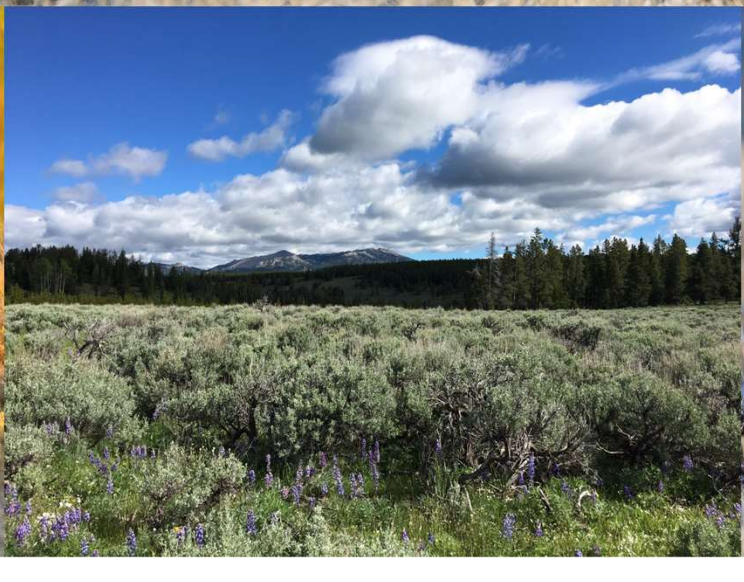
U.S. Department of the Interior
Bureau of Land Management

January 2025

Oregon State Office
1220 SW 3rd Ave.
Portland, OR, 97204

# Greater Sage-Grouse Rangewide Planning

## Record of Decision and Approved Resource Management Plan Amendment for Oregon



DOI-BLM-WO-2300-2022-0001-RMP-EIS
https://www.blm.gov/programs/fish-and-wildlife/sage-grouse

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US Fish and Wildlife, Rachel Woita, James Yule

# United States Department of the Interior
# Bureau of Land Management

# Greater Sage-grouse Rangewide Planning Record of Decision and Approved Resource Management Plan Amendment for Oregon

**Oregon State Office**
**1220 SW 3rd Avenue**
**Portland, OR 97204**

**January 2025**

**Cooperating Agencies:**

Deschutes County
Harney County
Harney Soil and Water Conservation District
Lake County
Malheur County
Oregon Department of Fish and Wildlife
Oregon Department of Geology and Mineral Industries
Oregon State University – Institute of Natural Resources
Umatilla County
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Forest Service

# United States Department of the Interior

BUREAU OF LAND MANAGEMENT
National Office
1849 C Street NW
Washington, DC 20240

Dear Reader:

The Bureau of Land Management (BLM) is pleased to announce the issuance of the Record of Decision (ROD) and Approved Resource Management Plan (RMP) Amendment for the Greater Sage-Grouse Rangewide Planning in Oregon. This document includes both the ROD and the Approved RMP Amendment. The ROD and Approved RMP Amendment, as well as all associated National Environmental Policy Act (NEPA) documents, are available online on the BLM's National NEPA Register at: https://eplanning.blm.gov/eplanning-ui/project/2016719/510.

The Proposed RMP Amendment/Final Environmental Impact Statement was released on November 15, 2024, and was subject to a 30-day protest period that ended December 16, 2024. Resolution of protests is delegated to the BLM Assistant Director for Resources and Planning on behalf of the BLM Director. The BLM received 60 unique protest letters during the 30-day protest period. The resolution of the protests is summarized in the BLM Director's Protest Resolution Report: Greater Sage-Grouse Rangewide Planning Proposed RMP Amendment and Final Environmental Impact Statement, which is available at: https://www.blm.gov/programs/planning-and-nepa/public-participation/protest-resolution-reports

Thank you for your interest in the Greater Sage-Grouse Rangewide Planning RMP Amendment. There are numerous values and concerns associated with the management of greater sage-grouse habitat across the West. We remain committed to implementing the policies and conservation measures that will meet the BLM's multiple-use and sustained yield mandate, provide for the habitat needs to conserve greater sage-grouse, avoid the need to list under the Endangered Species Act, and minimize long-term regulatory burdens. Your continued involvement in the management of public lands in Oregon is invaluable in ensuring BLM management will sustain the health, diversity, and productivity of BLM-administered lands for present and future generations.

Sincerely,

NADA CULVER
Digitally signed by NADA CULVER
Date: 2025.01.15 16:23:09 -05'00'

Nada Wolff Culver
Principal Deputy Director
Bureau of Land Management

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# 1. Record of Decision

## 1.1 INTRODUCTION

This Record of Decision (ROD) and Approved Resource Management Plan (RMP) Amendment amends a subset of greater sage-grouse (GRSG) goals, objectives, allocations, and management direction in eight Bureau of Land Management (BLM) RMPs in Oregon. Following is a list of the plans that are amended by BLM district:

**Burns District**

- Andrews RMP
- Steens RMP
- Three Rivers RMP

**Lakeview District**

- Lakeview RMP

**Prineville District**

- Brothers/LaPine RMP
- Upper Deschutes RMP

**Vale District**

- Baker RMP
- Southeastern Oregon RMP

This Approved RMP Amendment builds on the work that was completed in BLM's 2015 and 2019 GRSG RMP Amendments and responds to the loss of habitat and the declining population of the GRSG, a ground-dwelling bird that was under consideration by the U.S. Fish and Wildlife Service (USFWS) for protection under the Endangered Species Act (ESA). Oregon is home to approximately 6 percent of the world's GRSG population. Approximately 70 percent of GRSG habitat in southeast Oregon is managed by the BLM, 21 percent is privately owned, and 8 percent is under state or U.S. Forest Service management (ODFW, 2025). Background on the prior GRSG planning processes can be found in the Greater Sage-Grouse Rangewide Planning Proposed RMP Amendment and Final Environmental Impact Statement (Final EIS) in Chapter 1.2 GRSG Planning Background. The Approved RMP Amendment provides the BLM Oregon with locally relevant management actions and allocations that achieve rangewide GRSG conservation goals consistent with the BLM's multiple use and sustained yield mission and in support of coordinated GRSG management efforts with federal, state, local, and Tribal partners.

The Oregon Approved RMP Amendment amends language relating to key Research Natural Areas and updates habitat management areas (HMAs). These updated HMAs respond to updated monitoring and scientific data and reflect the input of the federal and state land management and wildlife management agencies including the Oregon Department of Fish and Wildlife (ODFW). In addition, these updated HMAs allow for the application of habitat conservation in areas where it will be most beneficial and effective. Within these HMAs, updated rangewide management direction for the following resource topics will be applied: utility scale solar and wind development; fluid, saleable, and non-energy leasable mineral development; major and minor rights of way development; livestock grazing; wild horse and burros; predation; mitigation;

disturbance cap; adaptive management; criteria-based management for non-habitat; updated habitat objectives; an updated lek definition; and an updated monitoring framework.

Throughout this planning process, the BLM engaged with Tribes, cooperating agencies, and the public, as described below. The signing of this ROD represents the conclusion of this planning process.

This ROD approves the BLM's proposal to implement the management direction presented in the attached Approved RMP Amendment in the Oregon decision area. This Approved RMP Amendment was described as the Proposed RMP Amendment in the Greater Sage-Grouse Rangewide Planning Proposed RMP Amendment and Final EIS that was released in on November 15, 2024, with changes and clarifications as noted in the **Changes and Clarifications** section below.

## 1.2 DECISION AREA

The planning area is the geographic area within which the BLM will make decisions. A planning area boundary includes all lands regardless of ownership, but the BLM can only make decisions on public lands and federal mineral estate within the agency's jurisdiction. This rangewide amendment planning area includes all lands within the boundaries of BLM field offices that contain GRSG habitat, excluding the Bi-state distinct population segment (DPS) and the Columbia Basin DPS, which are addressed in other planning efforts. The planning area for this RMP Amendment includes portions of California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, and Wyoming, as shown in **Map 1**, Planning Area, **Appendix 1**.

The decision area includes the lands within the planning area for which the BLM has authority to make land use and management decisions, including areas where BLM administers subsurface minerals. In Oregon the decision area for this Approved RMP Amendment applies to BLM-administered GRSG habitat management areas as shown in **Map 2**, Oregon Greater Sage-Grouse RMP Amendment Decision Area, **Appendix 1**. The Oregon decision area includes approximately 12,649,000 acres of lands where BLM administers the surface and 8,515,000 acres where BLM administers only the subsurface minerals located in eight Oregon counties: Baker, Crook, Deschutes, Grant, Harney, Lake, Malheur, and Union.

## 1.3 DECISION

The decision is hereby made to approve the attached Greater Sage-Grouse Rangewide Planning Approved RMP Amendment for Oregon. This RMP Amendment was prepared under the regulations implementing the Federal Land Policy and Management Act of 1976 (FLPMA) (43 CFR part 1600). An environmental impact statement was prepared for this RMP Amendment in compliance with the National Environmental Policy Act (NEPA) of 1969[1]. The BLM selected the RMP Amendment after careful consideration of input from cooperating agencies, consulting Tribes, the Governor of Oregon, and the public.

The decisions contained in the RMP Amendment are expressed as goals, objectives, allocations, and management direction. The decisions identified in the RMP Amendment are final and effective when this ROD is signed. The decisions contained in the RMP Amendment do not alter valid existing rights. The

[1] The BLM is aware of the November 12, 2024 decision in Marin Audubon Society v. Federal Aviation Administration, No. 23-1067 (D.C. Cir. Nov. 12, 2024). To the extent that a court may conclude that the Council on Environmental Quality (CEQ) regulations implementing NEPA are not judicially enforceable or binding on this agency action, the BLM has nonetheless elected to follow those regulations at 40 C.F.R. Parts 1500– 1508, in addition to the DOI's procedures/regulations implementing NEPA at 43 CFR Part 46, to meet the agency's obligations under NEPA, 42 U.S.C. §§ 4321 et seq. As described in the Proposed RMP Amendment/Final EIS, the BLM has utilized the requirements in place at the time of Project initiation. All references to the CEQ NEPA implementing regulations in this document are those effective in November 2021.

decisions in this Approved RMP Amendment are planning-level decisions. Additional steps will be taken to implement on-the-ground activities and may require additional design, environmental review, mitigation, and monitoring. The BLM will prepare appropriate documentation where necessary to comply with NEPA when making implementation-level decisions.

The Proposed RMP Amendment/Final EIS did not reconsider all existing GRSG management actions in the 2015 and 2019 RMP Amendments consistent with BLM's planning criteria and Purpose and Need, detailed below. Management actions in the 2015 and 2019 RMP Amendments that are not amended will remain in place (refer to **Appendix 2**, Comparison of Prior Greater Sage-Grouse RMP Management Direction with Approved RMP Amendment).

## 1.4 PURPOSE AND NEED

As required by NEPA, the BLM identified the purpose and need for this RMP amendment and developed a range of alternatives to meet the purpose and need (refer to Section 1.4.2 of the Final EIS). The preliminary purpose and need statement in the Draft RMP Amendment/EIS was refined in the Proposed RMP Amendment/Final EIS in response to cooperating agency and public input, and reads as follows:

"The BLM's purpose is to amend certain goals, objectives, allocations, and management direction for GRSG management in its RMPs to respond to updated scientific information and changing land uses and provide for consistent and effective rangewide conservation based on biological information that is responsive to locally relevant habitat variability. Following an internal review of the effectiveness of 2015 and 2019 RMP Amendment decisions, including the degree to which those decisions sufficiently addressed threats to greater sage-grouse habitats and continued population declines, while balancing the BLM's ability to manage public lands for other uses, and as informed by updated scientific findings and feedback received from Tribal, federal, state, and local agencies and the public during the scoping period, the BLM proposes to amend the following RMP elements:

- Clarifying the existing GRSG RMP goal
- GRSG habitat management area alignments to incorporate new science and improve alignment along state boundaries along with the associated major land use allocations, including management for non-habitat within habitat management areas
- Adoption of the Western Association of Fish and Wildlife Agencies (WAFWA) definition of 'lek' and 'lek status'
- Mitigation
- GRSG habitat objectives
- Disturbance caps
- Fluid mineral development and leasing objectives
- Fluid mineral leasing waivers, exceptions, and modifications
- Renewable energy development
- Rights-of-Way
- Minimizing threats from predation
- Livestock grazing
- Wild horse and burro management
- Areas of Critical Environmental Concern
- Adaptive Management

Some management concerns are localized to circumstances in individual States and the ecological diversity across the sagebrush ecosystem. As such, the purpose of this planning effort also includes amending specific RMP management actions associated with state-specific circumstances to facilitate GRSG habitat conservation efforts. Beyond the rangewide considerations detailed above, states considered additional targeted amendments to existing management direction. Each state determined the need to amend management actions independently and based on a review of updated scientific information, changing land uses, and locally relevant habitat variability. Management actions targeted for amendment in some states include saleable minerals, fire and fuels, vegetation and invasives, lands and realty actions, project screening, lek buffers, and interagency coordination. Inclusion of a management category for amendment in one state does not necessitate consideration of this category in other states or the consideration of the category rangewide. See Section 2.5 of the Final EIS, State Specific Circumstances, for more information.

Section 102 of the FLPMA, as amended, [establishes a congressional policy objective that][2] BLM manage public lands 'in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use.' BLM policy further directs the BLM to proactively initiate conservation measures and to minimize or avoid potential adverse effects to prevent decline of sensitive species. Specifically, the BLM's Wildlife and Fisheries Management Manual, M-6500, directs the BLM to 'Conserve rare, vulnerable, and representative habitats, plant communities, and ecosystems,' with specific objectives to 'Develop and implement plans to ensure that the characteristics of rare, threatened, or representative habitat types are maintained,' and to 'Collaborate with other agencies, the States, and private groups to ensure protection of the best representative habitats/ecosystem/plant communities for each area.' The BLM's Special Status Species Management Manual, M-6840, directs the BLM to 'emphasize proactive conservation for BLM sensitive species to help ensure these species do not need to be listed as threatened or endangered under the ESA.' [3]

The BLM is therefore considering amending RMPs to:

- Address continued GRSG habitat losses contributing to GRSG population declines. While GRSG populations experience natural fluctuations, monitoring indicates the most recent nadirs (low point of population cycles) are lower than the prior nadirs in most states. The U.S. Geological Survey[4] analyzed state-collected lek data and reported estimated rangewide population declines of nearly 80 percent from 1966-2021 and of 41 percent from 2002-2021. While some GRSG populations are stable to increasing, over 87 percent of areas throughout the range had declining populations since 2002. The quantity and quality of available habitat, as well as non-habitat factors such as disruptive activities and prolonged drought can affect the size and trend of GRSG populations. Analyses of satellite maps shows sagebrush availability across all land ownerships declined by approximately 3 percent (1.9 million acres) between 2012 and 2018. Nearly 60 percent of the sagebrush losses

[2] This sentence has been updated to more accurately describe Section 102 of the FLPMA. The Purpose and Need presented in the Proposed RMP Amendment/Final EIS read "Section 102 of the FLPMA, as amended, requires the BLM to manage public lands…".
[3] The BLM's Special Status Species Management Manual M-6840 was revised in September 2024. The associated quoted policy direction was therefore updated to reflect the updated direction in the revised Manual. The intent of this statement, that it is BLM policy to initiate proactive conservation efforts to minimize the need for listing under the ESA, has not changed.
[4] Coates, P.S., Prochazka, B.G., Aldridge, C.L., O'Donnell, M.S., Edmunds, D.R., Monroe, A.P., Hanser, S.E., Wiechman, L.A., and Chenaille, M.P., 2023, Rangewide population trend analysis for greater sage-grouse (*Centrocercus urophasianus*)—Updated 1960–2022: U.S. Geological Survey Data Report 1175, 17 p., https://doi.org/10.3133/dr1175.

(approximately 1.1 million acres rangewide) occurred on BLM-administered lands. The BLM's 2021 *Greater Sage-Grouse Plan Implementation Rangewide Monitoring Report for 2015-2020*[5] identified 42 population triggers that had been tripped through 2020. Habitat triggers were tripped sixteen times, mostly the result of sagebrush loss to wildfires. The Monitoring Report also estimated habitat loss of less than one percent in GRSG priority habitat management areas (PHMA) rangewide due to anthropogenic disturbance, although losses due to wildfire were more extensive. The anthropogenic loss on BLM lands is less than what scientific literature has identified as the threshold where GRSG abandon leks (Kirol et al., 2020). Disturbance from infrastructure in General Habitat Management Areas (GHMA) and other state-specific habitat management area designations averaged approximately 1.58 percent.

Ensure habitat management areas and associated decisions incorporate recent relevant science to prioritize management where it will provide conservation benefit and durability when considering the effects of climate change. Since the 2015 and 2019 planning efforts, hundreds of peer-reviewed scientific publications on GRSG and management of their habitats have been published. Some of these new publications are consistent with science the BLM previously considered while others identify new information. Several provide new spatial information on important population and habitat parameters for GRSG. USGS also compiled and summarized peer-reviewed journal articles, data products, and formal technical reports related to GRSG since January 2015 (Teige, et. al. 2023). The BLM considered this new information and relevant science in developing and analyzing proposed management on BLM-administered lands."

## 1.5 ALTERNATIVES CONSIDERED

The Draft RMP Amendment/Draft EIS and the Proposed RMP Amendment/Final EIS considered a range of alternatives designed to meet the BLM's purpose and need to respond to updated scientific information and changing land uses and provide for consistent and effective rangewide GRSG conservation based on biological information that is responsive to locally relevant habitat variability (refer to **Purpose and Need** above). The Draft RMP Amendment/Draft EIS analyzed six alternatives. The Proposed RMP Amendment/Final EIS analyzed those same alternatives along with a seventh alternative, the Proposed RMP Amendment, which was developed using elements from the other alternatives and in response to public and cooperating agency comments on the Draft RMP Amendment/Draft EIS.

The Proposed RMP Amendment alternative in the Final EIS was within the range of the alternatives analyzed in the Draft EIS and did not represent new circumstances or information relevant to environmental concerns bearing on the proposed action or its impacts, could have been reasonably anticipated for consideration by the public, and was responsive to public and cooperating agency feedback received on the Draft RMP Amendment/Draft EIS. Therefore, the BLM determined that adding the Proposed RMP Amendment between the Draft EIS and Final EIS did not necessitate supplementation.

Following is a summary of the alternatives analyzed in the Final EIS. Section 2.3, Alternatives Considered but Not Analyzed in Detail in Chapter 2 of the Final EIS describes alternatives that were considered but not analyzed in detail.

[5] Herren, V., E. Kachergis, A. Titolo, K. Mayne, S. Glazer, K. Lambert, B. Newman, and B. Franey. 2021. Greater sage-grouse plan implementation: Rangewide monitoring report for 2015–2020. U.S. Department of the Interior, Bureau of Land Management, Denver, CO.

### Alternative 1 (Applicable Decisions from the 2015 Approved RMP Amendment)

Alternative 1 included the applicable decisions from the 2015 Approved RMP Amendments proposed for amendment under this planning effort. Due to the U.S. District Court of Idaho's preliminary injunction preventing implementation of the 2019 Approved RMP Amendments (see explanation in Alternative 2 summary below), the BLM is currently implementing the 2015 Approved RMP Amendment. This includes designation of some areas of PHMA as Sagebrush Focal Areas (SFA) with a recommendation to withdraw them from location and entry under the Mining Law of 1872.

For BLM Oregon, Alternative 1 included allocations and management direction for key Research Natural Areas (RNAs) which are only present in Oregon.

### Alternative 2 – No Action (Applicable Decisions from the 2019 Approved RMP Amendment)

Alternative 2 is the No Action Alternative and included the applicable decisions from the 2019 GRSG ROD/Approved RMP Amendments. This is the No Action because it reflects the management language currently in the BLM's approved land use plans. The U.S. District Court for the District of Idaho has issued a preliminarily injunction, preventing the BLM from implementing the 2019 amendments, but not vacating them or their RODs. Because the 2019 RODs/Approved RMP Amendments were not vacated, they are the existing approved management plans. Under this alternative the BLM would apply the management from the 2019 Approved RMP Amendments.

For BLM Oregon, the SFAs would be managed with all the protections of PHMA but would no longer include a recommendation for withdrawal and the key RNAs, which are only present in Oregon, would be allocated as available to livestock grazing in their entirety.

### Alternative 3

Alternative 3 provided the most protective measures to preserve GRSG and its habitat of the alternatives analyzed. Alternative 3 would update the HMA boundaries based on new information and science that has become available since the 2015 and 2019 planning efforts. All HMAs would be managed as PHMA. The BLM would close PHMA to new fluid mineral leasing, saleable minerals/mineral materials permits, and nonenergy leasable minerals leasing (development associated with existing permits and leases would not be precluded). PHMA would be recommended for withdrawal from location and entry under the Mining Law of 1872 and unavailable for livestock grazing. PHMA would also be right-of-way (ROW) exclusion areas. Where there are currently designated wild horse and burro herd management areas overlapping PHMA, the wild horse and burro herd management area would become a Herd Area that is not managed for wild horses and burros. Under Alternative 3, the BLM would designate 32 GRSG habitat ACECs.

For BLM Oregon, Alternative 3 did not propose to designate any new ACECs but did provide management allocations and management direction for key RNAs which are only present in Oregon.

### Alternative 4

Alternative 4 would update the HMA boundaries and associated management based on new information and science that became available since the 2015 and 2019 planning efforts. In addition, management associated with some of the major minimization measures (e.g., disturbance cap and adaptive management) is adjusted to address cross-boundary coordination of shared populations, rangewide biological and managerial concerns based on monitoring, and experience gained from implementing management for GRSG since 2015. Alternative 4 allowed compensatory mitigation to be used under specific conditions. Additional compensatory mitigation may be required where habitat and/or population adaptive management thresholds have been met. Areas previously identified as SFAs are generally managed as PHMA and would not include a recommendation for a withdrawal or prioritization strategies for oil and gas leasing and grazing permit renewals.

For BLM Oregon, Alternative 4 provides management allocations and management direction for key RNAs which are only present in Oregon.

### Alternative 5

Alternative 5 was identified as the preferred alternative in the Draft EIS. Alternative 5 considers other potential alignments of HMAs and associated management to try to balance GRSG conservation with public land uses. If state governments updated the GRSG management area boundaries in their specific state plans, the BLM is considering those boundaries on public lands in Alternative 5. HMAs are similar to but refined from Alternative 4 and restrictions would generally be similar to Alternative 4. Alternative 5 considered options with fewer restrictions on resource uses and provided more opportunities for considering compensatory mitigation to offset impacts on GRSG and its habitat than Alternative 4. Areas previously identified as SFAs are generally managed as PHMA and would not include a recommendation for a withdrawal or prioritization strategies for oil and gas leasing and grazing permit renewals.

For BLM Oregon, Alternative 5 provides management allocations and management direction for key RNAs which are only present in Oregon.

### Alternative 6

Under Alternative 6, management for all HMAs and the resource topics being considered in the range of alternatives would be the same as described for Alternative 5 except that under Alternative 6, 32 ACECs are proposed for designation. The same ACECs proposed for designation under Alternative 3 would be considered but the management direction for these areas would be less restrictive compared to Alternative 3.

For BLM Oregon, Alternative 6 did not propose to designate any new ACECs but did provide management allocations and management direction for key RNAs which are only present in Oregon.

### Proposed RMP Amendment

The Proposed RMP Amendment increased protections for GRSG and its habitat from the Preferred Alternative (Alternative 5). The Proposed RMP Amendment identified PHMA as exclusion for solar and wind and NSO for fluid minerals with exceptions. PHMA remained an avoidance area for major ROWs but the exceptions for allowing development were more restrictive. Compared with the Preferred Alternative in the Draft RMP Amendment/EIS, the BLM also increased protections in PHMA by adding additional detail on the processes and requirements for compensatory mitigation, site-scale assessments, adaptive management, and fluid minerals waivers, exceptions, and modifications to promote rangewide consistency and ensure proper tracking. Areas within PHMA requiring additional protections were also identified. Within these areas referred to as PHMA with limited exceptions, there were no exceptions to the solar and wind exclusion allocation or for the NSO allocation for fluid minerals. PHMA with limited exceptions were also exclusion areas for major rights of way. These additional protections in the Proposed RMP Amendment were designed to provide the necessary protections for GRSG and its habitat in light of anticipated development threats and negative impacts from climate change such as drought.

For BLM Oregon, the Proposed RMP Amendment included management allocations and management direction for key RNAs which are only present in Oregon. In addition, the Proposed RMP Amendment expanded the definition of lek from the rangewide definition to include active lek and pending active lek. Additionally, in Oregon, the Proposed RMP Amendment identified GHMA as avoidance for solar and wind because of the important connectivity corridors within GHMA. Similarly, non-habitat within 0.5 mile of PHMA would be avoidance for wind, solar, and major ROWs. In Oregon, development of major ROWs would not be allowed in breeding and nesting habitats and other limiting or high value seasonal habitats. For minor ROWs, PHMA and GHMA would be avoidance within breeding, nesting and/or seasonal habitats, and otherwise open in PHMA and GHMA with minimization and mitigation. PHMA would remain open to free use permits for saleable minerals/mineral materials and the expansion of existing active pits to the limits previously approved, without requiring mitigation because free use permits support maintenance needs for existing local roads to ensure public safety. Oregon differs from the rangewide direction in that disturbance at the project and HAF fine scale may not exceed a 1% increase per decade, within the Oregon priority areas of conservation (PACs) and proposed project analysis areas, as allowed under current Oregon law. In Oregon, a hard adaptive management threshold is reached if the management area experiences both a soft habitat and soft population threshold. Finally, for fluid minerals, in Oregon there are no modifications to No Surface Occupancy (NSO) in PHMA within 3.1 miles of active or pending active leks; exceptions and waivers may be granted.

## 1.6 RATIONALE FOR DECISION

The Approved RMP Amendment provides a set of management direction that best meets the BLM's purpose of addressing updated scientific information and changing land uses, and providing for consistent and effective rangewide GRSG conservation that is responsive to locally relevant habitat variability. The Approved RMP Amendment also best meets the need to address GRSG habitat loss. While GRSG populations experience natural fluctuations, monitoring indicates the most recent nadirs (low point of population cycles) are lower than the prior nadirs in most states. The BLM manages approximately half of the remaining GRSG habitats and between 2015 and 2020 nearly 60 percent (1.1 million acres) of all sagebrush losses (approximately 1.9 million acres rangewide) occurred on BLM-administered lands. The Approved RMP Amendment allows for the conservation of GRSG habitat while balancing the BLM's ability to manage public lands for other uses in accordance with FLPMA. The Approved RMP Amendment responds to statute, regulations, and national policy, including in Sections 202 and 302 of FLPMA, BLM's Wildlife and Fisheries Management Manual, M-6500 and BLM's Special Status Species Management Manual, M-6840; Oregon-specific habitat conditions and threats; and Oregon state government GRSG policies and management priorities including Oregon Administrative Rule (OAR) 635-415-0000-0025 and OAR 635-140-0000 et seq. The Approved RMP Amendment reflects the high degree of collaboration and input received from the cooperating federal, state, and local governments; the feedback received from Tribal governments; and from the over 39,000 public comments received on the Draft RMP Amendment/EIS. The Approved RMP Amendment provides the necessary protections for GRSG habitat in light of anticipated development threats and negative impacts from climate change while also ensuring an appropriate balance of public land uses.

Following, in more detail, are the ways in which the key components of the Approved RMP Amendment incorporate updated science and changing land uses, reduce habitat loss on BLM-administered lands, and incorporate feedback from Tribal, federal, state, and local governments and the public in an effort to develop a plan that has durability across the GRSG range while responding to the specific habitat, development threats, and public land uses in the Oregon planning area.

### Habitat Management Areas

The Approved RMP Amendment will reduce habitat loss on BLM-administered lands by identifying updated HMAs where GRSG habitat conservation measures will be implemented in areas where it will provide the greatest conservation value for this species. These updated HMAs respond to updated monitoring and scientific data (e.g., Coates et al., 2021; Cross et al., 2018; Cross et al., 2022; Doherty et al., 2016; Oyler-McCance et al., 2022; Row et al. 2018; Palmquist et al., 2021; Rigge et al., 2021) and reflect the input of the federal and state land management and wildlife management agencies across the ten-state planning area, including Oregon Department of Fish and Wildlife (ODFW). Within these HMAs, updated management direction to conserve GRSG habitat will be applied to: utility scale solar and wind development; fluid, saleable, non-energy leasable mineral development; major and minor rights of way development; livestock grazing; wild horse and burros; predation; mitigation; disturbance cap; adaptive management; criteria based management for non-habitat; and updated habitat objectives and lek definition. Additionally, Oregon is also updating management direction for key RNAs.

The Approved RMP Amendment identifies two rangewide habitat management areas, PHMA[6] and GHMA, that respond to local habitat priorities. PHMAs have the highest value to maintaining sustainable GRSG populations and can include breeding, late brood-rearing, winter concentration areas, and migration or connectivity corridors. GHMAs are lands that are or have the potential to become occupied seasonal or year-round habitat outside of PHMA, managed to sustain GRSG populations.

The PHMA and GHMA HMAs were identified using ODFW core and low-density sage-grouse habitat designations, which were updated and approved by the Oregon Fish and Wildlife Commission in December 2023. PHMA boundaries are equal to ODFW's core habitat. GHMA boundaries equate to ODFW's low-density habitat plus Habitat Assessment Framework (HAF) mapped seasonal habitat. The identified HMA boundaries reflect updated habitat information that are based on monitoring data and updated scientific literature and the input and collaboration on the identification of boundaries with the State of Oregon. (refer to **Map 3**, Greater Sage-Grouse Habitat Management Areas, **Appendix 1**)

In Oregon, there are 5,572,000 acres of PHMA and 4,824,000 acres of GHMA (refer to **Table 1, Appendix 1**). These habitat management areas form the cornerstone of focusing BLM's GRSG conservation efforts in the areas where they will be the most beneficial and effective.

### Allocations and Management Direction

In identifying the management allocations and direction that would apply in the PHMA and GHMA to meet the purpose and need, the BLM considered the effects of the alternatives identified in the Draft EIS (Chapter 4 in the Draft EIS) and the feedback received from the public, cooperating agencies, and Tribal governments on the Draft EIS. In response to the feedback received, the BLM felt it was necessary to increase protections, particularly in PHMA, for GRSG from those identified in BLM's preferred alternative (Alternative 5), in the Draft EIS. In particular, the U.S. Fish and Wildlife Service (USFWS) expressed concern that the conservation measures identified in Alternative 5 in the Draft RMPA/EIS did not provide sufficient GRSG habitat protections. In 2010, the USFWS determined that listing the GRSG under the Endangered Species Act of 1973 (ESA) was "warranted but precluded" by other priorities. The USFWS made this determination based on two factors identified in section 4(a)(1) of the ESA: continued decline of GRSG habitats, and inadequacy of regulatory mechanisms guiding habitat management. In response to USFWS feedback in the Draft EIS, the BLM increased protective measures, particularly in PHMA, in accordance with BLM's Special Status Species

[6] As described in the **Changes and Clarifications** section below, in the Proposed RMP Amendment, the BLM identified areas within PHMA that would receive increased protections to support conservation of GRSG habitat by reducing impacts from highly probable resource threats, referred to as PHMA with limited exceptions. This distinct management approach is not included in the Approved RMP Amendment; these areas are all identified solely as PHMA.

Manual, M-6840, which directs the BLM to "emphasize proactive conservation for BLM sensitive species to help ensure these species do not need to be listed as threatened or endangered under the ESA." Additionally, the BLM also received feedback from ODFW and USFWS-Oregon. ODFW expressed concern that the lower conservation standards for development activities on BLM lands within the extent of the planning area will negatively affect Oregon's GRSG populations both directly and indirectly. USFWS-Oregon reiterated these concerns noting the need to maintain or enhance the protections and regulatory certainty of management of GRSG habitat.

In response to internal review and the feedback received, the BLM's Approved RMP Amendment increases protections in PHMA allocations and management direction from the Preferred Alternative identified in the Draft RMP Amendment/EIS by:

- changing the utility scale solar and wind allocations from avoidance to exclusion and incorporating restrictive exception criteria;
- expanding the definition of major rights-of-way to include all types of large-scale rights-of-way and making the exceptions for allowing development more restrictive;
- requiring that compensatory mitigation be in place when any exceptions to the disturbance cap are granted and requiring that exceptions receive BLM State Director concurrence and be tracked;
- updating habitat objectives to require the identification of multiple lines of evidence to determine overall habitat suitability when completing site-scale assessments;
- more explicitly defining habitat inputs for adaptive management direction and clarifying the coordination that will occur with state wildlife agencies; and
- clarifying the fluid minerals waivers, exceptions, and modifications management direction to promote rangewide consistency and ensure proper tracking of waivers, exceptions, and modifications.

The Proposed RMP Amendment in the Final EIS, which is the Approved RMP Amendment in this decision (with changes and clarifications as noted in the **Changes and Clarifications** section), incorporates management direction approaches from all of the alternatives analyzed in the Draft RMP Amendment/EIS and provides the appropriate suite of management direction to conserve GRSG habitat. The allocations and management direction are designed to minimize surface disturbance while addressing habitat needs and development threats and public land uses in Oregon thereby promoting conservation of habitat in a manner that allows for public land uses where possible and appropriate in accordance with BLM's multiple use and sustained yield mission.

Following is a description of the management allocations and direction that achieve these objectives.

### *Habitat Management*

The Approved RMP Amendment clarifies habitat management objectives and makes them consistent across the GRSG range and provides associated management direction that guides a consistent approach to promote the long-term durability of BLM's conservation efforts. The updated objectives identify what constitutes suitable habitat and addresses seasonal habitats, dispersal, and migration and the need to limit habitat disturbance and fragmentation. The updated objectives identify the scale at which the different habitat components must be maintained. The management direction provides methods for assessing habitat suitability through the use of Habitat Assessment Framework (HAF) assessments and the use of Habitat Indicator Tables to improve and restore habitat. Updated management direction for habitat objectives also requires the identification of multiple lines of evidence to determine overall habitat suitability when completing site-scale assessments. These objectives and management direction respond to updated science and feedback received from cooperating agencies, including the USFWS, ODFW, and BLM's implementation experience.

***Solar, Wind, Fluid Mineral, and Major Rights of Way***

PHMA are exclusion areas for solar and wind energy and there is a no surface occupancy (NSO) allocation for fluid minerals. Exceptions to solar, wind, and fluid mineral development can be made if specified criteria can be met. PHMA is an avoidance area for major rights of way with few exceptions for allowing development. GHMA are avoidance for solar and wind development and open with moderate constraints for fluid minerals. Major rights of way in GHMA are avoidance.

These allocations respond to concerns raised regarding the threats associated with these uses (habitat loss, habitat avoidance, disturbance) while also ensuring that where possible and appropriate these uses can be allowed.

***Locatable, Nonenergy Leasable, Saleable Minerals and Materials***

All HMAs are open to locatable mineral development in accordance with the 1872 Mining Law, unless already withdrawn. Within PHMA, no new nonenergy leasable mineral development is allowed but the expansion of existing operations is allowed. GHMA is open to nonenergy leasable mineral development with the application of state-specific minimization measures.

PHMA is closed for saleable mineral development and new mineral material sales, but open for new free use permits and open for the expansion of existing pits if certain criteria are met in Oregon and without requiring mitigation except as required by state of Oregon OARs. GHMA is open for saleable mineral development with the application of state specific minimization measures.

This mineral management direction responds to input received from cooperating agencies and the public. In particular, free use permits support maintenance needs for existing local roads to ensure public safety. This direction will reduce habitat loss or disturbance in PHMA habitat while allowing use with the application of appropriate minimization measures in GHMA thereby balancing necessary GRSG protections with public land use.

***Livestock Grazing***

The Approved RMP Amendment provides management direction for livestock grazing to promote GRSG habitat conservation when applying the existing, long standing BLM policies and approaches for livestock grazing. Specifically, the livestock grazing direction provides an objective to manage livestock grazing in a manner that meets or makes progress toward meeting the Land Health Standard for special status species and applies guidelines that address restoring or enhancing GRSG habitat. The management direction in the Approved RMP Amendment calls for considering GRSG when developing allotment management plans and other similar implementation planning that is done to meet or make progress toward BLM's long standing Land Health Standards. This includes considering the vegetation needs of GRSG and ways of implementing range improvements in a manner that is least impactful to GRSG (such as fencing). In PHMA, when fully processing grazing authorizations, where livestock grazing is found to be a significant causal factor in not meeting the special status species standard, the NEPA analysis will include an alternative that identifies specific thresholds and responses to maintain or move PHMA toward providing suitable GRSG habitat. The Approved RMP Amendment also provides a suite of GRSG specific design features and best management practices for consideration and use when conducting livestock grazing (refer to **Appendix 5**, Livestock Grazing Management Best Management Practices and Design Features).

The livestock grazing management direction was identified in response to cooperating agency and public feedback, updated scientific and monitoring data, and builds on and clarifies how the existing management direction for livestock grazing will continue to be implemented in manner that conserves GRSG habitat.

***Wild Horse and Burro Management***

The Approved RMP Amendment provides management direction on wild horse and burro management that provides additional, specific direction regarding how to promote GRSG habitat conservation when applying the existing, long standing BLM policies and approaches for wild horse and burro management. Specifically, the management direction for wild horses and burros seeks to address areas within GRSG habitat where horses are a significant causal factor in not meeting Land Health Standards. Scientific literature has found that managing wild horses and burros at or below appropriate management levels minimizes negative impacts on GRSG population trends. Where GRSG habitat overlaps with wild horse and burro habitat, the Approved RMP Amendment calls for managing wild horse and burro populations within established appropriate management levels and to achieve or make significant progress toward achieving Land Health Standards. The management direction also directs the prioritization of wild horse gathers in PHMA unless removals are necessary in other areas to address higher priority issues, including impacts to wild horse or burro herd health.

The wild horse and burro direction was identified in response to cooperating agency and public feedback, updated scientific and monitoring data, and builds on and clarifies how the existing management direction for wild horse and burros will be implemented in manner that conserves GRSG habitat.

***Mitigation, Disturbance Cap, Predation, Adaptive Management***

As part of the comprehensive approach to promoting GRSG conservation, the Approved RMP Amendment also updates the BLM's GRSG mitigation, disturbance cap, and adaptive management processes. These updates are responsive to public and cooperating agency feedback and experience the BLM has gained implementing these programs. For example, the BLM has learned that mitigation is most effective when it can be applied where the habitat and population impacts are occurring and has found the results of calculating the disturbance cap at the Habitat Assessment Framework Fine Scale to be the most useful scale of analysis. For these same reasons, the Approved RMP Amendment also creates new management direction that addresses the predation risks associated with disturbance activities in GRSG habitat.

The mitigation direction in the Approved RMP Amendment requires that the first two steps of the mitigation hierarchy (avoid, minimize) be emphasized prior to allowing for habitat compensation when implementing projects in GRSG habitat. Where impacts remain following application of available avoidance and minimization measures, project proponents must ensure compensatory mitigation minimally achieves no net habitat loss considering both direct and indirect effects, or comply with the most recent State regulatory and/or policy requirements, which in Oregon requires net conservation gain when projects are considered large scale development (OAR 660-023-0115). The Approved RMP Amendment prioritizes compensatory mitigation in the same habitat area, and prior to the proposed disturbance, as the proposed impact so that it benefits the populations affected by the project. The updated direction provides necessary clarifications relative to compensatory mitigation to benefit the affected populations and minimize delays in response to cooperating agency feedback, BLM's experience implementing mitigation, and updated science (Coates et al. 2021 and Stiver et al., 2015, as revised). Additionally, in Oregon PHMA, existing authorized free use salable material sites have mitigation exceptions, but must still meet state of Oregon mitigation requirements.

Recognizing the significant threat to GRSG that occurs from habitat disturbance, the Approved RMP Amendment updates the disturbance cap direction and sets a 3% cap at the project scale and 3% at the Habitat Assessment Framework Fine scale, not to exceed a 1% increase per decade, within the Oregon priority areas of conservation (PACs) and proposed project analysis areas, as allowed under current Oregon law. When these disturbance caps are met, new infrastructure projects would be deferred to the extent allowable under applicable laws or valid existing rights. The Approved RMP Amendment directs how the disturbance cap calculation will be done and identifies disturbance cap exceptions and related criteria.

If during ongoing BLM and ODFW monitoring it is found that unanticipated effects to GRSG are occurring, despite the ongoing implementation of GRSG RMP amendment direction from 2015, 2019, and this Approved RMP Amendment, this amendment provides a method for BLM to address those impacts before they become severe or irreversible through adaptive management. The adaptive management direction is based on updated science examining population trend anomalies (Coates et al., 2021) and was developed with significant feedback from cooperating agencies, including ODFW. The adaptive management direction identifies thresholds and responses and a process for coordinating with ODFW to reduce and reverse impacts to GRSG and GRSG habitat. The BLM is retaining the threshold limits for habitat loss or modification as in previous plans, although at a scale that is more meaningful to local populations.

The Approved RMP Amendment also addresses the secondary impact to GRSG from predation when habitat disturbance occurs (e.g., USFWS 2023). The management direction for predation responds to public and cooperating agency feedback that the BLM needed to address this topic as part of this amendment effort. The Approved RMP Amendment requires the application of minimization measures to new and existing projects to minimize threats from predators that pose a threat to GRSG consistent with applicable law. In PHMA, for authorizations that require expanded, new, renewal, or non-routine maintenance of energy, mining, or transmission related projects, the project proponent is required to submit a predator management plan to minimize habitat loss and associated influx and support of new predators as a result of the new project.

The predator direction will help the BLM ensure that where projects have the potential to negatively impact GRSG, that appropriate design features and mitigation measures are put in place. The BLM will continue to cooperate with other agencies should direct predator control be necessary.

The Approved RMP Amendment for mitigation, disturbance cap, predation, and adaptive management provides BLM with a comprehensive suite of tools to ensure that GRSG conservation measures are effective, and BLM is able to be responsive to anticipated threats as well as unanticipated impacts.

### Key Research Natural Areas

This Approved RMP Amendment retains all fifteen key RNAs identified in the 2015 RMP Amendment, as they all provide baseline reference areas for relatively unaltered, except by wildfire, sagebrush plant communities that are important for GRSG.

The BLM is mandated to manage public lands under the principles of multiple-use and sustained yield (FLPMA, Sec 102(a)(7)), so there are a variety of concerns to take into account in this plan amendment. The primary purpose of this plan amendment is to manage and conserve habitat for GRSG to support persistent and healthy populations as well as to prevent its listing under the Endangered Species Act. That being the case, when looking at key RNAs, the BLM first looks to reduce actions that may harm GRSG habitat and populations such as avoiding construction of fences or other structures within 1.2 miles of leks to prevent GRSG collisions and perches for predators. Next, the BLM looks to ensure that these areas continue to function as RNAs. Consideration of other resources such as Wilderness Study Areas and big game corridors also come into play. Promoting GRSG conservation and preventing negative impacts to GRSG and GRSG habitat are the primary objectives of this RMP Amendment and a high priority when balancing other resources and resource uses.

The original designation of the RNAs that were later identified as key RNAs in the 2015 RMP Amendment occurred because these areas possessed a typical representation of a common plant or animal association that is of scientific or other special interest. At the time of the RNA designation, livestock grazing and trailing on public, private, and state lands had occurred for decades; these areas were not undisturbed. Several of them, however, were topographically difficult for livestock to access or lacked nearby water sources, and that remains true today. All key RNAs for which the Approved RMP Amendment changes allocations for livestock grazing were being grazed at the time they were designated as RNAs, and it was not deemed necessary to remove grazing from them for research at the time they were originally designated. The 2015 RMP Amendment identified these fifteen RNAs as key RNAs and made all or portions of the fifteen key RNAs unavailable to livestock grazing. This decision was made in the context of a plan to respond to the USFWS's March 2010 "warranted, but precluded" ESA listing petition decision for GRSG. (BLM, 2015a-Attachment 3 p.1-7). In making our decisions here, we considered the needs of the GRSG, management of Wilderness Study Areas, big game movement, RNA designations, and key RNA identifications. We balanced these to best meet the purpose and need of the Approved RMP Amendment and its overarching goal of managing and conserving GRSG habitat to support persistent and healthy populations and to prevent its listing under the Endangered Species Act.

This Approved RMP Amendment retains the 2015 RMP Amendment allocation of unavailable to livestock grazing in three of the key RNAs and adjusts the livestock grazing allocations in the other twelve. These new allocations apply immediately to future grazing decisions. Site-specific actions to exclude permitted grazing from all or portions of key RNAs allocated as unavailable to livestock grazing will be balanced with other management priorities and this decision does not set forth a required timeline for implementation. The acreages described are intended to be approximate and give direction at the planning level but are subject to adjustment based on site-specific conditions identified during site-specific implementation. This plan amendment also updates the definition of what constitutes a key RNA. The rationale for these decisions follows.

The 2015 FEIS (pp. 3-138 to 3-139) identified the following plant communities as important for GRSG:

- Mountain big sagebrush (*Artemisia tridentata* spp. *vaseyana*)/grasslands
- Basin big sagebrush (*A. tridentata* spp. t*ridentata*)/grasslands
- Wyoming big sagebrush (*A. t.* spp. *wyomingensis*)/grasslands
- Mountain mahogany (*Cercocarpus ledifolius*) and bitterbrush (*Purshia tridentata*) shrublands and grasslands
- Low sagebrush (*Artemisia arbuscula*)/grasslands
- Black sagebrush (*A. nova*)/grasslands
- Rigid sagebrush (*A. rigida*)/grasslands
- Silver sagebrush (*A. cana*)/grasslands
- Threetip sagebrush (*A. tripartita*)/grasslands
- Shadscale, greasewood, and bud sagebrush (*A. canescens, A. confertifolia, Sarcobatus vermiculatus, Artemisia spinescens*)/desert scrub

- Vernal pools, playas, lake margins
- Black cottonwood (*Populus tricocarpa*), willow (*Salix* sp.) and aspen *(Populus tremuloides*) riparian areas, wet meadows, seeps, and springs

Of these, mountain mahogany (*Cercocarpus ledifolius*) and bitterbrush (*Purshia tridentata*) shrublands and grasslands; rigid sagebrush (*A. rigida*)/grasslands; shadscale, greasewood, (*A. canescens, A. confertifolia, Sarcobatus vermiculatus*)/desert scrub; black cottonwood (*Populus tricocarpa*), wet meadows and seeps were not identified as present in any of the key RNAs at the time they were designated as RNAs or since. Bud sage (*Artemisia spinescens*) was identified as present in Foley Lake ACEC/RNA in the *Areas of Critical Environmental Concern Nomination Analysis Report*, 2000, p. III-39 (BLM 2000) but it is not currently present.

Of the remaining plant communities, all but threetip sagebrush (*A. tripartita*)/grasslands are represented in areas allocated as unavailable to livestock grazing under this decision. Although the 2015 Proposed RMP Amendment/Final EIS stated that threetip sagebrush/blue bunch wheatgrass (Idaho fescue) plant association is found in the South Ridge Bully Creek RNA, it was not identified as a vegetation community present in the Southeast Oregon RMP/Record of Decision. That document did identify the big sagebrush-threetip sagebrush/Idaho fescue community vegetation cell as present in North Ridge Bully Creek RNA (p. 83). It is unknown if it remains present in the North Ridge Bully Creek key RNA after the 2012 Bonita and 2015 Bendire wildfires. There are unburned islands that could contain the species.

Key RNAs were identified to provide baseline vegetation information, but baseline reference areas were undefined in 2015. In this planning effort, we define baseline reference areas as akin to ecological reference areas where ecological processes and current ecological condition are functioning within a normal range of variability and the plant community has adequate resistance to, and resiliency from, most disturbances. (Pellant et al. 2020, p. 99; Stiver et al., 2015, p. 46) (refer to **Appendix 6**, Glossary for the baseline reference area definition). Ecological condition considers historical disturbance regimes, current authorized uses, climatic variability, and existing vegetation. Preservation and protection of the natural attributes will predominate within the baseline reference areas.

Thus, SD 4 in this planning effort reflects a change from SD 4 in the 2015 RMP Amendment. Here, rather than requiring that key RNAs remain "undisturbed" baseline reference areas, the key RNAs will be managed to maintain resistance to, and resiliency from, most disturbances resulting in relatively unaltered baseline reference areas. Resistance is the capacity of the plant community to retain its fundamental structure, processes, and functions (Pellant et al. 2020). While resilience is the capacity of the plant community to regain its fundamental structure, function, and processes when altered by disturbances such as fire (Pellant et al. 2020). This approach continues to maintain research opportunities while better reflecting the reality of natural disturbances that may affect the landscape as well as minor disturbances that may result from BLM continuing to carry out its multiple-use mission on surrounding lands.

The BLM is changing a component of the definition of a key RNA from, "areas used for long-term vegetation monitoring for native plant communities important for GRSG in the absence of BLM actions and human disturbance" to "areas used for long term vegetation monitoring of relatively unaltered native plant communities important for GRSG" (refer to **Appendix 6**, Glossary) and we are defining "relatively unaltered" as exhibiting utilization levels of 20% or less of key indicator species, which is considered negligible to very light grazing (BLM 1996, p. 86) (refer to **Appendix 6**, Glossary). Vallentine deems under 20% use of primary forage plants to be practically undisturbed (Vallentine, 2000). Not only is this a more realistic standard under which to manage, research indicates that grazing at moderate utilization levels (30-45%) is likely to have limited effects on bunchgrass and sagebrush structure (Davies et al. 2018, pp. 275, 279); at under 50% utilization generally has little influence on the cover of forbs (Strand eta al. 2014, p. 36); at varying grazing intensities, few plant species show consistent, directional responses to grazing or cessation of grazing (Stohlgren et al. 1999); and the balance between grasses and shrubs in big sagebrush ecosystems is relatively stable with current grazing practices (Jordan et al. 2022).

These updated definitions applied to key RNAs allow for a balancing of resource uses while also providing research opportunities in these key RNAs. Considering these changes, in combination with considerations regarding the viability of fencing, wilderness values, habitat connectivity, and other resource values, the BLM has adjusted the livestock grazing allocations within 12 of the 15 key RNAs from the allocation identified in the 2015 RMP Amendment.

With these changes, 13 areas are allocated as unavailable to livestock grazing and two areas where, although allocated as available to livestock grazing, because of terrain and topography, the amount of livestock grazing will result in the existing plant communities important to GRSG being relatively unaltered. This tallies to 15 areas with the ability to provide baseline vegetation information on natural processes in plant communities important for GRSG.

Following is a summary of the key RNA livestock grazing allocations in the Approved RMP Amendment.

### Unavailable to Livestock Grazing

Two key RNAs (Foster Flat, and Guano Creek – Sink Lakes) will retain the unavailable to livestock grazing allocations identified in the 2015 RMP Amendment, allowing for research opportunities on sagebrush plant communities that are important for GRSG.

- Foster Flat key RNA: The entire 2,687-acre key RNA is unavailable to livestock grazing.
- Guano Creek-Sink Lakes key RNA: The entire 11,185-acre key RNA is unavailable to livestock grazing.

### Partially Unavailable to Livestock Grazing

Eight key RNAs (East Fork Trout Creek, Fish Creek Rim, Foley Lake, Lake Ridge, Mahogany Ridge, Rahilly-Gravelly, South Bull Canyon, and Toppin Creek Butte) are partially unavailable to livestock grazing, allowing for research opportunities on sagebrush plant communities that are important for GRSG.

With the exception of East Fork Trout Creek key RNA, which was made administratively unavailable to livestock grazing in 2022, we will identify during future site-specific analysis the methods by which we will make portions of these seven key RNAs unavailable to livestock grazing. Experience has proven that fencing is not the only method of making an area unavailable to livestock grazing, but it is the least resource intensive. Other management approaches to make areas unavailable to livestock grazing, such as herding, require the BLM and permittee to focus significant time and resources to ensure livestock are not using the area. This lessens the ability for both the permittee and the BLM to focus on other areas that may be of more concern for managing for proper use of GRSG habitat. Therefore, BLM has determined that an approach that alters the area unavailable to grazing in these key RNAs in order to better facilitate fencing in a manner that does not negatively impact GRSG is the best approach while still allowing for relevant research.

While the size of the areas allocated as unavailable to livestock grazing will be reduced, there is no scientific consensus on the minimum size of an area allocated as unavailable to grazing that is necessary to study plant succession. In fact, plot size and exclosure sizes vary depending on the purpose of the study. Below is a selection of studies looking at succession in similar vegetation communities showing that the size of these areas allocated as unavailable to grazing is sufficient to show natural succession processes.

A study utilizing a 20-year set of cover data on sagebrush semi-desert plant communities responding to wildfire and livestock grazing describing secondary succession utilized was conducted with exclosures of 20 meters x 50 meters, approximately 0.25 acres (West and Yorks. 2002). Davies et al looked at the influence of feral horses on vegetation and soil characteristics in sagebrush (*Artemisia*) steppe sites in northern Nevada utilizing exclosures of 50 meters x 60 meters, approximately 0.75 acres. (Davies et al 2014). Looking at the effect of grazing on postfire succession in big sagebrush steppe in eastern Oregon, Bates et al utilized 2.1-hectare (approximately 5 acre) treatment plots comparing summer-grazed, spring-grazed, and ungrazed areas (Bates et al. 2009 p. 98-110).

The Approved RMP Amendment includes the following RNA-specific direction for the key RNAs partially unavailable to livestock grazing:

- **East Fork Trout Creek key RNA:** 304 of 361 acres within the key RNA are unavailable to livestock grazing, as allocated in the 2015 RMP Amendment. This area was made administratively unavailable to livestock grazing in 2022 through a rangeline agreement. The area allocated as unavailable to livestock grazing includes mountain big sagebrush/Idaho fescue association and a quaking aspen, Scouler's willow (Salix scouleri), and Lemmon willow (S. lemmonii) communities in the riparian system, and a sedge meadow that are important for GRSG.
- **Fish Creek Rim key RNA:** 95 of 8,725 acres within the key RNA are allocated as unavailable to livestock grazing. This is a reduction from the 2,750 acres allocated as unavailable under the 2015 RMP Amendment. Portions of the boundary around Fish Creek Rim key RNA is inhospitable to fence construction because of topography and dense woodland cover. Additionally, the mountain mahogany/mountain big sagebrush plant community, a relevant and important value of the underlying RNA, is not a sagebrush plant community important for GRSG. The same is true for the juniper-encroached mountain big sagebrush/squirreltail community. The smaller area that remains allocated as unavailable to livestock grazing would include low sagebrush communities that are important for GRSG.
- **Foley Lake key RNA:** 797 of 2,228 acres within the key RNA are allocated as unavailable to livestock grazing. This is a reduction from the 1,269 acres allocated as unavailable under the 2015 RMP Amendment. In the Foley Lake key RNA, the reduction in the area allocated as unavailable to livestock grazing reduces conflicts between possible fence location and cultural resources, which are one of the relevant and important values for which this RNA was designated. It takes advantage of a steep rim to the south and avoids steep slopes and rocky surfaces elsewhere. It also avoids the creation of livestock trailing safety issues along County Road 3-10 (Hogback Road), a main, well-traveled county road. Finally, it would not be within 1.2 miles of active or pending active leks. The smaller area that remains allocated as unavailable to livestock grazing would include the Wyoming big sagebrush/grassland, black sagebrush/grassland, silver sagebrush/grassland vegetation communities that are important for GRSG.
- **Lake Ridge key RNA:** 13 of 3,857 acres within the key RNA are allocated as unavailable to livestock grazing. This is a reduction from the 769 acres allocated as unavailable under the 2015 RMP Amendment. In the Lake Ridge key RNA, the reduction in the area allocated as unavailable to livestock grazing reduces conflicts between possible fence locations and wilderness values within the Gold Creek and Camp Creek WSAs. Additionally, it would not be within 1.2 miles of active or pending active leks. The smaller area that remains allocated as unavailable to livestock grazing would

include low sagebrush/bluebunch wheatgrass and low sagebrush/Idaho fescue vegetative communities that are important for GRSG.

- **Mahogany Ridge key RNA:** 69 of 444 acres within the key RNA are unavailable to livestock grazing. This is a reduction from the 155 acres allocated as unavailable under the 2015 RMP Amendment. In the Mahogany Ridge key RNA, the reduction in the area allocated as unavailable to livestock grazing reduces conflicts between the fence location and wildlife movement, primarily big game species; the previous configuration would alter natural movement of big game migration and increase risks of fence collision and/or entanglement. The new configuration also avoids potential impacts to riparian resources adjacent to the key RNA boundary by eliminating the travel and congregation of livestock and wildlife along fences near springs and riparian areas. The smaller area that remains allocated as unavailable to livestock grazing would include the mountain big sagebrush/Idaho fescue community that is important for GRSG.
- **Rahilly-Gravelly key RNA:** 2,025 of 18,678 acres within the key RNA are allocated as unavailable to livestock grazing. This is a reduction from the 8,282 acres allocated as unavailable under the 2015 RMP Amendment. In the Rahilly Gravelly key RNA, the reduction in the area allocated as unavailable to livestock grazing moves any possible fencing 0.2 miles further from active leks. It would also take advantage of steep rims to reduce any fencing constructed and avoid steep slopes and rocky surface elsewhere. The smaller area that remains allocated as unavailable to livestock grazing would include the low sagebrush/Sandberg's bluegrass grassland and Wyoming big sagebrush/bluebunch wheatgrass grassland plant communities that are important for GRSG.
- **South Bull Canyon key RNA:** 257 of 770 acres within the key RNA are allocated as unavailable to livestock grazing. This is a reduction from the 749 acres allocated as unavailable under the 2015 RMP Amendment. In the South Bull Canyon key RNA, the reduction in the area allocated as unavailable to livestock grazing reduces conflicts between possible fence location and two leks with active or pending active status, one of which is within approximately 0.5 miles of the 749-acre boundary. This key RNA has one vegetation community present: Wyoming big sagebrush-antelope bitterbrush/Idaho fescue plant association; the smaller area that remains allocated as unavailable to livestock grazing would include this plant community that is important for GRSG.
- **Toppin Creek Butte key RNA:** 203 of 3,998 acres within the key RNA are allocated as unavailable to livestock grazing. This is a reduction from the 2,865 acres allocated as unavailable under the 2015 RMP Amendment. In the Toppin Creek Butte key RNA, the reduction in the area allocated as unavailable to livestock grazing reduces possible fence construction within the Owyhee River Canyon WSA and reduces the possibilities of wildlife-fence collisions. It also moves any fence further from the site of the special status species, mesamint (*Pogogyne floribunda*), so that it would not be affected by animals trailing along a fence line. The smaller area that remains allocated as unavailable to livestock grazing would include the low sagebrush/Idaho fescue, low sagebrush/bluebunch wheatgrass, and silver sagebrush/Sandberg's bluegrass plant communities that are important for GRSG.

### Available to Livestock Grazing with Exclosure

The entirety of the North Ridge Bully Creek, South Ridge Bully Creek, and Spring Mountain key RNAs will be allocated as available to livestock grazing.

The BLM will create a 5-acre or less exclosure that will remove livestock use and other permitted activities to allow for nonmanipulative research and baseline data gathering within the key RNAs or within close proximity to these key RNAs. These exclosures will provide relatively undisturbed baseline reference areas for the sagebrush plant communities they contain that are important for GRSG without building fence within lek buffers.

- **North Ridge Bully Creek key RNA:** 1,569 acres within the key RNA are allocated as available to livestock grazing. This is an increase from 1,405 acres available under the 2015 RMP Amendment. BLM has not identified a feasible, long-term option for excluding livestock grazing from this key RNA because all potential fencing would be within 1.2 miles of active or pending leks (refer to 2015 RMP Amendment, Appendix B).
- **South Ridge Bully Creek key RNA:** 621 acres available to livestock grazing. This is an increase from 224 acres available under the 2015 RMP Amendment. BLM has not identified a feasible, long-term option for excluding livestock grazing from this key RNA because all potential fencing would be within 1.2 miles of active or pending leks (refer to 2015 RMP Amendment, Appendix B).
- **Spring Mountain key RNA:** 996 acres will be allocated as available to livestock grazing. This is an increase from zero acres available under the 2015 RMP Amendment. In the Spring Mountain key RNA, a combination of remote and rugged terrain, elevational gains, and the highest points of the Spring Mountain area create a challenging environment for the construction of new fencing. Fencing the area currently allocated as unavailable to livestock grazing would be difficult due to the talus slopes and would also require above-normal (annual) maintenance by BLM due to snowloading (evidence of natural snowbanks are common), as well as anticipated damage by elk and other big game. The area is reported to have significant habitat connectivity for big game and is regularly used by elk traveling between Oregon and Idaho ranges. Additionally, a 2007 fire eliminated much of the sagebrush within the area and while some sagebrush communities are still present, most of the key RNA is now grassland. The creation of a 5-acre exclosure around a sagebrush plant community important for GRSG within or adjacent to the key RNA will provide areas where livestock grazing will not occur and will allow for research opportunities on plant communities important for GRSG.

### Available to Livestock Grazing

Two key RNAs (Black Canyon, Dry Creek Bench) become entirely available for livestock grazing.

- **Black Canyon key RNA:** 2,600 acres allocated as available to livestock grazing. This is an increase from zero acres allocated as available under the 2015 RMP Amendment. Retaining the entirety of the Black Canyon key RNA as unavailable for livestock grazing is unnecessary as livestock use of this areas is limited by terrain. This key RNA, where livestock grazing is unlikely to occur, provides opportunities for long-term vegetation monitoring of relatively unaltered sagebrush plant communities that are important for GRSG without being allocated as unavailable to livestock grazing.
- **Dry Creek Bench key RNA:** 1,637 acres allocated as available to livestock grazing. This is an increase from 1,015 acres allocated as available under the 2015 RMP Amendment. Retaining the entirety of the Dry Creek Bench key RNA as unavailable for livestock grazing is unnecessary as livestock use of these areas is limited by terrain and water availability. This key RNA, where livestock grazing is unlikely to occur, provides opportunities for long-term vegetation monitoring of relatively unaltered sagebrush plant communities that are important for GRSG without being allocated as unavailable to livestock grazing. The reallocation of the key RNA as available to livestock grazing reduces conflicts between possible fence locations and wilderness values within the Twelvemile Creek Wilderness Study Area.

## Areas of Critical Environmental Concern

The Approved RMP Amendment does not designate any new ACECs in Oregon. Through a detailed evaluation of rangewide and state-specific datasets, and 33 externally nominated ACECs, the BLM did not identify any areas that met the ACEC importance criteria (more than locally significant) beyond the existing ACECs and Research Natural Areas/ACECs. See Appendix 5 of the Final EIS for more information.

The existing 38,952-acre High Lakes ACEC was designated as an ACEC in the 2003 Lakeview Resource Management Plan and Record of Decision. The High Lakes ACEC area contains a high concentration of GRSG leks and lies between the Hart Mountain Antelope Refuge to the north and the Sheldon National Wildlife Refuge to the southeast, contributing to connectivity between the two refuges. It was designated as an ACEC because of the longevity of the relationship between the natural plant communities and ecosystem and the native people who use that landscape.

In the Proposed RMP Amendment, the BLM identified fourteen areas rangewide that required additional protection from known highly probably resource threats, including the High Lakes ACEC area in Oregon. Under the Proposed RMP Amendment, the High Lakes ACEC area was identified as PHMA with limited exception due primarily to the threats from major rights of way and renewable energy development. As detailed in Appendix 5 of the Final EIS, the protective management of the ACEC would protect and prevent the irreparable damage to the relevant and important values of the High Lakes ACEC.

The Approved RMP Amendment does not identify any areas as PHMA with limited exceptions. Following the Proposed RMP Amendment, several states informed the BLM that they found the identification of and additional protections in the PHMA with limited exceptions to be unnecessary, potentially inconsistent with state and local plans, policies, or programs (including because those states thought there could be confusion as to whether there would be two or three habitat management area designations), and a primary reason the states could not support the Proposed RMP Amendment. In consideration of the states' concerns related to the PHMA areas with limited exceptions and in order to allow the BLM and the states to move forward together, the BLM has removed the PHMA with limited exception areas in the Approved RMP Amendment. The BLM maintains that the approach set out in the Proposed RMP Amendment, including PHMA with limited exceptions, is consistent with both best available science and state and local plans, policies, and programs. Additionally, BLM stands by the science and process used to identify the PHMA with limited exception areas, which indicates that these areas are more likely to be negatively impacted by development, potentially reducing their value for greater sage-grouse. However, a coordinated management approach between BLM and the states is paramount to achieving greater sage-grouse conservation across its range. As detailed above in the BLM's purpose and need (refer to **Purpose and Need**), consistent and effective rangewide conservation is one of BLM's primary purposes in undertaking this RMP amendment process. Therefore, the Approved RMP Amendment does not identify High Lakes ACEC as a PHMA with limited exceptions area.

Under the Approved RMP Amendment, the 38,952-acre High Lakes ACEC will be managed as PHMA. As PHMA, in addition to the previous protective management in place for the ACEC, this area will be managed as avoidance for major rights-of-way, as exclusion for utility-scale solar, utility scale-wind, and closed to saleable minerals/material management and non-energy leasable mineral development, with exceptions. Further, new fluid mineral leasing in these areas will be subject to No Surface Occupancy (NSO) stipulations, with WEMs. These protections from potential development associated with major rights-of-way and renewable energy development (considered the primary threats to GRSG habitat in this area), will provide protections to the relevant and important values of the ACEC. However, if projects are approved under the exceptions to these protections (particularly for utility-scale solar, utility-scale wind, non-energy leasable mineral development, and fluid mineral development) and less protective allocations (avoidance for major rights-of-way), they may result in negative impacts to greater sage-grouse habitat, particularly in the areas with known, highly probable resource threats that were formerly considered for designation as PHMA with limited exceptions. Any such potential project and its impacts would be carefully evaluated during project-specific NEPA.

#### Rationale Conclusion

Considered comprehensively, the habitat management area designations and the allocations and management direction in the Approved RMP Amendment best meet the purpose and need for this planning effort. The Approved RMP Amendment uses updated science and cooperating agency, public feedback, and BLM implementation experience, to provide management direction that, when used in concert with existing GRSG management direction that is not being amended, will be applied where it will be the most effective for conserving GRSG habitat across the species range while being responsive to the habitat variability, threats, and public land uses in the Oregon planning area. Decisions regarding areas allocated as available or unavailable to livestock grazing were the result of careful consideration and the balancing of competing resources needs, including the needs of the GRSG, management of Wilderness Study Areas, big game movement, RNA designations, and key RNA identifications.

## 1.7 Changes and Clarifications made between Proposed RMP Amendment/Final EIS and Approved RMP Amendment/ROD

The Approved RMP Amendment is the Proposed RMP Amendment published on November 15, 2024, in the Proposed RMP Amendment/Final EIS, with the exception of the changes and clarifications described in this section and minor grammatical edits. The following changes, clarifications, and minor edits made are neither substantive nor significant and therefore do not require that the BLM provide the public with further opportunity to comment, as discussed in 43 CFR 1610.2(f)(5) and 1610.5-1(b).

#### Changes Between Proposed RMP Amendment/Final EIS and Approved RMP Amendment/ROD

The BLM is not including the identification of PHMA with limited exceptions and the associated PHMA with limited exceptions management direction that was identified in the Proposed RMP Amendment in the Approved RMP Amendment. As described in the ACEC rationale section above, several states found the identification of PHMA with limited exceptions and the additional protections proposed for these areas to be unnecessary, potentially inconsistent with state and local plans, policies, or programs (including concern that this would mean three federal management area designations instead of two), and a primary reason the states could not support the Proposed RMP Amendment. In consideration of the states' concerns and in order to allow the BLM and the states to move forward together, the BLM has removed this PHMA with limited exceptions areas and all associated management direction. The area would be identified as PHMA and would be subject to the management allocations and direction for PHMA (refer to **Table 1** in the Approved RMP Amendment).

The BLM maintains that the approach set out in the Proposed RMP Amendment, including PHMA with limited exceptions, is consistent with both best available science and state and local plans, policies, and programs. Additionally, BLM stands by the science and process used to identify the PHMA with limited exception areas, which indicates these areas are more likely to be negatively impacted by development, potentially reducing their value for greater sage-grouse. The area formerly identified as PHMA with limited exceptions in Oregon is shown as a hatched area on maps in **Appendix 1** in order to identify this area in

PHMA as having high conservation value. The BLM can take the values of this area into consideration during project level implementation. Additionally, because the High Lakes area is already managed as an ACEC, the area's relevant and important values will be protected by the associated special management direction.

A coordinated management approach between the BLM and the states is paramount to achieving GRSG conservation across its range. As a result, in the spirit of promoting consistent and coordinated GRSG conservation across its range, in consideration of the increased protection for PHMA included in the Approved RMP Amendment as compared to the Draft Preferred Alternative, due to the requirement to conduct additional NEPA on future projects that would fully analyze impacts to GRSG and its habitat, and consistent with 43 CFR 1610.3-2, the BLM has removed the PHMA with limited exceptions and associated PHMA with limited exceptions management direction from the Approved RMP Amendment.

### Clarifications between Proposed RMP Amendment/Final EIS and Approved RMP Amendment/ROD

**<u>PHMA Allocations and Management Direction (Approved RMP Amendment Table 1):</u>**

- **Fluid Minerals:** The BLM added "controlled surface use (CSU), and Timing Limitations (TL)" to the end of the fluid mineral allocation to better specify the conditions that fluid mineral development is subject to within PHMA. These conditions are not new and were previously described elsewhere in the Proposed RMP Amendment. The full allocation now reads "Open to leasing subject to no surface occupancy (NSO) (unless otherwise closed), controlled surface use (CSU), and Timing Limitations (TL). Refer to the following NSO exceptions."
- **Saleable Minerals/Mineral Materials**: In response to input received during the Oregon Governor's consistency review, the BLM removed "and impacts over five acres" from the sentence, "If BLM's NEPA analysis determines that the use or expansion of an existing, authorized material site (up to the entire footprint of the existing authorized area) could be implemented without significant impacts (i.e., upon completion of an Environmental Assessment, BLM determines that a FONSI is applicable) and the applicable area has not met the disturbance cap, BLM is authorized to implement in conformance with the State of Oregon mitigation policy which requires mitigation when development is considered large scale." This clarification appropriately reflects the State of Oregon's mitigation policy that is discussed in the sentence.
- **Non-energy Leasable Minerals:** "Apply required design features, best management practices, and minimization measures identified in the existing GRSG amendments (refer to **Appendix 2**)" was added as Management Direction. This direction was previously included in GHMA only and was inadvertently omitted from inclusion in PHMA in the Proposed RMP Amendment. BLM added this direction to clarify that these measures apply for non-energy leasable minerals projects in both PHMA and GHMA.
- **Livestock Grazing:** BLM revised the language in the third sentence of management direction RM-2 to better articulate the management direction's consistency with BLM regulations and policy. The sentence now reads "Thresholds specific to GRSG habitat will be developed to make significant progress toward fulfillment of the Land Health Standards (43 CFR Part 4180.2 or subsequent changes to regulations or policy) and maintain or move PHMA toward providing suitable GRSG habitat (e.g., **Table 4-1, Appendix 4**) where livestock grazing has been identified as a significant causal factor, and be designed to address the HAF assessment rating that warranted the Land Health Evaluation finding, and consider ecological site potential, and relevant locally specific conditions, and Land Health Standards."

- **Predation:** The first sentence of Management Action 2 was adjusted from, "authorizations that require expanded, or new, or renewal of energy or transmission related infrastructure…" to "authorizations that require expanded, new, renewal, or non-routine maintenance of energy, mining, or transmission related infrastructure projects…" to better explain which projects require proponents to submit a predator management plan. A definition of "non-routine maintenance" was also added to the **Glossary, Appendix 6**.
- **Adaptive Management**
  - **Habitat Adaptive Management Thresholds:** The BLM inserted "(sagebrush extent)" to better explain the calculation of the soft habitat threshold. The management direction now reads "A soft habitat threshold is met when any single occurrence or combination of occurrences in PHMA in a neighborhood cluster result in the loss of more than 5% of the area capable of supporting sagebrush (sagebrush extent) in a given year (including wildfire)."
  - **Population Trend Adaptive Management Thresholds:** Following the management direction that details the criteria for reversing a hard or soft population trend threshold, BLM added, "Determination of population threshold reversal should be done in close coordination with state wildlife agency personnel. Data and rationale for reversing a population threshold will be documented." This additional text better explains how the population threshold reversal will be determined and documented.
  - The references to "National sage-grouse biologist" in the Adaptive Management direction was changed to "National GRSG coordinator" to accurately reflect the position title.

**<u>GHMA Allocations and Management Direction (Approved RMP Amendment Table 2):</u>**

- **Fluid Minerals:**
  - Management Objective and Allocation: In the Proposed RMP Amendment, the text read, "Management Objective, Allocation, and Management Actions: Same management direction as identified in 2015 and 2019 for all States except as noted in "State-Specific Differences." Oregon had a state-specific difference and so, for clarity, the Approved RMP Amendment identifies both the Management Objective and Management Allocation. Following is the updated text: Management Objective: "Manage fluid mineral leasing and development (including geothermal) in GRSG habitat management areas to avoid, minimize, and compensate for adverse impacts to GRSG habitat to the extent practical under the law and BLM jurisdiction." Management Allocation: "Open to fluid mineral leasing with moderate constraints, including controlled surface use (CSU), and timing limitation (TL) stipulations (same as 2015 RMP Amendment). Areas within 1.0 mile of an active or pending active lek within GHMA will be open to leasing fluid minerals subject to NSO stipulations. Apply Fluid Mineral Stipulations, identified in Oregon 2015 ARMPA **Appendix G**."
- **Livestock Grazing:** BLM corrected a typo in the management direction number referenced in **Table 2** livestock grazing management direction, revising "Same as PHMA except RM-3 does not apply" to "Same as PHMA except RM-2 does not apply."

**<u>Key Research Natural Areas (RNAs) Objective, Allocations, and Management Direction (ARMPA Table 3):</u>**

- The definition of "key RNA" was clarified in **Appendix 6**, Glossary.
- The definition of "baseline reference area" as it relates to key RNAs was provided in **Appendix 6**, Glossary.

- The definition of "relatively unaltered" as it relates to key RNAs was provided in **Appendix 6**, Glossary.

**Other:** Across the RMP Amendment, BLM made several revisions in developing the Oregon-specific Approved RMP Amendment from the rangewide Proposed RMP Amendment. Clarifications were also made to improve clarity. These clarifications include:

- Additional detail when referencing previous GRSG-related RMP Amendments.
- Appendices were renumbered and small editorial changes were made to introductory text.
- Oregon-specific modifications to rangewide text, previously described separately in the Proposed RMP Amendment, were integrated directly into the language in the Approved RMP Amendment. This includes direct edits to the text of objectives, allocations, and management direction, as well as additions of Oregon-specific HMA direction. Additionally:
  - **Coal:** Management direction for coal resources was removed, as BLM does not manage coal resources in Oregon.
  - **Appendix 6, Glossary:** Oregon-specific definitions were added into the glossary, adding additional detail to BLM's adoption of the Western Association of Fish and Wildlife Agencies (WAFWA)'s lek definitions and related to key RNAs as described above.
- **Appendix 6, Glossary:** The BLM also removed the following definitions from the Glossary: "avoidance/avoidance area", "exclusion areas", "rights of way avoidance area", and "rights of way exclusion area". The BLM is removing the terms and definitions because the definitions were either not consistent with the management direction in the Approved RMP Amendment ("rights of way exclusion area") or they were unnecessary ("avoidance/avoidance area", "exclusion areas", and "rights of way avoidance area").

## 1.8 Environmentally Preferable Alternative

The Council on Environmental Quality (CEQ) has defined the environmentally preferable alternative as "the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources" (CEQ 1981).

In consideration of the human social and economic environment and the natural environment, the BLM has identified Alternative 3 as the environmentally preferable alternative (40 CFR 1505.2(b)). Under Alternative 3, BLM would:

- Allocate all areas managed for GRSG as PHMA. PHMA would be managed as:
  - Exclusion for major rights-of-way and minor rights-of-way (outside designated corridors);
  - Exclusion for utility-scale solar and utility-scale wind development;
  - Closed to fluid minerals (including geothermal), saleable minerals/material management, and non-energy leasable minerals development;
  - Recommended for withdrawal from location and entry under the Mining Law of 1872; and
  - Unavailable for livestock grazing.

Given these protections, Alternative 3 would provide the highest level of protection from negative impacts from potential uses of BLM-administered land and would result in the lowest level of negative impacts to the biological and physical environment of all alternatives, including the Proposed RMP Amendment.

Although the Approved RMP Amendment does not include all components in Alternative 3, to best meet the BLM's purpose and need, of providing consistent and effective rangewide conservation of GRSG habitat, BLM incorporated many environmentally protective components of Alternative 3 into the Approved RMP Amendment, especially in PHMA. Similar to Alternative 3, the Approved RMP Amendment identifies PHMA as exclusion for solar and wind development but unlike Alternative 3, there are limited exceptions when development could take place. Similar to Alternative 3, PHMA areas are closed to saleable mineral and material development and nonenergy leasable minerals but unlike Alternative 3, there are limited exceptions to these restrictions. Under Alternative 3, the major rights of way are exclusion areas outside of designated corridors and avoidance within designated corridors. The Approved RMP Amendment does not exclude fluid mineral development as in Alternative 3, but in PHMA there is a NSO requirement with exceptions. The Approved RMP Amendment promotes and enables the conservation of GRSG habitat while balancing the BLM's ability to manage public lands for other uses, in accordance with FLPMA where it is possible to do so.

The protections provided for GRSG in the Approved RMP Amendment also result in incidental protections for other natural, biological, and cultural resources, including vegetation, fish and wildlife, other special status species, soil resources, water resources, cultural resources, Tribal interests, air quality, climate change, and wilderness characteristics as described in Chapter 4 of the Final EIS.

## 1.9 MITIGATION

In accordance with 40 CFR 1505.2, the BLM has adopted all practicable means to avoid or minimize environmental harm in the Approved RMP Amendment. In determining the scope of the planning effort, BLM identified habitat mitigation as an element considered for amendment to meet the purpose and need of responding to updated scientific information and changing land uses and providing for consistent and effective rangewide conservation based on biological information that is responsive to locally relevant habitat variability. The BLM focused on habitat mitigation as sagebrush habitat fragmentation, loss and disturbance have been identified as the primary influences on GRSG population trends (Knick and Hanser, 2011). Therefore, as mitigation was within the scope of the RMP Amendment, the BLM considered a range of alternatives for mitigation strategies to best address the purpose and need and analyzed potential impacts of each alternative in the EIS (See Final EIS Appendix 21 for more detail).

As described above, the BLM determined the management direction, including the mitigation approach, identified in the Proposed RMP Amendment best meets the purpose and need and has decided to select it in this Approved RMP Amendment. The Approved RMP Amendment establishes the below objective and management action and provides additional detail on the application of the mitigation hierarchy (see **Table 1** in the Approved RMP Amendment).

- **Objective:** "Implement the mitigation hierarchy, with an emphasis on avoiding and minimizing habitat loss. Compensatory mitigation in arid sagebrush ecosystems is challenging, often taking decades to achieve with no guarantee of durability and is not appropriate in all situations. Where impacts remain following application of available avoidance and minimization measures, project proponents must ensure compensatory mitigation minimally achieves no net habitat loss considering both direct and indirect effects (refer to compensation section below)."
- **Management Action:** "In all GRSG habitat management areas and consistent with valid existing rights and applicable law, BLM will apply the mitigation hierarchy when authorizing internal and third-party actions resulting in GRSG habitat loss and degradation (including indirect impacts) to achieve a minimum standard of no net habitat loss (refer to **Appendix 3**, Monitoring Framework for table

of activities related to habitat loss and degradation). BLM will apply mitigation in accordance with the BLM mitigation handbook and other mitigation related BLM policy, CEQ regulations (40 CFR Part 1508.1(y)), and comply with the most recent State agency and/or State regulatory requirements (refer to the state mitigation policies, regulations, and/or authorities, as applicable)."

- In Oregon, PHMA is closed for saleable mineral development and new mineral material sales, but open for new free use permits and open for the expansion of existing pits if certain criteria are met in Oregon and without requiring mitigation except as required by state of Oregon OARs.

Consistent with the Federal Land Policy and Management Act of 1976, as amended, the BLM's Resource Management Planning Regulations at 43 CFR 1610, and BLM policy in the BLM's Land Use Planning Handbook (H-1601-1), all resource management authorizations and actions, and subsequent more detailed or specific planning must conform to the approved RMP. Therefore, by establishing this enforceable RMP direction, the BLM has adopted all practicable means to avoid or minimize environmental harm.

## 1.10 Consultation and Coordination

### Tribal Government Consultation

There are ten potentially affected federally recognized Tribes who have an interest in the Oregon portion of the planning area: the Burns Paiute Tribe, the Confederated Tribes and Bands of the Yakama Nation, the Confederated Tribes of the Colville Reservation, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, the Fort Bidwell Indian Community of the Fort Bidwell Reservation of California, the Fort McDermitt Paiute and Shoshone Tribes of the Fort McDermitt Indian Reservation, Nevada and Oregon, the Klamath Tribes, the Modoc Nation, and the Spokane Tribe of the Spokane Reservation. BLM sought to initiate Tribal consultation efforts in the preparation of this RMP Amendment and coordinated with all ten Tribes on the planning effort in accordance with BLM Manual 8130 (BLM 2004) and Handbook 1780 (BLM 2016a). The BLM initiated this outreach in late 2021 and again in September 2023, May 2024, and August 2024.

The BLM contacted the Tribes by mail, email, and/or phone at multiple stages in the planning process (direct outreach, official scoping period, Draft RMP Amendment/EIS comment period, and during administrative review periods). Subsequent outreach continued through emails, phone calls, and meetings with Tribal personnel, as they have expressed interest. The BLM received an expression of interest from the Confederated Tribes of the Warm Springs Reservation of Oregon. None of the Tribes entered into formal government-to-government consultation on the planning effort.

On September 4, 2024, the BLM held an online information session for Tribal governments to provide an update on the development of the Proposed RMP Amendment/Final EIS. Individuals from the Colville Tribes, Fort McDermitt Paiute and Shoshone Tribes, and the Modoc Nation attended the informational meeting.

The BLM notified Tribal governments of the availability of the Proposed RMP Amendment/Final EIS in November 2024.

### State Historic Preservation Office Coordination

Section 106 of the National Historic Preservation Act and regulations at 36 CFR Part 800 govern the BLM's cultural resource management programs. These regulations provide specific procedures for consultation between the BLM and State Historic Preservation Offices (SHPO). The Oregon State Office followed the State Protocol between the Oregon-Washington State Director of the BLM and the Oregon State Historic Preservation Officer and acted in accordance with the National Programmatic Agreement (PA) between the BLM, Advisory Council on Historic Preservation, and National Conference of State Historic Preservation

Officers. The BLM has met its obligations under Section 106 of the NHPA, 54 U.S.C. § 306108, as outlined in the National PA and the State Protocol. The Approved RMP Amendment will not approve any site-specific actions on BLM-administered lands within the planning area. The BLM will satisfy the requirements of NHPA Section 106 for future implementation-level decisions, such as project proposals, including adequate consultation with SHPOs, Tribal Historic Preservation Officers (THPOs), Native American Tribes, and other interested parties, consistent with the alternative procedures set forth in the National PA and relevant State Protocol or where applicable the Section 106 regulations.

### U.S. Fish and Wildlife Service Consultation

Under Section 7(a)(2) of the ESA, federal agencies must consult with USFWS when an action the agency carries out, funds, or authorizes may affect any federally listed or endangered species or its critical habitat. The Proposed RMP Amendment/Final EIS describes potential impacts on threatened and endangered species because of management actions proposed in the alternatives. The USFWS is a cooperating agency in this planning process. The BLM has met with the USFWS and provided them with drafts of proposed management direction for discussion and input.

The BLM formally initiated Section 7 consultation with the USFWS on August 14, 2023, before the release of the Draft RMP Amendment/EIS, and requested concurrence on which species would require consideration during consultation. Over the ensuing months, regular meetings were held to identify the species that would be analyzed in the biological assessment, to address which actions could affect those species, and to determine whether the implementation of the Proposed Plan Amendment "may affect" the species for which this consultation occurred.

The BLM formally submitted the biological assessment to the USFWS on November 19, 2024, with an amendment submitted on December 6, 2024, for review on whether the Proposed Plan Amendment would affect a Federally listed, proposed, or candidate species. The USFWS evaluated the biological assessment and concurred with either a "no effect" or "may affect, but not likely to adversely affect" determination via memorandum for all states within the planning area on December 9, 2024. Based on changes to BLM's Proposed RMP Amendment, summarized in the **Changes and Clarifications** section above, the USFWS provided a revised concurrence memorandum on January 8, 2025. This memorandum is included as **Appendix 8** in this Approved RMP Amendment.

### Cooperating Agencies

In December 2021 and January 2022, the BLM invited Tribal governments and State and local agencies with jurisdiction by either law or special expertise, or both, to participate as cooperating agencies in the planning process. A cooperating agency can be a Tribe, federal, state, or local government agency with jurisdiction by law or special expertise that assists a lead federal agency in developing an environmental assessment or environmental impact statement (40 CFR 1508.5). The BLM invited many cooperators to engage in this effort who either did not reply or chose not to participate. Invitations were sent to potential cooperating agencies in January 2022 and meetings were held with cooperating agencies in November 2022, January 2023, April 2023, July 2024, and August 2024.

Coordination with the cooperating agencies has included project presentations and working meetings discussing the purpose and need, new science, alternative strategies, range of alternatives, review of alternative text, meetings to review subsequent changes and further refine the alternatives, and a review of the administrative Draft RMP Amendment/EIS. Since the release of the Draft RMP Amendment/EIS, the BLM has met with cooperating agencies to discuss their feedback on the Draft RMP Amendment/EIS and get their input on the development of the Proposed RMP Amendment/Final EIS and state-specific management direction. Cooperating agencies were provided an administrative draft of the Proposed RMP Amendment management direction for review. As a result of these reviews and the many state-level meetings with cooperating agencies, the BLM made many changes to the Proposed RMP Amendment/Final EIS that improved the clarity of the document and addressed cooperating agency concerns.

Details on the full process followed for cooperating agency invitation, engagement, and participation can be found in the Final EIS in Chapter 5, Section 5.4 Cooperating Agencies.

For BLM Oregon, cooperating agencies within the state include Deschutes County, Harney County, Harney Soil and Water Conservation District, Lake County, Malheur County, Oregon Department of Fish and Wildlife, Oregon Department of Geology and Mineral Industries, Oregon State University – Institute of Natural Resources, Umatilla County, U.S. Environmental Protection Agency, USFWS, and the U.S. Forest Service.

### Governor's Consistency Review

The BLM's planning regulations require that BLM RMPs and RMP Amendments be "consistent with officially approved or adopted resource-related plans, and the policies and procedures contained therein, of other Federal agencies, State and local governments, and Indian Tribes, so long as the guidance and resource management plans also are consistent with the purposes, policies, and programs of Federal laws and regulations applicable to public lands" (43 CFR 1610.3-2(a)).

The BLM made the Proposed RMP Amendment/Final EIS available to the Governor of Oregon for a 60-day consistency review as required by 43 CFR 1610.3-2(e), beginning on November 8, 2024. The Governor of Oregon submitted a letter to the BLM on December 19, 2024 that identified no significant inconsistencies between the Proposed RMP Amendment and state policies. The BLM met with the Governor's Office twice to discuss the topics identified in their letter and, as a result of these meetings, the BLM provided clarifying language to the Approved RMP Amendment as described in the **Changes and Clarifications** section of this ROD. The BLM and the Governor's Office also committed to an ongoing dialogue on issues of interest to the state. The Oregon Governor's Office expressed support for the BLM to move forward with issuance of the Approved RMP Amendment and ROD.

## 1.11 RMP Amendment Monitoring

RMP monitoring is the process of tracking the implementation of resource management plan decisions (implementation monitoring) and collecting data/information necessary to evaluate the effectiveness of land use plan decisions (effectiveness monitoring) in meeting the purpose and need of the plan or plan amendment. Monitoring strategies for GRSG habitat and populations must be collaborative, as habitat occurs across jurisdictional boundaries. As part of the 2015 GRSG amendment effort, the BLM developed a monitoring framework to provide consistent approaches to monitor planning actions across the range (BLM 2015a). In 2021 the BLM published the *Greater Sage-Grouse Plan Implementation Rangewide Monitoring Report for 2015-2020* with the results of implementing the 2015 monitoring framework. As part of this amendment process, the BLM revisited the approaches in the monitoring framework and updated it based on lessons learned over the past eight years. The updated monitoring framework is in **Appendix 3**. The BLM's monitoring efforts will continue in partnership with federal and state fish and wildlife agencies.

Monitoring data is used to draw conclusions on whether management actions are being implemented, and if they are helping to meet the stated objectives. Conclusions are then used to recommend whether to continue current management or to identify what changes may need to be made to meet objectives. The

BLM will use plan evaluations to determine if the decisions in the RMP Amendment may need to be amended in light of new information and monitoring data. The plan evaluations will follow the protocols established by the BLM Land Use Planning Handbook (H-1601-1), Manual 1735 Inventory and Monitoring of Ecological Resources, or other appropriate guidance in effect at the time the evaluation is initiated.

## 1.12 Public Involvement

In addition to the extensive collaboration with federal, state, local, and Tribal governments and cooperating agencies detailed above, the BLM provided numerous opportunities for public involvement throughout the development of the RMP Amendment and EIS. The Proposed RMP Amendment/Final EIS and this Approved RMP Amendment were substantially shaped based on input provided by the public.

### Project Website

The BLM maintains a national GRSG conservation website (https://www.blm.gov/programs/fish-and-wildlife/sage-grouse) as part of its efforts to maintain and restore GRSG habitat on public lands. The site is intended to help the public learn how the BLM is working on maintaining and restoring GRSG habitat. It includes background information related to government and BLM roles in GRSG conservation. In addition to the national GRSG conservation website, the BLM established a National NEPA Register website with information related to this planning effort at https://eplanning.blm.gov/eplanning-ui/project/2016719/510. Throughout the planning process, the BLM maintained both websites to include the most current information, and share background documents, information on public meetings, contact information, and all relevant planning and NEPA-related documents.

### Scoping Process

The formal public scoping process for the RMPA/EIS began on November 22, 2021, with the publication of the Notice of Intent (NOI) to amend RMPs and prepare an EIS in the *Federal Register* (Vol. 86 No. 222). The NOI notified the public of the BLM's intent to develop RMP Amendments for the management of GRSG and initiated the public scoping period, which closed on February 8, 2022. In January 2022, BLM hosted two virtual public meetings, during which BLM provided opportunities to become involved, learn about the project and the planning process, and participate in a question-and-answer session where participants were able to ask BLM specialists questions and receive live responses. During the comment period, the BLM received 258 total submissions containing 1,865 unique comments. The issues identified during public scoping and outreach helped inform the development of the alternatives and the resource issues analyzed in the Draft RMP Amendment/EIS.

### Draft RMP Amendment/EIS Comment Period

The BLM released the Draft RMP Amendment/EIS for a 90-day comment period from March 15th, 2024, through June 13th, 2024. Thirteen public meetings were held, including two virtual meetings and eleven in-person meetings throughout the planning area. Over 39,000 submissions were received, including approximately 6,000 individual comments. The BLM has also initiated and/or participated in over 80 meetings with Tribes; federal, state, and county cooperating agencies; and interest groups between the issuance of the Draft RMP Amendment/EIS and Proposed RMP Amendment/Final EIS. The BLM considered all public comments and responded to all substantive comments in the Proposed RMP Amendment/Final EIS (refer to Appendix 22, Draft RMP Amendments/EIS Public Outreach and Responses to Substantive Public Comments in the Final EIS). The high level of public comments and high level of stakeholder coordination significantly shaped the RMP Amendment.

### Final EIS Availability Period and Proposed RMP Amendment Protest Period

The BLM released the Proposed RMP Amendment/Final EIS on November 8, 2024, and published an associated Federal Register Notice (89 FR 90311) on November 15, 2024. The Final EIS was also identified in the Environmental Protection Agency's November 15, 2024, EIS Availability Federal Register Notice (89 FR 90280).

The public was invited to submit protests on the Proposed RMP Amendment/Final EIS. The protest period was 30 days, from November 15 to December 16, 2024. The BLM received 60 unique protest letters.

The planning regulations at 43 CFR 1610.5-2 outline the requirements for filing a valid protest. Resolution of protests is delegated to the BLM Assistant Director for Resources and Planning whose decision on the protest is the final decision of the U.S. Department of the Interior (43 CFR 1610.5-2(b)) consistent with the BLM Delegation of Authority Manual (MS-1203 Delegation of Authority). The BLM evaluated all protest letters to determine which protest letters were complete and timely, and which persons have standing to protest. Four letters were complete and timely but were dismissed because the people who submitted the letters did not have standing to protest. The remaining 56 letters were complete and timely and were from parties who had standing to protest. Of these, 50 letters contained valid protest issues.

After careful review of the report by the BLM's Assistant Director for Resources and Planning, the Assistant Director concluded that the BLM followed the applicable laws, regulations, and policies and considered all relevant resource information and public input. The Assistant Director documented and addressed the valid protests issues in a protest resolution report: BLM Director's Protest Resolution Report: Greater Sage-Grouse Rangewide Planning Proposed RMP Amendment and Final Environmental Impact Statement which has been posted on the BLM's website[7]. All valid protest issues were denied; no changes to the Proposed RMP Amendment/Final EIS were necessary.

## 1.13 Ongoing Actions

The BLM has numerous ongoing reviews of proposed projects, ranging from proposals for which the BLM has just received an application to those where the BLM is nearing a decision. The extent to which this Approved RMP Amendment will apply to these ongoing projects will depend on the stage of the project in the National Environmental Policy Act (NEPA) review and decision-making process. To maintain the orderly administration and management of the public lands, the BLM will be consistent with the Approved RMP Amendment unless the BLM has a Draft EIS or Environmental Assessment for the project before the publication of the Approved RMP Amendment.  The decision for such projects and any subsequent authorizations associated with the approval (such as the issuance of a right-of-way authorized by a decision) will be exempted from the requirements of this Approved RMP Amendment. The BLM has the discretion to apply the Approved RMP Amendment to these exempted projects and will seek input from the project proponent prior to exercising such discretion.

In addition, the following projects will not be subject to the decisions made in the Approved RMP Amendment:

- Bridge Creek Area Allotment Management Plans (DOI-BLM-ORWA-B060-2021-0004-EIS)
- HiTech Lithium Exploration Plan of Operation (DOI-BLM-ORWA-V000-2023-0045-EA)

[7] BLM Director's Protest Resolution Report is available at: https://www.blm.gov/programs/planning-and-nepa/public-participation/protest-resolution-reports.

## 1.14 Availability of the Approved RMP Amendment

Copies of the ROD and the Approved RMP Amendment may be obtained online on the BLM's National NEPA Register at: https://eplanning.blm.gov/eplanning-ui/project/2016719/510. Limited print copies are available upon request from the BLM Oregon State Office, 1220 SW 3rd Ave, Portland, OR 97204.

## 1.15 Approval

I hereby certify that BLM has considered all alternatives, information, analyses, and objections submitted by state, Tribal, and local governments, cooperating agencies, and public commenters in developing the environmental impact statement. In consideration of the foregoing, I approve the Greater Sage-Grouse Rangewide Planning Resource Management Plan Amendment for Oregon.

NADA CULVER

Digitally signed by NADA CULVER
Date: 2025.01.15 16:24:15 -05'00'

Nada Wolff Culver
Principal Deputy Director
Bureau of Land Management

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# 2. Oregon Approved RMP Amendment

| Goal |
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| Conserve, enhance, restore, and manage GRSG habitat to support persistent, healthy populations, consistent with Section 102 of the Federal Land Policy Management Act, as amended, BLM's Special Status Species Management Policy (BLM-M-6840, and BLM's Wildlife and Fisheries Management Manual (BLM-M-6500)) and in coordination and cooperation with state wildlife agencies and appropriate state authorities. Habitat conservation and management should maintain existing connectivity between GRSG populations. |

The BLM applies its objectives, allocations, and management direction for GRSG within HMAs. Although the BLM has identified and mapped the HMAs to encompass multiple land ownerships, reflecting the wide-ranging ecological needs of GRSG, the management allocations and management direction that follow only apply to BLM-administered lands, including areas where BLM administers subsurface minerals. Following are the rangewide HMA categories. Refer to **Table 1** and **Map 3** in **Appendix 1**.

| Habitat Management Areas |
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| **Priority Habitat Management Areas (PHMA**) have the highest value to maintaining sustainable GRSG populations and can include breeding, late brood-rearing, winter concentration areas, and migration or connectivity corridors. The BLM intent for these areas is to maintain and enhance habitat conditions that will support persistent and healthy GRSG populations through management to minimize habitat loss and degradation. |
| **General Habitat Management Areas (GHMA)** are lands that are, or have the potential to become, occupied seasonal or year-round habitat outside of PHMA, managed to sustain GRSG populations. These areas are defined differentially by state wildlife management agencies but generally are of poorer GRSG habitat quality with reduced occupancy when compared to PHMA. Some state wildlife agencies have identified areas of GHMA as important for restoration, connectivity, or seasonal habitats. The intent for GHMA is to maintain habitat conditions to support GRSG populations consistent with the state agency designations of recovery, connectivity, or seasonal habitats. |

## Table 1. Priority Habitat Management Area (PHMA) Objectives, Allocations, and Management Direction

This table identifies the objectives, allocations, and management direction that will be applied in PHMA. The table describes if the Approved RMP Amendment is amending the "objective", "allocation", or "management direction" for the resource topic identified. In some instances, the Approved RMP Amendment addresses all three of these planning categories for a resource topic while in other resource topics only one or two of the categories are amended. All three planning categories are identified for each resource topic and if it is not being amended it will be identified as "N/A", not applicable. In those "N/A" instances, the 2015 or 2019 Amendment decision remains in place. The existing 2015 and 2019 Amendment decisions are described in **Appendix 2**.

Maps that show where the allocations and management direction apply can be found in **Appendix 1**, **Tables and Maps**.

| Approved RMP Amendment for PHMA<br>Objectives, Allocations, and Management Direction |
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| **Utility Scale Solar** |
| Utility scale solar projects are projects with nameplate capacity (theoretical output registered with authorities) of 5 megawatt (MW) or higher that deliver electricity to the electricity transmission grid (refer to **Appendix 6, Glossary**).<br><br>**Objective:** N/A<br>**Allocation:** Exclusion for utility scale solar testing and development. PHMA buffered by 0.5 miles such that non-habitat within the 0.5 mile PHMA buffer is Avoidance.<br>**Management Direction:**<br>**Exception Criteria**<br>Testing and development could only occur if the following three criteria are met:<br>1) The area is determined to be non-habitat or unsuitable, lacks the ecological potential to become marginal or suitable habitat, and does not provide important connectivity between habitat areas (as determined by a qualified biologist and confirmed by the BLM using criteria such as the Habitat Assessment Framework and coordinated with appropriate state authority) and/or the topography/areas of non-habitat create an effective barrier to impacts.<br>2) The project is designed to prevent indirect disturbance to or disruption of adjacent seasonal habitats.<br>3) Infrastructure as proposed or conditioned (including disturbance cap and mitigation requirements) will not impair habitat use by GRSG (as determined in coordination with the state wildlife agency and other appropriate state authorities) and will meet the RMP GRSG goal and habitat objectives.<br><br>**<u>OR</u>**<br><br>1) If co-location of the proposed authorization with existing disturbance will result in no additional impacts to those already associated with the existing major infrastructure, including indirect disturbance to or disruption of adjacent seasonal habitats.<br>To approve an authorization based on any of the above exception criteria, after coordination with the BLM State Office and appropriate State agency, the Authorized Officer must document that the proposed action satisfies the criteria listed above. If the State agency does not concur with granting the authorization, the Authorized Officer must provide rationale for how the criteria are met considering the information the State provides. |

| Approved RMP Amendment for PHMA<br>Objectives, Allocations, and Management Direction |
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| **Utility Scale Wind** |
| Utility-scale wind projects are projects larger than 1 megawatt (MW) (refer to **Appendix 6, Glossary**).<br><br>**Objective:** N/A<br>**Allocation:** Exclusion for utility scale wind testing and development (including met towers). PHMA buffered by 0.5 miles such that non-habitat within the 0.5 mile PHMA buffer will be Avoidance.<br>**Management Direction:**<br>**Exception Criteria**<br>Testing and development could only occur if the following three criteria are met:<br>1) The area is determined to be non-habitat or unsuitable, lacks the ecological potential to become marginal or suitable habitat, and does not provide important connectivity between habitat areas (as determined by a qualified biologist and confirmed by the BLM using criteria such as the Habitat Assessment Framework and coordinated with appropriate state authority) and/or the topography/areas of non-habitat create an effective barrier to impacts.<br>2) The project is designed to prevent indirect disturbance to or disruption of adjacent seasonal habitats.<br>3) Infrastructure as proposed or conditioned (including disturbance cap and mitigation requirements) will not impair habitat use by GRSG (as determined in coordination with the state wildlife agency and other appropriate state authorities) and will meet the RMP GRSG goal and habitat objectives.<br><br>**OR**<br><br>1) If co-location of the proposed authorization with existing disturbance will result in no additional impacts to those already associated with the existing major infrastructure, including indirect disturbance to or disruption of adjacent seasonal habitats.<br>To approve an authorization based on any of the above exception criteria, after coordination with the BLM State Office and appropriate State agency, the Authorized Officer must document that the proposed action satisfies the criteria listed above. If the State agency does not concur with granting the authorization, the Authorized Officer must provide rationale for how the criteria are met considering the information the State provides. |

| Approved RMP Amendment for PHMA<br>Objectives, Allocations, and Management Direction |
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| **Fluid Minerals (including geothermal)** |
| **Objective:** Manage fluid mineral leasing and development (including geothermal) in GRSG habitat management areas to avoid, minimize, and compensate for adverse impacts to GRSG habitat to the extent practical under the law and BLM jurisdiction.<br><br>*No specific objective or management action will specify a fluid mineral leasing strategy. However, not including specific leasing prioritization language or a leasing strategy does not remove the desired condition to manage public lands to provide suitable GRSG habitat at the HAF mid-, fine- and site-scales. Fluid mineral leasing will be considered in GRSG habitat management areas consistent with the Secretary's discretion under the Mineral Leasing Act (as amended), as well as applicable BLM regulations and policies, and in conformance with RMP goals, objectives, stipulations, and required design features to avoid, minimize, and compensate impacts to GRSG.*<br><br>**Allocation:** Open to leasing subject to no surface occupancy (NSO), controlled surface use (CSU), and Timing Limitations (TL) (unless otherwise closed). Refer to the following NSO exceptions.<br><br>**Management Direction:**<br>**Management Action to Address Development in Areas Already Leased:**<br>When considering exploration and development on areas leased for fluid mineral resources in PHMAs, including geothermal, application of measures to avoid, minimize, rectify, reduce and/or mitigate potential impacts will be considered through completion of the environmental record of review (43 CFR Part 3162.5 and 36 CFR Part 228.108), including appropriate documentation of compliance with NEPA. Such measures may include existing lease stipulations, project design, operator-committed measures, RMP required design features (RDFs), and local conditions of approval (COAs).<br><br>The BLM will work with project proponents to promote measurable GRSG conservation objectives such as, but not limited to, consolidation of project related infrastructure to reduce habitat fragmentation and loss and to promote effective conservation and connectivity of seasonal habitats and PHMAs. The BLM will continue to work with project proponents and the state wildlife agency and other appropriate state authorities to site their projects in a manner that honors their lease rights but have been determined to contain the least sensitive habitats (based on vegetation, topography, or other habitat features) and resources whether inside or outside of PHMAs. Surface use rights associated with existing leases will be recognized and respected. For proposed operations in PHMA, the Surface Use Plan of Operations (refer to 43CFR Part 3162.3-1(f)) shall address, at a minimum, the applicable RDFs in the RMP. Seasonal habitats or project features related to potential GRSG impacts that are not addressed in the Surface Use Plan of Operations based on site-specific or project-specific considerations shall be noted in the project file, along with a rationale for not including them.<br><br>In this process the BLM will evaluate whether each conservation measure is reasonable and consistent with surface use rights as part of the environmental review process (e.g., 43 CFR Part 3101.12).<br><br>**NSO Exceptions**<br>**a) Exception 1**: The authorized officer may grant an exception to a fluid mineral lease no-surface-occupancy stipulation only where the proposed action is beyond 3.1 miles of active or pending active leks and:<br>i. Will not have direct, indirect, or cumulative effects on Greater Sage-grouse or its habitat; or<br>ii. Is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel and will provide a clear conservation gain to GRSG.<br><br>Exceptions based on conservation gain (ii) may only be considered in (a) PHMA of mixed ownership where federal minerals underlie less than 50% 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. |

| Approved RMP Amendment for PHMA |
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| **Objectives, Allocations, and Management Direction** |
| **Fluid Minerals (including geothermal)** |
| 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 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 their finding is not unanimous, the Authorized Officer must provide rationale for how the criteria are met considering the information the State and USFWS provides.<br>Prior to granting an exception to an NSO stipulation, the potential exception shall be subject to public review for at least a 30-day period (e.g., could be part of the APD NEPA process) and all exceptions granted will be tracked in a public place and the exception tracker will be consulted when exceptions are being considered.<br>If the area associated with the proposed development seeking the exception (e.g., well pad, compressor station, etc.) is in an area (neighborhood lek cluster or as appropriate an alternative adaptive management unit as described and allowed in the adaptive management section) that has met one of the adaptive management thresholds (hard or soft) (refer to Adaptive Management section in this table), no exceptions will be considered until the causal factor analysis is completed. If the causal factor analysis concludes that development associated with the type of activity seeking the exception is or could contribute to the threshold being met or not recovering, no exception will be granted. If the analysis is inconclusive on cause, exceptions could be considered.<br><br>**b) Exception 2 -** The Authorized Officer may consider and grant an exception to the NSO stipulation associated with the remainder of PHMA beyond 3.1 miles of active and pending active leks. if one of the following criteria apply – after documenting the review of available information associated with the site proposed for the exception – both internally compiled and as provided by State, County and other local agencies, tribal governments, project proponents, other federal agencies, or interested stakeholders:<br>I. The criteria presented in Exception #1. **OR**<br>II. Granting the exception must be in conformance with the RMP GRSG goal and habitat objectives, and the impacts anticipated by the proposed activity will be addressed through application of the mitigation hierarchy, including consideration of compensatory mitigation in accordance with compensatory mitigation direction in the Mitigation section. To grant this exception based on the use of compensatory mitigation, the compensatory mitigation direction in the Mitigation section must be followed, though the compensation project must be completed and habitat functionality documented before the exception is granted. The compensation must also provide offsetting benefits to the population being impacted. If it can be demonstrated by a qualified biologist and confirmed by the BLM, based on site-specific information (using tools such as the Habitat Assessment Framework), that the project cannot be avoided or minimized and granting the mitigated exception will not result in adverse effects to GRSG seasonal habitats.<br><br>Prior to granting an exception to an NSO stipulation the potential exception shall be subject to public review for at least a 30-day period (e.g., could be part of the APD NEPA process) and all exceptions granted will be tracked in a public place and the exception tracker will be consulted when exceptions are being considered.<br><br>If the area associated with the proposed development seeking the exception (e.g., well pad, compressor station, etc.) is in an area (neighborhood cluster) that has met one of the adaptive management thresholds (hard or soft) (refer to Adaptive Management Section), no exceptions will be considered until the causal factor analysis is completed. If the causal factor analysis concludes that development associated with the type of activity seeking the exception is or could contribute to the threshold being met or not recovering, no exception will be granted. If the analysis is inconclusive on cause, exceptions could be considered. |
| **NSO Modifications**<br>No modification to NSO within 3.1 miles of active or pending active leks. |

| Approved RMP Amendment for PHMA |
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| **Objectives, Allocations, and Management Direction** |

**Fluid Minerals (including geothermal)**

The Authorized Officer may consider and grant a modification to the fluid mineral lease NSO stipulation, allowing for surface occupancy only where:

1) an exception is granted, as described above, for the primary disturbance (e.g., well pad, compressor station), **and**
2) the potential associated infrastructure related to the development is not individually precluded by other actions (e.g., roads, pipelines, power lines that could otherwise be considered through a ROW).

While the NSO stipulation could be modified for these additional developments, they must still comply with other GRSG management actions (e.g., mitigation, disturbance cap, minerals/energy density, seasonal restrictions, RDFs, etc.) if an exception to the NSO is granted.

Prior to modifying the area subject to the NSO stipulation, the potential modification shall be subject to public review for at least a 30-day period (e.g., could be part of the APD NEPA process).

If the area (neighborhood cluster) associated with the proposed exception has met one of the adaptive management thresholds (hard or soft) (refer to Adaptive Management section in this table), no modification will be considered until the causal factor analysis is completed. If the causal factor analysis concludes that development associated with the type of activity seeking the exception is or could contribute to the threshold being met or not recovering, no modification will be granted. If the analysis is inconclusive on cause, modifications could be considered.

**NSO Waiver**

NSO within 3.1 miles of active or pending active leks may be waived for a specific lek if, in coordination with the appropriate State agency, it is determined that the GRSG lek that was active or pending active has been classified as unoccupied and confirmed by the appropriate State agency. Prior to waiving the stipulations, surveys should confirm that the lek is inactive and not moved to another location in the vicinity.

The Authorized Officer may consider and grant a waiver of the NSO stipulation on an existing lease after documenting, in coordination with the appropriate State agency, that the lease with the GRSG NSO stipulation is no longer in PHMA. This will only be applicable on leases that were issued when the parcel was in PHMA, then the PHMA boundaries were subsequently adjusted through the appropriate planning process.

Prior to waiving the NSO stipulation for a given area, the potential waiver shall be subject to public review for at least a 30-day period (e.g., could be part of the APD NEPA process).

**Disturbance Cap Exceptions and Waivers**

For fluid mineral (including geothermal) disturbance cap exceptions and waivers, follow the direction for Disturbance Cap exceptions and conditions found in this table. In addition, prior to granting an exception to the disturbance cap stipulation for fluid minerals, the potential exception shall be subject to public review for at least a 30-day period (e.g., could be part of the APD NEPA process).

**Disturbance Cap Modifications**

None.

**Disturbance Cap Waivers**

The Authorized Officer may consider and grant a waiver of the stipulation on an existing lease if the area mapped as PHMA when the lease was issued is no longer mapped as such through the appropriate planning process. Prior to waiving the disturbance cap stipulation for a given area, the potential waiver shall be subject to public review for at least a 30-day period (e.g., could be part of the APD NEPA process).

**Approved RMP Amendment for PHMA**

**Objectives, Allocations, and Management Direction**

**Fluid Minerals (including geothermal)**

**Seasonal Constraints/Stipulations Exception**

The Authorized Officer may consider and provide temporary relief from seasonal constraints (identified in the 2015 RMPA, refer to **Appendix 2**) by granting an exception after documenting the review of available information, including best available science, associated with the site proposed for the exception. This direction applies in PHMA, GHMA, and all other state identified HMAs. While the BLM considers information from all sources, the State wildlife agency can provide information directly associated with bird use (including whether GRSG populations are not using the seasonal habitat during that year's seasonal life cycle period if available). Based on this information and recommendation, and documented variability in climatic conditions (e.g., early/late spring, long/heavy winter), use patterns, or other applicable information the Authorized Officer may consider a one-time exception if development associated with it will not have direct/indirect negative impacts on GRSG and/or their habitat.

**Seasonal Constraints/Stipulations Modifications**

The BLM can and does grant modifications to seasonal restrictions if the BLM, in coordination with the state wildlife agency and other appropriate state authorities, on a case-by-case basis, determines that granting the modification will not adversely impact the population being protected. The authorized officer may consider and grant a modification to the dates and areas associated with seasonal timing restrictions based on one of the criteria described below – after documenting the review of available information associated with the site proposed for the modification, if:

1) The geographic and temporal conditions demonstrate that any modification (shortening/extending seasonal timeframes) is justified on the basis that it serves to better protect or enhance GRSG and its habitat than if the strict application of seasonal timing restrictions are implemented. Under this scenario, modifications can occur if one or more of the following conditions can be documented:
    a. A proposed authorization is expected to have beneficial or neutral impacts on GRSG and its habitat.
    b. Topography or other factors eliminate direct and indirect impacts from visibility and audibility to GRSG and its habitat.
    c. There are documented local variations that indicate the seasonal life cycle periods are different than presented.
2) Modifications are needed to address an immediate public health and/or safety concern in a timely manner (e.g., maintaining a road impacted by flooding).

**Season Constraints/Stipulations Waiver**

The Authorized Officer may consider and grant a waiver of the stipulation on an existing lease if the area that was mapped as a GRSG habitat management area (regardless of type) when the lease was issued is no longer mapped as such through the appropriate planning process.

**Tracking Waivers, Exceptions, or Modifications**

Refer to **Appendix 3**, Greater Sage-grouse Monitoring Framework, Measure 6 for tracking requirements.

| Approved RMP Amendment for PHMA<br>Objectives, Allocations, and Management Direction |
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| **Saleable Minerals/Mineral Materials** |
| **Objective**: N/A<br>**Allocation**:<br>**MD MR 14**: PHMA is 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:<br>• The activity is within the Oregon PAC (and is the same footprint as PHMA) and project area disturbance cap, **and**<br>• All applicable required design features are applied and the activity is permissible under screening criteria (see SSS 13 in the 2015 OR GRSG ARMPA), excepting the mitigation requirement.<br><br>If BLM's NEPA analysis determines that the use or expansion of an existing, authorized material site (up to the entire footprint of the existing authorized area) could be implemented without significant impacts (i.e., upon completion of an Environmental Assessment, BLM determines that a FONSI is applicable) and the applicable area has not met the disturbance cap, BLM is authorized to implement in conformance with the State of Oregon mitigation policy which requires mitigation when development is considered large scale.<br><br>Federal Highway Act material sites are a ROW and not subject to mineral sale requirements. See ROW section for management (MD LR 7 in the 2015 OR GRSG ARMPA).<br>**Management Direction:** N/A |
| **Nonenergy Leasable Minerals** |
| **Objective**: N/A<br>**Allocation**: Closed to new leases but allow expansion of existing operations<br>**Management Direction**: Apply required design features, best management practices, and minimization measures identified in the existing GRSG amendments (refer to **Appendix 2**) |
| **Locatable Minerals** |
| **Objective:** N/A<br>**Allocation:** Open, unless currently withdrawn.<br>**Management Direction**: N/A |

**Approved RMP Amendment for PHMA**
**Objectives, Allocations, and Management Direction**

**Major Rights of Way**

**Objective:** N/A

**Allocation:** Avoidance for new major ROWs (linear features such as overhead transmission lines, distribution pipelines, and large non-linear surface disturbing projects. Refer to **Appendix 6, Glossary**). Additionally, PHMA will be buffered by 0.5 miles such that both GHMA and Non-Habitat within the 0.5-mile PHMA buffer will also be Avoidance, unless the same criteria are met as the rest of PHMA.

Development of major ROWs will not be allowed in breeding and nesting habitats and other limiting/high value seasonal habitats.

**Management Direction**:

If during consideration of a proposed ROW action (project level authorization) the determination of whether it is a major or minor ROW is questioned, with supporting rationale, the Authorized Officer (AO), in consultation with the BLM State Office lead(s), will make the final determination.

Authorizations may be granted if one of the criteria below and the additional conditions are met.

**Major Rights of Way Avoidance Criteria:**

1) RMP designated corridors within PHMA are open to consideration of a new major ROW in the category of ROW for which the corridor was designated if co-location of the proposed authorization within the existing ROW disturbance results in minimal impacts similar to those already associated with the existing major infrastructure, including indirect disturbance to or disruption of adjacent seasonal habitats.
2) The ROW can be routed through, or located within, non-habitat/unsuitable (as determined by a qualified biologist and confirmed by the BLM using criteria such as the Habitat Assessment Framework and coordinated with State wildlife agencies and other appropriate state authority) and lacks the ecological potential to become suitable habitat. ROWs shall not disrupt connectivity between habitat areas and should be designed to prevent indirect disturbance to or disruption of adjacent seasonal habitats (as disclosed in the environmental analysis).
   a. Applicants must clearly demonstrate to the Authorized Officer (AO) and State Sage-grouse lead that no viable alternatives exist for placement of facilities outside the avoidance area prior to analyzing placement within an avoidance area. Considerations can include wildfire risk, human health and safety, and national security. The ROW must be the minimum necessary to achieve the ROW's purpose and will not otherwise be viable in an area that is "open" to ROWs.
3) The proposed location on public lands will be undertaken as an alternative to a similar action occurring on a nearby non-public lands parcel (for example, due to landownership patterns), and development on the public parcel in question will eliminate impacts on more important and/or limited GRSG habitat (e.g., wet meadows, brood-rearing habitat, etc.) on the non-public nearby parcel. The ROW must be the minimum necessary to achieve the ROW's purpose and will not otherwise be viable in an area that is "open" to ROWs.

*If one or multiple of the avoidance criteria can be met, the ROW must also meet the following conditions in order to be permitted in PHMA:*

a) Micro-siting while developing the major ROW is required to limit impacts and maintain connectivity corridors between seasonal habitats. This includes using topography and non-habitat as effective barrier to adverse impacts and co-location with existing, similarly sized, infrastructure.
b) Where the development of the major ROW is outside a designated corridor, apply minimization measures (e.g., disturbance cap, seasonal constraints, tall structure limitations, RDFs, nest and perch deterrents).
c) Residual direct and indirect impacts will be mitigated through compensatory mitigation to achieve the mitigation standard.

| Approved RMP Amendment for PHMA<br>Objectives, Allocations, and Management Direction |
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| **Major Rights of Way** |
| If requiring compensatory mitigation both inside and outside of RMP-designated corridors disincentivizes location in the designated corridor or another route that has lesser impacts to GRSG, the Authorized Officer may consider adjusting the compensatory mitigation requirement if doing so reduces impacts to GRSG compared to an alignment that otherwise requires compensatory mitigation (e.g., development in an RMP-designated corridor that has existing transmission lines already present). When considering adjustments to the BLM's no net loss compensatory mitigation requirement for a major ROW ( refer to mitigation management direction below), the Authorized Officer shall coordinate with the applicable State agencies to ensure compliance with compensatory mitigation required by State policies or regulations that go beyond BLM's compensatory mitigation requirement. |
| **Minor Rights-of-Way** |
| **Objective:** N/A<br>**Allocation:** Avoidance within breeding, nesting and/or seasonal habitats, otherwise open with minimization and mitigation, if minimization actions are not adequate to offset impacts to GRSG of the minor ROW.<br>**Management Direction:** N/A |
| **Areas of Critical Environmental Concern (ACECs)** |
| No ACECs are designated. |
| **Livestock Grazing** |
| **Objective (RM-1)**: Specific to GRSG habitat, manage livestock grazing in a manner that 1) meets or makes progress toward meeting the Land Health Standard for special status species, 2) avoids direct adverse impacts from livestock management range improvements in areas with limited GRSG habitat; and 3) applies the guideline that addresses "restoring, maintaining, or enhancing habitats of...special status species to promote their conservation" (43 CFR Part 4180.2(e)(9) or subsequent changes to regulations or policy).<br><br>**Allocation (RM-1)**: The presence of GRSG HMAs will not affect whether an area is available for livestock grazing.<br><br>During livestock grazing authorization renewals, Allotment Management Plan development, or other appropriate implementation-level planning, BLM will follow all applicable livestock grazing regulations including 43 CFR Subpart 4120 – Grazing Management and 43 CFR 4180.2 Standards and Guidelines for Grazing Administration or any subsequent revisions. In conformance with these regulations, BLM will consider adjustments to active AUMs, timing, intensity, duration, and frequency of livestock grazing are completed at the allotment scale based on site-specific conditions to meet or make progress towards meeting Land Health Standard for special status species. Additionally, temporary adjustments of timing, intensity, duration, and frequency of livestock grazing can be made annually to livestock numbers, the number of AUMs, and season of use within the range of the terms and conditions and in accordance with applicable regulations.<br><br>In managing livestock grazing, consider and apply where appropriate the livestock grazing best management practices and design features in **Appendix 5**.<br><br>**Management Direction**<br>**RM-1**: During the land health assessment (LHA) process, use the criteria identified in the Sage-Grouse Habitat Assessment Framework (BLM-TR-6710-1 - Stiver et al. 2015 – as revised) and other BLM approved methodology to provide multiple lines of evidence (which are consistent with BLM Manual 1283) for determining whether vegetation structure, condition, and composition are meeting or making significant progress towards meeting the Land Health Standards (LHS) for BLM special status species – which includes GRSG referencing appropriate ESD, associated State and Transition Model (STM) and existing ecological condition information. For GRSG, the standard will generally be met when vegetation conditions provide for suitable GRSG habitat at the HAF site scale (refer to **Table 4-1, Appendix 4**), based on existing ecological condition, ecological potential, and existing vegetation information. |

| Approved RMP Amendment for PHMA<br>Objectives, Allocations, and Management Direction |
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| **Livestock Grazing** |
| Where the LHS for SSS habitat (including GRSG) is not being met – as indicated by an unsuitable site-scale HAF assessment relative to site potential – and existing livestock grazing is a significant causal factor (43 CFR Part 4180, BLM H-4180-1 or subsequent changes to regulations or policy), adjustments to livestock grazing practices and activities will be made at the authorization, allotment or activity plan level and in accordance with applicable regulations (43 CFR Part 4180.2) or subsequent changes to regulations or policy). Any adjustments to livestock grazing will be made based on current ecological potential according to ESD, associated STM and existing ecological state.<br><br>**RM-2**: In PHMA, when fully processing livestock grazing authorizations where the special status species standard is not being met, specific to GRSG habitat, and current livestock grazing has been identified as a significant causal factor (43 CFR Part 4180, BLM H-4180-1 or subsequent changes to regulations or policy), the NEPA analysis must include in at least one alternative specific thresholds and defined responses to be included in the terms and conditions of the livestock grazing authorization.<br><br>One or more defined responses will allow the authorizing officer to implement adjustments to livestock grazing during the term of the authorization that have already been analyzed in a NEPA document. Thresholds specific to GRSG habitat will be developed to make significant progress toward fulfillment of the Land Health Standards (43 CFR Part 4180.2 or subsequent changes to regulations or policy) and maintain or move PHMA toward providing suitable GRSG habitat (e.g., **Table 4-1, Appendix 4**) where livestock grazing has been identified as a significant causal factor, and be designed to address the HAF assessment rating that warranted the Land Health Evaluation finding, and consider ecological site potential, and relevant locally specific conditions, and Land Health Standards.<br><br>**RM-3**: During the livestock grazing authorization renewal process, evaluate all existing livestock management range improvements with respect to their effect on GRSG and GRSG habitat. Consider removal or modification of projects that negatively affect GRSG or GRSG habitat. Functional projects needed for management of sensitive species habitat or other sensitive resources should be maintained but consider implementing improvements in a manner less impactful to GRSG (Refer to **Appendix 5** for Livestock Grazing Management Best Management Practices and Design Features).<br><br>**RM-4**: Design new range improvement projects (any activity or program relating to rangelands which is designed to improve forage, change vegetative composition, control patterns of use, provide water, stabilize soil and water conditions and provide habitat for livestock and wildlife) to enhance livestock distribution or management and to control the duration, timing and intensity of utilization, including application of new technologies such as virtual fencing. In PHMA, focus authorization of new water developments and structural range improvements (e.g., fences) to projects that have a nominal or incidental effects or that are beneficial to GRSG seasonal habitats. Any new structural range improvements should be placed along existing disturbance corridors or in the least suitable habitat, to the extent practical, and are subject to appropriate design features (**Appendix 5**).<br><br>**RM-5:** Identify fences in high-risk areas - especially within 1.2 miles of an active lek (Christiansen 2009; Stevens 2011) - or other areas identified as important seasonal habitats or areas of GRSG concentration in coordination with the state wildlife agency or other appropriate state authority. Evaluate if the fence is needed and/or up to BLM wildlife friendly fencing standards (BLM H 1741). If the fence is unnecessary, remove it. If the fence is needed to support management, mark fences (install reflective fence markers) in high risk or important areas (Christiansen 2009; Stevens 2011). Where marking fences does not reduce fence-related GRSG mortality, modify fences. Modification could include re-routing, altering construction materials, drop fencing, or limiting perching of predators. New fences within high-risk areas will only be authorized if at least one of the following criteria is met:<br>a) It is consistent with the overall RMP GRSG objective.<br>b) Local terrain features shield nearby habitat or reduce the habitat importance.<br>c) The fence is constructed with high visibility markers to reduce GRSG strikes. |

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| **Livestock Grazing** |
| Monitoring of existing fences to assess mortality risk is recommended in all GRSG habitats.<br><br>**RM-6**: At the time a permittee or lessee voluntarily relinquishes livestock grazing preference and the associated authorization, the BLM will consider whether to offer the permit for re-authorization to other grazing applicants or if the public lands where that permitted use was authorized shall be used for other resource management objectives. This does not apply to or impact livestock grazing preference transfers, which are addressed in 43 CFR Part 4110.2-3.<br><br>When a permittee or lessee voluntarily relinquishes livestock grazing preference and associated livestock grazing authorization, consider conversion of the allotment to a reserve common allotment that will remain available for use on a temporary, nonrenewable basis for the benefit of GRSG habitat. Authorize temporary nonrenewal permits in reserve common allotments to meet resource objectives elsewhere such as rest or deferment due to wildfire or vegetation treatments. Temporary use of reserve common allotments will not be allowed due to drought or overuse of allotments. |
| **Wild Horse and Burro** |
| **Objective: N/A**<br>**Allocation: N/A**<br>**Management Direction:**<br>**Management Action 1**:<br>Where wild horses and burros overlap with GRSG:<br>a. Manage wild horse and burro populations within established appropriate management levels (AML).<br>b. Incorporate GRSG habitat objectives into wild horse and burro management (e.g., herd management area plans, AML) monitoring, and gather prioritization, with prioritization of such activities in PHMA, then GHMA.<br>c. Prioritize gathers in GRSG PHMA unless removals are necessary in other areas to address higher priority issues, including herd health impacts.<br><br>**Management Action 2:** Manage wild horse and burros herd management areas in GRSG habitat (or portions of the herd management area overlapping or within GRSG habitat) within the established AML ranges to achieve and maintain GRSG habitat objectives and achieve or make significant progress towards achieving LHS, considering the full suite of approaches to maintain AML, including temporary fertility control and non-reproducing, or partially non-reproducing herds.<br><br>**Management Action 3**: If GRSG site scale habitat objectives are not being met in PHMA and GHMA, evaluate AMLs and adjust, if necessary, through the NEPA process where wild horse or burro use is identified as significant causal factor to not meeting LHS, or is a factor in the area not meeting the GRSG habitat objectives. |

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| **Predation** |
| **Objective:** Reduce predation from increased numbers of predators resulting from anthropogenic disturbance and habitat loss and function.<br>**Allocation: N/A**<br>**Management Direction:**<br>**Management Action 1:** Apply minimization measures and BMPs to new, existing, and renewal of authorizations and activities to minimize threats from predators shown to pose a threat to GRSG, consistent with applicable law. This includes, but is not limited to stopping, slowing, and/or discouraging the incursion of predators, increased levels of predators, or predators expanding into new areas. Minimization measures and BMPs include, but are not limited to, the following:<br>a. Limit the footprint for all proposed projects to the smallest area necessary to achieve the project objectives in order to reduce habitat loss.<br>b. Place project components within existing disturbance areas whenever possible to minimize habitat loss.<br>c. Eliminate or minimize external food resources from anthropogenic sources (e.g., trash resources from human activities, road killed animals, carcass dumps).<br>d. Reduce or prevent opportunities for raven and raptor perching and nesting through such measures as nest/perch deterrents and regular maintenance.<br><br>**Management Action 2**: For authorizations that require expanded, new, renewal, or non-routine maintenance of energy, mining, or transmission related infrastructure projects as identified in **Table 3-4** in **Appendix 3**, Greater Sage-grouse Monitoring Framework) in PHMA the project proponent is required to submit a predator management plan to minimize influx and support of new predators as a result of the project. (Refer to Appendix 6, Glossary for definition of "non-routine maintenance".) The requirement to prepare a predator management plan could be waived as a result of site-specific circumstances and with State Director concurrence. The predator management plan shall be coordinated with state and federal agencies (e.g., USFWS and APHIS) as appropriate. The predator management plan will:<br>a. Outline how the project will be designed to minimize threats to GRSG beyond the natural range of variability from predators;<br>b. Describes project design features to reduce or eliminate threats from predators (e.g., reducing raven and raptor perching and nesting by burying powerlines, locating structures out of line of site of breeding and nesting habitat, using tubular non-branching material for structures, etc.);<br>c. Describe and outline the coordination and concurrence with state and federal agencies, if appropriate (e.g., USFWS, APHIS, etc.);<br>d. Include a monitoring strategy to assess efficacy of the predator management plan and GRSG population response.<br><br>**Management Action 3:** The BLM will collaborate with appropriate state agencies, other landowners, federal agencies (e.g., USFWS, APHIS, etc.), and Tribal governments, as appropriate and consistent with BLM policy, in their efforts to minimize impacts from predators on GRSG where impacts have been documented (e.g., reduced recruitment of GRSG from predation), including providing needed authorizations to support predator management actions. |

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| **Application of Habitat Objectives** |
| **Objective:**<br>**Objective SSS [X]:** Within GRSG habitat management areas provide suitable habitat by managing for connected mosaics of sagebrush and associated communities that provide for seasonal habitats, dispersal, and migration, while limiting widespread anthropogenic disturbances and fragmentation. This objective will be accomplished by applying RMP land use allocations and management actions among HMAs, proactive habitat treatments, and project-level application of mitigation (avoiding, minimizing, and compensating, per MS-1794 and H-1794) for internal and external project proposals.<br>**Objective SSS [Y]:** Manage GRSG habitat management areas to provide seasonal habitats at the HAF Site Scale (Level 4) by providing for habitat characteristics that support seasonal habitat needs, including adequate protective cover and food needed to survive and reproduce. Seasonal habitats may include areas where sagebrush is the current dominant vegetation type, sagebrush is a primary shrub species within the various states of the ecological site or dominated by other vegetation types but still provides GRSG habitats, such as mesic areas. This objective will be accomplished through the combination of RMP land use allocations and management actions and restoration – based on ecological potential, current vegetative condition, and existing seasonal values – and the project-level application of mitigation (avoiding, minimizing, and compensating, per MS-1794 and H-1794) for internal and external project proposals (refer to Mitigation direction in this table (**Table 1**).<br>**Allocation:** N/A<br>**Management Direction:**<br>**Management Action SSS [X1]:** Assess the suitability of GRSG habitat at HAF mid- and fine-scales (HAF Levels 2 and 3, respectively) based on the methods in the Sage-grouse Habitat Assessment Framework (HAF, Stiver et al. 2015, BLM TR 6710-1, as revised; see **Appendix 4**).<br>**Management Action SSS [X2]:** Design and implement projects that will maintain or improve habitat suitability, availability, and connectivity, based on site location, existing seasonal values, and habitat needs using the results of mid- and fine-scale habitat assessments and other complementary research, tools, or information and in coordination with partners across land management jurisdictions.<br>**Management Action SSS [Y1]:** Assess suitability of GRSG habitat at the HAF site-scale (Level 4) based on the methods in Sage-grouse HAF (Stiver et al. 2015, BLM TR 6710-1, as revised; **Appendix 4**) utilizing current geographically applicable research on seasonal habitat requisites of GRSG (see **Appendix 4**). Updates to seasonal habitat indicators and ESDs will be developed locally and coordinated with partners (see **Appendix 4**).<br>**Management Action SSS [Y2]:** Maintain, improve, or restore the suitability of GRSG seasonal habitats using the Habitat Indicators Table (see **Appendix 4**) to inform measurable project objectives during implementation-level planning for BLM-permitted and BLM-initiated site-specific actions in HMAs, in coordination with applicable partners. Use the results of site-scale habitat assessments and other best available information to inform management decisions and the design and implementation of habitat projects. |

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| **Mitigation** |
| **Objective**: Implement the mitigation hierarchy, with an emphasis on avoiding and minimizing habitat loss. Compensatory mitigation in arid sagebrush ecosystems is challenging, often taking decades to achieve with no guarantee of durability and is not appropriate in all situations. Where impacts remain following application of available avoidance and minimization measures, project proponents must ensure compensatory mitigation minimally achieves no net habitat loss considering both direct and indirect effects (refer to compensation section below).<br>**Allocation:** N/A<br>**Management Direction:**<br>**Management Action**: In all GRSG habitat management areas and consistent with valid existing rights and applicable law, BLM will apply the mitigation hierarchy when authorizing internal and third-party actions resulting in GRSG habitat loss and degradation (including indirect impacts) to achieve a minimum standard of no net habitat loss (refer to **Appendix 3**, Monitoring Framework for table of activities related to habitat loss and degradation). BLM will apply mitigation in accordance with the BLM mitigation handbook and other mitigation related BLM policy, CEQ regulations (40 CFR Part 1508.1(y)), and comply with the most recent State agency and/or State regulatory requirements (refer to the state mitigation policies, regulations, and/or authorities, as applicable).<br>**Application of Mitigation Hierarchy:**<br>*Avoidance*: Avoiding impacts is defined by not taking certain action or parts of an action (CEQ regulations; 40 CFR Part 1508.1(y)). Impact avoidance in GRSG habitats is the priority since restoration of most sagebrush systems can take decades. While the avoidance priority is reflected in many PHMA allocations, BLM may also determine on a case-by-case basis to avoid impacts by not issuing an authorization in areas open to development.<br>*Minimization*: Where avoidance is not possible, impacts can be minimized through managing the severity of a project impact at a specific location. If impacts to GRSG habitats cannot be avoided, minimization measures will be applied (e.g., minimizing the disturbance footprint, lek buffers, BMPs, and RDFs). BLM can consider site-specific minimization measures beyond those listed in this plan, through site-specific environmental review to meet the no net habitat loss standard. Minimization does not eliminate project impacts and remaining residual impacts may require compensatory mitigation for habitat loss or degradation.<br>*Compensation*: Where avoidance or minimization will not fully offset a project's impacts compensatory mitigation is required and will at minimum meet the requirements of the state wildlife agency or other appropriate state authority, and BLM/DOI mitigation policy. Prior to identifying compensatory mitigation, BLM must document the avoidance and minimization applied and why they are not effective at eliminating all impacts (i.e., residual effects), as well as documenting how compensatory mitigation is an appropriate tool for the situation. Any impacts that cannot be avoided or minimized to no net habitat loss will be compensated at a level and in a manner to fully offset both direct and indirect (e.g., disturbance, noise, changes in water availability) impacts from the project to habitat function as identified at the project-level.<br>Compensatory mitigation amounts shall comply with the most recent State agency and/or State regulatory and or policy requirements, including net conservation gain standards, as appropriate, and be consistent with BLM mitigation policy. In States without a mitigation requirement, compensatory mitigation should minimally apply a no net habitat loss standard, considering key factors such as the nature of residual impacts (including indirect and direct impacts), and the types, attributes, amount, sites, and mechanisms of the compensatory mitigation (e.g., H-1794-1 Chapter 3.5). Establishing no net loss will require full restoration of functional habitats or enhancement of habitats such that the habitat can support the number of GRSG present prior to disturbance at the apex of the population cycle. The metrics identified in the HAF should be used to determine if restoration actions provide GRSG habitat. Where restoration is not possible, preservation (e.g., conservation easements, acquisition of inholdings) can be used to offset impacts and should be designed to protect uniquely important habitats (e.g., limiting winter habitats, connectivity corridors) or areas of GRSG habitats that are at a high risk of conversion.<br>Mitigation should be prioritized to occur within the same habitat area as the proposed impact so that it benefits the populations affected by the project (e.g., within the same neighborhood cluster (Coates et al. 2021), or if not possible, same HAF fine scale area (Stiver et al., 2015, as revised), or nearest equivalent HMA (e.g., PHMA, GHMA)). |

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**Mitigation**

The compensation project must be planned, funded, and approved by the operator, BLM, surface owner, in coordination with the appropriate state agency prior to construction, surface occupancy, or surface disturbing activities. Compensatory mitigation should be completed prior to initiating the activity causing the need for compensation and monitored for retention and efficacy unless inconsistent with state law. Compensatory mitigation shall be durable and resilient, ensuring GRSG habitat will persist (barring any natural disaster). The project proponent will be responsible for ensuring the durability and success of any compensatory mitigation associated with their project.

Compensatory mitigation will not be required for activities implemented to conserve species listed as threatened or endangered under the Endangered Species Act.

Compensatory mitigation is not required by the BLM for operations conducted under the Mining Law of 1872, but operators may always voluntarily engage in compensatory mitigation. Minimization actions and compensation should be discussed with project proponents/operators and incorporated into alternatives when appropriate. Compensation may also be required by state regulations.

Refer to **Appendix 3**, Greater Sage-grouse Monitoring Framework, Measure 5, for compensatory mitigation tracking requirements.

For saleable minerals/mineral materials, additionally apply the mitigation requirements for free-use saleable developments in Saleable Minerals/Mineral Materials management direction above.

**Disturbance Cap**

**Objective**: N/A

**Allocation**: N/A

**Management Direction**:

If direct habitat disturbance from existing and proposed infrastructure developments exceeds either:

1) 3% at the project scale (refer to description below), or
2) 3% at the Habitat Assessment Framework (HAF) Fine Scale habitat selection area ;

For all development threats, including mining, infrastructure, and energy development, implement a human disturbance cap of 3%, not to exceed a 1% increase per decade, within the Oregon priority areas of conservation (PACs) and proposed project analysis areas, as allowed under current law.

New infrastructure projects will be deferred to the extent allowable under applicable laws (such as the Mining Law of 1872), or valid existing rights:

d. until such time as the percentage of habitat disturbance in the areas has been reduced below the cap threshold through restoration of existing disturbance to meeting habitat objectives or increasing the amount of suitable habitat through restoration, or
e. redesigned to not result in additional surface disturbance (co-location), redesigned to move it outside of habitat in PHMA (refer to non-habitat criteria), or redesigned to move it outside PHMA.

**Disturbance Cap Calculation**

Numerator

The disturbance cap calculation is limited to the following specific activities, whether existing projects or new proposals (refer to **Appendix 3** for additional details on how these items will be monitored):

- Oil and gas wells and development facilities
- Coal mines

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**Disturbance Cap**

- Wind developments (e.g., towers, sub-stations, etc.)
- Solar fields
- Geothermal development facilities
- Mining (active locatable, nonenergy leasable and saleable/mineral material developments)
- Roads (transportation features with a maintenance intensity of level 3 or 5 – refer to BLM Technical Note 422 – Roads and Trails Terminology, 2006 or as updated (does not include two-tracks)
- Railroads
- Power lines
- Communication towers
- Other vertical infrastructure, as well as developed rights-of-way with habitat loss (e.g., pipelines)
- Coal bed methane ponds (at the project scale)
- Meteorological towers (e.g., wind energy testing) (at the project scale)
- Nuclear energy facilities (at the project scale)
- Airport facilities and infrastructure (at the project scale)
- Military range facilities and infrastructure (at the project scale)
- Hydroelectric plants/facilities (at the project scale)

Where such data are available, this disturbance is measured by the footprint of direct disturbance of the PHMA area where habitat is removed (including staging areas, dispersed structures, parking lots, equipment storage areas, etc.), or by the distance between the outermost lines for transmission lines. When considering new project proposals, any project associated with the above list that has been approved/authorized but not yet constructed should be treated as though it were already constructed when calculating the disturbance cap to account for authorized but not yet constructed disturbance. No other activities or actions beyond those listed in the above list are included when calculating the cap (e.g., wildfire, agriculture, vegetation treatments, residences, barns, fencing or range improvements, etc.). A disturbed area is included in the numerator until it has been restored to provide equal or improved habitat function as was provided by the area before the disturbance. BLM will coordinate with State agencies and use available HAF and land health data in determining if the habitat function of an area has been restored.

Consistent with the BLM's responsibility to consider cumulative impacts when making decisions for activities on public lands, the disturbance percentage includes acres from the above disturbances regardless of land ownership, where such data are available. This will only inform decision-making on public lands and cannot impact private property rights.

Wildfire and agriculture will not be included in the numerator at the HAF Fine Scale.

<u>Denominator</u>
At the project scale, the assessment area (denominator) is determined by identifying the extent of the GRSG PHMA that supports the GRSG population potentially affected by the proposed project that is also located in PHMA ; it is not to be limited to the area where indirect impacts are anticipated. The project scale denominator should include the PHMA used by the potentially affected local GRSG population, including the associated seasonal habitats and the transition zones between those habitats (only within PHMA) associated with where the project is proposed.

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| **Disturbance Cap** |
| If sufficient monitoring information is not available to identify the portions of the PHMA used by the potentially affected local GRSG population, identify project level boundaries using an approach similar to the DDCT approach developed by the State of Wyoming: 1) Determine potentially affected active leks by placing a 4-mile buffer around the proposed area of physical disturbance related to the proposed project. All active leks located within the 4-mile project buffer and within PHMA will be considered affected by the project. 2) Next, place a 4-mile buffer around each of the affected active leks. 3) All PHMA within the 4-mile project buffer, combined with the 4-mile lek buffer(s), creates the project analysis area for each individual project, absent other monitoring data. If there are no active leks within the 4-mile project buffer, the project scale analysis area will be that portion of the 4-mile project buffer within PHMA. "Pending leks" and other similarly defined state-based lek categories can be considered as active leks based on inclusion from the state wildlife agency or appropriate state authority.<br><br>At the HAF Fine Scale, the assessment area (denominator) is the acres of PHMA within the boundaries of the HAF Fine Scale habitat delineation area. Calculation of the 3% cap will include all acres of PHMA in the Fine Scale area as the denominator.<br><br>At either scale, all areas in PHMA will be included in the denominator unless specific information documents otherwise (i.e., seasonal habitat maps for the HAF Fine Scale assessment area). Any potential areas that are unsuitable at the HAF site scale are treated neither as habitat nor disturbance, which results in the area being removed from the denominator piece of the formula.<br><br>The denominator includes all lands (regardless of land ownership) to help the BLM consider the cumulative impacts of disturbances on GRSG when considering projects on public lands.<br><br>**Disturbance Cap Exceptions**<br>Authorized Officer may consider projects on public lands that could result in exceeding the disturbance cap across all ownership at the **<u>project scale</u>** only if the project meets the criteria for one of the following categories of exceptions and also meets the following conditions applicable to that exception:<br><br>**Categories** for **Disturbance Cap Exceptions:**<br>a. If the disturbance is associated with the renewal or re-authorization of existing infrastructure in previously disturbed sites or expansions of existing infrastructure that do not result in new direct, indirect, or cumulative impacts on GRSG and its habitat, and is documented.<br>b. If a technical team evaluates and concludes site-specific GRSG habitat and population information, combined with project design elements – including compensatory mitigation, indicates the proposed project is expected to improve the condition of GRSG habitat within the proposed project analysis area. The technical team should consist of, at a minimum, a BLM field office biologist and a biologist from the appropriate State agency. The methods, rationale, and data used in developing recommendations shall be retained as part of the project record.<br>c. If the disturbance is within an RMP designated utility corridor~~s~~, the disturbance cap may be exceeded if site specific NEPA analysis indicates doing so will decrease impacts to GRSG habitat in comparison to siting a project outside the designated corridor. This exception is limited to projects that fulfill the use for which the corridors were designated (e.g.,, transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location. The disturbance cap cannot exceed 3% at the HAF fine scale. (Note: A plan amendment will be required for the development of new corridors and as necessary, will need to appropriately address any changes in the disturbance cap.)<br>d. If the environmental review document(s) explains how the GRSG RMP goals and objectives will be met, including compliance with the RMP's GRSG mitigation strategy (described in this table) of avoidance first (e.g., locating the proposed projects outside PHMA, colocation within footprint of existing disturbance, etc.), then minimization (including application of RDFs, etc.) with appropriate documentation. The environmental review document must also |

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consider the cumulative effects of other exceptions granted in adjacent project scale units. If avoidance is not possible and minimization does not address all direct, indirect, and cumulative impacts, compensatory mitigation can be considered, in coordination with the appropriate State agency.

**If one or more of the exception criteria can be met, the activity associated with the disturbance must also meet all of the following conditions in order to be permitted:**

a. If the exception relies on compensatory mitigation:
    1. the mitigation must be completed prior to the disturbance that results in the exceedance of the disturbance cap and provide the same or better value habitat based on site limitations, or better based on site limitations,
    **AND**
    2. The compensation must be implemented in the same HAF Fine Scale unit as the potential development. Consideration may be given to providing compensatory mitigation in adjacent fine-scale HAF areas if doing so will more effectively provide the offsetting benefit.

b. All disturbance cap exceptions MUST have concurrence from the State Director.

c. If proposed disturbance cap exception is requested in an area (neighborhood lek cluster or as appropriate an alternative adaptive management unit) that has met one of the adaptive management thresholds, no exceptions to the disturbance cap at the project scale will be considered until the causal factor analysis is completed and cause identified and corrected unless the disturbance is needed for the protection of human life and safety, as concurred by the State Director.

d. All disturbance cap exceptions will be tracked by the BLM state sage-grouse lead and provided for cumulative analyses for any proposed development within the same neighborhood cluster or appropriate biological area. All requests for the use of compensatory mitigation to exceed the disturbance cap should be reviewed by the technical team for likelihood of success and efficacy of offsetting impacts to the affected habitats and associated populations.

e. There will be no exceptions to the 3% PHMA disturbance cap at the **HAF Fine Scale** in any state unless:
    i. The disturbance is needed for the protection of human life and safety, as concurred by the State Director.

f. All HAF Fine Scale disturbance cap exceptions approved by the State Director will be tracked by the BLM State sage-grouse lead.

g. In the event of a conflict between the project scale and HAF fine scale disturbance caps, the Authorized Officer may consider and grant an exception to the disturbance cap at the HAF fine scale if, in coordination with the appropriate State agency, it is determined that the impact to GRSG of the habitat disturbance resulting in the disturbance cap being met is better assessed at the project scale.

h. Apply the disturbance cap to the extent consistent with applicable law (such as the Mining Law of 1872) and valid existing rights.

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| **Adaptive Management** |
| **Objective:** Address unanticipated negative impacts to GRSG from potential changes in habitat conditions before consequences become severe or irreversible.<br>**Allocation:** N/A<br>**Management Direction:**<br>**Management Action:** The BLM must consider the best available information regarding habitat and population thresholds. This includes state wildlife agency population trend analyses; annual population trend results published using the Hierarchical Population Monitoring Framework (specifically the Targeted Annual Warning System procedures [TAWS]; Coates et al., 2021) and subsequent updates or revisions; geospatial data sources for habitat degradation such as Rangeland Condition Monitoring Assessment and Projection (RCMAP) and LandFire; and any scientifically defensible future tools that support understanding of habitat and population trends. The BLM will produce an annual summary of any adaptive management thresholds reached and associated response. An annual review of habitat and population information between the BLM and associated state wildlife agency and other appropriate state authorities is encouraged even if no thresholds are identified.<br><br>**Adaptive Management Units:**<br>To accurately assess any anomalies or thresholds being met, and any necessary responses, monitoring of habitat and population trend should be evaluated at the same scale. The BLM will use neighborhood clusters identified by USGS (Coates et al., 2021) to track habitat conditions and population trend analyses. A neighborhood cluster generally represents a GRSG population unit and includes local aggregations of leks and the seasonal habitats used by GRSG attending those leks. Habitat trends can also be monitored at smaller scales (e.g., lek level) as identified by state wildlife agency plans for GRSG, or at larger scales such as the Habitat Assessment Framework (HAF) Fine-Scale if appropriate. Neighborhood clusters are generally nested within the HAF Fine-Scale unit, though some exceptions occur. The causal factor analysis (CFA) should list the analysis units relevant to the threshold in question. The response required to address thresholds may need to be addressed at multiple scales.<br><br>**Habitat Adaptive Management Thresholds:**<br>1. A soft habitat threshold is met when any single occurrence or combination of occurrences in PHMA in a neighborhood cluster result in the loss of more than 5% of the area capable of supporting sagebrush (sagebrush extent) in a given year (including wildfire). Where a neighbor cluster overlaps with more than one habitat designation (e.g., PHMA and GHMA) the percent habitat loss will be calculated on the PHMA only. Baselines for calculating sagebrush loss will be determined by the sagebrush base layer delineated using the most recent LandFire data (detailed in **Appendix 3**) available at the time of publication of the Approved RMPA and ROD.<br>2. A hard habitat threshold will be met when existing sagebrush extent, as described in the first bullet, within a neighborhood cluster drops below 65% of the area capable of supporting sagebrush (Aldridge et al., 2008; Connelly et al., 2000).<br>3. A hard habitat threshold will also be met if a soft habitat threshold is met (as calculated from baseline described above) in 4 consecutive years (≥5% decline in each of 4 consecutive years). A hard threshold is also reached if the management area experiences both a soft habitat and soft population threshold.<br><br>A hard or soft habitat threshold can be reversed if restoration of sagebrush vegetation communities within the neighborhood cluster returns to the sagebrush conditions and/or habitat function that existed prior to meeting a habitat threshold. The assessment to reverse a habitat threshold should occur in collaboration with the state wildlife agency and other appropriate state authorities. If the neighborhood cluster cannot be restored to original sagebrush conditions and/or habitat function due to ecological or disturbance limitations (e.g., intense fire killed soil microfauna, dense anthropogenic activities) restoration and/or habitat enhancement in adjacent neighborhood clusters can be considered to increase the number of GRSG supported in those areas. In these situations, habitat |

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| **Adaptive Management** |

threshold reversal occurs when there are sufficient numbers of GRSG (abundance) to allow for recovery of regional population numbers to those present at or before the threshold was met as described below. This will be done in coordination with appropriate state agencies.

If enhancing habitats in adjacent areas does not reverse the threshold further assessment may be necessary to determine if the area in which the habitat threshold was met should still be considered GRSG habitat.

**Population Trend Adaptive Management Thresholds:**
State wildlife agencies and other appropriate authorities should alert the BLM to population concerns as determined by the entity's internal assessments. The BLM will also review the annual results of TAWS and other available scientific information (including other tools included in the USGS Sage-Grouse Population Monitoring Framework) examining population trends in PHMA in determining if those trends indicate potential habitat concerns. Since State wildlife agencies receive lek specific information from TAWS and the other tools contained in the USGS Sage-Grouse Population Monitoring Framework, in advance of the publicly released neighborhood cluster analyses used by the BLM, they can also provide early alert to the BLM when population thresholds (soft or hard) are met to initiate a causal factor analysis. (Note: the BLM does not receive lek specific information from TAWS, nor is it included in the annual publication on neighborhood cluster analyses). If a threshold is identified, the BLM (including the Authorized Officer) and the state wildlife agency will coordinate to confirm that data presented indicate that a threshold has been met, preferably within 60 days to allow a nimble response to a habitat causal factor. If the identified threshold was in error, the data supporting reversal of the threshold will be documented. If there is disagreement in the analyses, BLM and the state wildlife agency will coordinate to identify the source of the error and document all discussion. If there is still disagreement, the finding will be elevated to the appropriate BLM State Director who will work in coordination with the BLM State and National GRSG coordinator, and local BLM field biologist as needed to determine if a causal factor team should be convened to determine if any potential underlying habitat factor may be contributing to the population trend anomaly. The BLM State Director will then advise the state wildlife agency head of the BLM recommendation.

**Interpretation of TAWS model results will be as follows:**

1. A soft population trend threshold is equivalent to a TAWS watch (a 2 consecutive year, negative rate of population change at the neighborhood cluster that shows a population decline that is either different or more rapid than that of the associated climate cluster; Coates et al., 2021).
2. A hard population trend threshold is equivalent to a TAWS warning (a 2 out of 3 (fast) or 3 out of 4 (slow) consecutive year negative rate of population change at the neighborhood cluster that is either different or more rapid than those of the associated climate cluster; Coates et al., 2021).

**A hard or soft population trend threshold can be reversed if the following criteria are met:**

1. Population trends at the neighborhood cluster scale realigns for a minimum of three consecutive years with the climate cluster trend as indicated by the TAWS model (i.e., no longer a TAWS "watch" or "warning"); OR
2. There are sufficient numbers of GRSG (abundance) to allow for recovery of population numbers to those present at or before the threshold was met, based on local growth rates determined by the state wildlife management agency, and BLM has the concurrence of the state wildlife management agency and other appropriate state authorities; **OR**
3. The BLM and partners determine the threshold alert was in error. Data and other information supporting reversal of the threshold will be documented.

Determination of population threshold reversal should be done in close coordination with state wildlife agency personnel. Data and rationale for reversing a population threshold will be documented.

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| **Objectives, Allocations, and Management Direction** |
| **Adaptive Management** |
| **Causal Factor Analysis:**<br>If a habitat or population threshold is met the BLM, along with state wildlife management personnel and other stakeholders with knowledge of local conditions will initiate an assessment as soon as alerted to a threshold being hit to determine the causal factor(s). The composition of the CFA team will be determined at the implementation level, and should minimally include the local BLM biologist, BLM state sage-grouse lead, and a representative from the state wildlife agency. Additional subject matter experts and other affected parties can be added as necessary for individual site-specific analyses or as consistent with existing CFA team structures. The analysis shall be detailed in a written report that includes but is not limited to descriptions of existing land uses, landownership patterns, history of population and habitat trends in the area, condition of the habitat, cause(s) of habitat and/or population decline, recommendations of management actions to address the potential causes of decline, and the data and expertise used to reach conclusions presented in the report. Any substantive disagreements between CFA team members will be noted in the report along with the basis for the disagreement. The report will be submitted to the local BLM manager, the BLM state sage-grouse lead in the state(s) the threshold was met, and the BLM National GRSG coordinator as well as all members on the CFA team as soon as the analyses are complete.<br><br>**Adaptive Management Responses:**<br>When any adaptive management threshold is met, (and population thresholds confirmed with the state wildlife agency) a rapid assessment may be completed to identify "obvious" causes. Obvious causes are those easily identified such as a large wildfire or other discrete event. If the rapid assessment identifies the cause, a formal CFA will not be needed. Rapid assessments can be conducted by the BLM or appropriate state agency, or both, but results should be confirmed by all. Documentation of the cause will be submitted to the local BLM manager, the BLM state sage-grouse lead in the state(s) the threshold was met, and the BLM National GRSG coordinator as well as all members on the CFA team. Existing permitted activities and new discretionary activities in the affected areas can continue unless those activities are causing mortality to GRSG or direct loss or degradation of occupied GRSG habitat.<br><br>If an obvious causal factor cannot be identified in the rapid assessment, a CFA to identify potential causes of the adaptive management threshold being met will be completed on a timeframe established by the CFA team, but not longer than 12 months from the initial alert. If a soft threshold is met, new discretionary activities can be considered during the completion of the CFA as long as those activities do not result in mortality of GRSG or GRSG habitat loss and degradation. However, if a CFA for a soft threshold is not completed within the established time frame, no new discretionary activities will be authorized after that time until a CFA is completed, as legally allowed. New authorizations, or reauthorization of existing permits can then be considered if similar activities were not contributing to factors resulting in meeting either a population or habitat threshold. Project level NEPA will specifically evaluate if the new permitted activity could result in the threshold being sustained or met again.<br><br>If a hard threshold is met no new proposed permitted activities will be authorized until a CFA is completed. Project level NEPA will then specifically evaluate if the new permitted activity could result in additional or cumulative impacts to GRSG.<br><br>The CFA team can alter the level of the threshold met (soft to hard, or hard to soft) based on their review and if supported by local data. For example, habitat loss of 5% results in a soft threshold, but if the loss is of limited crucial habitat (e.g., the only winter or mesic habitat in the neighborhood cluster) the CFA team can request hard threshold management responses be implemented. Similarly, a local assessment of habitat loss meeting a hard threshold may be reversed if the loss is of marginal areas, or areas documented as not supporting GRSG. These threshold reversals must be supported by data and fully detailed in a written report. Final determination of the reversal will be made by the authorizing officer, in consultation with the local CFA team. The CFA team can expand the analysis and management response to adjacent neighborhood clusters based on their review. For example, migratory populations that utilize multiple neighborhood |

| Approved RMP Amendment for PHMA<br>Objectives, Allocations, and Management Direction |
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| **Adaptive Management** |

clusters may require increased protection during other seasonal habitats and use areas to reverse population declines. The CFA team should also identify if a threshold is met as the result of actions on non-BLM lands that negatively affect habitat or populations on BLM lands.

If the CFA identifies the cause for habitat or population declines BLM will modify any permitted activity identified as a causal factor, as legally allowable to reduce, mitigate or eliminate the impact on BLM lands in coordination with the permit holder. Monitoring of the affected habitat or population (or both if appropriate) will be necessary to assess the efficacy of the modification. For new authorizations project level NEPA will specifically evaluate if the proposed new activity could result in contributing to sustaining the threshold or result in the threshold being met again. New authorizations may be subject to more restrictions appropriate for the specific resource, as determined necessary by local information.

**Exceptions to limitations imposed for exceeding thresholds include**:

1. Renewal of existing activities that require a permit if:
   a. The activity is scheduled within 60 days of when a threshold is met and identified, and
   b. The project proponent can show significant negative economic impacts (i.e., documented loss of income equivalent to the income potential of the event), and
   c. The renewal can only be considered if it does not result in known impacts to habitats or populations.
2. Activities essential for human health and safety in a current or likely catastrophic event (e.g., repair of dams, emergency vehicle access).
3. ES&R activities essential to restoration after a wildfire.
4. Livestock grazing permits that will expire within the same year the threshold is identified. A permit or lease to extend the current livestock grazing practice for less than 10 years may be renewed until the causal factor analysis is completed. If livestock grazing is not determined as a causal factor to an adaptive management threshold, livestock grazing permit or lease renewal can proceed normally. If livestock grazing is a contributing cause to an adaptive management threshold, the terms and conditions of the livestock grazing permit or lease will need to be examined and modified to reduce or eliminate the impact.
5. Continuing the terms and conditions for livestock grazing when a permit or lease has expired or was terminated due to a livestock grazing preference transfer in accordance with Section 402(c)(2) of the FLPMA as amended by Public Law No. 113-291.

BLM will work with proponents identified in the above exceptions to reduce potential impacts on GRSG habitats.

If the neighborhood in which a population trend threshold is met is 50% or greater GHMA, lek level threshold analyses should be conducted to determine which leks are contributing to the trend deviation. If meeting the threshold is the result of lek attendance declines entirely within GHMA new permits can be considered prior to completing a CFA if that activity is not in conflict with any GHMA designation identified by the state wildlife agency (restoration, connectivity, seasonal, or other), and if that activity will not negatively impact habitats or populations in the adjacent PHMA. If a reduction in the ability for the habitat to support GRSG occurs as a result of habitat impacts, additional restrictions may be necessary to preclude further habitat losses. Local responses to thresholds in GHMA can be considered if deemed necessary by the BLM and the appropriate state agency. A similar analysis will be conducted if a neighborhood cluster covers mixed landownerships. If the threshold is the result of habitat conditions on non-BLM administered lands, new authorizations can be considered if the activity will not negatively impact habitats or populations in the adjacent lands or contribute to indirect or cumulative impacts.

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| **Objectives, Allocations, and Management Direction** |
| **Adaptive Management** |
| The restrictions from meeting soft or hard habitat or population trend thresholds will be removed once the criteria for reversing the threshold, described above are met. If a threshold is met as the result of actions on adjacent non-BLM lands, new authorizations can be considered if the activity will not negatively impact habitats or populations or contribute to indirect or cumulative impacts. Habitat improvement projects should also be considered if likely to reverse the threshold.<br><br>**Habitat Threshold due to Wildfire**:<br>If wildfire results in a habitat threshold being met, an assessment of the impact on affected GRSG habitat will be conducted by BLM staff and appropriate state agency personnel to determine the actual extent of habitat loss (which can include an assessment of burn severity – did the wildfire burn hot enough to kill the sagebrush) within the wildfire perimeter. This review may be done in addition to any BLM ESR review. No new discretionary authorizations that will result in additional habitat loss within PHMA in affected neighborhood clusters will be authorized until the assessment of habitat impacted is completed (this can include the initial rapid assessment if the results indicate the threshold can be reversed). If the assessment indicates wildfire severity is such that habitat services (the ability of the area to provide food, cover, water, and connectivity at the time just prior to the wildfire) for GRSG within the wildfire perimeter remain and the area can support the same abundance of GRSG that was present prior to the wildfire the threshold will be considered reversed. If habitat assessment determines the PHMA influenced by the wildfire can no longer support GRSG populations at levels prior to the wildfire, new infrastructure projects or permits may be deferred if consistent with applicable law (such as the Mining Law of 1872), and valid existing rights until an assessment demonstrates the habitat can support GRSG at the levels that existed prior to the wildfire event have been restored. Authorizations may be considered if the proposed project will have no direct or indirect impact to GRSG or their habitats.  The associated determination must be documented in a report to the BLM state sage-grouse lead, the BLM state director and the National BLM GRSG coordinator. If the wildfire event precludes restoration to GRSG habitat permanently, further assessment may be necessary to determine if the area should still be considered GRSG habitat.<br><br>**Multi-factorial CFAs:**<br>Where there are multiple potential causes identified the BLM may consider implementing additional restrictions specific to the identified causes on existing or new authorizations in the area, consistent with permits/surface use rights in coordination with the permit holder and the state wildlife management agency and other appropriate state authorities. Any restrictions will be determined by the authorizing officer, with the documented biological rationale from BLM field biologists. In addition to considering project-level restrictions, the BLM should direct habitat improvement projects specific to the causes identified to the neighborhood cluster and surrounding clusters.<br><br>**Inconclusive CFAs:**<br>If no cause for a habitat or population decline can be determined the BLM may consider implementing additional restrictions on existing or new authorizations in the area, consistent with permits/surface use rights in coordination with the permit holder and the state wildlife management agency. Any restrictions will be determined by the authorizing officer, with the documented biological rationale from BLM field biologists. Following Inconclusive CFAs, the CFA team should monitor the area and include any new or_changing information in the annual adaptive management report or as an addendum to the CFA. New authorizations must disclose a threshold has been met and consider the proposed activity's potential cumulative impact to either the habitat or population trend (dependent on which threshold has been met). In addition to considering project-level restrictions, the BLM should direct habitat improvement projects to the neighborhood cluster and surrounding clusters. CFAs that are not completed within the time frame identified by the CFA team will not be considered inconclusive and should be prioritized for completion. |

| Approved RMP Amendment for PHMA<br>Objectives, Allocations, and Management Direction |
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| **Criteria Based Management for Non-Habitat** |
| **Objective:** N/A<br>**Allocation:** (no allocation identified but allocations can be affected if non-habitat criteria are met)<br>**Management Direction** (can affect HMA allocation and management direction, see Tables above):<br>Habitat management areas include areas where the BLM will apply goals, objectives, and management actions for conservation of GRSG. The HMAs are identified using inventory data on habitat use and occupancy and reflect the dynamic nature of the vegetation communities that make-up GRSG habitat. The HMA boundaries are not identified using survey-grade assessments (e.g., comprehensive on-the-ground surveys and edge verifications) and, in some states, are the result of large-scale modeling. Therefore, not every acre within an HMA boundary may be GRSG habitat. Additionally, because GRSG habitat use and occupancy and vegetation communities are dynamic, the BLM will use up-to-date high-quality information, including through field investigations, where appropriate, to make adjustments to the management actions to be applied within identified HMA boundaries. In accordance with existing law, regulation and policy, inventories will continue to be conducted to provide information on GRSG habitat and distribution (BLM Manual 6840 .04 D 3; BLM-M-6840 .04 E 2).<br><br>In the mapped GRSG HMAs, there may be areas of non-habitat (areas that lack the ecological potential to provide principal habitat components necessary to support GRSG) and where conformance with the RMP will not support GRSG conservation (refer to **Appendix 6, Glossary** for definitions for existing habitat, potential habitat, and non-habitat). If during consideration of a proposed action (project level authorization) within GRSG PHMA or GHMA, potential non-habitat is identified by the BLM, a project-specific review should be conducted by a BLM biologist (or reviewed and accepted for confirmation). This review should use published, scientific methods (preferably more than one) for identifying GRSG habitat (e.g., Stiver et. al. 2015 [as revised], NRCS ecological site descriptions (ESDs) and associated state and transition models) and be coordinated with the appropriate state agencies. Any discrepancies between the mapped GRSG HMAs and the site-specific conditions will be disclosed, with supporting data (e.g., vegetation monitoring, state and transition models, ecological site descriptions, etc.) and analyzed as a component of the NEPA process. However, indirect and direct impacts to adjacent GRSG populations and their habitats (including potential habitat) still need to be considered when planning and authorizing projects in these non-habitat areas.<br><br>All management objectives and decisions associated with each management area type will apply unless all the following criteria are documented:<br>1. Project is proposed in verified non-habitat.<br>2. There are no indirect impacts to adjacent habitat or individual or populations of GRSG occupying these adjacent areas due to project design and required design features (e.g., minimize noise, preclude tall structures, require perch deterrents, etc.), as demonstrated in the project's NEPA document. Indirect impact consideration includes the following:<br>(1) The project does not impact connectivity,<br>i. Within or between populations,<br>ii. Between seasonal habitats (e.g., nesting, early brood rearing, winter, etc.), or<br>iii. Within or between existing habitat.<br>3. Any project related access through/across GRSG habitat (as verified through site-specific field checks) only occurs on existing routes, and the proposed action will not include new roads or upgrades to roads that will change the vehicle use, vehicle type, or traffic volume during the applicable season of GRSG use, subject to valid existing rights, throughout all stages of the proposed project.<br>4. Coordination with the appropriate state and federal agency biologists and other appropriate staff has been documented. If coordination is not possible the reasons will be documented.<br><br>All proposed actions, including those in the same area, will need to undergo individual analysis to confirm the criteria are met prior to authorization. Exempting a proposed project from the management actions that will otherwise be required in a GRSG habitat management area identified on the maps in this RMPA because |

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| **Objectives, Allocations, and Management Direction** |
| **Criteria Based Management for Non-Habitat** |
| the proposal has been determined to be in non-habitat, based on the above criteria, will not change the GRSG habitat management area boundaries as identified in the RMP.<br><br>The determination to exempt a proposed project from the management actions that will otherwise be required in the GRSG habitat management area identified in maps in this RMPA, when supported by science and consistent with the criteria above, may only be made by the Authorized Officer. However, if there is not concurrence between the coordinating federal and/or state wildlife biologists, then the determination will be at the discretion of the BLM State Director. |
| **Definition of Lek** |
| **Objective:** N/A<br>**Allocation:** N/A<br>**Management Direction:** Use the Western Association of Fish and Wildlife Agencies (WAFWA) lek definitions (Cook et. al., 2022). (Refer to **Appendix 6, Glossary**). Unless otherwise specifically noted, when language in the RMPs uses the term “lek” it applies to the WAFWA definition for “active lek” and “pending active lek”. |

## Table 2. General Habitat Management Area (GHMA) Objectives, Allocations, and Management Direction

This table identifies the objectives, allocations, and management direction and that will be applied in GHMA. The table describes if the Approved RMP Amendment is amending the "objective", "allocation", or "management direction" for the resource topic identified. In some instances, the Approved RMP Amendment addresses all three of these planning categories for a resource topic while in other resource topics only one or two of the categories are amended. All three planning categories are identified for each resource topic and if it is not being amended it will be identified as "N/A", not applicable. In those "N/A" instances, the 2015 or 2019 Amendment decision remains in place. The existing 2015 and 2019 Amendment decisions are described in **Appendix 2**.

Maps that show where the allocations and management direction apply can be found in **Appendix 1**, Tables and Maps.

| **Approved RMP Amendment for GHMA** |
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| **Objectives, Allocations, and Management Direction** |
| **Utility Scale Solar** |
| **Objective:** N/A<br>**Allocation:** GHMA is avoidance for utility scale solar testing and development.<br>Testing and development within GHMA may only occur if the following three exception criteria are met:<br>1. The area is determined to be non-habitat or unsuitable, lacks the ecological potential to become marginal or suitable habitat, and does not provide important connectivity between habitat areas (as determined by a qualified biologist and confirmed by the BLM using criteria such as the Habitat Assessment Framework and coordinated with appropriate state authority) and/or topography or areas of non-habitat create an effective barrier to impacts.<br>2. The project should be designed to prevent indirect disturbance to or disruption of adjacent seasonal habitats.<br>3. Infrastructure as proposed or conditioned (including disturbance cap and mitigation requirements) will not impair habitat use by GRSG (as determined in coordination with state wildlife agency) and will meet the RMP GRSG goal and habitat objectives.<br>**<u>OR</u>**<br>1. If co-location of the proposed authorization with existing disturbance will result in no additional impacts to those already associated with the existing major infrastructure, including indirect disturbance to or disruption of adjacent seasonal habitats.<br>To approve an authorization based on any of the above exception criteria, after coordination with the BLM State Office and appropriate State agency, the Authorized Officer must document that the proposed action satisfies the criteria listed above. If the State agency does not concur with granting the authorization, the Authorized Officer must provide rationale for how the criteria are met considering the information the State provides.<br>**Management Direction:** N/A |

| Approved RMP Amendment for GHMA<br>Objectives, Allocations, and Management Direction |
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| **Utility Scale Wind** |
| **Objective:** N/A<br>**Allocation:** GHMA is avoidance for utility scale wind testing and development (including met towers). Testing and development within GHMA may only occur if the following three exception criteria are met:<br>1. The area is determined to be non-habitat or unsuitable, lacks the ecological potential to become marginal or suitable habitat, and does not provide important connectivity between habitat areas (as determined by a qualified biologist and confirmed by the BLM using criteria such as the Habitat Assessment Framework and coordinated with appropriate state authority) and/or topography or areas of non-habitat create an effective barrier to impacts.<br>2. The project should be designed to prevent indirect disturbance to or disruption of adjacent seasonal habitats.<br>3. Infrastructure as proposed or conditioned (including disturbance cap and mitigation requirements) will not impair habitat use by GRSG (as determined in coordination with state wildlife agency) and will meet the RMP GRSG goal and habitat objectives.<br>**OR**<br>1. If co-location of the proposed authorization with existing disturbance will result in no additional impacts to those already associated with the existing major infrastructure, including indirect disturbance to or disruption of adjacent seasonal habitats.<br>To approve an authorization based on any of the above exception criteria, after coordination with the BLM State Office and appropriate State agency, the Authorized Officer must document that the proposed action satisfies the criteria listed above. If the State agency does not concur with granting the authorization, the Authorized Officer must provide rationale for how the criteria are met considering the information the State provides.<br>**Management Direction:** N/A |
| **Fluid Minerals (including Geothermal)** |
| **Management Objective:** Manage fluid mineral leasing and development (including geothermal) in GRSG habitat management areas to avoid, minimize, and compensate for adverse impacts to GRSG habitat to the extent practical under the law and BLM jurisdiction.<br><br>**Allocation:** Open to fluid mineral leasing with moderate constraints, including controlled surface use (CSU), and timing limitation (TL) stipulations (same as 2015 RMP Amendment). Areas within 1.0 mile of an active or pending active lek within GHMA will be open to leasing fluid minerals subject to NSO stipulations. Apply Fluid Mineral Stipulations, identified in Oregon 2015 RMP Amendment, Appendix G.<br><br>**Management Direction**: Same management direction as identified in 2015 RMP Amendment.<br><br>**NSO Exception**<br>The Authorized Officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, will not impair the function or utility of the site for the current or subsequent seasonal habitat, life-history, or behavioral needs of GRSG due to site-specific terrain and habitat features, such as topographic features that will reduce the habitat impacts by shielding nearby habitat from disruptive factors.<br>An exception could also be granted if it can be demonstrated by a qualified biologist and confirmed by the BLM, based on site-specific information (using State mitigation tools such as Habitat Equivalency Analysis or Habitat Quantification Tool, or other State mitigation programs), that the impacts anticipated by the proposed activity will be offset through compensatory mitigation developed in coordination with the appropriate State agency that meets principles of GRSG compensatory mitigation identified in the RMP, including providing for no net loss of habitat.<br><br>**NSO Modification**<br>No modifications to NSO. |

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**Objectives, Allocations, and Management Direction**

**Fluid Minerals (including Geothermal)**

**NSO Waiver**
This stipulation may be waived for a specific lek if, in coordination with the appropriate State agency, it is determined that the GRSG lek that was active has been classified as inactive as determined by the WAFWA definitions and confirmed by the appropriate State agency. Prior to waiving the stipulations, surveys should confirm that the lek is inactive and not moved to another location in the vicinity. Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

**Seasonal Constraints/Stipulations**

**Season Constraints/Stipulations Exception**
The Authorized Officer may consider and provide temporary relief from seasonal constraints by granting an exception after documenting the review of available information associated with the site proposed for the exception. This direction applies in PHMA, GHMA, and all other state identified HMAs. While the BLM considers information from all sources, the State wildlife agency can provide information directly associated with bird use, including whether GRSG populations are not using the seasonal habitat during that year's seasonal life cycle period if available. Based on this information and recommendation, and documented variability in climatic conditions (e.g., early/late spring, long/heavy winter), use patterns, or other applicable information the Authorized Officer may consider a one-time exception if development associated with it will not affect GRSG habitat use.

**Season Constraints/Stipulations Modifications**
The BLM can and does grant modifications to seasonal restrictions if the BLM, in coordination with the state wildlife agency and other appropriate state authorities on a case-by-case basis, determines that granting the modification will not adversely impact the population being protected. The authorized officer may consider and grant a modification to the dates and areas associated with seasonal timing restrictions based on the criteria described below – after documenting the review of available information associated with the site proposed for the modification, if: The geographic and temporal conditions demonstrate that any modification (shortening/extending seasonal timeframes) is justified on the basis that it serves to better protect or enhance GRSG and its habitat than if the strict application of seasonal timing restrictions are implemented. Under this scenario modifications can occur if one or more of the following conditions can be documented:

- A proposed authorization is expected to have beneficial or neutral impacts on GRSG and its habitat.
- Topography or other factors eliminate direct and indirect impacts from visibility and audibility to GRSG and its habitat.
- There are documented local variations that indicate the seasonal life cycle periods are different than presented.
- Modifications are needed to address an immediate public health and safety concern in a timely manner (e.g., maintaining a road impacted by flooding).

**Season Constraints/Stipulations Waiver**
The Authorized Officer may consider and grant a waiver of the stipulation on an existing lease if the area that was mapped as a GRSG habitat management area (regardless of type) when the lease was issued is no longer mapped as such through the appropriate planning process.

**Saleable Minerals/Mineral Materials**

**Objective:** N/A
**Allocation:** Open.
**Management Direction:** Apply State-specific minimization measures identified in the existing 2015 GRSG amendments (refer to **Appendix 2**).

| Approved RMP Amendment for GHMA |
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| **Objectives, Allocations, and Management Direction** |
| **Nonenergy Leasable Minerals** |
| **Objective:** N/A<br>**Allocation:** Open.<br>**Management Direction:** Apply required design features, best management practices, and minimization measures identified in the existing GRSG amendments (refer to **Appendix 2**) |
| **Locatable Minerals** |
| **Objective:** N/A<br>**Allocation:** Open, unless currently withdrawn.<br>**Management Direction:** N/A |
| **Major Rights of Way** |
| **Objective:** N/A<br>**Allocation:** Avoidance.<br>**Management Direction:** N/A |
| **Minor Rights-of-Way** |
| **Objective:** N/A<br>**Allocation:** Avoidance within breeding, nesting and/or seasonal habitats, otherwise open with minimization and mitigation, if minimization actions are not adequate to offset impacts to GRSG of the minor ROW.<br>**Management Direction:** N/A |
| **Livestock Grazing** |
| Same as PHMA except RM-2 does not apply. |
| **Wild Horse and Burro** |
| Same as PHMA. |
| **Mitigation** |
| Same as PHMA |
| **Predation** |
| Same as PHMA |
| **Disturbance Cap** |
| No GHMA disturbance cap management direction. |
| **Adaptive Management** |
| Same as PHMA |
| **Lek Definitions** |
| Same as PHMA |
| **Criteria Based Management Direction for Non-Habitat** |
| Same as PHMA |

## Table 3. Key Research Natural Areas (RNAs) Objective, Allocations, and Management Direction

This table identifies the Key RNA objective, allocations, and management direction for the 15 key RNAs: Black Canyon key RNA, Dry Creek Bench key RNA, East Fork Trout Creek key RNA, Fish Creek Rim key RNA, Foley Lake key RNA, Foster Flat key RNA, Guano Creek-Sink Lakes key RNA, Lake Ridge key RNA, Mahogany Ridge key RNA, North Ridge Bully Creek key RNA, South Ridge Bully Creek key RNA, Rahilly-Gravelly key RNA, South Bull Canyon key RNA, Spring Mountain key RNA, Toppin Creek Butte key RNA. Maps that show where the objective, allocations, and management direction apply can be found in **Appendix 1**, **Tables and Maps**.

<table>
<tr><th colspan="2">Approved RMP Amendment for key RNAs</th></tr>
<tr><td colspan="2">Key research natural area (RNA). Key RNAs were designated as RNAs, a special type of ACEC in a previous RMP to protect specific intact representative native plant communities. They were identified as “key” RNAs in the 2015 RMP Amendment. These areas are in PHMA and allow for long term vegetation monitoring of relatively unaltered native plant communities important for GRSG. These areas can provide baseline vegetation information on natural processes such as successional changes, and future vegetation shifts in the plant communities from changes in precipitation and temperature. (Please refer to related definition of “baseline reference area” and “relatively unaltered” in the Glossary, Appendix 1). Key RNAs either contain GRSG leks or are within 4 miles of leks and are, or likely are, used for nesting, brood-rearing, foraging, breeding or wintering.<br><br>Objective SD 4: Manage all or portions of key RNAs as baseline reference areas for the sagebrush plant communities they represent that are important to Greater Sage-grouse. Active or passive restoration actions are allowed within key RNAs to support maintenance or improvement of identified vegetation communities and to meet GRSG habitat objectives.</td></tr>
<tr><td colspan="2">Allocation: key RNAs are available, partially unavailable, or unavailable to livestock grazing as described below. The acreages described are intended to give direction at the planning level, but are subject to change during site-specific implementation.</td></tr>
<tr><td>Allocation: The entire key RNA is unavailable to livestock grazing.</td><td>• Foster Flat key RNA (Map 18): The entire 2,687-acre key RNA is unavailable to livestock grazing.<br>• Guano Creek-Sink Lakes key RNA (Map 19): The entire 11,185-acre key RNA is unavailable to livestock grazing.</td></tr>
<tr><td>Allocation: Partially unavailable to livestock grazing.</td><td>For these 8 key RNAs, some portions are unavailable to livestock grazing. All other portions of the key RNAs are available to livestock grazing. See key RNA maps in Appendix I for additional information.<br>• East Fork Trout Creek key RNA (Map 15): 304 of 361 acres within the key RNA are unavailable to livestock grazing.<br>• Fish Creek Rim key RNA (Map 16): 95 of 8,725 acres within the key RNA are unavailable to livestock grazing.<br>• Foley Lake key RNA (Map 17): 797 of 2,228 acres within the key RNA are unavailable to livestock grazing.<br>• Lake Ridge key RNA (Map 20): 13 of 3,857 acres within the key RNA are unavailable to livestock grazing.<br>• Mahogany Ridge key RNA (Map 21): 69 of 444 acres within the key RNA are unavailable to livestock grazing.<br>• Rahilly-Gravelly key RNA (Map 24): 2,025 of 18,678 acres within the key RNA are unavailable to livestock grazing.<br>• South Bull Canyon key RNA (Map 25): 257 of 770 acres within the key RNA are unavailable to livestock grazing.<br>• Toppin Creek Butte key RNA (Map 27): 203 of 3,998 acres within the key RNA are unavailable to livestock grazing.</td></tr>
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| Approved RMP Amendment for key RNAs | |
|---|---|
| **Allocation:** Available to livestock grazing with exclosure. The entire key RNA is available to livestock grazing; a 5-acre or less exclosure allocated as unavailable to livestock grazing will be created. | • North Ridge Bully Creek key RNA (Map 22): The entire 1,569 acres within the key RNA are available to livestock grazing.<br>• South Ridge Bully Creek Key RNA (Map 23): The entire 621 acres available to livestock grazing.<br>• Spring Mountain Key RNA (Map 26): The entire 996 acres available to livestock grazing. |
| **Allocation: Available to livestock grazing.** The entire key RNA is available to livestock grazing: | • Black Canyon key RNA (Map 11): The entire 2,600 acres are available to livestock grazing.<br>• Dry Creek Bench key RNA (Map 12): The entire 1,637 acres available to livestock grazing. |
| **Management Direction:** For North Ridge Bully Creek key RNA, South Ridge Bully Creek key RNA, and Spring Mountain key RNA: Create a 5-acre or less exclosure that will remove livestock use to allow for nonmanipulative research and baseline data gathering within the key RNA or within close proximity to the key RNA to allow for ungrazed comparison areas for evaluating effects of livestock on vegetative communities identified as important for greater sage-grouse. The location, size, and design of the exclosure site will adhere to variations in lek buffers and required designed features as specified in Appendices B and C of the Oregon 2015 RMP Amendment. | |

# Appendices

**Appendix 1 – Table and Maps**

**Appendix 2 – Comparison of Prior Greater Sage-Grouse RMP Management Direction with Approved RMP Amendment**

**Appendix 3 – Greater Sage-grouse Monitoring Framework**

**Appendix 4 – Greater Sage-grouse Habitat Indicators and Benchmarks**

**Appendix 5 – Livestock Grazing Best Management Practices and Design Features and Supplemental Information**

**Appendix 6 – Glossary**

**Appendix 7 – References**

**Appendix 8 – U.S. Fish & Wildlife Service Section 7 Concurrence Memo**

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# Appendix 1

## Table and Maps

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# CONTENTS

**Table:**



**Maps:**

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# Appendix 1. Table and Maps

### Table 1. Habitat Management Area Acreage

Acreage estimates include BLM administered surface acres (BLM Surface) and BLM administered subsurface acres where the subsurface acreage is overlaid by non-BLM surface (BLM Split-estate) calculated in International Acres (rounded to nearest whole) in projection USA Contiguous Albers Equal Area Conic.

| Habitat Management Area | BLM Surface | BLM Split-estate |
|---|---:|---:|
| Priority Habitat Management Area (PHMA) | 5,571,522 | 973,720 |
| General Habitat Management Area (GHMA) | 4,836,157 | 801,631 |
| Total | 10,407,679 | 1,775,351 |

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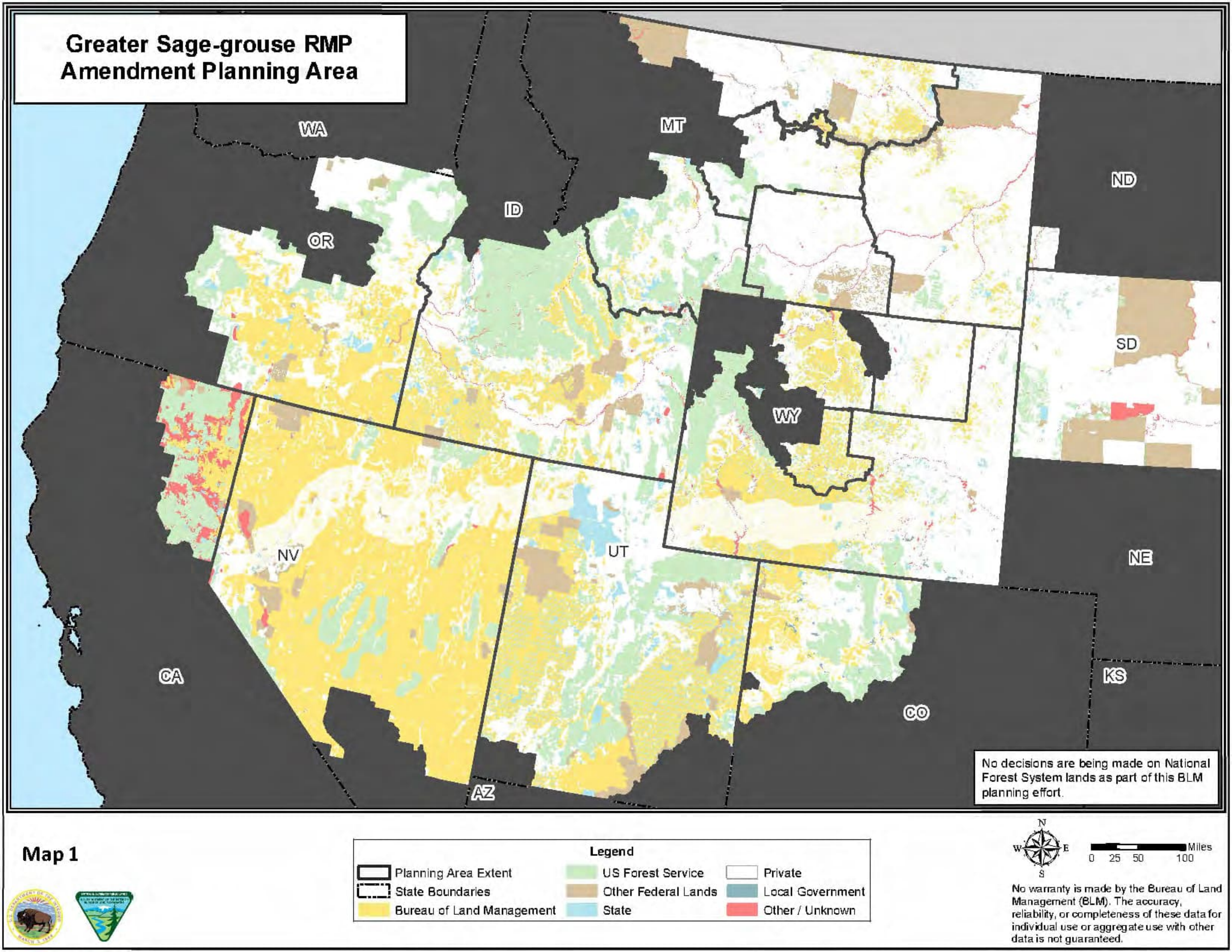
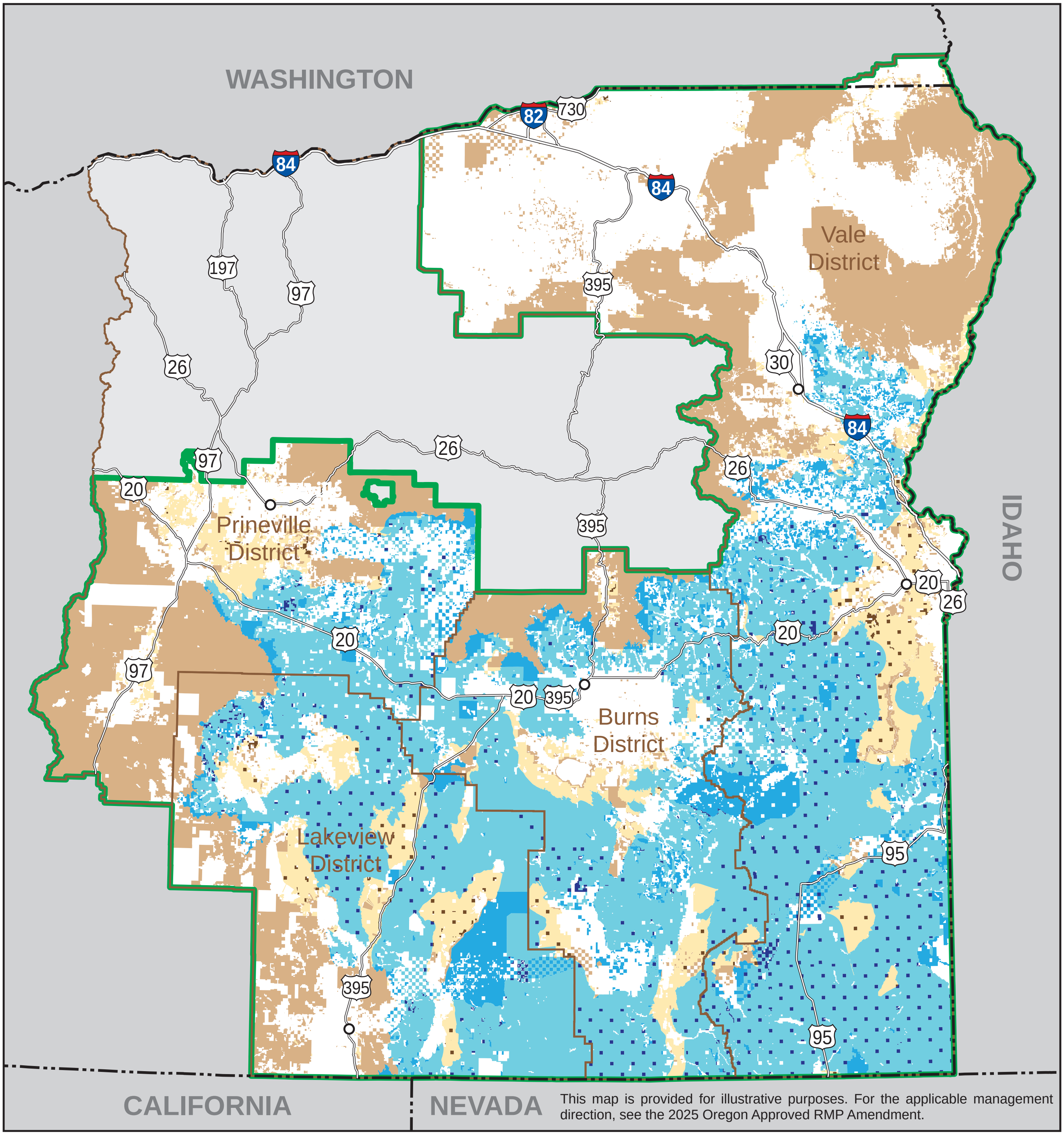
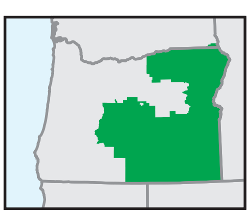


Greater Sage-grouse RMP Amendment Planning Area
WA
MT
ND
ID
OR
SD
WY
NV
UT
NE
CA
KS
CO
AZ
No decisions are being made on National Forest System lands as part of this BLM planning effort.
Map 1
Legend
Planning Area Extent
State Boundaries
Bureau of Land Management
US Forest Service
Other Federal Lands
State
Private
Local Government
Other / Unknown
N
S
E
W
0 25 50 100
Miles
No warranty is made by the Bureau of Land Management (BLM). The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed.

**MAP 2:** Oregon Greater Sage-Grouse RMP Amendment
Decision Area



**LEGEND**

Planning Area Boundary

**BLM Administered Land in Habitat Management Area**
- Surface and Subsurface
- Surface Only
- Subsurface Only

**Other BLM Administered Land**
- Surface and Subsurface
- Surface Only
- Subsurface Only

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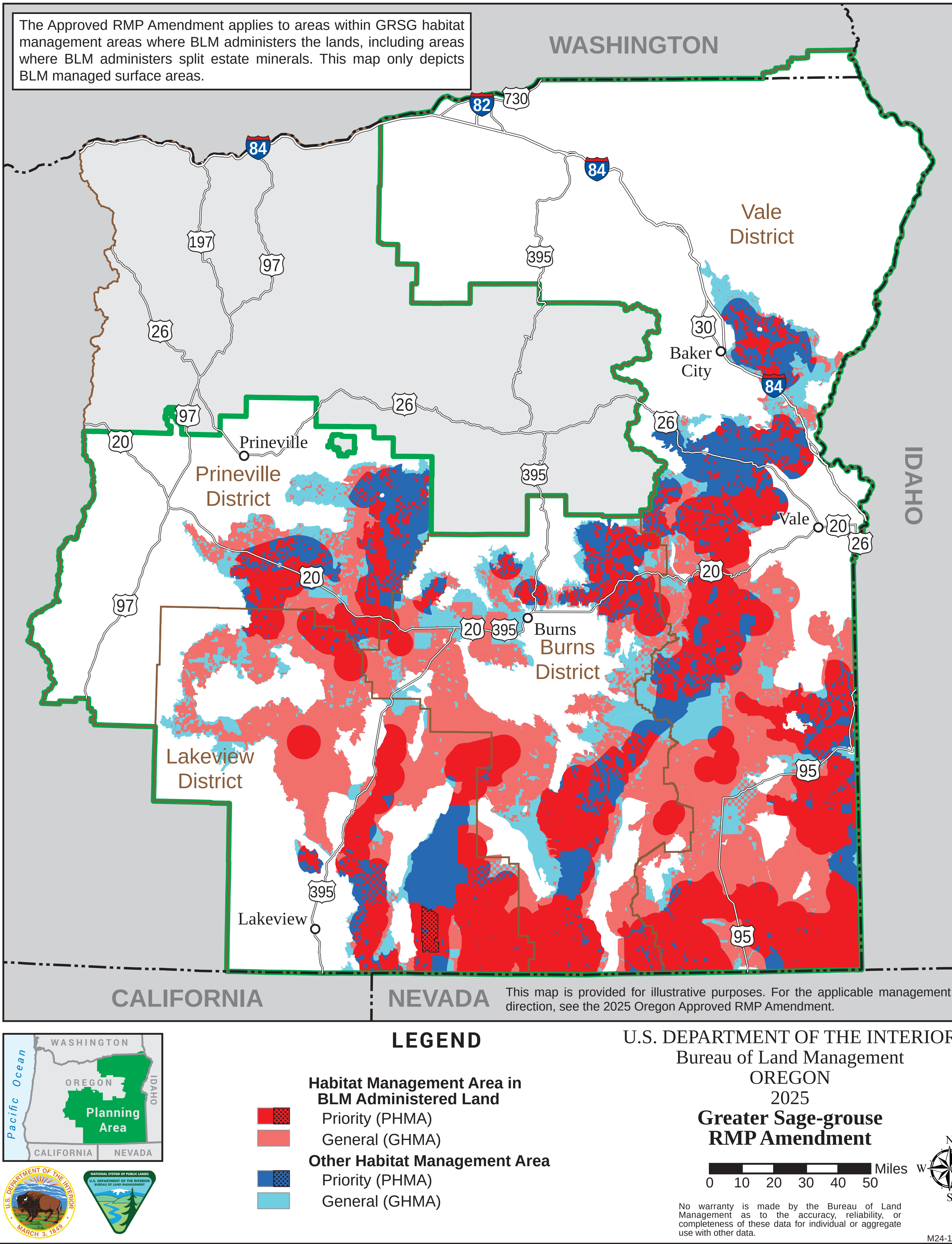
Miles 0 10 20 30 40 50

N W E S

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.

M24-11-01

## MAP 3: Greater Sage-Grouse Habitat Management Areas

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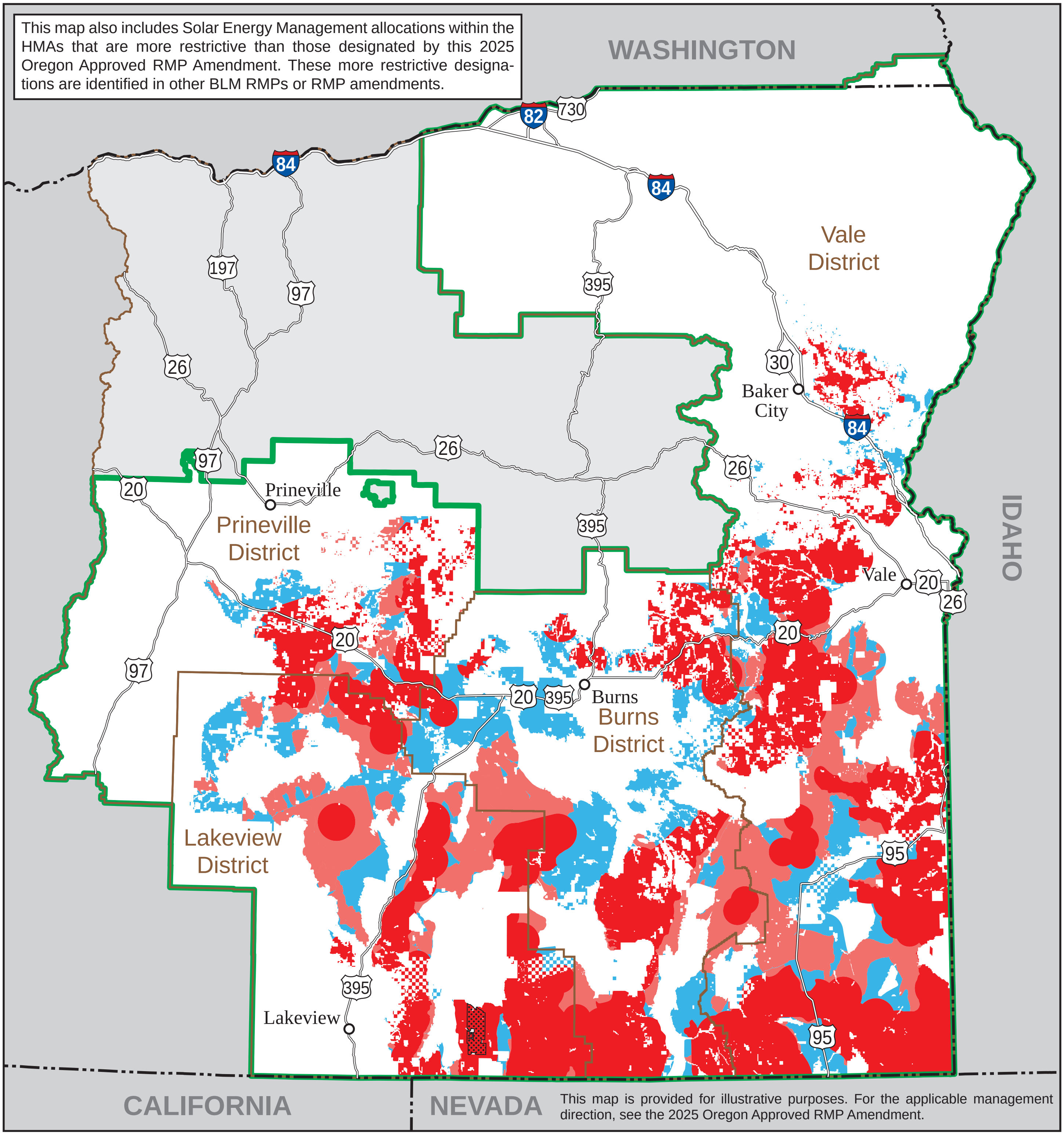
M24-11-01

# **MAP 4:** Solar Energy Management and Greater Sage-Grouse Habitat Management Areas





## LEGEND

| | PHMA | GHMA |
|---|---|---|
| Avoidance | | ■ |
| Exclusion | ■ ▩ | ■ |

*PHMA buffered by 0.5 miles such that non-habitat within the 0.5 mile PHMA buffer is Avoidance*

Miles 0 10 20 30 40 50

N S E W

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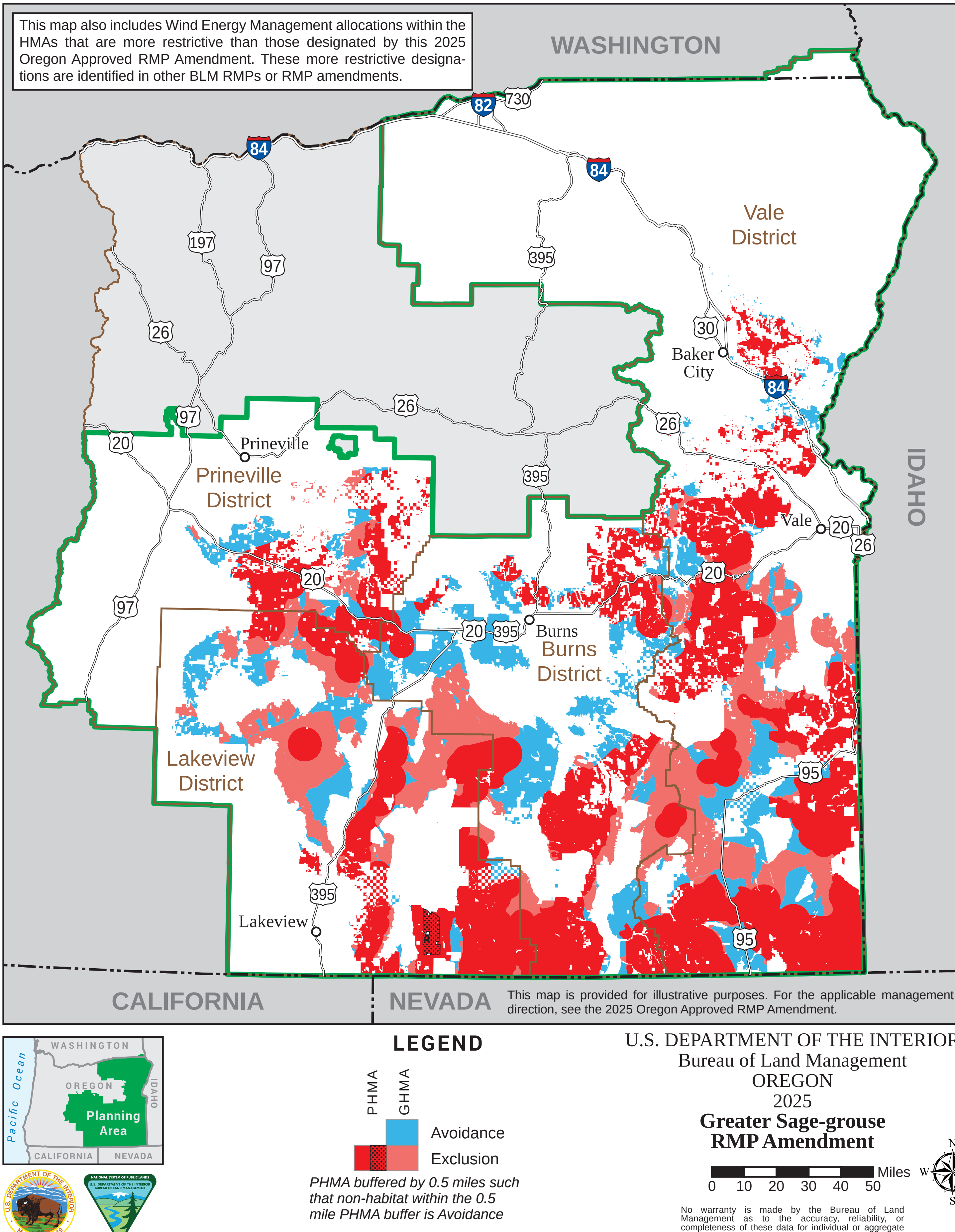
# MAP 5: Wind Energy Management and Greater Sage-Grouse Habitat Management Areas

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**Greater Sage-grouse RMP Amendment**

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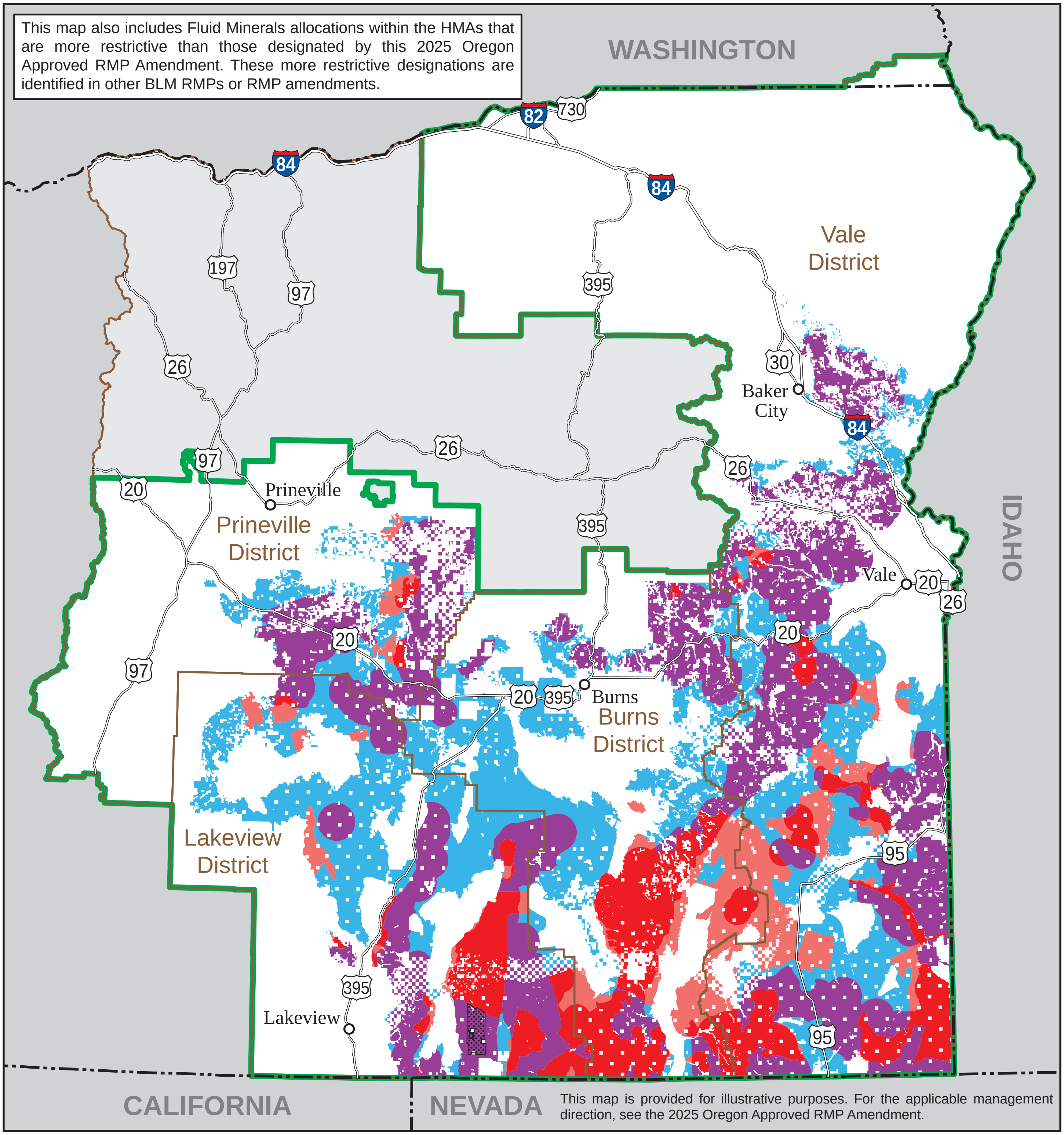
**MAP 6:** Fluid Minerals and
Greater Sage-Grouse Habitat Management Areas





**LEGEND**

PHMA | GHMA

Open- Moderate Stipulations (CSU)

Open- Major Stipulations (NSO)

Closed

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**RMP Amendment**

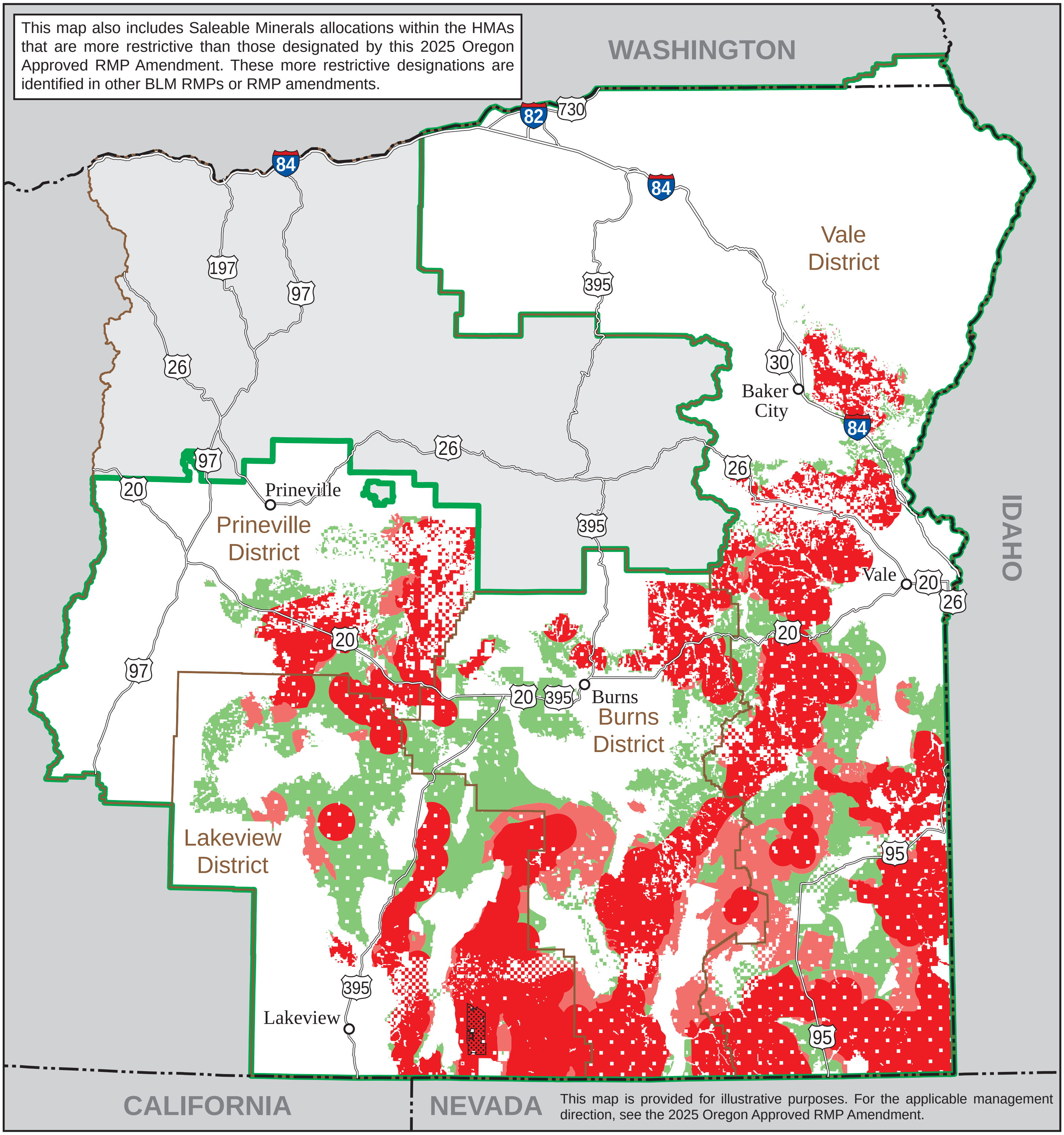
Miles
0 10 20 30 40 50

N S E W



M24-11-01

**MAP 7:** Saleable Minerals and Greater Sage-Grouse Habitat Management Areas





**LEGEND**

| | PHMA | GHMA |
|---|---|---|
| Open | | ■ |
| Closed | ■ | ■ |

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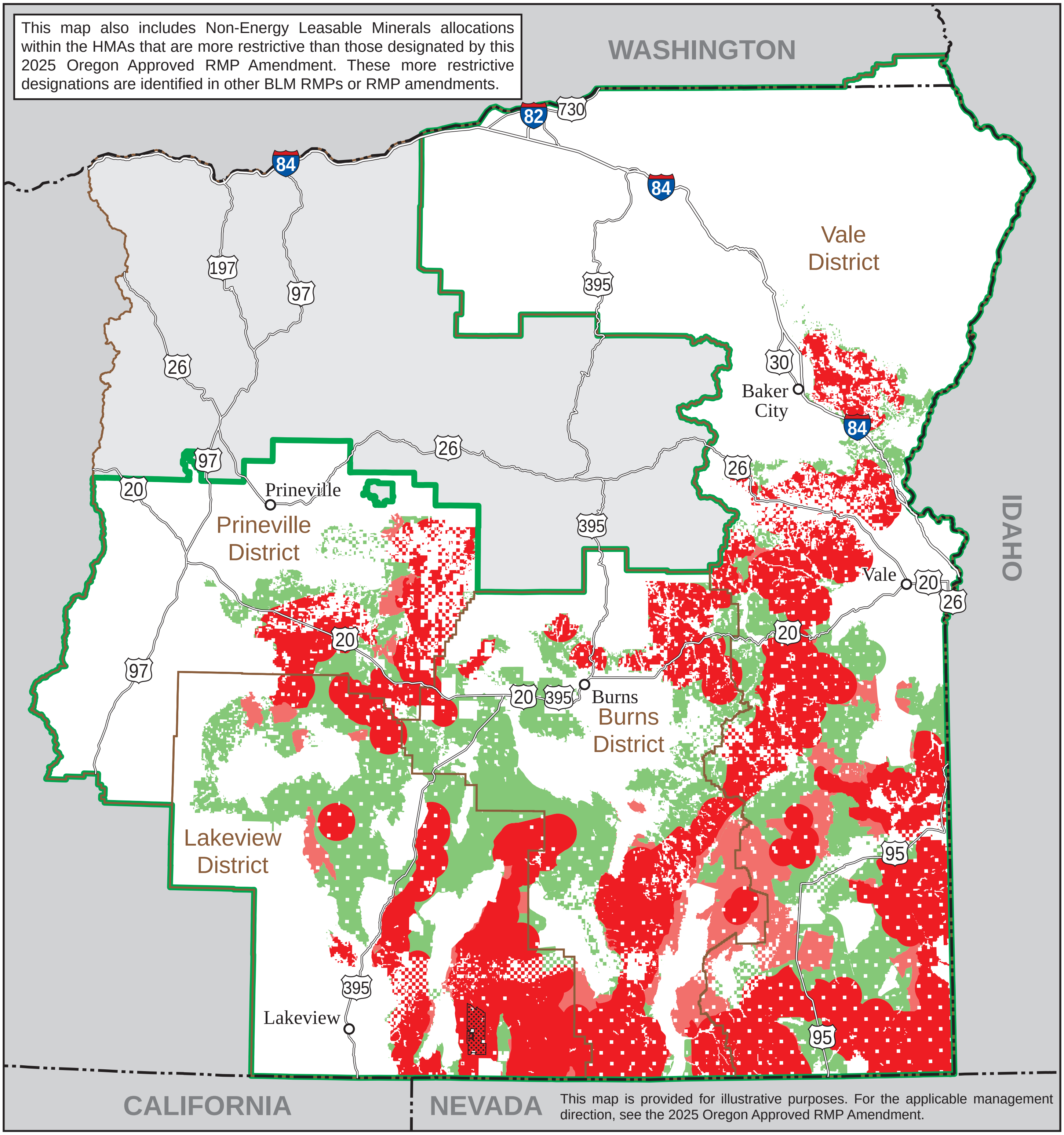
0 10 20 30 40 50 Miles

N S E W



M24-11-01

# **MAP 8:** Non-Energy Leasable Minerals and Greater Sage-Grouse Habitat Management Areas





**LEGEND**

PHMA GHMA

Open

Closed

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Miles
0 10 20 30 40 50

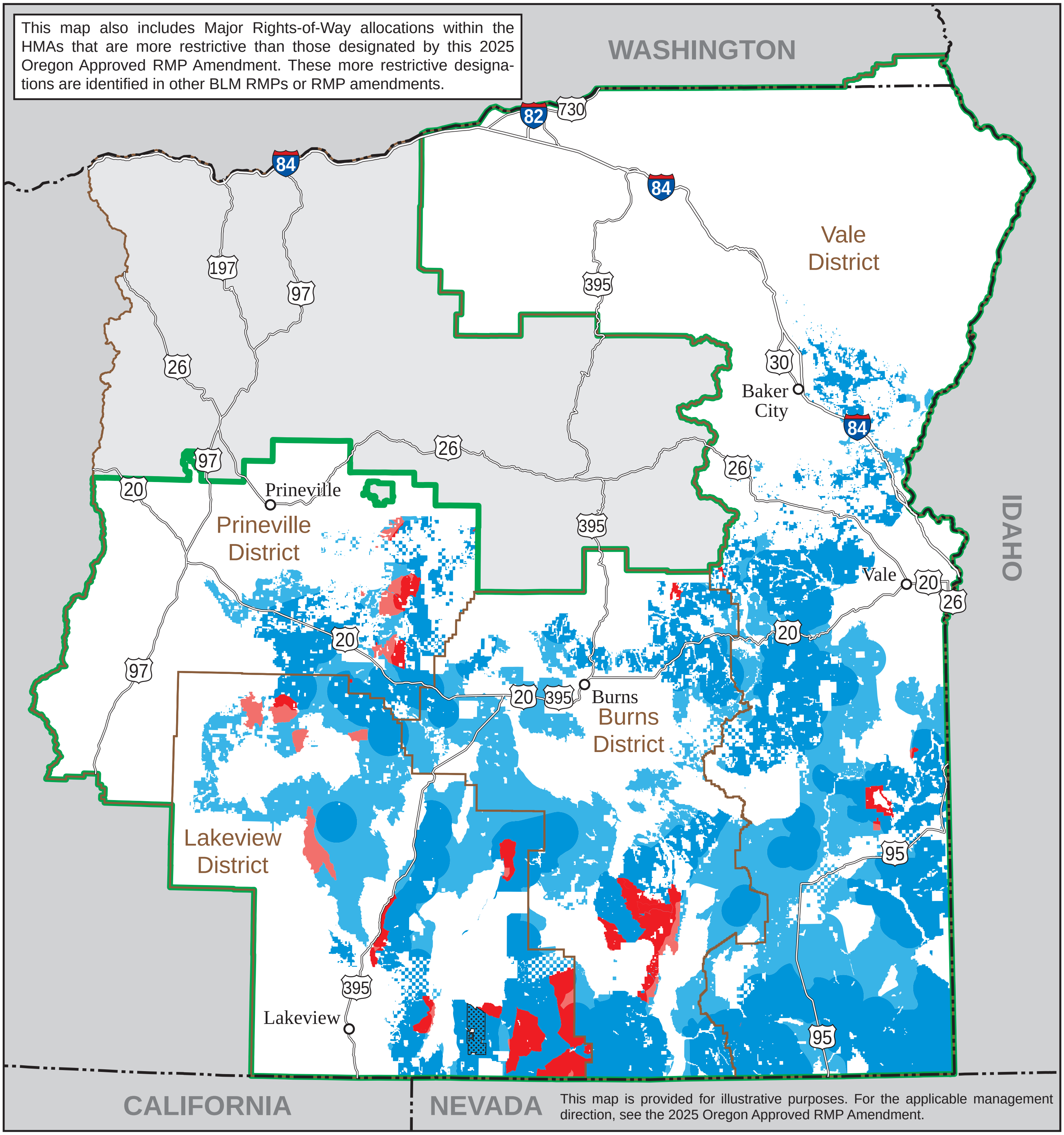
N S W E



M24-11-01

## **MAP 9:** Major Rights-of-Way and Greater Sage-Grouse Habitat Management Areas

This map also includes Major Rights-of-Way allocations within the HMAs that are more restrictive than those designated by this 2025 Oregon Approved RMP Amendment. These more restrictive designations are identified in other BLM RMPs or RMP amendments.




This map is provided for illustrative purposes. For the applicable management direction, see the 2025 Oregon Approved RMP Amendment.


**LEGEND**

| | PHMA | GHMA |
|---|---|---|
| Avoidance | | |
| Exclusion | | |

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0 10 20 30 40 50 Miles

N S W E

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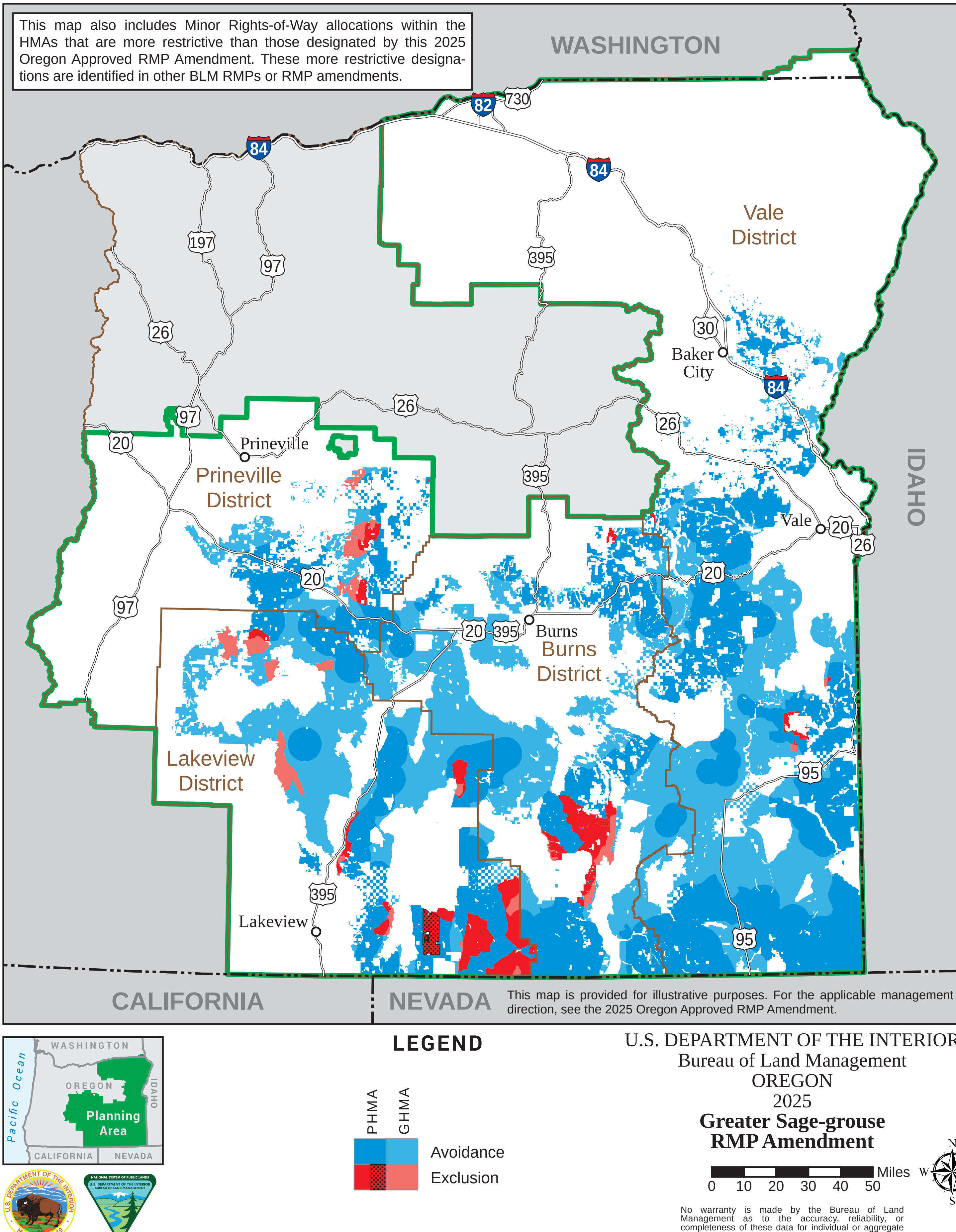
M24-11-01

# MAP 10: Minor Rights-of-Way and Greater Sage-Grouse Habitat Management Areas

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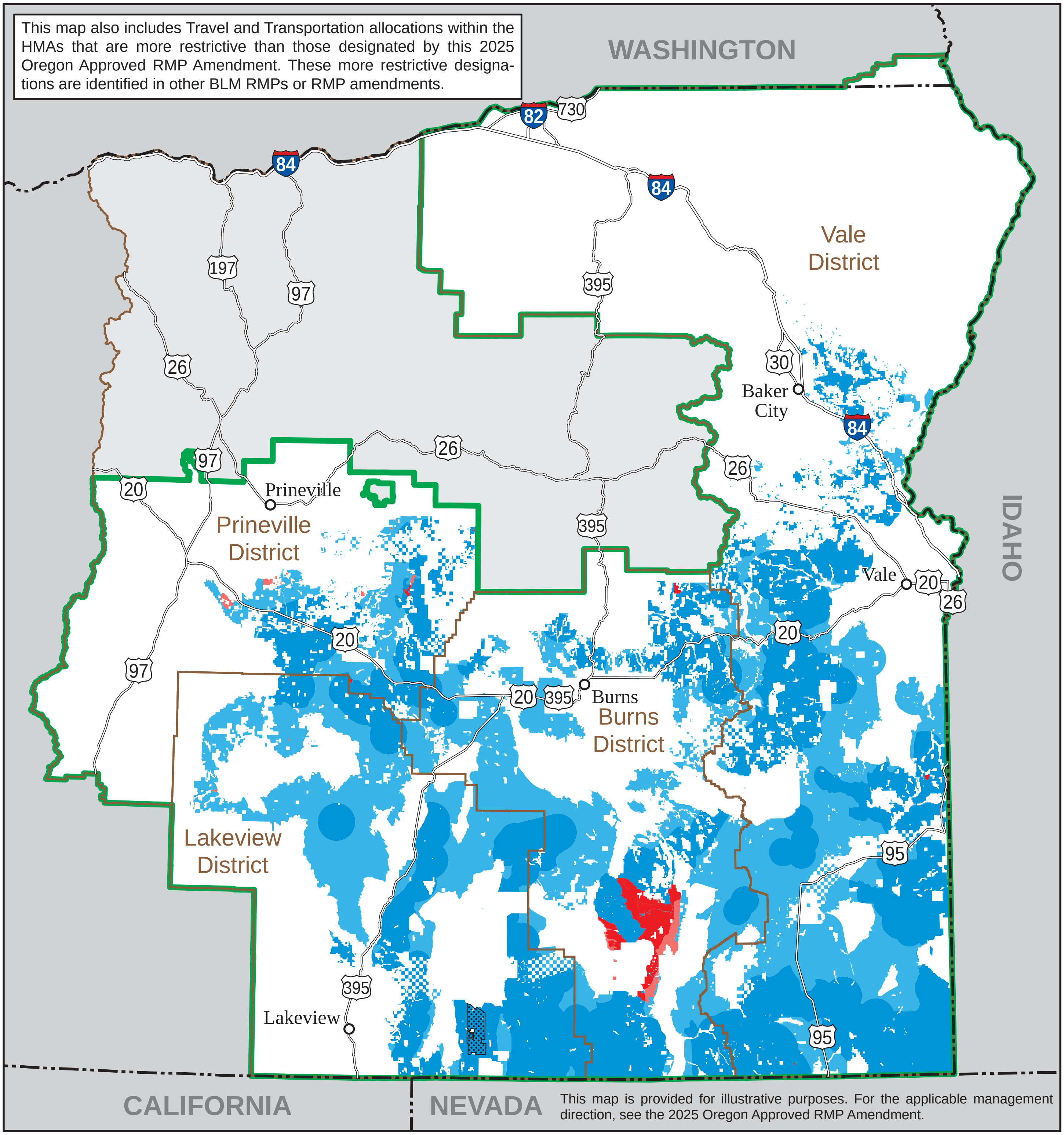
M24-11-01

**MAP 11:** Travel and Transportation and Greater Sage-Grouse Habitat Management Areas





**LEGEND**

| | PHMA | GHMA |
|---|---|---|
| Limited | | |
| Closed | | |

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2025

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Miles 0 10 20 30 40 50

N S E W

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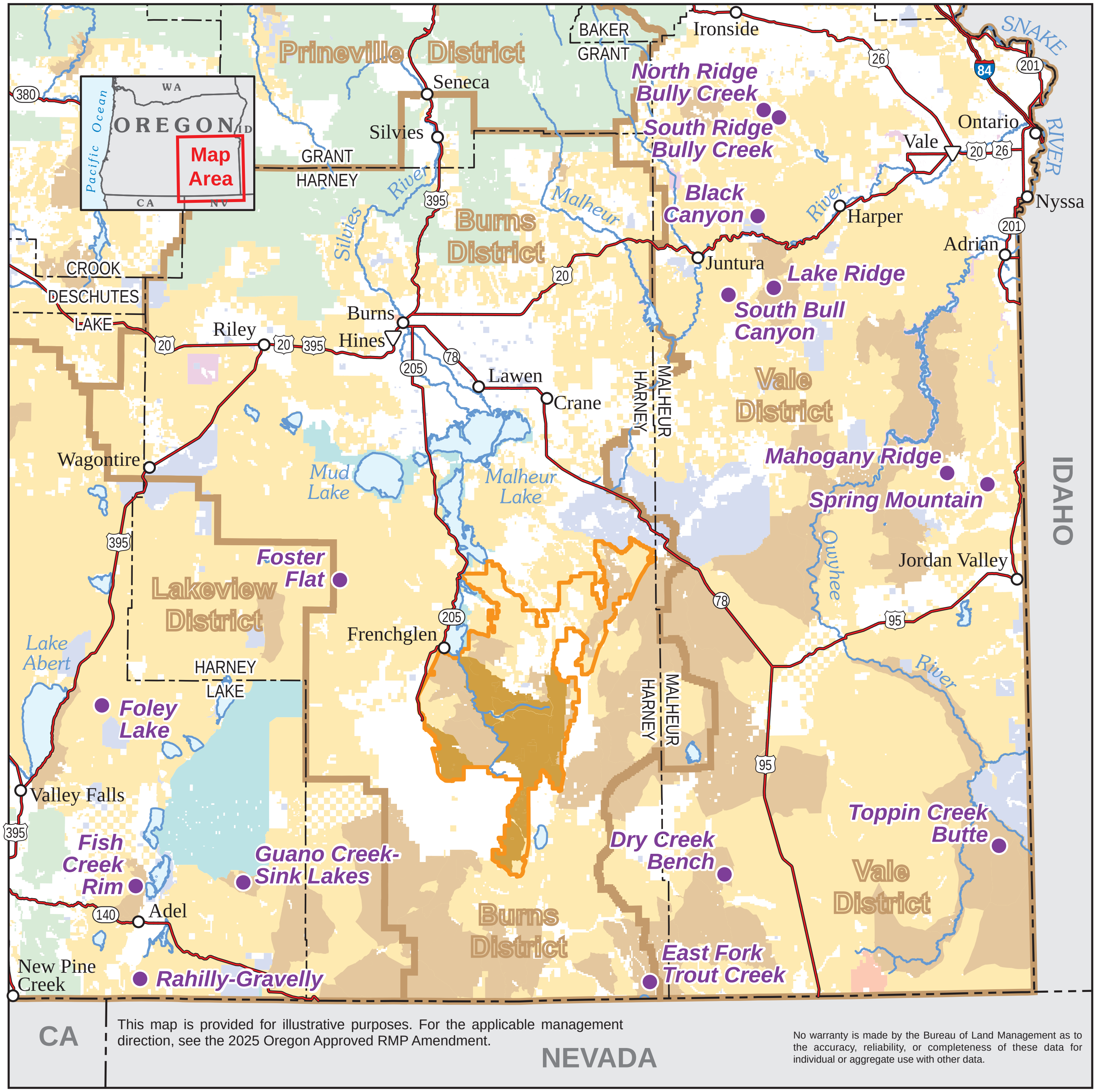
M24-11-01




## LEGEND

*Key Research Natural Area*

BLM District Office

BLM District Field Office

State Boundary

County Boundary

Interstate Highway

US Highway

State Highway

Steens Cooperative Management & Protection Area

**Administered Lands**

Bureau of Land Management

BLM Wilderness

BLM Wilderness Study Area

US Forest Service

US Fish & Wildlife Service

Other Federal Agency

Tribal Lands

State Land

Private or Other

N W E S

10 0 10 20 30 Miles

10 0 10 20 30 Kilometers

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2025

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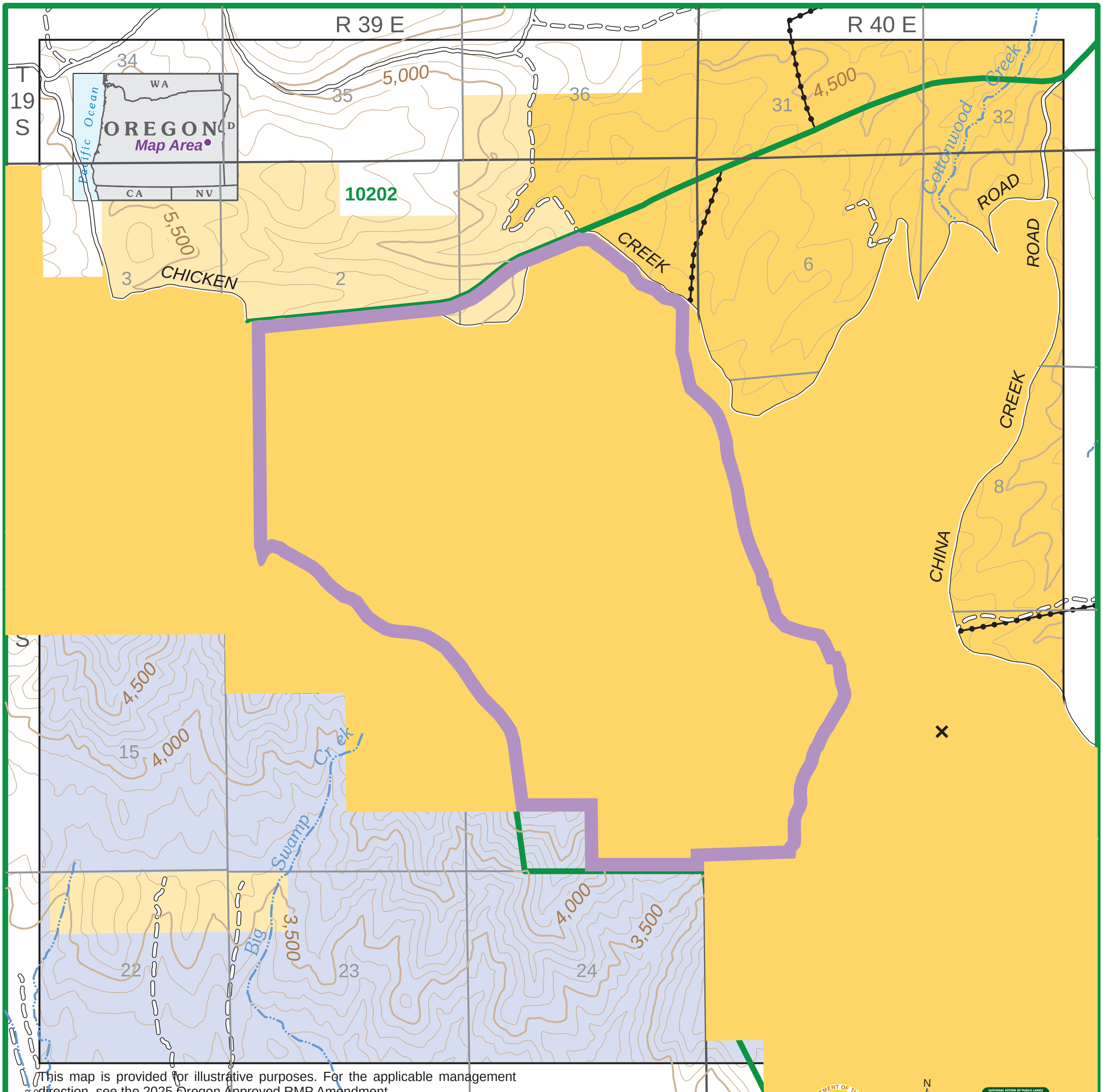
**MAP 12:** Key Research Natural Areas in Oregon

M24-11-01




This map is provided for illustrative purposes. For the applicable management direction, see the 2025 Oregon Approved RMP Amendment.

## LEGEND

Key Research Natural Area

*No Portion of the Key RNA is Unavailable to Grazing under the Proposed Plan*

Fence/Pasture Boundary

10203 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

Lands with Wilderness Characteristics

Other BLM

State of Oregon

Private or Other

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.

N W E S

0.25 0 0.25 0.5 0.75

Miles

0.25 0 0.25 0.5 0.75

Kilometers

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Vale District

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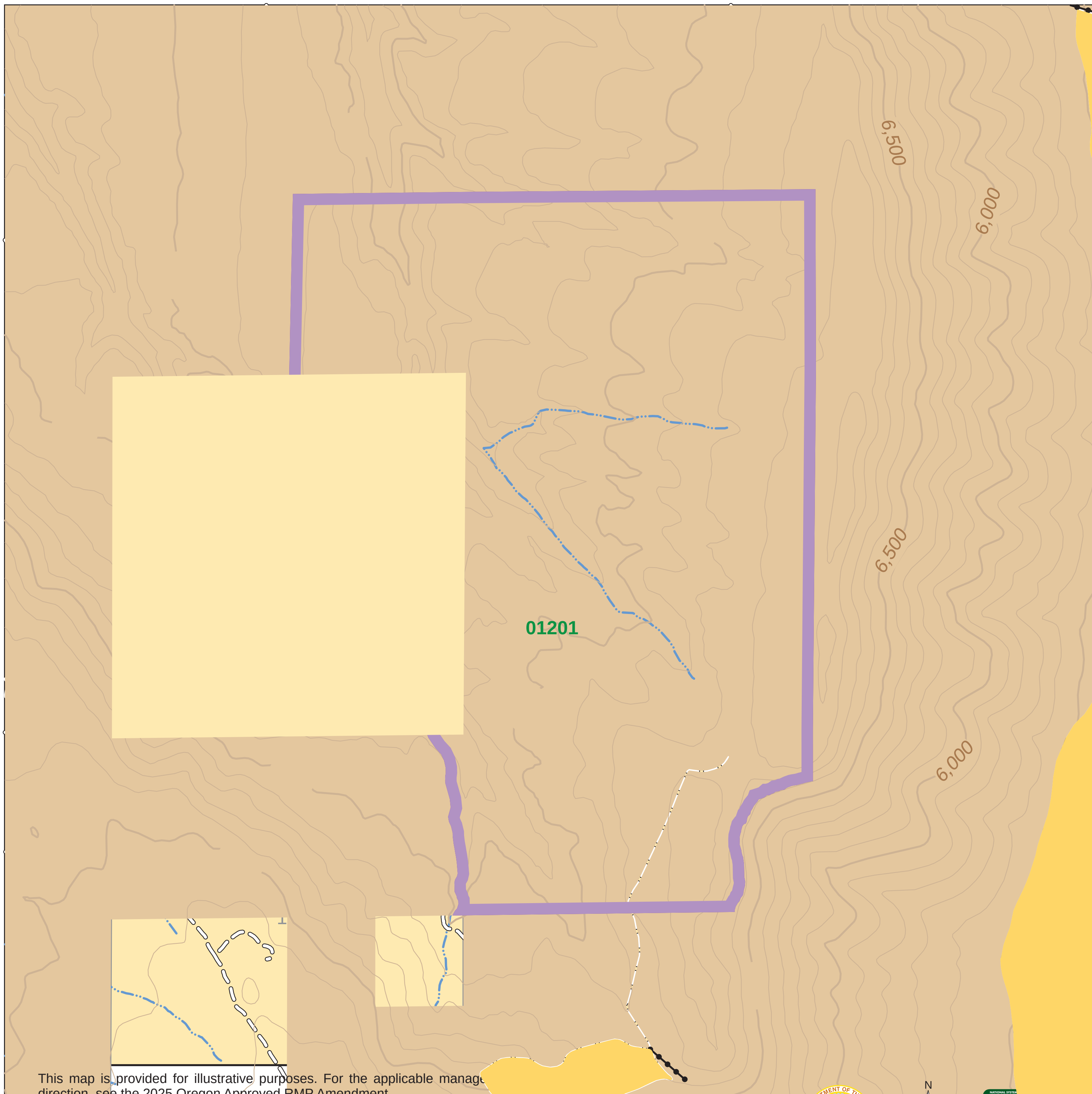
**MAP 13:** Black Canyon Key Research Natural Area

M24-11-01




This map is provided for illustrative purposes. For the applicable management direction, see the 2025 Oregon Approved RMP Amendment.

## LEGEND

Key Research Natural Area

*No Portion of the Key RNA is Unavailable to Grazing under the Proposed Plan*

Fence/Pasture Boundary

10201 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

Wilderness Study Area

Lands with Wilderness Characteristics

Other BLM

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N W E S

0.25 0 0.25 0.5
Miles

0.25 0 0.25 0.5
Kilometers

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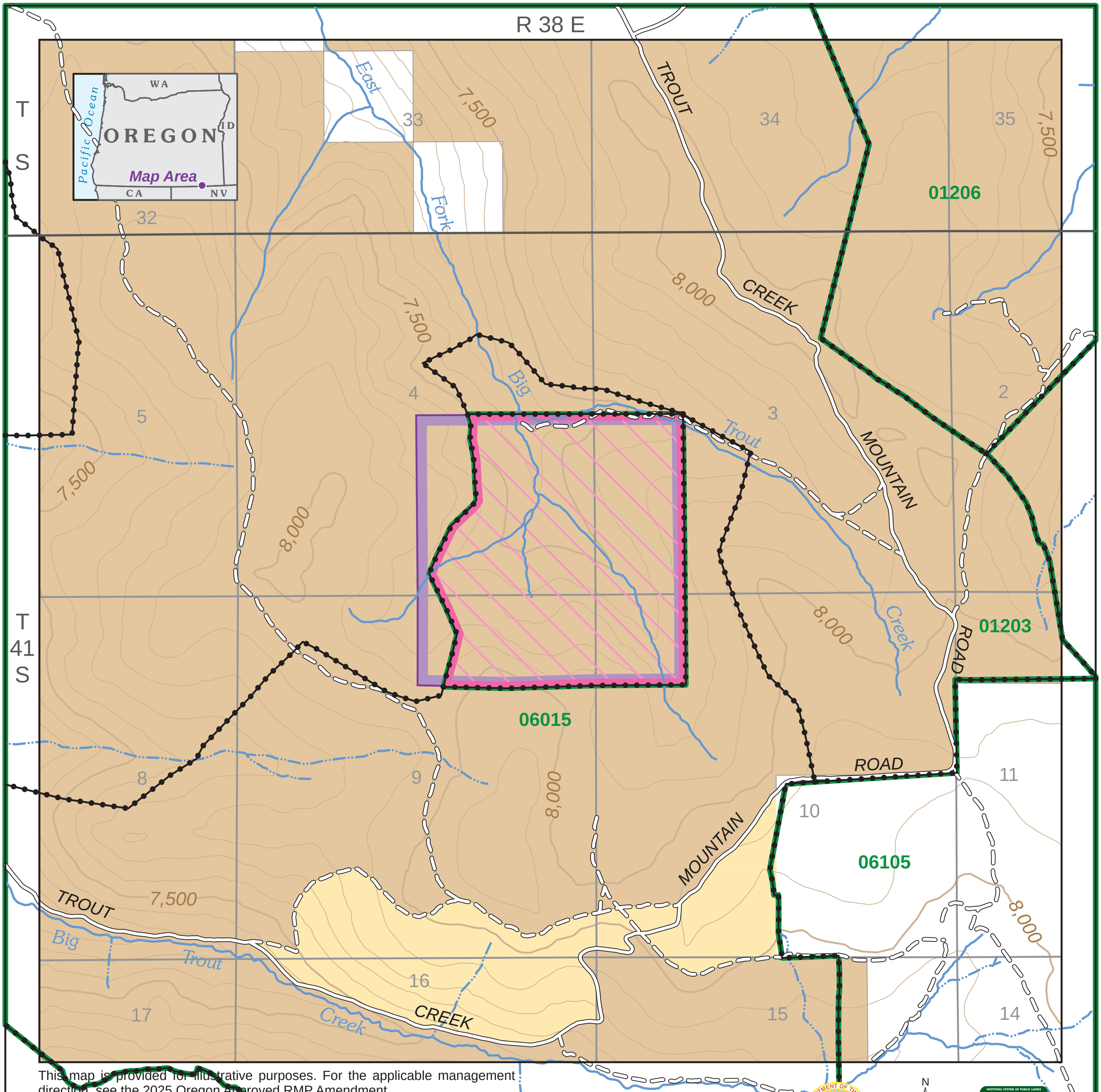
# **MAP 14:** Dry Creek Bench Key Research Natural Area

M24-11-01




## LEGEND

Key Research Natural Area

Unavailable to Grazing under the Proposed Plan

Fence/Pasture Boundary

06015 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

Wilderness Study Area

Other BLM

Private or Other

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N W E S

0.25 0 0.25 0.5
Miles

0.25 0 0.25 0.5
Kilometers

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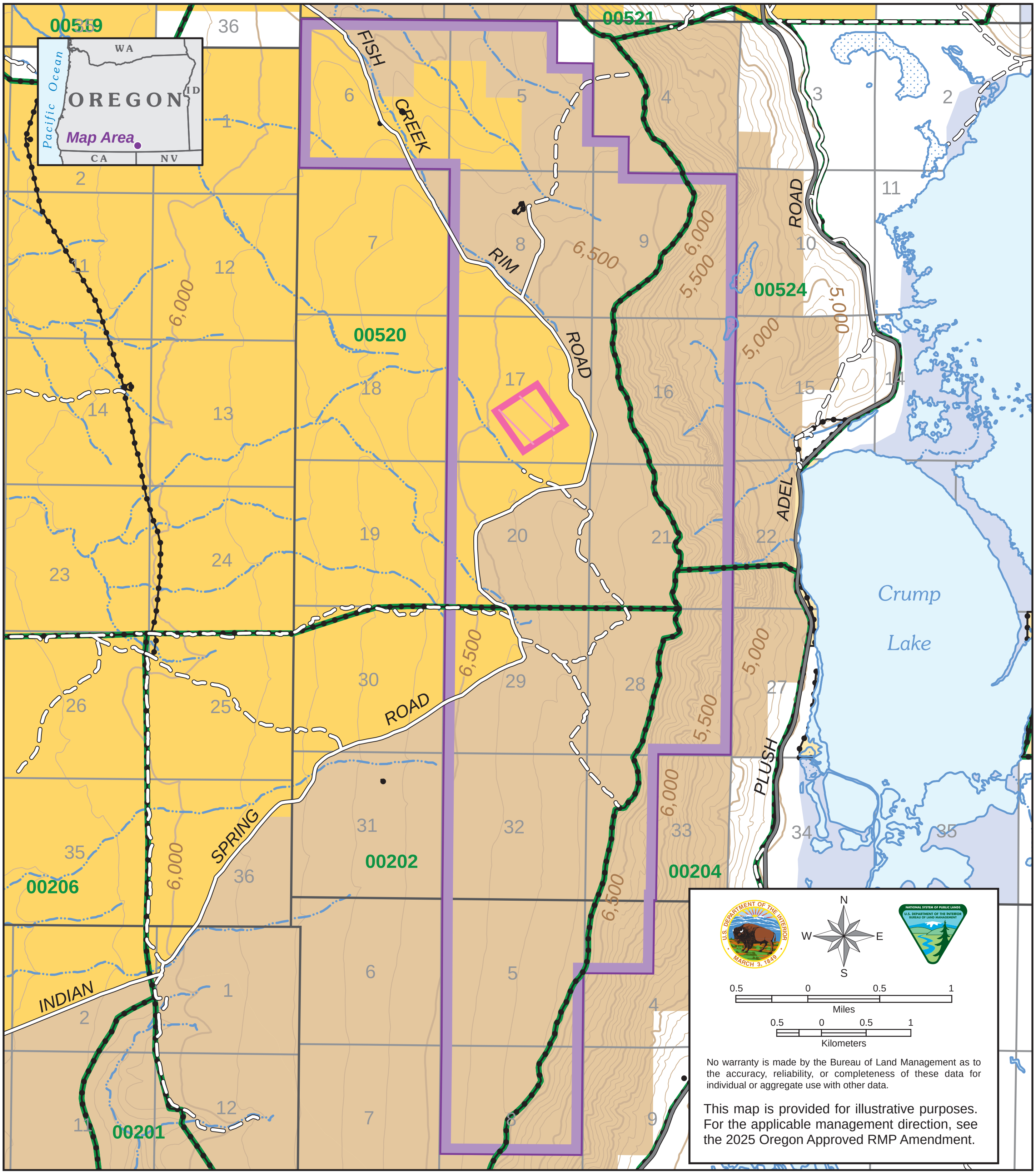
# MAP 15: East Fork Trout Creek Key Research Natural Area

M24-11-01




## LEGEND

Key Research Natural Area

Unavailable to Grazing under the Proposed Plan

Fence/Pasture Boundary

00520 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

- Wilderness Study Area
- Lands with Wilderness Characteristics
- Other BLM

State of Oregon

Private or Other

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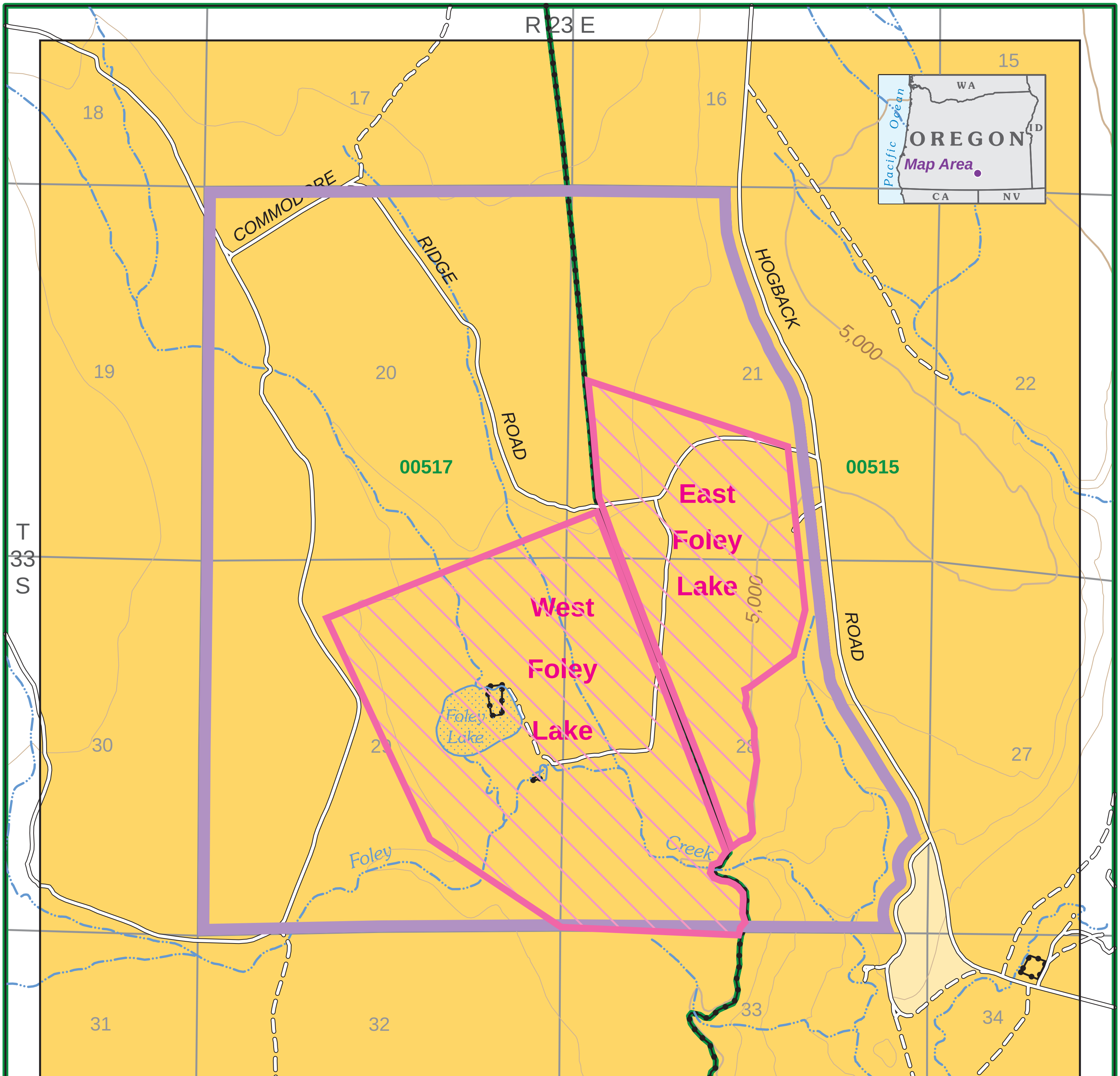
**MAP 16:** Fish Creek Rim Key Research Natural Area

M24-11-01

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**LEGEND**

Key Research Natural Area

Unavailable to Grazing under the Proposed Plan

Fence/Pasture Boundary

00517 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

Lands with Wilderness Characteristics

Other BLM

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.

N W E S

0.25 0 0.25 0.5
Miles

0.25 0 0.25 0.5
Kilometers

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2025

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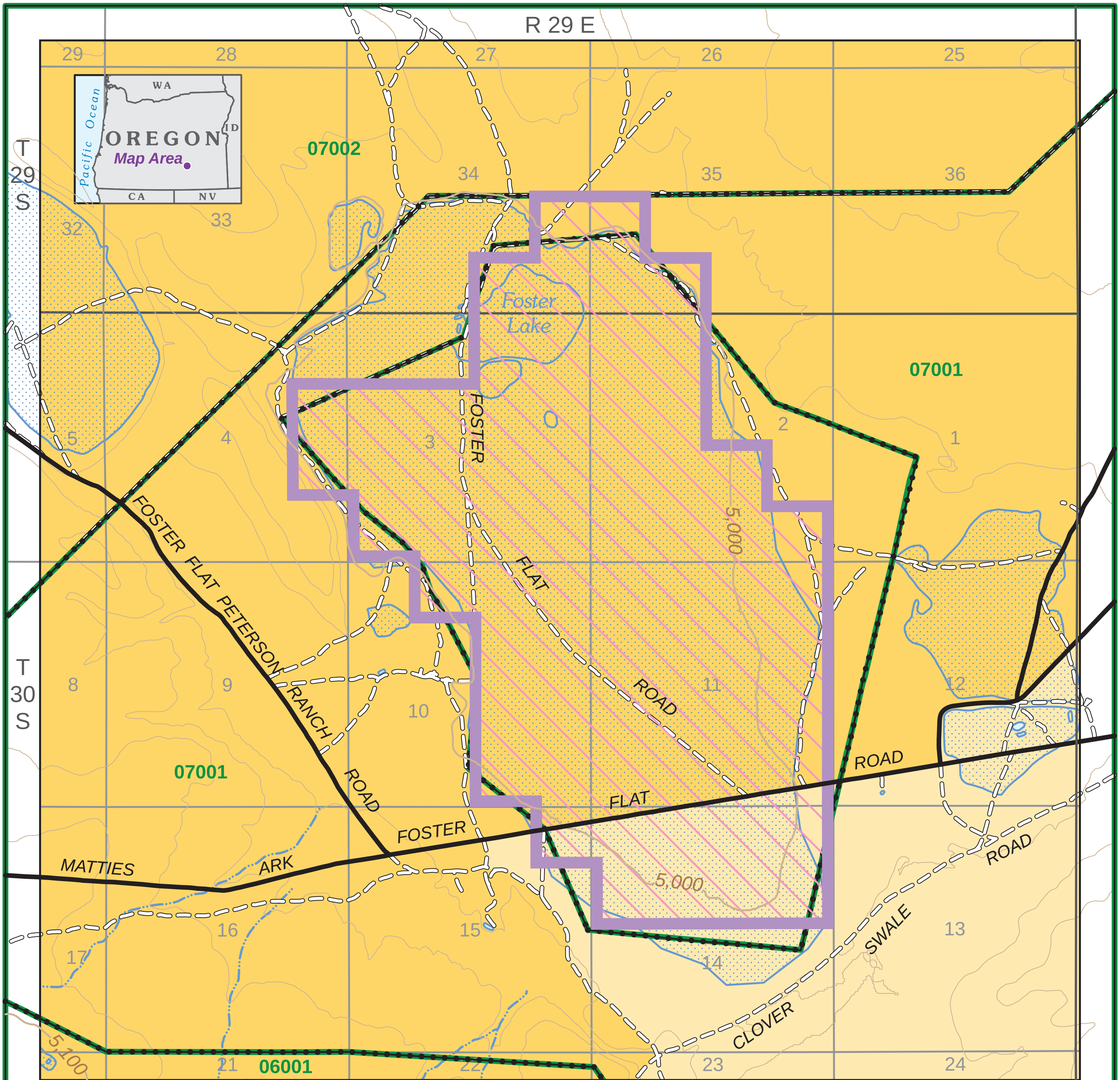
**MAP 17:** West and East Foley Lake Key Research Natural Areas

M24-11-01

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## LEGEND

Key Research Natural Area

Unavailable to Grazing under the Proposed Plan

Fence/Pasture Boundary

07001 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

Lands with Wilderness Characteristics

Other BLM

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.

N S W E

0.25 0 0.25 0.5 0.75
Miles

0.25 0 0.25 0.5 0.75
Kilometers

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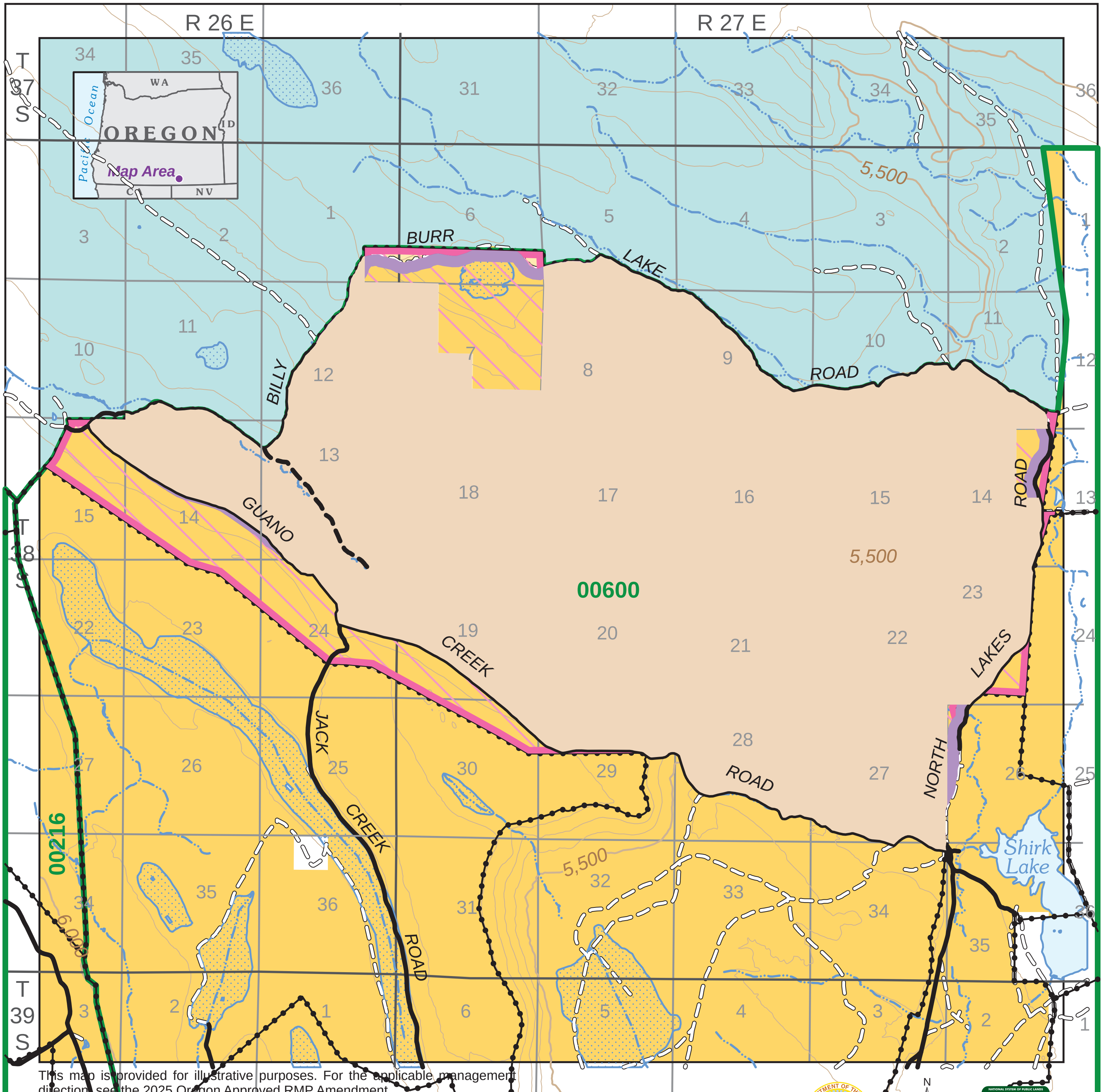
OREGON
Vale District
2025

**Greater Sage-grouse RMP Amendment**

**MAP 18:** Foster Flat Key Research Natural Area

M24-11-01




## LEGEND

Key Research Natural Area

Unavailable to Grazing under the Proposed Plan

Fence/Pasture Boundary

00600 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

Wilderness Study Area

Lands with Wilderness Characteristics

US Fish & Wildlife Service

Private or Other

N W E S

0.5 0 0.5 1
Miles
0.5 0 0.5 1
Kilometers

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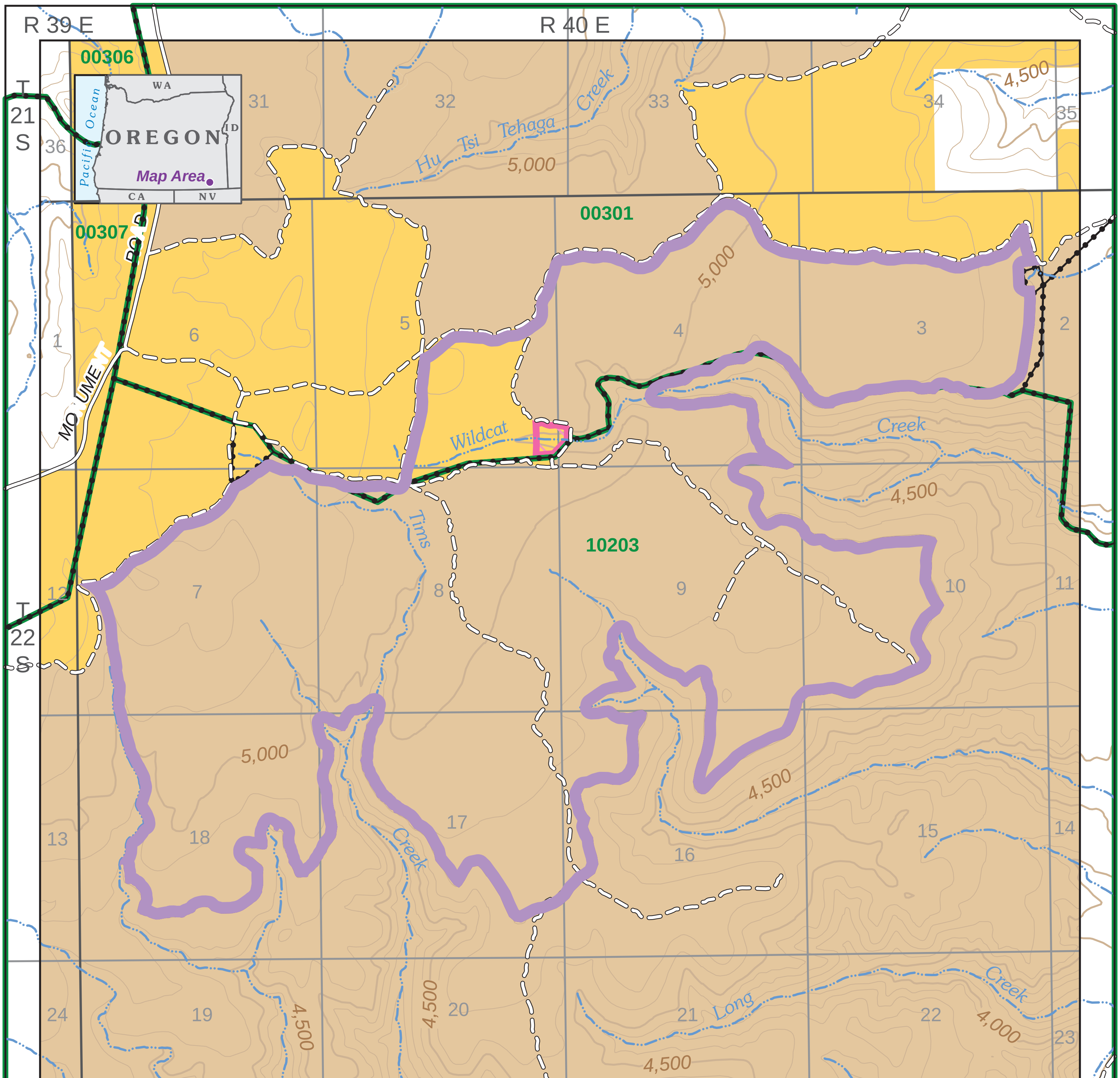
**Greater Sage-grouse RMP Amendment**

**MAP 19:** Guano Creek-Sink Lakes Key Research Natural Area

M24-11-01




This map is provided for illustrative purposes. For the applicable management direction, see the 2025 Oregon Approved RMP Amendment.

## LEGEND

- Key Research Natural Area
- Unavailable to Grazing under the Proposed Plan
- Fence/Pasture Boundary
- 10203 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

- Wilderness Study Area
- Lands with Wilderness Characteristics
- Private or Other

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N W E S

0.25 0 0.25 0.5 0.75 Miles

0.25 0 0.25 0.5 0.75 Kilometers

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2025

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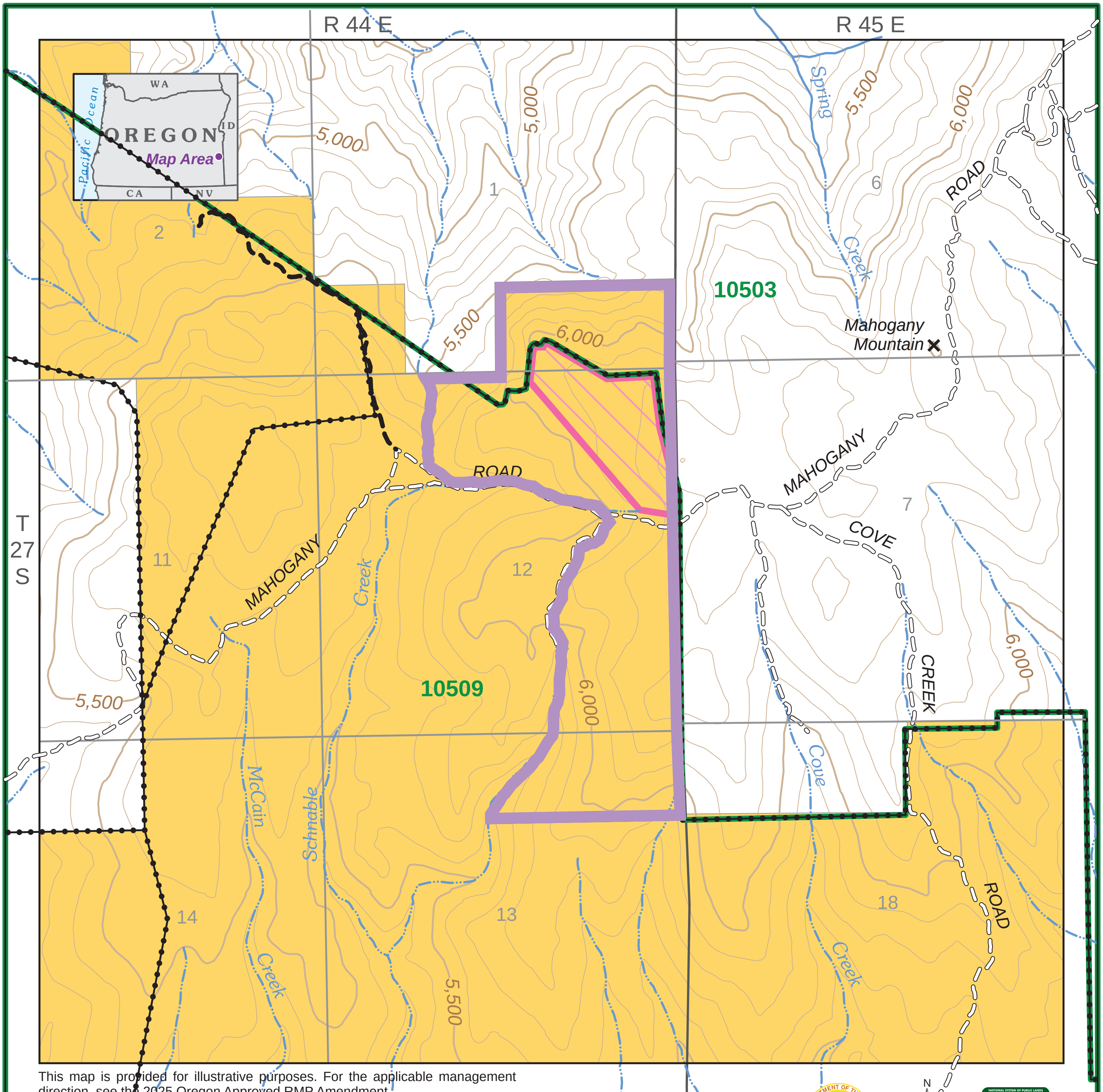
# **MAP 20:** Lake Ridge Key Research Natural Area

M24-11-01




This map is provided for illustrative purposes. For the applicable management direction, see the 2025 Oregon Approved RMP Amendment.

## LEGEND

- Key Research Natural Area
- Unavailable to Grazing under the Proposed Plan
- Fence/Pasture Boundary
- 10509 Grazing Allotment and Number

**Administered Lands**

- Bureau of Land Management
- Lands with Wilderness Characteristics
- Private or Other

0.25 0 0.25 0.5 Miles

0.25 0 0.25 0.5 Kilometers

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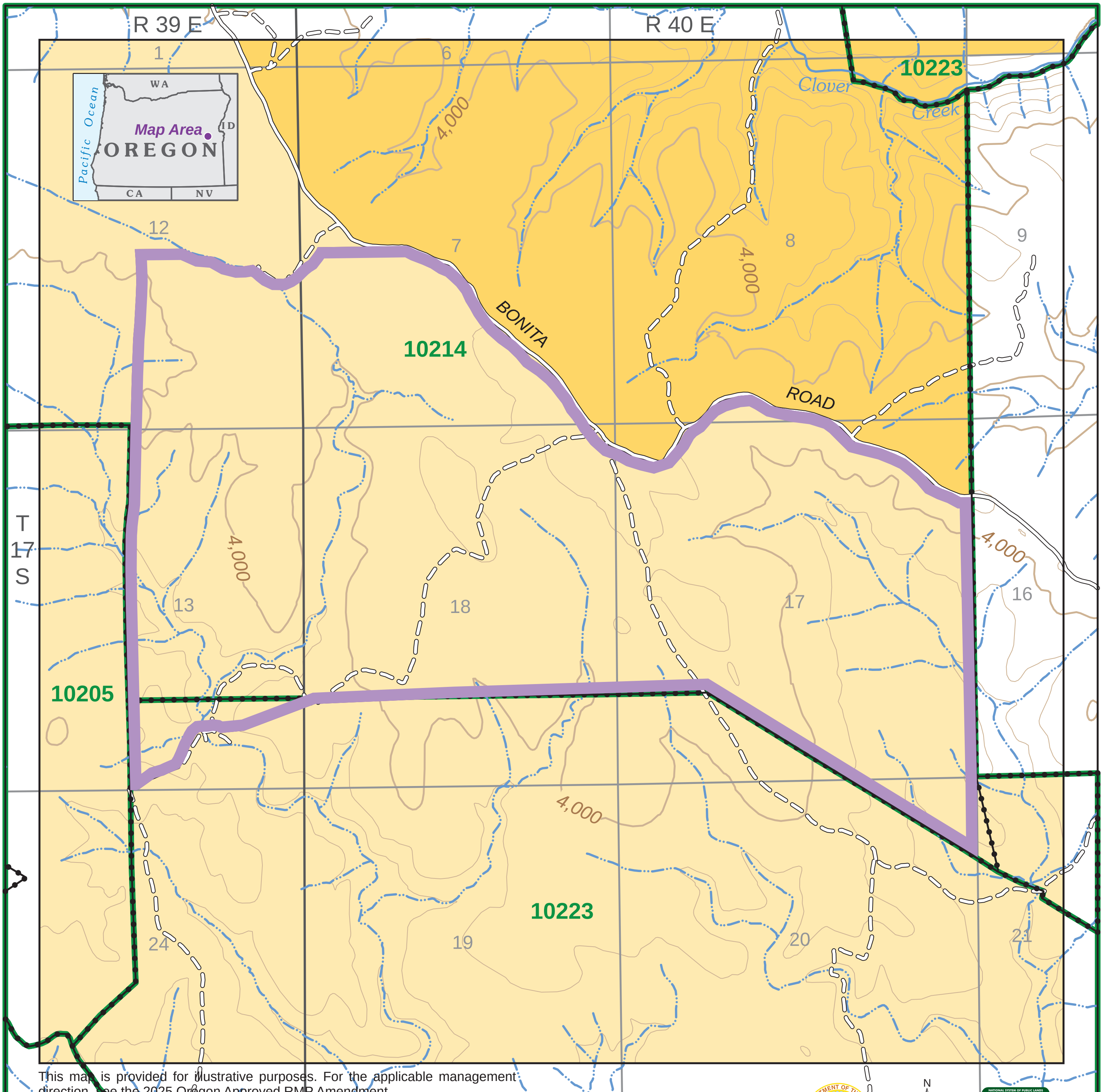
**Greater Sage-grouse RMP Amendment**

**MAP 21:** Mahogany Ridge Key Research Natural Area

M24-11-01




This map is provided for illustrative purposes. For the applicable management direction, see the 2025 Oregon Approved RMP Amendment.

## LEGEND

Key Research Natural Area

*No Portion of the Key RNA is Unavailable to Grazing under the Proposed Plan*

Fence/Pasture Boundary

10214 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

Lands with Wilderness Characteristics

Other BLM

Private or Other

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.

N W E S

0.25 0 0.25 0.5
Miles

0.25 0 0.25 0.5
Kilometers

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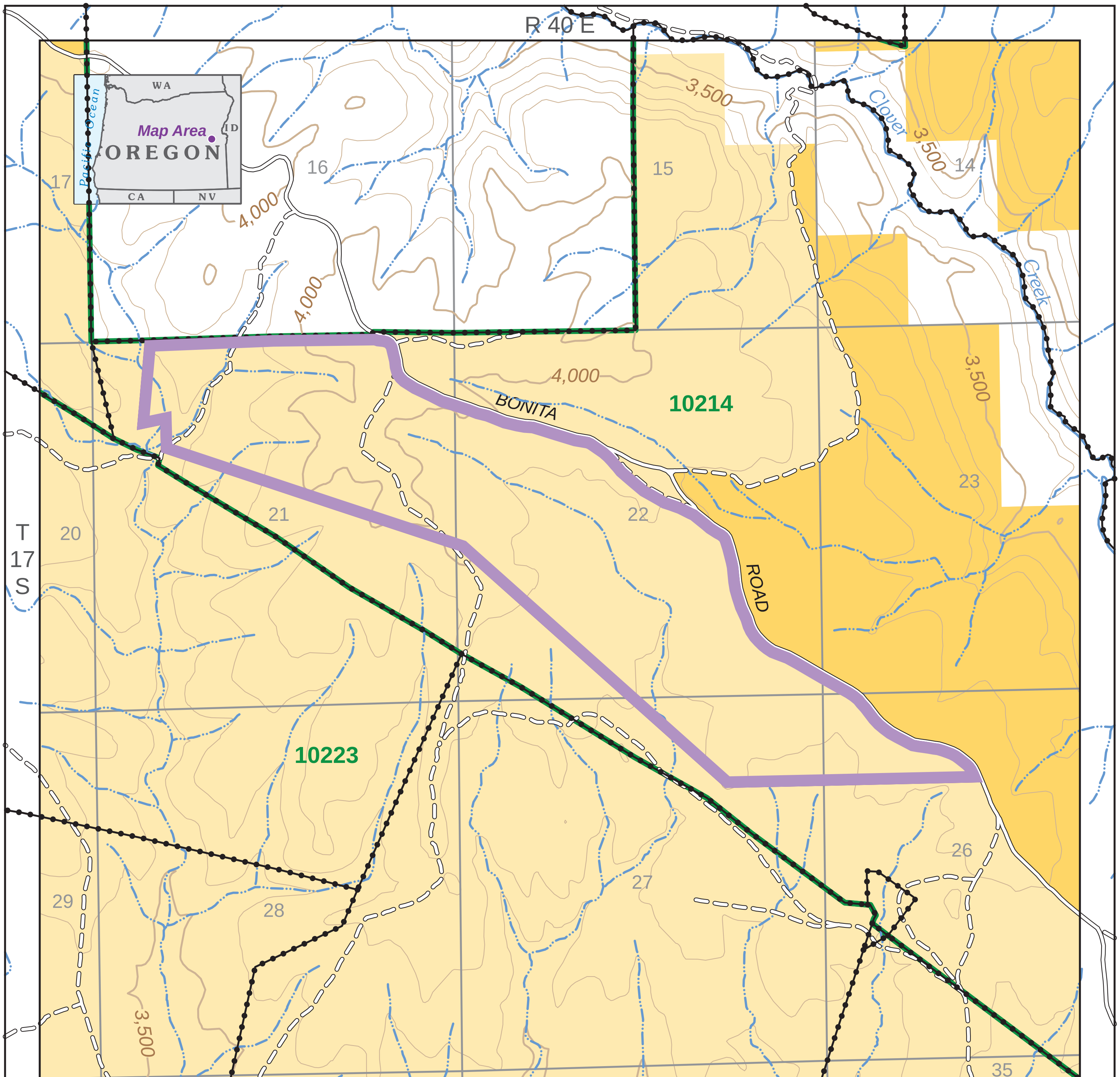
**MAP 22:** North Ridge Bully Creek Key Research Natural Area

M24-11-01




This map is provided for illustrative purposes. For the applicable management direction, see the 2025 Oregon Approved RMP Amendment.

## LEGEND

Key Research Natural Area

*No Portion of the Key RNA is Unavailable to Grazing under the Proposed Plan*

Fence/Pasture Boundary

10214 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

Lands with Wilderness Characteristics

Other BLM

Private or Other

N S W E

0.25 0 0.25 0.5
Miles

0.25 0 0.25 0.5
Kilometers

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.

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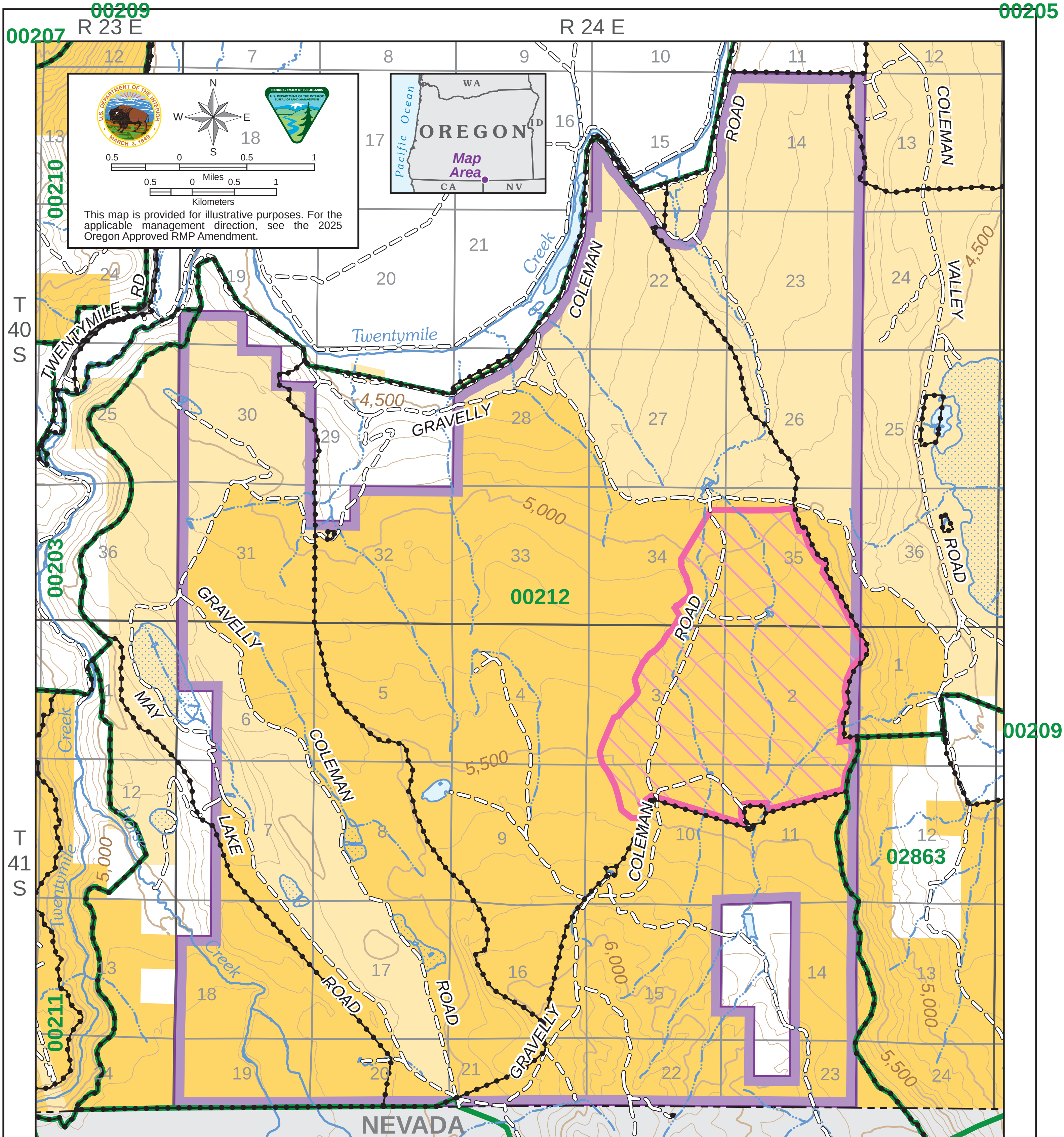
OREGON
Vale District
2025

**Greater Sage-grouse RMP Amendment**

**MAP 23:** South Ridge Bully Creek Key Research Natural Area

M24-11-01




## LEGEND

Key Research Natural Area

Unavailable to Grazing under the Proposed Plan

Fence/Pasture Boundary

00212 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

Lands with Wilderness Characteristics

Other BLM

Private or Other

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.

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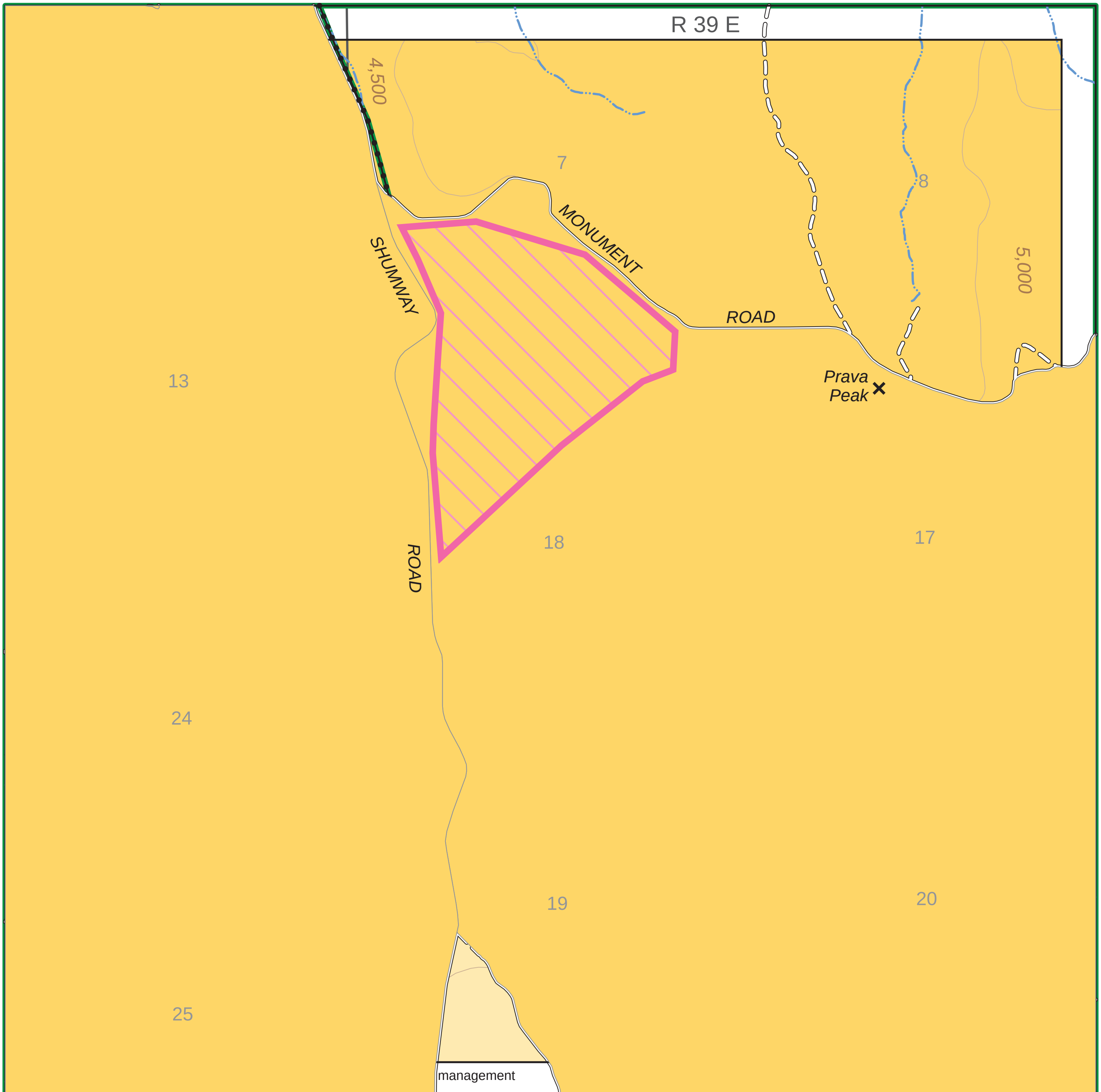
**Greater Sage-grouse RMP Amendment**

**MAP 24:** Rahilly-Gravelly Key Research Natural Area

M24-11-01




**LEGEND**

Key Research Natural Area

Unavailable to Grazing under the Proposed Plan

Fence/Pasture Boundary

00307 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

Lands with Wilderness Characteristics

Other BLM

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.

0.25 0 0.25 0.5 Miles

0.25 0 0.25 0.5 Kilometers

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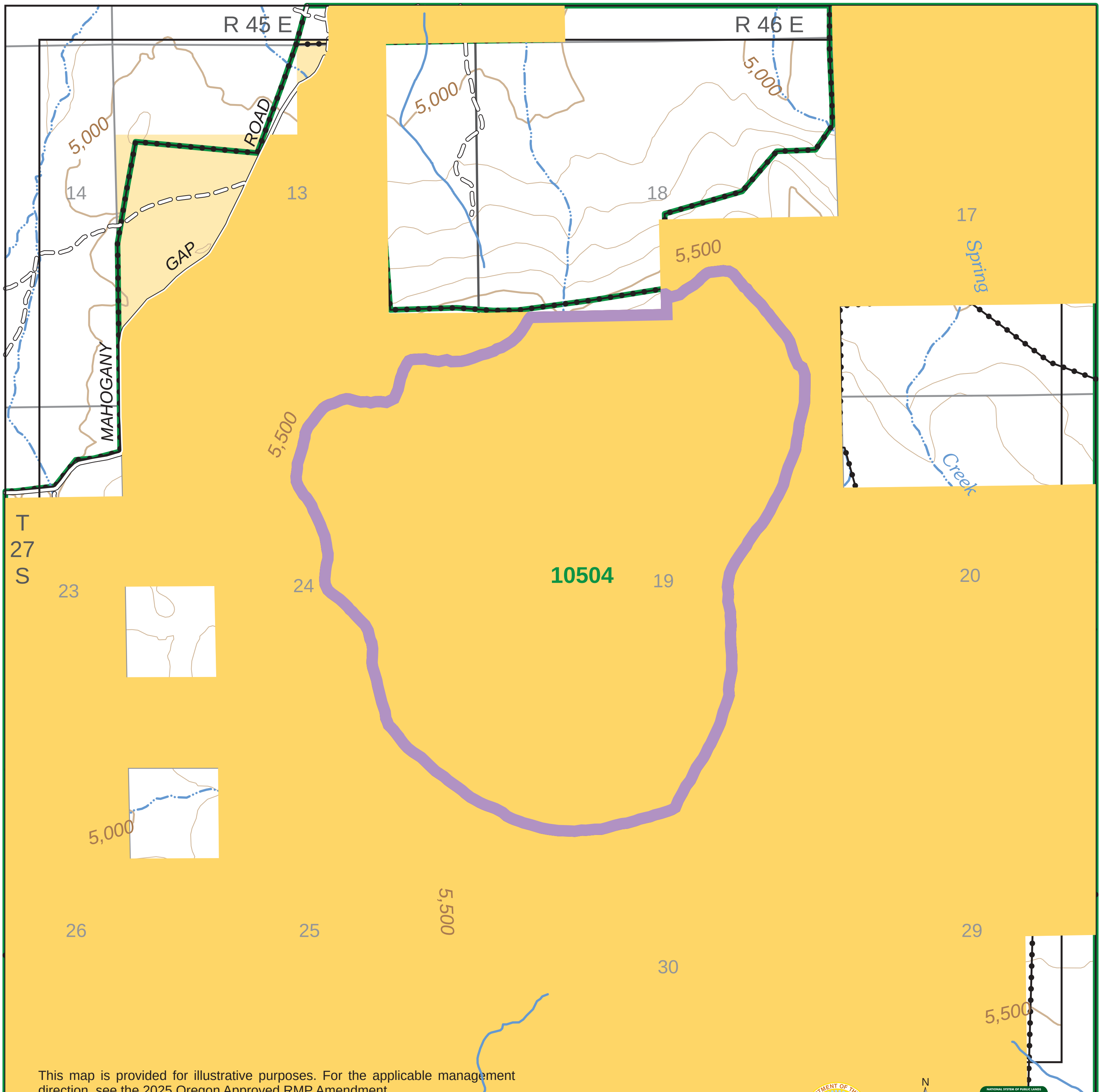
OREGON
Vale District
2025

**Greater Sage-grouse RMP Amendment**

**MAP 25:** South Bull Canyon Key Research Natural Area

M24-11-01




**LEGEND**

Key Research Natural Area

*No Portion of the Key RNA is Unavailable to Grazing under the Proposed Plan*

Fence/Pasture Boundary

10504 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

Lands with Wilderness Characteristics

Other BLM

Private or Other

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.

N
W E
S

0.25 0 0.25 0.5
Miles
0.25 0 0.25 0.5
Kilometers

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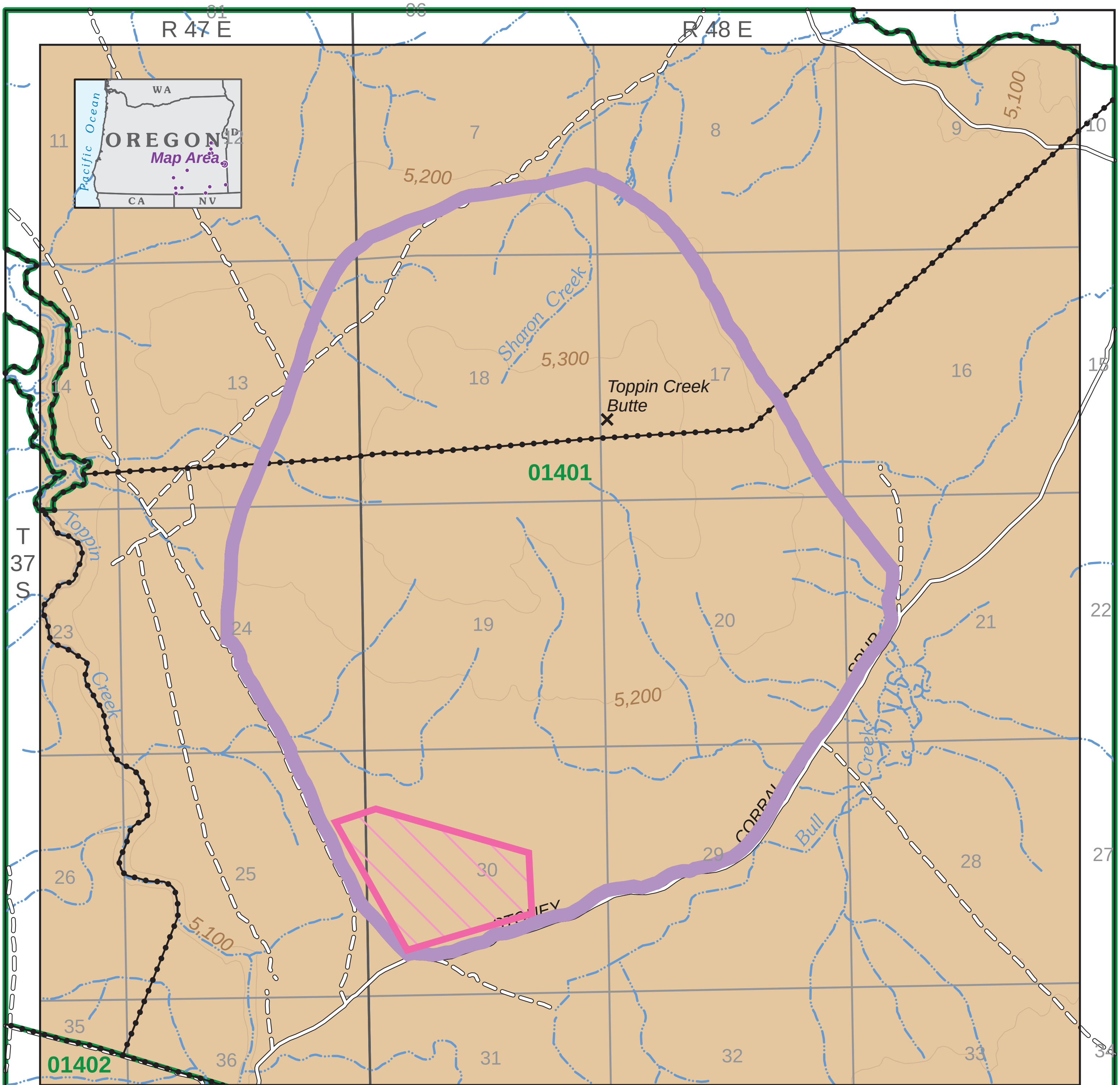
OREGON
Vale District
2025

**Greater Sage-grouse RMP Amendment**

**MAP 26:** Spring Mountain Key Research Natural Area

M24-11-01




This map is provided for illustrative purposes. For the applicable management direction, see the 2025 Oregon Approved RMP Amendment.

**LEGEND**

Key Research Natural Area

Unavailable to Grazing under the Proposed Plan

Fence/Pasture Boundary

01401 Grazing Allotment and Number

**Administered Lands**

Bureau of Land Management

Wilderness Study Area

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.

N W E S

0.25 0 0.25 0.5 0.75

Miles

0.25 0 0.25 0.5 0.75

Kilometers

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**Greater Sage-grouse RMP Amendment**

# **MAP 27:** Toppin Creek Butte Key Research Natural Area

M24-11-01

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# Appendix 2

## Comparison of Prior Greater Sage-Grouse RMP Management Direction with Approved RMP Amendment

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# Appendix 2. Comparison of Prior Greater Sage-Grouse RMP Management Direction with Approved RMP Amendment

## 2.1 Oregon Greater Sage-Grouse RMP Amendments

This appendix presents the Greater Sage-grouse (GRSG) approved RMP amendment language from the 2015 and 2019 records of decision and this 2025 Approved RMP Amendment and Record of Decision for Oregon.

The tables below note which goals, objectives, appendices, and management decisions/actions are amended by this Approved RMP Amendment (RMPA), either partially or completely, and which existing decisions are not be amended at all.

Note that in 2015 and 2019 Oregon used the ODFW definitions for leks with management directions that used a combination of "occupied" and "pending" leks. In this 2025 Approved RMP Amendment, Oregon BLM is adopting the WAFWA lek definitions (Cook et. al., 2022) and will apply the definition to both "active leks" and "pending active leks". Oregon will continue to be in coordination with ODFW. All management directions in the 2015 and 2019 Approved ARMPAs referring to occupied and pending leks are replaced with active and pending active leks.

**Table 1: GRSG RMP Management Direction in Oregon**

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| **Special Status Species (SSS)** | **Special Status Species (SSS)** | |
| **Goal** | **Goal** | |
| Goal SSS 1: Conserve, enhance, and restore the sagebrush ecosystem upon which GRSG populations depend in an effort to maintain and/or increase their abundance and distribution, in cooperation with other conservation partners. | No changes made. | Completely Revised. |
| **Objective** | **Objective** | |
| 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. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| Objective SSS 2: Maintain or improve habitat connectivity between PHMA within Oregon and adjoining states to promote Greater Sage-grouse movement and genetic diversity. | No changes made. | No change (same as 2015) |
| 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. | No changes made. | Partially Revised- Net conservation gain replaced by "minimum standard of no net loss" except where state of Oregon rules apply. |
| Per Oregon Maintenance Action 2:<br><br>Objective SSS 4: The habitat objectives for GRSG (Table 2-2) is a list of indicators, characteristics, and values that describe GRSG seasonal habitat use areas. The BLM used indicator values derived from a synthesis of local and regional GRSG habitat research and data to describe the typical vegetation communities that sage-grouse select. While the habitat objectives are not attainable on every site or every acre within designated GRSG habitat management areas, the values reflect a range of habitat conditions that generally lead to greater survival of individuals within a population. When permitting land use activities, BLM should consider the ecological site potential within designated habitat management areas to validate the habitat conditions achievable for a specific site.<br><br>The seasonal habitat descriptions in Table 2-2 vary across the range of sage-grouse, within a subregion, and between sites. They are not land health standards but are quantitative measures that inform the Special Status Species Habitat Land Health Standard for sage-grouse. These measurable values reflect ecological potential, and may be adjusted based on local factors influencing sage-grouse habitat selection. Local data or recent | No changes made. | Completely Revised - refer to Appendix 4 |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| science may indicate that sage-grouse select for vegetation structure and composition in seasonal habitats not characterized by the values in the habitat objectives table. In these cases, it may be appropriate to adjust the values. Habitat objectives should be evaluated in the context of annual variability in ecological conditions and should not be used singly to determine habitat suitability for sage-grouse. They may be used to demonstrate trends over time, during plan evaluations for effectiveness of sage-grouse conservation, or when identify limiting habitat characteristics for a given area.<br><br>The indicators, characteristics, values and desired seasonal habitat conditions in the GRSG Plan Habitat Objectives Table are meant to inform the wildlife habitat component of the Land Health Standards evaluation process (LHS, 43 CFR 4180.2), but do not replace rangeland health assessments. Results from the LHS evaluation should be used to support BLM in land use authorization processes and during development of objectives for management actions such as vegetation treatments. BLM land use authorizations will contain terms and conditions regarding the actions needed to achieve or make progress toward achieving habitat objectives and land health standards.<br><br>The Habitat Objectives Tables are to be used:<br>• To assess habitat suitability for sage-grouse following the BLM policy on sage-grouse habitat assessments<br>• To evaluate land use plan effectiveness for sage-grouse conservation, and<br>• As a basis to develop measurable project objectives for actions in BLM-designated GRSG | *(see above)* | *(see above)* |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| Habitat Management areas when considered alongside land health standards, ecological potential, and local information.<br>References: U.S. Department of the Interior, Bureau of Land Management. 2001. Rangeland health standards handbook H-4180-1. https://www.blm.gov/sites/blm.gov/files/uploads/Media_Library_BLM_Policy_h4180-1.pdf | *(see above)* | *(see above)* |
| 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. | No changes made. | No change (same as 2015) |
| Objective SSS 6: The BLM will coordinate with the State of Oregon regarding proposed management changes, the implementation of conservation measures, mitigation, and site-specific monitoring related to adaptive management and anthropogenic disturbance. | No changes made. | No change (same as 2015) |
| **Management Direction** | **Management Direction** | |
| MD SSS 1: Designate PHMA on 4,578,518 acres and designate GHMA on 5,628,628 acres. | No changes made. | Partially Revised- updated acres |
| MD SSS 2: Designate Sagebrush Focal Areas (SFA) (1,929,580 acres) as shown on Figure 1-2: Oregon Decision Area, Greater Sage-Grouse Habitat Management Areas for BLM-Administered Lands (with SFA). SFAs will be managed as PHMA, with the following additional management:A. Recommended for withdrawal from the General Mining Law of 1872, as amended, subject to valid existing rights. B. Managed as NSO, without waiver, exception, or modification, for fluid mineral leasing.C. Prioritized for vegetation management and conservation actions in these areas, including, but not limited to land health assessments, wild horse and burro management actions, review of livestock grazing permits/leases, and habitat restoration (see specific management sections). | No changes made. | Completely Revised- SFA's not carried forward |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD 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. | No changes made. | Completely Revised |
| MD 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.). Within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation gain to the species will be achieved. This exception is limited to projects which fulfill the use for which the corridors were designated (ex., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location. | No changes made. | Completely Revised |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD 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 E. | No changes made. | No change (same as 2015) |
| MD SSS-6: Using the habitat disturbance cap calculation methodology (Appendix E), in cooperation with ODFW, measure the direct area of influence of infrastructure, facilities, energy, and mining within Oregon PACs (Figure 2-2 in Appendix A) and maintain a current database of anthropogenic disturbance. | No changes made. | Completely Revised |
| MD 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. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD 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 2-2. 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. | No changes made. | Completely Revised- new Application of Habitat Objectives section; refer to Appendix 4 |
| MD SSS 9: Apply buffers and seasonal restrictions in Table 2-4 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 B). | No changes made. | No change (same as 2015) |
| See Table 2-3 Greater Sage-Grouse Buffers | No changes made. | No change (same as 2015) |
| MD 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. | No changes made. | Completely Revised- new Mitigation section; Net conservation gain replaced by "a minimum standard of no net loss" except where state of Oregon rules apply. |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD SSS 11: Anthropogenic disturbances or activities disruptive to GRSG (including scheduled maintenance activities) shall not occur in seasonal GRSG habitats unless the project plan and NEPA document demonstrate the project will not impair the life-cycle or behavioral needs of GRSG populations. Seasonal avoidance periods vary by GRSG seasonal habitat as follows:<br>• 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.<br>• Brood-rearing habitat from July 1 to October 31<br>• Winter habitat from November 1-February 28<br><br>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. | No changes made. | No change (same as 2015) |
| MD 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 and 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. | No changes made. | No change (same as 2015) |
| MD SSS 13: All authorized actions in Greater Sage-grouse habitat are subject to RDFs and BMPs in Appendix C and these disturbance screening criteria: | No changes made. | Partially Revised- Revised calculation method to disturbance cap. Net conservation gain replaced by “a minimum standard of no net loss” except where state of Oregon rules apply. |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| Where avoidance is not possible, disturbance will be allowed under the following conditions:<br>• Development in each Oregon PAC and PHMA does not exceed the disturbance cap at either the Oregon PAC scale or the project scale (Appendix E).<br>• New anthropogenic disturbance does not occur within 1.0 mile of an occupied or pending lek in PHMA or GHMA.<br>• Development meets noise restrictions in PHMA and GHMA.<br>• Analyze through implementation level NEPA seasonal protection and timing limitations of occupied and pending leks in PHMA and GHMA.<br>• All disturbance is subject to net conservation gain mitigation to Greater Sage-grouse and its habitat (see Appendix F, Mitigation) in PHMA and GHMA.<br>• All new permitted activities will follow Required Design Features (Appendix C) in PHMA and GHMA.<br>• 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.<br>• Apply buffers and seasonal restrictions in Table 2-4 to all occupied or pending leks in PHMA and GHMA to avoid direct disturbance to Greater Sage-grouse.<br>Screening criteria and conditions will not be applicable to vegetation treatments being conducted to enhance GRSG habitat, except noise and seasonal restrictions will apply. | *(see above)* | *(see above)* |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD 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. | No changes made. | No change (same as 2015) |
| MD SSS 15: Implement adaptive management responses to hard and soft triggers established in the Adaptive Management Strategy (Appendix J). Hard trigger responses will be removed, either through a plan amendment or when the criteria for recovery have been met (see Appendix J - 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. | No changes made. | Completely Revised |
| **Predation** | | |
| No similar action | No similar action | New: predation actions added |
| **Vegetation (VEG)** | **Vegetation (VEG)** | |
| **Goal** | **Goal** | |
| Goal VEG 1: Increase the resistance of Greater Sage-grouse habitat to invasive annual grasses and the resiliency of Greater Sage-grouse habitat to disturbances such as fire and climate change to reduce habitat loss and fragmentation. | No changes made. | No change (same as 2015) |
| Goal VEG 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. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| Goal VEG 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. | No changes made. | No change (same as 2015) |
| **Objective** | **Objective** | |
| Objective VEG 1: Within the boundaries of each Field Office establish a mix of sagebrush classes as identified in Table 2-4, Desired Mix of Sagebrush Classes by Sagebrush Type on BLM-administered lands in Greater Sage-grouse habitat. Evaluate progress toward the objective every 10 years. | No changes made. | No change (same as 2015) |
| Table 2-4 Desired Mix of Sagebrush Classes by Sage Brush Type | No changes made. | No change (same as 2015) |
| Objective VEG 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 Glossary). | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| Objective VEG 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. | No changes made. | No change (same as 2015) |
| Objective VEG 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. | No changes made. | No change (same as 2015) |
| Objective VEG 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. | No changes made. | No change (same as 2015) |
| Objective VEG 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: | No changes made. | No change (same as 2015) |
| Objective VEG 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. | No changes made. | No change (same as 2015) |
| Objective VEG 8: Coordinate vegetation management activities with adjoining landowners. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| Objective VEG 9: In all Sagebrush Focal Areas and Priority Habitat Management Areas, the desired condition is to maintain all lands ecologically capable of producing sagebrush (but no less than 70%) with a minimum of 15% sagebrush cover or as consistent with specific ecological site conditions. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Tech Ref 1734-6) and in Table 2-5. | No changes made. | Partially Revised- SFA's not carried forward |
| Table 2-5 Decadal Treatment Objectives for GRSG Habitat (text included in table 2-5 after this comparison table) | No changes made. | No change (same as 2015) |
| **Management Direction** | **Management Direction** | |
| Habitat Restoration: | — | |
| MD VEG 1: Priority areas for Greater Sage-grouse habitat restoration and maintenance projects are*:<br>• Sites with a higher probability of success.<br>• Seasonal habitats thought to be limiting to Greater Sage-grouse populations.<br>• Connectivity corridors between Greater Sage-grouse populations and subpopulations.<br>• Following stand-replacing events at least 100 acres in size.<br><br>*Not in priority order. Incorporate these priorities in the assessments conducted using the FIAT process detailed in Appendix H. | No changes made. | No change (same as 2015) |
| MD VEG 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. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD VEG 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. | No changes made. | No change (same as 2015) |
| MD VEG 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. | No changes made. | No change (same as 2015) |
| MD VEG 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. | No changes made. | No change (same as 2015) |
| MD VEG 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. | No changes made. | No change (same as 2015) |
| MD VEG 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. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD VEG 8: Use native plant materials for restoration and rehabilitation based on availability, adaptive capacity, and probability of successful establishment (see Appendix I). 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). | No changes made. | No change (same as 2015) |
| MD VEG 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.<br>Use non-native plant materials as necessary to:<br>1. Limit or control invasive plant species spread or dominance.<br>2. Create fuel breaks along roads and ROWs.<br>3. Create defensible space within 0.5 mile of human residences. | No changes made. | No change (same as 2015) |
| MD VEG 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. | No changes made. | No change (same as 2015) |
| MD VEG 11: Do not conduct forage enhancement solely for domestic livestock in PHMA. | No changes made. | No change (same as 2015) |
| MD VEG 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. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD VEG 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. | No changes made. | No change (same as 2015) |
| MD VEG 14: Allowable methods for vegetation treatment include mechanical, biological (including targeted grazing), chemical, or wildland fire or combinations of these general treatment categories. | No changes made. | No change (same as 2015) |
| MD VEG 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 2-4). 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. | No changes made. | No change (same as 2015) |
| MD VEG 16: Test new potential restoration methods in areas with a sagebrush overstory and an annual grass understory. | No changes made. | No change (same as 2015) |
| MD VEG 17: Remove conifers encroaching into sagebrush habitats, in a manner that considers tribal cultural values. 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. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
| --- | --- | --- |
| MD VEG 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. | No changes made. | No change (same as 2015) |
| MD VEG 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. | No changes made. | No change (same as 2015) |
| Integrated Invasive Species: | — | |
| MD VEG 20: In priority treatment areas for invasive annual grasses, apply early detection-rapid response principles on*:<br>• New infestations.<br>• Satellite populations.<br>• Isolated populations.<br>• Where invasive annual grasses are still sub-dominant.<br>• Edges of large infestations<br>• Where sites are frequently or commonly used for temporary infrastructure such as incident base camps, spike camps, staging areas, and helicopter landing areas.<br><br>*Not in priority order. Incorporate these priorities in the assessments conducted using the process detailed in Appendix H (FIAT process). | No changes made. | No change (same as 2015) |

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| MD VEG 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. Treat areas that contain cheatgrass and other invasive or noxious species to minimize competition and favor establishment of desired species. | No changes made. | No change (same as 2015) |
| MD VEG 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. | No changes made. | No change (same as 2015) (2024 Record of Decision for Programmatic Approval Addressing Vegetation Treatments Using Herbicides; still requires state or district-level step-down NEPA) |
| MD VEG 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. | No changes made. | No change (same as 2015) |
| MD VEG 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. | No changes made. | No change (same as 2015) |

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| MD VEG 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. | No changes made. | No change (same as 2015) |
| **Fire and Fuels Management (FIRE)** | **Fire and Fuels Management (FIRE)** | |
| **Objective** | **Objective** | |
| Objective FIRE 1: Manage wildland fire and hazardous fuels to protect, enhance, and restore Greater Sage-grouse habitat. | No changes made. | No change (same as 2015) |
| Objective FIRE 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 J for adaptive management triggers). | No changes made. | No change (same as 2015) |
| Objective FIRE 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. | No changes made. | No change (same as 2015) |
| **Management Direction** | **Management Direction** | |
| MD FIRE 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. | No changes made. | No change (same as 2015) |

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| MD FIRE 2: The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be done based on the values to be protected, human health and safety, and the costs of protection. 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. | No changes made. | No change (same as 2015) |
| MD FIRE 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:<br>1. Habitat within 4.0 miles of an occupied or pending lek.<br>2. Greater Sage-grouse winter range. | No changes made. | No change (same as 2015) |
| MD FIRE 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. | No changes made. | No change (same as 2015) |
| MD FIRE 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. | No changes made. | No change (same as 2015) |
| MD FIRE 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. | No changes made. | No change (same as 2015) |

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| MD FIRE 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. | No changes made. | No change (same as 2015) |
| MD FIRE 8: Allow mechanical fire line except:<br>• Where prohibited by other resource direction (e.g., wilderness, soils, hydrology, and riparian management)<br>• Where inconsistent with direction for specific land allocations<br><br>The authorized official may approve exceptions. | No changes made. | No change (same as 2015) |
| MD FIRE 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. | No changes made. | No change (same as 2015) |
| MD FIRE 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. | No changes made. | No change (same as 2015) |
| MD FIRE 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. | No changes made. | No change (same as 2015) |

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| MD FIRE 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. | No changes made. | No change (same as 2015) |
| MD FIRE 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. | No changes made. | No change (same as 2015) |
| MD FIRE 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. | No changes made. | No change (same as 2015) |
| MD FIRE 15: Complete an annual review of landscape assessment implementation efforts with interagency partners. | No changes made. | No change (same as 2015) |
| MD FIRE 16: Implement appropriate fire operations and fuels management RDFs identified in Appendix C. | No changes made. | No change (same as 2015) |
| MD FIRE 17: Include information on the resource value of Greater Sage-grouse habitat in existing prevention plans. | No changes made. | No change (same as 2015) |

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| MD FIRE 18: If prescribed fire is used in Greater Sage-grouse habitat, the NEPA analysis for the Burn Plan will address:<br>• why alternative techniques were not selected as a viable options;<br>• how Greater Sage-grouse goals and objectives would be met by its use;<br>• how the COT Report objectives would be addressed and met;<br>• a risk assessment to address how potential threats to Greater Sage-grouse habitat would be minimized.<br><br>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).<br><br>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. | No changes made. | No change (same as 2015) |

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| **Livestock Grazing/Range Management (LG)** | **Livestock Grazing/Range Management (LG)** | |
| **Objective** | **Objective** | |
| Objective LG 1: Manage livestock grazing to maintain or improve Greater Sage-grouse habitat by achieving Standards for Rangeland Health (SRH). | No changes made. | Completely Revised |
| Objective LG 2: On BLM-managed lands, 12,083,622 acres will continue to be available for livestock grazing in Greater Sage-grouse habitat. In key RNAs, 22,765 acres will be unavailable to livestock grazing. See Table 2-6, Key ACECs and RNAs for ARMPA. | Objective LG2: On BLM-managed lands, 12,105,581 acres will continue to be available for livestock grazing in Greater Sage-Grouse habitat. Table 2-6 is no longer applicable and is therefore deleted. | Completely Revised |
| Objective LG 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:<br>1. Allotments containing SFA that have never been evaluated.<br>2. Allotments containing SFA that have not been re-evaluated in 10 or more years.<br>3. Allotments containing PHMA that have never been evaluated.<br>4. Allotments containing PHMA that have not been re-evaluated in 10 or more years.<br>5. Allotments containing GHMA that have never been evaluated.<br>6. Allotments containing GHMA that have not been re-evaluated in 10 or more years. | No changes made. | Completely Revised |
| **Management Direction** | **Management Direction** | |
| MD LG 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). | MD LG 1 is deleted.<br><br>Livestock grazing management in the 13 key RNAs returns to being governed by applicable district RMPs as amended by the 2015 Oregon Greater Sage-Grouse ROD/ARMPA goals, objectives, and management decisions. | Completely Revised |

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| MD LG 2: When livestock management practices are determined to not be compatible with meeting or making progress towards achievable habitat objectives following appropriate consultation, cooperating and coordination, implement changes in grazing management through grazing authorization modifications, or allotment management plan implementation. Potential modifications include, but are not limited to, changes in:<br>1. Season or timing of use;<br>2. Numbers of livestock;<br>3. Distribution of livestock use;<br>4. Duration and/or level of use;<br>5. Locations of bed grounds, sheep camps, trail routes, and the like;<br>6. Extended rest or temporary closure from grazing through BLM administrative actions;<br>7. Make allotment unavailable to grazing;<br>8. Kind of livestock (e.g., cattle, sheep, horses, or goats) (Briske et al. 2011); and<br>9. Grazing schedules (including rest or deferment).<br>*Not in Priority Order<br>When SRH are being met no changes in current management or activity plans or permits/leases are required, but could occur to meet other resource management objectives. | No changes made. | Completely Revised- RM-1 and Appendix 5. Livestock Grazing Management Best Management Practices and Design Features and Supplemental Information completely replaces Oregon's 2015 Appendix C Livestock Grazing RDFs and BMPs |
| MD LG 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. | No changes made. | Completely Revised- Appendix 5. Livestock Grazing Management Best Management Practices and Design Features and Supplemental Information |

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| MD LG 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 2-2. 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. | No changes made. | Completely Revised- RM-1; also refer to the Application of Habitat Objectives section |
| MD LG 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:<br>1. Conduct pre-season assessments prior to livestock turn out.<br>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.<br><br>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. | No changes made. | Completely Revised- Appendix 5. Livestock Grazing Management Best Management Practices and Design Features and Supplemental Information |

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| MD LG 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).<br><br>Maintain, enhance, or reestablish riparian areas in PHMA and GHMA | No changes made. | Completely Revised- Appendix 5. Livestock Grazing Management Best Management Practices and Design Features and Supplemental Information |
| MD LG 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. | No changes made. | Completely Revised |
| MD LG 8: Design new and maintain existing water projects to avoid standing pools of shallow water that would spread West Nile Virus. | No changes made. | Completely Revised- Appendix 5. Livestock Grazing Management Best Management Practices and Design Features and Supplemental Information |
| MD LG 9: Remove, modify, or mark fences identified as high risk for collisions, generally within 1.2 miles of occupied or pending leks. | No changes made. | Completely Revised- RM-5 |
| MD LG 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. | No changes made. | Completely Revised- Appendix 5. Livestock Grazing Management Best Management Practices and Design Features and Supplemental Information |
| MD LG 11: Sagebrush Focal Areas will be prioritized for management and conservation actions, including, but not limited to review of livestock grazing permits/leases. | No changes made. | Completely Revised- SFA's not carried forward |

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| MD LG 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 (SFA) followed by PHMA outside of the SFA. 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 (e.g. fire) and legal obligations. | No changes made. | Completely Revised |
| MD LG 13: The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include lands within SFA and PHMA will include specific management thresholds based on GRSG Habitat Objectives Table 2-2, Land Health Standards (43 CFR, Part 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. | No changes made. | Completely Revised- RM-3; Also Table 2-2 replaced by Appendix 4, Table 4-1. Oregon GRSG Habitat Indicators Table. |
| MD LG 14: Allotments within SFA, 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. | No changes made. | Completely Revised |

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| MD LG 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. This does not apply to or impact grazing preference transfers, which are addressed in 43 CFR, Part 4110.2-3. | No changes made. | Completely Revised |
| **Wild Horses and Burros (WHB)** | **Wild Horses and Burros (WHB)** | |
| **Objective** | **Objective** | |
| 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. | No changes made. | Completely Revised |
| Objective WHB 2: Manage wild horse and burro population levels within established appropriate management levels (AML). | No changes made. | Completely Revised |
| Objective 3: Complete assessments of Greater Sage-grouse habitat indicators for HMAs containing PHMA and GHMA. The priorities for conducting evaluations are:1. HMAs containing SFA.2. HMAs containing PHMA. 3. HMAs containing GHMA. 4. HMAs without GRSG Habitat. | No changes made. | Completely Revised |
| **Management Direction** | **Management Direction** | |
| MD WHB 1: Manage herd management areas (HMAs) in GRSG habitat within established AML ranges to achieve and maintain GRSG habitat objectives (Table 2-2). | No changes made. | Completely Revised- Table 2-2 replaced by Appendix 4, Table 4-1. Oregon GRSG Habitat Indicators Table. |

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| MD 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:<br>1. HMAs containing SFA;<br>2. HMAs containing PHMA;<br>3. HMAs containing only GHMA;<br>4. HMAs containing sagebrush habitat outside of PHMA and GHMA mapped habitat;<br>5. HMAs without GRSG habitat. | No changes made. | Partially Revised- SFAs not carried forward |
| MD 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 SFA followed by PHMA. | No changes made. | Completely Revised |
| MD WHB 4: In SFA 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. | No changes made. | Completely Revised |
| MD WHB 5: In SFA 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. | No changes made. | Partially Revised- SFAs not carried forward |
| MD 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 SFA and other PHMA. | No changes made. | Partially Revised- SFAs not carried forward |

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| MD 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. | No changes made. | No change (same as 2015) |
| MD 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. | No changes made. | No change (same as 2015) |
| MD 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. | No changes made. | No change (same as 2015) |
| MD 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:<br>1. Response to an emergency. (e.g., fire, insect infestation, disease or other events of unanticipated nature).<br>2. Greater Sage-grouse habitat.<br>3. Maintain a thriving natural ecological balance. | No changes made. | Completely Revised |
| MD WHB 11: In PHMA, design any new and modify existing structural WHB improvements to conserve, enhance, or restore Greater Sage-grouse habitat. | No changes made. | No change (same as 2015) |

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| **Mineral Resources (MR)** | — | |
| **Objective** | — | |
| Leasable Minerals | — | |
| Objective MR 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 USC 226(p) and 43 CFR 3162.3-1(h). | No changes made. | Completely Revised. |
| Objective MR 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 Drilling Permit (GDP) 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. | No changes made. | Completely Revised |

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| **Management Direction** | **Management Direction** | |
| Unleased Fluid Minerals: | — | |
| MD MR 1: Stipulate all leases within PHMA as NSO. No waivers or modifications to a fluid mineral lease no-surface-occupancy stipulation will be granted.<br><br>The authorized officer may grant an exception to a fluid mineral lease no-surface-occupancy stipulation only where the proposed action:<br><br>i. Would not have direct, indirect, or cumulative effects on Greater Sage-grouse or its habitat; or<br><br>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.<br><br>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.<br><br>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 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 | No changes made. | Completely Revised No modifications to the PHMA NSO within 3.1 miles of active or pending active leks; exceptions and waivers may be granted. |

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| 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 publicly available at least quarterly. | *(see above)* | *(see above)* |
| MD MR 2: Stipulate all leases within Sagebrush Focal Areas as NSO, without waiver, exception, or modification. | No changes made. | Completely Revised- SFAs not carried forward |
| MD MR 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 will be open to leasing fluid minerals subject to NSO stipulations. Apply Fluid Mineral Stipulations, identified in Appendix G. | No changes made. | Partially Revised- No modifications to the GHMA NSO within 3.1 miles of active or pending active leks; exceptions and waivers may be granted. |
| MD MR 4: Allow geophysical exploration within PHMA and GHMA subject to seasonal restrictions, see Appendix G. | No changes made. | Partially Revised- Appendix G to be updated |

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| Leased Fluid Minerals: | — | |
| MD MR 5: In PHMA, apply the conservation measures through RMP implementation decisions (e.g., approval of a Geothermal Drilling Permit (GDP)) 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:<br>1. Whether the conservation measure is “reasonable” (43 CFR, Part 3101.1-2) with the valid existing rights.<br>2. Whether the action is in conformance with the approved RMP.<br><br>Additionally, apply the 3 percent disturbance cap for development within Oregon PACs and PHMA (see Appendix E).<br><br>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. | No changes made. | Completely Revised- refer to 2025 ARMPA under PHMA, Fluid Minerals, Management Action to Address Development in Areas Already Leased |
| MD MR 6: Implement RDFs in PHMA and GHMA as detailed in Appendix C, as allowed by law for existing leases. | No changes made. | No Change (same as 2015) |
| MD MR 7: Complete Master Leasing Plans in lieu of APD/GDP by APD/GDP or Operations/Utilization plans for fluid mineral lease development processing within PHMA. | No changes made. | No Change (same as 2015) |
| MD MR 8: Within an Oregon PAC, when permitting APDs or GDPs 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. | No changes made. | No Change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD MR 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. | No changes made. | No Change (same as 2015) |
| MD MR 10: Identify areas where land acquisitions including mineral rights or conservation easements would benefit Greater Sage-grouse habitat. Proceed with acquisition process where appropriate. | No changes made. | No Change (same as 2015) |
| Locatable Minerals: | — | |
| MD MR 11: 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. | No changes made. | Partially Revised- Net conservation gain replaced by "a minimum standard of no net loss" except where state of Oregon rules apply. |
| MD MR 12: 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. | No changes made. | No Change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD MR 13: ~~Sagebrush Focal Areas are recommended for withdrawal from the General Mining Law of 1872, as amended, subject to valid existing rights.~~<br><br>Per Oregon maintenance action 3 of May 2018:<br><br>The recommendation for withdrawal of Sagebrush Focal Areas was analyzed and removed. It was determined through an assessment process that the BLM proposal to withdraw 10 million acres was unreasonable in light of data that showed that current and 20 years of anticipated mining would affect less than 0. I percent of occupied sage-grouse range." | No changes made. | Completely Revised- SFAs not carried forward |
| Salable Minerals: | — | |
| MD MR 14: 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:<br>• The activity is within the Oregon PAC (also called BSU, and is the same footprint as PHMA) and project area disturbance cap.<br>• The activity is subject to the provisions set forth in the mitigation framework in Appendix F.<br>• All applicable required design features are applied and the activity is permissible under screening criteria (see SSS 13).<br><br>Federal Highway Act material sites are a ROW and not subject to mineral sale requirements. See ROW section for management (MD LR 7). | No changes made. | Partially Revised- refer to 2025 ARMPA under PHMA, Saleable Minerals/Mineral Materials |
| MD MR 15: GHMA remains open subject to stipulations that will protect Greater Sage-grouse and its habitat; see RDFs and BMPs in Appendix C. | No changes made. | No Change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| Nonenergy Leasable Minerals: | — | |
| MD MR 16: Close PHMA to new leases and permits. Consider expansion of existing operations if the disturbance is within the cap and subject to compensatory mitigation. | No changes made. | Partially revised- minor wording change |
| MD MR 17: 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. | No changes made. | Partially revised- minor wording change |
| Mineral Split Estate: | — | |
| MD MR 18: 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. | No changes made. | No Change (same as 2015) |
| MD MR 19: 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. | No changes made. | No Change (same as 2015) |
| **Renewable Energy (Wind and Solar) (RE)** | **Renewable Energy (Wind and Solar) (RE)** | |
| **Management Direction** | **Management Direction** | |
| MD RE 1: Designate PHMA as an exclusion area for new utility/commercial scale development of wind or solar ROWs, except in Lake, Harney, and Malheur Counties. | No changes made. | Completely Revised- PHMA is exclusion with exceptions |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD RE 2: Designate PHMA outside of sagebrush focal areas (SFA) in Lake, Harney, and Malheur Counties as an avoidance area for new utility/commercial scale wind or solar ROWs. In Harney, Lake and Malheur counties, priority would be placed on locating commercial scale wind and solar energy development in non-habitat areas first (i.e., outside of PHMA and GHMA) before approving development in PHMA. Where an Oregon PAC (PHMA) occurs in more than one county, the allocation for each Oregon PAC is determined by the county in which it occurs. For example, the Cow Valley PAC is located in Malheur and Baker Counties; the Baker County portion would be exclusion, and the Malheur portion would be avoidance. | No changes made. | Completely Revised- PHMA is exclusion with exceptions |
| MD RE 3: Designate Sagebrush Focal Areas as exclusion areas for new utility/commercial scale wind or solar ROWs development. | No changes made. | Completely Revised- SFA's not carried forward |
| MD RE 4: Designate GHMA as an avoidance area for new utility/commercial scale wind or solar rights-of-way. If new utility/commercial scale wind or solar development in GHMA is unavoidable apply the following measures:<br>1. If possible, construct meteorological towers without guy wires.<br>2. If guy wires are necessary, mark with anti-strike devices.<br>3. Analyze potential alternative site locations with known wind or solar potential outside of Greater Sage-grouse habitat in NEPA documents for ROW applications. | No changes made. | Completely Revised- GHMA is avoidance with exceptions |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| **Lands and Realty (LR)** | **Lands and Realty (LR)** | |
| **Objective** | **Objective** | |
| Objective LR 1: Effects of infrastructure projects, including siting, will be minimized using the best available science, updated as monitoring information on current infrastructure projects becomes available. | No changes made. | No change (same as 2015) |
| **Management Direction** | **Management Direction** | |
| Utility Corridors and Communications Sites: | — | |
| MD LR 1: All Lands and Realty actions shall comport with SSS 13 disturbance screening criteria. | No changes made. | No change (same as 2015) |
| MD LR 2: Designated existing utility corridors will remain open in PHMA and GHMA to utility rights-of-way. | No changes made. | Completely Revised- Major and Minor ROWs are avoidance with exceptions |
| MD LR 3: Designate other ROWs (including permits and leases) in PHMA as avoidance areas:<br><br>Road ROWs:<br>• New road ROWs will 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 will be allowed if the ROW applicant is pursuing a Title V FLPMA ROW grant and will create no new surface disturbance.<br>• Only allow use of existing roads, or realignment of existing roads, when renewing or amending existing authorizations. | No changes made. | No Change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| • 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.<br>• Existing Federal Highway Act (FHWA) appropriation ROWs are valid existing rights and new FHWA ROWs will continue to be considered subject to all disturbance screening criteria. See disturbance screening criteria in SSS 13.<br><br>New proposals for power lines, access roads, pump storage, and other hydroelectric facilities licensed by FERC will be subject to all Greater Sage-grouse ROW screening criteria.<br><br>Communication Sites:<br><br>Locate new communication towers within an existing communication site where technically feasible. If not feasible, new sites will be considered where necessary for public safety but shall adhere to the ROW disturbance screening criteria as listed in SSS 13. | *(see above)* | *(see above)* |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD LR 4: Renewing, Amending or Terminating ROW Grants in PHMA and GHMA:<br>• Conduct rehabilitation when FLPMA ROW grant expires, is relinquished, or terminated, rehabilitation is required in compliance with 43 CFR, Part 2805.12(i).<br>• 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.<br>• Add additional stipulations, if necessary, when renewal or amendment of existing ROW grants.<br><br>Mitigate impacts on GRSG or their habitats during amendment of an existing ROW grant. Mitigation could include the disturbance screening criteria. | No changes made. | No change (same as 2015) |
| MD LR 5: Designated ROW Corridors in PHMA and GHMA:<br>• Manage existing designated ROW corridors as open.<br>• 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.<br>• Within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation gain to the species will be achieved. This exception is limited to projects which fulfill the use for which the corridors were designated (ex., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location. | No changes made. | Partially Revised –Major and Minor ROWs are avoidance with exceptions. Net conservation gain replaced by "a minimum standard of no net loss" except where state of Oregon rules apply. |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD LR 10: Consider the likelihood of development of not-yet-constructed surface-disturbing activities – as defined in Table 2 of the Monitoring Framework (Appendix D) − under valid existing rights prior to authorizing new projects in PHMA. | No changes made. | No change (same as 2015) |
| Land Use Authorizations: | — | |
| MD LR 6: 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 following identified projects, shall comply with the conservation measures outlined in this Approved 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. Conservation measures for GRSG are being analyzed through the project's NEPA review process, which should achieve a net conservation benefit for the GRSG.<br><br>Place new high voltage transmission lines in designated utility corridors where technically feasible; where not technically feasible, locate lines adjacent to existing infrastructure.<br><br>If an existing transmission line is upgraded to a higher voltage the following is required:<br>• The existing transmission line shall be removed within a reasonable amount of time after the new line is installed and energized. | No changes made. | Completed Revised |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| • The new line shall be constructed in the same alignment (ROW boundary) as the existing line unless an alternate route would benefit Greater Sage-grouse or its habitat.<br>Outside of designated corridors, bury new transmission lines where technically and financially feasible.<br>• 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.<br>• 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.<br>Outside of designated corridors, bury new pipelines where technically and financially feasible. Pipelines should be located adjacent to existing infrastructure. | *(see above)* | *(see above)* |
| MD LR 7: GHMA is open to other ROWs/Land Use Authorization/Permits but must adhere to screening criteria in SSS 13.<br>• Existing Federal Highway Act (FHWA) Appropriation ROWs are valid existing rights. New FHWA ROWs will be subject to all Greater Sage-grouse screening criteria.<br>• 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. | No changes made. | Completely Revised- GHMA is avoidance. Retain language associated with FHWA ROWs. |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| Land Tenure: | — | |
| MD LR 8: 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, including land exchanges, will provide a net conservation gain to the Greater Sage-grouse or (2) the agency can demonstrate that the disposal, including land exchanges, of the lands will have no direct or indirect adverse impact on conservation of the Greater Sage-grouse. | No changes made. | Partially revised- Net conservation gain replaced by "a minimum standard of no net loss" except where state of Oregon rules apply. |
| Withdrawals: | — | |
| Per Oregon maintenance action 3 in May of 2018 MD LR 9 from the 2015 plan was deleted.<br><br>(MD LR 9: Recommend SFAs for withdrawal from the General Mining Act of 1872, as amended; subject to valid existing rights.) | No changes made. | Completely Revised |
| **Recreation and Visitor Services (REC)** | **Recreation and Visitor Services (REC)** | |
| **Management Direction** | **Management Direction** | |
| MD REC 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 shall be based on site-specific rationale that biological impacts on Greater Sage-grouse are being avoided.<br><br>Evaluate and modify existing SRPs lacking Greater Sage-grouse stipulations in PHMA. | No changes made. | No change (same as 2015) |
| MD REC 2: Do not issue motorized and/or race SRPs or competitive SRPs within 4.0 miles of occupied or pending leks during breeding season from March 1 to June 30. | No changes made. | No change (same as 2015) |
| MD REC 3: Evaluate and modify, if necessary, recreation sites in PHMA and GHMA to reduce avian predator perch sites. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD REC 4: In PHMA, do not construct new recreation facilities (e.g., campgrounds, trails, trailheads, staging areas) unless the development will have a net conservation gain to GRSG 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. | No changes made. | Partially revised- Net conservation gain replaced by "a minimum standard of no net loss" except where state of Oregon rules apply. |
| MD REC 5: Evaluate recreation SRMAs for consistency with the Adaptive Management Strategy (Appendix J).<br><br>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:<br>• 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.<br>• Re-locate SRMAs in whole or in part, through land use plan amendments, in order to reduce negative effects on GRSG. | No changes made. | No change (same as 2015) |
| MD REC 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. | No changes made. | No change (same as 2015) |
| **Travel and Transportation (TTM)** | **Travel and Transportation (TTM)** | |
| **Objective** | **Objective** | |
| Objective TTM 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. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| Objective TTM 2: Reduce disturbance to Greater Sage-grouse by evaluating or modifying OHV/ORV designations and route selection in accordance with minimization criteria. | No changes made. | No change (same as 2015) |
| **Management Direction** | **Management Direction** | |
| MD TTM 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.<br><br>Travel management planning will be deferred to future implementation/activity level planning or concurrent with future RMP planning.<br><br>In addition to the minimization criteria, districts will adopt the following Greater Sage-grouse specific planning elements only for BLM administered roads during implementation level planning.<br>• 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.<br>• 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.<br>• 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.<br><br>In addition, implementation level travel planning efforts will be guided by the goals, objectives and | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| guidelines outlined in the SSS section, relevant National and Oregon specific guidance, and the following:<br>• A timeline to complete travel planning efforts will 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.<br>• 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 will be incorporated into future travel management plans.<br>• 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."<br>• During subsequent travel management planning, all routes will 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 will be considered for closure or considered for relocation outside of sensitive GRSG habitat.<br>• During subsequent travel planning, threats to GRSG and their habitat will be considered when evaluating route designations and/or closures. | *(see above)* | *(see above)* |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| • During subsequent travel management planning, routes that do not have a purpose or need would be considered for closure.<br>• During subsequent travel management planning, routes that are duplicative, parallel, or redundant will be considered for closure.<br>• During subsequent travel management planning, seasonal restrictions on OHV use will 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.<br>• During subsequent travel management planning, routes not required for public access or recreation with a current administrative/agency purpose or need will be evaluated for administrative access only.<br>• During subsequent travel management planning, consider prioritizing restoration of routes not designated in a Travel Management Plan.<br>• During subsequent travel management plan implementation, consider using seed mixes or transplant techniques that will maintain or enhance GRSG habitat when rehabilitating linear disturbances.<br><br>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. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD TTM 2: ORV-OHV designations that are "closed" will be maintained as closed to motorized vehicles. OHV Areas designated as "limited to existing" within PHMA and GHMA will be managed as "limited to existing roads, primitive roads, and trails" until the completion of an implementation level travel planning (travel management planning).<br><br>Individual route designations will occur during subsequent implementation level travel management planning efforts. Upon the completion of implementation level travel management plans OHV areas designated as "Limited" will transition to "limited to designated roads, primitive roads and trails." | No changes made. | No change (same as 2015) |
| MD TTM 3: Avoid upgrading existing roads or construction of new roads that are found to contribute to Greater Sage-grouse mortality or lek abandonment. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD TTM 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:<br>1. In Oregon PACs with declining population trends.<br>2. In all other Oregon PACs.<br>3. In all GHMA.<br><br>In PHMA and GHMA, travel systems will 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 will be placed on having a neutral or positive effect on GRSG habitat. | No changes made. | No change (same as 2015) |
| MD TTM 5: Initiate travel management planning within 5 years of RMP revisions. | No changes made. | No change (same as 2015) |
| MD TTM 6: In PHMA and GHMA, limit route construction or realignment of existing designated routes to result in net conservation gain for PHMA and GHMA. | No changes made. | Partially Revised- change to "a minimum standard of no net loss" mitigation, but state of Oregon "net conservation gain" still applies |
| MD TTM 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. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| MD TTM 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. | No changes made. | No change (same as 2015) |
| MD TTM 9: Use proactive methods when necessary to reclaim roads. See BMPs in Appendix C. | No changes made. | No change (same as 2015) |
| MD TTM 10: In PHMA and GHMA, temporary closures will be considered in accordance with 43 CFR, Part 8364 (Closures and Restrictions); 43 CFR, Part 8351 (Designated National Area); 43 CFR, Part 6302 (Use of Wilderness Areas, Prohibited Acts, and Penalties); 43 CFR, Part 8341 (Conditions of Use).<br><br>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, Part 8341.2) A closure or restriction order shall be considered only after other management strategies and alternatives have been explored. The duration of temporary closure or restriction orders shall 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. | No changes made. | No change (same as 2015) |

| 2015 BLM GRSG Approved RMP Amendment | 2019 BLM GRSG Approved RMP Amendment | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| **Special Designations - Areas of Critical Environmental Concern (SD)** | **Special Designations - Areas of Critical Environmental Concern (SD)** | |
| **Objective** | **Objective** | |
| Objective SD 1: Provide for Conservation of Greater Sage-grouse within Key Existing Areas of Critical Environmental Concern (ACECs) (Table 2-6) and Research Natural Areas (RNAs). | No changes made. | Completely Revised |
| 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. | No changes made. | No change (same as 2015) |
| 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. | No changes made. | No change (same as 2015) |
| 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. | Objective SD 4: Manage the Foster Flat and Guano Creek–Sink Lakes RNAs as undisturbed baseline reference areas for the sagebrush plant communities they represent that are important for Greater Sage Grouse. Minimize human disturbance in all 15 key RNAs, allowing natural ecological processes to proceed. | Completely Revised |

### 2.1.1 Relevant Appendices

The following table shows which appendices from the 2015 RMP Amendment have management direction that will change as a result of this RMP amendment. Note that if 2019 is not listed in the year, then no change was made to the appendix between the 2015 and 2019 plans. The 2015 and 2019 appendices can be found on [the Oregon GRSG ePlanning website.]()

| ARMPA Appendix Name | Year | 2025 BLM GRSG Approved RMP Amendment |
|---|---|---|
| A: Approved RMP Amendment Maps | 2015 | Completely Revised- updated allocations and HMA boundaries |
| B: Lek Buffer Distances | 2015 | No Change (same as 2015) |
| C: Required Design Features and Best Management Practices | 2015 | Partially Revised- refer to Appendix 5. Livestock Grazing Management Best Management Practices and Design Features and Supplemental Information |
| D: Greater Sage-Grouse Monitoring Framework | 2015 | Completely Revised- refer to Appendix 3 |
| E: Disturbance Cap Calculation Method | 2015 | Completely Revised- refer to 2025 ARMPA |
| F: Mitigation | 2015 | Partially Revised – incorporate new mitigation language |
| G: Fluid Mineral Leasing Stipulations | 2015 | Partially Revised – incorporate updated exceptions, modifications, and waivers |
| H: Fire and Invasives Assessment Tool | 2015 | No Change (same as 2015) |
| I: Sage-grouse Plant List | 2015 | No Change (same as 2015) |
| J: Adaptive Management Strategy | 2015 | Completely Revised- refer to 2025 ARMPA |
| L: Greater Sage-Grouse Noise Protocol | 2015 | No Change (same as 2015) |

# Appendix 3

## Greater Sage-grouse Monitoring Framework

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# Appendix 3. Greater Sage-grouse Monitoring Framework

## 3.1 Forward

The revised BLM Greater Sage-Grouse (GRSG) Monitoring Framework was developed after five years of implementing the 2015 BLM and USFS GRSG Monitoring Framework which culminated in the 2020 Greater Sage-Grouse Five-year Monitoring Report. Since implementing the monitoring efforts described in the original Monitoring Framework, new data has become available and new approaches to analyzing these data have been developed. This update maintains the existing measures included in the original document and expands upon them to include this new science. Measures for monitoring are identified at two scales: the rangewide scale and land use plan scale. The former will provide insight into habitat conditions and BLM management actions across jurisdictional boundaries which will, in turn, provide context to the smaller scale land use plan monitoring described herein. For each scale of monitoring a suite of 6 measures are identified and a methodology which the BLM will utilize to collect information informing each measure is described. Importantly, specific datasets and analysis approaches may be modified through the implementation of this monitoring framework so that BLM can adapt to new information as it becomes available. The data collected and analyzed for each of the measures described at both scales will vary in spatial extent. For example, measures leveraging remotely sensed data can and will be examined across all habitat management areas within the planning area as well as the BLM managed subset of these habitats. Other measures will apply specifically to BLM managed habitats or subsets thereof (i.e. disturbance and density caps). Further, land use plan decisions may identify specific spatial extents at which some measures are analyzed and tracked, such as to inform adaptive management threshold status. As such, during the implementation of this monitoring framework, the spatial extent of all monitoring and analyses addressing the identified measures will be documented and communicated during effectiveness evaluation efforts.

This Monitoring Framework is related to several other pieces of larger land use plans and associated management direction they provide. The GRSG Monitoring Framework leverages data, information, and assessments to monitor land use plan implementation. Appendix 8 of this Land Use Plan (LUP) establishes GRSG habitat objectives, indicators, and benchmarks. These indicators and benchmarks are utilized in the Habitat Assessment Framework (HAF). The results of these habitat assessments inform the wildlife and/or sensitive species component of the Land Health Standards evaluation process (LHS, 43 CFR 4180.2). The GRSG Monitoring Framework provides a consistent format for reporting if the LUP objectives are being met or making progress to being met, based on the results of these assessment and planning tools.

**Table 3-1. Relationships of LUPs, HAF, LHS, and MF**

| Land Use Plan (LUP) | GRSG Habitat Assessment Framework (HAF) | Land Health Standards Evaluation (LHS) | GRSG Monitoring Framework (MF) |
|---|---|---|---|
| Sets GRSG habitat objective(s) and identifies the GRSG habitat indicators and benchmarks from best available science for evaluating progress toward meeting the objective. | Provides methods to assess GRSG habitats at multiple scales, using the indicators and benchmarks from the applicable LUP Habitat Indicators appendix. | Evaluates if the sage-grouse portion of the Special Status Species Land Health Standard is achieved or significant progress towards achievement is made. These evaluations utilize HAF results along with other data. | Provides framework for reporting progress toward achieving the objective(s) of the LUP, including habitat suitability. |

## 3.2 SECTION I: RANGEWIDE MONITORING

### 3.2.1 Introduction

This rangewide monitoring section of the BLM Revised Greater Sage-Grouse (GRSG) Monitoring Framework is an update from the original BLM and USFS GRSG Monitoring Framework (2015) expands and clarifies the BLM's GRSG rangewide habitat condition monitoring and reporting. Described here are the six measures (**Table 3-2**), and associated updated methodologies, incorporating the original monitoring measures from 2015 (habitat condition and habitat degradation) with additional measures (land cover, habitat indicators, habitat suitability and population trend) that guide the BLM's GRSG monitoring and reporting.

The information gathered from monitoring and reporting on the six rangewide measures (**Table 3-2**) is intended to inform an evaluation of BLM's effectiveness (Section III of this BLM Revised GRSG Monitoring Framework) toward meeting the BLM's overarching goal for greater sage-grouse: *to conserve and manage greater sage-grouse habitats to support persistent, healthy populations, consistent with BLM's sensitive species policy and in cooperation with other conservation partners. Conservation and management should maintain existing connectivity between GRSG populations.*

**Table 3-2. The Six Rangewide Monitoring Measures, Associated Sub-Measures, Monitoring Questions and Data Sources for BLM Monitoring of GRSG Habitat Conditions and Population Trends**

| Measures | Monitoring Questions | Data |
|---|---|---|
| **Measure 1: Vegetation Availability and Condition** | | |
| Measure 1a: Vegetation Condition and trend | What is the status and trend of the habitat indicators describing habitat characteristics important to GRSG as well as ecological threats to GRSG (e.g., annual invasive grasses, bare ground) on BLM lands? | AIM |
| Measure 1b: Current and Historical Amounts of Sagebrush | What is the current versus historical extent of sagebrush within GRSG habitat? How have recent disturbances (fires and treatments) affected the extent of sagebrush? | LANDFIRE |
| Measure 1c: Percent Sagebrush Cover and Trend | What is the percent cover of sagebrush and trend in sagebrush percent cover? | RCMAP |
| Measure 1d: Percent Annual Herbaceous Cover and Trend | What is the percent cover and trend of annual herbaceous cover? | RCMAP |

| Measures | Monitoring Questions | Data |
|---|---|---|
| Measure 1e: Percent Tree Cover within Sagebrush | What is the percent cover and trend of tree cover in sagebrush communities? | RCMAP |
| **Measure 2: Habitat Degradation and Development Intensity in GRSG Habitat** | | |
| Measure 2a: Habitat degradation | What is the estimated amount of habitat degradation rangewide and the estimated change in the amount? | Geospatial analysis using datasets representing anthropogenic development |
| Measure 2b: Intensity of degradation | What is the estimated density of energy development activities and the change in the estimated density? | Geospatial analysis using datasets representing anthropogenic development |
| Measure 2c: Degradation cap compliance | Were any disturbance or density caps above project scale exceeded? | Geospatial analysis using datasets representing anthropogenic development |
| Measure 2d: Reclamation | What is the amount of reclaimed energy-related degradation on BLM lands and the change in the amount? | Geospatial analysis using datasets representing reclamation on BLM-managed lands |
| **Measure 3: GRSG Habitat Suitability** | | |
| Measure 3a: Habitat assessment status | What is the status of GRSG habitat assessments at the mid- and fine-scales across the range? | BLM's Habitat Assessment Framework (HAF) tracking system |
| Measure 3b: Habitat suitability at mid and fine scales | What is the suitability of GRSG habitats at mid and fine spatial scales across the range? | BLM's HAF tracking system |
| **Measure 4: Achievement of Land Health Standards in GRSG Habitat** | | |
| Measure 4a: Status of land health evaluations | How many acres were evaluated for achievement of the SSS/Wildlife Habitat Land Health Standard in GRSG habitat across the range? | BLM's Land Health Standards Database |
| Measure 4b: Status of land health standards | For areas that have been evaluated in GRSG habitat, what is the status of land health and what are the causes of non-achievement (as applicable)? | BLM's Land Health Standards Database |
| **Measure 5: BLM On-The-Ground Conservation and Restoration Efforts for GRSG** | | |
| Measure 5a: Summary of conservation efforts | How many acres/miles were conserved or restored by treatment or action type in GRSG habitat across the range? | NFPORS/VMAP, Other BLM Project Tracking |
| **Measure 6: GRSG Population Trend Rangewide** | | |
| Measure 6a: Annual Range-wide Trend | What is the rangewide average annual population trend? | USGS Rangewide Population Trend Analysis for Greater Sage-Grouse |
| Measure 6b: Cumulative Range-wide Trend | What is the rangewide cumulative population trend? | USGS Rangewide Population Trend Analysis for Greater Sage-Grouse |

### 3.2.2 Methods

The datasets used, and the land ownerships included in the data, vary by monitoring type. For example, the monitoring of habitat indicators uses on-the-ground data and information from BLM lands only. Conversely, the rangewide monitoring of landcover, sagebrush availability and disturbance use geospatial data covering all land ownerships. The population trend monitoring uses state wildlife agencies' data that also covers all land ownership in GRSG habitat. Best available datasets outlined here will be used to analyze the monitoring measures and for reporting on GRSG habitat however BLM reserves the right to change data and analysis methods as it deems appropriate.

***Measure 1. Vegetation Availability and Condition***

Sagebrush availability and vegetation condition analyses are analyzed rangewide for GRSG, excluding the Bi-State Distinct Population Segment and the Columbia Basin population. Analyses differ in the timeframe and type of data used (remotely sensed products vs collected on the ground), the lands to which the analyses apply (all lands vs BLM-managed lands), and in GRSG habitat.

Datasets selected for monitoring must meet key criteria to ensure consistent and accurate monitoring:

- The dataset must be consistent rangewide
- There must be a known accuracy level or level of confidence for the dataset
- The dataset must be based in peer-reviewed science
- The dataset must be maintained and have a known update plan
- The dataset must be readily available
- Consistent methodology must have been used to derive datasets that are compared; different datasets may be used to calculate different measures.

The following datasets, which meet the key criteria, should be analyzed for Measure 1; however, additional data and analyses may also be considered, if justified and documented:

1. BLM Assessment Inventory & Monitoring (AIM) for 1a,
2. LANDFIRE (Picotte et al. 2016) for 1b and
3. Rangeland Condition Monitoring Assessment and Projection (RCMAP; Rigge, 2020) for 1c, 1d, and 1e.

We considered three types of fractional datasets for calculating Measures 1c, 1d, and 1e. Fractional datasets contain pixels or cells that represent areas on the ground which may each contain vegetation cover types such as sagebrush, trees, or herbaceous. A fractional dataset represents the percentage of one vegetation cover type that is present in each pixel (e.g., 50 percent sagebrush, 25 percent trees, or 25 percent herbaceous). The three datasets considered, that are new since the 2015 BLM/USFS GRSG Monitoring Framework, are:

- Landscape Cover Analysis and Reporting Tools (LandCART; Zhou et al 2020),
- Rangeland Analysis Program (RAP; Allred et al 2021), and
- RCMAP.

Accuracies and applicability for the three types of datasets are similar but mixed. BLM Tech Note 456, which compares these datasets, recommends that users consider their individual data needs and uses when selecting from them (Savage et al 2022). **Table 3-3** summarizes some characteristics of the datasets specifically considered for this BLM Revised GRSG Monitoring Framework and, although not comprehensive, reflects the intent to use RCMAP. RAP does not have a sagebrush dataset and it is currently difficult to obtain rangewide data from LandCART but improvements are in progress. Importantly, BLM partners with USGS to fund RCMAP, ensuring the reliability of readily available data, regular updates and maintenance, and data suited for use in this BLM Revised GRSG Monitoring Framework. See **Appendix B, Table B2** for the RCMAP Accuracy Assessment. We recommend using only one data type (for 1c, 1d, & 1e) such that data can be overlaid or compared without concern for different methods that created the data. If additional fractional datasets become available and fit the key criteria above, they may be considered for use in calculating the Measures 1c, 1d, and 1e.

**Table 3-3. Dataset Characteristics For Measure 1c, 1d, And 1e**

| Dataset Characteristics | LandCART | RAP | RCMAP |
|---|---|---|---|
| Annual herbaceous | Y | Y | Y |
| Sagebrush | Y | N | Y |
| Tree cover | Y | Y | Y |
| Rangewide extent | Difficult | Y | Y |
| Trend | Y | User calculates | Y |

*Measure 1a: What is the status and trend of the habitat indicators and threats to GRSG (e.g., non-native invasive grasses, bare ground) on BLM lands?*

The vegetation condition monitoring is based on estimates for 6 greater sage-grouse habitat indicators (e.g., sagebrush cover) and estimates of 7 threat indicators (e.g., invasive species) (Herrick et al. 2017). These estimates will be based on field data collected through the BLM's national monitoring efforts on BLM-managed rangeland ecosystems. These data are part of the Assessment, Inventory, and Monitoring (AIM) program including the National AIM Survey (also known as the Landscape Monitoring Framework (LMF), Yu Li et al. 2020 and generally described in Karl et al. 2016). The AIM estimates provide consistent and standardized data about vegetation conditions broadly across the range.

The 6 GRSG habitat indicators are:

1. Percent cover of sagebrush
2. Mean sagebrush species height
3. Proportion of sagebrush that is spreading shaped
4. Percent cover of perennial grasses and perennial forbs
5. Mean herbaceous plant species height
6. Percent of lands where native plants make up 95% or more of vegetation cover

The 7 threat indicators are:

1. Proportion of sagebrush that is columnar shaped
2. Percent cover of bare ground
3. Proportion of nonnative invasive species present
4. Proportion where ≥5% of foliar cover is comprised of nonnative invasive species

5. Proportion of vegetation composed of annual grasses
6. Proportion of vegetation composed of nonnative invasive plant species
7. Percent of lands with >3% cover of pinion – juniper.

The vegetation condition summary is reported for BLM-managed GRSG habitats. Also of importance is that the data is collected in areas that retain rangeland vegetation and exclude areas physically converted to agriculture or disturbance from development.

The estimates combine indicator data from all sampling locations collected within a given year. An analysis for trend will be performed for each of these indicators. Analysis details will be included in monitoring reports.

*Measure 1b: What is the current versus historical extent of sagebrush within the range of greater sage-grouse? How have recent disturbances affected the extent of sagebrush?*

Measure 1b estimates both historic and current extent of sagebrush. The datasets to calculate these metrics are the most recent LANDFIRE Biophysical Setting (BpS), Existing Vegetation Type (EVT), Existing Vegetation Cover (EVC), and Existing Vegetation Height (EVH). EVT will be adjusted for recent fires and BpS will be adjusted for Sagebrush areas in EVT (see below for details). LANDFIRE data meets the key criteria defined above and has ample thematic resolution with several different sagebrush vegetation classes. For the 2015 Monitoring Framework, vegetation classes from LANDFIRE EVT and BpS were selected to use in the sagebrush and sagebrush potential or historic layers by identifying the classes that include sagebrush species and that could provide suitable seasonal habitat for greater sage-grouse (See **Appendix A, Table A1**). In these classes, sagebrush may not be the dominant species, but it is an attempt to include the maximum likely geographic extent and some of the uncertainty on the ground captured by products derived from remotely sensed data (see **Appendix B, Table B1** for Agreement Assessment details). The sagebrush layer used for reporting will be created using these selected classes from EVT. The following two metrics will be reported for each year:

1) 1.b.1. The amount of sagebrush in GRSG habitat compared with the amount of sagebrush that GRSG habitat could historically support without disturbance, that is, the existing sagebrush versus the potential sagebrush. The measure will be calculated as [the existing area of sagebrush] divided by [the potential area of sagebrush expected pre-Euro American settlement]. The data will be summarized including a histogram, mean and standard deviation, and median and quartiles for GRSG habitat.
2) 1.b.2. Recent vegetation treatments (NFPORS and VMAP data) are integrated into some LANDFIRE data causing changes in EVH and EVC datasets but these changes are not reflected in EVT for now, although this may change (personal communication Daryn Dockter, Brian Tolk, May 2023). BLM will use EVH and EVC with EVT to determine how recent treatments affect the extent of sagebrush using the guidelines:
    a. If EVT = sagebrush but EVH or EVC = 0 for shrubs, then disturbance has likely removed the sagebrush. These pixels will be removed from the EVT dataset annually.
    b. If EVT = sagebrush and EVH = grass < 1.0 m, past disturbance has likely removed the sagebrush and grass or forbs are growing. These pixels will be removed from the EVT dataset annually.
    c. If EVT = sagebrush and EVH = shrub 1-3 m then there is likely sagebrush here. These pixels will be retained in the EVT dataset annually.
    d. These changes will be summarized across GRSG habitat.

LANDFIRE EVT includes fires burned up to the end of the previous fiscal year so updates will be needed for more recent fires and can be made using NIFC WFIGS *yyyy*, Interagency Fire Perimeters to Date (where *yyyy* is the current year). LANDFIRE processes postfire change detection using satellite imagery and MTBS. See below for LANDFIRE data accuracy and update details.

In EVT there are small areas that show sagebrush and sagebrush associated classes which are not matched in the BpS dataset. Based on the assumption that sagebrush is unlikely to expand in the short term, we assume that BpS is in error and these classes in BpS need to be adjusted to the classes shown in EVT. This adjustment supports the simple division of existing by potential sagebrush that is described above.

Because of concerns over the thematic accuracy of individual classes mapped by LANDFIRE, all ecological systems listed in **Appendix A, Table A1** will be aggregated into three groups that represent sagebrush, sagebrush associated, and other vegetation types. With all ecological systems aggregated, the combined accuracy, measured as an agreement assessment, of the sagebrush base layer (EVT) will be much greater than if all categories were treated separately (LANDFIRE 2016 Remap EVT Agreement Assessment). We used the Southwest (AZ, CA, NV, UT, west CO, and west NM) and Northwest GeoAreas (ID, MT, OR, WA, and WY) to estimate sagebrush assessment agreements where sagebrush, sagebrush associated, and other field data are assigned autokeys and these are compared to LANDFIRE EVT (**Appendix B, Table B1**). The Southwest GeoArea agreement assessments were 55% for sagebrush, and 50% for sagebrush associated. The Northwest GeoArea agreement assessments were 69% for sagebrush and 57% for sagebrush associated.

LANDFIRE maintains a substantial disturbance spatial database using agency and other data; refinements to the process were made in 2020 with plans to update annually. LANDFIRE also uses National Landcover Database (NLCD) roads and urban classes, Monitoring Trends in Burn Severity (MTBS), Burned Area Reflectance Classification (BARC), and Rapid Assessment of Vegetation Condition after Wildfire (RAVG) to apply changes to the data on a yearly basis. LANDFIRE uses a change algorithm to account for fires and models postfire vegetation recovery. While LANDFIRE intends to update annually, refinements may still be made to the EVT data for more recent changes due to wildfire (see above) and anthropogenic disturbances such as agriculture and urban, using the processes and datasets recommended below.

LANDFIRE uses the National Land Cover Database (NLCD) (Fry et al. 2011) to make urban adjustments including imperviousness dataset, high, medium, and low development, roads, open space, and broad vegetation types. NLCD is prioritized over other datasets if there is a discrepancy in land cover. NLCD impervious data has a roads description including primary, secondary, and tertiary; two track roads are not included. NLCD obtains building footprints from Microsoft data and USGS processing. NLCD data are generated on a 5-year cycle and are specifically designed to support monitoring efforts but the lag in NLCD may limit LANDFIRE data. To determine agricultural areas and types, LANDFIRE uses the annually updated National Agricultural Statistics Service (NASS) Cropland Data Layer (CDL). The LANDFIRE disturbance processing will also pick up agricultural expansion and treatments when they are reported.

*Measure 1c: What is the percent cover of sagebrush and trend in sagebrush percent cover?*
Sagebrush fractional cover data will be used to estimate the current proportion of sagebrush in GRSG habitat. The most recent RCMAP fractional sagebrush cover will be used to calculate this measure (Rigge et al. 2022).

For each year of monitoring, the statistical distribution of percent sagebrush cover will be calculated and reported including a histogram, mean and standard deviation, and median and quartiles at spatial scales relevant to BLM land use plan decisions and management, for example, Habitat Assessment Fine-scale extents. If updated literature suggests levels of percent sagebrush cover that are more appropriate to GRSG, these thresholds will be applied in addition to the standards described above. For example, if less than x% sagebrush is determined to be unsuitable for GRSG across GRSG habitat, assessment of the area of and distribution that is above and below this x% cover threshold will be conducted.

Shi et al (2022) modeled time-series trends in RCMAP continuous vegetation using two methods: 1) linear regression and 2) breaks and stable states modeling. We recommend using the linear trends results because, while accuracy was similar between the two modeling versions, linear trend results are more easily interpreted (Shi et al. 2022). For each pixel in the linear trends data, the slope represents the average percent cover change and the p-value is the confidence in the change value for each year. Within GRSG habitat, the trend of sagebrush cover will be monitored using the time-series linear trends data from RCMAP for all years of data to calculate the summary statistics as described above.

*Measure 1d: What is the percent cover and trend of annual herbaceous cover?*

The most recent RCMAP Annual Herbaceous fractional data will be used to estimate the current area, distribution, and proportion of annual forbs and grasses in GRSG habitat. In the Western US, the RCMAP annual herbaceous dataset primarily represents annual invasive species such as Cheatgrass, Medusahead, Red Brome, and annual mustards (MLRC RCMAP website, https://www.mrlc.gov/data/rcmap-annual-herbaceous-cover-1, accessed March 2023). At higher elevations and in California, the annual herbaceous cover dataset may also represent native annual herbaceous vegetation types. (https://www.mrlc.gov/data/rcmap-annual-herbaceous-cover-1, accessed March 2023).

For each year of monitoring, the statistical distribution of percent annual herbaceous cover will be calculated including a histogram, the mean and standard deviation, and median and quartiles at spatial scales relevant to BLM land use plan decisions and management, for example, at Habitat Assessment Fine-scale extents. If updated literature suggests levels of percent annual herbaceous cover that are more appropriate to GRSG, apply these thresholds in addition to the standards described above. For example, if less than x% annual herbaceous cover is determined to be unsuitable for GRSG across GRSG habitat, assessments of and distribution of annual herbaceous cover that is above and below this x% cover threshold will be conducted.

The trend of annual herbaceous cover will be reported for all years of data using the annual time-series linear trends data from RCMAP to calculate the summary statistics described above. The trend of annual herbaceous cover will be compared to the trend in sagebrush cover in GRSG habitat.

*Measure 1e: What is the percent cover and trend of tree cover in sagebrush communities?*

Over the past several decades, many studies have found that GRSG avoid habitat near conifers (Nisbet et al 1983, Doherty et al, 2010; Fedy et al 2014; Doherty et al 2016; Westover et al 2016; Baxter et al 2017; Picardi et al 2020; Roth et al 2022;), survival tends to increase when GRSG inhabit areas further away from conifers (Brussee et al 2022), and that populations have increased when conifers are removed (Olsen et al 2021).

For the purposes of the Monitoring Framework, an upper limit threshold is needed to determine the percent of conifer cover within a certain distance of sagebrush that still provides suitable habitat for GRSG (see **Appendix C, Table C1** for summaries). Peer-reviewed findings are summarized in the following bullets:

- **0%** In NV, GRSG preferred areas with no conifer cover for lekking (Nisbet et al 1983) and for brood rearing to areas with 1 to 10% conifer cover (Brussee et al, 2022).

- **2%** In CA GRSG preferred < 2% conifer cover year-round (Coates et al 2017) and in NV/UT, GRSG preferred areas with < 2% conifer cover for breeding and summer season (Beers at al 2022).
- **3%** In OR and UT < 3% conifer was found to be more suitable for GRSG lekking and nesting within 800m and 1000m (Cook et al 2017), within 560m for lekking (Doherty et al 2021), and within 800m for nesting (Severson et al 2017).
- **4%** In OR, NV, UT, areas with < 4% conifer cover were found to be more suitable for nesting (Sandford et al 2017; Severson et al 2017) or found to be more suitable year-round within 400m and 800m and while there was sagebrush contiguity (Beers et al 2022). Areas with > 4% had no active leks (Baruch-Mordo et al 2013) or were found to be less suitable for lekking (Cook et al 2017).

We examined other work that obtained values outside of this range and determined that they were not useful for our purposes. In CA, large-scale evidence suggested that GRSG avoided areas with >5% conifer cover for brood rearing but 5% was set as a value instead of being determined by the data and the subsequent modeling was inconclusive (Casazza et al 2011). In NV/UT, Beers et al (2022) found that during winter GRSG selected areas with < 11% conifer cover but year-round 4% was a more appropriate threshold. In NV, GRSG avoided areas with > 30% conifer cover and selected areas with 10-30% cover within 1000m; the authors speculated that these unusually high conifer cover values may have been in areas where heterogenous shrub communities thrived and, in the absence of predators, attracted GRSG (Gibson et al 2015).

The range of 0 to 4% of tree canopy cover has been shown to have the lowest impacts on GRSG year-round in several states (**Appendix C, Table C1**). Within GRSG habitat the extent and summary statistics (histogram, mean and standard deviation, and median and quartiles) of tree cover that is within 1000m of sagebrush and 1) less than 4% and 2) greater than 4% will be calculated.

Within GRSG habitat, the trend of tree cover that is greater than 4% and is within 1000m of sagebrush will be calculated and reported for all years of data using the annual time-series linear trends data from RCMAP to calculate the summary statistics described above. The trend of tree cover will be compared to the trend in sagebrush cover in GRSG habitat at spatial scales relevant to BLM land use plan decisions and management, for example, at Habitat Assessment Fine-scale extents.

#### *Measure 2. Habitat Degradation and Development Intensity in GRSG Habitat*

*Rangewide disturbance estimates*

The measure of habitat degradation will be calculated by combining estimated footprints of, or the counts of, threats identified in **Table 3-4** within GRSG habitat. Footprints are estimated to be the direct area of influence of "active" energy and infrastructure and, in combination with feature counts, will be used as a surrogate for human activity. Data sources for each threat are found in **Table 3-4**, Geospatial Data Sources for Habitat Degradation and Intensity Calculations (Measure 2) in GRSG Habitat Excluding the Bi-State Distinct Population Segment and the Columbia Basin Population. Specific assumptions (inclusion criteria for data, width/area assumptions for point and line features, etc.) and methodologies are described below. All datasets will be updated annually to monitor changes through time and to inform adaptive management.

**Table 3-4. Geospatial Data Sources for Habitat Degradation and Intensity Calculations (Measure 2) in GRSG Habitat Excluding the Bi-State Distinct Population Segment and the Columbia Basin Population**

| Degradation Type | Subcategory | Data Source | Direct Area of Influence | Area Source |
|---|---|---|---|---|
| **Energy (oil & gas)** | Wells | IHS; BLM (AFMSS) | 5.0ac (2.0ha) | BLM WO-300 |
| | Power Plants | Platts (power plants) | 5.0ac (2.0ha) | BLM WO-300 |
| **Energy (coal)** | Mines | BLM; USFS; Office of Surface Mining Reclamation and Enforcement; USGS Mineral Resources Data System | Polygon area (digitized) | Esri/ Google Imagery |
| | Power Plants | Platts (power plants) | Polygon area (digitized) | Esri Imagery |
| **Energy (wind)** | Wind Turbines | Federal Aviation Administration | 3.0ac (1.2ha) | BLM WO-300 |
| | Power Plants | Platts (power plants) | 3.0ac (1.2ha) | BLM WO-300 |
| **Energy (solar)** | Fields/Power Plants | Platts (power plants) | 7.3ac (3.0ha)/MW | NREL |
| **Energy (geothermal)** | Wells | IHS | 3.0ac (1.2ha) | BLM WO-300 |
| | Power Plants | Platts (power plants) | Polygon area (digitized) | Esri Imagery |
| **Mining** | Locatable Developments | InfoMine | Polygon area (digitized) | Esri Imagery |
| **Infrastructure (roads)** | Surface Streets (Minor Roads) | Esri StreetMap Premium | 40.7ft (12.4m) | USGS |
| | Major Roads | Esri StreetMap Premium | 84.0ft (25.6m) | USGS |
| | Interstate Highways | Esri StreetMap Premium | 240.2ft (73.2m) | USGS |
| **Infrastructure (railroads)** | Active Lines | Federal Railroad Administration | 30.8ft (9.4m) | USGS |
| **Infrastructure (power lines)** | 1-199kV Lines | Platts (transmission lines) | 100ft (30.5m) | BLM WO-300 |
| | 200-399 kV Lines | Platts (transmission lines) | 150ft (45.7m) | BLM WO-300 |
| | 400-699kV Lines | Platts (transmission lines) | 200ft (61.0m) | BLM WO-300 |
| | 700+kV Lines | Platts (transmission lines) | 250ft (76.2m) | BLM WO-300 |
| **Infrastructure (communication)** | Towers | Federal Communications Commission | 2.5ac (1.0ha) | BLM WO-300 |
| **Infrastructure (other vertical structures)** | Tall Structures | Federal Avian Administration | 2.5 acres (1.0ha) | Knick et al 2011 |

*Rangewide Habitat Degradation Datasets and Assumptions*

Energy (Oil and Gas Wells And Development Facilities)

This dataset will compile information from three oil and gas databases: the proprietary IHS database, the BLM Automated Fluid Minerals Support System (AFMSS) database, and the proprietary Platts (a McGraw-Hill Financial Company) GIS (hereafter, Platts) database of power plants.

Point data from wells active within the last 10 years from IHS and producing wells from AFMSS will be considered as a 5-acre (2.0ha) direct area of influence centered on the well point, as recommended by the BLM WO-300 (Minerals and Realty Management). Plugged and abandoned wells will be separated from the active oil and gas well dataset but retained for analysis inclusion if the date of well abandonment was before the first day of the reporting year (i.e., for the 2015 reporting year, a well must have been plugged and abandoned by 12/31/2014 to be removed).

Platts oil and gas power plants data (subset to operational power plants) will also be included as a 5-acre (2.0ha) direct area of influence.

Wells marked as plugged and abandoned within the last 10-years will also be segregated from the "active" and "active within the last 10 years" well data described above. These data attempt to quantify energy-related degradation that may have been reclaimed, but not necessarily fully restored to sage-grouse habitat. Direct area of influence will be considered 3 acres (1.2ha) (J. Perry, personal communication, February 12, 2014) be included in analyses.

Energy (Coal Mines)

Currently, there is no comprehensive dataset available that identifies the footprint of active coal mining across all jurisdictions. Therefore, point and polygon datasets will be used each year to identify coal mining locations. Data sources will be identified and evaluated annually and will include at a minimum: BLM coal lease polygons, U.S. Energy Information Administration mine occurrence points, U.S. Office of Surface Mining Reclamation and Enforcement coal mining permit polygons (as available), and U.S. Geological Survey (USGS) Mineral Resources Data System mine occurrence points. These data will inform where active coal mining may be occurring.

Coal power plant data from Platts power plants database (subset to operational power plants) will be included. Aerial imagery will then be used to digitize manually the active coal mining and coal power plants surface disturbance in or near these known occurrence areas. While the date of aerial imagery varies by scale, the most current data available from Esri and/or Google will be used to digitize (generally at 1:10,000 and below) active coal mine and power plant direct area of influence. Coal mine location data source and imagery date will be documented for each digitized coal polygon at the time of creation. Subsurface facility locations (polygon or point location as available) will also be collected if available, included in density calculations, and added to the active surface activity layer as appropriate (if an actual direct area of influence can be located).

Energy (Wind Energy Facilities)

This dataset will be a subset of the Federal Aviation Administration (FAA) Digital Obstacles point file. Points where attribution indicates the feature is a windmill will be included. The direct area of influence of these point features will be a circular totaling 3 acres (1.2ha) centered on each tower point. See the BLM's "Wind Energy Development Programmatic Environmental Impact Statement" (BLM 2005). Additionally, the Platts power plants database will be used for transformer stations associated with wind energy sites (subset to operational power plants), also with the same 3-acre (1.2ha) direct area of influence.

Energy (Solar Energy Facilities)

This dataset will include solar plants as compiled with the Platts power plants database (subset to operational power plants). This database includes an attribute that indicates the operational capacity of each solar power plant. Total capacity at the power plant was based on ratings of the in-service unit(s), in megawatts. Direct area of influence polygons will be centered over each point feature representing 7.3ac (3.0ha) per megawatt of the stated operational capacity, per the report of the National Renewable Energy Laboratory (NREL), "Land-Use Requirements for Solar Power Plants in the United States" (Ong et al. 2013).

Energy (Geothermal Energy Facilities)

This dataset will include geothermal wells in existence or under construction as compiled with the IHS wells database and power plants as compiled with the Platts database (subset to operational power plants). Direct area of influence of these point features will be measured by converting to a polygon dataset of 3 acres (1.2ha) centered on each well or power plant point.

Mining (Active Developments; Locatable, Leasable, Saleable)

This data theme is notably lacking in a comprehensive source spanning the range of GRSG. Currently, there are no known complete databases available for leasable or saleable mining sites beyond coal mines. Aerial imagery will be used to manually digitize large active mining surface disturbance in or near known occurrence areas originally informed by the proprietary InfoMine database. While the date of aerial imagery varies by scale, the most current data available from Esri and/or Google will be used to digitize (generally at 1:10,000 and below) active mine direct area of influence. Mine location data source and imagery date will be documented for each digitized polygon at the time of creation. Other data sources will be evaluated and used as they are identified or as they become available. Point data may be converted to polygons to represent direct area of influence unless actual surface disturbance is available.

Infrastructure (Roads)

This dataset will be compiled from the proprietary Esri StreetMap Premium for ArcGIS. Dataset features that will be used are: Interstate Highways, Major Roads, and Surface Streets to capture paved and "crowned and ditched" roads. The surface street data have been demonstrated to include some "two-track" and 4-wheel-drive routes. The direct area of influence for roads will be represented by 240.2ft, 84.0ft, and 40.7ft (73.2m, 25.6m, and 12.4m) total widths centered on the line feature for Interstate Highways, Major Roads, and Surface Streets, respectively (Knick et al. 2011).

Infrastructure (Railroads)

This dataset will be a compilation from the Federal Railroad Administration Rail Lines of the USA dataset. Non-abandoned rail lines will be used; abandoned rail lines will not be used. The direct are of influence for railroads will be represented by a 30.8ft (9.4m) total width (Knick et al. 2011) centered on the non-abandoned railroad line feature.

Infrastructure (Power Lines)

This line dataset will be derived from the proprietary Platts transmission lines database. Linear features in the dataset attributed as "buried" will be removed from the disturbance calculation. Only "In Service" lines will be used; "Proposed" lines will not be used. Direct area of influence will be determined by the kV designation: 1–199 kV (100ft/30.5m), 200–399 kV (150ft/45.7m), 400–699 kV (200ft/61.0m), and 700-or greater kV (250ft/76.2m) based on average right-of-way and structure widths, according to BLM WO-300 (Minerals and Realty Management).

Infrastructure (Communication Towers)

This point dataset will be compiled from the Federal Communications Commission (FCC) communication towers point file; all duplicate points will be removed (duplicates within the FCC dataset). Points will be converted to a polygon dataset by using a direct area of influence of 2.5 acres (1.0ha) centered on each communication tower point (Knick et al. 2011).

Infrastructure (Other Vertical Structures)

This point dataset will be compiled from the FAA's Digital Obstacles point file. This dataset generally captures all tall structures over 200 meters, with additional structures below this threshold captured in areas surrounding airports which could pose an aviation risk. For additional information please visit the FAA DOF FAQs site. Points where attribution indicates the feature is a windmill will be removed. Duplicate points from the FCC communication towers point file will be removed. The remaining features will be converted to a polygon dataset using a direct area of influence of 2.5 acres (1.0ha) centered on each vertical structure point (Knick et al. 2011).

Other Developed Rights-Of-Way

Currently, no additional data sources for other developed rights-of-way have been identified. Roads, power lines, railroads, pipelines, and other known linear features are represented in the categories described above. If additional features representing human activities are identified representing developed rights-of ways outside of the themes described above, they will be added to the degradation analyses using similar assumptions to those used with the threats described above.

*Disturbance Inventories*

The BLM has partnered with the USGS and, over the past several years, has begun inventorying existing disturbances via "heads-up" digitization using aerial imagery within current Priority Habitat Management Areas. This inventory includes several disturbance types in addition to those used in the rangewide analyses as outlined in the 2015 land use plan disturbance appendices:

Coalbed Methane and Other Energy-Related Retention Ponds

The footprint boundary will follow the fence line and includes the area within the fence line surrounding the impoundment. If the pond is not fenced, the impoundment itself is the footprint. Other infrastructure associated with the containment ponds (roads, well pads, etc.) will be captured in other disturbance categories.

Meteorological Towers

This feature includes long-term weather monitoring and temporary meteorological towers associated with short-term wind testing. The footprint boundary includes the area underneath the guy wires.

Nuclear Energy Facilities

The footprint boundary includes visible facilities (fence, road, etc.) and undisturbed areas within the facility's perimeter.

Airport Facilities and Infrastructure (Public And Private)

The footprint boundary will follow the boundary of the airport or heliport and includes mowed areas, parking lots, hangers, taxiways, driveways, terminals, maintenance facilities, beacons and related features. Indicators of the boundary, such as distinct land cover changes, fences and perimeter roads, will be used to encompass the entire airport or heliport.

Military Range Facilities and Infrastructure
The footprint boundary will follow the outer edge of the disturbed areas around buildings and includes undisturbed areas within the facility's perimeter.

Hydroelectric Plants
The footprint boundary includes visible facilities (fence, road, etc.) and undisturbed areas within the facility's perimeter.

Recreation Areas and Facilities
This feature includes all sites/facilities larger than 0.25 acres in size. The footprint boundary will include any undisturbed areas within the site/facility.

Where this inventory is complete in GRSG habitat and if the digitization is within an acceptable timeframe (ie. not deemed outdated), these disturbance data will also be used to evaluate the existing disturbance footprint and density of development.

*Rangewide Habitat Degradation and Development Intensity Data Combination and Calculation Approaches*
The threats targeted for measuring human activity (**Table 3-4**) and intensity of activities will be converted to direct area of influence polygons as described for each data source above. These threat polygon layers will be combined to create one overall polygon layer representing footprints of estimated active human activity in GRSG habitat. Individual datasets, however, will be preserved to indicate which types of threats may be contributing to overall habitat degradation. For intensity calculations, source data locations will be preserved with no additional removal beyond the methodology described above. Thus, overlapping inputs will be retained such that the density calculation reflects an overall intensity of development.

More complex disturbance and density estimation approaches may also be implemented, leveraging datasets described above, to facilitate a more complete picture of the level anthropogenic disturbance within GRSG habitat and potential impacts to GRSG habitats. For example, moving window analyses, estimating development density within multiple spatial extents, can facilitate an understanding of potential direct and indirect effects of development on GRSG habitats (e.g., see Decker et al (2014) and Leinwand, I., Carr, N. B., & Wood, D. J. A. (2016)).

*Measure 2a: What is the estimated amount of habitat degradation rangewide and the estimated change in the amount?*
Within GRSG habitats, divide the combined estimated area of the active/direct footprint by the total area of GRSG habitat at spatial scales relevant to BLM land use plan decisions and management, for example, at Habitat Assessment Fine-scale extents. (% disturbance in GRSG habitats).

*Measure 2b: What is the estimated density of energy development activities and the change in the estimated density?*
Within GRSG habitats, divide the total count of energy and mining locations (identified in **Table 3-4**) by the total area of GRSG habitat at spatial scales relevant to BLM land use plan decisions and management, for example, at Habitat Assessment Fine-scale extents. The resulting density will be reported in units of "count per square mile".

*Measure 2c: Were any disturbance or density caps above project scale exceeded?*
Leveraging the outcomes of analyses performed to answer 2a and 2b, summaries of any disturbance or density caps, as articulated in each land use plans, will be created.

*Measure 2d: What is the amount of reclaimed energy-related degradation on BLM lands and the change in the amount?*

Currently no single data repository exists which captures BLM's reclamation accomplishments in a spatial manner. As data becomes available depicting reclamation activities in sage-grouse habitats, they will be summarized.

***Measure 3: Greater Sage-Grouse Habitat Suitability***

*Measure 3.a. What is the status of GRSG habitat assessments at the mid-, fine- and site scales across the range?*

BLM will provide a rangewide summary of the total number of GRSG habitat assessments at the mid-, and fine-scales that are either completed or underway.

*Measure 3.b. What is the suitability of GRSG habitats at mid and fine spatial scales?*

BLM will summarize the results of the completed mid- and fine-scale assessments across the range of GRSG. Site-scale summaries are addressed in the Land Use Plan section of the BLM Revised GRSG Monitoring Framework.

***Measure 4: Achievement of Land Health Standards in GRSG Habitat***

*Measure 4.a. How many acres were evaluated for achievement of the SSS/Wildlife Habitat Land Health Standard in GRSG habitat across the range?*

BLM will evaluate Land Health Standards on BLM-managed lands that contain GRSG habitat. Reporting will include the number of acres: evaluated in the reporting period, evaluated prior to the reporting period, and not evaluated.

*Measure 4.b. For areas that have been evaluated in GRSG habitat, what is the status of land health and what are the causes of non-achievement (as applicable)?*

BLM will summarize the results of land health assessments conducted within the reporting period as follows: achieving, making progress towards achieving, or not achieving land health standards. Further, BLM will summarize the causes for not achieving land health when a causal factor analysis has been completed. As available, management responses will also be summarized.

***Measure 5: BLM On-The-Ground Conservation and Restoration Efforts for GRSG***

*Measure 5.a. How many acres/miles were conserved or restored by treatment or action type in GRSG habitat?*

BLM implements a variety of efforts to conserve and restore GRSG habitat. These efforts range from conifer removal and habitat restoration to riparian exclosures and fence modifications. BLM will use several existing databases to summarize the number of actions and number of acres/miles of conservation efforts by type.

***Measure 6: GRSG Population Trend Rangewide***

*Measure 6.a. What is the rangewide average annual population trend?*

The BLM will report rangewide population trends for GRSG. For rangewide populations trends, the BLM will report results from the most current version of the *Range-wide Population Trend Analysis for Greater Sage-Grouse (Centrocercus urophasianus)* conducted by the USGS (e.g., Coates et al. 2022). This analysis estimates annual rangewide populations trends using these scales:

- Range-wide average annual trend (e.g., 2.9% average annual decline from 1953-2021)
- Range-wide cumulative trend across three time periods:
  - Short (two oscillations, ~19 years) (e.g., 42.5% decline)
  - Medium (four oscillations, ~35 years) (e.g., 65.6% decline)
  - Long (six oscillations, ~55 years) (e.g., 80.1% decline)

## 3.3 Section II: Land Use Plan Implementation Monitoring

### 3.3.1 Introduction

One key goal of monitoring BLM land use plan implementation is to produce data and information to inform the GRSG portion of BLM land use plan (LUP) evaluations (as required by 43 CFR 1610.4-9 and the BLM H-1601-1 Land Use Planning Handbook). This section of the GRSG Revised Monitoring Framework describes the monitoring methodology for BLM to implement three types of monitoring and reporting across GRSG planning areas in 10 western states (CA, CO, ID, MT, ND, NV, OR, SD, UT, and WY):

- Land use plan implementation monitoring focuses on the primary cross-cutting GRSG conservation commitments (LUP objectives, decisions, and desired conditions) contained in the BLM 2025 GRSG LUP Amendments.
- Planning area GRSG habitat monitoring focuses on assessing suitability of habitat at the mid-, fine- and site scales. Planning area habitat monitoring also focuses on GRSG habitat availability to determine the status of BLM adaptive management habitat thresholds.

Planning area population monitoring focuses on GRSG population trends (tracked in partnership with state wildlife agencies and similar entities) to determine the status of BLM adaptive management population thresholds.

This Revised GRSG Monitoring Framework builds on the BLM's experience of annual monitoring and reporting on the first 5 years of GRSG BLM LUP implementation (2016 – 2020) published in the 5-year monitoring report (BLM Rangewide Monitoring Report, Herren et al. 2021). The structure for this section of the framework carries forward the monitoring questions from the Greater Sage-Grouse Monitoring Framework (Interagency Disturbance and Monitoring Subteam, May 2014) that have been modified to reflect the data, methods and information that has become available since 2015. Two additional monitoring questions have been added. The six monitoring questions are summarized in **Table 3-5**.

**Table 3-5. The Six Land Use Plan Monitoring Measures, Associated Sub-Measures, Monitoring Questions and Data Sources for BLM Monitoring of GRSG Habitat Conditions And Population Trends**

| Measures | Monitoring Questions | Data |
|---|---|---|
| **Measure 1: Status of greater sage-grouse habitat suitability within the planning area relative to the LUP objectives** | | |
| Measure 1a: Site-scale Habitat Suitability | What are the seasonal habitat suitability ratings as assessed by the Habitat Assessment Framework (HAF, Stiver et al. 2015, BLM TR 6710-1, as revised) and the combination of site-scale indicators? | State Office and National tracking of completed habitat assessments. |
| Measure 1b: Mid- and Fine-scale Habitat Suitability | What are the mid- and fine-scale suitability ratings for GRSG habitats that overlap with the planning area as assessed by the mid- and fine-scale indicators? | State Office and National tracking of completed habitat assessments. |
| Measure 1c: Status of Habitat Assessments | What is the status of habitat assessments completed within the planning area? | State Office and National tracking of completed habitat assessments. |

| Measures | Monitoring Questions | Data |
|---|---|---|
| **Measure 2: Special Status Species/Wildlife habitat (SSS/WL) standard being achieved, or making progress towards being achieved, in allotments that contain greater sage-grouse habitats where evaluations have been completed since the 2024 ROD within the planning area** | | |
| Measure 2a: Achieving, Making progress towards achieving, or not achieving the SSS/WL standard. | What is the number of allotments evaluated in the planning area and how many are achieving, making progress towards achieving, or not achieving the SSS / WL standard? | State Office and National tracking of completed land health evaluations. |
| Measure 2b: If grazing allotments include areas that are not achieving the standard and current grazing was identified as a significant causal factor. | How many livestock grazing authorizations or allotments had management adjusted and what type of action was taken? | State Office tracking of grazing authorizations. |
| Measure 2c: If grazing allotments include areas that are not achieving the standard and current grazing was identified as a significant causal factor. | How many permits/leases include an adaptive management strategy that incorporates specific thresholds and defined responses? | State Office tracking of grazing authorizations. |
| **Measure 3: BLM LUP disturbance and density measures (e.g., surface disturbance caps)** | | |
| Measure 3a: Disturbance Caps | Were the disturbance caps for BLM authorizations exceeded at any scale in GRSG HMAs in the planning area? If so, which projects that exceeded the disturbance cap were authorized and why? | State office tracking of authorizations requiring a disturbance cap. SDARTT or State managed disturbance databases. |
| Measure 3b: Density Caps | If applicable, were the density caps for BLM authorizations exceeded at any scale in GRSG HMAs in the planning area? If so, which projects that exceeded the density cap were authorized and why? | State office tracking of authorizations requiring a disturbance cap. SDARTT or State managed disturbance databases. |
| **Measure 4: BLM LUP Adaptive Management habitat or population thresholds** | | |
| Measure 4a: Count of tripped thresholds | How many soft or hard BLM LUP adaptive management habitat or population thresholds were tripped in the planning area annually? | State office tracking of adaptive management thresholds. |
| Measure 4b: Count of Untripped / reversed thresholds | How many thresholds were reversed ("untripped") annually in the planning area? | State office tracking of adaptive management thresholds. |
| Measure 4c: Responses to tripped thresholds taken by BLM | In areas where thresholds were tripped or untripped, what responses as described in the BLM LUP were taken initially? Were the response implementation actions modified after a causal factor analysis, if applicable? | State office tracking of responses to adaptive management thresholds being tripped or untripped. |
| Measure 4d: Status of causal factor analyses | What is the status of causal factor analyses? For completed causal factor analyses, what factors were identified as possible causal factors? | State office tracking of causal factor analysis in response to adaptive management thresholds being tripped. |

| Measures | Monitoring Questions | Data |
|---|---|---|
| **Measure 5: Compensatory Mitigation** | | |
| Measure 5a: Use of compensatory mitigation. | How many projects included compensatory mitigation annually? Which projects included compensatory mitigation? | State office tracking of compensatory mitigation. |
| **Measure 6: Use of Waivers, Exceptions or Modifications (WEMs)** | | |
| Measure 6a: Projects where WEMs are granted | Of the stipulations in the land use plan developed for GRSG, which projects had a Waivers, Exceptions or Modification granted? Of these projects, which type of stipulation and in which type of GRSG Habitat Management Area were the WEMs granted? | State office tracking of WEMs associated with authorizations. |

### 3.3.2 Methods

The following methods, datasets and reporting units apply to implementation, habitat and population monitoring across all BLM GRSG planning areas including variations that occur in some BLM GRSG planning areas due to partnerships with the states. Additional monitoring of GRSG conservation commitments may be implemented in BLM planning areas. The following descriptions of monitoring and reporting will be implemented to inform the six measures:

***Measure 1: Status of greater sage-grouse habitat suitability within the planning area relative to the LUP objectives***

Summaries of habitat suitability ratings, as assessed by the Habitat Assessment Framework (HAF, Stiver et al. 2015, BLM TR 6710-1, as revised), will be aggregated from National and State Office tracking mechanisms.

*Measure 1a: What are the seasonal habitat suitability ratings as assessed by the Habitat Assessment Framework (HAF, Stiver et al. 2015, BLM TR 6710-1, as revised) and the combination of site-scale indicators?*

The BLM will summarize the results of site-scale assessment reports that overlap with the planning area, reported in 5-year intervals. Example reporting would be: 50% suitable/ 20% Marginal/ 30% Unsuitable (proportional area estimates) or 50 plots S/ 20 plots M/ 30 plots U (plot counting).

*Measure 1b: What are the mid- and fine-scale suitability ratings for GRSG habitats that overlap with the planning area as assessed by the mid- and fine-scale indicators?*

The BLM will summarize the results of mid and fine-scale assessment reports that overlap the planning area.

*Measure 1c: What is the status of habitat assessments completed within the planning area?*

The BLM will summarize and report on the number of completed habitat assessments that overlap the planning area using the BLM National Operations Center tracking system.

***Measure 2: Special Status Species/Wildlife habitat (SSS/WL) standard being achieved, or making progress towards being achieved, in allotments that contain greater sage-grouse habitats where evaluations have been completed since the 2024 ROD within the planning area.***

Summaries of allotments achieving, making progress towards achieving, or not achieving the SSS/WL standard.

*Measure 2a: What is the number of allotments evaluated in the planning area and how many are achieving, making progress towards achieving, or not achieving the SSS / WL standard?*

The BLM will use the BLM's Land Health Standards database and State Office tracking mechanisms to monitor and report the achievement of the Special Status Species/Wildlife Habitat standard in completed land health evaluations in GRSG habitat within the planning area and whether livestock grazing was identified as a significant causal factor in non-achievement.

*Measure 2b: For grazing allotments with areas not achieving SSS/Wildlife Habitat standard and livestock grazing is a causal factor, how many livestock grazing authorizations or allotments had management adjusted and what type of action was taken?*
The BLM will use available BLM databases and State Office tracking mechanisms to report on the number of livestock grazing authorizations or allotments that had management actions taken in each planning area. BLM Field, District and State Offices will coordinate to report on the type of actions taken (e.g., changes to season of use or amount of use, changes to infrastructure).

*Measure 2c: For grazing allotments with areas not achieving SSS/Wildlife Habitat standard and livestock grazing is a causal factor, how many permits/leases include an adaptive management strategy that incorporates specific thresholds and defined responses??*
BLM Field, District and State Offices will coordinate to report on the number of permits/leases that were modified to incorporate an adaptive management strategy that includes specific thresholds and defined responses in each planning area.

***Measure 3: BLM LUP disturbance and density measures (e.g. surface disturbance and density caps)***
The BLM field offices will use disturbance tracking databases (e.g., Surface Disturbance and Reclamation Tracking Tool (SDARTT)) or other methods to track the amount of disturbance authorized by the BLM. The BLM State Offices/BLM NOC will compile the results and summaries of habitat disturbance calculations conducted at the project and larger scale management areas within the planning area to include in monitoring reports.

*Measure 3a: Were the disturbance caps for BLM authorizations exceeded at any scale in GRSG HMAs in the planning area? If so, which projects that exceeded the disturbance cap were authorized and why?*
For projects that exceeded the disturbance cap, the BLM SOs will identify those projects, and the reason(s) why the disturbance cap was exceeded using available databases and project records (NEPA etc).

*Measure 3b: If applicable, were the density caps for BLM authorizations exceeded at any scale in GRSG HMAs in the planning area? If so, which projects that exceeded the density cap were authorized and why?*
If the land use plan includes a cap on the density of anthropogenic disturbances, the BLM SOs will identify the projects that were authorized which exceeded the density cap and provide the reason for the exceedance using available databases and project records (NEPA etc).

***Measure 4: BLM LUP Adaptive Management habitat or population thresholds***
BLM State Offices will complete adaptive management threshold and causal factor (as required) analyses annually as described in each land use plan.

*Measure 4a: How many soft or hard BLM LUP adaptive management habitat or population thresholds were tripped in the planning area annually?*
BLM State Offices, in coordination with BLM Field and District Offices, will report on annual calculations and counts of land use plan adaptive management thresholds tripped.

*Measure 4b: How many thresholds were reversed ("untripped") annually in the planning area?*
BLM State Offices, in coordination with BLM Field and District Offices, will report on annual calculations and counts of land use plan adaptive management thresholds reversed / untripped.

*Measure 4c: In areas where thresholds were tripped or untripped, what responses as described in the BLM LUP were taken initially? Were the response implementation actions modified after a causal factor analysis, if applicable?*
The BLM State Office, in coordination with BLM Field and District Offices, will summarize and report on the action(s) taken, as described in the land use plan, in response to each threshold being tripped or reversed.

*Measure 4c: What is the status of causal factor analyses? For completed causal factor analyses, what factors were identified as possible causal factors?*
The BLM State Office, in coordination with BLM Field and District Offices, will summarize the number and status of causal factor analyses required in response to adaptive management thresholds being tripped / untripped as required in the land use plan. For completed causal factor analyses, the BLM State Office, in coordination with BLM Field and District Offices, will also report on the identified causal factors (if known) and the responses or implementation actions taken to address the causal factors if different than those taken in response to a threshold being tripped / untripped (as applicable).

***Measure 5: Compensatory Mitigation***
BLM State Offices will track the implementation of the use of compensatory mitigation for individual authorizations.

*Measure 5a: How many projects included compensatory mitigation annually? Which projects included compensatory mitigation?*
The BLM State Office, in coordination with BLM Field and District Offices, will report on the number of authorized projects that included compensatory mitigation and report on which projects included compensatory mitigation.

***Measure 6: Use of Waivers, Exceptions or Modifications (WEMs)***
BLM State Offices will track the use of Waivers, Exceptions and Modifications (WEMs) in GRSG habitat.

*Measure 6a: Of the stipulations in the land use plan developed for GRSG, which projects had a Waiver, Exception or Modification granted? Of these projects, which type of stipulation and in which type of GRSG Habitat Management Area were the WEMs granted?*
The BLM State Office, in coordination with BLM Field and District Offices, will report on which projects had a Waivers, Exceptions or Modification granted for the stipulations in the land use plan developed for GRSG. Of these projects, the type of stipulation and in which type of GRSG Habitat Management Area the WEMs were granted will also be reported.

**Table 3-6. Example Reporting Structure for WEMs**

| Waivers, Exceptions, Modifications granted by BLM by stipulation type and GRSG Habitat Management Type | | | |
|---|---|---|---|
| **Project NEPA ID** | **Stipulation Type (NSO, CSU, TL)** | **WEM Type (Waiver, Exception, Modification)** | **Habitat Type (PHMA, GHMA)** |
| Example: NEPA number | TL | Exception | PHMA |

## 3.4 SECTION III: EVALUATION OF EFFECTIVENESS

The information collected at the rangewide scale will be used by the BLM to provide a cohesive look at conditions across administrative boundaries. Measures which are analyzed across all lands (vegetation availability and condition, disturbance estimates, etc.) will be also analyzed on BLM managed lands so that BLM management influence on each can be inferred. Similarly, trend analyses and monitoring of changes through time for several measures will facilitate an understanding of BLM's influence on sage-grouse habitats. Conceptually, if rangewide monitoring identifies increasing sagebrush availability and improving vegetation conditions, decreasing disturbance, and a stable or increasing, there is evidence that the BLM's goal to conserve and maintain habitats for healthy populations and connectivity of populations have been met. Conversely, where information indicates that sagebrush is decreasing and vegetation conditions are degrading, disturbance in sage-grouse areas is increasing, and/or populations are declining relative to the baseline, there is evidence that the BLM's goal is not being achieved. Given the variety of measures this Framework outlines, the inherent challenges of establishing cause-and-effect relationships in mixed ownership landscapes and the complexity of population dynamics, such straight forward interpretations are expected to be minimal. To the best of the BLM's ability, factors driving observed changes will be identified and discussed when each measure is examined and synthesized with BLM's role in observed change identified (ie. Were changes due to drought or other climactic drives or directly related to BLM's management).

The information collected under the six land use plan questions of this monitoring framework will be leveraged in the broader land use plan effectiveness evaluation required in 43 CFR 1610.4-9 and as described in the BLM Land Use Planning Handbook (BLM H-1601-1, 2005). BLM State Offices will include sage-grouse specific sections in these evaluations of effectiveness for areas where sage-grouse management goals and objectives are applicable. The complexity of these evaluations may be based on the amount of sage-grouse habitats within the area, known issues within sage-grouse habitats or other factors deemed important by the State Office. The sage-grouse specific components of these evaluations will include, at a minimum, the information collected to inform the six land use plan measures. Additional local information that supports or clarifies the conclusions or effectiveness summaries shall also be considered. Information from the range wide effectiveness section of this monitoring framework will be used to inform the effectiveness evaluation at the land use plan level as applicable. This information will also be used to place the field office's effectiveness evaluation conclusions in context with how the implementation of sage-grouse management decisions are supporting the overall BLM's goals to conserve and manage greater sage-grouse habitats to support persistent, healthy populations, consistent with BLM's sensitive species policy and in cooperation with other conservation partners and maintain existing connectivity between sage-grouse populations. The interdisciplinary team will develop and recommend a suite of actions, as appropriate, the BLM can take to address any conclusions made within the sage-grouse portion of the larger effectiveness evaluation. These recommendations may vary from land use plan implementation changes to land use plan revision as described in the Land Use Planning Handbook, section VI.

## 3.5 REFERENCES

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## APPENDIX A. LANDFIRE ECOLOGICAL SYSTEMS CAPABLE OF SUPPORTING SAGEBRUSH

**Table A1. Ecological systems in BpS and EVT capable of supporting sagebrush vegetation and capable of providing suitable seasonal habitat for Greater Sage-Grouse.**

| Ecological System | Sagebrush Vegetation that the Ecological System has the Capability of Producing | Sagebrush (SB) or Sagebrush Associated (SBA) |
|---|---|---|
| Colorado Plateau Mixed Low Sagebrush Shrubland | *Artemisia arbuscula* ssp. *longiloba*<br>*Artemisia bigelovii*<br>*Artemisia nova*<br>*Artemisia frigida*<br>*Artemisia tridentata* ssp. *wyomingensis* | SB |
| Columbia Plateau Low Sagebrush Steppe | *Artemisia arbuscula*<br>*Artemisia arbuscula* ssp. *longiloba*<br>*Artemisia nova* | SB |
| Columbia Plateau Scabland Shrubland | *Artemisia rigida* | SBA |
| Columbia Plateau Steppe and Grassland | *Artemisia* spp. | SBA |
| Great Basin Xeric Mixed Sagebrush Shrubland | *Artemisia arbuscula* ssp. *longicaulis*<br>*Artemisia arbuscula* ssp. *longiloba*<br>*Artemisia nova*<br>*Artemisia tridentata* ssp. *wyomingensis* | SB |
| Inter-Mountain Basins Big Sagebrush Shrubland | *Artemisia tridentata* ssp. *tridentata*<br>*Artemisia tridentata* ssp. *xericensis*<br>*Artemisia tridentata* ssp. *vaseyana*<br>*Artemisia tridentata* ssp. *wyomingensis* | SB |
| Inter-Mountain Basins Big Sagebrush Steppe | *Artemisia cana* ssp. *cana*<br>*Artemisia tridentata* ssp. *tridentata*<br>*Artemisia tridentata* ssp. *xericensis*<br>*Artemisia tridentata* ssp. *wyomingensis*<br>*Artemisia tripartita* ssp. *tripartita*<br>*Artemisia frigida* | SB |
| Inter-Mountain Basins Curl-Leaf Mountain Mahogany Woodland | *Artemisia tridentata* ssp. *vaseyana*<br>*Artemisia arbuscula*<br>*Artemisia tridentata* | SBA |
| Inter-Mountain Basins Curl-Leaf Mountain Mahogany Shrubland | *Artemisia tridentata* ssp. *vaseyana*<br>*Artemisia arbuscula*<br>*Artemisia tridentata* | SBA |
| Inter-Mountain Basins Mixed Salt Desert Scrub | *Artemisia tridentata* ssp. *wyomingensis*<br>*Artemisia spinescens* | SBA |
| Inter-Mountain Basins Montane Sagebrush Steppe | *Artemisia tridentata* ssp. *vaseyana*<br>*Artemisia tridentata* ssp. *wyomingensis*<br>*Artemisia nova*<br>*Artemisia arbuscula*<br>*Artemisia tridentata* ssp. *spiciformis* | SB |
| Inter-Mountain Basins Semi-Desert Shrub-Steppe | *Artemisia tridentata*<br>*Artemisia bigelovii*<br>*Artemisia tridentata* ssp. *wyomingensis* | SBA |
| Northwestern Great Plains Mixed Grass Prairie | *Artemisia cana* ssp. *cana*<br>*Artemisia tridentata* ssp. *vaseyana*<br>*Artemisia frigida* | SBA |

| Ecological System | Sagebrush Vegetation that the Ecological System has the Capability of Producing | Sagebrush (SB) or Sagebrush Associated (SBA) |
|---|---|---|
| Northwestern Great Plains Shrubland | *Artemisia cana* ssp. *cana*<br>*Artemisia tridentata* ssp. *tridentata*<br>*Artemisia tridentata* ssp. *wyomingensis* | SBA |
| Rocky Mountain Gambel Oak-Mixed Montane Shrubland | *Artemisia tridentata* | SBA |
| Rocky Mountain Lower Montane-Foothill Shrubland | *Artemisia nova*<br>*Artemisia tridentata*<br>*Artemisia frigida* | SBA |
| Western Great Plains Sand Prairie | *Artemisia cana* ssp. *cana* | SBA |
| Wyoming Basins Dwarf Sagebrush Shrubland and Steppe | *Artemisia arbuscula* ssp. *longiloba*<br>*Artemisia nova*<br>*Artemisia tridentata* ssp. *wyomingensis*<br>*Artemisia tripartita* ssp. *rupicola* | SB |
| *Artemisia tridentata* ssp. *vaseyana* Shrubland Alliance (EVT only) | *Artemisia tridentata* ssp. *vaseyana* | SB |
| *Quercus gambelii* Shrubland Alliance (EVT only) | *Artemisia tridentata* | SB |

## Appendix B. Data Accuracy Assessments for LANDFIRE and RCMAP

### LANDFIRE Agreement Assessment

In the monitoring framework we will use the most recent version of LANDFIRE EVT data (EVT 2.2.0) which currently is based on the 2016 EVT Remap with updates due to disturbances. The 2016 EVT Remap data were reviewed using agreement assessments that compared individual sample field plots with EVT classes for pixels at plot locations using the Auto-Key EVT assignment. The plot data used for the agreement assessment was not used in the 2016 remap process by LANDFIRE so this was formulated as the most independent and robust test possible for the data. More details of this process are here: https://landfire.gov/remapevt_assessment.php.

Agreement assessments of all classes of data in northwest (NW) and southwest (SW) GeoAreas provide overall results of 47% and 42% respectively (**Table B1**). However, for GRSG purposes we also aggregated all classes into sagebrush (SB), sagebrush associated (SBA), or nonhabitat using LANDFIRE's process of collapsing categories. This aggregation caused the agreement assessments to increase substantially for both the NW and SW GeoAreas (**Table B1**).

**Table B1. Agreement assessments of sagebrush (SB), sagebrush associated (SBA), nonhabitat, and overall classes in LANDFIRE EVT data showing the increased accuracy estimated when classes are grouped.**

| GeoAreas | SB | SBA | SB and SBA | Nonhabitat | Overall |
|---|---|---|---|---|---|
| NW | 85% | 49% | 86% | 92% | 47% |
| SW | 75% | 45% | 71% | 92% | 42% |

### RCMAP Accuracy Assessment

Rigge et al (2020) accuracy metrics, using 1860 independent field measurements, are shown in the table under Published. The BLM-conducted accuracy assessment used more than 3,000 data points from the AIM

2.0 database in 2021 and compared them to RCMAP 2020 predictions that used training data to 2019 (Savage and Slyder, 2022).

**Table B2. Results of RCMAP published and BLM-conducted accuracy assessments (Savage and Slyder, 2022). R2 is the coefficient of determination; RMSE is the root mean squared error; and MAE is the mean absolute error.**

| Indicator | Published | | | BLM-conducted | | |
|---|---|---|---|---|---|---|
| | R2 | RMSE | MAE | R2 | RMSE | MAE |
| Annual Herbaceous | 0.58 | 9.8 | | 0.13 | 14.21 | 7.59 |
| Sagebrush | 0.4 | 7.5 | - | 0.33 | 8.41 | 5.51 |
| Trees | - | - | - | - | - | - |

## APPENDIX C. LITERATURE SUMMARY OF CONIFER EFFECTS ON SAGE-GROUSE

**Table C1. Summary of the literature on the effects of conifer cover on GRSG.**

| Name | % Conifer Cover | Distance /Area | State | Leks | Nesting | Brood Rearing | No Season Given |
|---|---|---|---|---|---|---|---|
| Baruch-Mordo et al 2013 | >4% | - | OR | No active leks | - | - | - |
| Baxter et al 2017 | - | - | UT | - | - | Selected areas far from trees | - |
| Beers et al. 2022 | <2%, <11%, <4% | 400m, 800m | NV UT | Summer & breeding<br>Winter<br>Year-round, selected for sagebrush patch contiguity | | | |
| Brussee et al. 2022 | 0% | - | NV | - | - | Preferred no PJ to 1-10% conifer | - |
| Casazza et al 2011 | <5% (threshold was selected by the scientists based on Miller et al 2005) | 7.9 ha (20 acre, 160m radius); 226.8 ha (560 acre, 850m radius) | CA | - | - | SG avoided PJ at large scale, but models were unsuccessful at explaining this | - |
| Coates et al 2017 | < 2% | - | CA | - | - | - | SG tolerate < 2% but less may be better for survival |
| Cook et al 2017 | 4%<br>>3 % | 1000m<br>800m | UT | Lower suitability | Lower suitability | - | - |
| Doherty et al 2010 | - | 100m | MT, WY | - | Strong avoidance of conifer within | - | - |
| Doherty et al 2016 | - | - | MZs | Strong neg relationship between SG occurrence and tree canopy cover | | | |

| Name | % Conifer Cover | Distance /Area | State | Leks | Nesting | Brood Rearing | No Season Given |
|---|---|---|---|---|---|---|---|
| Doherty et al 2021 | >3% | 560m | OR | Lower suitability | - | - | - |
| Fedy et al 2014 | - | - | WY | SG avoided forested areas | | | |
| Gibson et al 2015 | >30%, 10-30% | 1000m | NV | - | Avoided 10-30% areas were selected | - | - |
| Nisbet et al 1983 | 0% | - | NV UT | Lek model preference for sites with no conifer | - | - | - |
| Olsen et al 2021 | - | - | OR | SG population increased where conifer was removed, suggest limit to < 10% cover | | | |
| Picardi et al 2020 | - | - | UT | Modeled relationship found that areas with no conifer cover would be selected and areas with high conifer cover would be avoided | | | |
| Roth et al 2022 | - | - | NV | - | SG selected PJ class (1-10%) was below average | - | - |
| Sandford et al 2017 | >4% | - | UT | - | Less suitable for nesting habitat | - | - |
| Severson et al 2017 | > 3%, >4% | 800m | OR | - | Lower suitability, Marginal/unsuitable | - | - |
| Westover et al 2016 | - | - | UT | SG avoided areas with hi % trees<br>SG broods found further from trees | | | |

# Appendix 4

## Greater Sage-Grouse Habitat Indicators and Benchmarks

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# Appendix 4. Greater Sage-Grouse Habitat Indicators and Benchmarks

## 4.1 Incorporating the Best Available Science into the Habitat Assessment Framework Process

The Habitat Assessment Framework (HAF/ BLM TR 6710-1, as revised) provides a standardized, scientifically based methodology to assess sage-grouse habitat suitability at multiple scales (broad, mid, fine, and site-scales, Levels 1, 2, 3 and 4 respectively). Habitat suitability occurs along a gradient ranging from unsuitable to suitable and is rarely uniform within and across the scales. Using multi-scale evaluations is important for assessing GRSG habitat by considering the entire suite of conditions that contribute to high quality habitat, the success of past conservation actions, and prioritizing future land uses and conservation actions. Descriptions of the scales of habitat selection (broad-, mid-, fine-, and site-) and the associated indicators for habitat assessment at each scale are available in the HAF (BLM TR 6710-1, as revised).

## 4.2 Habitat Indicators and Benchmarks for Site-Scale HAF

The vegetation characteristics associated with site-scale habitat suitability vary across the range of GRSG. For example, characteristics (both indicators and benchmarks) in the grasslands of Montana are different than the characteristics in the sagebrush shrublands in the southern Great Basin of Utah and Nevada. The HAF technical reference includes general site-scale forms for the indicators and benchmark values for suitable site scale habitat ratings. The indicators and benchmark values used in these forms at the site scale should be updated to incorporate the best available research related to habitat suitability applicable to the regional and local variability.

The Habitat Indicators Table (**Table 4-1**) provide a list of indicators and benchmarks, derived from local and regional research on GRSG habitat selection, that collectively are used to inform habitat suitability. BLM Oregon will use the indicators and benchmarks in **the table below** to assess each monitoring location within seasonal habitats for site-scale suitability, with data collected during the appropriate corresponding seasonal use period, as applicable to address phenological changes. Not all areas within a given habitat management area will be capable of meeting the identified seasonal habitat values in the Habitat Indicators Table due to inherent variation in vegetation communities and ecological potential. Habitat Indicators and Benchmarks are habitat conditions that are based on habitat selection that may not be achievable or applicable in all areas. Site-specific benchmarks must be based on the site's ecological potential informed by ecological site descriptions and associated state-and-transition models and the site's current ecological state.

When completing site-scale assessments, **it is *inappropriate* to use a single indicator** from **Table 4-1** or the HAF habitat suitability form to determine overall habitat suitability of the plot (i.e., suitable, marginal, or unsuitable) unless sagebrush is absent or limiting. Instead, BLM staff must consider all the indicators using multiple lines of evidence, as described in the HAF and in the training materials, to determine the plot's overall habitat suitability. The measured habitat indicator values will vary seasonally, driven largely by use and environmental conditions (e.g., ecological site potential of the monitoring plot), including factors such as annual rainfall, drought, annual production, and natural disturbances, such as high intensity wildfires and flooding. In addition, a site may not meet the suitable rating if many indicators are impacted by annual climate variability (e.g., drought conditions), which is independent of management. Thus, it is critical to document environmental factors when completing the habitat suitability forms. This information is essential to inform land health assessments and evaluations. Factors to inform assessments and evaluations could also include grouping portions of the landscape based on ecological characteristics that influence their impact to and recovery from changes on the landscape (e.g., fire, drought and other extreme weather events, insect outbreaks, soil disturbance, etc.). Use of such disturbance response groupings (considering disturbance in the ecological sense, not based on the RMP disturbance cap) may also be appropriate to scale ecological site descriptions for larger planning areas and provide context to HAF assessments (Stringham et al. 2016).

Indicators are assessed following the methods described in the Sage-grouse Habitat Assessment Framework. BLM will leverage the terrestrial Assessment, Inventory, & Monitoring (AIM) methods (Herrick et al. 2021), additional monitoring approaches for wetland & riparian habitats, credible partner data, and supplemental long-term monitoring data and guidelines developed by the BLM to collect data on site-scale habitat condition (**Table 4-1**). Not all monitoring locations within a given seasonal habitat area will be able to achieve all suitable benchmark values in the Habitat Indicators Table due to the inherent variation in vegetation communities and ecological site potential. The intent is not to meet all habitat requirements at all monitoring locations, but to provide seasonal habitat requirements sufficiently across the landscape. Marginal or unsuitable ratings may still provide, or have the capacity to provide, one or more of the habitat components.

As research becomes available, new data could refine or clarify GRSG selection for vegetation structure and composition in seasonal habitats for certain populations. Because of this, the Habitat Indicators Table will be periodically reviewed to incorporate the best available science in coordination with applicable federal, state, local, and tribal agencies. The addition or adjustment to indicators or benchmarks in the Habitat Indicators Table must include the reference or basis for which the changes are made. Edits should only be made if warranted by scientific evidence, in coordination with the applicable state agency.

**Table 4-1. Oregon GRSG Habitat Indicators Table**

| Attribute | Indicators | Benchmarks | 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[1] within 1.0 mile of lek center and conifer cover ≤4% within 4.0 miles of lek, excluding pre-settlement trees | Connelly et al. 2000<br>Fresse 2009<br>Baruch-Mordo et al. 2013<br>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<br>Gregg et al. 1994<br>Hanf et al. 1994<br>Coggins 1998<br>Crawford and Carver 2000<br>Bates and Davies 2014<br>BLM 2015a |
| | Sagebrush height (inches)<br>Arid sites (warm-dry)<br>Mesic sites (cool-moist) | <br>11 to 31<br>15 to 31 | Gregg et al. 1994<br>Hanf et al. 1994<br>Coggins 1998<br>Crawford and Carver 2000<br>Freese 2009 |
| | Predominant sagebrush shape | Spreading | Connelly et al. 2000 |

| Attribute | Indicators | Benchmarks | Reference |
|---|---|---|---|
| Cover *(cont.)* | Perennial grass cover (such as bunchgrass) (%)<br>Arid sites<br>Warm-dry<br>Shallow-dry<br>Mesic sites<br>Cool-moist<br>Warm-moist | <br><br><br>≥10<br>≥10<br><br>≥20<br>≥20 | Gregg at al. 1994<br>Coggins 1998<br>Crawford and Carver 2000<br>Freese 2009<br>NRCS 2015<br>Bates and Davies 2014<br>Jon Bates, USDA ARS, pers. comm. 2/10/2015<br>BLM 2015a<br>BLM 2015b |
| | Perennial grass and forb height (inches, including residual grasses) – most important in nest areas; excludes shallow-dry sites[2]<br>Arid sites (warm-dry)<br>Mesic sites (cool-moist) | <br><br>≥7<br>≥9 | Gregg et al. 1994<br>Hanf et al. 1994<br>Crawford and Carver 2000<br>Hagen et al. 2007<br>Jon Bates, USDA ARS, pers. comm. 2/10/2015 |
| | Perennial forb cover (%)[3]<br>Arid sagebrush<br>Warm-dry<br>Shallow-dry<br>Mesic sagebrush<br>Cool-moist<br>Warm-moist | <br><br>≥2<br>≥2<br><br>≥6<br>≥5 | Drut 1992<br>Drut et al. 1994<br>Crawford and Carver 2000<br>Freese 2009<br>NRCS 2015<br>Bates and Davies 2014<br>BLM 2015a<br>Jon Bates, USDA ARS, pers. comm. 2/10/2015<br>BLM 2015b |
| | Invasive annual grass cover | <2% cover | BLM synthesis of research [7] |
| | Conifer | 0 (Absence of conifer) | BLM synthesis of research [8] |
| Food | forb diversity and availability [3] | Palatable forbs are common (≥6 individual plants) with ≥5 species present[4] and ≥2% forb cover | Hanf et al. 1994<br>Crawford and Carver 2000<br>Freese 2009<br>Bates and Davies 2014<br>BLM 2015a<br>Jon Bates, USDA ARS, pers. comm. 2/10/2015 |
| **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<br>Drut et al. 1994<br>Connelly et al. 2000<br>Crawford and Carver 2000<br>Bates and Davies 2014<br>Jon Bates, USDA ARS, pers. comm. 2/10/2015 |
| | Sagebrush height (inches) | 15 to 31 | Gregg et al. 1994<br>Hanf et al. 1994<br>Crawford and Carver 2000<br>Freese 2009 |
| | Perennial herbaceous (grass and forbs) cover (%)<br>Arid sagebrush<br>Warm-dry<br>Shallow-dry<br>Mesic sagebrush<br>Cool-moist<br>Warm-moist<br>Riparian [5] | <br><br>≥15<br>≥10<br><br>≥20<br>≥30<br>≥50 | Drut et al. 1994<br>Bates and Davies 2014<br>NRCS 2015<br>BLM 2015b<br>Jon Bates, USDA ARS, pers. comm. 2/10/2015 |
| | Riparian areas/mesic meadows | Majority of areas are in PFC | Stiver et al. 2015, or as updated |

| Attribute | Indicators | Benchmarks | Reference |
|---|---|---|---|
| Cover *(cont.)* | Invasive annual grass cover | <2% cover | BLM synthesis of research[7] |
| | Conifer | 0 (Absence of conifer) | BLM synthesis of research[8] |
| Food | Upland and riparian perennial forb availability [3] | Palatable forbs are common (≥6 individuals present) with ≥5 species present [4] and ≥2% forb cover in upland habitat and ≥4% forb cover in riparian habitat [5] | Hanf et al. 1994<br>Freese 2009<br>Bates and Davies 2014<br>BLM 2015b<br>Jon Bates, USDA ARS, pers. comm. 2/10/2015 |
| **Winter Including Late Autumn and Winter** (Seasonal Use Period November 1 – February 28) | | | |
| Cover and Food | Sagebrush cover (%) | ≥10 | Willis 1990 (in Hagen 2011)<br>Bruce 2011 |
| | Sagebrush height above snow (inches) [6] | ≥10 | Willis 1990 (in Hagen 2011)<br>Bruce et al. 2011 |
| | Conifer | 0 (Absence of conifer) | BLM synthesis of research [8] |

Notes:
[1] Tall structures are any man-made structure that has the potential to disrupt lekking or nesting birds by creating perching and nesting opportunities for predators (e.g., raptors and ravens) or that decrease use of an area by sage-grouse, including communication towers, meteorological towers, electrical transmission or distribution towers, power poles, wind turbines, and associated structures.
[2] Perennial grass and forb minimum height may not be achievable in years with below normal precipitation. Other indicators of desired condition may still render the site suitable, however.
[3] In drought years, forb cover and availability may not be at the desired condition. In certain plant associations, such as Wyoming big sagebrush/Needle and Thread, these indicators may rarely be achieved even in years with normal precipitation.
[4] Native plant species important for sage-grouse in Oregon are listed in Appendix 1 of the 2015 Oregon Greater Sage-Grouse Approved Resource Management Plan Amendment. This partial list may be revised and expanded with additional plant species as new information becomes available.
[5] Riparian includes swales, wet meadows, and intermittent/ephemeral streams.
[6] Low sagebrush vegetation types (average sagebrush height <12 inches) found along slopes that are cleared of snow by prevailing winds are potentially important winter foraging areas.
[7] BLM synthesis of research on the impacts invasive annual grasses have on sage-grouse habitat suitability (**Attachment 4-1**)
[8] BLM synthesis of research on the impact conifer have on sage-grouse habitat suitability (**Attachment 4-2**)

## 4.3 Using the Habitat Indicators Table

The Habitat Indicators Table is to be used as follows:

- To inform habitat suitability at one point in time, as defined by the processes described in the Habitat Assessment Framework and BLM HAF Implementation Guidelines.
- To inform measurable project objectives during implementation-level planning for BLM-permitted and BLM-initiated actions in HMAs, as applicable.
- To inform agency decision-makers regarding consideration of whether a project or proposal should be approved, denied, or modified based on how it would affect an area's existing habitat suitability status.

Additional guidance on the use of the Habitat Indicators Table and the associated products is available in the Habitat Assessment Framework (Stiver et al. 2015, BLM TR 6710-1, as revised) and BLM Sage-grouse HAF Implementation Guidelines.

When assessing seasonal habitat suitability, the BLM will summarize and report the number of monitoring locations, or amount of seasonal habitat in the analysis area, that are suitable, marginal, or unsuitable. Based on the monitoring locations rated as suitable, marginal, or unsuitable and the documentation of conditions across the entire analysis area such as ecological site potential (using appropriate ecological site descriptions, State and Transition Models, reference sheets, etc.), weather, and land ownership patterns, the BLM will determine if a given seasonal habitat is a limiting factor for sage-grouse. All rationale will be documented in a HAF summary report.

***Relationship of the Habitat Indicators Table to other assessment and planning tools***

The indicators and benchmarks in the Habitat Indicators Table are meant to inform the wildlife and/or sensitive species component of the Land Health Standards evaluation process (LHS, 43 CFR 4180.2; **Figure 4-1**). The Habitat Indicators are not land health standards and do not replace land health assessments. The indicators relating to vegetative cover are assessed using AIM methodology (Herrick et al. 2021). The HAF, GRSG Monitoring Framework (see **Appendix 3**), and land health assessments all incorporate AIM data to monitor existing conditions and track changes over time. The Land Use Plan (LUP) indicators use AIM methods to measure several of the GRSG habitat indicators.

**Table 4-2. Relationships of LUP, HAF, LHS and MF to the GRSG Habitat Objectives**

| Land Health Standards (LHS) Evaluation | Land Use Plan (LUP) | GRSG Habitat Assessment Framework (HAF) | GRSG Monitoring Framework (MF) |
|---|---|---|---|
| Evaluates if the sage-grouse portion of the Special Status Species Land Health Standard is achieved or significant progress towards achievement is made. These evaluations utilize HAF results along with other data. | Sets GRSG habitat objective(s) and Identifies the GRSG habitat indicators (see **Table 4-1** above) and benchmarks from best available science for evaluating progress toward meeting the objective | Provides methods to assess GRSG habitats using the LUP indicators and benchmarks from this appendix (see **Table 4-1** above) | Provides framework for reporting progress toward achieving the objective(s) of the LUP |

## 4.4 Inappropriate Uses of the Habitat Indicators Table

- Using the indicator value(s) as default desired conditions to inform LUP effectiveness without considering the current state compared to ecological potential of the site and relevant local information where measurements were taken.
- Using a single measured indicator value to determine sage-grouse habitat suitability.
- Using a single indicator as a criterion to modify grazing management or any other use.
- Adjusting use authorizations based on measured indicator values without adequate monitoring data.
- Adjusting use authorizations before determining whether the change will help move towards suitable habitat.

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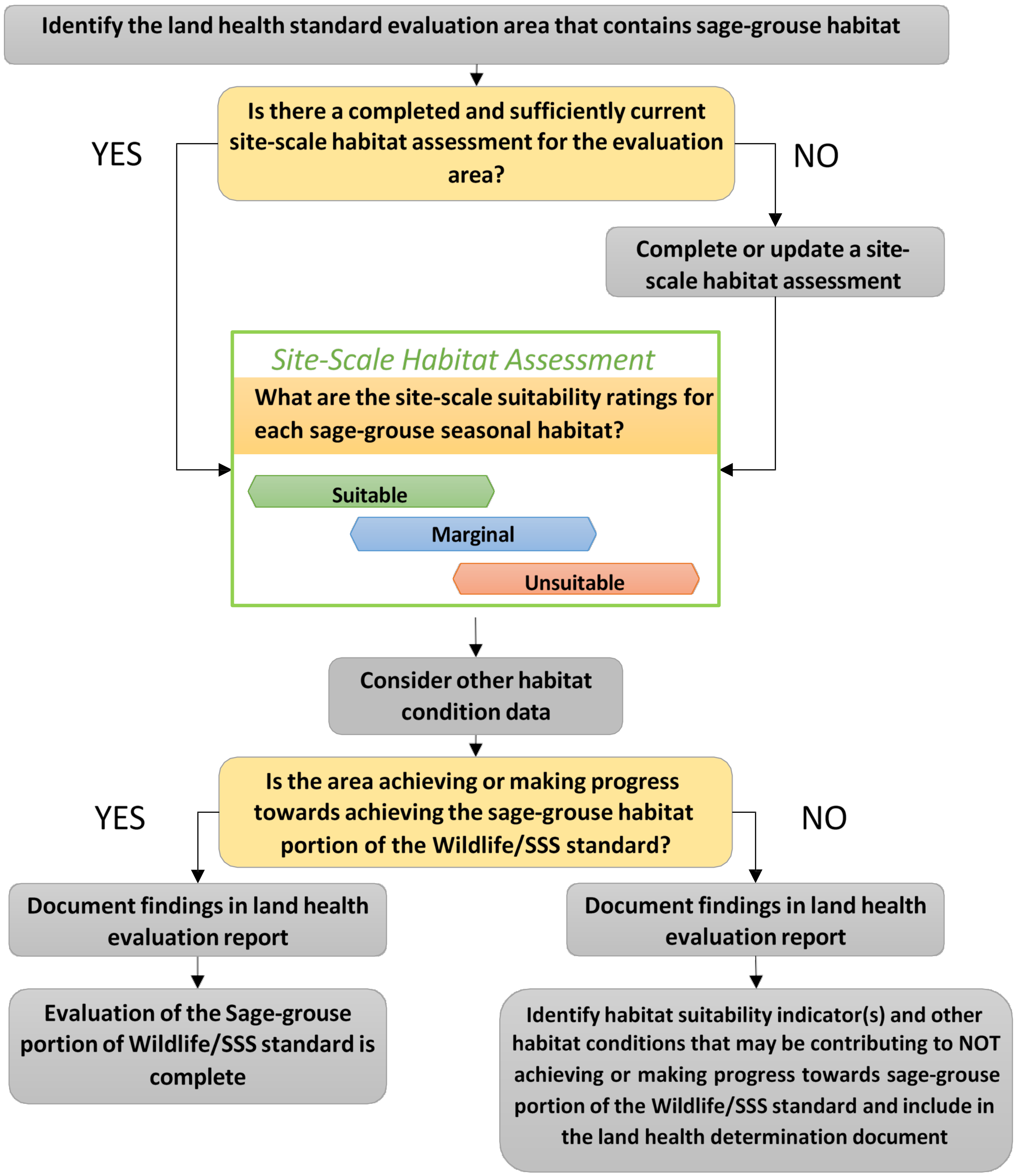
**Figure 4-1. Flowchart on Incorporating the Results of Site-Scale Sage-Grouse Habitat Assessment* into Wildlife/SSS Standard in the Land Health Assessments and Evaluations****




**Acronyms:**

SSS – Special Status Species

* Following the Sage-Grouse Habitat Assessment Framework (Stiver et al. 2015)

**For the complete land health standards evaluation and causal factor determination workflow, refer to: Kachergis, E., N. Lepak, M. Karl, S. Miller, and Z. Davidson. 2020. Guide to Using AIM and LMF Data in Land Health Evaluations and Authorizations of Permitted Uses. Tech Note 453. U.S. Department of the Interior, Bureau of Land Management, National Operations Center, Denver, CO.

# Attachment 4-1. Justification for Invasive Annual Grass as a Habitat Suitability Indicator at the Sage-grouse Habitat Assessment Framework (HAF) Site-Scale

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**Finalized on: October 12, 2023**

## Background

Invasive annual grasses, such as cheatgrass, medusahead, and ventenata species, are a recognized threat to sagebrush ecosystems (Chambers et al. 2016, Remington et al. 2021, Rowland et al. 2019) causing reduced ecosystem function, displacement of native vegetation, increased fire risk and reduced rates of post-fire recovery (D'Antonio and Vitousek 1992, Bradely et al. 2018) all of which can lead to degradation and/or loss of sage-grouse habitat (Nelle et al. 2000, Wik et al. 2002, Coates et al. 2015, Coates et al. 2016, Lockyer et al. 2015, Steenvoorden et al 2019, Brussee et al. 2022, Poessel et al. 2022). The Bureau of Land Management (BLM) uses the Sage-grouse Habitat Assessment Framework (HAF; Stiver et al. 2015) to assess sage-grouse habitat suitability at multiple spatial scales (mid-, fine- and site-scale) by examining scale-specific indicators that represent both habitat requirements (i.e., food, water, cover, security) and threats to habitat (i.e., anthropogenic disturbances, proximity of trees to leks). However, invasive annual grasses are not included as an indicator of habitat suitability at any scale of the HAF (Stiver et al. 2015). This omission has been recognized by both authors and implementors of the HAF as a shortcoming that should be remedied, as supported by scientific literature.

The purpose of this document is to:

- Provide scientifically based rationale for including invasive annual grass cover as an additional indicator in HAF site-scale habitat assessments (Stiver et al. 2015, revised), and
- Recommend scale-specific benchmarks for invasive annual grass cover for HAF site-scale assessments based on scientific literature relevant to that scale.

## Rationale

Research has shown that invasive annual grasses can reduce habitat suitability for sage-grouse, at the site-scale (i.e., microhabitat), by displacing native vegetation and altering habitat composition and structure (Chambers et al. 2016, Coates et al. 2017, Brussee et al. 2022). This degradation can cause sage-grouse to avoid areas with invasive annual grasses (Lockyer et al. 2015, Coates et al. 2017, Poessel et al. 2022) and can cause lower occupancy and survival rates in areas with invasive annual grasses (Wik et al 2002, Kirol et al. 2012, Lockyer et al. 2015). General speaking, studies have shown that greater sage-grouse will use areas with relatively low amounts of invasive annual grasses for nesting and brood-rearing; however, in areas with relatively higher amounts of invasive annual grasses, rates of occupancy and/or survival are lower (Coates et al. 2017, Dinkins et al. 2016, Lockyer et al. 2015, Schreiber et al. 2015, Stonehouse et al. 2015, Wik 2002).

For example, a study conducted in Nevada and California found that cheatgrass abundance was the single greatest micro-habitat feature distinguishing greater sage-grouse nest sites from random sites in the study area and that average cheatgrass cover at nest sites (7.1%; SE=1.0) was lower than at random sites (13.3%; SE=1.2) (Lockyer et al. 2015). A study in Idaho found that successful nests had lower average cheatgrass cover (1%) than unsuccessful nests (4%) while successful broods had lower average cheatgrass cover (2%) than unsuccessful broods (6%) (Wik et al. 2002). In Nevada and California, a study indicated that > 5% annual grass cover was unsuitable for GRSG during nesting and brood-rearing (Coates et al. 2017). They also recommended suitability categories for invasive annual grasses in nesting habitat specific to xeric sites (<2.5% invasive annual grass cover is suitable, 2.5 – 4.8% is marginal, >4.8% is unsuitable) and mesic sites (<2.5% invasive annual grass cover is suitable, 2.5 – 5.2% is marginal, >5.2% is unsuitable).

Although individual studies reported different values of invasive annual grass cover associated with sage-grouse site selection and nest/brood success, there was notable overlap. In studies that examined site selection (not success), they reported mean values ranging between <1% to 17% cover of invasive annual grasses at used sites (regardless of success), with most reporting <7% cover (**Table 1**). In studies that examined nest and/or brood success relative to invasive annual grasses, they reported mean values between 1% to 7% for successful sites (Wik et al. 2002, Lockyer et al. 2015) (**Table 1**). Of note, some studies have shown that sage-grouse exhibit maladaptive site selection to invasive annual grasses and other habitat indicators due to nest site fidelity (Coates et al. 2017, Brussee et al. 2022, Cutting et al. 2019) so nest/brood success may be a more accurate indicator of the impacts of invasive annual grasses to sage-grouse habitat suitability.

Collectively, this research indicates that invasive annual grasses can reduce habitat suitability for nesting and brood-rearing greater sage-grouse at the site-scale and that habitat suitability generally decreases as invasive annual grass cover increases. It is recommended that invasive annual grass cover be included as a habitat suitability indicator for sage-grouse habitat assessments conducted at the HAF site-scale, as described in the Recommendations section below.

*Table 1. The table below lists and describes key aspects and findings from research that has examined the relationship of invasive annual grass cover to greater sage-grouse habitat selection and/or survival at the site-scale (i.e., microhabitat). Note that no studies specifically examined the potential impacts of invasive annual grasses on Gunnison sage-grouse.*

| Citation | State | Scale/ Extent | Season | Applicable Findings |
|---|---|---|---|---|
| Coates et al. 2017 | NV | 10m of nest | Nesting | Mean invasive annual grass cover at nests was 4.8% in xeric sites and 5.1% in mesic sites.<br>Authors recommended suitability categories:<br>• xeric sites (suitable is <2.5%, marginal is 2.5 – 4.8%, unsuitable is >4.8%) and<br>• mesic sites (suitable is <2.5%, marginal is 2.5 – 5.2%, unsuitable is >5.2%) |
| | | 10m of brood | Brood-rearing | Mean invasive annual grass cover at brood sites was 4.3% in xeric 4.79% in mesic.<br>Authors recommended suitability categories:<br>• xeric sites (suitable is <2.5%, marginal is 2.5 – 4.3%, unsuitable is >4.3%) and<br>• mesic sites (suitable is <2.5%, marginal is 2.5 – 4.8%, unsuitable is >4.8%) |

| Citation | State | Scale/ Extent | Season | Applicable Findings |
|---|---|---|---|---|
| Dinkins et al. 2016 | WY | 5m of nest | Nesting | Mean invasive annual grass cover at nests 2.14% (SE=0.11) which was higher but similar to random sites with a mean of 1.75% (SE=0.10). |
| Kirol et al. 2012 | WY | 8m of nest | Nesting | Nest selection was negatively related to the presence of cheatgrass when compared to available habitat. "Cheatgrass occurred at 6% of the nest locations and 19% of the corresponding random locations." |
| Lockyer et al. 2015 | NV/CA | 0.01ha of nest | Nesting | Average cover of cheatgrass at nests and random sites was 7.1% (SE=1.0) and 13.3% (SE=1.2), respectively. Sites with >7.1% cheatgrass cover had lower nest success. Cheatgrass was the single greatest micro-habitat feature distinguishing nests from random sites. |
| Schreiber et al. 2015 | WY | 20m of brood | Brood-rearing | Cheatgrass cover was lower at early brood-rearing sites (0.55% +/-0.38%) than at random points (0.71% +/-0.30%) but similar.<br>Cheatgrass cover was lower at late brood-rearing sites (1.44% +/-0.65%) than at random points (2.13% +/-0.72%) but similar. |
| Stonehouse et al. 2015 | WA | | Nesting | Mean cover of invasive annual grasses at nest sites was 13% (SE=1); random sites were not assessed. |
| Wik et al. 2002 | ID | 20m of nest | Nesting | All nests had an average of 3% cover. Successful nests had lower average cheatgrass cover (1% in 20m transect) than unsuccessful nest (4% in 20m transect). |
| | | 20 m of brood | Brood-rearing | All broods had average of 5% cheatgrass. Unsuccessful broods has lower cheatgrass (2% in 20m) at use-sites than successful broods (6% in 20m). |
| Wing et al. 2014 | UT | 15m of nest | Nesting | All nest, brood, and non-brooding use sites had cheatgrass which was similar in cover to random sites. Cheatgrass cover means: Nest mean = 17.6% (0.8), Brood mean = 15.6% (0.8), non-brood females and males = 14.3% (0.7), random sites mean = 15.9% (0.8). |

## Recommendations

Based on the findings of the research summarized above (**Table 1**), invasive annual grass cover should be assessed as a habitat indicator for nesting/early brood-rearing, late brood-rearing, and wintering habitat during a HAF site-scale assessment using the following benchmarks, adjusted as warranted by best available science. Note that these benchmarks were based more heavily on research that examined nest and brood *success* relative to invasive annual grass cover (more so than research that examined *use versus availability* of habitat) because sage-grouse have been shown to exhibit maladaptive site selection (Coates et al. 2017, Brussee et al. 2022, Cutting et al. 2019). Invasive annual grasses are not assessed at the site-scale for leks because the AIM strategy does not include leks in its sampling strategy; however, invasive annual grasses are assessed for lekking habitat at the HAF *fine-scale*. There was not sufficient research to suggest different benchmarks for winter habitat due to a lack of research on winter habitat as compared to nesting and brood-rearing. If future research indicates otherwise, benchmarks may be adjusted accordingly.

*Table 2. Recommended habitat suitability benchmarks for assessing invasive annual grass at the HAF site-scale.*

| Habitat Indicator | Metric | Benchmarks | | |
|---|---|---|---|---|
| | | Suitable | Marginal | Unsuitable |
| Invasive Annual Grass | % cover | <2% | 2 – 5% | >5% |

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# Attachment 4-2. Justification for Conifer as a Habitat Suitability Indicator at the Sage-grouse Habitat Assessment Framework (HAF) Site-Scale

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## Background

Recent research has shown that conifer expansion into native sagebrush communities can reduce habitat suitability for sage-grouse (Nisbet et al 1983, Doherty et al. 2010, Fedy et al. 2014, Doherty et al. 2016, Westover et al. 2016, Baxter et al. 2017, Picardi et al. 2020, Saher et al. 2021, Brussee et al. 2022, Roth et al. 2022). The Bureau of Land Management (BLM) uses the Sage-grouse Habitat Assessment Framework (HAF; Stiver et al. 2015) to assess sage-grouse habitat suitability at multiple spatial scales (mid-, fine- and site-scale) by examining scale-specific indicators that represent both habitat requirements (i.e., food, water, cover, security) and threats to habitat (i.e., anthropogenic disturbances, predation risk). However, conifer cover is not included as an indicator of habitat suitability at any scale of the HAF (Stiver et al. 2015). This omission has been recognized by BLM personnel as a shortcoming of the HAF that should be remedied, as supported by scientific literature.

The purpose of this document is to:

- Provide scientifically based rationale for including conifer as an additional habitat indicator in HAF site-scale habitat assessments (Stiver et al. 2015, revised), and
- Recommend scale-specific thresholds for conifer for HAF site-scale assessments based on scientific literature relevant to that scale.

## Rationale

Studies that examine site-scale sage-grouse habitat (also referred to as microhabitat) often do not report or analyze conifer as a habitat characteristic, likely because it is not a habitat requirement of sage-grouse but rather a deterrent, especially at such a small scale (e.g., within 10m of a nest site). In a review of over 40 peer-reviewed microhabitat studies on sage-grouse, no study reported conifer cover as a standard microhabitat characteristic for sage-grouse (such as sagebrush cover, grass height, forb cover) nor did they test for a relationship between conifer and sage-grouse. A few studies, such as Duvuvuei 2013 and Wing 2014, reported frequency of nests located under conifer in Utah (see **Table 1**). Wing 2014 reported that nesting under juniper was rare and that only one of those nests was successful. Duvuvuei 2013 showed that nests were commonly placed under junipers, especially by translocated females, but suggested that use of juniper for nesting was due to maladaptation caused by a lack of sagebrush cover and extensive juniper expansion into the study area.

Most studies that examine the potential impacts of conifer on sage-grouse and their habitat are conducted at landscape scales, typically estimating conifer cover near sage-grouse locations (e.g., within 1,000m of a nest site) using remotely sensed landcover data. These studies have established that conifer cover, even in low amounts (e.g., <2 % cover), can negatively impact sage-grouse across all seasons (lekking, nesting, brood-rearing and wintering) causing avoidance and/or reduced vital rates (Nisbet et al 1983, Doherty et al. 2010, Fedy et al. 2014, Doherty et al. 2016, Westover et al. 2016, Baxter et al. 2017, Picardi et al. 2020, Saher et al. 2021, Brussee et al. 2022, Roth et al. 2022). However, these findings are mostly applicable to HAF mid- and/or fine-scale assessments which are also landscape level.

Given the established negative impacts of conifer cover on sage-grouse at landscape scales and the lack of conifer being reported in microhabitat studies (i.e., suggesting avoidance of conifer at site-scales), it is recommended that conifer be included as a habitat suitability indicator for sage-grouse habitat assessments conducted at the HAF site-scale, as described in the Recommendations section below.

*Table 1. The table below lists and describes key aspects and findings from research that has examined the relationship of conifer to greater sage-grouse habitat selection and/or survival at the site-scale (i.e., microhabitat). Note that no studies specifically examined the potential impacts of invasive annual grasses on Gunnison sage-grouse.*

| Name | Tree Type | State | Season | Applicable Findings |
|---|---|---|---|---|
| Wing 2014 | Juniper | UT | Nesting | GRSG females rarely selected juniper as a nesting shrub (n=4) and only one nest was successful. |
| Duvuvuei 2013 | Juniper | UT | Nesting | Translocated GRSG females (24%) nested under juniper but was accredited to lack of sagebrush cover and extensive conifer expansion in study area. |

## RECOMMENDATIONS

Based on the rationale above, conifer should be assessed as a habitat indicator during HAF site-scale assessments for nesting, brood-rearing, and wintering habitat. Conifer is not being added as an additional indicator in lek assessments because existing lek indicators already incorporate conifer and other trees. The metric used to assess conifer suitability is the count of conifer and, if available, the height of those conifer relative to surrounding sagebrush (or native shrubs, if used as a surrogate), using the benchmarks shown below (adjusted as warranted by best available science). Percent conifer is not recommended as the primary metric for conifer suitability because there is insufficient science to support a benchmark at the site-scale; however, percent conifer cover may still be used as ancillary information, as interpreted by local experts, to support assessment of conifer as a habitat suitability indicator.

*Table 2. Recommended habitat suitability benchmarks for assessing conifer at the HAF site-scale.*

| Habitat Indicator | Metric | Benchmarks | | |
|---|---|---|---|---|
| | | Suitable | Marginal | Unsuitable |
| Conifer | Count | • 0 trees (absence of conifer) | If height is unknown:<br>• 1 tree<br><br>If height is known:<br>• 1 tree that is taller than local average sagebrush height,<br>and/or<br>• <=3 trees that are not taller than local average sagebrush height | If height is unknown:<br>• >1 tree<br><br>If height is known:<br>• >1 tree that is taller than local average sagebrush height,<br>and/or<br>• >3 trees that are not taller than local average sagebrush height |

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# Appendix 5

## Livestock Grazing Best Management Practices and Design Features and Supplemental Information

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# Appendix 5. Livestock Grazing Best Management Practices and Design Features and Supplemental Information

## 5.1 Livestock Grazing Management Best Management Practices and Design Features

The following best management practices (BMP) provide a list of strategies, practices, or design features to be considered during implementation of the Approved RMP Amendment. These measures are not required in every instance but are useful to aid in proper livestock grazing management in GRSG habitats. The applicability and overall effectiveness of each BMP cannot be fully assessed until the project level when the project location and design are known. Because of site-specific circumstances, some BMPs may not apply to some projects (e.g., a resource is not present on a given site) and/or may require slight variations. For example, variations could be required for the following reasons:

- A specific BMP is documented to not be applicable to the site-specific conditions of the project/activity. Economic considerations, such as increased costs, do not necessarily require that a BMP be varied or rendered inapplicable.
- An alternative BMP, a state-implemented conservation measure, or plan-level protection is determined to provide equal or better protection for GRSG or its habitat.
- A specific BMP will not avoid or minimize impacts to GRSG or its habitat.

### 5.1.1 Coordination

- 43 CFR 4100 regulations direct BLM to consult, cooperate and coordinate with affected grazing permittees, the state having lands or responsible for managing resources within the area, and the interested public when engaging in program work such as changes in permitted use, Allotment Management Plans, Range Improvements, issuance and/or modification of a grazing authorization. The BLM coordinates with Federal, State, county, Indian tribal and local governmental entities, institutions, organizations, corporations, associations, and individuals when authorizing grazing on BLM lands. In GRSG habitat management areas, these communication efforts should include coordination on how livestock grazing practices could be managed across both BLM-administered lands and non-BLM-administered lands, in partnership with interested permittees and lessees, to improve GRSG habitat conditions.

### 5.1.2 Best Management Practices for Livestock Grazing Management

- Set priorities for grazing management activities (e.g., monitoring, authorization renewals, field checks, etc.) following direction in agency policy, including PIM 2025-004 as amended or superseded. When considering competing priorities in GRSG habitat, considerations should include level of management priority (priority vs general habitat management areas) and focusing on areas where current livestock grazing management is a significant causal factor to not meeting or making significant progress towards meeting the special status species (SSS) land health standard, and those containing riparian areas, including wet meadows. Other criteria for prioritization can include the need to respond to urgent natural resource concerns (e.g., fire) and legal obligations.

- When current livestock management practices are determined to not be meeting or making progress towards meeting the SSS land health standard (following appropriate consultation, cooperation and coordination, consistent with BLM Handbook H-4180-1), implement changes in grazing management through grazing authorization modifications, or allotment management plan implementation. Potential modifications, either within the existing terms and conditions or considered as additional alternatives in grazing authorization NEPA analysis as a threshold/response, (not presented in any priority order) could include, but are not limited to, changes in:
  - Season or timing of use;
  - Numbers of livestock;
  - Distribution of livestock use;
  - Duration and/or level of use;
  - Kind of livestock (e.g., cattle, sheep, horses, or goats) (Briske et al. 2011); and
  - Range improvements.
- Locate supplements (salt, mineral, protein, etc.) away from water sources, meadows, riparian areas, swales, and GRSG leks in locations that increase livestock distribution unless effective control of livestock to avoid detrimental impairment of any riparian area or GRSG habitats can be ensured.
- When using salt or mineral supplements, place them outside intact sagebrush stands to reduce impacts to GRSG breeding habitat. For example, place supplements in existing disturbed sites, areas with reduced sagebrush cover, to reduce impacts on GRSG breeding habitat; where feasible use salts or mineral supplements to improve management of livestock for the benefit of GRSG habitat.
- During the lekking season, encourage minimal vehicle use and maintenance activities associated with livestock management during lekking hours (before 9 am and after 6 pm) within 0.6 miles of an active lek.
- To decrease attracting predators or decreasing water quality, whenever found and wherever possible, remove dead livestock from public land and dispose of in ways that do not shift the impact to non-public land. If it is not possible to entirely remove livestock carcasses, they should, at a minimum, be removed from riparian areas and water sources.
- In PHMA and GHMA, areas that have received vegetation treatments should be rested from livestock grazing until resource monitoring data verifies the treatment objectives specific to the purposes of the treatment are being met and an appropriate grazing regime has been developed. Examples of vegetation treatments include seedings, hazardous fuels reduction treatments, emergency stabilization and rehabilitation efforts.
- Avoid disturbing lekking and roosting GRSG from human, guard animal, and sheep activities by trailing, overnighting, watering, and bedding sheep on public lands at least 0.6 miles from active leks (dates of lek activity determined locally, approximately March 15–May 1 in lower elevations and March 25–May 15 in higher elevations).
- When trailing livestock during the lekking or nesting season, use roads or existing trails, to the extent possible.
- When available, use GRSG habitat use-pattern mapping or habitat monitoring to strategically adjust livestock distribution to benefit occupied GRSG breeding habitat, include herding, salting, and water-source management (e.g., turning troughs/pipelines on/off and extending pipelines/moving troughs) in grazing programs.
- Ensure that permittees are informed of management and movement requirements related to avoiding recent burns, habitat rehabilitation, or other restoration sites.

- Identify and, when feasible, establish strategically located forage reserves, focusing on areas where restoration to GRSG habitat is unlikely or lower priority habitat restoration areas.

### 5.1.3 Design Features for Range Developments

- When installing new range improvement projects in PHMA, avoid construction during the applicable seasonal use periods associated with lekking, nesting, or brood rearing seasonal habitats (March 1 – July 15, or as identified for local variability in coordination with the state wildlife agency or other appropriate agency with management expertise and authority).
- Use temporary range infrastructure, such as troughs, fences, and supplements, where feasible and appropriate, to meet management objectives.
- Install shutoff valves at spring sources and troughs. Unless needed for wildlife habitat or water, ensure shutoff valves are closed and troughs are drained when livestock are not utilizing the pasture, as consistent with the water laws of the State within which the land is located.
- Install lids on spring collection boxes.
- Limit structures taller than adjacent vegetation and existing structures that could provide perching opportunities for avian predators. Where they are necessary, place them near taller natural features or partially/entirely bury them if possible.
- Install floats in troughs to prevent overflow and keep water at spring sources, as consistent with the water laws of the State within which the land is located.
- Ensure that new and existing livestock troughs and open water storage tanks are fitted with ramps to facilitate the use of and escape from troughs by GRSG and other wildlife; do not use unsecured, unstable, or ineffective items such as floating boards or similar objects.
- Locate troughs outside meadows, swales, and riparian areas.
- Design new water developments to maintain hydrologic function of spring sources, water courses and associated riparian habitat, as consistent with the water laws of the State within which the land is located.
- Consider virtual fencing opportunities, as appropriate.
- To minimize risk of noxious or invasive plant spread, require all heavy equipment used in construction of range improvements to be thoroughly cleaned of all soil and plant material prior to entering public lands.
- To minimize livestock concentration impacts on nesting and early brood rearing sage-grouse, locate new livestock handling facilities (such as corrals) away from active leks and outside of nesting habitat at least by 1.2 miles (Manier et al. 2014).
- Identify and close roads and trails that are not needed for range development maintenance.
- Where livestock handling and/or watering facilities result in lowering the downstream water table and dewatering of wet meadows or mesic habitat, relocate or remove these facilities when doing so will halt or reverse the dewatering, consistent with applicable laws.
- Design new and maintain existing water projects to avoid standing pools of shallow water that could spread West Nile Virus.

### 5.1.4 Drought Response

- When completing a fully processed grazing authorization in GRSG habitat, incorporate strategies for livestock management during drought conditions.
- During drought conditions use a recognized drought indicator, such as the Drought Monitor, Vegetation Drought Response Index, 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:
  – Conduct pre-season assessments prior to livestock turn out.
  – Monitor vegetation conditions during authorized livestock use periods to determine need for early removal and/or other changes to meet seasonal RMP objectives.
- During drought periods, prioritize evaluating effects of drought in PHMA relative to GRSG needs for food and cover (including riparian areas); ensure that post-drought management allows for vegetation recovery, based on ecological potential, that meets GRSG needs in priority GRSG habitat areas. Where ESDs or STMs are lacking for an area, the best available information to achieve the GRSG needs should be used.
- If livestock grazing is deferred due to drought, reevaluate vegetation and GRSG habitat indicators that measure GRSG habitat prior to reauthorization of grazing.

### 5.1.5 From the BLM National Sage-Grouse Habitat Conservation Strategy of 2004

- Use prescriptive livestock grazing, where appropriate, to reduce annual grass production and the spread of wildfire into sagebrush communities. Timing of grazing and effects on residual native plants need to be carefully evaluated.
- Use grazing practices that promote the growth and persistence of native shrubs, grasses and forbs needed by sage-grouse for seasonal food and concealment. Grazing practices include changing season of use, numbers of livestock, grazing intensity, distribution of livestock use, and type of livestock (sheep, cattle or horses). Altering season of grazing may help to favor perennial plants in areas where native perennials and cheatgrass occur together in the plant community. Vegetation structure (height) should be managed so as to provide adequate cover for sage-grouse during the nesting period.
- Coordinate with state wildlife agencies where concentrations of grazing wildlife detrimentally affects sage-grouse habitat quality.
- Maintain seeps, springs, wet meadows, and riparian vegetation in a functional and diverse condition for young sage-grouse and other species that depend on forbs and insects associated with these areas. Consider fencing if vegetation associated with these wet areas cannot be maintained with current livestock, wildlife or wild horse and burro use and the impacts of the fence are outweighed by the improved habitat quality.
- Where other grazing management options are not achieving, or cannot achieve, the desired objectives, a short-term option may be livestock exclusion. Temporary exclusion can provide the plant community the opportunity to progress toward a point where grazing can again be reintroduced once desired conditions are reached. Removing livestock may not reverse the condition of severely altered habitats and often must be combined with reseeding and other rehabilitation methods to restore appropriate sagebrush habitat.

# Appendix 6

## Glossary

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# Appendix 6. Glossary

**Acquisition.** Acquisition of lands can be pursued to facilitate various resource management objectives. Acquisitions, including easements, can be completed through exchange, Land and Water Conservation Fund purchases, donations, or receipts from the Federal Land Transaction Facilitation Act sales or exchanges.

**Adaptive management.** A type of natural resource management in which decisions are made as part of an ongoing science-based process. Adaptive management involves testing, monitoring, and evaluating applied strategies, and incorporating new knowledge into management approaches that are based on scientific findings and the needs of society. Results are used to modify management policy, strategies, and practices.

**Adjacent (rights-of-way).** Installation of authorized improvements parallel, near, or next to existing authorized rights-of-way.

**Allocation.** The identification in a land use plan of the activities and foreseeable development that are allowed, restricted, or excluded for all or part of the planning area, based on desired future conditions.

**Amendment.** The process for considering or making changes in the terms, conditions, and decisions of approved Resource Management Plans or management framework plans. Usually only one or two issues are considered that involve only a portion of the planning area.

**Area of Critical Environmental Concern (ACEC).** Areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards. The identification of a potential ACEC shall not, of itself, change or prevent change of the management or use of public lands.

**Artifact.** A human-modified object, often appearing on an archaeological site, that typically dates to over 50 years in age.

**Authorized Officer.** Any employee of the BLM to whom authority has been delegated to perform the duties described.

**Baseline Reference Areas:** In relation to key RNAs (refer to definition below), a baseline reference area is one where ecological processes and current ecological condition are functioning within a normal range of variability and the plant community has adequate resistance to, and resiliency from, most disturbances. Ecological condition considers historical disturbance regimes, current authorized uses, climatic variability, and existing vegetation. Preservation and protection of the natural attributes will predominate within the baseline reference areas.

**Best management practices (BMPs).** A suite of techniques that guide or may be applied to management actions to aid in achieving desired outcomes. BMPs are often developed in conjunction with land use plans, but they are not considered a planning decision unless the plans specify that they are mandatory.

**Biologically significant unit (BSU).** A geographical/spatial area that includes Greater Sage-Grouse priority habitat management areas that is used as the basis for comparative calculations to support evaluation of changes to habitat. In Utah, each BSU correlates to the priority habitat management area within a population area.

**Co-location (communication sites).** The installation of new equipment/facilities on or within or adjacent to existing authorized equipment/facilities or within a communication site boundary as designated in the Communication Site Plan.

**Co-location (electrical lines).** Installation of new rights-of-way adjacent to current ROWs boundaries, not necessarily placed on the same power poles.

**Co-location (other rights-of-way (ROW).** Installing new authorized ROWs within or on the existing footprint of an approved ROW boundary.

**Communication site.** Sites that include broadcast types of uses (e.g., television, AM/FM radio, cable television, broadcast, translator) and non-broadcast uses (e.g., commercial or private mobile radio service, cellular telephone, microwave, local exchange network, passive reflector).

**Controlled surface use (CSU).** CSU is a category of moderate constraint stipulations that allows some use and occupancy of public land while protecting identified resources or values and is applicable to fluid mineral leasing and all activities associated with fluid mineral leasing (e.g., truck-mounted drilling and geophysical exploration equipment off designated routes, construction of wells and/or pads). On BLM-administered lands, CSU areas are open to fluid mineral leasing but the stipulation allows the BLM to require special operational constraints, or the activity can be shifted more than 200 meters (656 feet) to protect the specified resource or value.

**Cultural resources.** The present expressions of human culture and the physical remains of past activities, such as historic buildings, structures, objects, districts, landscapes, and archaeological sites. These resources can be significant in the context of national, regional, or local history, architecture, archaeology, engineering, or culture. They may also include sacred sites and natural features of landscapes that are significant to living communities.

**Cultural resource inventories.** Both a systematic review of records, files, and archived databases and a survey to determine the past human use of an area.

**Cumulative Impact (Effect).** The impact on the environment that results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

**De-watering.** The process of removing surface and ground water from a particular location.

**Designated Roads and Trails.** Those roads and trails that are specifically identified by the BLM as the only allowable routes for motor vehicle travel in the specific area involved. Travel on designated roads and trails may be allowed seasonally or yearlong. Additional roads or trails may be constructed and authorized for travel as need dictates in conformance with the land use plan or activity plan.

**Disposal lands.** Transfer of public land out of federal ownership to another party through sale, exchange, Recreation and Public Purposes Act of 1926, Desert Land Entry or other land law statutes.

**Disturbance response groups.** A process that examines local knowledge, soil mapping data and published literature on soils, plant ecology, plant response to various disturbances, disturbance history of the area, and any other important attributes necessary to sort pre-existing ecological sites into groups of ecological sites based on their responses to natural or human-induced disturbances.

**Easement.** A right afforded a person or agency to make limited use of another's real property for access or other purposes.

**Ecological site.** A distinctive kind of land with specific characteristics that differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation.

**Ecological site description.** A report that provides detailed information about an ecological site.

**Erosion.** The wearing away of the land surface by running water, wind, ice, or other geological agents.

**Ethnographic resources.** Variations of natural resources and standard cultural resource types. They are subsistence and ceremonial locales and sites, structures, objects, and rural and urban landscapes assigned cultural significance by traditional users.

**Exchange.** A transaction whereby the federal government receives land or interests in land in exchange for other land or interests in land.

**Existing habitat.** Habitat that currently supports greater sage-grouse, even if not currently occupied. This can include seasonal habitats, such as wintering, nesting and brood-rearing**.**

**Exploration.** Active drilling, geophysical operations, surface sampling and trenching, or smallscale mining or similar activities, to: a. Determine the presence of the mineral resource; or b. Determine the extent of the reservoir or mineral deposit.

**Feature.** In reference to archaeology, a feature is a collection of one or more contexts representing some non-portable activity, such as a hearth or wall.

**Federal mineral estate.** Subsurface mineral estate owned by the US and administered by the BLM. Federal mineral estate under BLM jurisdiction is composed of mineral estate underlying BLM lands, tribal lands, privately owned lands, and state-owned lands.

**Federal mineral interest.** See Federal mineral estate.

**Fluid minerals.** Oil, gas, coal bed natural gas, and geothermal resources.

**Fully Processed Grazing Authorization.** A grazing permit or lease that has been issued in accordance with all applicable laws, regulation, and policy including the NEPA, Endangered Species Act (ESA), and decision processes provided in 43 CFR 4160.

**General Habitat Management Areas (GHMA).** Lands that are, or have the potential to become, occupied seasonal or year-round habitat outside of PHMA, managed to sustain GRSG populations. These areas are defined differentially by state wildlife management agencies, but generally are of poorer GRSG habitat quality with reduced occupancy when compared to PHMA. Some state wildlife agencies have identified areas of GHMA as important for restoration, connectivity, or seasonal habitats. The objective intent for GHMA is to maintain habitat conditions to support GRSG populations consistent with the state agency designations of recovery, connectivity, or seasonal habitats.

**Geophysical exploration.** Efforts to locate or better define mineral or oil and gas deposits, using geophysical methods such as seismic refraction, electrical resistivity, induced magnetism, or other methods.

**Geothermal energy.** Natural heat from within the Earth captured for production of electric power, space heating, or industrial steam.

**GRSG nesting habitat.** Areas with protective grass and high lateral shrub cover where hens nest, typically under sagebrush shrubs.

**GRSG early brood-rearing habitat.** Upland sagebrush sites relatively close to nest sites, typically characterized by high species richness with an abundance of forb sand insects, where sage-grouse hens raise young chicks (<21 days).

**GRSG winter habitat.** Sagebrush habitats that provide access to sagebrush above the snow for all food and cover requisite needs.

**Habitat.** Areas that currently provide GRSG resources (such as space, food, cover, and water) and environmental conditions (such as temperature, precipitation, presence or absence of predators and competitors) that promote occupancy of sage-grouse during a particular stage of its annual life cycle (e.g., breeding, nesting) and allows for them to survive and reproduce.

**Habitat Assessment Framework.** The Habitat Assessment Framework (HAF) is a tool to measure the suitability of GRSG habitat at multiple scales.

> **<u>Mid-scale HAF areas</u>**. Areas conceptually linked to GRSG dispersal capabilities in population and subpopulation areas as described by Connelly and others (2004). Mid-scale HAF delineations also conceptually provide the life requisite space for GRSG dispersal, allowing for migration movements based on the following key inputs: availability of sagebrush habitat, size and number of habitat patches, connectivity of habitat patches, characteristics of linkage areas between patches, landscape matrix and edge effects, and anthropogenic disturbances.
>
> **<u>Fine-scale HAF areas</u>**. Fine-scale HAF delineations generally describe the extent of all seasonal use areas used by local populations. Fine-scale areas include suitable habitats within home range areas that have contiguous mosaics of sagebrush shrublands or grassland/sagebrush connecting seasonal use areas.

**Indicators.** Factors that describe resource condition and change and can help the BLM determine trends over time.

**Intact landscape.** Landscapes with healthy sagebrush ecosystems that have not been disrupted by anthropogenic activities or catastrophic natural events, including invasion by non-native grasses and associated wildfires.

**Invasive Species (Invasive Plant Species, Invasives).** An alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health. The species must cause, or be likely to cause, harm, and be exotic to the ecosystem it has infested before considered invasive.

**Key areas of critical environmental concern.** Special management areas that have been identified as having a high utility for GRSG conservation. These land allocations were designated in previous RMPs to protect other relevant and important resource values; however, they also contain quality GRSG habitat, are within PHMA, and contain leks. They should be priority areas for GRSG management as well as the values for which the ACEC was designated; site-specific ACEC management plans will be prepared at the implementation level.

**Key research natural area (RNA).** Key RNAs were designated as RNAs, a special type of ACEC in a previous RMP to protect specific intact representative native plant communities. They were identified as "key" RNAs in the 2015 RMP Amendment. These areas are in PHMA and allow for long term vegetation monitoring of relatively unaltered native plant communities important for GRSG. These areas can provide baseline vegetation information on natural processes such as successional changes, and future vegetation shifts in the plant communities from changes in precipitation and temperature. Please refer to related definition of "baseline reference area" above. Key RNAs either contain GRSG leks or are within 4 miles of leks and are, or likely are, used for nesting, brood-rearing, foraging, breeding or wintering.

> **Relatively unaltered.** In relation to the definition for "key RNAs" the term "relatively unaltered" means exhibiting utilization levels of 20% or less of key indicator species, which is considered negligible to very light grazing (BLM 1996).

**Land tenure adjustments.** Land ownership or jurisdictional changes. To improve the manageability of BLM-administered lands and their usefulness to the public, the BLM has numerous authorities for repositioning lands into a more consolidated pattern, disposing of lands, and entering into cooperative management agreements. These land pattern improvements are completed primarily through the use of land exchanges but also through land sales, through jurisdictional transfers to other agencies, and through the use of cooperative management agreements and leases.

**Leasable minerals.** Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. These include energy-related mineral resources such as oil, natural gas, coal, and geothermal, and some nonenergy minerals, such as phosphate, sodium, potassium, and sulfur. Geothermal resources are also leasable under the Geothermal Steam Act of 1970.

**Lease.** Section 302 of the Federal Land Policy and Management Act of 1976 provides the BLM's authority to issue leases for the use, occupancy, and development of public lands. Leases are issued for purposes such as a commercial filming, advertising displays, commercial or noncommercial croplands, apiaries, livestock holding or feeding areas not related to grazing permits and leases, native or introduced species harvesting, temporary or permanent facilities for commercial purposes (does not include mining claims), residential occupancy, ski resorts, construction equipment storage sites, assembly yards, oil rig stacking sites, mining claim occupancy if the residential structures are not incidental to the mining operation, and water pipelines and well pumps related to irrigation and nonirrigation facilities. The regulations establishing procedures for processing these leases and permits are found in 43 CFR 2920. (BLM)

**Lease stipulation.** A modification of the terms and conditions on a standard mineral lease form established at the time of the lease sale.

**Lek.** The BLM is adopting the Western Association of Fish and Wildlife Agencies (WAFWA) lek definitions (Cook et al., 2022)[1]. For Oregon, unless otherwise noted, when the term "lek" is used it applies to the WAFWA definition for "active lek" and "pending active lek".

> **Lek.** A lek is a traditional location where at least 2 male greater sage-grouse congregate during at least 2 springs within a 10-year period to perform their strutting display and opportunistically breed with females. Although males are territorial on leks and occupy an area, not a point, the representative location for the lek is the estimated or calculated center of the display activity. The 'lek' is the standard reporting and analysis unit for evaluating population status and long-term trends.
>
> **Active lek**. A lek that has more than 2 males counted during two or more lek counts within the last 10 years.
>
> **Inactive lek**. A lek at which all observations within the last 10 years have been less than 2 males and that has had at least 2 males recorded during a lek count between 11 to 20 years ago.
>
> **Pending Active lek**. A lek with one observation of at least 2 males in the last 10 years and at least one observation of at least 2 males more than 10 years ago.
>
> **Sub-lek**. A sub-lek is similar to a lek in most respects, except that its location represents an actual activity center for a specific year or series of years while a lek can represent multiple sub-leks over an extended number of years. Sub-leks are generally ≤¼ the average inter-lek distance from other sub-leks included within the same lek. In relatively static situations, there may be only one sub-lek within a lek. The sub-lek is not used to evaluate population status and long-term trends but may be used to examine breeding behavior, habitat use, or other aspects of natural history.
>
> **Undetermined Lek**. A location where male sage-grouse are displaying that has not been documented in multiple years and does not meet the definition of a lek. Sage-grouse may spontaneously display in an alternate location that is not maintained through time; therefore, any undetermined leks should be verified in subsequent breeding seasons.

**Lessee.** A person or entity authorized to use and occupy National Forest System land under a specific instrument identified as a lease. Forest special use leases are limited to authorize certain wireless communication uses. Leases are also used for certain mineral leasable activities.

**Linkage and Connectivity Habitat Management Area (LCHMA).** BLM-administered lands that have been identified as broader regions of connectivity important to facilitate the movement of Greater Sage-Grouse and maintain ecological processes.

**Linkage Management Area.** Areas that have been identified as broader regions of connectivity important to facilitate the movement of GRSG and to maintain ecological processes.

**Locatable minerals.** Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the Mining Law of 1872, as amended. This includes deposits of gold, silver, and other uncommon minerals not subject to lease or sale (17 Stat. 19-96).

**Major Rights of Way.** (Refer to definition in Rights of Way)

**Mineral.** Any naturally formed inorganic material, solid or fluid inorganic substance that can be extracted from the earth, any of various naturally occurring homogeneous substances (as stone, coal, salt, sulfur, sand,

[1] Note that the WAFWA definition of lek does not influence how BLM estimates buffers for protection of leks from disturbance (i.e., lek buffers can be measured from the perimeter of the area where males display when perimeters are known and the approach is supported by state wildlife agencies).

petroleum, water, or natural gas) obtained usually from the ground. Under federal laws, considered as locatable (subject to the general mining laws), leasable (subject to the Mineral Leasing Act of 1920), and saleable (subject to the Materials Act of 1947).

**Mineral entry.** The filing of a claim on public land to obtain the right to any locatable minerals it may contain.

**Mineral estate.** The ownership of minerals, including rights necessary for access, exploration, development, mining, ore dressing, and transportation operations.

**Mining claim.** A parcel of land that a miner takes and holds for mining purposes, having acquired the right of possession by complying with the Mining Law and local laws and rules. A mining claim may contain as many adjoining locations as the locator may make or buy. There are four categories of mining claims: lode, placer, millsite, and tunnel site.

**Mining Law of 1872, as amended.** Provides for claiming and gaining title to locatable minerals on public lands. Also referred to as the "Mining Law."

**Minor Rights of Way.** (Refer to definition for Rights of Way).

**Mitigation.** Includes specific means, measures, or practices that could reduce, avoid, or eliminate adverse impacts. Mitigation can include avoiding the impact altogether by not taking a certain action or parts of an action; minimizing the impact by limiting the degree of magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitation, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments.

**Modification.** A change to the provisions of a lease stipulation, either temporarily or for the term of the lease. Depending on the specific modification, the stipulation may or may not apply to all sites within the leasehold to which the restrictive criteria are applied.

**Naturalness.** Refers to whether an area looks natural to the average visitor who is not familiar with the biological composition of natural ecosystems versus human-affected ecosystems. New, nonrecreational modifications are not visually obvious or evident from trails.

**National Register of Historic Places.** A listing of resources that are considered significant at the national, state, or local level and that have been found to meet specific criteria of historic significance, integrity, and age.

**Neighborhood Cluster.** Represents a GRSG population unit and includes local aggregations of leks and seasonal habitats used by birds attending those leks based on state wildlife agency and research data.

**Neighborhood Cluster Scale.** Spatial scale used for population trend analyses.

**No surface occupancy (NSO).** A major constraint where use or occupancy of the land surface for fluid mineral exploration or development and all activities associated with fluid mineral leasing (e.g., truck-mounted drilling and geophysical exploration equipment off designated routes, construction of wells and/or pads) are prohibited to protect identified resource values. Areas identified as NSO are open to fluid mineral leasing, but surface occupancy or surface-disturbing activities associated with fluid mineral leasing cannot be conducted on the surface of the land. Access to fluid mineral deposits would require horizontal drilling from outside the boundaries of the NSO area.

**Nonenergy leasable minerals.** Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. Nonenergy minerals include resources such as phosphate, sodium, potassium, and sulfur.

**Non-habitat.** Areas within the historical distribution of GRSG that are not occupied and are not capable of supporting GRSG or necessary habitats to support GRSG, and do not have the potential to provide habitat in the foreseeable future (< 100 years). GRSG may occasionally use these areas (e.g., migration), but these areas do not provide the necessary resources to support GRSG seasonally year-round.

**Non-routine maintenance.** Activities include realigning, upgrading, rebuilding, recontouring, or replacing a segment of or an entire powerline facility (e.g., change to higher voltage, changing from wood to metal poles, significantly increasing the pole height, adding additional lines, or change from above ground to buried). When non-routine activities are proposed, the BLM requires the holder to receive prior written approval. In certain circumstances, after further review and approval by the Authorized Officer, non-routine activities may be handled under established approaches as defined in the approved operation and maintenance plan or agreement. In some cases, an amendment to the authorization may be needed, in which case the BLM should ensure the holder submits an application to amend the authorization on Form SF-299. BLM approval must comply with the National Environmental Policy Act (NEPA) and other applicable law, which may require additional environmental analysis and studies or surveys.

**Potential habitat.** An area that is currently unoccupied by GRSG but has the potential for occupancy in the foreseeable future (< 100 years)**.** These areas are capable of supporting GRSG habitats based on soil types, climate, etc., and can include areas of habitat previously disturbed but that can be restored to GRSG habitats through either natural succession or human intervention.

**Priority Habitat Management Areas (PHMA).** Areas that have the highest value to maintaining sustainable GRSG populations and can include breeding, late brood-rearing, winter concentration areas, and migration or connectivity corridors. The BLM objective intent for these areas is to maintain and enhance habitat conditions that will support persistent and healthy GRSG populations through management to minimize habitat loss and degradation.

**Remoteness.** Represents how far a visitor is from a road or trail. The farther a visitor is from a road or trail, the more primitive the remoteness setting.

**Renewable energy.** Energy resources that constantly renew themselves or that are regarded as practically inexhaustible. These include solar, wind, geothermal, hydro, and biomass. Although particular geothermal formations can be depleted, the natural heat in the Earth is a virtually inexhaustible reserve of potential energy.

**Required design features (RDFs).** Means, measures, or practices intended to reduce or avoid adverse environmental impacts. A suite of features that would establish the minimum specifications for certain activities (i.e., water developments, mineral development, and fire and fuels management) and mitigate adverse impacts. These design features would be required to provide a greater level of regulatory certainty than through implementation of best management practices. In general, the design features are accepted practices that are known to be effective when implemented properly at the project level.

**Resource Management Plan Designated Corridor.** A corridor designated through a Resource Management Plan Record of Decision in compliance with Section 202 of the Federal Land Policy and Management Act (FLPMA).

**Rights-of-way (ROW).** Public lands authorized to be used or occupied for specific purposes pursuant to a right-of-way grant, which are in the public interest and which require ROWs over, on, under, or through such lands. ROWs may be issued for linear features (pipelines, powerlines, communication cable, roads, canals, access, etc.) or for sites (communication towers, airports, reservoirs, pumping stations, power generating facilities, etc.). For BLM GRSG Management ROWs are divided into major or minor depending on possible level of impact to GRSG (see below). For example, ROWs for buried linear features with limited to no surface disturbance are minor, but high voltage overhead transmission lines are major. Other projects may depend on the specific development plan and location, connected actions, and will require a determination by the BLM (refer to ROW management direction in Chapter 2, Table 2-2 and 2-3). For example, to use federal pore space for carbon sequestration would be minor, however, ROWs for associated and/or connected actions such as surface facilities to support carbon sequestration could be major depending on the scope of surface disturbance and infrastructure.

> **Major ROW**. Major ROW projects include transmission lines > 100kv and distribution pipelines > 24" diameter but may also include smaller electrical transmission and/or distribution lines and pipelines, as well as, other ROW projects that require large distances, density or footprints, with high levels of activity or surface disturbance. In addition, major ROW sites may contain multiple types of above and below ground features leading to a high density of infrastructure, or many tall structures.

> **Minor ROW**. Minor/Other ROW Projects include typical distribution, small transmission facilities, or low volume gathering features that create minimal surface disturbance. These types include but are not limited to local roads, pipelines, powerlines, and small communication sites.

**Riparian Area.** A form of wetland transition between permanently saturated wetlands and upland areas. These areas exhibit vegetation or physical characteristics reflective of permanent surface or subsurface water influence. Lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels are typical riparian areas (See BLM Manual 1737). Included are ephemeral streams that have vegetation dependent upon free water in the soil. All other ephemeral streams are excluded.

**Runoff.** The total stream discharge of water, including both surface and subsurface flow, usually expressed in acre-feet of water yield.

**Sagebrush Focal Area.** Areas identified by the USFWS that represent recognized “strongholds” for Greater Sage-Grouse that have been noted and referenced as having the highest densities of Greater Sage-Grouse and other criteria important for the persistence of Greater Sage-Grouse.

**Spatial relationships.** How one object is located in space relative to another, important for spatial analysis of cultural resources.

**Split estate.** This is the circumstance where the surface of a particular parcel of land is owned by a different party than the minerals underlying the surface. Split estates may have any combination of surface/subsurface owners: federal/state; federal/private; state/private; or percentage ownerships. When referring to the split estate ownership on a particular parcel of land, it is generally necessary to describe the surface/subsurface ownership pattern of the parcel.

**Saleable Minerals.** Minerals that may be disposed of through sales and free use permits under the Materials Act of 1947, as amended. Included are common varieties of sand, stone, gravel, and clay (See also Mineral Materials).

**Season of Use.** A livestock grazing permit term and condition identifying the time during which livestock graze a given area to achieve management and resource condition objectives.

**Special Use Authorization.** A written permit, term permit, lease, or easement that authorizes use or occupancy of National Forest System lands and specifies the terms and conditions under which the use or occupancy may occur.

**Stipulation (oil and gas).** A provision that modifies standard oil and gas lease terms and conditions in order to protect other resource values or land uses and is attached to and made a part of individual lease requirements at the time the lease is issued. Once a mineral lease is issued, the applied stipulations cannot generally be changed or altered. Exceptions, modifications, or waivers may be granted under certain conditions outlined in the LUP. Typical lease stipulations include No Surface Occupancy (NSO), Timing Limitations (TL), and Controlled Surface Use (CSU), and Protection of Survey Corner and Boundary Line Markers. Lease stipulations are developed through the land use planning (RMP) process.

**Surface Discharge.** The release of produced water onto the unconfined land surface or into an existing drainage system.

**Surface Disturbing Activities.** An action that alters the vegetation, surface/near surface soil resources, and/or surface geologic features, beyond natural site conditions and on a scale that affects other Public Land values. Examples of surface disturbing activities may include: operation of heavy equipment to construct well pads, roads, pits and reservoirs; installation of pipelines and power lines; and the conduct of several types of vegetation treatments (e.g., prescribed fire, etc.). Surface disturbing activities may be either authorized or prohibited (WY IB-2007-029).

**Surface Management Agency (SMA).** Depicts surface estate Federal land for the United States and classifies this land by its active Federal surface managing agency.

**Timing limitation (TL).** The TL stipulation, a moderate constraint, is applicable to fluid mineral leasing, all activities associated with fluid mineral leasing (e.g., truck-mounted drilling and geophysical exploration equipment off designated routes, construction of wells and/or pads), and other surface-disturbing activities (i.e., those not related to fluid mineral leasing). Areas identified for TL are closed to fluid mineral exploration and development, surface-disturbing activities, and intensive human activity during identified time frames. This stipulation does not apply to operation and basic maintenance activities, including associated vehicle travel, unless otherwise specified. Construction, drilling, completions, and other operations considered to be intensive in nature are not allowed. Intensive maintenance, such as workovers on wells, is not permitted. TLs can overlap spatially with NSO and CSU, as well as with areas that have no other restrictions.

**Traditional cultural property (TCP).** A property that is eligible for inclusion in the National Register of Historic Places (NRHP) based on its associations with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community. TCPs are rooted in a traditional community's history and are important in maintaining the continuing cultural identity of the community.

**Transmission line.** A set of electrical current conductors, insulators, supporting structures, and associated equipment used to move large quantities of power at high voltage, usually over long distances (e.g., between a power plant and the communities that it serves).

**Transmission corridor.** An electric or pipeline transmission corridor is a route approved on public lands, in a BLM or other federal agency land use plan, as a location that may be suitable for the siting of electric or pipeline transmission systems.

**Undisturbed habitats.** Areas that are not presently directly or indirectly impacted by anthropogenic development.

**Utility corridor.** Tract of land varying in width forming passageway through which various commodities such as oil, gas, and electricity are transported.

**Utility-scale solar.** Solar projects with nameplate capacity (theoretical output registered with authorities) of 5 megawatt (MW) or higher that deliver electricity to the electricity transmission grid.

**Utility-scale wind.** The U.S. Department of Energy defines utility-scale wind projects as land-based and offshore projects larger than 1 megawatt (MW) (Wind Energy Technologies Office, WINDExchange, Office of Energy Efficiency & Renewable Energy, U.S. Department of Energy).

**Valid existing rights.** Documented, legal rights or interests in the land that allow a person or entity to use said land for a specific purpose and that are still in effect. Such rights include but are not limited to fee title ownership, mineral rights, rights-of-way, easements, permits, licenses and adjudicated RS 2477 or RS 2339. Such rights may have been reserved, acquired, leased, granted, permitted, or otherwise authorized over time.

**Vandalism.** An action involving deliberate destruction or damage, in this case to cultural resources.

**Watershed.** The area of land, bounded by a divide, that drains water, sediment, and dissolved materials to a common outlet at some point along a stream channel (Dunne and Leopold, 1978), or to a lake, reservoir, or other body of water. Also called drainage basin or catchment

**West Nile Virus.** A virus that is found in temperate and tropical regions of the world and most commonly transmitted by mosquitoes. West Nile virus can cause flu-like symptoms in humans and can be lethal to birds, including Greater Sage-Grouse.

**Wetlands.** Those areas that are inundated by surface water or groundwater with a frequency sufficient to support, and under normal circumstances do or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mudflats, and natural ponds.

**Withdrawal.** Withdrawals are used to transfer jurisdiction of management of public lands to other federal agencies.

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# Appendix 7

## References

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# Appendix 7. References


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# Appendix 8

## U.S. Fish & Wildlife Service Section 7 Concurrence Memo

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# United States Department of the Interior

FISH AND WILDLIFE SERVICE
334 Parsley Blvd.
Cheyenne, Wyoming 82007

In Reply Refer to:
FWS/R6/2025-0029235

January 8, 2025

Memorandum

To: Frank Quamen, Division Chief, Division of Wildlife, Aquatics, and Environmental Protection, Bureau of Land Management, Headquarters

TYLER ABBOTT Digitally signed by TYLER ABBOTT Date: 2025.01.08 11:41:22 -07'00'

From: Tyler Abbott, Field Supervisor, Wyoming Ecological Services Field Office

Subject: Informal Consultation on the Bureau of Land Management's Greater Sage-Grouse Proposed Resource Management Plan Amendment and Final Environmental Impact Statement

This memorandum responds to the Bureau of Land Management's (BLM) December 6, 2024 e-mail and attached Biological Assessment (BA), and updates provided by BLM in their January 3, 2025, memo to the Governors and Western Governor's Sage-grouse Task Force. The BLM is requesting the Fish and Wildlife Service's (Service) concurrence that the proposed management direction changes, as described in their Greater Sage-grouse Proposed Resource Management Plan Amendment (RMPA) and Final Environmental Impact Statement (FEIS), "may affect, but are not likely to adversely affect" federally-listed or proposed species, non-essential experimental populations, or designated or proposed critical habitats that occur on BLM-administered lands in portions of the States of California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, and Wyoming (see Species and Critical Habitat List, Attachment A). At a programmatic level, BLM evaluated the impacts of the proposed changes in management direction to be applied for the enhancement of Greater sage-grouse (GRSG) conservation in the portions of the aforementioned states, on listed species and their critical habitats that are known to, or could, occur within BLM-administered lands. The Service provides this response pursuant to section 7(a)(2) of the Endangered Species Act of 1973 (ESA), as amended.

## Previous Greater sage-grouse Resource Plan Amendment Section 7(a)(2) Consultations

In 2015, BLM signed Records of Decision (ROD) for the Rocky Mountain and Great Basin regions Approved RMPAs addressing conservation measures for the GRSG and its habitat. In general, land use planning efforts such as these are best described as a strategy for completing site-specific actions; the strategy itself has no effect on listed species or critical habitats that can be meaningfully evaluated. The Service subsequently consulted on implementation of these

RMPAs on a state-by-state basis, and concurred with BLM's determinations for the States of California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, and

Wyoming. Due to potential conflicts between habitat management objectives for GRSG and those for the Utah prairie dog (UPD; *Cynomys parvidens*), for the state of Utah, the Service determined that the proposed action may affect, and was likely to adversely affect, the UPD. Formal consultation was completed, within which the Service provided conservation measures (Attachment B) to be implemented in instances where UPD and GRSG habitat management goals were in conflict. These conservation measures remain in place as implementation of the 2015 Utah ROD continues.

**Description of the Action**

The BLM worked with state wildlife agencies to adjust habitat management area alignments from the 2015 RMPAs based on new scientific information and documentation of GRSG use within the 10 western states included in the Greater Sage-Grouse Proposed RMPA and FEIS. Habitat management areas are characterized as Priority Habitat Management Area (PHMA) or General Habitat Management Area (GHMA), with PHMA having a higher protected status. Potential impacts to listed species and critical habitats were analyzed within the revised PHMA and GHMA boundaries, with consultation specifically requested by BLM on the following proposed management direction changes:

- Adjustments to habitat management areas, including a subset of PHMA with suggestions for limited exceptions for fluid energy development to provide additional conservation to GRSG habitats.
- Managing livestock grazing to meet Land Health Standards vs. strict GRSG habitat objectives.
- Where appropriate, directing wild horse gathers inside of PHMA.
- Identifying PHMA as exclusion for renewable energy development.
- Directing any new rights of way (ROW) outside of PHMA.
- Improving habitat condition to reduce the risk of GRSG predation.
- Implementing a multi-scale assessment of GRSG vs. managing to specific habitat objectives.
- Changing the scale for determining disturbance caps.
- Emphasizing the mitigation hierarchy and, if needed, ensuring consistency with State requirements for compensatory mitigation.
- Adjusting how adaptive management is calculated, both in technique and scale to allow for more biologically meaningful assessments.

These changes are to management directions only and inform how future on-the-ground actions will be framed; there are no on-the-ground actions directly implemented or authorized by these changes. As noted in the BA, any future project that implements these changed management directions at the individual Resource Management Plan (RMP) level will require site-specific Section 7(a)(2) consultation for any potentially affected species and/or designated critical habitats.

**Conservation Measures**

As noted above, the 2015 RMPA consultations resulted in the development of conservation measures (Attachment B) for the UPD in Utah to address potential conflicts between GRSG and UPD management. The 2024 RMPA will not change two of the three sets of management directions—each associated with specific project types—that prompted the need for the formal consultation in 2015. The third set of 2015 management directions addressed rights-of-way (ROW) management; the 2024 proposal will provide additional protections for GRSG and sagebrush habitats in ROWs by changing most of the areas of overlap (PHMA) from *avoidance* for new ROWs, to *exclusion*, which may reduce the threat of habitat modification for both UPD and GRSG. In the 2024 RMPA, BLM is committing to comply with the conservation measures in full and will conduct site-specific Section 7(a)(2) consultations for actions that may affect UPD. The BLM will continue to implement other measures to reduce impact to UPD from their key threats.

**Conclusion**

The BLM's programmatic action implements a program designed to enhance GRSG conservation through the amendment of existing RMPs in 10 states by implementing changes in management direction for 10 different allocative directions. Prior to the implementation of changes in management direction at the RMP level, BLM field offices will use the Service's Information for Planning and Consultation website (https://ipac.ecosphere.fws.gov/) to get the most up-to-date species and critical habitat list for their project area. If BLM makes a "may affect" determination for listed species or critical habitats, BLM will initiate consultation with the Service. Consultation will include a site-specific analysis of potential effects to listed species or critical habitat from proposed actions associated with changes in management direction. During local level consultations, the BLM will be able to determine more specifically which species might be impacted by the proposed changes in management direction, the nature and extent of potential impacts, and if additional conservation measures are needed to reduce potential adverse effects to these species. Additionally, BLM does not need to reinitiate at the programmatic level for newly proposed or listed species or critical habitat, as that will be done at the local (RMP) level.

Based on BLM's commitment to implement conservation measures identified in their BA, and the requirement for site-specific consultations prior to the implementation of any management direction changes, the Service concurs that the proposed action is not likely to adversely affect threatened or endangered species, proposed species, non-essential experimental populations or designated or proposed critical habitats under the jurisdiction of the Service. If any subsequent action falls outside of the proposed changes in management direction to benefit GRSG conservation, BLM should evaluate the potential need to initiate formal consultation on that particular action, as it would fall outside the scope of this programmatic consultation.

This concludes informal consultation on BLM's Greater Sage-grouse Proposed RMPA and FEIS. In accordance with 50 CFR § 402.16, reinitiation of consultation is required and shall be requested by BLM or the Service where discretionary federal involvement or control over the action has been retained or is authorized by law and: (1) if new information reveals effects of the action that may affect listed species or critical habitat in a manner to an extent not previously considered; or (2) if the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in this concurrence letter.

If you have any questions or require additional information, please contact Dawn Davis (dawn_davis@fws.gov, 503-319-0594) or John Hughes (john_hughes@fws.gov, 307-823-1417).

Attachment A:  Species and Critical Habitat List
Attachment B:  Utah prairie dog conservation measures

**Attachment A.** Listed Species and Critical Habitat Analyzed for the Bureau of Land Management's Greater Sage-Grouse Proposed Resource Management Plan Amendment and Final Environmental Impact Statement.

| Species | Status[1] | Critical Habitat? | Determination |
|---|---|---|---|
| **Mammals** | | | |
| Black-footed ferret (*Mustela nigripes*) | E, EXPN | No | Not likely to adversely affect (E)<br>Not likely to jeopardize (EXPN) |
| Canada lynx (*Lynx canadensis*) | T | Yes | Not likely to adversely affect |
| Gray wolf (*Canis lupus*) | E, EXPN | Not in action area | Not likely to adversely affect (E)<br>Non-jeopardy (EXPN) |
| Grizzly bear (*Ursus arctos horribilis*) | T, EXPN | Yes | Not likely to adversely affect (T)<br>Not likely to jeopardize (EXPN) |
| North American wolverine (*Gulo gulo luscus*) | T | No | Not likely to adversely affect |
| Northern long-eared bat (*Myotis septentrionalis*) | E | No | Not likely to adversely affect |
| Preble's meadow jumping mouse (*Zapus hudsonius prebei*) | T | Yes | Not likely to adversely affect |
| Tricolored bat (*Perimyotis subflavus*) | P, E | No | Not likely to adversely affect |
| Utah prairie dog (*Cynomys parvidens*) | T | No | Not likely to adversely affect |
| **Birds** | | | |
| California condor (*Gymnogyps californianus*) | E, EXPN | Yes | Not likely to adversely affect (E)<br>Not likely to jeopardize (EXPN) |
| Mexican spotted owl (*Strix occidentalis lucida*) | T | No | Not likely to adversely affect |
| Piping plover (*Charadrius melodus*) | T | Yes | Not likely to adversely affect |
| Rufa red knot (*Calidris canutus rufa*) | T | Yes | Not likely to adversely affect |
| Southwestern willow flycatcher (*Empidonax trailii extimus*) | E | Yes | Not likely to adversely affect |
| Whooping crane (*Grus americanus*) | E, EXPN | Yes | Not likely to adversely affect (E)<br>Not likely to jeopardize (EXPN) |
| Western yellow-billed cuckoo (Western DPS; *Coccyzus americanus*) | T | Yes | Not likely to adversely affect |
| **Reptiles** | | | |
| Northwestern pond turtle (*Actinemys marmorata*) | P, T | No | Not likely to adversely affect |
| **Insects** | | | |
| Carson wandering skipper (*Pseudocopaeodese unus obscurus*) | T | No | Not likely to adversely affect |
| Regal fritillary (*Speyeria idalia*) | P, T | No | Not likely to adversely affect |

[1] E – Endangered, T – Threatened, P – Proposed, EXPN – Experimental, Non-essential

| **Species** | **Status**[1] | **Critical Habitat?** | **Determination** |
|---|---|---|---|
| Silverspot (*Speyeria nokomis nokomis*) | T | No | Not likely to adversely affect |
| **Mollusks/Snails** | | | |
| Banbury Springs limpet (*Idaholanx festi*) | E | No | Not likely to adversely affect |
| Bruneau hot springsnail (*Pyrgulopsis bruneauensis*) | E | No | Not likely to adversely affect |
| Snake River Physa snail (*Physa natricina*) | E | No | Not likely to adversely affect |
| **Amphibians** | | | |
| Dixie Valley toad (*Anaxyrus williamsi*) | E | Yes | Not likely to adversely affect |
| Wyoming toad (*Bufo baxteri*) | E | No | Not likely to adversely affect |
| **Fish** | | | |
| Big springs spinedace (*Lepidomena milliispinis*) | T | Yes | Not likely to adversely affect |
| Bonytail (*Gila elegans*) | E | Yes | Not likely to adversely affect |
| Bull trout (*Salvelinus confluentus*) | T | Yes | Not likely to adversely affect |
| Chinook salmon (Snake River spring/summer run; *Onorhynchus tshawytsha*) | T | Yes | Not likely to adversely affect |
| Chinook salmon (Snake River fall run; *Onorhynchus tshawytsha*) | T | Yes | Not likely to adversely affect |
| Clover Valley speckled dace (*Rhinichthyus osculus oligoporus*) | E | No | Not likely to adversely affect |
| Colorado pikeminnow (*Ptychocheilus lucius*) | E | Yes | Not likely to adversely affect |
| Cui-ui (*Chasmistes cujus*) | E | No | Not likely to adversely affect |
| Desert dace (*Eremichthys across*) | T | Yes | Not likely to adversely affect |
| Greenback cutthroat trout (*Onchorhynchus clarki ssp. Stomais*) | T | No | Not likely to adversely affect |
| Hiko White River springfish (*Crenichthys baileyi grandis*) | E | Yes | Not likely to adversely affect |
| Humpback chub (*Gila cypha*) | T | Yes | Not likely to adversely affect |
| Hutton tui chub (*Gila bicolor*) | E | No | Not likely to adversely affect |
| Independence Valley speckled dace (*Rhinichtys osculus*) | E | No | Not likely to adversely affect |
| Kendall warm springs dace (*Rhinichyts osculus thermalis*) | E | No | Not likely to adversely affect |
| Lahontan cutthroat trout (*Onorhynchochos clarkia henshawi*) | T | No | Not likely to adversely affect |

[1] E – Endangered, T – Threatened, P – Proposed, EXPN – Experimental, Non-essential

| Species | Status[1] | Critical Habitat? | Determination |
|---|---|---|---|
| Lost River sucker (*Deltistes luxatus*) | E | Yes | Not likely to adversely affect |
| Pahranagat roundtail chub (*Gila robusta jordani*) | E | No | Not likely to adversely affect |
| Pahrump poolfish (*Empetrichthys latos*) | E | No | Not likely to adversely affect |
| Pallid sturgeon (*Scaphirhynchus albus*) | E | No | Not likely to adversely affect |
| Railroad Valley springfish (*Crenichthys nevada*) | T | Yes | Not likely to adversely affect |
| Razorback sucker (*Xyrauchen texanus*) | E | Yes | Not likely to adversely affect |
| Shortnose sucker (*Chasmistes breviirostris*) | E | Yes | Not likely to adversely affect |
| Warner sucker (*Catostomus warnerensis*) | T | Yes | Not likely to adversely affect |
| White River spinedace (*Lepidomena albivalis*) | E | Yes | Not likely to adversely affect |
| Whiteriver springfish (*Crenichtys baileyi baileyi*) | E | Yes | Not likely to adversely affect |
| **Plants** | | | |
| Autumn buttercup (*Ranunculus aestivalis acriformis*) | E | No | Not likely to adversely affect |
| Barneby reed-mustard (*Schoenocrambe barnebyi*) | E | No | Not likely to adversely affect |
| Blowout penstemon (*Penstemon haydenii*) | E | No | Not likely to adversely affect |
| Clay phacelia (*Phacelia argillacea*) | E | No | Not likely to adversely affect |
| Clay reed-mustard (*Schoenocrambe argillacea*) | T | No | Not likely to adversely affect |
| Colorado hookless cactus (*Sclerocactus glaucus*) | T | No | Not likely to adversely affect |
| DeBeque phacelia (*Phacelia submutica*) | T | Yes | Not likely to adversely affect |
| Desert yellowhead (*Yermo xanthocephalus*) | T | Yes | Not likely to adversely affect |
| Dudley Bluffs bladderpod (*Lesquerella congesta*) | T | No | Not likely to adversely affect |
| Dudley Bluffs twinpod (*Physaria obcordate*) | T | No | Not likely to adversely affect |
| Heliotrope milk-vetch (*Astragalus montii*) | T | Yes | Not likely to adversely affect |
| Howell's spectacular thelypody (*Thelypodium howelli ssp. spectabillis*) | T | No | Not likely to adversely affect |
| Jones cycladenia (*Cycladenia humilis var. jonesii*) | T | No | Not likely to adversely affect |

[1] E – Endangered, T – Threatened, P – Proposed, EXPN – Experimental, Non-essential

| **Species** | **Status[1]** | **Critical Habitat?** | **Determination** |
|---|---|---|---|
| Kodachrome bladderpod (*Lesquerella tumulosa*) | E | No | Not likely to adversely affect |
| Last chance townsendia (*Townsendia aprica*) | T | No | Not likely to adversely affect |
| North Park phacelia (*Phacelia formosula*) | E | No | Not likely to adversely affect |
| Osterhout milkvetch (*Astragalus osterhoutii*) | E | No | Not likely to adversely affect |
| Parachute beardtongue (*Penstemon debilis*) | T | Yes | Not likely to adversely affect |
| Penland beardtongue (*Penstemon penlandii*) | E | No | Not likely to adversely affect |
| San Rafael cactus (*Pediocactusdes depainii*) | E | No | Not likely to adversely affect |
| Shrubby reed-mustard (*Schoenocrambe suffrutescens*) | E | Yes | Not likely to adversely affect |
| Slender Orcutt grass (*Orcuttia tenuis*) | T | Yes | Not likely to adversely affect |
| Slickspot peppergrass (*Lepidium papilliferum*) | T | Yes | Not likely to adversely affect |
| Uinta Basin hookless cactus (*Sclerocactus wetlandicus*) | T | No | Not likely to adversely affect |
| Ute ladies'-tresses (*Spiranthes diluvialis*) | T | No | Not likely to adversely affect |
| Webber ivesia (*Ivesia webberi*) | T | Yes | Not likely to adversely affect |
| Western prairie fringed orchid (*Platanthera praeclara*) | T | No | Not likely to adversely affect |
| Wright fishhook cactus (*Sclerocactus wrightiae*) | E | No | Not likely to adversely affect |
| Whitebark pine (*Pinus albicaulis*) | T | No | Not likely to adversely affect |

[1] E – Endangered, T – Threatened, P – Proposed, EXPN – Experimental, Non-essential

**Attachment B**. Utah Prairie Dog (*Cynomys parvidens*) Conservation Measures to be Implemented on BLM Lands in Conjunction with the 2024 GRSG RMPA.

In their 2015 Biological Assessment (BA; BLM 2015), the BLM committed to implementing the following conservation measures when planning and implementing management actions in areas where greater sage-grouse and Utah prairie dog habitat overlap. These conservation measures will continue to be implemented under the 2024 GRSG RMPA:

- Under the authority of BLM laws, regulations, and policies, where Utah prairie dog habitat overlaps with greater sage-grouse habitats, it is the intent of these land use plan amendments to co-manage for the benefit of both species. For example, when applying various management actions and objectives that are applicable specifically to greater sage-grouse but could affect Utah prairie dog habitat, landscapes would be managed for both species. Examples of some of these BLM management actions and objectives are included in over-arching management in GRSG habitat (e.g., Objective GRSG-3, MA-GRSG-4), vegetation management (e.g., Objective VEG-1, MA-VEG-1), and fire management (e.g., MA-FIRE-3, MA-FIRE-4).

- The BLM commits to include co-management language that will help guide planning and implementing management actions in areas where greater sage-grouse and Utah prairie dog habitat overlaps. This co-management language is included in the following Management Actions and Objectives in the final BA:

    - Objective GRSG-2
    - Objective GRSG-4
    - MA-GRSG-3
    - MA-GRSG-5
    - MA-VEG-4

  Co-management language will be included in the following Management Actions and Objectives in the BLM's Record of Decision:

    - Objective GRSG-3
    - MA-GRSG-4
    - MA-GRSG-6
    - Objective VEG-1
    - MA-VEG-1
    - MA-FIRE-3
    - MA-FIRE-4

- There is a suite of project-level conservation measures that will minimize impacts to Utah prairie dogs that are already in place in existing biological assessments, plans, policies, and regulations (see Attachment E *in* the BA). The following conservation measure from the BA for this proposed action describes this as follows:

- The original biological assessment impacts analysis included conservation measures from various existing land use plans and conservation measures from existing, site-specific projects, as well as their associated Section 7 consultations for Utah prairie dog. The conservation measures from the existing land use plans and land use plan Section 7 consultations have been more clearly identified in Attachment E of the BA. The conservation measures from the existing site-specific projects were illustrative of the types of site-specific conservation measures that may be used during implementation of Utah prairie dog conservation actions.

**Literature Cited**

Bureau of Land Management. 2015. Biological Assessment for the Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement. May 20, 2015. 186 pp.