible during the permitting process unless doing so would not be beneficial to GRSG.</p> <p>The stipulations within GHMA (closure or restrictions) could be waived, except for the seasonal stipulations, if off-site mitigation coordinated with BLM and ODFW is successfully completed in PHMA or opportunity areas.</p>		
<p>Action B-MLS 8: —</p>	<p>Action C-MLS 8: Issue no new geophysical exploration permits in PHMA and GHMA.</p>	<p>Action D-MLS 8: Allow geophysical exploration within PHMA and GHMA to obtain exploratory information. Geophysical exploration shall be subject to seasonal restrictions that preclude activities in breeding, nesting, brood rearing and winter habitats during their season of use by GRSG.</p>	<p>Action E-MLS 8: —</p>	<p>Action F-MLS 8: Allow geophysical exploration within occupied sage-grouse habitat areas to obtain exploratory information for areas outside of and adjacent to occupied sage-grouse habitat areas. Only allow geophysical operations by helicopter-portable drilling methods and in accordance with seasonal timing restrictions or other restrictions that may apply. Geophysical exploration shall be subject to seasonal restrictions that preclude activities in breeding, nesting, brood rearing, and winter habitats during their season of use by GRSG.</p>
<p>Action B-MLS 9: —</p>	<p>Action C-MLS 9: Same as Alternative A.</p>	<p>Action D-MLS 9: —</p>	<p>Action E-MLS 9: —</p>	<p>Action F-MLS 9: Close occupied sage-grouse habitat areas to fluid mineral leasing.</p> <p>Consider an exception: When there is an opportunity for the BLM to influence conservation measures where surface or mineral ownership is not entirely federal (i.e., checkerboard ownership). In this case, a plan amendment may be developed that opens GRSG habitat for new leasing. The plan must demonstrate long-term population increases in the PHMA through mitigation (prior to issuing the lease) including lease stipulations and off-site mitigation, and avoid short-term losses that put the sage-grouse population at risk from stochastic events leading to extirpation.</p>
<p>Action B-MLS 10: Allow geophysical exploration within PHMA to obtain exploratory information for areas outside of and adjacent to PHMA.</p> <p>Only allow geophysical operations by</p>	<p>Action C-MLS 10: Same as Alternative A.</p>	<p>Action D-MLS 10: —</p>	<p>Action E-MLS 10: —</p>	<p>Action F-MLS 10: Allow geophysical exploration within occupied sage-grouse habitat areas to obtain exploratory information for areas outside of and adjacent to PHMA. Only allow geophysical operations by helicopter-portable drilling methods and</p>

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
helicopter-portable drilling methods and in accordance with seasonal timing restrictions or other restrictions that may apply.				in accordance with seasonal timing restrictions or other restrictions that may apply. Geophysical exploration shall be subject to seasonal restrictions that preclude activities in breeding, nesting, brood rearing and winter habitats during their season of use by GRSG.
Locatable Minerals (MLM)				
<p>Action B-MLM 1: In PHMA, recommend withdrawal from mineral entry based on risk to the GRSG and its habitat from conflicting locatable mineral potential and development.</p> <ol style="list-style-type: none"> 1. Make any existing claims within the withdrawal area subject to validity exams or buy out. Include claims that have been subsequently determined to be null and void in the recommended withdrawal. 2. In plans of operations required prior to any proposed surface disturbing activities, include the following: <ol style="list-style-type: none"> a. Additional, effective mitigation in perpetuity for conservation (In accordance with existing policy, WO IM 2008-204). Example: purchase private land and mineral rights or severed subsurface mineral rights within the PHMA and deed to US Government). b. Consider seasonal restrictions if deemed effective. 	<p>Action C-MLM 1: Recommend withdrawals for all occupied habitat.</p>	<p>Action D-MLM 1: To the extent consistent with the rights of a mining claimant under existing laws and regulations, limit surface disturbance and additionally provide recommendations that would limit surface disturbance.</p>	<p>Action E-MLM 1: Same as Alternative B, unless non-habitat.</p>	<p>Action F-MLM 1: Same as Alternative B.</p>
<p>Action B-MLM 2: Require implementation of BMPs in the NTT Report Appendix E (BMPs for Locatable Mineral Development) as RDFs to the extent consistent with applicable law (Appendix C, Required Design Features and Best Management Practices).</p>	<p>Action C-MLM 2: Same as Alternative B.</p>	<p>Action D-MLM 2: If a 3809 Plan of Operation is filed on mining claims in PHMA or GHMA, recommend through the NEPA process additional mitigation measures, as appropriate and to the extent allowable by law. For Notice and Casual Use levels of activity, require BMPs in the NTT Report Appendix E (BMPs for Locatable Mineral Development) as RDFs to the extent consistent with applicable law (Appendix C, Required Design Features and Best Management Practices).</p>	<p>Action E-MLM 2: —</p>	<p>Action F-MLM 2: Same as Alternative B.</p>

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-MLM 3: In PHMA, do not recommend withdrawal proposals not associated with mineral activity unless the land management is consistent with GRSG conservation measures. (For example; in a proposed withdrawal for a military training range buffer area, manage the buffer area with GRSG conservation measures.)	Action C-MLM 3: Same as Alternative A.	Action D-MLM 3: —	Action E-MLM 3: —	Action F-MLM 3: Do not approve withdrawal proposals not associated with mineral activity unless the land management is consistent with GRSG conservation measures. (For example, in a proposed withdrawal for a military training range buffer area, manage the buffer area with GRSG conservation measures that have been demonstrated to be effective.)
Mineral Materials (Salables) (MSM)				
Action B-MSM 1: Close PHMA to mineral material sales.	Action C-MSM 1: Close all occupied habitats to mineral materials sales.	Action D-MSM 1: Close PHMA to development of new mineral sites. Existing permitted sites would not be closed, but reclaimed upon exhaustion of resource. New resource development would be considered with ODFW concurrence.	Action E-MSM 1: Same as Alternative B, unless non-habitat.	Action F-MSM 1: Same as Alternative B.
Action B-MSM 2: In PHMA, restore salable mineral pits no longer in use to meet GRSG habitat conservation objectives.	Action C-MSM 2: Same as Alternative A.	Action D-MSM 2: Same as Alternative B	Action E-MSM 2: —	Action F-MSM 2: Same as Alternative B.
Nonenergy Leasable Minerals (MNL)				
Action B-MNL 1: Close PHMA to nonenergy leasable mineral leasing. This includes not permitting any new leases to expand an existing mine.	Action C-MNL 1: Close all occupied habitat to nonenergy mineral leasables.	Action D-MNL 1: Nonenergy leasable mineral leases are subject to an NSO stipulation in PHMA. Consider only underground development options with entry outside PHMA and occupied sites found in GHMA.	Action E-MNL 1: Close Core habitat to non-energy mineral leasing unless determined to be non-habitat.	Action F-MNL 1: Same as Alternative B.
Action B-MNL 2: For existing nonenergy leasable mineral leases in PHMA, in addition to the solid minerals BMPs (NTT Report Appendix E, BMPs for Locatable Mineral Development), follow the same RDFs applied to Fluid Minerals (NTT Report Appendix D, BMPs for Fluid Mineral Development), when wells are used for solution mining (Appendix C , Required Design Features and Best Management Practices).	Action C-MNL 2: Same as Alternative B.	Action D-MNL 2: For existing nonenergy leasable mineral leases in PHMA, in addition to the solid minerals BMPs (NTT Report Appendix E, BMPs for Locatable Mineral Development), follow the same RDFs applied to Fluid Minerals (NTT Report Appendix D, BMPs for Fluid Mineral Development), when wells are used for solution mining (Appendix C , Required Design Features and Best Management Practices). Where it is determined in the public interest that a lease in habitat area should be relinquished, pursue lease exchanges.	Action E-MNL 2: —	Action F-MNL 2: Same as Alternative B.

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Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Mineral Split Estate (MSE)				
Action B-MSE 1: Where the federal government owns the mineral estate in PHMA, and the surface is in non-federal ownership, apply the same conservation measures as applied on BLM-administered lands.	Action C-MSE 1: Same as Alternative A.	Action D-MSE 1: Same as Alternative B	Action E-MSE 1: Use guidance provided by Core Area approach in Mitigation Framework for Sage-Grouse Habitats (ODFW 2012b or subsequent version) for siting developments. Use Fish and Wildlife Habitat Mitigation Policy (ODFW 2012a or subsequent version) to avoid, minimize, and mitigate impacts on GRSG habitat.	Action F-MSE 1: Same as Alternative B.
Action B-MSE 2: Where the federal government owns the surface, and the mineral estate is in non-federal ownership in PHMA, apply appropriate Fluid Mineral RDFs (NTT Report Appendix D, BMPs for Fluid Mineral Development) to surface development (Appendix C , Required Design Features and Best Management Practices).	Action C-MSE 2: Same as Alternative B.	Action D-MSE 2: Same as Alternative B	Action E-MSE 2: Use guidance provided by Core Area approach in Mitigation Framework for Sage-Grouse Habitats (ODFW 2012b or subsequent version) for siting developments. Use Fish and Wildlife Habitat Mitigation Policy (ODFW 2012a or subsequent version) to avoid, minimize, and mitigate impacts on GRSG habitat.	Action F-MSE 2: Same as Alternative B.
Special Designations (SD)—Areas of Critical Environmental Concern (ACEC)				
Action B-SD 1: —	Action C-SD 1: Designate all of GRSG PHMA as new ACECs. Manage ACECs for GRSG conservation. Designate new ACECs in all of PHMA to preserve, protect, conserve, restore, and sustain GRSG populations and the sagebrush ecosystem on which the GRSG relies. Prepare new ACEC management plans within 5 years, addressing the necessary management actions to conserve resource values and needs of GRSG and sagebrush habitat.	Action D-SD 1: For the identified existing ACECs and RNAs (Chapter 3, Special Designations), that are important for GRSG and sagebrush habitat, update and revise management plans within 10 years, addressing site-specific activities and management of the relevant and important values, including GRSG, as funding allows. In addition to the resource values for which they were originally designated, identify and manage for GRSG all existing ACECs and RNAs occurring in over 20% PHMA acres and/or 50% GHMA of GRSG habitat. Reduce, modify or eliminate vegetation impacts and fragmentation from OHVs, ROWs, authorized livestock grazing, locatable and salable mineral authorizations, special use permits, and other actions that reduce habitat suitability for GRSG within identified ACECs and RNAs. For identified RNAs, allow natural processes to predominate with minimal human impact or intervention. However, respond to	Action E-SD 1: —	Action F-SD 1: Designate 17 Areas of Critical Environmental Concern (ACECs) to conserve GRSG and other sagebrush-dependent species (Appendix J , Areas of Critical Environmental Concern Evaluation). Prepare new ACEC management plans within 5 years, addressing the necessary management actions to conserve resource values and needs of GRSG and sagebrush habitat.

Table 2-13
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		<p>catastrophic disturbances in a way that meets long-term goals for the RNA, natural processes, the plant community cell, and the needs of GRSG.</p> <p>For rights-of-way, allow no new ROWs in identified ACECs and RNAs, including new energy developments, pipelines and energy corridors.</p> <p>A ROW access authorization to inholdings within ACECs maybe authorized if there is no other reasonable access. Allow maintenance access for existing ROWs and facilities with ACECs.</p> <p>Work with public holders of existing valid rights and Rights-of-Way holders to address conservation of GRSG, the values that the ACEC was designated, and the maintenance and protection of RNA plant community cells.</p> <p>Reduce, limit to existing/designated roads, or close all OHV use in identified ACECs within GRSG habitat. Close all identified RNAs to OHV use</p> <p>For identified ACECs, work with grazing permit holders to modify the grazing system, adjust the timing, duration and intensity, AUMs, or relinquish grazing allotments, if needed (or if grazing management is not currently meeting standards and livestock is a factor), to benefit ACEC values and the GRSG.</p> <p>In RNAs, terminate grazing leases when rangeland health standards are not being met and livestock grazing is determined to be a factor to protect RNA values.</p> <p>Remove un-needed infrastructure (corrals, fences, and water developments) unless they are needed to protect the ACEC/RNA values.</p>		

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Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		<p>Within ACECs and RNAs, establish replicated, statistically valid monitoring of the resource values, as well as regular inventories and early detection and rapid response programs for noxious weeds.</p> <p>Within RNAs, the replicated, statistically valid vegetation monitoring would serve as reference baseline condition for monitoring in managed areas (including other ACECs), to document shifts in vegetation in the absence of anthropogenic disturbance (including grazing), and vegetation change attributed to climate change, and to research GRSG vegetative needs and ecosystem processes, and other research questions. Annually provide the results of monitoring in ACECs and RNAs to USFWS, ODFW, partners and the public. Follow wildlife guidelines on building fences within close proximity to an active lek.</p> <p>Use intentional fuels, vegetation and prescribed burning treatments to protect identified ACECs and RNAs from large scale catastrophic fire and to maintain or improve the ACEC resource values, plant communities and ecosystem processes on which GRSG depend, so long as the treatments do not detract from the values and the long-term goals that the ACEC and RNAs were designated.</p> <p>Prioritize fire suppression to keep wildfire from burning ACECs in GRSG habitat, following specific tactics outlined in ACEC/RNA and fire management plans. Use all fire-suppression techniques to suppress fires within ACECs, with consideration to minimize affects to the values that the ACEC was designated. Do not place fire camps and major staging areas within ACECs.</p> <p>For identified RNAs, use minimal impact fire suppression tactics, similar to fire</p>		

Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
		<p>management on VSAs, including hand lines, power tools, and fire retardant and aircraft as necessary. However, depending on existing fire behavior and fire risk, threats to life and private lands, BLM line officers may authorize more aggressive and ground disturbing activities, including the use of earth moving equipment.</p> <p>Within and adjacent to ACECs and RNAs, treat noxious and invasive species that threaten GRSG habitat using manual and herbicide (including aerial) methods. Utilize native grass and forb species for rehabilitation or restoration activities within all identified ACECs and RNAs when needed.</p> <p>Allow passive nonpermitted activities such as hiking, bird watching, hunting, fishing, wildlife observation, and photography in ACECs and RNAs as long as there are no impacts on GRSG or the ACEC values. Close RNAs to public use if such use is determined to be incompatible with primary values of the RNA including GRSG.</p>		
Special Status Plants (SSP)				
Action B-SSP 1: —	Action C-SSP 1: —	Action D-SSP 1: Coordinate with USFWS, Oregon State Department of Agriculture, ODFW, Oregon Biodiversity Information Center, and other organizations on special status species conservation efforts, development of conservation assessments, agreements, and strategies to recover listed species and prevent federal listing for BLM sensitive species	Action E-SSP 1: —	Action F-SSP 1: —
Action B-SSP 2: —	Action C-SSP 2: —	Action D-SSP 2: Maintain current inventories of BLM-administered lands for special status species to document the presence, the condition, and how discretionary BLM actions affect the species.	Action E-SSP 2: —	Action F-SSP 2: —
Action B-SSP 3: —	Action C-SSP 3: —	Action D-SSP 3: Develop provisions and mitigation measures at the project scale to conserve and manage special status species from BLM actions	Action E-SSP 3: —	Action F-SSP 3: —

**Table 2-13
Description of Alternatives B Through F Actions by BLM Resource Program**

Alternative B	Alternative C	Alternative D	Alternative E	Alternative F
Action B-SSP 4: —	Action C-SSP 4: —	Action D-SSP 4: Monitor populations of Bureau Special Status Species to ensure that management objectives are met	Action E-SSP 4: —	Action F-SSP 4: —

Note: In some cells, there is a “—” as a placeholder that indicates that there is no similar action to the other alternatives, or that the similar action is reflected in another portion of the alternative.

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2.11 ALTERNATIVES ELIMINATED FROM DETAILED ANALYSIS

The alternatives discussed below were considered but were not carried forward for detailed analysis because of one or more of the following reasons:

- They did not meet the purpose and need.
- They were already part of an existing plan, policy, or administrative function.
- They did not fall within the limits of the planning criteria.

FLPMA requires the BLM to manage the public lands and resources in accordance with the principles of multiple use and sustained yield.

2.11.1 USFWS-Listing Alternative

The inadequacy of regulatory mechanisms was identified as one of the listing factors for GRSG in the USFWS's finding on the petition to list GRSG. The agency identified the principal regulatory mechanism for the BLM as conservation measures in RMPs. In response to the USFWS's findings, as well as to the BLM's own requirement to manage sensitive species, the BLM is preparing plan amendments with associated EISs to incorporate conservation measures in RMPs for GRSG.

The purpose of the RMPA is to identify and incorporate appropriate conservation measures in RMPs to conserve, enhance, or restore GRSG habitat by reducing, eliminating, or minimizing threats to that habitat. Because of this, the alternatives in this EIS focus on those conservation measures that can be incorporated into the RMPs. Although the potential listing of GRSG would also include conservation measures identified by USFWS, those conservation measures are not known at this time. Therefore, an alternative that includes a USFWS listing with associated speculative conservation measures for GRSG is not analyzed in detail.

2.11.2 Elimination of Livestock Grazing from All BLM Lands Alternative

Alternative C analyzes eliminating grazing from BLM-administered lands containing PHMA and GHMA. An alternative that would eliminate livestock grazing from all lands (an additional approximately 2.4 million acres) administered by the BLM was not analyzed in detail. This is because no issues or conflicts were identified during planning that would be resolved by the completely eliminating grazing in the planning area. Where appropriate, removing livestock and adjusting livestock use has been incorporated. In RMPs, the BLM has considerable discretion through its grazing regulations to determine and adjust stocking levels, seasons of use, and grazing management activities and to allocate forage for uses on BLM-administered lands that reduce, eliminate, or minimize threats to GRSG habitat.

Livestock grazing is authorized by term permits and leases (authorizations) lasting up to 10 years. Grazing permit and lease renewal is a discretionary action

that depends on compliance with terms and conditions of the expiring authorization. The current BLM practice is to analyze no grazing or reduced grazing alternatives in the NEPA analysis at the permit or lease renewal stage. This is part of the grazing authorization renewal when authorized livestock grazing is a cause for not meeting a standard.

2.11.3 Increased Livestock Grazing Alternative

During scoping and alternatives development, a number of individuals and cooperating agencies requested that the BLM consider an alternative that would increase the level of livestock grazing in GRSG habitat. This recommendation was based on empirical evidence, which shows that there could be a correlation between declines in GRSG and declines in the level of livestock grazing on BLM-administered lands. This alternative was considered but eliminated from detailed analysis for the following reasons:

- Alternatives being considered in this RMPA/EIS are science-based conservation measures that would meet the purpose and need for the project. Specifically, they would identify and incorporate appropriate conservation measures into RMPs to conserve, enhance, or restore GRSG habitat by reducing, eliminating, or minimizing threats to that habitat.
- Over the past 10 years, on average, within GRSG habitat on BLM-administered lands in the Oregon sub-region, actual use has been below permitted use. The reasons for this vary, but they include drought, fire, and economics. Actual grazing has been below permitted use; because of this, under existing management, the level of grazing use could increase and stay within permitted levels. Further, no alternative specifically considers an increase in permitted livestock use. Despite this, the BLM would retain flexibility to consider increases in permitted livestock use on a case-by-case basis. Increases would depend on permittee interest and rangeland conditions verified through monitoring. Increases in livestock grazing may be facilitated in GRSG habitat if there are changes in management, such as those to grazing management systems, which optimize range conditions.
- This alternative would be ineffective and would not meet the purpose and need.

2.11.4 Close All or Portions of Preliminary Priority or General Habitat Management Areas to OHV Use Alternative

Through this amendment, the BLM has identified but has not analyzed in detail an alternative to designate new area closures for off-highway vehicle (OHV) use in PHMA and GHMA. However, as explained more fully below, the BLM has analyzed alternatives to designate all areas within PHMA and GHMA as limited to OHV use, if they are not already closed by existing planning efforts. Further,

subsequent travel management plans would be developed to identify specific routes in limited areas that would be closed or eliminated in order to protect and conserve GRGS and its habitat. Finally, the BLM has analyzed existing OHV area closures within PHMA and GHMA under Alternative A and as a decision common to all alternatives.

The following provides the BLM's rationale for eliminating this alternative:

- There are areas within PHMA and GHMA that are closed to OHV use, such as congressional designations, including Wilderness Areas. While these areas were closed for purposes other than GRSG conservation, the BLM will analyze the impacts that these closures have on protecting GRSG and its habitat. These closures are analyzed in Alternative A and are carried forward across all alternatives in this RMPA/EIS.
- Alternative E would restrict use to existing routes and would be limited seasonally; specifically, this alternative would impose two-mile buffers around occupied leks during breeding season.
- Alternative F would limit use to existing routes. For future travel management planning, Alternative F would prohibit new road construction within four miles of active GRSG leks, and new road construction would not be allowed in occupied GRSG habitat. Future travel management planning would be subject to NEPA analysis.
- In addition, during the district or field office plan revision/amendment process, travel and transportation area decisions (open, limited, or closed) would be revisited at the local level, based on existing inventory information associated with a myriad of resources and resource uses.
- During the public scoping period for this RMPA, there were no specific areas identified for closure to carry forward for detailed analysis.
- For the reasons identified above, this alternative was not carried forward for detailed analysis in this RMPA. It would be ineffective and would not help achieve the purpose and need.

2.12 SUMMARY COMPARISON OF ENVIRONMENTAL CONSEQUENCES

Table 2-14, Summary Comparison of Environmental Consequences, presents a comparison summary of impacts from management actions proposed for the management alternatives. **Chapter 4** provides a more detailed impact analysis.

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**Table 2-14
Summary Comparison of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Greater Sage-Grouse and Sage-Grouse Habitat						
<p>Alternative A (current management) protects GRSG habitat in the planning area through existing land use plans, which vary in their levels of protection for sagebrush, allowing for differing interpretations over time and creating uncertainty about reducing the threats to habitat.</p> <p>For fire management, Alternative A relies on older land use plans that lack clear desired conditions, allowing for disparate interpretations to guide use of fire and fuels management to preserve sagebrush-steppe habitat and connectivity.</p> <p>For conifer expansion, Alternatives A, B, D, and F provide similar guidance. Whether these alternatives' actions would treat conifer expansion at an adequate rate to maintain existing GRSG habitat and avoid fragmentation and increased predation would depend on funding.</p> <p>Current management controls invasive plants in GRSG habitat using integrated vegetation management. This policy would remain in place for all alternatives.</p> <p>Alternative existing regulatory mechanisms, including the fundamentals for rangeland health, would continue to provide the basis for managing grazing in GRSG habitat.</p> <p>For lands and realty,</p>	<p>Alternative B applies guidance from the NTT report for protecting GRSG habitat, but it lacks specificity for sub-regional conditions. It would apply a three percent disturbance cap on all surface disturbance in PHMA. If exceeded, no further surface disturbance could occur until restoration has taken place.</p> <p>Alternatives A, B, D, and F provide similar guidance with respect to conifer expansion. Funding would determine whether these alternatives' actions would treat conifer expansion at an adequate rate to control juniper at its rate of expansion and maintain existing GRSG habitat.</p> <p>Alternative B improves focus on rangeland health in GRSG habitat areas for managing grazing in GRSG habitat.</p> <p>For lands and realty, Alternative B would establish ROW exclusion areas in PHMA and avoidance areas in GHMA. Exclusion areas would protect GRSG on BLM-administered land but may push ROW development onto adjacent private land, with fewer land use restrictions.</p> <p>Alternative B does not seasonally close roads in GRSG habitat, allowing for the potential disturbance of breeding GRSG.</p> <p>For leasable and salable minerals, Alternative B would close all PHMA to new mineral</p>	<p>Alternative C also protects GRSG habitat, using guidance derived from the NTT report but applied across all occupied habitat. Alternative C includes a zero percent surface disturbance limit in PHMA.</p> <p>Alternative C would bar grazing in occupied habitat in order to protect GRSG nesting and foraging habitat. It also focuses on passive restoration techniques. These approaches may increase weed spread and fuel buildup, resulting in habitat degradation for GRSG over time.</p> <p>The extent of juniper may increase over time with Alternative C's focus on passive restoration of habitat, which would reduce GRSG habitat extent and connectivity, especially in late brood-rearing habitat.</p> <p>Alternative C would establish ROW exclusion areas in PHMA and avoidance areas in GHMA. Exclusion areas would protect GRSG on BLM-administered land but could push ROW development onto adjacent private land, with fewer land use restrictions.</p> <p>For leasable and salable minerals, Alternative C would close all PHMA to new mineral leases. It would be more effective at protecting GRSG habitat on BLM-administered land from mining because it closes habitat areas to mineral leasing and development.</p>	<p>Alternative D increases the consistency of approach by providing more specific guidance, with stronger measures and more management flexibility compared to other actions alternatives to achieve the most protection for GRSG habitat. It would also apply a 3% disturbance cap to all surface disturbance in PHMA.</p> <p>Alternative D allows the widest range of techniques for fire control. Unplanned fire to meet habitat objectives is permitted. However, Alternative D still carries a risk of habitat loss and fragmentation because treatment efficacy has not been established and treatment rates may be insufficient.</p> <p>Alternative D has explicit treatment priorities for conifer expansion. Whether these activities would treat conifer expansion at an adequate rate to maintain existing GRSG habitat and connectivity would depend on funding.</p> <p>Alternative D provides clear guidance on grazing management in GRSG habitat, resulting in high likelihood of adjusting grazing management where needed to meet GRSG habitat needs.</p> <p>Alternative D limits OHVs to existing routes in PHMA. However, it does not seasonally close roads,</p>	<p>Alternative E provides more specific management direction than Alternatives B, C, and F, but with more limited conservation measures than Alternative D.</p> <p>For fire management, Alternative E is more likely to be effective than Alternatives B, C, or F because it allows for treating sagebrush to create mosaics, though its approach is generally more limited than under Alternative D.</p> <p>Alternative E places strict limits on the ability to treat juniper; thus, it is likely to fail to treat juniper at its rate of expansion, thereby reducing GRSG habitat acreage and connectivity.</p> <p>Alternative E is less likely to adjust grazing management to meet GRSG habitat needs, largely because assessments are not prioritized.</p> <p>Alternative E would establish ROW exclusion areas in PHMA and avoidance areas in GHMA. Exclusion areas would protect GRSG on BLM-administered land but could push ROW development onto adjacent private land, with fewer land use restrictions.</p> <p>Alternative E provides for road closures during nesting season to protect GRSG from travel and recreation impacts.</p> <p>Alternative E also relies on discretionary actions, a less effective approach in avoiding new mining activities and</p>	<p>Alternative F protects GRSG habitat similarly to Alternatives B and C, using nonspecific guidance, which could make Alternative F difficult to apply consistently across plans. Alternative F would also apply a three percent disturbance cap on all surface disturbance in PHMA but would include fire within the three percent limit.</p> <p>Alternative F would further limit annually but would not bar grazing in GRSG habitat. This approach would reduce harm to GRSG habitat.</p> <p>Alternative F would establish ROW exclusion areas in PHMA and avoidance areas in GHMA. Exclusion areas would protect GRSG on BLM-administered land but could push ROW development onto adjacent private land, with fewer land use restrictions.</p> <p>For road closures, Alternative F does not seasonally close roads in GRSG habitat, allowing for potential disturbance of breeding GRSG.</p> <p>For leasable and salable minerals, Alternative F would close all PHMA to new mineral leases and would apply a maximum three percent disturbance cap in PHMA. Alternative F would be more effective at protecting GRSG habitat from mining on BLM-administered land because it closes habitat areas to mineral leasing and development.</p>	<p>Impacts from the Proposed Plan would be similar to those described for Alternative D.</p> <p>The Proposed Plan would incorporate flexibility with the use of active management tools, regional mitigation, and monitoring and adaptive management applied to resource uses to account for changes in conditions.</p> <p>The BLM would require a cap of three percent disturbance in PHMA, from human disturbances, not including wildfire, and would implement numerous conservation measures to reduce impacts from human activities in PHMA. This would reduce the likelihood for habitat loss, degradation, or fragmentation.</p> <p>The Proposed Plan allows the widest range of techniques for fire control and suppression and follows the recommendations of the FIAT assessment.</p> <p>It has explicit treatment priorities for conifer expansion and invasive plant management, increasing the likelihood of controlling these threats. It prioritizes review of grazing permits in SFAs and provides clear guidance on grazing management in GRSG habitat. This would result in the highest likelihood of adjusting grazing management where needed to meet GRSG habitat needs.</p> <p>The Proposed Plan would establish avoidance areas for ROWs in PHMA but would not establish exclusion areas. This flexible approach may be most effective in protecting GRSG habitat.</p> <p>For energy development, the Proposed Plan relies on protective stipulations and buffers, which may be less effective than closures; however, a three percent</p>

**Table 2-14
Summary Comparison of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
<p>Alternative A would allow development in existing corridors that have been established to minimize impacts on wildlife habitat.</p> <p>For road closures, Alternative A does not seasonally close roads in GRSG habitat, allowing for potential disturbance of breeding GRSG.</p> <p>Alternative A would be less effective in avoiding new mining activities and any associated facilities within occupied habitats; this is because it relies on discretionary actions by the BLM and mining operators.</p>	<p>leases and apply a 3-percent maximum disturbance cap in PHMA. This approach would be more effective at protecting GRSG habitat from mining on BLM-administered land than discretionary actions.</p>		<p>allowing for potential disturbance of breeding GRSG.</p> <p>Alternative D relies on discretionary actions, a less effective approach in avoiding new mining activities and associated habitat degradation; however, a three percent maximum disturbance cap would be imposed to limit disturbance within PHMA.</p> <p>Alternative D would establish avoidance areas for ROWs in PHMA but would not establish exclusion areas. Alternative D's flexible approach may be most effective in protecting GRSG habitat.</p>	<p>associated habitat degradation within occupied habitats.</p>		<p>cap would be imposed to limit disturbance within PHMA. In SFAs the NSO stipulation would be applied without exception, which would protect important GRSG habitat from degradation.</p>
Vegetation						
<p>Alternative A provides the least protection for vegetation communities in the planning area. It puts very few restrictions on development. This could reduce the acreage and condition of native vegetation, increase the spread or cover of noxious weeds and invasive species, and reduce special status plant populations.</p> <p>Impacts from current allocations and resource uses would continue. This would continue to decrease the acreage and condition of native vegetation communities, would reduce the acreage and condition of riparian and wetland areas, and would reduce the number and size of special status plant populations.</p> <p>Vegetation treatments would</p>	<p>Alternative B provides more protection for vegetation than Alternative A, but it would provide less protection than Alternatives C and F.</p> <p>Alternative B would restrict resource uses within PHMA and GHMA, by implementing a three percent disturbance cap, designating ROW avoidance and exclusion areas, and eliminating mineral leasing for example. Such restrictions would protect native vegetation, riparian and wetland areas, and special status plant populations.</p> <p>Alternative B would also provide guidance and prioritization for vegetation treatments and GRSG habitat restoration, thereby improving the condition and extent of native vegetation and habitat conditions for some special</p>	<p>Alternative C would focus on removing livestock grazing from occupied habitats and would implement a zero percent disturbance cap, with most other management being similar to Alternative A. As such, impacts from livestock grazing would be removed and impacts from surface-disturbing activities would be greatly reduced.</p>	<p>Alternative D would provide more protection for vegetation than Alternative A, but it would provide less protection than Alternatives B, C, and F. More flexibility is built into Alternative D to account for sub-regional conditions. This could allow for more development and thus more impacts on vegetation than Alternatives B, C, and F.</p> <p>Impacts from Alternative D are similar to those described for Alternative B, but with increased flexibility in decision-making and slightly reduced restrictions on uses. As a result, impacts would be reduced, compared to Alternative A, but not to the same extent as Alternative B.</p>	<p>Impacts from Alternative E are similar to those for Alternative D. In addition, Alternative E would require no net loss of sagebrush; as a result, it would provide more protection to vegetation than Alternative D.</p>	<p>Impacts from Alternative F would be similar to those described for Alternative B. The greatest restrictions would be placed on development, and the three percent disturbance cap would include fire, thus reducing the amount of human-caused disturbances that would be allowed. This would afford the most protection and opportunity for improving vegetation and special status plant populations.</p>	<p>Impacts from the Proposed Plan would be similar to those described for Alternative D.</p> <p>The Proposed Plan would include specific restoration targets for sagebrush thinning, conifer removal, invasive plant control, and crested wheatgrass restoration within four miles of occupied and pending leks. The Proposed Plan is the only alternative that would provide a target for crested wheatgrass seedings.</p> <p>The Proposed Plan would close all or parts of key RNAs to livestock grazing and would increase the number of acres with restrictions on OHV use by 2.6 times over Alternative A. These plus additional closures and restrictions in new ROW development and new mining activities provides the second-highest level of protection for special status plants, after Alternative F.</p>

**Table 2-14
Summary Comparison of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
continue in some areas, thus providing improved vegetation conditions.	status plants.					
Fish and Wildlife						
<p>Impacts on special status wildlife species would continue and likely would decrease habitat quality, quantity, and protection in the long term.</p> <p>Implementing management for general fish and wildlife, big game, and migratory birds discussed in Section 3.4, Fish and Wildlife, would have negligible or no impacts on those resources and are not addressed in the fish and wildlife analysis.</p>	<p>Impacts on special status wildlife species would be reduced, compared to Alternative A.</p> <p>Alternative B PHMA and GHMA would increase quality and protection for special status wildlife species habitat. This would affect habitat that overlaps occupied GRSG habitat by designating PHMA and GHMA and implementing a three percent human disturbance cap in PHMA.</p>	<p>Impacts on special status wildlife species are similar to those described under Alternative B.</p> <p>Grazing would be removed from occupied GRSG habitat, which could increase the potential for wildfire, as fuel loads increase in the absence of managed grazing.</p> <p>In addition, this action would require structural range improvements, including fences to exclude grazing from GRSG habitat. This could increase habitat fragmentation and associated impacts on special status wildlife species.</p>	<p>Alternative D would provide greater protection for special status wildlife species habitats than Alternative A but less protection than Alternatives B, C, and F. Alternative D provides more specific guidance, with stronger measures and more management flexibility compared to other action alternatives to achieve the most protection for GRSG habitat. It would also apply a three percent disturbance cap to all surface disturbance in PHMA, reducing impacts on special status wildlife species habitat that overlap with GRSG habitat.</p> <p>Impacts from Alternative D are similar to those described for Alternative B but with increased flexibility in decision-making and slightly reduced restrictions on uses. As a result, impacts would be reduced, compared to Alternative A, but not to the same extent as Alternative B.</p>	<p>Impacts from Alternative E would be similar to those for Alternative D. However, Alternative E would require no net loss of sagebrush, which may shift impacts on non-sagebrush habitats and associated special status wildlife species that do not rely on sagebrush.</p> <p>Managing occupied GRSG habitat as core areas would increase quality and protection for special status wildlife species' habitats that overlap occupied GRSG habitat.</p> <p>GRSG management of low-density habitat would provide less protection for special status wildlife habitat in those areas than the No Action Alternative.</p>	<p>Impacts from Alternative F on special status wildlife species would be similar to those described for Alternative B.</p> <p>Under Alternative F, the three percent disturbance cap would include fire in addition to human-caused disturbance, thereby further limiting allowable development-related disturbance.</p> <p>Livestock grazing management would close 25 percent of PHMA and GHMA to grazing, potentially reducing impacts from grazing management on special status wildlife. However, additional necessary fencing and infrastructure would increase habitat fragmentation and associated impacts on special status wildlife species.</p>	<p>Impacts from the Proposed Plan are similar to those under Alternative D.</p> <p>SFAs, which represent the highest-quality GRSG habitat, would be managed as PHMA, with additional management, such as withdrawal from mining and NSO stipulations for fluid mineral leasing. Special status wildlife species that overlap with GRSG habitat would benefit from the greatest protection in these areas.</p> <p>Impacts on GRSG habitat would be limited by a three percent disturbance cap, and permitted disturbances would be offset by RDFs, BMPs, and mitigation, thereby protecting special status wildlife species that overlap with GRSG habitat.</p> <p>Management of both livestock grazing and off-road motorized travel would provide similar protection to special status wildlife species as Alternative D and would increase protection over Alternative A.</p>
Wild Horses and Burros						
<p>Under Alternative A, wild horses and burros management would be determined by management in current RMPs in the planning area.</p> <p>Funding and priority for management is determined by national level priorities and</p>	<p>Under Alternative B, wild horse and burro gathers would be prioritized in those HMAs that overlap PHMA. This could reduce funding for or the ability to manage populations on HMAs outside of PHMA. However, provisions under this plan would allow for exceptions for herd health,</p>	<p>Management in the planning area would be similar to current conditions for many resources and resource uses. Closing GRSG habitat to permitted livestock grazing is an exception; this could increase forage availability for wild horses and burros and increase the ability to manage</p>	<p>Under Alternative D, management practices or AMLs may require modification in order to meet GRSG objectives in PHMA and GHMA. In addition, management of HMAs within GRSG habitat would be emphasized and impacts could occur on HMAs outside of</p>	<p>Under Alternative E, management agencies would be strongly encouraged to prioritize funding for wild horse gathers in GRSG areas that are over AML. As a result, funding and resources for areas outside of GRSG habitat could be reduced, with impacts on the ability to meet</p>	<p>Under Alternative F, a proposed 25 percent reduction in AMLs in GRSG habitat would dramatically increase the costs of management for the wild horse and burro program, as additional gathers and fertility control treatments would be</p>	<p>The Proposed Plan includes management and vegetation treatment objectives, such as VDDT and FIAT, which could exclude horses and burros from specific areas in the short term but would improve forage conditions in the long term.</p> <p>Management practices or AMLs may need to be modified in order to meet</p>

**Table 2-14
Summary Comparison of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
land health considerations.	<p>thereby limiting impacts. Modifying watering sites to conserve GRSG habitat could reduce water availability. This could require reducing wild horse and burro numbers within an HMA. Limiting other resource uses, such as travel, recreation, and mineral development, could reduce any disturbance of wild horses and burros.</p> <p>There is a potential for a reduction in AMLs if their current levels are not compatible with GRSG habitat objectives.</p> <p>Priority is given to managing HMAs in PHMA. National level priorities and land health are still factors.</p>	<p>AMLs. However, the lack of maintenance of water developments and the removal of some water developments would impact the ability to provide sufficient water for herds and the ability to manage for AMLs. Conversely, removing fences could increase the herds' ability to range, thereby improving habitat for wild horses and burros.</p> <p>There is a potential for reducing AMLs over the long term if current AML levels are not compatible with GRSG habitat objectives.</p> <p>Priority funding and priority for management are determined by national level priorities and land health considerations.</p>	<p>GRSG habitat. This would happen if limited resources for population control and management were directed to PHMA and GHMA.</p> <p>There is a potential for reduction in AMLs in the long term if current AML levels are not compatible with GRSG habitat objectives.</p> <p>Priority is given to managing HMAs in PHMA and GHMA. National level priorities and land health are still factors.</p>	<p>AMLs and corresponding land health in these areas.</p> <p>There is a potential for reduction in AMLs in the long term if current AML levels are not compatible with GRSG habitat objectives.</p> <p>Priority is given to managing HMAs over AML in GRSG habitat. National level priorities and land health are still factors.</p>	<p>required.</p> <p>In addition, a similar reduction in permitted livestock grazing in GRSG habitat could increase forage availability for the remaining wild horses and burros. However, prohibiting new water developments and structural improvements in GRSG habitat could limit water availability for wild horses and burros and could impact the ability to manage for AML.</p> <p>Priority is given to managing HMAs in PHMA. National level priorities and land health are still factors.</p>	<p>GRSG objectives in PHMA and GHMA.</p> <p>The greatest restrictions on development would occur in the HMAs within SFAs, followed by PHMA and GHMA. While these restrictions would provide for the greatest protection of wild horse and burro forage and water sources and would limit disturbance in SFAs, it could push development to areas outside of occupied GRSG habitat. This could create increased disturbance and harassment of wild horses and burros in HMAs that fall within the lowest priority of GHMA.</p> <p>The Beaty's Butte, Coyote Lake-Alvord-Tule Springs, and Jackies Butte HMAs would fall under the highest-standing priority for gathers each year to retain AML. This focused management strategy would ensure that AML is maintained, along with the necessary forage for the wild horses in these HMAs; however, it may increase the number of gathers needed to maintain AML, which could increase the disturbance to the populations and possibly disrupt herd dynamics. Prioritization could also put HMAs that fall within the lowest priority at risk for overpopulation.</p> <p>Livestock grazing permits and leases would be processed and land health would be assessed, with SFA prioritized over PHMA and then GHMA. As a result, range conditions for both livestock and wild horses and burros overlapping these allotments would improve, compared to Alternative A.</p> <p>Restrictions on travel management and recreation would reduce disturbance of wild horses and burros from recreational traffic.</p> <p>Implementing a three percent cap on disturbance, RDFs buffers, and</p>

**Table 2-14
Summary Comparison of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Wildland Fire Management						
<p>No PMPH or PMGH would be designated for GRSG under Alternative A. Overall, it is the least restrictive of the alternatives; therefore, it is the least likely to impact fire management by placing restrictions on how fires can be managed. However, there would be the highest potential for access to recreation and energy and minerals development. This could mean a continued risk of people starting fires and the need for fire response.</p>	<p>Occupied GRSG habitat would be classified into PHMA and GHMA, where Alternative B provides a greater level of protection. This would retain or improve conditions for wildfire management within these areas.</p> <p>Use restrictions limiting activities would reduce human-caused fires, the occurrence of fires, and damage to native vegetation communities. Also, it would minimize the spread of invasive species. Yet, restrictions could also limit wildfire response and result in higher fuel loads and larger or more intense fires.</p>	<p>Alternative C focuses on removing livestock grazing in GRSG habitat and designating ACECs.</p> <p>Designating PHMA and GHMA and managing minerals and ACECs would have the same impacts as those described for Alternative B. Over 10 million acres would be ROW exclusion under this alternative. This would retain or improve conditions for wildland fire management in these areas, yet it could also limit the creation of fire breaks and staging areas as part of development projects. Impacts from other resources or uses are similar to Alternatives A and B. The exception is for grazing, which would depend on site conditions, including climate, soils, fire history, and disturbance and grazing history.</p>	<p>Alternative D would incorporate more flexibility and adaptive management, including fire management strategies, to account for sub-regional conditions.</p> <p>Under Alternative D, the BLM would manage lands to maintain or enhance GRSG habitat to establish a mix of sagebrush classes. Although impacts are similar to B, Alternative D provides priorities for wildfire, fuels, sagebrush, and juniper treatments through the use of the FIAT assessments (see Appendix H). Focal areas for management actions are prioritized by overlaying matrix components with GRSG PACs, breeding bird densities, and specific habitat threats.</p> <p>Other impacts on fire size, extent, occurrence, and the likelihood of fire associated with human activities are similar to those under Alternative A, except mineral material sales and travel would be the same as under Alternative B. Impacts from other uses would be reduced through the fire management strategies under Alternative D. In addition to restoration and protection of sagebrush habitat, under this alternative, the BLM would coordinate with other agencies, would</p>	<p>Impacts from GRSG management, lands, energy, travel, and minerals are the same as those under Alternative B. The same number of acres would be treated as under Alternative A; however, Alternative E would substantially reduce the introduction and spread of weeds. Impacts from wildfire management under Alternative E would be similar to those described for Alternative D.</p>	<p>Impacts from Alternative F are similar to those for Alternative B. The difference is that Alternative F calls for more stringent guidance and restrictive management in sagebrush ecosystems. This would improve vegetation and would reduce the spread or cover of invasive species and conifer encroachment. This in turn would reduce impacts on wildland fire management, when compared to Alternative B. Alternative F is the same as Alternative C for ROW exclusion and impacts from lands and realty on wildland fire management.</p>	<p>mitigation and monitoring would reduce disturbance of wild horses and burros and their forage.</p> <p>Overall, impacts from the Proposed Plan are similar to those for Alternative D; however, impacts from GRSG management on wildfire management are similar to those described for Alternative B. The Proposed Plan would include management of SFAs in PHMA, which would provide greater restrictions on allowable uses. Also RDFs, buffers, and seasonal restrictions would be applied to leks in PHMA and GHMA and a three percent disturbance cap would be applied to human-caused disturbances.</p> <p>Impacts from the Proposed Plan are similar to those described for Alternative D for wildfire management and vegetation; however, prescribed fire could be used in GRSG habitat under certain circumstances, and additional vegetation treatments would improve wildfire management and reduce the likelihood for catastrophic wildfires.</p>

**Table 2-14
Summary Comparison of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
			implement fuel management techniques, and would therefore reduce impacts on wildfire management.			
Livestock Grazing/Range Management						
<p>Approximately 771,773 AUMs would be permitted and 9,982,126 acres would be available for grazing in PPH and PGH on BLM-administered lands.</p> <p>No PMPH or PMGH would be designated for GRSG under Alternative A. Individual RMPs may provide some measures to protect PPH or PGH, but management would vary across the planning area. In general, Alternative A would be the least restrictive on alternative resource uses, including livestock grazing. As a result, permittees and lessees would have a range of management options to support livestock grazing operations. This alternative would also be the least restrictive for other resource uses and associated development; therefore, there is an increased chance of disturbance from mineral development, recreation, and other uses on livestock grazing.</p>	<p>Acres available to grazing and permitted AUMs would be the same as Alternative A. Occupied GRSG habitat would be classified into PHMA and GHMA.</p> <p>When fine- and site-scale GRSG habitat assessment and monitoring is needed or required (e.g., as a component of a rangeland health assessment), the GRSG habitat suitability indicators for seasonal habitats identified in the HAF would be measured. In the long term, livestock grazing in PHMA would be reduced, compared to Alternative A, should current grazing practices in a given allotment fail to meet GRSG habitat objectives; however, impacts would be site specific and likely would occur gradually.</p> <p>Impacts, including the potential modification of livestock grazing strategies and related increase in time and cost for permittees, would primarily occur on range management in PHMA, due to restrictions on resource uses in this area.</p> <p>Overall, water improvements and fences are likely to be removed or modified to some extent under Alternative B, thereby increasing management costs and</p>	<p>No livestock grazing would be authorized in occupied GRSG habitat in the planning area. A total of 787,139 acres in non-GRSG habitat would be available to grazing. As a result, permittees and lessees would be required to locate alternative sources of forage or to close or reduce livestock grazing operations, with impacts on individual operators as well as the community at large.</p>	<p>Approximately 9,923,018 acres would be available for grazing and 763,825 AUMs would be permitted in GRSG habitat (one percent reduction from Alternative A), due to the closure of specific areas of key RNAs in PHMA to grazing.</p> <p>In the specific allotments closed, permittees and lessees would need to locate alternative forage sources and may face financial impacts, as described under Alternative C.</p> <p>Under Alternative D, permit renewal and associated land health assessment would be prioritized first in PHMA for those assessment categories requiring modification. As a result, changes to permitted livestock grazing level and grazing systems are more likely to occur in these areas. In the long term, this action could improve rangeland habitat conditions for livestock and wildlife by focusing management on those lands that are most in need of improvement.</p> <p>Rangeland health assessment would measure the GRSG habitat suitability indicators for seasonal habitats; following HAF indicators. Modifications to grazing systems could be required to meet seasonal habitat objectives, increasing</p>	<p>Acres available to grazing would be the same as under Alternative A. Management actions would be focused on changes to livestock grazing strategies or permitted use levels. This would be the case only where allotments are not meeting standards or where the level of use is not consistent with existing management direction (existing RMPs). As a result, impacts on livestock grazing management would occur only when these standards are not met.</p> <p>Management for other resources would generally restrict activities that are near leks or other sensitive seasonal habitat. Activities that could disturb livestock in these areas may be reduced. Limitations to structural range improvements and the ability to distribute livestock are also most likely to occur in these areas.</p>	<p>A 25 percent reduction in GRSG habitat available for livestock grazing would be implemented, with approximately 7,486,594 acres available to livestock grazing and 289,414 permitted AUMs. Impacts from closures would be as described for Alternative C but at a reduced scale. In addition, restrictions would be applied to construction of new water developments and range improvements, and existing improvements may require modifications. As a result, the ability of permittees and lessees to efficiently distribute livestock and manage for permitted level of use would likely be impacted.</p>	<p>Approximately 9,956,587 acres would be available for grazing and 769,385 AUMs would be permitted in GRSG habitat, a one percent less than .5 percent reduction from Alternative A.. This would be due to the full or partial closure of some RNAs in PHMA to grazing. In the specific allotments closed, permittees and lessees would need to locate alternative forage sources and may face financial impacts, as described under Alternatives C and D, but with a reduced intensity of impacts.</p> <p>Permit renewal and associated land health assessment would be prioritized in GRSG habitat, with a focus on areas not currently meeting standards for rangeland health. The emphasis is on allotments in GRSG habitat, with priorities for review for land health assessments as allotments in SFAs followed by allotments in PHMA outside of SFAs. Precedence would be given to existing permits and leases in these areas not meeting rangeland health standards. There would be a focus on riparian areas, including wet meadows, with impacts likely to follow. In the long term, this action could improve rangeland habitat conditions for livestock.</p> <p>A rangeland health assessment would measure the GRSG habitat suitability indicators for seasonal habitats; specific indicators for habitat are identified in Table 2-4. A site-specific review of seasonal habitat type would be required as part of the land assessment process. Modifications to grazing systems could</p>

**Table 2-14
Summary Comparison of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
	potentially decreasing grazing or shifting grazing use patterns in the long term.		costs to lessees and permittees. Under Alternative D, new and existing range improvements would be allowed and modified in order to enhance functionality when livestock are absent. The improvements would be modified to prevent wildlife entrapment. As a result, some developments may be modified; however, the ability to distribute livestock should generally be maintained, and impacts on permittees and lessees would be limited.			be required to meet seasonal habitat objectives, increasing costs to lessees and permittees. Additional site-specific changes may be required to grazing management if adaptive management “soft triggers” are to be met. Modifications may be required to structural range improvements, and new improvements would be limited. The actions represent potential costs for permittees and lessees, Indirect disturbance of livestock grazing or livestock forage from other development would be reduced by the following: including a cap on human-caused disturbance, mitigating disturbance to ensure a net conservation gain to GRSG, and implementing conservation measures in PHMA and GHMA, such as adaptive management and defined monitoring protocols, RDFs, and lek buffers.
Recreation						
Existing recreation opportunities in the planning area would be maintained.	Limiting motorized travel to existing routes in PHMA, establishing seasonal road closures, and requiring changes to SRPs not neutral or beneficial to GRSG habitat would result in the loss of or changes to certain types of recreation in portions of the decision area.	Impacts are the same as those described under Alternative A.	Seasonal limitations on SRPs would limit recreation opportunities in GRSG habitat during certain times of the year. Reducing OHV use in ACECs and eliminating OHV use in RNAs would reduce OHV opportunities in the planning area over the long term, especially in relatively undeveloped areas. It would also improve opportunities for quiet recreation in these areas.	Limitations on SRPs would result in impacts similar to those described under Alternatives B, D, and F. Springtime motorized travel restrictions would have a limited impact on recreation. This is because hunting, which typically occurs in the fall, would be unaffected.	Impacts are similar to those described under Alternative B.	Limitations on SRPs would result in impacts similar to those described under Alternatives B, D, E, and F. Diverting concentrated use and recreation facilities away from PHMA would result in a long-term shift in recreation patterns in the planning area. Seasonal restrictions in existing SRMAs in PHMA and GHMA would force users to recreate elsewhere in the planning area during the time of year when restrictions are in place.

**Table 2-14
Summary Comparison of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Travel Management						
Travel management would continue, according to existing planning documents.	Limiting motorized travel to existing routes in PHMA would decrease cross-country travel opportunities and would limit access to certain routes.	Alternative C would close the most acres to cross-country motorized travel and would limit motorized travel to existing routes instead. Because the existing route network is well dispersed throughout the decision area, this is not expected to noticeably increase congestion or conflict over the long term.	Same as Alternative B, except that there would be a long-term reduction in OHV access in ACECs and RNAs. This reduction covers a relatively small portion of the planning area and is not expected to cause congestion or access issues elsewhere in the planning area.	Cross-country motorized travel would be restricted, though not as much as under Alternative C. In addition, restricting motorized travel within two miles of leks during breeding season would temporarily limit access to routes in those areas, which could increase motorized travel in other areas.	Impacts are the same as under Alternative B, except that limitations on road improvements could decrease access for certain vehicle types, such as passenger vehicles.	Similar to Alternative B, except that there would be additional limitations on route construction and realignment and upgrades to primitive roads. As a result, the BLM would have less flexibility to respond to any localized congestion and user conflicts if motorized travel were to increase in popularity.
Lands and Realty						
<p>ROW avoidance and exclusion restrictions would not prevent the BLM from accommodating future demand for ROW development in the planning area.</p> <p>Approximately five percent of GRSG habitat would be managed as ROW exclusion and 30 percent as ROW avoidance. Because most lands in the planning area would be available for ROW development, the BLM lands and realty program would be able to accommodate most new ROW development. Little to no impacts on lands and realty would occur under Alternative A.</p> <p>Land tenure management would allow the BLM to dispose of lands as necessary to improve management efficiency, subject to existing disposal and acquisition criteria.</p> <p>Existing transportation routes would continue to provide motorized access to ROW infrastructure and</p>	<p>Managing GHMA as ROW exclusion would prevent the BLM from accommodating new ROW development in those areas. With a continuing demand for new ROWs in the planning area, including major interstate and intrastate electrical transmission and gas pipelines, ROW developments would be diverted to adjacent nonfederal lands or would be prevented altogether.</p> <p>ROW restrictions would not apply to valid existing rights (e.g., existing transmission lines or roadways).</p> <p>Within exclusion areas, the BLM would consider new ROW authorizations only where the proposed infrastructure, including construction and staging during construction, could be collocated entirely in an existing ROW. A three percent maximum surface disturbance cap would apply.</p> <p>The BLM would avoid new ROW GHMA. Impacts on the lands and realty program</p>	<p>The BLM would not authorize new ROW development in GRSG habitat; therefore, Alternative C would eliminate opportunities for new ROW development, including wind and solar generation facilities, communication towers, gas pipelines, fiber optic cables, electrical transmission lines, and similar. There is a continuing demand for these ROWs in the planning area to meet energy and communication needs elsewhere; Alternative C would prevent the BLM lands and realty program from meeting those needs.</p> <p>Designating all GRSG habitat as exclusion for wind energy ROWs would eliminate the BLM's ability to accommodate new wind energy development in the planning area. It would hinder the BLM's ability to meet President Obama's renewable energy goal of 10 gigawatts of new renewable energy permitted on DOI lands by 2020. With demand for new ROWs, including wind</p>	<p>Managing PHMA as ROW avoidance areas with a three percent habitat disturbance cap would restrict the BLM from authorizing new ROW development in those areas without applying special stipulations for avoidance designation. Examples are siting criteria and design requirements. With a continuing demand for new ROWs in the planning area, including major interstate and intrastate electrical transmission and gas pipelines, ROW development could be discouraged in PHMA. If new ROW development could not be feasibly developed, the result would be reduced energy and communication opportunities to meet growing demand.</p> <p>ROW restrictions would not apply to valid existing rights (e.g., existing transmission lines or roadways).</p> <p>Impacts on land tenure would be the same as under Alternative B.</p>	<p>Stipulations for ROW avoidance areas under Alternative E would limit the BLM's ability to accommodate the demand for new infrastructure in GRSG habitat. Demand for new ROWs in the planning area, including major interstate and intrastate electrical transmission and gas pipeline ROW developments, are expected to continue and increase over time. Because of this, new ROW development would be diverted to adjacent nonfederal lands or would not occur at all. If new ROWs could not be feasibly developed, the result would be reduced energy and communication opportunities to meet growing demand.</p> <p>Impacts on land tenure would be the same as Alternative A.</p> <p>Impacts from travel management would be the same as those described under Alternative B.</p>	<p>Stipulations associated with ROW avoidance areas under Alternative F, similar to Alternative C, would limit the BLM's ability to accommodate the demand for new infrastructure development in GRSG habitat. Designation of all GRSG habitat as exclusion for wind energy ROWs plus the exclusion of new wind energy development within five miles of active leks would eliminate the BLM's ability to accommodate new wind energy development in the planning area. Restrictions on wind energy are greater under Alternative F than under any other alternative, hindering the BLM's ability to meet President Obama's renewable energy goal of 10 gigawatts of new renewable energy permitted on DOI lands by 2020. Demand for new ROWs, including wind energy developments, is expected to increase over time. Because of this, new ROW development would be diverted to adjacent nonfederal lands, or they would not be developed. If</p>	<p>GRSG conservation management actions under the Proposed Plan, particularly those in PHMA, would increase mitigation requirements for land use authorizations, would result in more complex project designs, could exclude infrastructure placement in the most cost-effective locations, and would result in overall greater development costs. More ROW development, leases, and permits are expected to occur outside of GRSG habitat compared to only allowing new minor ROW in GHMA, and implementing NSO stipulations in PHMA. BLM management of SFAs and PHMA outside of SFAs as exclusion areas for wind and solar, with the exception of Lake, Harney, and Malheur Counties, would allow the BLM to accommodate new wind development in the areas with the most developable wind resources.</p> <p>Recommending SFAs for locatable mineral withdrawal would decrease the overall long-term demand for ROWs to support mineral development. NSO stipulations on fluid mineral development in PHMA would further reduce the demand for new ROW development in those areas.</p> <p>Allowing certain land tenure actions</p>

**Table 2-14
Summary Comparison of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
<p>communication sites for construction and maintenance, with no additional impacts on lands and realty from travel and transportation management.</p>	<p>under Alternative B include the need to locate proposed facilities outside exclusion areas or within existing ROWs. This limits the BLM's ability to accommodate the demand for new infrastructure development, including wind energy development.</p> <p>Prohibitions on new mineral development would decrease the number of ROW applications received by the BLM for roads, distribution lines, and related infrastructure necessary to support mineral activity.</p> <p>Limiting new road construction and incorporating supplemental mitigation requirements could make certain areas impractical for new ROW development.</p> <p>Retention lands in PHMA would increase by 1,049,500 acres, compared to Alternative A.</p>	<p>energy developments, expected to continue and increase, new ROW development would be diverted to adjacent nonfederal lands, or it would not occur at all.</p> <p>The BLM would retain public ownership of 11,757,100 acres in GRS habitat with no exceptions, thereby preventing the BLM from disposing of lands (e.g., isolated parcels) to improve management efficiency. Designating lands for retention also eliminates the ability to resolve any trespass by means of a sale by the BLM of the affected land.</p>	<p>Impacts from travel management are the same as those described under Alternative B.</p>		<p>new ROW development could not be feasibly developed, the result would be reduced energy and communication opportunities to meet growing demand.</p> <p>Impacts on land tenure would be the same as Alternative B.</p> <p>Impacts from travel management are the same as those described under Alternative B, except there would be, at a minimum, seasonal closures within two miles of active leks.</p>	<p>that would result in a net conservation gain for GRS could create a more contiguous decision area and increase short- and long-term land management efficiency.</p> <p>Impacts from travel management are the same as those described under Alternative B.</p>
Fluid Leasable Minerals						
<p>Under Alternative A, 3,497,100 acres (25 percent) of federal mineral estate in the decision area would remain closed to fluid mineral leasing. Acres closed have the greatest impact on the fluid minerals program by prohibiting the development of fluid minerals on portions of federal mineral estate. Operators may relocate to nearby states or to private lands.</p> <p>Under Alternative A, 8,314,700 acres (66 percent) of BLM-administered surface</p>	<p>Approximately 7,217,500 acres (52 percent of the federal mineral estate, including all within PHMA) would be closed to fluid mineral leasing. Closing these acres would directly impact the fluid minerals program in the manner described under Alternative A. However, because twice as many acres would be closed under Alternative B as under Alternative A, the magnitude of these impacts would also increase.</p>	<p>Approximately 11,699,400 acres (83 percent of the federal mineral estate), including all federal mineral estate within occupied habitat, would be closed to fluid mineral leasing. Closing these acres would directly impact the fluid minerals program in the manner described under Alternative A; however, because three times as many acres would be closed under Alternative C as under Alternative A, the magnitude of these impacts would also</p>	<p>Like Alternative A, approximately 3,497,100 acres (25 percent of the federal mineral estate) would be closed to fluid mineral leasing.</p> <p>All BLM-administered surface within PHMA not already managed as ROW exclusion would be managed as ROW avoidance. As a result, 5,964,800 acres (47 percent) of BLM-administered surface in the decision area would be managed as ROW avoidance, and 857,600 acres (seven percent) would be managed as</p>	<p>Approximately 7,217,500 acres (52 percent of the federal mineral estate), including all federal mineral estate in core area habitat, would be closed to fluid mineral leasing. Impacts would be the same as those under Alternative B. Management of all federal mineral estate in the decision area outside core area habitat would be the same as that under Alternative A, with the same impacts. Because all core area habitat would be closed to fluid mineral leasing under</p>	<p>Management of fluid minerals would be similar to that under Alternative C; however, geophysical exploration would be allowed within occupied habitat to gather information about fluid mineral resources outside occupied habitat. Impacts of closures are the same as those under Alternative C. Impacts of the restrictions on geophysical exploration are the same as those described under Alternative B; however, because the restrictions would</p>	<p>Approximately 4,333,700 acres (31 percent of the federal mineral estate), including all federal mineral estate in PHMA, would be subject to NSO stipulations. Applying NSO stipulations to these acres would effectively limit development of fluid mineral resources in PHMA, particularly the drilling of wildcat wells. Directional drilling to access federal minerals below NSO lands is possible. Because the Oregon planning area is a pioneering area, where precise locations of fluid mineral resources are unknown, wildcat wells are necessary to identify resource areas.</p>

**Table 2-14
Summary Comparison of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
<p>within the decision area would continue to be open to ROW location. However, the fluid minerals program could be indirectly impacted by the limits on the available means for transporting fluid minerals to processing facilities and markets in areas managed as ROW exclusion or avoidance. Transmission of geothermally produced electricity to the power grid could also be impacted. This would apply wherever there is overlap between federal fluid mineral leases and the 4,303,300 acres (34 percent) of BLM-administered surface in the decision area that would continue to be managed as ROW avoidance or exclusion.</p> <p>The 43 existing leases within occupied habitat would continue to be subject to any stipulations and BMPs contained in their leases.</p>	<p>Because all PHMA would be closed to fluid mineral leasing under Alternative B, managing areas as ROW exclusion in PHMA would have no impact on fluid minerals.</p> <p>Under Alternative B, conservation measures in addition to RDFs would be applied as COAs to the five existing federal leases in PHMA. These RDFs and conservation measures would include such requirements as surface disturbance limitations, TLs, noise restrictions, structure height limitations, design requirements, water development standards, remote monitoring requirements, and reclamation standards.</p>	<p>increase.</p> <p>Because all occupied habitat would be closed to fluid mineral leasing under Alternative C, managing occupied habitat as ROW exclusion would have no impact on fluid minerals.</p> <p>Conservation measures and RDFs would be applied as COAs to the 43 existing leases within occupied habitat. Applying these requirements through COAs would impact fluid mineral operations by restricting fluid mineral development. To avoid these restrictions, operators may relocate to nearby states or to private lands, resulting in less development of federal fluid mineral resources.</p>	<p>ROW exclusion. Fluid mineral leases beneath BLM-administered surface in PHMA would be indirectly impacted in the manner described under Alternative A. However, because 73 percent more acres would be managed as ROW avoidance under Alternative D, the magnitude of impacts would increase.</p> <p>The BLM would apply a buffer system to manage fluid mineral development in and next to occupied habitat. Under this system, leks would be surrounded by buffers of varying sizes, in which NSO stipulations would apply. In addition, CSU and TL stipulations would apply to all areas within occupied habitat that are outside a lek buffer. Application of these surface disturbance restrictions, TLs, and other operating standards would limit the siting, design, and operations of fluid mineral development projects.</p>	<p>Alternative E, managing it as ROW exclusion would have no impact on fluid minerals.</p> <p>Impacts of fluid mineral management on existing fluid mineral leases are the same as those under Alternative A.</p>	<p>apply to more acres under Alternative F, the impacts would be greater.</p> <p>Because all occupied habitat would be closed to fluid mineral leasing under Alternative F, managing occupied habitat as ROW exclusion would have no impact on fluid minerals.</p>	
Locatable Minerals						
<p>Under Alternative A, 1,435,900 acres (10 percent) of federal mineral estate would remain withdrawn, and an additional 24,400 acres (less than one percent) would continue to be recommended for withdrawal. Approximately 12,687,800 acres (90 percent) of federal mineral estate in the decision area would remain open to locatable mineral entry. Withdrawal or closure of an area to mining development eliminates the</p>	<p>Under Alternative B, 4,612,200 acres (33 percent) of federal mineral estate in the decision area (including all PHMA) would be recommended for withdrawal, compared with 24,400 acres under Alternative A; a three percent surface disturbance cap would apply to PHMA. The large increase in areas recommended for withdrawal under this alternative, compared with Alternative A, would increase the development delays of</p>	<p>Under Alternative C, 9,987,900 acres (71 percent) of federal mineral estate in the decision area (including all occupied habitat) would be recommended for withdrawal, compared with 24,400 acres under Alternative A. The large increase in areas recommended for withdrawal under this alternative, compared with Alternative A, would increase the development delays of existing claims and burdens of validity</p>	<p>Locatable mineral management under Alternative D would be similar to that under Alternative A. The exception is that new and existing claims, operations, and notices in PHMA would be requested to change mining operations and practices to limit surface disturbance of three percent of PHMA and to mitigate impacts on GRSG. Because these actions would not be mandatory, operators' ability to access and extract locatable</p>	<p>Similar to Alternative B, 4,612,200 acres of federal mineral estate (including all core area habitat) would be recommended for withdrawal from locatable mineral entry. This would impact locatable minerals, as described under Alternative B.</p>	<p>Locatable mineral management is the same as that under Alternative B, with the same impacts.</p>	<p>Under the Proposed Plan, 1,835,800 acres (13 percent) of federal mineral estate in the decision area (including the SFA) would be recommended for withdrawal from locatable mineral entry. The large increase in areas recommended for withdrawal under this the Proposed Plan, compared with Alternative A, would increase the development delays of existing claims and burdens of validity exams on the BLM and claimant described under Alternative A. Additional RDFs will apply to locatable minerals consistent with applicable law. This would affect</p>

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Summary Comparison of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
<p>ability of new claimants to access and extract the mineral resources in that area. This represents an impact on the potential discovery, development, and use of those resources by decreasing the availability of mineral resources. Validity exams would be required for any new, or major changes to, Notices or Plans of Operation within a Withdrawn Area. BLM retains the right to determine validity at its discretion. The need for these exams increases the burden for the BLM and delays extraction of the resources.</p> <p>This alternative would be the least restrictive to locatable minerals because a larger percentage of the decision area would be open to locatable mineral entry, and mine operators would not change their practices.</p>	<p>existing claims and burdens of validity exams on the BLM and claimant described under Alternative A. Additional BMPs could be recommended to existing claims, notice-level activities, and operations within PHMA if the operator were willing to apply them. This would affect mining operations and practices.</p>	<p>exams on the BLM and claimant described under Alternative A. This would be the most restrictive alternative.</p>	<p>minerals on federal mineral estate would not be impacted.</p>			<p>mining operations and practices.</p>
Mineral Materials						
<p>Under Alternative A, demand for mineral materials would remain low on BLM-administered surface in the decision area, which would continue to be managed as ROW avoidance or exclusion.</p> <p>Approximately 3,611,700 acres (26 percent) of federal mineral estate in the decision area would remain closed to mineral material disposal. Closing these areas to mineral material disposal would result in pits being relocated nearby, if feasible, to meet demand for road maintenance and other</p>	<p>Because all PHMA would be closed to mineral materials disposal under Alternative B, managing areas as ROW exclusion in PHMA would have no impact on mineral materials.</p> <p>Approximately 7,311,600 acres of federal mineral estate in PHMA (52 percent of the federal mineral estate decision area) would be closed to mineral material disposal. The types of impacts from these closures would be the same as those discussed under Alternative A; however,</p>	<p>All BLM-administered surface in occupied habitat would be managed as ROW exclusion under Alternative C. This management would not impact mineral materials because all occupied habitat would be closed to mineral materials disposal.</p> <p>Under Alternative C, approximately 11,753,400 acres (83 percent) of federal mineral estate in the decision area (including all occupied habitat) would be closed to mineral material disposal. Impacts of these closures are</p>	<p>Because all PHMA would be closed to mineral materials disposal under Alternative D, managing areas as ROW avoidance in PHMA would have no impact on mineral materials.</p> <p>Management of mineral materials under Alternative D would be the same as that under Alternative B.</p>	<p>Because all core area habitat would be closed to mineral materials disposal under Alternative E, managing it as ROW exclusion would have no impact on mineral materials.</p> <p>Under Alternative E, all federal mineral estate in core area habitat would be closed to mineral materials disposal. The acres affected and the impacts of this management are the same as those under Alternative B.</p>	<p>Under Alternative F, all occupied habitat would be managed as ROW exclusion areas. PHMA would be closed to mineral materials disposal; because of this, mineral materials in PHMA would not be impacted by ROW exclusion areas. GHMA would be impacted by these areas in the manner described under Alternative A. Within GHMA, 12 times more acres would be managed as ROW avoidance under Alternative F, compared to Alternative A.</p> <p>Management of mineral</p>	<p>Under the Proposed Plan, all PHMA would be managed as ROW avoidance areas; however, because all PHMA would be closed to new mineral material disposal under the Proposed Plan, mineral material activity in PHMA would already be decreased. ROW avoidance areas would have less of an independent impact on mineral materials. Within GHMA, 12 times more acres would be managed as ROW avoidance under the Proposed Plan than under Alternative A.</p> <p>Under the Proposed Plan, approximately 7,343,300 acres of federal mineral estate in PHMA (52 percent of the federal mineral estate</p>

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Summary Comparison of Environmental Consequences**

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
<p>needs. If demand for mineral materials could not be met by pits operated on federal lands, the pits could be moved onto private or state lands with mineral material resources. If no mineral materials were to occur near closed areas, developers would have to transport them to construction sites from farther away. This would alter the location of mineral materials development.</p>	<p>because three times more acres of federal mineral estate would be closed under Alternative B, the magnitude of these impacts would increase.</p>	<p>the same as those described under Alternative A; however, because three times more acres would be closed to mineral material disposal under Alternative C, the magnitude of those impacts would increase.</p>			<p>materials under Alternative F would be the same as that under Alternative B.</p>	<p>decision area) would be closed to mineral material disposal. Impacts are similar to those described under Alternative A but would increase in magnitude. However, impacts would be mitigated because new free use permits and existing pit expansion would be allowed.</p> <p>Application of the three percent disturbance cap in PHMA and lek buffers in PHMA and GHMA could impact mineral material activities by preventing new surface development.</p>
Nonenergy Leasable Minerals						
<p>Under Alternative A, the nonenergy leasable minerals program could be indirectly impacted by the limits on the available means for transporting minerals to processing facilities and markets in areas managed as ROW exclusion or avoidance. This would apply wherever there is overlap between federal, nonenergy, solid mineral leases and BLM-administered surface in the decision area, which would continue to be managed as ROW avoidance or exclusion.</p> <p>Under Alternative A, 3,073,600 acres (22 percent) would remain closed to prospecting and leasing. Closing an area to nonenergy solid mineral leasing directly impacts nonenergy leasable minerals by removing the possibility of mineral resources in that area from being accessed and extracted.</p>	<p>Because all PHMA would be closed to nonenergy solid mineral leasing under Alternative B, managing areas as ROW exclusion in PHMA would have no impact on nonenergy solid leasable minerals.</p> <p>The BLM would close all PHMA to nonenergy solid mineral leasing under Alternative B. This would result in 7,217,500 acres (51 percent) of federal mineral estate in the decision area being closed to prospecting and leasing. Alternative B would close twice the acreage as Alternative A. This would increase the intensity of the impacts described under Alternative A.</p>	<p>All BLM-administered surface in occupied habitat would be managed as ROW exclusion under Alternative C. This management would not impact nonenergy solid leasable minerals because all occupied habitat would be closed to nonenergy solid mineral leasing.</p> <p>The BLM would close all occupied habitat to nonenergy solid mineral leasing under Alternative C. This would result in 11,699,400 acres (83 percent) of federal mineral estate in the decision area being closed to prospecting and leasing. Alternative C would close four times the acreage, compared to Alternative A. This would increase the intensity of the impacts described under Alternative A.</p>	<p>All BLM-administered surface within PHMA not already managed as ROW exclusion would be managed as ROW avoidance. Nonenergy solid mineral leases beneath BLM-administered surface in PHMA would be indirectly impacted in the manner described under Alternative A. However, because 73 percent more acres would be managed as ROW avoidance under Alternative D, the magnitude of impacts would increase. ROWs in GHMA would be subject to site-specific restrictions to protect GRSG, which would add restrictions to nonenergy leasable mineral operations in GHMA, compared to Alternative A.</p> <p>Under Alternative D, the BLM would apply NSO stipulations to 3,270,400 acres (23 percent) of the federal mineral estate decision area, including all acres within PHMA. Applying NSO stipulations would restrict the ability of</p>	<p>Because all core area habitat would be closed to nonenergy solid mineral leasing under Alternative E, managing core area habitat as ROW exclusion would have no impact on nonenergy solid leasable minerals.</p> <p>Management of nonenergy leasable minerals under Alternative E would be the same as that under Alternative B and with the same impacts.</p>	<p>Under Alternative F, all occupied habitat would be managed as ROW exclusion areas. PHMA would be closed to nonenergy solid mineral leasing. Because of this, nonenergy solid leasable minerals in PHMA would not be impacted by ROW exclusion areas. GHMA would be impacted by these areas in the manner described under Alternative A. Within GHMA, 12 times more acres would be managed as ROW avoidance under Alternative F than under Alternative A.</p> <p>Management of nonenergy leasable minerals under Alternative F would be the same as that under Alternative B and with the same impacts.</p>	<p>Under the Proposed Plan, all PHMA would be managed as ROW avoidance areas; however, because all PHMA would be closed to nonenergy solid mineral leasing under the Proposed Plan, managing PHMA as ROW exclusion would have no impact on nonenergy solid leasable minerals. Within GHMA, 12 times more acres would be managed as ROW avoidance under the Proposed Plan than under Alternative A.</p> <p>The BLM would close all PHMA to nonenergy solid mineral leasing under the Proposed Plan. This would result in 7,247,900 acres (51 percent) of federal mineral estate in the decision area being closed to prospecting and leasing. The Proposed Plan would close twice the acreage as Alternative A.</p> <p>Application of the three percent disturbance cap in PHMA and lek buffers in PHMA and GHMA could impact nonenergy solid leasable mineral activities by preventing new surface development.</p>

**Table 2-14
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Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
			<p>nonenergy leasable mineral resources to be developed or extracted. To avoid these restrictions, operators may relocate to nearby states or to private or state lands, which would reduce nonenergy leasable mineral development on federal mineral estate.</p>			
Special Designations						
<p>Under all alternatives, there would be no effects or only negligible effects on Wilderness Areas, WSAs, Cooperative Management and Protection Areas, National Historic Trails, and Wild and Scenic Rivers.</p> <p>Under Alternative A, 200,399 acres of ACECs overlap PPH and 251,233 acres of ACECs overlap PGH. These overlapping acres are likely to experience additional protection from the restrictions placed on GRSG habitat.</p> <p>Under Alternatives A and D, fewer acres (545,349) of PPH and PGH are managed as ROW exclusion areas than under the other alternatives. This would likely result in fewer indirect protections for ACECs.</p> <p>More acres (9,982,126) are open to livestock grazing under Alternatives A and B than under any of the other alternatives. Therefore, ACECs under Alternatives A and B would experience fewer incidental protections that result from closing acres to</p>	<p>Under all alternatives, there would be no effects or only negligible effects on Wilderness Areas, WSAs, Cooperative Management and Protection Areas, National Historic Trails, and Wild and Scenic Rivers.</p> <p>Under Alternative B the same number of acres of ACECs would overlap PHMA and GHMA as would overlap under Alternative A.</p> <p>Under Alternative B, 4,547,043 acres of PHMA and GHMA would be managed as ROW exclusion areas. This is 4,001,694 more acres than under Alternative A. It would result in more indirect protections from the impacts of ROW development than under Alternative A.</p> <p>More acres (9,982,126) are open to livestock grazing under Alternatives B and A than under the other alternatives. Impacts on ACECs are the same as those described under Alternative A.</p>	<p>Under all alternatives, there would be no effects or only negligible effects on Wilderness Areas, WSAs, Cooperative Management and Protection Areas, National Historic Trails, and Wild and Scenic Rivers.</p> <p>Under Alternative C, the same number of acres of existing ACECs would overlap PHMA and GHMA as would under Alternative A. However, an additional 4,346,223 acres of PHMA (all PHMA) would be designated as ACECs for GRSG conservation. No additional acres of GHMA would be designated as ACECs.</p> <p>The most acres (10,216,465) of PHMA and GHMA are managed as ROW exclusion area under Alternatives C and F. This would result in more incidental protections to ACECs that contain GRSG habitat than under the other alternatives.</p> <p>Under Alternative C, the smallest number of acres (0) of PHMA and GHMA are open to livestock grazing. This would protect ACECs that overlap</p>	<p>Under all alternatives, there would be no effects or only negligible effects on Wilderness Areas, WSAs, Cooperative Management and Protection Areas, National Historic Trails, and Wild and Scenic Rivers.</p> <p>Under Alternative D the same number of acres of ACECs would overlap PHMA and GHMA as would under Alternative A.</p> <p>In ACECs and RNAs containing 20 percent PHMA or 50 percent GHMA, ACECs would be managed for GRSG conservation in addition to existing values. Management would change to provide additional protections to the GRSG. This would likely provide additional protection to the values of the ACECs. Additionally there would be more restrictive management for RNAs under this alternative.</p> <p>The fewest acres (545,349) of PHMA and GHMA are managed as ROW exclusion areas under Alternatives A and D. Impacts are the same as those under Alternative A.</p>	<p>Under all alternatives, there would be no effects or only negligible effects on Wilderness Areas, WSAs, Cooperative Management and Protection Areas, National Historic Trails, and Wild and Scenic Rivers.</p> <p>Under Alternative E, the same number of acres of ACECs would overlap low-density and core area habitat as would under Alternative A.</p> <p>Under Alternative E, 4,703,566 acres of low-density and core area habitat would be managed as ROW exclusion. This would result in more indirect protection from the impacts of ROW development than under Alternative A.</p> <p>Under Alternative E, 8,296,814 acres of low-density and core area habitat would be open to livestock grazing. This is 1,685,312 fewer acres than under Alternative A and would result in fewer impacts from livestock grazing on ACECs than under Alternative A.</p>	<p>Under all alternatives, there would be no effects or only negligible effects on Wilderness Areas, WSAs, Cooperative Management and Protection Areas, National Historic Trails, and Wild and Scenic Rivers.</p> <p>Under Alternative F the same number of acres of existing ACECs would overlap PHMA and GHMA as would under Alternative A.</p> <p>An additional 2,560,384 acres of PHMA and 1,241,571 acres of GHMA would be designated as ACECs compared with Alternative A.</p> <p>The most acres (10,216,465) of PHMA and GHMA would be designated as ROW exclusion areas under Alternatives C and F. Impacts under Alternative F from this are the same as those under Alternative C.</p> <p>Under Alternative F, 7,506,632 acres of PHMA and GHMA would be open to livestock grazing. This is 2,475,494 fewer acres than under Alternative A. It would result in fewer impacts from livestock grazing on ACECs</p>	<p>Under all alternatives, there would be no effects or only negligible effects on Wilderness Areas, WSAs, Cooperative Management and Protection Areas, National Historic Trails, and Wild and Scenic Rivers.</p> <p>Under the Proposed Plan the same number of acres of existing ACECs would overlap PHMA and GHMA as would under Alternative A. However, under the Proposed Plan, 3 ACECs and 15 RNAs would be identified, and some would receive additional protection.</p> <p>More acres (558,923) would be designated as ROW exclusion under the Proposed Plan than under Alternative A.</p> <p>More acres (25,838 acres) would be closed to livestock grazing under the Proposed Plan than under Alternative A.</p>

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Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
livestock grazing than would ACECs under the other alternatives.		PHMA and GHMA from livestock grazing impacts.	Under Alternative D, 9,923,018 acres of PHMA and GHMA would be open to livestock grazing.		than under Alternative A.	
Soil Resources						
Alternative A would be the least protective of soil resources because it would allow the most opportunities and areas for surface disturbances capable of degrading soil resources.	Alternative B would be more protective of soil resources than Alternatives A and D due to increased amounts of protection from travel management and lands and realty programs. But it would be less protective than Alternatives C and F. While Alternatives B and E are similar in their number of closures to mineral resources, Alternative B has more ROW exclusion areas and more acres of travel restricted to existing roads and trails than Alternative E. This makes Alternative B more protective of soil resources.	Alternative C would protect the most soil resources. This is because it has the most acres closed to livestock grazing, the most acres managed as limited to existing routes under travel management, the most acres closed under each type of mineral development, and the most ROW exclusion areas under lands and realty.	Alternative D would be more protective of soil resources than Alternatives A and E from potential travel management impacts due to fewer open areas and more limited access. However, Alternative D would be less protective of soil resources from ROW authorizations and associated development and from energy and mineral development than under Alternatives B, C, E, and F. Alternative D would also be more protective of soil resources than Alternatives A, B, and E due to additional acres closed to livestock grazing.	The effects on soil resources from livestock grazing under Alternative E are similar to those under Alternatives A, B, and D. Alternative E would manage more acres as restricted to existing roads and trails for cross-country travel as Alternative A but fewer than Alternatives B, C, D, and F.	Alternative F would be more restrictive to all surface-disturbing activities than Alternative A. But it would be less restrictive than Alternatives C for grazing (but more restrictive than Alternative B for lands and realty, D for travel management, and E for grazing and travel management.	The Proposed Plan would manage the landscape with a three percent disturbance cap. The Proposed Plan would manage wild horses and burros similarly to Alternative A, would manage a slightly smaller acreage as available and slightly larger acreage unavailable for livestock grazing as Alternative A, and would manage the same amount of ROW exclusions as Alternative A; however, the Proposed Plan would manage more acres as ROW avoidance. The Proposed Plan would manage travel and transportation similarly to Alternative C. The Proposed Plan would manage locatable mineral entry with more restrictions than under Alternatives A and D and fewer restrictions than under Alternatives B, C, E, and F; it would manage mineral materials with fewer restrictions than under Alternative C and similar to Alternatives B, D, E, and F; it would manage nonenergy leaseables the same as under Alternative B and would manage fluid minerals with fewer restrictions than under Alternatives B, C, and F.
Water Resources						
Alternative A would be the least protective of water resources because it would allow the most opportunities and areas for surface disturbances capable of degrading water resources.	Alternative B would be more protective of water resources than Alternatives A and D and would be less protective than Alternatives C and F. While Alternatives B and E are similar in their number of closures to mineral resources, Alternative B has more closures to livestock grazing,	Alternative C would protect the most water resources. This is because it has the most acres closed to livestock grazing, the most acres managed as limited to existing routes under travel management, the most acres closed under each type of mineral development, and the	Alternative D would be more protective of water resources than Alternatives A and E from potential impacts of travel management due to the larger amount of limited closure to activities. However, it would be less protective of water resources from ROW authorizations and associated	Alternative E would have similar protections of water resources from the potential effects of livestock grazing as Alternatives A, B, and D. The effects on water resources from travel management are less than those under Alternatives B, D, and F but less than under Alternative C.	Alternative F would be less restrictive of surface-disturbing activities than would Alternative C but it would be more restrictive than Alternatives A, B, D, and E. Alternative E would be the second-most protective alternative for water resources.	The Proposed Plan would manage the landscape with a three percent disturbance cap. It would manage wild horses and burros similarly to Alternative A, would manage a slightly smaller acreage as opened and a slightly larger number of acres unavailable for livestock grazing as Alternative A, and would manage the same amount of ROW exclusion as

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Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
	more ROW exclusion areas, and more acres restricted to existing roads and trails than Alternative E. This makes Alternative B more protective of water resources.	most ROW exclusion areas under lands and realty.	development and energy and mineral development than under Alternatives B, C, E, and F.	Alternative E would close more area and restrict more acres to existing roads and trails for cross-country travel compared to Alternative A, but it would close fewer acres than Alternatives B, C, D, and F. Energy and mineral development under Alternative E would be managed the same as under Alternative B. As a result, the potential effects on water resources would be reduced, compared to Alternative A, but to a lesser extent than under the other action alternatives.		Alternative A; however, it would manage more acres as ROW avoidance. The Proposed Plan would manage travel and transportation similarly to Alternative C. The Proposed Plan would manage locatable mineral entry with more restrictions than under Alternatives A and D and fewer restrictions than under Alternatives B, C, E, and F; it would manage mineral materials with fewer restrictions than under Alternative C and similar to Alternatives B, D, E, and F; it would manage nonenergy leaseables the same as under Alternative B and would manage fluid minerals with fewer restrictions than under Alternatives B, C, and F.
Lands with Wilderness Characteristics						
Alternative A would have second-fewest incidental protections of wilderness characteristics due to the fewest restrictions on surface-disturbing activities.	Similar to Alternative A.	Alternative C has the most incidental protections of wilderness characteristics due to the most restrictions on surface-disturbing activities.	Alternative D is similar to Alternative A for livestock grazing, except that it has more incidental protections of wilderness characteristics than Alternative A for ROWs.	There would be the fewest incidental protections of wilderness characteristics due to the fewest restrictions on surface-disturbing activities.	Alternative F has the second-most incidental protections of wilderness characteristics due to its second-most restrictions on surface-disturbing activities.	There would be more incidental protections than under Alternative A, but the Proposed Plan would result in fewer overall restrictions on surface-disturbing activities; consequently, there would be fewer incidental protections for wilderness characteristics than under other the other action alternatives, such as Alternative C.
Social and Economic Conditions (Including Environmental Justice)						
Economic						
Under Alternative A, there would be the most AUMs available for livestock grazing, with the fewest costs related to infrastructure improvements and vegetation treatments.	Relative to Alternative A, Alternative B has added costs to livestock permittees/lessees imposed by restrictions on infrastructure improvement and vegetation treatments.	Alternative F would result in an annual loss of between \$56.3 million and \$136.8 million in grazing-related output, between \$19.6 million and \$47.7 million in grazing-related earnings, and between 621 and 1,503 grazing-related jobs in the primary study area.	Alternative D would result in an annual loss of up to \$600,000 in grazing-related output, \$200,000 in grazing-related earnings, and up to six grazing-related jobs in the primary study area.	Same as Alternative B.	Alternative F would result in an annual loss of between \$17.6 million and \$50.9 million in grazing-related output, between \$6.1 million and \$17.7 million in grazing-related earnings, and between 194 and 560 grazing-related jobs in the primary study area.	
Alternative A would have the fewest costs to recreationists on BLM lands.	Limiting SRPs and restricting motorized travel could add costs to recreationists.	Same as Alternative A.	Same as Alternative B.	Same as Alternatives B and D.	Same as Alternatives B, D, and E.	Similar to Alternatives A and C, but with added restrictions on building new recreational facilities

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Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
The greatest share of federal mineral estate would be open for development of locatable and salable minerals under Alternative A.	There would be increased costs to future locatable mineral investments and potential reduction in local supply and demand for salable minerals.	Greatest restrictions on locatable mineral development, same as Alternative B for salable minerals	Same as Alternative A, but with some increased limits on surface disturbance.	Same as Alternatives B and D.	Same as Alternatives B, and E.	Similar to Alternative D for locatable minerals, same as Alternatives B, C, E and F for salable minerals
Alternative A would have the fewest restrictions to geothermal energy development.	There could be restrictions on geothermal energy development.	Alternative C has the most potential restrictions on geothermal energy development.	Same as Alternative A.	Same as Alternative B.	Same as Alternative C.	Same as Alternatives B and E
Alternative A would have the fewest restrictions on wind energy development.	An estimated 60 annual jobs would be lost. There could be additional impacts on future investments and increased access and mitigation costs.	Same as Alternative B	Under Alternative D, there would be increased costs to wind energy investors, compared to Alternative A. These costs would apply to routing transmission lines, building access roads, and mitigating impacts.	Same as Alternative D.	Same as Alternatives B and C.	Same as Alternatives B, C and F
Alternative A would have the fewest costs to future infrastructure investments.	Costs to future infrastructure investments would increase.	Alternative C would have the greatest costs to future infrastructure investments.	Under Alternative D, there would be slightly increased costs to future infrastructure investments, compared to Alternative A.	Costs to future infrastructure investments would increase but less than under Alternative B	Same as Alternative B.	Same as Alternative D
Alternative A would have the fewest long-term restrictions on future output, employment, and earnings.	Under Alternative B, long-term restrictions on future output, employment, and earnings would increase, when compared to Alternative A. There would be fewer restrictions than under Alternatives C and F.	Alternative C would have the greatest long-term restrictions on output, employment, and earnings.	Long-term restrictions on future output, employment, and earnings would increase, when compared to Alternative A, but would be less than under all other Alternatives except Alternative A.	Same as Alternative B.	Alternative F would have the second-most long-term restrictions on future output, employment, and earnings, after Alternative C.	Same as Alternatives B and E
Alternative A would have the no impacts on state or local fiscal revenues.	Same as Alternative A.	There would be adverse impacts on local fiscal revenues of grazing related communities in Malheur, Harney, and Lake Counties under Alternative C.	Adverse impacts on local fiscal revenues of grazing related communities in Malheur, Harney, and Lake Counties, when compared to Alternative A but less than Alternatives C or F.	Same as Alternative A.	There would be adverse impacts on local fiscal revenues of grazing-related communities in Malheur, Harney, and Lake Counties but to a lesser extent than under Alternative C.	Same as Alternative D

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Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Proposed Plan
Social						
Current population trends would be unaffected.	Same as Alternative A.	Alternative C has the potential for adverse impacts on population growth in communities associated with grazing, particularly in Lake, Malheur, and Harney Counties.	Same as Alternative A.	Same as Alternative A.	There is a potential for adverse impacts on population growth in communities associated with grazing, particularly in Lake, Malheur, and Harney Counties, although to a lesser extent than under Alternative C.	Same as Alternative A.
There would be no impact on housing and public services.	Same as Alternative A.	The ability of counties to supply public services could be reduced under Alternative C.	Same as Alternative A.	Same as Alternative A.	The ability of counties to supply public services could be reduced, although to a lesser extent than under Alternative C.	Same as Alternative A.
Current multiple-use balance of BLM-administered lands would be maintained.	There would be adverse impacts on motorized recreation, mining interests, and infrastructure development interest; there would be beneficial impacts on conservation interests.	Alternative C would have adverse impacts on communities with interests in grazing, on geothermal development interests, and on infrastructure development interest; it would have beneficial impacts on conservation interests.	There would be adverse impacts on motorized recreation, mining, and infrastructure development interests under Alternative D. However, there would be beneficial impacts on conservation interests.	There would be adverse impacts on motorized recreation and mining interests under Alternative E. However, there would be beneficial impacts on conservation interests.	There would be adverse impacts on grazing, motorized recreation, mining, geothermal, and infrastructure development under Alternative F. However, there would be beneficial impacts on conservation interests.	There would be adverse impacts on motorized recreation and mining interests under the Proposed Plan. However, there would be beneficial impacts on conservation interests.
Environmental Justice						
No disproportionately high and adverse impacts on minority or low-income populations would result.	No disproportionately high and adverse impacts on minority or low-income populations would result.	Socioeconomic impacts of adverse effects on grazing in Malheur, Lake, and Harney Counties would be high and adverse and would disproportionately impact low-income populations	No disproportionately high and adverse impacts on minority or low-income populations	There would be No disproportionately high and adverse impacts on minority or low-income populations	Socioeconomic impacts of adverse effects on grazing in Malheur, Lake, and Harney Counties would be high and adverse and would disproportionately impact low-income populations.	No disproportionately high and adverse impacts on minority or low-income populations

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