

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

**Biological Assessment
for the Greater Sage-Grouse Rangewide Planning
Resource Management Plan Amendment**



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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AML	appropriate management levels
BLM	Bureau of Land Management
BMP	best management practice
BOR	Bureau of Reclamation
BSU	biological significant unit
CBSG	Conservation Breeding Specialist Group
CCAA	candidate conservation agreement with assurances
CEs	conservation easements
CFR	Code of Federal Regulations
CHMA	Connectivity habitat management area - Montana
COA	condition of approval
CPW	Colorado Parks Wildlife
CSU	controlled surface use
DC	disturbance caps
DPS	distinct population segment
ECOS	Environmental Conservation Online System
ESA	Endangered Species Act of 1973
ESD	Ecological site description
ESU	evolutionarily significant unit
EXPN	experimental population, non-essential
FEIS	Final Environmental Impact Statement
FR	Federal Register
GCHMA	Connectivity habitat management area - Utah
GHMA	general habitat management area
GRSG	greater sage-grouse
HAF	habitat assessment framework
HMA	habitat management area
IHMA	important habitat management areas - Idaho
LHS	land health standards
LCMA	linkage-connectivity management area
LE	limited exception, 4(d) rule of the ESA
LMHMA	Little Missouri Habitat Management Area

Acronym/Abbreviation	Definition
LUPA	land use plan amendment
LUPA/EIS	Land use Plan Amendment/ Environmental Impact Statement
NE	no effect
NA	not applicable
ND	North Dakota
NEP	nonessential experimental population
NEPA	National Environmental Policy Act
NGD	no ground disturbance
NMFS	National Marine and Fisheries Service
NPS	National Park Service
NSO	no surface occupancy
OHMA	other habitat management unit
OHV	off-highway vehicle
ORV	off-road vehicle
PCE	primary constituent element
PHMA	priority habitat management area
PHMA with LE	priority habitat management area with limited exceptions
P-T	proposed-threatened
PBFs	physical and biological features
RCMAP	rangeland condition monitoring assessment and projection
RDFs	required design features
RMP	resource management plan
RMPA	resource management plan amendments
ROD	record of decision
RP	recovery plan
ROW	right-of-way
SCHMA	South Carter habitat management area - Montana
SRMAs	special recreation management areas
SRPs	special recreation permits
SSA	species status assessment
STM	state and transition model
TAWS	targeted annual system warning
TEP	threatened, endangered, or proposed
T, T-EXP	threatened, experimental population
TL	timing limitation

Acronym/Abbreviation	Definition
TMP	travel management plan
USDI	United States Department of Interior
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WEM	waivers, exceptions, and modifications

Introduction

The greater sage-grouse (GRSG; *Centrocercus urophasianus*) is a state-managed species dependent on intact functioning sagebrush ecosystems across 13 western states and 2 Canadian provinces. This expansive ecosystem habitat is managed by a mix of federal, Tribal, state, and local agencies, as well as private landowners. For the past three decades, state wildlife agencies, the BLM and other federal agencies, and many others in the range of the species have collaborated to conserve GRSG and its habitats. Approximately half of the existing GRSG habitat is managed by the BLM.

In 2010, the U.S. Fish and Wildlife Service (USFWS) determined that listing the GRSG under the Endangered Species Act of 1973 (ESA) was “warranted but precluded” by other priorities (USFWS 2010c). 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. As the agency with the largest amount of remaining GRSG habitat, the BLM has an obligation to contribute to the long-term conservation of GRSG and its habitat to protect against future listing under the ESA. Therefore, the BLM developed a management strategy, in coordination with the U.S. Forest Service (USFS). In September 2015, the BLM and USFS signed three Records of Decision (RODs) and Approved Resource Management Plan Amendment (RMPA)/Land Management Plan Amendments, which amended 98 BLM and USFS land use plans to include goals, objectives, and management allocations and actions for managing GRSG habitat on BLM-administered Public Lands and USFS lands in ten Western states (California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, and Wyoming). Subsequently, USFWS determined that the GRSG did not warrant listing under the ESA based in part on the regulatory mechanisms included in the RMP Amendments (USFWS 2015a).

In October 2017, the BLM initiated another GRSG plan amendment process in all states except Montana, North Dakota, and South Dakota to consider specific changes to some GRSG management actions from the 2015 amendments, prompted by concerns identified by the US District Court for the District of Nevada. That court determined that BLM violated NEPA by failing to prepare a supplemental Environmental Impact Statement for designation of sagebrush focal areas in the 2015 plan amendments (specifically Nevada and northeastern California). The planning process also sought to increase alignment with recently completed or updated state GRSG management plans. In 2019, the BLM signed six state-specific Records of Decision and Approved RMPAs which adjusted some, but not all the goals, objectives, and management allocations and actions for managing GRSG habitat on BLM administered lands in seven of the ten Western states (California, Colorado, Idaho, Nevada, Oregon, Utah, and Wyoming). Changes to GRSG management actions varied by state.

In October 2019, the US District Court for the District of Idaho issued an order preliminarily enjoining BLM from implementing the 2019 RODs. The BLM prepared supplemental EISs for each state that participated in the 2019 amendments to address and clarify issues identified in the Court’s injunction and the RODs were signed in January 2021. However, the court has not made a final ruling in the case or lifted the preliminary injunction. The BLM is enjoined from implementing the 2019 RODs, and the actions contained in the 2015 RODs remain in effect.

In reviewing options for resolving court concerns the BLM recognized the vast amount of new scientific literature published in peer-reviewed scientific journals over the past 9 years that not only update

management information for GRSG, but in some cases, identified that previous habitat management area designations on which the previous amendments relied are no longer accurate. The BLM also identified the role of climate change factors in influencing distribution, availability and persistence of sagebrush habitats supporting GRSG on BLM lands. Therefore, in 2021 the BLM re-initiated the RMPAs for GRSG to incorporate the new research and climate information, and to address remaining court concerns. The resulting proposed RMPA will amend 77 BLM Resource Management Plans (RMPs) across the range of GRSG to provide for consistent and effective rangewide conservation based on biological information that is responsive to locally relevant habitat variability.

OBJECTIVE

The purpose of this Biological Assessment (BA) is to address how the BLM's Greater Sage-Grouse Proposed RMPA and Final Environmental Impact Statement (FEIS), may affect proposed, threatened, and endangered species and proposed or designated critical habitat in the planning area. This BA assesses the impacts of the changes in management direction proposed by the BLM to be applied for the enhancement GRSG conservation on BLM-administered lands in California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, and Wyoming. The BLM previously completed consultation with the FWS on the potential direct and indirect impacts of management actions to listed species in the 2015 plan amendments and updated the consultation on management directions proposed and finalized in the 2019 plan amendments. Because this Amendment is a planning document and contains no project-specific information in-depth species-specific evaluations were not conducted. Project-specific species evaluations will be conducted for any future activities authorized under the proposed RMPA, and consultation or conference will occur for those activities that may affect threatened or endangered species and any designated critical habitats. This BA focuses on the effect of how management actions may change given the proposed adjusted direction that could be implemented as part of this RMPA.

This BA is part of BLM's request for consultation with FWS related to the Proposed Plan of the GRSG RMPA, which is described below. The implementation of changed management direction under the Proposed Plan may affect ESA-listed species under USFWS jurisdiction that occur in the lands within the amendment areas (these species are listed in Appendix A). Therefore, BLM initiated informal consultation with FWS regarding the Proposed Plan, in accordance with Section 7(a)(2) of the ESA, codified at 16 U.S.C. § 1531 et seq.

All listed species that may be present in the planning area were considered. We also considered the effects of the proposed amendment on the primary constituent elements (PCEs) and/or physical and biological features (PBFs) of designated or proposed critical habitat. The BA analyzes the potential impacts on threatened and endangered plant, fish, and animal species that would result from the implementation of new management directions authorized under the RMPA contributing to conservation of GRSG and its habitat. Seven potential alternatives are analyzed in the FEIS: a No Action Alternative (Alternative 2), five Action Alternatives (Alternatives 1, 3, 4, 5 and 6) and the proposed action. This BA analyzes the proposed action which is modified from the original alternatives based on further analyses and public input.

REGULATORY HISTORY AND PAST CONSULTATION HISTORY

In September 2015, the RODs were signed for the Rocky Mountain and Great Basin Regions Approved Land Use Plan (LUP) Amendments addressing conservation measures for the GRSg and its habitat. During that EIS process, the USFWS provided input and recommendations regarding ESA-listed species and critical habitat, as well as proposed species and proposed critical habitat, that could be impacted by the proposed action. Currently, the BLM has initiated a planning effort to consider amending specific GRSg goals, objectives, and management directions from the 2015 RMPAs to enhance GRSg conservation through management of sagebrush (*Artemisia* spp.) habitats on BLM-administered lands in 10 states - California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah and Wyoming. The BLM completed one EIS addressing the entire range of GRSg. However, state specific considerations will be addressed through the completion of 7 different state RODs.

An official ESA species list was obtained from the USFWS Information, Planning, and Conservation (IPaC) System for the project area on August 28, 2023 and updated May 5, 2024. Information on endangered and threatened species and critical habitats was requested from the USFWS on September 18, 2023. The USFWS was asked to verify endangered, threatened, and proposed species, and designated and proposed critical habitat areas that occur within the project area. The BLM and USFWS communicated through e-mail from August 2023 through October 2024 – when details of the proposed action were finalized - to further discuss issues related to the BLM working draft document.

PURPOSE AND NEED FOR THE GRSg RESOURCE MANAGEMENT PLAN AMENDMENT

The purpose of the current effort is to amend specific RMP GRSg management directions to respond to changed conditions related to GRSg habitat management, improve the efficiency and effectiveness of GRSg management actions, and provide the BLM with locally relevant decisions that accord with rangewide GRSg conservation goals. Changes in management direction are needed to address the continued GRSg habitat losses and declines in GRSg populations, incorporate the recent developments in relevant science (including providing for durable planning decisions when considering the effects of climate change), provide continuity in managing GRSg habitats based on biological information versus political boundaries, where appropriate, while allowing for management flexibility to address state- and local- circumstances, and address planning and NEPA issues identified through litigation.

This RMPA builds on the conservation efforts associated with the changes made in the 2015 and 2019 GRSg RMPA efforts. The BLM recognizes the importance of including RMP actions that address GRSg threats on BLM-administered public lands in context of the 2010 and 2015 USFWS GRSg listing decisions. After review of the previous RMPAs, new scientific information and state management changes the BLM identified a subset of management allocation directions would need to be updated to address the evolving challenges facing GRSg. Other management allocation directions from the 2015 and 2019 plans still provide conservation value and are consistent with new scientific information and therefore management direction changes are not proposed but will be brought forward from the previous RMPAs. Those management directions previously went through Section 7 consultation with USFWS and will not be discussed further.

Management directions proposed for change in the current Amendment include:

- GRSG habitat management area alignments (i.e., to incorporate new science and improve alignment along state boundaries) and the major land use allocations therein, including criteria-based management for non-habitat within the habitat management areas (see discussion above);
- Fluid mineral development (including geothermal resources) and leasing objectives and fluid mineral leasing waivers, exceptions, and modifications;
- Renewable energy development and associated transmission;
- Livestock grazing;
- Wild horse and burro management;
- GRSG habitat objectives;
- Minimizing threats from predation;
- Mitigation; and
- Adaptive Management.

Some management concerns are localized to circumstances in individual states actions and are influenced by the ecological diversity across the sagebrush ecosystem. As such, the purpose of this planning effort also includes amending specific RMP management directions associated with these state-specific circumstances to facilitate GRSG habitat conservation efforts.

DESCRIPTION OF THE PLANNING AREA

The planning area includes the geographic area where the BLM will apply the proposed updated management directions. For this RMPA, the planning area includes portions of the States of California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, and Wyoming (Figure 1). Although the entire planning area includes a mix of private, federal, and state lands, the management directions and actions outlined in this Amendment apply only to BLM-administered surface lands in the planning area and to BLM-administered federal mineral estate with other surface ownership, often referred to as split-estate lands. The combined BLM-administered surface lands and BLM-administered federal mineral split-estate with private surface are collectively referred to as the decision area. No actions associated with this RMPA extend beyond the decision area, so there will be no impacts to any listed species outside the decision area but within the planning area. The decision area for this BA does not include the federal mineral estate underlying National Forest System lands. For non-federal lands with split federal mineral estate, only decisions associated with management/development of the underlying federal minerals would be applicable.

The decision area is further divided into GRSG Habitat Management Areas (HMAs). Every state includes Priority Habitat Management Area (PHMA) and General Habitat Management Area (GHMA) (Figure 2). These areas were first developed as part of the 2015 planning process in coordination with state agencies and updated with new information on GRSG use and habitat. The strategies used to identify these areas varies by state.

Figure I: Map of BLM planning area

Greater Sage-Grouse Resource Management Plan Amendment

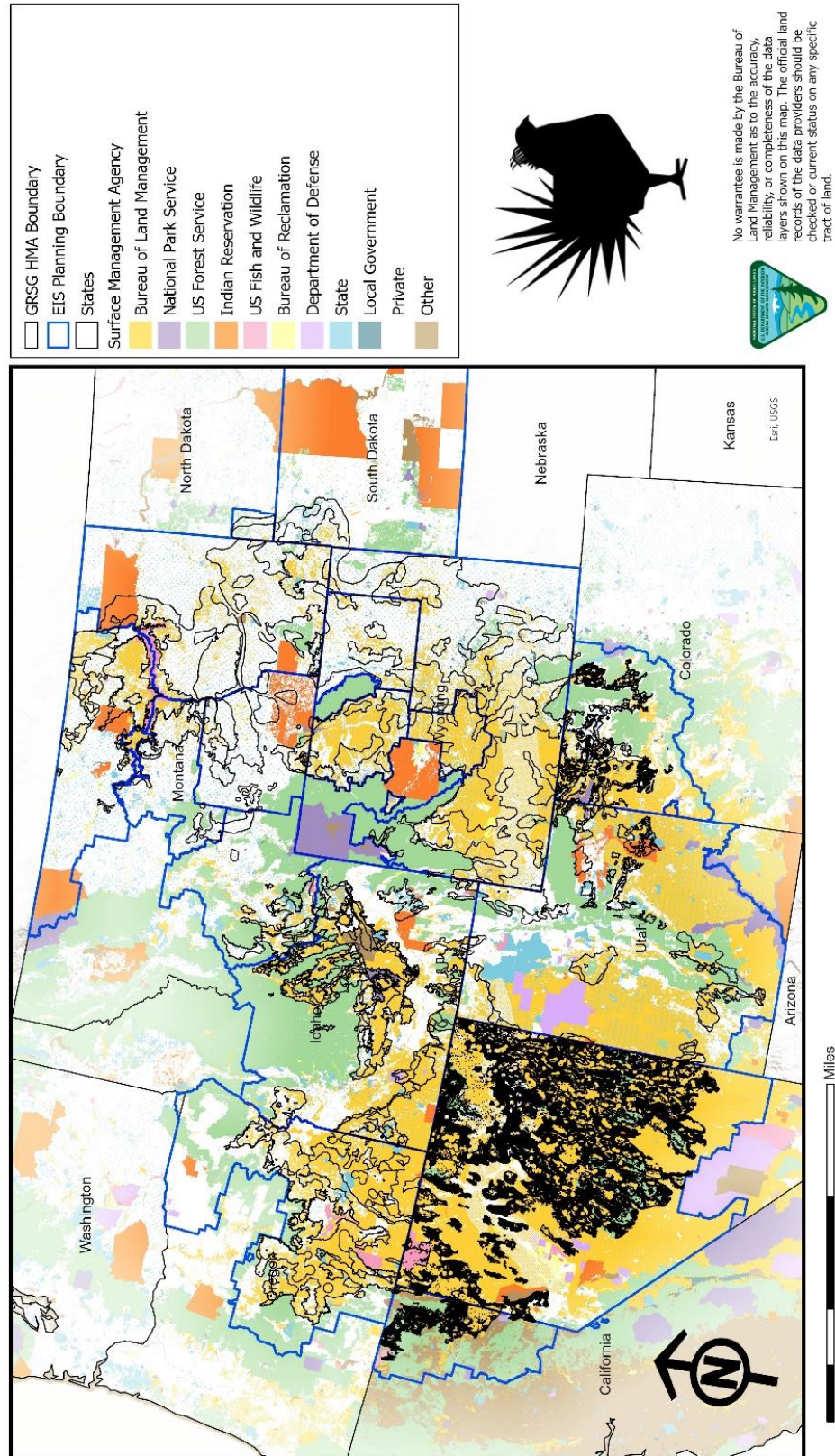
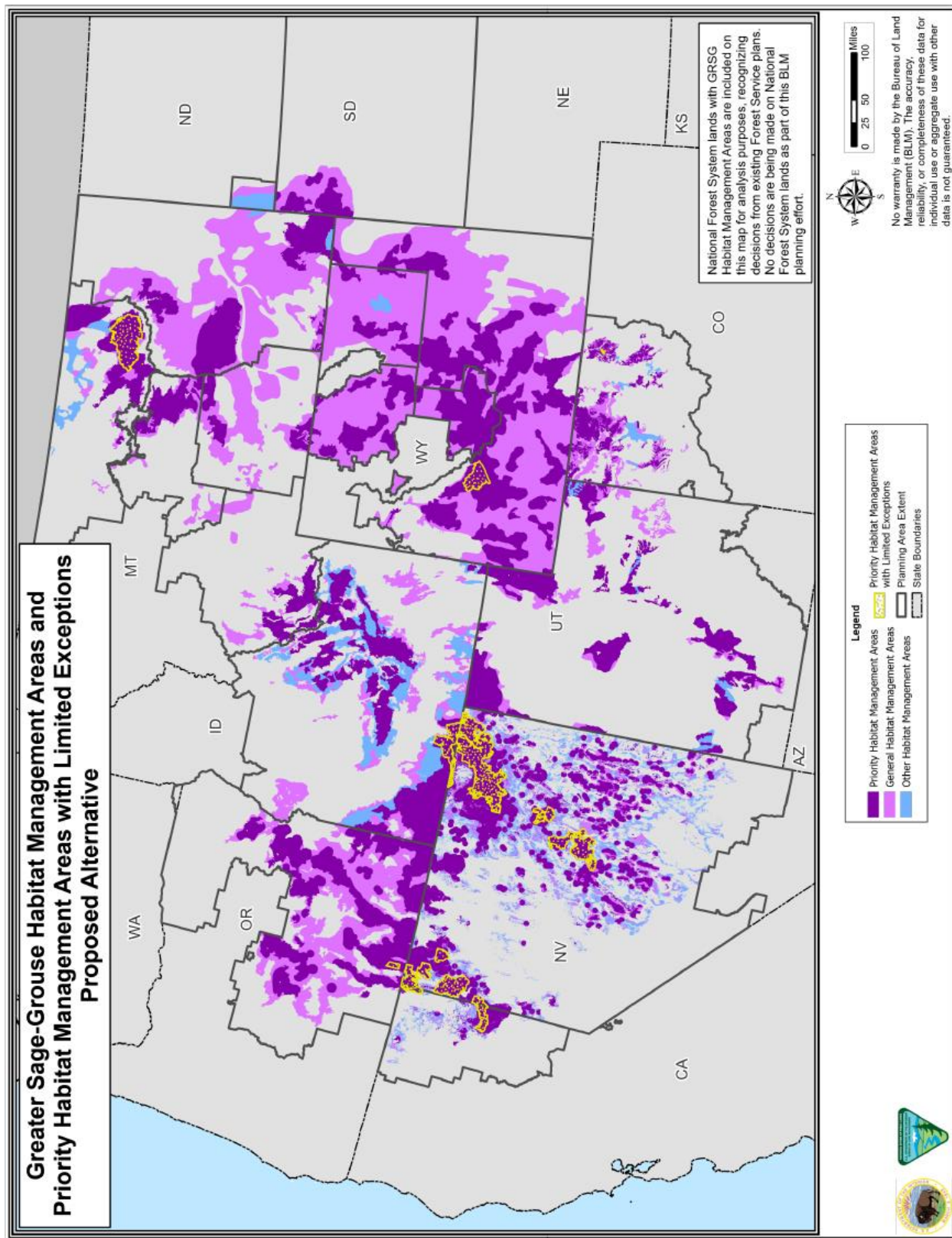


Figure 2: Map of BLM Decision Area (GRSG Habitat Management Areas). Changes in management directions will only apply in these decision areas.



The BLM reviewed new scientific publications since previous planning efforts in 2015 and 2019 which provide key population (e.g., Doherty et al. 2016, Coates et al., 2021), genetic (e.g., Cross et al., 2018, Oyler-McCance et al., 2022) connectivity (e.g., Row et al. 2018, Cross et al., 2023) habitat (e.g., Doherty et al., 2016, Wann et al., 2022, Doherty et al., 2022) and climate change (Palmquist et al., 2021, Rigge et al., 2021) information. This information was used to update GRSG habitat designations in concert with state wildlife agencies, to determine if the BLM was applying appropriate management allocations consistent with the purpose and need of this amendment. 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 objective 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. Important Habitat Management Areas (IHMA; ID only) are defined as lands that encompass moderate to high-quality GRSG habitat and populations necessary for providing a management buffer for PHMA, connecting patches of PHMA, and in some cases supporting important populations and habitat independent of PHMA. The objective for IHMA is to maintain habitat conditions that will support persistent and healthy GRSG populations. General Habitat Management Areas (GHMA) are lands that are or have the potential to become occupied seasonal or year-round habitat outside of PHMA or IHMA, 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, and most require mitigation for unavoidable impacts within this designation. The objective for GHMA is to maintain habitat conditions to support GRSG populations consistent with the state agency designations of recovery, connectivity, or seasonal habitats. All adjustments to HMAs were made within the decision area so the only differences in management directions are associated with HMA type.

In response to concerns identified by the USFWS and multiple public comments, the BLM has also identified areas within PHMA to be managed as exclusion areas for solar and wind development with no exceptions, no surface occupancy for fluid minerals with no exceptions, and exclusion areas for major rights-of-way (ROWs) with limited exceptions (referred to as PHMA with limited exceptions). These areas will result in additional conservation of GRSG habitats where the potential for these threats is high.

Additional, state-specific habitat management areas have been identified in Colorado, Montana/Dakotas, Nevada/California, Utah, and Wyoming as described below.

- Colorado - Linkage Management Area (LHMA) are defined as areas that have been identified as broader regions of connectivity important to facilitate the movement of GRSG and to maintain ecological processes.
- Montana/Dakotas - Montana had identified several unique HMA with differing objectives or management to address unique challenges. Most of these areas are identified as GRSG habitats by the associated state agencies but contain ongoing and imminent impacts due to oil and gas development and associated infrastructure, habitat conversion, mining, disease, and/or the peripheral nature of the population. Due to the unique circumstances management actions are

needed that emphasize long-term reclamation and habitat goals, and maintain connectivity, in order to provide/enhance habitat for recovery of GRSB populations. These include three areas:

- Little Missouri HMA (LMHMA): Identified core area by the states of Montana and North Dakota. This area contained high-quality GRSB habitat in Montana and encompasses the remaining GRSB habitat in North Dakota. However, a substantial portion of the area is a unitized oil and gas field (the Cedar Creek Anticline). Formerly occupied habitat has been converted or degraded, an outbreak of West Nile Virus impacted bird numbers, and GRSB are challenged by being on the periphery of their range. Unique management is needed to maintain connectivity of sagebrush and GRSB habitat between Montana and North Dakota and focus restoration efforts.
- South Carter HMA (SCHMA): Identified core area by the state of Montana. However, this area is primarily developed or existing bentonite claims. Unique management is needed to balance GRSB habitat and mineral development, in the short term, while planning for longer-term reclamation.
- Connectivity HMA (CHMA): Areas that provide regions of connectivity important to facilitate the movement of GRSB and maintain ecological processes, including between priority populations, adjacent states, and across international borders, including but not limited to state designated Montana Connectivity areas. This HMA boundary represents where stopover sites may exist, likely within a matrix of degraded or converted habitat or non-habitat (such as in Montana general habitat within the HiLine). Areas are delineated using results from analyses of seasonal migratory movements and habitat characteristics conducive to movements, particularly between silver sagebrush and big sagebrush habitats.
- Nevada/California - Other HMA (OHMA): Areas with appropriate environmental conditions for GRSB that are less used by the bird or have marginal habitat suitability.
- Utah - Connectivity HMA (GCHMA): Areas within GRSB GHMA habitat that contain an increased level of biological importance because they provide for connectivity between localized areas of PHMA, above that of regular GHMA, based on new science (Row et al. 2018) and telemetry studies.
- Wyoming - Stewardship HMA (SHMAs): GRSB habitats that are generally characterized by large percentages of private land, existing disturbance and prior and existing rights, and fragmented landscapes but that continue to support substantial populations of GRSB, provide important connections between populations, and are important for maintaining GRSB populations.

The Bi-state GRSB, a distinct population segment in California and Nevada, GRSB populations in Washington state, and the Gunnison sage-grouse (*C. minimus*), are not covered by this Amendment and will be addressed through other policies and planning efforts.

PROPOSED ACTIONS

The BLM is changing management directions for the following allocative decisions, but the impacts associated with implementing actions are not changing from the impacts considered in the 2015 and 2019 consultations with USFWS. These changes are to management directions only and inform how future on-the-ground actions will be framed. There is no on-the-ground action directly implemented or authorized these changes. Any future project that implements these changed management directions will engage the

USFWS for site-specific Section 7(a)(2) consultation for any affected species and/or designated critical habitats. Table 1 provides a brief summary of the proposed changes in management direction associated with the proposed Amendment. More information for each topic is provided in the text following Table 1. For more detail informing implementation actions tiering from this proposed amendment reference Chapter 2, Table 2-2 of the FEIS (BLM 2024).

Table 1: Summary of proposed changes in management direction for the proposed BLM RMPA.

Topic	2015/2019 Plan	Proposed change
Fluid minerals (including WEMs)	<ul style="list-style-type: none"> PHMA and IHMA open to leasing with NSO. GHMA open to lease consideration with state specific direction/limitations. 	<p>No change rangewide for PHMA and IHMA except for elimination of leasing prioritization outside of GRSG habitats, and no changes for GHMA. Many states have proposed changes to application of WEMs to improve conservation for GRSG.</p> <ul style="list-style-type: none"> PHMA with limited exceptions are NSO with no exceptions.
Renewable energy development and associated transmission	<ul style="list-style-type: none"> PHMA exclusion (with exceptions) for utility scale wind and solar, including testing and development and all associated infrastructure. Major right-of-ways are avoidance with exceptions and conditions. Compensatory mitigation will be required where exclusion is not feasible. GHMA - all states but ID and WY are avoidance for utility scale wind and solar testing and development. ID and WY are open with mitigation 	<p>Same as the 2015 and 2019 plans except solar and wind was avoidance in WY and parts of OR.</p> <ul style="list-style-type: none"> PHMA with limited exceptions are exclusion with no exceptions for renewable energy development. Major right-of-ways are exclusion with exceptions allowed where impacts to GRSG do not occur or are eliminated.
Major Rights of Ways (general)	<ul style="list-style-type: none"> PHMA and IHMA were avoidance GHMA was avoidance for CO, NV/CA and OR and open for ID, UT, and WY 	<p>Same as 2015/2015 for PHMA and IHMA but guidance is rangewide and some states have updated their specific management directions to require minimization and/or mitigation. GHMA management direction still varies by state but provides more restrictions and mitigation requirements than previous plans.</p>
Livestock Grazing	Each state managed livestock grazing relative to maintaining GRSG habitats differently.	Livestock grazing will be managed to meet or make progress to meeting Land Health Standards for special status species (which includes GRSG).
Wild Horse and Burro Management	In all HMAs BLM will manage wild horse and burro populations within Appropriate Management Levels (AML).	Same as 2015/2019 except GRSG habitat objectives will be incorporated into assessments of wild horse and burro management and where possible gathers will be prioritized in PHMA.
Habitat Objectives	Previous plans identified specific numerical parameters for GRSG habitat indicators (e.g., grass height, percent cover).	Rangewide specific numerical parameters will not be used. The HAF will be used to assess GRSG habitat suitability at multiple scales. The BLM has identified a list of habitat indicators and benchmarks, derived from local and regional research on GRSG habitat selection, that collectively are used to inform habitat suitability.

Topic	2015/2019 Plan	Proposed change
Disturbance Cap	Disturbance calculated at the biologically significant unit, the dimensions of which varied by state and did not account for local population impacts.	Disturbance will be calculated at the HAF fine-scale unit to provide a more biologically meaningful assessment of impact to GRSG.
Predation	Each state within the planning area included language to reduce opportunities for predators.	Consistent with 2015/2019 but provides rangewide direction. Focus is on reducing disturbance in GRSG habitats to maintain cover. For energy projects the project proponent must develop a predator management plan that demonstrates how they will minimize increasing predator abundance as a result of their actions.
Mitigation	In all HMAs and states except Wyoming compensatory mitigation was net conservation gain. Wyoming did not require compensatory mitigation in GHMA. Compensatory mitigation was voluntary unless required by law. ID and UT dropped from net gain to no loss in 2019.	Emphasis on the mitigation hierarchy, and if compensatory mitigation is needed it shall be at no net habitat loss or in compliance with state regulatory requirements.
Adaptive Management	Each state had individual adaptive management processes. If triggers were hit more restrictive management would be required and BLM would make appropriate plan amendments and revisions as needed. “Un-triggers” were added to some states in 2019.	Calculation of habitat triggers is the same as 2015/2019. For population triggers The BLM will consider state population information and results of the Targeted Annual Warning System (TAWS). The consideration of TAWS addresses inconsistencies in methodology resulting in false triggers or no triggers where populations are trending downwards. TAWS also provides a consistent methodology for GRSG populations that straddle political boundaries. If a habitat or population trigger is tripped and the causal factor is known BLM will make appropriate management adjustments and may consider adjustments if the cause is unknown. “Un-trigger” language has been incorporated. At the request of the WGA Task Force, “triggers” have been renamed “thresholds”.

GRSG habitat management area alignments.

As described above the BLM worked with state wildlife agencies to adjust PHMA and GHMA (and other HMA) boundaries based on new scientific information and actual GRSG habitat use. The adjustments affect the degree of protections applied to GRSG habitats, the extent of which depends on whether areas were moved to a more protected status (e.g., GHMA to PHMA) or less protected status (e.g., PHMA to GHMA). Any potential impacts from the change in strategies to listed species will depend on their occurrence in previous HMA designations if they overlap an area that was adjusted based on new information. In some cases, habitat protections may increase, and in others they may decrease. Potential impacts are described in the management allocation strategies below.

Fluid mineral development and leasing objectives and Fluid mineral leasing waivers, exceptions, and modifications (WEMs).

BLM will 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. The proposed rangewide management direction is the same as the 2015 and 2019 plans with the exception of eliminating prioritizing leasing outside of PHMA. There are some proposed changes in management directions in some states for the continued conservation of GRSG habitats based on new information and lessons learned.

- PHMA and IHMA would be open to fluid mineral leasing but would have a No Surface Occupancy (NSO) restriction with waivers, exceptions and modifications possible. Exceptions to the NSO can be granted (1) within 0.6 miles of an active lek if it can be demonstrated that development and surface occupancy would have no direct impacts to or disruption of GRSG or its habitat or (2) Granting the exception must be in conformance with the RMP GRSG goal and habitat objectives, and the impacts anticipated by the proposed activity would be addressed through application of the mitigation hierarchy. To grant this exception based on the use of compensatory mitigation, 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.
 - In Colorado the exception would apply beyond 1 mile of active leks.
 - In Idaho, Oregon, Nevada and California it will apply to areas beyond 3.1 miles of an active or pending active lek.
 - In Wyoming areas outside 0.6 miles of an active lek will be subject to seasonal timing limitations to protect all seasonal habitats, and Controlled Surface Use (CSU) limitations that restrict density and disturbance.

Beyond considering an exception where no direct or indirect impacts on GRSG or its habitat would occur, an exception could also be considered if the proposed location on public lands would 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 would eliminate impacts on more important and/or limited GRSG habitat (e.g., wet meadows, brood-rearing habitat, etc.) on the non-public nearby parcel; this exception must also include measures sufficient to allow the BLM to conclude in its documenting analysis that such benefits will endure for the duration of the proposed action's impacts on public lands (e.g., confirmation of an easement).

- In PHMA already leased, 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 (where additional Section 7 consultation will occur). The BLM will 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 (and IHMAs). 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 (and IHMA). Surface use rights associated with existing leases will be recognized and respected.

- PHMA with limited exceptions would be NSO with no waivers, exceptions and modifications possible.
- GHMA is open to leasing.
 - Colorado – CSU within 1 mile of PHMA to avoid indirect impacts to PHMA and a CSU within 1 mile around leks to avoid impacts to seasonal habitats. Timing limitations to protect lek activity apply throughout all of GHMA.
 - Montana/Dakota – NSO within 0.6 miles of lek and winter habitats.
 - Nevada/California – CSU for lek buffers and to protect seasonal habitats.
 - Oregon – NSO within 1 mile of a lek, other areas will apply timing limitations.
 - Utah – NSO and seasonal limitations near leks.
 - Wyoming – NSO within 0.25 miles of leks, seasonal limitations within 2 miles of leks.

Renewable energy development and associated transmission (Commercial solar, wind, nuclear, hydro-power) –

The BLM is currently updating the BLM RMPs for solar energy development in the Solar Programmatic Environmental Impact Statement (PEIS). The GRSG RMPA is consistent with the management guidelines provided in the PEIS and the Solar PEIS update defers to this GRSG planning effort to decide how solar energy development is conducted in GRSG habitat management areas. The proposed management direction is the same as the 2015 and 2019 plans except solar and wind was avoidance in WY and parts of OR, and UT restricted development outside of PHMA if a lek within PHMA was within 5 miles.

- PHMA is exclusion (with exceptions) for utility scale wind and solar, including testing and development and all associated infrastructure. Major ROWs will be avoidance with exceptions and conditions (transmission will be encouraged to use existing rights-of-ways). Compensatory mitigation will be required where exclusion is not feasible.
 - In Idaho, IHMA will be exclusion within 3.1 miles of active leks, and avoidance elsewhere. This is a change from 2015 when IHMA was avoidance. PHMA and IHMA will be avoidance for nuclear and hydropower development in Idaho. No other states have identified the potential for nuclear or hydropower development on BLM-administered lands.
 - Oregon buffers PHMA by 0.5 miles to reduce the potential for indirect effects of renewable energy development to that habitat designation.
- PHMA with Limited Exceptions will be exclusion areas with no exceptions for renewable energy development. These areas would be exclusion with exceptions for major ROWs (e.g., within existing designated corridors or non-habitat with no indirect impacts to habitat or birds).
- GHMA - in all states GHMA but Idaho and Wyoming will be avoidance for utility scale wind and solar testing and development. Surface use, occupancy, or placement of utility scale wind and solar facilities including transmission facilities within one-half mile of PHMA (or 2 miles in CO) unless adjacent PHMA is protected from indirect impacts. GHMA and SHMA in Wyoming would be open with minimization measures and compensatory mitigation to maintain habitat supporting GRSG populations.

Major Rights-of-Ways (ROWs) general

PHMA and IHMA are avoidance for major ROWs (including pipelines). This is the same as 2015/2019 although this plan applies this direction rangewide. Some state specific management directions have also been updated to incorporate new information and lessons learned. Where avoidance is not possible routing of ROWs will occur outside of breeding/nesting or other limiting habitats (e.g., winter) unless it can be placed in non-habitat, existing corridors, or co-located with existing disturbance such that it does not result in additional impacts to GRSG. Residual direct and indirect impacts will require compensatory mitigation. GHMA is open in all states except Nevada and Oregon (except as noted below) with applicable state minimization measures from 2015 and 2019 and compensatory mitigation. Previously GHMA management varied widely by state, so this plan provides more consistent rangewide direction. Additional state specific differences include:

- Colorado - Avoidance in GHMA that contain important seasonal habitats.
- Idaho - GHMA is open but subject to required design features (RDFs), buffers and mitigation.
- Montana/Dakotas - GHMA is exclusion within 0.6 miles of active leks, crucial winter range, and avoidance if the ROW is in an existing corridor. Avoidance criteria for the remaining areas depends on the State of Montana's designation of GHMA (e.g., restoration, connectivity).
- Oregon - PHMA is buffered by 0.5 miles to minimize indirect impacts for development outside PHMA.
- Utah - GHMA is avoidance where it provides connectivity between populations.
- Wyoming – GHMA is open with minimization measures and compensatory mitigation.

Livestock grazing

In all HMAs BLM will make progress towards meeting Land Health Standards for special status species (SSS; including GRSG) and will make appropriate adjustments when an area is not meeting standards. This is the primary change to grazing from 2015/2019 plans, in which states used different tools to managed grazing. The land health assessment process will use the criteria identified in the Sage-Grouse Habitat Assessment Framework (HAF; Stiver et al. 2015) and other BLM approved methodology to provide multiple lines of evidence (which are consistent with BLM Manual 1283, BLM 2012) 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 ecological site description (ESD), associated State and Transition Model (STM) and existing ecological condition information. For GRSG, the standard would generally be met when vegetation conditions provide for suitable or marginal GRSG habitat at the HAF site scale.

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, 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 4180.21 or subsequent changes to regulations or policy). A NEPA analysis will be conducted for any changes.

- OR – Potential livestock grazing modifications in Key Research Natural Areas (which are closed to grazing - same as the previous plans) may be considered to avoid other resource conflicts, such as fencing impacts to cultural resources.

Range improvements will be modified as necessary to reduce impacts to GRSG. New range improvement projects to address LHS concerns will be focused on projects that have a nominal or incidental effects, or that are beneficial to GRSG seasonal habitats in PHMA. High risk fences to GRSG will be addressed either through marking or other modifications to reduce the risk of fence strikes.

Wild horse and burro management

In all HMAs BLM will manage wild horse and burro populations within Appropriate Management Levels (AML). GRSG habitat objectives will be incorporated into assessments of wild horse and burro management and where possible gathers will be prioritized in PHMA. If GRSG site scale habitat objectives are not being met in PHMA and GHMA (and IHMA in Idaho), AMLs will be evaluated and adjusted if necessary 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. Differences between 2015/2019 and the current proposed alternative is the removal of references to Sagebrush Focal Areas, incorporating HAF site-scale habitat objectives into the evaluation of herd management areas, and re-instating GHMA and AMLs in UT.

GRSG habitat objectives

Habitat objectives provide guidelines by which to assess and monitor sagebrush habitats to determine suitability for GRSG across different seasonal areas. Habitat objectives themselves are not an on-the-ground action and will have no direct impact on any listed species. BLM is proposing changing how habitat objectives are identified and measured. The techniques for measuring objectives will be the same across all HMAs.

Previous plans identified specific numerical parameters for GRSG habitat indicators. The proposed action adopts the Habitat Assessment Framework (Stiver et al. 2015) for all Habitat Management Area designations which provides a standardized, scientifically based methodology to assess sage-grouse habitat suitability at multiple 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. The BLM has identified a list of habitat indicators and benchmarks, derived from local and regional research on GRSG habitat selection, that collectively are used to inform habitat suitability. BLM offices will use the indicators and benchmarks in 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.

Disturbance cap

When authorizing disturbing activities within PHMA and IHMA the BLM applies disturbance caps to limit habitat losses associated with discrete anthropogenic disturbances and their associated human activity. Disturbance caps identify an upper limit (maximum disturbance permitted) above which no new development is generally permitted (subject to applicable laws and regulations and valid existing rights). A disturbance cap acts as a “backstop” to ensure that total disturbance does not exceed the level of

GRSG tolerance for anthropogenic activities. Disturbance caps were previously applied to PHMA and IHMA in both the 2015 and 2019 plans. The management direction difference in the proposed plan is to change the scale at which disturbance is measured. While disturbance caps may be reached more frequently changing the scale of the calculation should have no impact on listed species.

Previously disturbance was measured at the biologically significant unit (BSU) which were defined by the state wildlife agency in coordination with the BLM. The criteria for identifying BSUs varied across states and did not extend across state lines. BSUs were often very large and did not account for impacts to local GRSG populations if disturbance in those habitats did not exceed the overall disturbance cap for the BSU. The BLM is proposing using the Habitat Assessment Framework (HAF; Stiver et al. 2015, as revised) fine scale which loosely translates to all the seasonal habitats used by local population(s) of GRSG. This provides a consistent unit across the entire decision area for measuring disturbance and allows for impacts on local populations to be identified and corrected as needed. Calculation of disturbance caps must consider all disturbances (existing and new) since GRSG are negatively impacted by the total disturbance. Within designated spatial analysis areas, disturbance on all surface ownerships will be considered to accurately capture potential impacts of new authorizations on GRSG. Disturbance caps are limited to 3% at the project and HAF fine scale in all states but Wyoming and Montana which use a 5% disturbance cap but include wildfire and agricultural conversion (the latter is not applicable on BLM lands) in their calculations. The variance in Wyoming and Montana is in conjunction with their individual state management plan for GRSG. North Dakota and South Dakota apply a mix of the two approaches – with a 5% cap that includes wildfire and agriculture, but also limiting anthropogenic disturbances to 3%.

Minimizing threats from predation

In all HMAs BLM will 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:

- Limit the footprint for all proposed projects to the smallest area necessary to achieve the project objectives in order to reduce habitat loss.
- Place project components within existing disturbance areas whenever possible to minimize habitat loss.
- Eliminate or minimize external food resources from anthropogenic sources (e.g., trash resources from human activities, road killed animals, carcass dumps).
- Reduce or prevent opportunities for raven and raptor perching and nesting through such measures as nest/perch deterrents and regular maintenance.

For authorizations that require expanded or new or renewal of energy or transmission related energy, mining, and infrastructure in PHMA (and IHMA in Idaho) the project proponent is required to submit a predator management plan to minimize influx and support of new predators as a result of the new project.

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.

The management direction is consistent with direction provided in 2015 and 2019 but provides rangewide direction (vs. individual state direction) and requires the development of a predator management plan for energy, transmission and other infrastructure in PHMA and IHMA that minimizes habitat disturbance. The requirement to develop a predator management plan should have no impact to any listed species and/or designated critical habitat.

Mitigation

In all HMAs and consistent with valid existing rights and applicable law, BLM will apply the mitigation hierarchy when authorizing third-party actions resulting in GRSG habitat loss and degradation (including indirect impacts) to achieve a minimum standard of no net habitat loss. Avoidance and minimization are emphasized. If compensatory mitigation is required it must meet a no net loss standard. This requires 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, should be completed prior to the disturbance and occur in the same habitat area as the proposed impact. Compensatory mitigation amounts shall be in compliance with any State regulatory requirements which may exceed the BLM requirement. In 2015 net conservation gain was required for compensatory mitigation in all HMAs and states except Wyoming. Net conservation gain was not quantified and location and timing of mitigation were not specified. Wyoming did not require compensatory mitigation in GHMA. In 2019 Idaho and Utah dropped the net conservation gain requirement.

Adaptive Management

To address unanticipated negative impacts to GRSG from potential changes in habitat conditions before consequences become severe or irreversible and adaptive management strategy will consider habitat and population trends on an annual basis. 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. When a habitat or population anomaly is detected a causal factor team will be initiated to determine if there is an underlying habitat factor. Should a habitat factor be identified through this process BLM may then change management to allocations or limit new activities. Any impacts from changes in management will be assessed at the implementation scale. The primary difference with 2015/2019 is the incorporation of the rangewide TAWS tool to assess population trend anomalies consistently across the planning area. The change in assessment tools will not change the on the ground response, which will need to be determined at the local level. The change in assessment tools should have no impact to ESA listed species.

Travel and Transportation

While travel and transportation allocations (such as open, limited, and closed) are not being addressed by this RMPA, changes in HMA boundaries in the Proposed RMP Amendment could potentially change areas where the 2015 and 2019 RMP Amendment allocations are applied. For example, an area that is

currently open (and not designated as an open off-highway vehicle area) could become limited due to adjustments in GHMA and PHMA that are different than the 2015 or 2019 amendments. Any new areas of GHMA and PHMA will follow the limited allocation and management direction identified in the 2015 and 2019 Amendments. There will be no differences in these allocations in Colorado, Idaho, Montana, and Wyoming. Under the Proposed RMP Amendment, acres open to OHV use would increase by 2,187,000 acres (8%) in Nevada/California compared to 2015 (Alternative 1). Conversely, acres limited to OHV use would decrease by 2,314,000 acres (11%). In Oregon, there would be 604,000 fewer acres (50% fewer) open to OHV compared to 2015, with 665,000 more acres (6% more) limited to OHV use. Utah has a similar trend, with 295,000 fewer acres (5%) open under the Proposed RMP Amendment and 308,000 more acres (2%) limited.

SPECIES CONSIDERED IN THE BIOLOGICAL ASSESSMENT

The ESA mandates the protection of species listed as threatened or endangered and the habitats on which they depend. Some listed species may also have critical habitat designated as essential to species conservation or requiring special management consideration or protection. Under sections 7(a)(1) and 7(a)(2) of the ESA and its implementing regulations (50 CFR 402 et seq.), federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat and ensure the action is not likely to jeopardize the continued existence of threatened or endangered species or result in the adverse modification of their critical habitat.

Species can be proposed for listing or candidates for listing under the ESA. Proposed species are those identified to be listed as endangered or threatened under section 4 of the ESA but have not had a final rule issued. Candidate species are those for which the USFWS has sufficient information on biological vulnerability and threats to support a proposal to list as endangered or threatened, but the action is precluded by higher priority items. Some listed species may be designated as experimental, non-essential populations and are wholly separate geographically from other populations of the same species. An experimental population may be subject to less stringent prohibitions than are applied to the remainder of the species. An experimental, non-essential population (section 10(j) of the ESA) is a population whose loss would not appreciably reduce the prospect of survival of the species in the wild. Section 7 consultation is not required for proposed or candidate species or for experimental, non-essential species on lands managed by the BLM; however, conferencing is required between BLM and USFWS concerning these species if the action agency determines that a proposed project is "likely to jeopardize the continued existence" of a proposed species or cause "destruction or adverse modification" of proposed critical habitat. Conferencing can also be conducted on a voluntary basis if the action agency determines that a proposed project may affect a candidate or proposed species or proposed critical habitat.

Determination of Effects Summaries

This BA considers all federally listed (endangered or threatened) species, proposed species, and designated or proposed critical habitat that may be in the decision area. An official ESA species list was obtained from the USFWS IPaC System for the entire planning area. Candidate species are not included. The BA includes an analysis of all species with the potential for effect by the actions proposed in the Agency's proposed action (Appendix A). Development of this BA was guided by the regulations on Interagency Cooperation (Section 7 of the ESA) in 50 CFR Part 402 and BLM Manual 6840 and additional interagency coordination with the USFWS.

One hundred and twenty-eight wildlife and plant species and 32 designated critical habitats with Federal status under the ESA (endangered, threatened, and proposed) were identified in the USFWS IPaC report and were considered by the BLM in preparing this BA. The BLM reviewed the spatial data in ECOS for each species and overlaid that information with the HMAs (all categories) identified in the proposed action. Table 2 below identifies those species, and any critical habitat, that do not overlap the decision area (i.e., HMAs). They will not be analyzed further for potential effects further in this BA, but detail on their status and state distribution is provided in Appendix A. All other species were reviewed for their overlap with the decision area, and potential impacts that may result from this RMPA. Appendix B provides a summary of acres by HMA category overlapping potential range as identified through ECOS for each species. Species assessments were made by either habitat association or taxonomic groups depending on which proposed changes in management direction may result in a future impact during any potential on-the-ground projects. Any future projects using these new management directions will conduct a site-specific ESA consultation.

Table 2: Threatened and Endangered Species that overlap the BLM planning area but not the decision area.

Species	Critical Habitat?
Mammals	
Northern Idaho ground squirrel (<i>Spermophilus brunneus brunneus</i>)	No
Sierra Nevada red fox (Sierra Nevada DPS) (<i>Vulpes vulpes necator</i>)	No
Birds	
California least tern (<i>Sterna antillarum browni</i>)	No
California spotted owl (Sierra Nevada) (<i>Strix occidentalis occidentalis</i>)	No
Greater sage-grouse (Bi-State DPS) (<i>Centrocercus urophasianus</i>)	Yes
Gunnison sage-grouse (<i>Centrocercus minimus</i>)	Yes
Northern spotted owl (<i>Strix occidentalis caurina</i>)	Yes
Yuma Ridgway's rail (<i>Rallus obsoletus yumanensis</i>)	No
Reptiles	
Desert Tortoise (<i>Gopherus agassizii</i>)	Yes
Invertebrates	
American burying beetle (<i>Nicrophorus americanus</i>)	No

Dakota skipper (<i>Hesperia dacotae</i>)	Yes
Franklin's bumble bee (<i>Bombus franklini</i>)	No
Meltwater Lednian stonefly (<i>Lednia tumana</i>)	No
Uncompahgre fritillary butterfly (<i>Boloria acrocneuma</i>)	No
Western Glacier Stonefly (<i>Zapada glacier</i>)	No
Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	No
Shasta crayfish (<i>Pacifastacus fortis</i>)	No
Vernal Pool fairy shrimp (<i>Branchinecta lynchii</i>)	No
Vernal Pool tadpole shrimp (<i>Lepidurus packardii</i>)	No
Higgin's eye mussel (<i>Lampsilis higginsii</i>)	No
Scaleshell mussel (<i>Leptodea leptodon</i>)	No
Bliss Rapids snail (<i>Taylorconcha serpenticola</i>)	No
Amphibians	
California red-legged frog (<i>Rana draytonii</i>)	No
Foothill yellow-legged frog (North Feather DPS) (<i>Rana boylei</i>)	No
Oregon Spotted frog (<i>Rana pretiosa</i>)	Yes
Sierra Nevada yellow-legged frog (<i>Rana sierrae</i>)	Yes
Fish	
Chinook salmon (Snake River fall run) (<i>Oncorhynchus tshawytscha</i>)	Yes
Devils Hole pupfish (<i>Cyprinodon diabolis</i>)	No
June sucker (<i>Chasmistes liorus</i>)	Yes
Moapa dace (<i>Moapa coriacea</i>)	No
Paiute cutthroat trout (<i>Oncorhynchus clarkii seleniris</i>)	No
Steelhead trout (Snake River Basin ESU) (<i>Oncorhynchus mykiss</i>)	Yes
Topeka shiner (<i>Notropis topeka</i> (=tristis))	Yes
Plants	
Barneby ridge-cress (<i>Lepidium barnebyanum</i>)	No
Dwarf bear-poppy (<i>Arctomecon humilis</i>)	No
Green's tuctoria (<i>Tuctoria greeni</i>)	Yes
Leedy's roseroot (<i>Rhodiola integrifolia</i> ssp. leedyi)	No

MacFarlane's four-o'clock (<i>Mirabilis macfarlanei</i>)	No
Maguire primrose (<i>Primula maguirei</i>)	No
Malheur Wire-lettuce (<i>Stephanomeria maheurensis</i>)	Yes
Navajo sedge (<i>Carex specuicola</i>)	Yes
Penland alpine fen mustard (<i>Eutrema penlandii</i>)	No
Shivwits milk-vetch (<i>Astragalus ampullarioides</i>)	No
Siler pincushion (<i>Pediocactus</i> ([= <i>Echinocactus</i> , = <i>Utahia</i>] <i>sileri</i>)	No
Spaldings catchfly (<i>Silene spaldingii</i>)	Yes
Spring-loving centaury (<i>Centaurium namophilum</i>)	No
Steamboat buckwheat (<i>Eriogonum ovalifolium</i> var. <i>williamsiae</i>)	No
Tiehm's buckwheat (<i>Eriogonum tiehmii</i>)	Yes
Welsh's milkweed (<i>Asclepias welshi</i>)	Yes
Winkler cactus (<i>Pediocactus winkleri</i>)	No

AQUATIC SPECIES

None of the proposed changes for this RMPA will have any direct impacts on aquatic resources as no on-the-ground projects within aquatic habitats are being proposed. However, the BLM is adjusting the management directions for livestock grazing towards achieving Land Health Standards in GRSG habitat management areas. This may result in localized future projects with potential short-term impacts to aquatic and riparian areas from installation of range infrastructure to manage livestock (e.g., water pipes to support guzzlers in nearby uplands, fencing) or habitat improvements to riparian, stream and pond areas that temporarily disrupt these areas (e.g., beaver dam analogs). Any of these potential future projects will engage the USFWS for site specific consultation should the project overlap the occurrence of any listed species or associated critical habitats. However, since the change in management direction may contribute to these potential future projects, the BLM concludes aquatic and riparian species listed in Table 3 may be affected, but not likely to be adversely affected by the proposed action. Similarly, the proposed action is not likely to adversely affect designated critical habitat associated with these species. Other components of the proposed action will have no direct impact as wild horse gathers, renewable energy development, permitted OHV use, and ROW development is not permitted in aquatic habitats.

Table 3: Aquatic and riparian species that may be affected but are not likely to be adversely affected from changes in the livestock grazing management directions in the proposed RMPA.

Species	Critical Habitat?	Habitat, Overlap with Decision Area, and Primary Threats
Banbury Springs limpet (<i>Idaholanx festi</i>) [Endangered, 1992, 57 FR 59244-59257]	No	Known from 4 populations in the Snake River and its tributaries in ID, these limpets occur in cold-water spring complexes (USFWS 2018b). Potential range for this limpet includes 170,789 acres of PHMA, 166,174 acres of GHMA, and 200,275 acres of IHMA. Primary threats

		include habitat modification from hydroelectric development and water diversions, groundwater quality, spring flow reduction, and competition from the invasive New Zealand mudsnails (USFWS 2018b).
Bruneau hot springsnail (<i>Pyrgulopsis bruneauensis</i>) [Endangered, 1993, 58 FR 5938]	No	The Bruneau hot springsnail is only found in geothermal springs and seeps along an 8-kilometer length of the Bruneau River in Southwest Idaho. It prefers wetted rock faces of springs and flowing water, with large cobbles and boulders. The watershed supporting the Bruneau river was identified in ECOS as potential habitat. Therefore potential range of this species includes 1,107,640 acres of PHMA, including 174,660 acres of PHMA with limited exceptions, 253,409 acres of GHMA, 48,391 acres of OHMA(NV), and 359,210 acres of IHMA(ID). The primary threat is reduction of geothermal habitats through groundwater withdrawal primarily associated with agriculture (USFWS 2023o). Additional threats include invasive aquatic plants, predation from introduced fishes, and inadequate State regulations (USFWS 2023o).
Snake River Physa snail (<i>Physa natricina</i>) [Endangered, 1992, 57 FR 59244-59257]	No	This snail is endemic to the deeper waters Snake River in ID and requires free-flowing cold water environments (USFWS 1995c). Potential range for this species overlaps 76 acres of GHMA and 18 acres of IHMA. Primary threats are the operation of hydroelectric facilities which reduces water quality, water withdrawal and diversions for agriculture and aquaculture, pollution, small population size, competition with New Zealand mudsnails, and lack of state regulatory protections (USFWS 1995c; USFWS 2022b).
Dixie Valley toad (<i>Anaxyrus williamsi</i>) [Endangered, 2022, 87 FR 73971]	Yes (Proposed)	This small toad occurs in a single population endemic to the Dixie Valley in Churchill County, NV (USFWS 2024). Spring conditions necessary for the species include sufficient wetted area, adequate water temperature, wetland vegetation and adequate water quality (USFWS 2024). The species' potential range includes 74,822 acres of PHMA, 70,321 acres of GHMA and 110,662 acres of OHMA. Primary threats are geothermal development, groundwater pumping, recreation, predation by non-native frogs, roads, wildfire, grazing and climate change (USFWS 2024). Approximately 70% of the species range is on Dept. of Defense lands where the BLM has no management authority.
Wyoming toad (<i>Bufo baxteri</i>) [Endangered, 1984, 49 FR 1992-1994]	No	The Wyoming toad is endemic to ponds and seepage lakes associated with the Laramie River near Laramie, WY (USFWS 2015d). A variety of wetland vegetation and depth are used at different life stages, and this toad overwinters in pocket gopher and ground squirrel burrows near water. Current distribution is limited to Mortensen Lake NWR and two Safe Harbor release sites (USFWS 2015d). While this species is not known to occur on BLM lands, potential range includes 11,915 acres of PHMA and 152,458 acres of GHMA. Primary threats include irrigation practices, improperly managed livestock grazing, insecticides, disease and small population sizes (USFWS 2015d).

<p>Big springs spinedace (<i>Lepidomena molliispinis</i>)</p> <p>[Threatened, 1985, 50 FR 12298-12302] [CH, 1985, 50 FR 12298-12302]</p>	Yes	<p>This fish is limited to one location in Condor Canyon in southeastern NV (USFWS 2021a). Designated critical habitat conserves the species' freshwater stream habitats by reducing siltation and pollutants from entry and maintaining vegetation to stabilize water temperatures and dissolved oxygen levels (50 FR 12298-12302). The potential range for this species includes 72,247 acres of PHMA, 61,056 acres of GHMA, and 82,353 acres of OHMA. Primary threats include limited distribution, introduction of non-native fish and crayfish, groundwater depletion, pollution, overgrazing, OHV use, and wildfire (50 FR 12298-12302; USFWS 1993; USFWS 2021a).</p>
<p>Bonytail chub (<i>Gila elegans</i>)</p> <p>[Endangered, 1980, 45 FR 27710] [CH, 1994, 59 FR 13374]</p>	Yes	<p>Native to warm water reaches of the Colorado River Basin, this fish is now restricted to the lower river basin. No self-sustaining populations exist in the wild (USFWS 2002a). Primary concerns for recovery are maintenance of streamflows. Potential range of this species encompasses 3,430 acres of PHMA and 19,835 acres of GHMA. Designated critical habitat includes 6 acres of PHMA and 910 acres of GHMA. Threats include streamflow regulation, habitat modification, nonnative fish species introduction, hybridization, pesticides and pollutants (USFWS 2002a).</p>
<p>Bull trout (<i>Salvelinus confluentus</i>)</p> <p>[Threatened, 1999, 64 FR 58910] [CH, 2005, 70 FR 56212]</p>	Yes	<p>This fish is widely distributed in Columbia and Snake River basins, Puget Sound and Olympic Peninsula coastal basins, and the Saint Mary and Upper Klamath River basins, but populations are considered to be in widespread decline (USFWS 2024a). They require cold, clean, complex and connected habitats and are usually found in mountainous areas where snowfields and glaciers are present. PCEs for critical habitat include water temperature, complex stream channels, substrates that ensure success egg, fry and juvenile survival, a natural hydrograph, cold water sources, connected habitats, food resources and permanent water. The potential range of this species includes 3,553 acres of PHMA including 67 acres within PHMA with limited exceptions, 4,371 acres of GHMA, 31 acres of OHMA (NV), and 1,551 acres of IHMA (ID). Designated critical habitat includes 1,546 acres of GHMA and 44 acres of IHMA(ID). Primary threats include habitat and water quality degradation, barriers to migration, and introduction of nonnative fish species.</p>
<p>Chinook salmon (Snake River spring/summer run) (<i>Onorhynchus tshawytscha</i>)</p> <p>[Threatened, 1992, 57 FR 58619] [CH, 1999, 64 FR 57399]</p>	Yes	<p>This anadromous species requires cool, clean water with high dissolved oxygen concentrations with complex channels, underwater structure, and large gravel for spawning in its early life prior to returning to the ocean (NOAA 2024). Designated critical habitat is within river/stream channels and includes 205 miles of river in PHMA, 266 miles in GHMA, and 136 miles in IHMA (ID). Primary threats include climate change, dams, water temperature, habitat degradation, and increased harvest rates (NOAA 2022)</p>
<p>Clover Valley speckled dace (<i>Rhinichthys osculus oligoporus</i>)</p>	No	<p>This species is endemic to 3 springs in Elko County, NV (USFWS 1998a) and primarily found the associated</p>

[Endangered, 1989, 54 FR 47861]		reservoirs and outflows. Potential range for this species includes 126,876 acres of PHMA, 29,331 acres of GHMA, and 22,900 acres of OHMA. Primary threats include limited distribution, modification of habitat for irrigation, and nonnative fish species introduction (USFWS 1998a).
Colorado pikeminnow (<i>Ptychocheilus lucius</i>) [Endangered, 1967, 32 FR 4001] [CH 1994, 59 FR 13374]	Yes	This fish is endemic to warm-water larger rivers of the Colorado River basin. It travels long distances (hundreds of miles) to and from spawning areas. Adults require pools, deeper runs and eddy habitats maintained by spring flows. Larva and young grow in backwater nursery habitats (USFWS 2020a). Potential range of this species includes 514 acres of PHMA and 3,005 acres of GHMA. Primary threats include streamflow regulation, habitat modification, nonnative fish species introduction, climate change, pesticides, and pollutants (USFWS 2020a).
Cui-ui (<i>Chasmistes cujus</i>) [Endangered, 1967, 32 FR 4001]	No	This species only occurs in Pyramid Lake, NV, but spawns in the Truckee River and tributaries (USFWS 2023e). The potential range of this species includes 66,177 acres of PHMA, 32,545 acres of GHMA, and 48,364 acres of OHMA. Primary threats include water diversion for agriculture, urban and industry use, dams, bank erosion from grazing, reduced riparian canopy along banks, and poor water quality (USFWS 2023e).
Desert dace (<i>Eremichthys across</i>) [Threatened, 1967, 32 FR 4001] [CH, 1985, 50 FR 50304-50309]	Yes	This fish is endemic to thermal spring habitats in the Soldier Meadows in Humboldt County, NV (50 FR 50304). The potential range of this species includes 66,700 acres of PHMA, including 39,713 acres of PHMA with limited exceptions, 13,643 acres of GHMA and 29,021 acres of OHMA. Designated critical habitat includes 31 acres of PHMA, including 1 acre of PHMA with limited exceptions. Primary threats include habitat modification for agricultural use and irrigation (50 FR 50304).
Greenback cutthroat trout (<i>Onchorhynchus clarki ssp. stomais</i>) [Endangered, 1967, 32 FR 4002] [Threatened, 1978, 43 FR 16343]	No	This cold water trout occurs in the mountains along the Front Range of CO. The potential range of this species includes 18,293 acres of GHMA. Primary threats include low population numbers, nonnative fish invasion, low genetic diversity, habitat fragmentation and degradation, wildfire, water quantity, disease, climate change, water quality, and overutilization (USFWS 2019f).
Hiko White River springfish (<i>Crenichthys baileyi grandis</i>) [Endangered, 1985, 50 FR 39123-39128] [CH, 1985, 50 FR 39123-39128]	Yes	This small fish occurs in 2 pools of Hiko, Crystal and Blue Link (introduced) springs in Mineral County, NV (USFWS 1998b). A mineral withdrawal was completed in 1993 (58 FR 31655) to protect Blue Link Springs for this fish. PCEs for the designated critical habitat include warm water springs and outflows, vegetation for cover, habitat for insect which feed the feed (USFWS 1998b). Potential range for this species includes 130,453 acres of PHMA, 92,685 acres of GHMA, and 227,068 of OHMA. None of the decision area overlaps designated critical habitat. Primary threats include water diversions and introduction of nonnative fish.
Humpback chub (<i>Gila cypha</i>)	Yes	A native species of the Colorado River found only in warm-water canyons in that river basin. It requires suitable river flows and temperature, good water quality,

<p>[Threatened, 2021, 86 FR 57588 (downlisting from endangered)] [CH 1994, 59 FR 13374]</p>		<p>connected habitats, and diverse rocky canyon river habitats (USFWS 2018a). PCEs for designated critical habitat include sufficient water of sufficient quality, river channels that support all seasonal habitats, adequate food resources (59 FR 13374). Potential range of this species includes 299 acres of PHMA and 5,899 of GHMA. Designated critical habitat includes 6 acres of PHMA and 910 acres of GHMA. Primary threats include changes in waterflow from dams, diseases, parasites, drought, nonnative fish species introductions and habitat fragmentation (USFWS 2018a).</p>
<p>Hutton tui chub (<i>Gila bicolor</i> ssp.)</p> <p>[Threatened, 1985, 50 FR 12302-12306]</p>	No	<p>This fish is only found in Hutton Spring in Lake County, OR. The potential range for this species includes 8,302 acres of PHMA and 3,156 acres of GHMA. Primary threats include small population size and distribution, livestock grazing, habitat loss, pollution, groundwater loss, and water contamination (50 FR 12302).</p>
<p>Independence Valley speckled dace (<i>Rhinichtys oscukus</i>)</p> <p>[Endangered, 1989, 54 FR 41448]</p>	No	<p>This small fish occupies one spring system within the Warm Springs Complex in Independence Valley, NV, and known distribution is entirely on private land (USFWS 2013a). Potential range for this species includes 22,670 acres of PHMA, 40,685 acres of GHMA and 44,259 acres of OHMA. Primary threats include limited distribution, low population numbers, water diversions, and introduced fish species. Livestock grazing impacts are unknown but possible (USFWS 2013a).</p>
<p>Kendall warm springs dace (<i>Rhinichtys osculus thermalis</i>)</p> <p>[Endangered, 1970, 35 FR 16047]</p>	No	<p>This dace is confined to one stream in the northwestern Wind River Range, Wyoming (USFWS 2015c). Within that stream they avoid areas with a high carbon dioxide content and use areas with plant growth which provides cover (USFWS 2015c). This species occurs entirely on USFS (USFWS 2022a) surface but potential habitat within the drainage basin of the stream includes 17,279 acres of GHMA. Primary threats include small, localized population, invasive aquatic plants, recreational use of the stream introducing pollutants such as soaps and sunscreens, research activities, and potential impacts of oil and gas development (USFWS 2015c, 2022a).</p>
<p>Lahontan cutthroat trout (<i>Onorhynchochos clarkia henshawi</i>)</p> <p>[Threatened, 1975, 40 FR 29864]</p>	No	<p>This fish occurs in the Carson, Walker and Truckee River basins in NV and is found in a wide variety of cold-water habitats including large terminal alkaline lakes, oligotrophic alpine lakes, rivers, and tributary streams (USFWS 1995a). The potential range includes 1,354,806 acres of P including 257,830 acres of PHMA with limited exceptions, 337,516 acres of GHMA, and 284,195 acres of OHMA(NV). Primary threats include nonnative trout, and habitat loss, fragmentation and degradation (USFWS 2023c).</p>
<p>Lost River Sucker (<i>Deltistes luxatus</i>)</p> <p>[Endangered, 1988, 53 FR 27130] [CH 2012, 77 FR 73740]</p>	Yes	<p>This fish is endemic to the upper Klamath Basin and considered an obligate lake dweller but uses major tributaries for spawning and rearing (USFWS 2019a). PCEs for the designated critical habitat include sufficient space and habitat for all life stages, good water quality, and sufficient water availability (77 FR 73740). The potential range for this species overlaps 5,617 acres of</p>

		PHMA, 70 acres of GHMA, and 2,714 acres of OHMA(CA). Designated critical habitat overlaps 49,439 acres of GHMA and 115,385 acres of OHMA. Primary threats include habitat loss and alteration due to dams and drainage of associated wetlands, climate change, water quality, and nonnative fish predation on fry (USFWS 2019a).
Pahranagat round tail chub (<i>Gila robusta Jordani</i>) [Endangered, 1970, 35 FR 16047]	No	This fish is endemic to the thermal waters of Pahranagat Valley, Lincoln County, NV (USFWS 2022d). The potential range of this species overlaps 130,452 acres of PHMA, 92,685 acres of GHMA, and 227,068 acres of OHMA (NV). Primary threats include habitat alteration due to agricultural activities and potential predation from nonnative fish (USFWS 2022d).
Pahrump poolfish (<i>Empetrichthys latos</i>) [Endangered, 1967, 32 FR 4001]	No	This species is endemic to desert springs in the Pahrump Valley, NV. It is known from 4 refuge locations as its native habitat has been lost (USFWS 2023d). Potential range of the species includes 945,182 of PHMA, 447,266 acres of GHMA, and 465,466 acres of OHMA(NV). Primary threats include predation from nonnative fish and turtles, loss of water and hydrological changes, and limited distribution (USFWS 1979).
Pallid Sturgeon (<i>Scaphirhynchus albus</i>) [Endangered, 1990, 55 FR 36641]	No	This large fish inhabits large, deep turbid river channels within the Missouri and Mississippi Rivers, usually in strong current over firm sand or gravel. In MT the potential range of this species overlaps with 12,122 acres of PHMA and 13,908 acres of GHMA. Primary threats include habitat alterations and decreased water quality, overharvest, hybridization, and climate change (USFWS 2021c).
Railroad Valley springfish (<i>Crenichthys nevada</i>) [Threatened, 1986, 51 FR 10857] [CH 1986, 51 FR 10857]	Yes	This fish occurs in 6 thermal springs in the Railroad Valley, NV. While it is adaptive to survive in high water temperatures, associated springs must have an outflow to allow the fish to find a suitable temperature ranges. Critical habitat designation includes riparian areas surrounding the 6 springs (51 FR 10857). Potential range includes 83,494 acres of PHMA, 68,198 acres of GHMA, and 194,490 acres of OHMA(NV). Designated critical habitat overlaps 2 acres of OHMA. Primary threats include invasive aquatic species, groundwater withdrawal, and oil and gas development (USFWS 2021d).
Razorback sucker (<i>Xyrauchen texanus</i>) [Endangered, 1991, 56 FR 54957] [CH 1994, 59 FR 13374]	Yes	This species is endemic to the warm-water portions of the Colorado River basin. While found in both lake and river habitats they are most common in backwaters, floodplains, flatwater river sections and reservoirs. The planning area overlaps only with the upper Colorado River Basin population where the last wild fish was captured in 1995 (USFWS 2018c). PCEs for critical habitat include complex lotic or lentic habitat, suitable water temperature and quality, variable flow regimes, sufficient food, and connectivity (USFWS 2018c). Potential range overlaps with 3,430 acres of PHMA, and 19,835 acres of GHMA. Designated critical habitat overlaps with 6 acres of PHMA and 1,833 acres of

		GHMA. Primary threats include habitat modification from dam construction and nonnative fish (USFWS 2018c).
<p>Shortnose sucker (<i>Chasmistes brevirostris</i>)</p> <p>[Endangered, 1988, 53 FR 27130] CH 2012, 77 FR 73740]</p>	Yes	<p>This fish is endemic to the upper Klamath Basin and considered an obligate lake dweller but uses major tributaries for spawning and rearing (USFWS 2019a). PCEs for the designated critical habitat include sufficient space and habitat for all life stages, good water quality, and sufficient water availability (77 FR 73740). The potential range for this species overlaps 20,835 acres of PHMA, 49,439 acres of GHMA, and 115,358 acres of OHMA. Designated critical habitat overlaps 5,617 acres of PHMA, 70 acres of GHMA, and 2,714 acres of OHMA. Primary threats include habitat loss and alteration due to dams and drainage of associated wetlands, climate change, water quality, and nonnative fish predation on fry (USFWS 2019a).</p>
<p>Warner sucker (<i>Catostomus warnerensis</i>)</p> <p>[Threatened, 1985, 50 FR 39117] [CH 1985, 50 FR 39117]</p>	Yes	<p>The Warner sucker is endemic to the Warner Basin in OR, CA and NV and occurs in 3 lakes and associated stream basins (USFWS 2019b). The PCE for critical habitat is maintenance of riparian zone to prevent siltation and provide shading (50 FR 39117). Potential range for this species overlaps 232,333 acres of PHMA, including 26,730 acres of PHMA with limited exceptions, 95,937 acres of GHMA, and 159 acres of OHMA(CA). Designated critical habitat overlaps 725 acres of PHMA, including 6 acres of PHMA with limited exceptions, and 117 acres of GHMA. Primary threats include desiccation of lakes from irrigation diversions, diversion structures blocking access to spawning areas, introduction of exotic fish for sport fishery, and livestock grazing. In response to the latter the BLM modified grazing allotments to preclude cattle and changing standards to maintain riparian health (USFWS 2019b).</p>
<p>White River spinedace (<i>Lepidomena albivalis</i>)</p> <p>[Endangered, 1984, 49 FR 22359] [CH 1985, 50 FR 37194]</p>	Yes	<p>This fish is endemic to the White River system in Nye and White Pine counties, NV. It has been extirpated from all but one historic habitats (USFWS 2021b). PCEs for critical habitat include consistent quantities of high-quality cool water, vegetation for cover, and sufficient food resources (50 FR 37194). Potential range includes 130,453 acres of PHMA, 92,865 acres of GHMA, and 227,068 acres of OHMA (NV). Designated critical habitat includes 11 acres of OHMA(NV). Primary threats include habitat loss from water diversion for irrigation and introduction of nonnative fish species (USFWS 1994b).</p>
<p>White River springfish (<i>Crenichthys baileyi baileyi</i>)</p> <p>[Endangered, 1958, 50 FR 39123] [CH 1985, 50 FR 39123]</p>	Yes	<p>This species is endemic to the Pahrangat Valley in Lincoln County NV, and restricted to a single spring pool where it occurs in high numbers (USFWS 2022c). Potential range overlaps with 130,453 acres of PHMA, 92,685 acres of GHMA, and 227,068 acres of OHMA(NV). There is no overlap of designated critical habitat with GRSG HMAs. Primary threats include introduction of nonnative fish, recreational use of the spring (USFWS 1998b), and habitat modification for agriculture (USFWS 2022c).</p>

PLANT AND BUTTERFLY SPECIES

Twenty-nine threatened or endangered plants and three butterflies fall within the decision area of the proposed action (Table 4). None of the proposed changes for this RMPA will have any direct impacts on these plants as no on-the-ground actions are being proposed. However, the BLM is adjusting management directions for livestock grazing, shifting from managing for GRSG habitat objectives towards achieving Land Health Standards in GRSG habitat management areas. This may result in localized future projects with potential short-term impacts to listed plant species and/or associated critical habitats from installation of range infrastructure to manage livestock (e.g., guzzlers, fencing) or habitat improvements (e.g., herbicide treatments to remove invasive annual grasses, permit changes to adjust livestock numbers and distribution). Similarly, GRSG habitat objectives will use the Habitat Assessment Framework (HAF; Stiver et al., 2015) instead of previous values presented in the 2015 and 2019 RMPs, and will consider multiple habitat scales (e.g., landscape, local). The use of HAF may result in recommendations for changes to vegetation management to meet GRSG habitat objectives, which could potentially affect a listed plant species or any associated critical habitat should the changes overlap a listed species distribution. Proposed management changes for Wild Horse and Burros include possible prioritization of gathers in PHMA which could potentially result in impacts to listed plants and any associated critical habitats should a gather be re-located into the distribution of a listed species.

The proposed action will make changes to waivers, exceptions, and modifications for fluid minerals on a state-by-state basis to improve habitat conservation for GRSG. Examples include requiring consolidation of new infrastructure with existing infrastructure to minimize habitat loss and fragmentation and applying NSOs and CSUs in GHMA where it is adjacent to PHMA to minimize indirect impacts from any development in GHMA. For renewable energy development most states will now be avoidance for utility scale wind and solar testing and development (vs. open) in GHMA except for Idaho and Wyoming, which are open but require mitigation. Management direction changes for major ROWs will result in increased efforts to minimize or mitigate any impacts to GRSG habitats. In PHMA with limited exceptions utility scale renewable energy will be exclusion with no exceptions and fluid mineral development will be NSO. ROWs would be exclusion for major infrastructure, but exceptions will be permitted where new infrastructure uses existing corridors or non-habitat, and there will be no impact to GRSG. While the proposed action does not directly permit these actions, it is possible that fluid and renewable energy developments, and right-of way additions or development could occur in areas where listed plant species, or their critical habitat also occur.

Adjustments in HMA boundaries have resulted in some changes in where OHV use will be managed as limited or open, although the management direction governing OHV use is not proposed for change. OHV use would be limited in more areas than in 2015 in OR and UT, while there will be an increase in recreational OHV use in NV and CA. These changes may impact listed plants and any associated designated critical habitat should the changes in HMA boundaries overlap the distribution of any species in Table 4.

Because the proposed action might result in changes in livestock grazing infrastructure and permitting, wild horse and burro gather locations, recommendations for vegetation management changes, and changes in energy and major rights-of-way development criteria, the BLM concludes these changes may affect, but are not likely to adversely affect a listed plant species or any associated critical habitat since no direct on the ground actions will occur. Any potential future projects incorporating the proposed

management direction changes will engage the USFWS for site specific consultation should the project overlap the occurrence of any listed species or associated critical habitats. Actions to protect habitat for GRSG may provide additional protection to the plants listed in Table 4 where they co-occur because of limits to resource use development and application of conservation measures in those areas. None of the other proposed management direction changes (e.g., changes in scale of disturbance monitoring) will have a direct or indirect impact on listed plant species.

Table 4: Plant and butterfly species occurring in the decision area of the proposed action, and primary threats to those species. Overlap of species potential range as with the decision area (HMAs) was determined using distributions provided in ECOS overlaid with decision area polygons for the proposed action.

Species [Status, Year listed, FR reference]	Critical Habitat?	Habitat, Overlap with Decision Area, and Primary Threats
Autumn buttercup (<i>Ranunculus aestivalis</i> (= <i>acriiformis</i>) [Endangered, 1989, 54 FR 30550-30554]	No	Autumn buttercup occurs in the transition zone between riparian areas and uplands (USFWS 2013b) on small peaty hummocks, and is endemic to the upper Sevier River Valley in Garfield County, UT. The species' potential range includes 117,232 acres of PHMA and 30,450 acres of GHMA in UT. h Primary threats are disturbance, grazing and small mammal herbivory (USFWS 2020c).
Barneby reed-mustard (<i>Schoenocrambe barnebyi</i>) [Endangered, 1992, 57 FR 1398-1403]	No	This plant, endemic to UT, is known from 2 populations and grows on red clay soils rich in selenium and gypsum, overlaid with sandstone talus (USFWS 1994a). Approximately 52 acres of potential range for the species overlaps with GRSG PHMA near Cedar City, UT. Primary threats include mining claim assessments, uranium mining, recreation, limited distribution and small population size (57 FR 1400).
Blowout penstemon (<i>Penstemon haydenii</i>) [Endangered, 1987, 52 FR 32926-32929]	No	This plant occurs in blowouts on steep faces of sand dunes at the base of mountains and ridges (Heidel 2012). It is only known from NE and WY, and in the proposed decision area distribution overlaps with the Ferris Dunes in WY on a mix of BLM and private lands. The species distribution overlaps with 179,232 acres of PHMA and 110,061 acres of GHMA. Primary threats include heavy grazing, fire and drought (52 FR 32926).
Clay phacelia (<i>Phacelia argillacea</i>) [Endangered, 1978, 43 FR 44810-44811]	No	This species is known from one population in Utah County, UT, and occurs on shaley clay colluvium of Green River Shale (USFWS 1982). The distribution of this species overlaps 12,888 acres of PHMA and 3,659 acres of GHMA. The majority of this species range is on private and State of Utah lands (USFWS 1982; USFWS 2019c) where BLM has no management authority. Primary threats include grazing by sheep, natural herbivory, disturbance from ROW activity.
Clay reed-mustard (<i>Schoenocrambe argillacea</i>) [Endangered, 1992, 57 FR 1398-1403]	No	This plant grows on clay soils rich in gypsum and overlain with sandstone talus, most commonly on steep north-facing slopes (USFWS 1994a) and is restricted to a limited area in Uintah County, UT. The species' potential range overlaps with 707 acres of PHMA and

		7,929 acres of GHMA. Primary threats include oil and gas exploration and development including oil shale, OHV use, and building stone removal (57 FR 1400; USFWS 1994a).
Colorado hookless cactus (<i>Sclerocactus glaucus</i>) [Threatened, 1979, 44 FR 58868]	No	This cactus occurs on alluvial benches along the Colorado River and tributaries (USFWS 2010b). It is endemic to 4 counties in CO and only one population near DeBeque, CO overlaps with GRSG HMA (14,182 acres). Primary threats include livestock grazing, OHVs, herbivory, collecting, utility corridors, and climate change (USFWS 2022f). This cactus was proposed for delisting in 2023 (88 FR 21852)
DeBeque phacelia (<i>Phacelia submutica</i>) [Threatened, 2011, 76 FR 45054] [CH 2012, 77 FR 48368]	Yes	DeBeque phacelia is found in clay badlands that can be present as small inclusions in sagebrush areas. It is endemic to Mesa and Garfield Counties in CO (USFWS 2022e). PCEs for critical habitat include Atwell Gulch and Shire members of the Wasatch formation, small barren areas of clay soils, moderately steep slopes, benches, and ridgetops, elevation of 4,600 to 7,450 feet, and species and plant communities in pinyon-juniper. Seven percent (1,682 acres) of designated critical habitat overlap with GHMA with 15 known occurrences. The species' potential range has 14,182 acres of overlap with GHMA. Primary threats include livestock grazing, OHVs, invasive species, road and utility ROWs (76 FR 45054, USFWS 2022e).
Desert yellowhead (<i>Yermo xanthocephalus</i>) [Threatened, 2002, 67 FR 40657-40679] [CH 2004, 69 FR 12278-12290]	Yes	Desert yellowhead occurs in hollows created by wind and erosion on shallow, loamy soils (USFWS 2004). The entire species consists of a single population on Beaver Rim in Fremont County, WY. PCEs for critical habitat include soils from sandstones and limestones of the Split Rock Formation, little organic matter, subsurface with no accumulation of humus, clay, gypsum, salts, or carbonates. The species potential range is 375,261 acres of PHMA and 44,040 acres of GHMA. Critical habitat is entirely on BLM lands (69 FR 12278-12290), of which 357 acres is within PHMA and none in GHMA. Primary threats include opal mining, OHV, invasive species, herbivory, grazing, small population numbers and restricted distribution (63 FR 70745, USFWS 2019d).
Dudley Bluffs bladderpod (<i>Physaria congesta</i>) [Threatened, 1990, 55 FR 4152-4157]	No	Dudley Bluffs bladderpod inhabit white shale barrens and outcrops, and are endemic to Rio Blanco County, CO. The species' potential range overlaps linkage habitats in CO by 571 acres. Primary threats include livestock and wild horse grazing, wildfire, nonnative invasive species, OHV use, small population sizes, limited distributions and climate change (USFWS 2020b).
Dudley Bluffs twinpod (<i>Physaria obcordate</i>) [Threatened, 1993, 55 FR 4152-4157]	No	This plant is restricted to barren outcrops, steep slopes, and unique geology of Piceance Creek, in Rio Blanco County, CO (55 FR 4152-4157). The potential range for this species contains 92 acres of PHMA and 11,975 acres of GHMA. Primary threats include energy

		exploration and development, loss of pollinators, recreation (55 FR 4152-4157).
<p>Heliotrope milk-vetch (<i>Astragalus montii</i>)</p> <p>[Threatened, 1987, 52 FR 42652-42657]</p>	Yes	This milk-vetch is found at high elevations on limestone barrens and is found within subalpine vegetative communities (USFWS 1995b). Potential species' range on BLM lands include 366 acres of PHMA and 62 acres of GHMA. Critical habitat does not overlap with GRSG HMAs. There are no elemental occurrences of this species within the GRSG HMAs (NatureServe 2024a). Most of the known species occurrence is in USFS lands.
<p>Howell's spectacular thelypody (<i>Thelypodium howelli</i> ssp. <i>spectabilis</i>)</p> <p>[Threatened, 1999, 64 FR 28393-28403]</p>	No	This species is endemic to the Baker-Powder River Valley in eastern OR in mesic, alkaline habitats (USFWS 2002b). The potential range of this species overlaps with 714 acres of PHMA and 4,898 acres of GHMA. Primary threats include agricultural and urban development, livestock grazing, competition from nonnative vegetation, and alterations in wetland hydrology (USFWS 2002b). This species primarily occurs on private lands (USFWS 2002b) where BLM has no management authority.
<p>Jones cycladenia (<i>Cycladenia humilis</i> var. <i>jonesii</i>)</p> <p>[Threatened, 1986, 51 FR 16526-16530]</p>	No	This plant is endemic to the Colorado Plateau in Emery, Grand, Garfield, San Juan and Kane Counties, UT, and Mohave County, AZ (USFWS 2021e). It occurs on steep slopes with gypsiferous, saline soils in sparsely vegetated plant communities (<5% cover; USFWS 2021e). The species potential range includes 5,893 acres of PHMA and 41,103 acres of GHMA. Primary threats include oil and gas and uranium development, OHVs.
<p>Kodachrome bladderpod (<i>Lesquerella tumulosa</i>)</p> <p>[Endangered, 1993, 58 FR 52027-52030]</p>	No	This species is restricted to very xeric shale outcrops, growing on white, bare shale knolls (USFWS 2009a). It is an endemic to Kane County, UT, with more than 90% of the species known range found within Grand Staircase-Escalante National Monument (USFWS 2009a). The species' potential range includes 2,498 acres of PHMA and 15,404 acres of GHMA. The primary threat to this species is OHV use (USFWS 2009a).
<p>Last chance townsendia (<i>Townsendia aprica</i>)</p> <p>[Threatened, 1985, 50 FR 33734-337-37]</p>	No	A narrow south-central UT endemic associated with pinyon-juniper grassland communities in Emery, Sevier and Wayne counties (USFWS 2013c). PHMA on BLM lands encompass the most potential habitat for this species (82,396 acres). Primary threats include livestock grazing, drought, energy and mineral development, and wild horses and burros. Range improvements are considered a "low" threat (USFWS 2013c).
<p>North Park Phacelia (<i>Phacelia formosula</i>)</p> <p>[Endangered, 1982, 47 FR 38540-38543]</p>	No	This endemic plant grows on steep, sparsely vegetated slopes on soils that are nearly pure sand. Only two populations are known, which occur in North Park, CO (47 FR 38540-38543). Most of the occurrences are within PHMA (402,182 acres of which 4,547 acres are within PHMA with limited exceptions), with some distribution in GHMA (168,770 acres) and linkage areas in CO (9,489 acres). Primary threats include grazing, range improvements, OHV, oil and gas development,

		residential development, and climate change (USFWS 2011b). This species is proposed for delisting (89 FR 19546-19566).
Osterhout milkvetch (<i>Astragalus osterhoutii</i>) [Endangered, 1989, 54 FR 29658-29663]	No	This plant is restricted to highly seleniferous clay soils at high elevations (CNHP 1997). It is endemic to Grand County, CO, and potential range includes 117,881 acres of PHMA and 30,524 acres of GHMA. Primary threats are physical disturbance, such as road maintenance, OHV use, weed control, and potentially loss of pollinators (USFWS 1992b).
Parachute beardtongue (<i>Penstemon debilis</i>) [Threatened, 2011, 76 FR 45054-45075] [CH 2012, 77 FR 48367-48418]	Yes	This plant is a rare endemic to oil shale outcrops of the Roan Plateau escarpment in Garfield County, CO (USFWS 2022g). It is uniquely adapted to steep and constantly moving talus slopes. PCEs for critical habitat include continuously shifting shale flagstone, barren surfaces, presence of other shale endemics, elevation of 5,250-9,600 feet, habitat for pollinators high levels of natural disturbance, and little or no soil formation. The species' potential range contains 42,559 acres of PHMA, 48,431 acres of GHMA, and 33,877 acres of LCHMA (CO). One percent (164 acres) of designated critical habitat occurs in PHMA. Primary threats are low numbers, restricted range, oil and gas development, road maintenance and vehicles (76 FR 45054-45075).
Penland beardtongue (<i>Penstemon penlandii</i>) [Endangered, 1989, 54 FR 29658-29663]	No	Penland beardtongue occurs on strongly seleniferous clay-shales on steep barren slopes, with sparse plant cover (54 FR 29658-29663). It is only known from one area near Kremmling, CO. Potential range includes 49,844 acres of PHMA and 5,151 acres of GHMA. Primary threats include OHVs, roads, road dust, climate change and invasive plants (54 FR 29658-29663).
San Rafael cactus (<i>Pediocactus despainii</i>) [Endangered, 1987, 52 FR 34914-34917]	No	This cactus is endemic to the Colorado Plateau in Wayne, Sevier, and Emery Counties, UT. (USFWS 2024c). There are approximately 798 acres of potential range for San Rafael cactus that overlap with a fringe area of GRSG HMA and approximately 450 of these acres are BLM surface. There are no elemental occurrences of this species within the GRSG HMAs (NatureServe 2024b). Threats include collection, OHV use, livestock trampling, and energy and mineral development (USFWS 2024c).
Shrubby reed-mustard (<i>Schoenocrambe suffrutescens</i>) [Endangered, 1987, 52 FR 37416-37420] [CH, proposed 50 FR 36118-36122]	Yes (proposed)	Endemic to 2 counties in UT growing only in a limited band of white shale (USFWS 1994a). The species' potential range includes 699 acres of PHMA and 56,750 acres of GHMA. There is no proposed critical habitat within the decision area. Seven of 63 known locations occur within GHMA. Primary threats are energy development, habitat fragmentation and building stone mining (private lands; USFWS 2010a).
Slender Orcutt grass (<i>Orcuttia tenuis</i>) [Threatened, 1997, 62 FR 14338] [CH 2006, 71 FR 7118]	Yes	Disjunct populations of this plant occur in vernal pools on remnant alluvial fans and high stream terraces and recent basalt flows in northeastern CA (62 FR 143380). PCEs for designated critical habitat include topographical features with water sources and

		depressional features with restrictive soil layers that become inundated during winter rains and hold water long enough to promote germination and reproduction of the plant (71 FR 7279). Potential range of this species includes 665,661 acres of PHMA, 206,967 acres of GHMA and 406,121 acres of OHMA. Habitat conversion for agriculture and urbanization, and altered hydrology are the primary threats to this species (62 FR 14347).
<p>Slickspot peppergrass (<i>Lepidium papilliferum</i>)</p> <p>[Threatened, 2016, 50 FR 66250] [CH 2023, 88 FR 28874]</p>	Yes	This plant grows only in unique microsite habitats known as slickspots which are found only in the Great Basin sagebrush-steppe habitat of SW ID (USFWS 2023g). Critical habitat PBFs include slickspots, intact native sagebrush vegetation assemblages, and a diversity of native plants to provide for pollinators (USFWS 2011a). It occurs in two BLM field offices with potential range including 8,909 acres of PHMA, 41,378 acres of GHMA, and 156,897 acres of IHMA. Designated critical habitat overlaps PHMA (194 acres), GHMA (880 acres) and IHMA (31,036 acres). Primary threats are increased frequency and extent of wildfires exacerbated by the spread of nonnative annual grasses, human development, seed predation, habitat fragmentation and small populations (White and Robertson 2009, USFWS 2009b).
<p>Uinta Basin hookless cactus (<i>Sclerocactus wetlandicus</i>)</p> <p>[Threatened, 1979, 44 FR 58868]</p>	No	This cactus is generally found on coarse soils derived from cobble and gravel river terraces or rocky surfaces on mesa slopes (USFWS 2012), and is endemic to Uintah, Carbon and Duchesne counties, UT. Potential range of the species includes 1,075 acres of PHMA and 14,702 acres of GHMA. Primary threats include habitat loss and fragmentation, mineral development, trampling from grazing and wild horses, competition with nonnative plants, collection, drought, climate change, and depredation from cactus borer beetles (USFWS 2023f).
<p>Ute ladies'-tresses (<i>Spiranthes diluvialis</i>)</p> <p>[Threatened, 1992, 57 FR 2048]</p>	No	This plant grows on moist sub-irrigated or seasonally flooded soils in valley bottoms, gravel bars, old oxbows, or floodplains (57 FR 2048). Potential range for this species includes 2,026,427 acres of PHMA of which 3,860 is PHMA with limited exceptions, 3,408,785 acres of GHMA, 17,474 acres of OHMA (NV), 8,780 acres of IHMA (ID), 2,903 acres of CHMA (MT), 33,533 acres of LCHMA (CO), and 79,583 acres of GCHMA (UT). Habitat loss and modification, over collection, competition from exotic weeds and herbicides are the primary threats (57 FR 2048), along with recreation, mowing, grazing, modified hydrology, herbivory by voles, loss of pollinators and drought (USFWS 2023a, b). This species is currently proposed for de-listing (USFWS 2023a, b).
<p>Webber ivesia (<i>Ivesia webberi</i>)</p> <p>[Threatened, 2014, 79 FR 31878-31883]</p>	Yes	This species occupies vernal moist, shallow, clayey soils with a rocky pavement-like surface. These habitats occur as small inclusions in sagebrush habitats with open plant associations (USFWS 2014a). Webber ivesia

[CH 2014, 79 FR 31878-31883]		is known from five counties in NV: Lassen, Plumas, and Sierra Counties, California, and Douglas and Washoe. Critical habitat PCEs include topography, elevation, suitable soils and hydrology, and presence of associated species (USFWS 2014b). Potential range of this species overlaps with 576 acres of PHMA, 2,384 acres of GHMA and 6,234 acres of OHMA. Designated critical habitat overlaps with GHMA (13 acres) and OHMA (75 acres). Primary threats include nonnative invasive plants which compete for resources and facilitate modified fire regimes, residential development, roads, habitat conversion, and OHVs (USFWS 2014b). It is also vulnerable to concentrated livestock trampling and fire suppression activities (Witham 2000).
Western prairie fringed orchid (<i>Platanthera praeclara</i>) [Threatened, 1989, 54 FR 39857]		This species occurs in moist tallgrass prairies and sedge meadows (54 FR 39857). While the species itself does not occur within any GRSG HMA it is sensitive to changes in hydrology associated with the North Platte River. The North Platte River drainage overlaps with 4,390,735 acres of PHMA (including 1,992 acres of PHMA with limited exceptions) and 5,485,007 acres of GHMA.
Wright fishhook cactus (<i>Sclerocactus wrightiae</i>) [Endangered, 1979, 44 FR 58866]	No	This plant occurs along the San Rafael Swell in Wayne and Emery counties, UT (USFWS 1985). It grows on a variety of soils, typically with a cryptogamic crust (USFWS 1985). The potential range overlaps with 4,264 acres of PHMA. Threats include OHV use, limited distribution, and collection (44 FR 58866).
Whitebark Pine (<i>Pinus albicaulis</i>) [Threatened, 2023, 87 FR 76882-76917]	No	Whitebark pine occurs in scattered areas of the warm and dry Great Basin, but it typically occurs on cold and windy high-elevation or high-latitude sites in western North America (76 FR 42631). It is found at alpine tree line and subalpine elevations throughout its range and has been identified as potentially occurring in 1,010,824 acres of PHMA (including 2,022 acres of PHMA with limited exceptions), 1,284,871 acres of GHMA, 49,972 acres of OHMA (NV), and 115,433 acres of IHMA (ID). Major threats include altered fire regimes, disease, mountain pine beetle and climate change (USFWS 2021f). The BLM provided the USFWS a programmatic biological assessment for current and future actions that may affect whitebark pine on BLM lands across the entirety of the species range to USFWS on March 28, 2023, to initiate formal consultation and issuance of a biological opinion. Any actions resulting from the proposed changes in management direction would be covered by that programmatic consultation.
Carson Wandering Skipper (<i>Pseudocopaeodese unus obscurus</i>) [Threatened, 2002, 67 FR 51116]	No	This butterfly is locally distributed in grassland habitats on alkaline substrates in Washoe County, NV and Lassen County CA (67 FR 51116). The larval host species is salt grass (<i>Distichlis spicata</i>) which is not a component of sagebrush ecosystems supporting GRSG. However, inclusions of salt grass areas may be found in sagebrush areas. Potential range of this species overlaps

		with 44,611 acres of PHMA, 13,576 acres of GHMA, and 23,400 acres of OHMA. Threats vary by location but include habitat degradation and fragmentation due to residential development, agricultural practices, nonnative plant species, and gas and geothermal development (USFWS 2006). Excessive livestock grazing, OHV recreational use, and altered hydrology can also negatively impact this species (67 FR 51116).
Silverspot (<i>Speyeria nokomis nokomis</i>) [Threatened, 2024, 89 FR 11750]	No	This butterfly occurs in east-central UT, western and south-central CO, and north-central NM. It requires moist habitats in open meadows which support the bog violet (<i>Viola nephrophylla</i>), the exclusive larval food (USFWS 2023i). Potential range of this species overlaps 140,803 acres of PHMA, 185,198 acres of GHMA, and 168,721 acres of LCHMA (CO). Primary threats include habitat loss and fragmentation, livestock grazing, altered hydrology and genetic isolation. If implemented properly, grazing can be compatible and beneficial for this species (USFWS 2023i). The listing decision included a 4(d) rule that allows for activities, including livestock grazing, conducted in a manner compatible with conserving this butterfly.
Western Regal Fritillary (<i>Argynnis idalia occidentalis</i>) [Threatened, 2024, 89 FR 63888-63909]	No	This butterfly occurs in eastern WY, northeastern CO and the western Dakotas in grasslands that support adequate violet densities which serve as their only larval food. Their potential range includes 951,309 acres of PHMA, 2,693,220 acres of GHMA and 113,701 acres of LMHMA (MT). Primary threats include habitat loss and fragmentation due to agricultural conversion, incompatible livestock grazing, human-caused hydrologic alteration, herbicides, invasive grasses and woody encroachment (USFWS 2023h).

BIRDS, MAMMALS AND REPTILES

Nine mammals, six birds and one reptile fall within the decision area of the proposed action (Tables 5-8). None of the proposed changes for this RMPA will have any direct impacts on these species as no on-the-ground actions are being proposed. Potential impacts from proposed changes in management direction are discussed below by either shared habitat type between species (e.g., riparian), by potential species occurrence within the decision area (e.g., rare, migratory), or by USFWS designation (i.e., experimental, non-essential). The Utah prairie dog is discussed separately as consultation with USFWS determined the 2015 RMPA for GRSG may have adverse effects on that species.

Bats

Two bat species (Northern long-eared and tricolor) potentially overlap with the decision area in northeastern Wyoming and eastern Montana. Threats to both species from proposed management direction changes in the RMPA include the potential for renewable energy development, specifically wind energy, and impacts from rights-of-way development. Both species are dependent on forests where wind energy development is unlikely to occur. The proposed management direction for PHMA is exclusion for wind energy development, but GHMA is open with mitigation in WY. PHMA is avoidance for major ROWs and in WY GHMA is open with minimization measures and compensatory mitigation.

Avoidance or minimization measures may result in moving any new ROW development outside of GRSG habitats, which can include forested areas, and potential loss of roost trees and foraging habitat for these species (BLM 2024). Because the proposed action might result in renewable energy development and associated ROW development in areas that overlap the bat species' ranges, the BLM concludes these changes may affect, but are not likely to adversely affect either bat species. This conclusion is based in part on the low potential of renewable energy development in forested areas and the limited areas of overlap with GRSG HMAs. Any potential future projects incorporating the proposed management direction changes will require consultation with the USFWS for site specific consultation should the project overlap the occurrence of these bats. None of the other proposed management direction changes will have a direct or indirect impact on these bats.

Table 5: Listed bats occurring in the decision areas of the proposed action and primary threats to those species. Overlap of species potential range with the decision area (HMAs) was determined using distributions provided in ECOS overlaid with decision area polygons.

Species [Status, Year listed, FR reference]	Critical Habitat?	Habitat, overlap with decision Area, and Primary Threats
Bats		
Northern long-eared bat (<i>Myotis septentrionalis</i>) [Endangered, 2022, 87 FR 73488]	No	Northern long-eared bats forage primarily in coniferous or deciduous forests. They are opportunistic in selecting trees with suitable cavities or bark for roosting vs. using certain tree species. The species appears to favor areas with greater tree canopy cover. It is considered common in only small portions of the western range (e.g., Black Hills) and uncommon or rare in the western extremes of the range (e.g., Wyoming, Kansas, Nebraska; USFWS 2022h). The potential range of this bat overlaps with 462,226 acres of PHMA, 1,571,847 acres of GHMA, 12,039 acres of LMHMA (MT) and 77,557 acres of SCHMA (MT). South Dakota BLM manages approximately 11,600 acres in the northern Black Hills that are likely to be used by northern long-eared bats, but outside of GRSG habitat. Primary threats include white nose syndrome, wind energy developments, loss and degradation of summer habitat from human development, and mine closures and vandalism of winter roosts and hibernacula (USFWS 2022h).
Tricolored bat (<i>Perimyotis subflavus</i>) [Proposed endangered]	N/A	Tricolored bat is predominately an eastern range species and occurrence in the eastern part of WY is limited (USFWS 2021g). Their habitat is primarily deciduous hardwood trees or coniferous forest (USFWS 2021g). Potential range of this species overlaps with 666 acres of PHMA and 151,983 acres of GHMA. Potential range for the species does not overlap with HMAs in SD. Primary threats include white-nose syndrome, and wind energy development (USFWS 2021g, 2024d).

Riparian-associated Species

Primary threats to riparian-associated species (piping plover, rufa red knot, southwest willow flycatcher, western yellow-billed cuckoo, whooping crane, Preble's meadow jumping mouse and northwestern

pond turtle; Table 6) include habitat degradation from hydrological changes, agricultural development, overgrazing, vegetation control removing riparian plants, nonnative plants and animals, and road mortality (northwestern pond turtle). Adjusting management directions for livestock grazing to shift from managing for GRSG habitat objectives towards achieving Land Health Standards in GRSG habitat management areas may result in localized future projects with potential short-term impacts to riparian species and/or associated critical habitats from installation of range infrastructure to manage livestock (e.g., guzzlers, fencing) or habitat improvements (e.g., herbicide treatments to remove invasive annual grasses, permit changes to adjust livestock numbers and distribution). Similarly, GRSG habitat objectives will use the Habitat Assessment Framework (HAF; Stiver et al., 2015) instead of previous values presented in the 2015 and 2017 RMPs, and will consider multiple habitat scales (e.g., landscape, local). The use of HAF may result in recommendations for changes to vegetation management, including riparian areas, to meet GRSG habitat objectives, which could potentially affect a listed species or any associated critical habitat should the changes overlap a listed species distribution. Potential changes could result changing hydrology (e.g., reducing channelization), and removal of invasive riparian vegetation. Ultimately changes in livestock management and efforts to meet habitat objectives should reduce threats to these species and their habitats through improving riparian health although although fencing to control livestock may create a collision hazard for whooping cranes. Management direction changes for major ROWs will result in increased efforts to minimize or mitigate any impacts to GRSG habitats. The BLM avoids development of new ROWs in riparian areas, but should they occur new infrastructure is directed to use existing corridors or non-habitat. While the proposed action does not directly permit these actions, it is possible that ROW additions or development could occur where pond turtles occur, and could present collision potential for the birds.

Because the proposed action might result in future changes in livestock grazing infrastructure and permitting, recommendations for vegetation management changes, and changes in energy and major rights-of-way development criteria, the BLM concludes these changes may affect, but are not likely to adversely affect these riparian associated species and any associated critical habitat since no direct on the ground actions will occur. Any potential future projects incorporating the proposed management direction changes will engage the USFWS for site specific consultation should the project overlap the occurrence of any listed species or associated critical habitats. None of the other proposed management direction changes (e.g., changes in scale of disturbance monitoring) will have a direct or indirect impact on these species.

Table 6: Riparian associated species potentially occurring in the decision areas of the proposed action and primary threats to those species. Overlap of species potential range with the decision area (HMAs) was determined using distributions provided in ECOS overlaid with decision area polygons.

Species [Status, Year listed, FR reference]	Critical Habitat?	Habitat, overlap with decision Area, and Primary Threats
Piping plover (<i>Charadrius melodus</i> ; Northern Great Plains population) [Threatened, 1985, 50 FR 50626] [CH 2022, 67 FR 57638]	Yes	Within the planning area this bird breeds and nests in MT, SD and ND, using river sandbars, and reservoir alkaline lake shorelines (USFWS 2015e). Potential range for this species includes the drainages of the Missouri and Platte Rivers, and the migratory routes of the bird. Therefore, the potential range overlaps with 6,138,042 acres of PHMA, including 607,100 acres of PHMA with limited

		exceptions, 6,701,949 acres of GHMA, and 314,931 acres of CHMA. Not all of these areas reflect actual habitat use by the bird. Designated critical habitat includes 6,717 acres of PHMA and 3,183 acres of GHMA. Primary threats include modification of reservoirs and rivers, changed hydrology, agricultural development, insecticide use and invasive species (USFWS 2015e).
Rufa red knot (<i>Calidris canutus rufa</i>) [Threatened, 2015, 79 FR 73706] [CH proposed]	Yes (proposed)	This species primarily winters in southern South America but migrates to breed in the Canadian Arctic (USFWS 2020e). It is considered a rare migrant in MT and SD where it might use wetlands in these states as migration stopovers. There is no documented overlap with GRSG habitats, but migratory routes include wetlands within the drainage of the Missouri River. Therefore, the potential range overlaps with 6,138,042 acres of PHMA, including 814,858 acres of PHMA with limited exceptions, 7,666,792 acres of GHMA, 461,491 acres of CHMA, and 62,862 acres of LMHMA. Not all of these areas reflect actual habitat use by the bird. Primary threats include loss of habitat, disruption of natural predator cycles on breeding grounds; reduced prey availability in nonbreeding ranges, changes in migratory timing resulting in limited availability of food resources (USFWS 2021i).
Southwest willow flycatcher (<i>Empidonax trailii extimus</i>) [Endangered, 1995, 60 FR 10695] [CH 1997, 62 FR 39129]	Yes	Within the planning area this bird occurs only in NV and requires dense riparian habitats that provide suitable microclimates for nesting. Other riparian areas are used for migration and foraging. Critical habitat is designated in New Mexico, and there is none designated within the decision or planning areas. Potential range for this bird in the decision area includes 8,398 acres of PHMA, 12,918 acres of GHMA, and 20,167 acres of OHMA (NV). Primary threats include loss and degradation of dense riparian habitats, changes in fire and flood regimes due to dams and stream channelization, vegetation control, livestock overgrazing, nonnative plants, brood parasitism, and lack of regulatory protections (68 FR 10485).
Western yellow-billed cuckoo (Western US DPS) (<i>Coccyzus americanus</i>) [Threatened, 2014, 79 FR 59992] [CH 2021, 86 FR 20798]	Yes	This bird is a riparian obligate species that breed in cottonwood forests with thick understories. Within the planning area it occurs in CO, ID, MT, OR, UT, NV and WY. PCEs for critical habitat include riparian woodlands of sufficient size, sufficient prey base of insects and frogs, and a dynamic riverine processes that allow riparian habitat to regenerate regularly (86 FR 20798). Potential range of this species overlaps with 12,060,243 acres of PHMA, including 343,165 acres of PHMA with limited exceptions, 9,611,715 of GHMA, 1,348,565 acres of OHMA (NV), 63,513 acres of IHMA (ID), 145,229 acres of LMHMA (MT), and 411,207 of GCHMA (UT). Note the large acreages are due to the entire state of UT and half of NV being included in USFWS spatial data and do not reflect actual habitat use by the bird. Designated critical habitat includes 1,162 acres of PHMA, 14,731 acres of GHMA and 5 acres of IHMA (ID). Primary threats include habitat loss and degradation from altered hydrology, livestock overgrazing, agricultural

		encroachment, nonnative vegetation, poor water quality and climate change (85 FR 57816).
Whooping crane (<i>Grus americanus</i>) [Endangered 1967, 32 FR 4001] [Experimental, non-essential designation 1997, 62 FR 38932]	No	This migratory bird occurs in wetlands, marshes, lakes, open ponds, rivers, pastures and agricultural fields. Critical habitat was designated in 1978 for 9 areas, but areas in the planning area were removed as critical habitat with the extirpation of the bird (USFWS 2011c). Whooping cranes were subsequently reintroduced to CO, ID and UT as experimental, non-essential populations (62 FR 38932). Potential range of this species includes 104,147 of GHMA where the bird is listed as fully endangered. Primary threats include loss and degradation of migration stopover habitat from agricultural development, collisions with fences and powerlines, and climate change (Canadian Wildlife Service and USFWS 2007).
Northwestern pond turtle (<i>Actinemys marmorata</i>) [Proposed threatened, 2023, 88 FR 68370]	N/A	The range of this turtle overlaps with GRSG habitats in CA, OR, and western NV (USFWS 2023m). The use permanent and seasonal aquatic habitats (lakes, rivers, ponds) and nearby uplands for nesting, overwintering and aestivation (WPTRCC 2020; USFWS 2023m). Potential range includes 629,787 acres of PHMA, including 132,834 acres of PHMA with limited exceptions, 103,030 acres of GHMA, and 134,705 acres of OHMA. Primary threats include loss and alteration of habitat from urbanization and agriculture, predation of hatchlings from nonnative predators, road mortality, water- related recreation, and climate change (WPTRCC 2020).
Preble's meadow jumping mouse (<i>Zapus hudsonius prebei</i>) [Threatened, 1998, 63 FR 26517] [CH 2003, 68 FR 37276]	Yes	This mouse occurs in two counties in southeastern WY and 7 counties in CO along the front range (63 FR 26517). It occurs in open wet meadows and riparian corridors, including lowlands with high moisture, with tall shrubs and low undergrowth provide cover. Proximity to water is a key factor in habitat selection and use (63 FR 26517). Critical habitat was designated along streams and rivers of the North and South Platte rivers (68 FR 37276) but does not overlap with any GRSG HMA. Potential range of this species includes 8,572 acres of PHMA and 188,219 acres of GHMA. Primary threats include habitat loss from agricultural, residential, commercial and industrial development (63 FR 26517).

Landscape Species

Four landscape-scale species do not regularly occur or depend sagebrush habitats but due to their wide-ranging movements for dispersal or foraging they may occasionally wander into GRSG habitats, including the decision areas. These include the Canada lynx, grizzly bear, wolverine, and Mexican spotted owl (Table 7). There will be no direct impact to any of these species or designated critical habitat for the Canada lynx and Mexican spotted owl from the proposed management direction changes. Since none of these species relies on sagebrush habitats any potential future impacts associated with changing management directions within GRSG HMAs will likely be minor.

Adjustment of management directions for livestock grazing to assist in achieving Land Health Standards in GRSG HMAs may result in localized future projects with potential impacts to grizzly bears if any

changes in types, number, or timing of livestock are needed, or if there are additions of new range infrastructure. No changes in vegetation management in Canada lynx habitats, a primary threat for the species, will occur as a result of the proposed action, but lynx may change dispersal activities in some local areas in response to changing livestock management, or a shift in fluid mineral or renewable energy development and associated ROWs into areas closer to forested areas. Wolverines may also alter local dispersal activities in response to the same types of actions. Mexican spotted owl foraging and dispersal may be impacted by any changes resulting in on-the-ground actions for livestock grazing, and renewable energy development and associated ROWs if those activities overlap with the range of the species or designated critical habitat. Any potential future projects incorporating the proposed management direction changes that may potentially affect these species, or designated lynx or Mexican spotted owl critical habitat will engage the USFWS for site specific consultation should the project overlap their range or designated critical habitat. None of the other proposed management direction changes (e.g., changes in scale of disturbance monitoring) will have a direct or indirect impact on these species.

Because the proposed action might result in future changes in livestock grazing infrastructure and permitting, recommendations for vegetation management changes, and changes in energy and major rights-of-way development criteria, the BLM concludes these changes may affect, but are not likely to adversely affect these landscape scale species or any associated critical habitat since no direct on the ground actions will occur.

Table 7: Landscape species potentially occurring in the decision areas of the proposed action and primary threats to those species. Overlap of species potential range with the decision area (HMAs) was determined using distributions provided in ECOS overlaid with decision area polygons.

Species [Status, Year listed, FR reference]	Critical Habitat?	Habitat, overlap with decision Area, and Primary Threats
Canada lynx (<i>Lynx canadensis</i>) [Threatened (DPS), 2000, 65 FR 16052] [CH 2006, 71 FR 66008]	Yes	The Canada lynx is a boreal forest carnivore that feeds primarily on snowshoe hares (USFWS 2023n). The Northern Rockies, Greater Yellowstone Area and Southern Rockies Units of the lynx are within the planning area (MT, WY, UT, and CO) and lynx may travel into while dispersing between units (USFWS 2023n). Critical habitat features are found only within the boreal or cold temperate forests (78 FR 59430). While lynx do not use sagebrush habitats their potential range for dispersal includes 2,656,769 acres of PHMA, including 213 acres of PHMA with limited exceptions, 3,572,570 acres of GHMA, 2 acres of OHMA (NV), 447,450 acres of IHMA (ID), 20,649 acres of CHMA (MT), and 98,447 acres of LMHMA(MT). Critical habitat includes 61,379 acres of PHMA, and 317,868 acres of GHMA. Primary threats are climate change impacts on boreal forests, wildland fire, and vegetation management.
Grizzly bear (<i>Ursus arctos horribilis</i>) [Threatened, 2018, 84 FR 37144]	No	Grizzly bears habitat in the U.S. is characterized by extensive forest cover often interspersed with grasslands and meadows (Schwartz et al. 2002). They occur in four ecosystems within the planning area that overlap with ID, MT, and WY. Potential range of this species, including potential dispersal areas includes 1,433,357 acres of PHMA including 879 acres of PHMA with limited exceptions, 1,756,512 acres of GHMA, and 153,590 acres of

		IHMA(ID). Primary threats include human-caused mortality, habitat loss and displacement from habitats due to human structures such as roads and fences (McLellen 1989), and climate change affecting food resources.
North American wolverine (<i>Gulo gulo luscus</i>) [Threatened, 2024, 88 FR 83726]	No	Wolverines prefer habitats undisturbed by humans including grasslands, alpine forests, taiga, boreal forests and tundra. This species typically occurs at high elevations or in coniferous forests with deep persistent snow. While there is little overlap in habitat use with GRSG, potential range of wolverines (including dispersal) includes 5,442,921 acres of PHMA including 46,437 acres of PHMA with limited exceptions, 5,249,382 acres of GHMA, 274,725 acres of OHMA(NV), 1,647,279 acres of IHMA, and 22,110 acres of GCHMA (UT). Primary threats include climate change reducing snow cover and availability, reduced connectivity with populations in Canada, multi-lane roads which may affect dispersal, winter recreation (88 FR 83726).
Mexican spotted owl (<i>Strix occidentalis lucida</i>) [Threatened, 1993, 58 FR 14248] [CH 2004, 69 FR 53182]	Yes	This bird's habitat is disjunct canyon systems or isolated mountain ranges in wilderness and roadless areas, and forest habitats (USFWS 2023k) but foraging may result in the species flying over sagebrush habitats. It potentially overlaps the planning area in UT and CO (USFWS 2023k). PCE's for critical habitat include mixed conifer forest or canyons for nesting, foraging and roosting (69 FR 53182). Potential range of the species includes 1,195,045 Acres of PHMA, 1,483,986 acres of GHMA, 338,942 acres of LCHMA (CO), and 31,534 acres of GCHMA (UT). Designated critical habitat includes 12,973 acres of PHMA in UT. Primary threats to the bird in UT and CO include dispersed recreation and climate change (USFWS 2023k).

Experimental, Non-essential Species

Within the decision area three listed species are designated as experimental, non-essential populations – gray wolf, black-footed ferret, and California condor (Table 8; grizzly bears in the Bitterroot Ecosystem are proposed for experimental, non-essential status but listed throughout the rest of the planning area for GRSG). None of the proposed changes for this RMPA will have any direct impacts on these species or their habitats as no on-the-ground actions are being proposed. Adjustment of management directions for livestock grazing to assist in achieving Land Health Standards in GRSG HMAs may result in localized future projects with potential impacts, including lethal take, to gray wolves if any changes in types, number, or timing of livestock result, or if the addition of new range infrastructure is needed. California condors may also shift foraging behaviors in response to any changes in livestock management as a result of the new management directions in GRSG HMAs. Any resulting impacts will likely be minimal given the bird's dispersal and foraging distances and would not rise to the level of jeopardy.

The BLM avoids development of new ROWs in riparian areas, but should they occur new infrastructure is directed to use existing corridors minimizing any potential impact to whooping crane habitats. Any siting decisions resulting from the proposed action for renewable energy development, specifically wind energy, and associated ROWs will consider potential impacts on gray wolves, and condors, including collision potential for the birds, through site-specific consultations but are unlikely to jeopardize either species. Similarly, while future actions may affect condor critical habitat it is not likely to adversely affect

that habitat. Within the decision areas, overlap between black-footed ferret experimental, non-essential populations is limited to GHMA, where no changes for fluid mineral development management direction are proposed. However, renewable energy development and associated ROWs may be more likely to occur in GHMA under the proposed action. Changes in management direction for energy development would not direct removal of prairie dogs, the ferret's primary food resource, but some loss of prairie dog colonies could occur if development is re-located outside of PHMA and into habitats containing colonies of sufficient size to support ferrets. While the proposed action does not directly permit these actions, it is possible that ROW additions or development could occur where whooping cranes occur.

Any potential future projects incorporating the proposed management direction changes for any of these species will require consultation with the USFWS for an assessment of jeopardy should the project overlap their range or designated critical habitat. None of the other proposed management direction changes (e.g., changes in scale of disturbance monitoring) will have a direct or indirect impact on these species. The BLM concludes that the proposed action is not likely to jeopardize the continued existence of these species and is not likely to adversely affect critical habitat for the California condor.

Table 8: Experimental, non-essential listed species occurring in the decision areas of the proposed action and primary threats to those species. Overlap of species potential range and designated critical habitats with the decision area (HMAs) was determined using distributions provided in ECOS overlaid with decision area polygons.

Species [Status, Year listed, FR reference]	Critical Habitat?	Habitat, overlap with decision Area, and Primary Threats
Gray wolf (<i>Canis lupus</i>) [Experimental in WY, 2014, 59 FR 60252] [Experimental in CO, 2023, 88 FR 77014] [CH 1978, 43 FR 9607]	Yes	This species is a habitat generalist and occurs in where there is an abundance of prey and minimal human interaction, including temperate forests, mountains, tundra, taiga, grasslands, and deserts (USFWS 2023I). Potential range includes 956,749 acres of PHMA, 1,515,167 acres of PHMA with limited exceptions (some of which overlaps PHMA), 700,182 acres of GHMA, and 274,730 acres of OHMA (NV). Critical habitat is only designated in Michigan and Minnesota (42 FR 29527). The primary threat to wolves is unregulated human-caused mortality including hunting, trapping and vehicular collisions.
Black-footed ferret (<i>Mustela nigripes</i>) [Endangered, 1967, 32 FR 4001] [EXPN Wyoming, 2015, 80 FR 66821] [EXPN Montana, South Dakota, 1994, 59 FR 42682] [EXPN Utah and Colorado, 1998, 63 FR 52824]	No	This species relies on white- and black-tailed prairie dogs for food, and historically was found throughout the range of those species before being extirpated (USFWS 2019e, 2020d). Black-footed ferrets have subsequently been reintroduced to 29 sites within its historic range, 14 of which are active (USFWS 2019e). They require large, contiguous prairie dog colonies. The potential range of this species overlaps with 16,928 acres of GHMA. Primary threats include disease (both of the ferret and prairie dogs), low genetic fitness, drought that impacts prey resources, agricultural conversion, recreational shooting and poisoning of prairie dogs, poorly managed livestock grazing, urbanization, and energy development (USFWS 2019e). Habitat loss and degradation were not identified

		as primary threats in the most recent 5-year review (USFWS 2020d).
California condor (<i>Gymnogyps californianus</i>) [Endangered, 1967, 32 FR 4001; Experimental, non-essential 1996, 61 FR 35] [CH 1974, 41 FR 41914]	Yes	This bird roosts on large trees, rocky outcrops and cliffs and nests in caves and ledges or old growth conifers. Within the planning area condors only overlap southern UT from an experimental, non-essential population reintroduced in northern Arizona in 1996 (USFWS 2023j). Although GRS G HMA s do not provide habitat for the condor, the wide-ranging foraging ability of the condor may bring it over sagebrush areas supporting GRS G. Potential range of this species included 556,483 acres of PHMA, 154,294 acres of GHMA and 101,187 of GCHMA (UT). There is no overlap of designated critical habitat with the decision area (41 FR 41914). Primary threats include lead poisoning, powerline electrocution, disease, shooting, and wind energy within the species' range (USFWS 2023j).

Utah Prairie Dog

The Utah prairie dog (*Cynomys parvidens*) is endemic to southwestern corner of Utah, occurring in semiarid shrub-steppe and grasslands habitats (USFWS 2021h). It was listed as endangered in 1973 (38 FR 14678) and reclassified as threatened in 1984 (49 FR 22330). There is no critical habitat designated for this species (USFWS 2015b). The potential range of this species overlaps with 1,396,853 acres of PHMA, 162,459 acres of GHMA, and 233,762 acres of GCHMA.

Consultation with USFWS in 2015 identified habitat management, wildfire management, and lands and realty action strategies outlined in the 2015 RMPA would likely have adverse effects to this species (USFWS 2015b) and a formal consultation was conducted. BLM is not proposing to change management direction for either habitat or wildfire management so any potential impacts identified in the previous consultation may still occur. Proposed changes to lands and realty actions are limited to areas of PHMA with limited exceptions, where major ROWs are exclusion vs. avoidance. There is no overlap between the potential range of Utah prairie dog with PHMA with limited exceptions, so none of the proposed management direction changes will apply and impacts identified in 2015 may still occur.

Formal consultation with USFWS concluded that the 2015 plan amendments do not authorize individual management actions and future project-level Section 7 consultation would minimize any adverse impacts to Utah prairie dog. With the commitment made by the BLM and USFS to co-manage overlapping habitats of GRS G and Utah prairie dog to the benefit of both species the USFWS determined that the 2015 RMPA was not likely to jeopardize the continued existence of the species (USFWS 2015b). Nothing in the proposed management direction changes would preclude the BLM from continuing to implement these conservation measures.

In addition to the commitment to comply with approved conservation measures in the 2015 USFWS biological opinion, the BLM has also enacted other actions to reduce threats to the Utah prairie dog. These include closing BLM lands to OHV use or limiting use to designated routes with season and spatial buffers for prairie dog colonies (USFWS 2015b). Oil and gas development potential is low, but the BLM will continue to implement avoidance and minimization features for any Federal oil and gas leases within the species' range as identified in 2015 to include no surface disturbance within 0.8 km of active colonies

and no permanent disturbances within 0.8 km of potentially suitable, unoccupied habitats (USFWS 2015b). PHMA will remain as exclusion for wind development, as it was in the 2015 RMPA. The potential for wind energy development in this area is low (USFWS 2015b). The management direction for livestock grazing to meet Land Health Standards will reduce any overgrazing and help reduce any invasive annual grasses and losses in native vegetation diversity. While there may be some short-term impacts with any related range management structure installation – which will undergo Section 7 consultation with USFWS - impacts to Utah prairie dog may ultimately be beneficial. None of the other proposed management direction changes (e.g., changes in scale of disturbance monitoring) will have a direct or indirect impact on these species.

The BLM commits to continue implementing the conservation measures identified in the 2015 USFWS BO, to conduct Section 7 consultation for any on-the-ground project projects that may incorporate the proposed new management directions for energy development and livestock grazing, and to continue implementation other measures to reduce impact to Utah prairie dog from their key threats.

Summary

In 2021, the BLM initiated an amendment to revise specific RMP GRSG management directions to respond to changed conditions related to GRSG habitat management, to improve the efficiency and effectiveness of GRSG management actions, and to provide the BLM with locally relevant decisions that accord with rangewide GRSG conservation goals. These changes in management direction were identified as needed to address the continued GRSG habitat losses and declines in GRSG populations, incorporate the recent developments in relevant science (including providing for durable planning decisions when considering the effects of climate change), provide continuity in managing GRSG habitats based on biological information versus political boundaries, where appropriate, while allowing for management flexibility to address state- and local- circumstances, and address planning and NEPA issues identified through litigation. This amendment will update 77 RMPs for BLM-administered lands across the range of the GRSG, excluding Washington State and the Bi-State Distinct Population Segment.

This Amendment builds on the conservation efforts associated with the changes made in the 2015 and 2019 GRSG RMPAs. After review of the previous RMPAs, new scientific information and state management changes the BLM identified a subset of management allocation directions would need to be updated to address the evolving challenges facing GRSG. Other management allocation directions from the 2015 and 2019 plans still provide conservation value and are consistent with new scientific information and therefore management direction changes are not proposed. The BLM previously completed consultation with the FWS on the potential direct and indirect impacts of management actions to listed species in the 2015 plan amendments and updated the consultation on management directions proposed and finalized in the 2019 plan amendments.

This BA identifies how the BLM's Greater Sage-Grouse Proposed Resource Management Plan Amendment (Amendment) and Final Environmental Impact Statement (FEIS), may affect the 128 proposed, threatened, and endangered species and proposed or designated critical habitat in the planning and decision areas. This BA assesses the impacts of the changes in management direction proposed by the BLM to be applied for the enhancement GRSG conservation on BLM-administered lands in California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, and

Wyoming. The BLM is requesting Section 7 consultation on the proposed management direction changes in the new RMPA to include:

- Adjustments to habitat management areas including the designation of PHMA with limited exceptions to provide additional conservation to GRSG habitats with a high threat of renewable and fluid energy development,
- 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 ROWs outside of PHMA,
- Improving habitat condition to reduce risk of predation,
- Implementing a multi-scale assessment of GRSG habitats 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, and
- Adjusting how adaptive management is calculated, both in technique and scale to allow for a more biologically meaningful assessment.

All other management direction is unchanged and associated impacts were addressed in previous Section 7 consultations with USFWS. This proposed RMPA does not implement or authorize any on-the-ground actions that might potentially disturb a listed species, but rather only provides a structure for future management decisions.

The BLM reviewed 128 listed and proposed species that overlap the planning and decision areas. Fifty were no effect because they fell outside the decision area where these changed management directions will be applied. Many others only occur in a limited portion of the decision areas. Each species, and as appropriate designated critical habitat, was reviewed for potential impacts from the proposed changes in management directions for the topics listed above. The BLM will conduct a Section 7 consultation or conference with the USFWS for any on-the-ground project that implement these new management directions. Since the proposed RMPA does not have any direct impact on any listed or proposed species or their critical habitat, and with the commitment to conduct Section 7 consultation for future actions shaped by the proposed management direction changes the BLM concludes that this RMPA may affect but is not likely to adversely affect any of the 78 species that overlap the decision area and any associated designated critical habitat.

Formal Section 7 consultation was conducted in 2015 for the Utah prairie dog to address potential adverse effects resulting from the 2015 RMPA. The currently proposed RMPA will not change the 2 of the 3 sets of management directions that prompted the need for the formal consultation in 2015. The third set of management directions addressed rights-of-way management. The current proposal will provide additional protections for GRSG and sagebrush habitats in ROWs management by changing most of the areas of overlap (PHMA) from avoidance for new ROWs to exclusion. As identified in the USFWS 2015 BO, the BLM will ensure these changes also benefit the Utah prairie dog. Management direction for GHMA remains unchanged. The BLM commits to continuing the conservation measures identified for the Utah prairie dog in the FWS 2015 BO in the proposed RMPA.

Lit Cited

- BLM (Bureau of Land Management). 2015. Biological Assessment for the Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement.
https://eplanning.blm.gov/public_projects/lup/68351/93832/113153/AppendixO_BiologicalAssessment.pdf
- _____. 2012. BLM Manual MS-1283. BLM, Washington, DC.
https://www.blm.gov/sites/blm.gov/files/uploads/mediacenter_blmpolicymanual1283.pdf
- _____. 2024. Greater Sage-Grouse Rangewide Planning Proposed Resource Management Plan Amendment and Final Environmental Impact Statement. DOI-BLM-WO-2300-2022-0001-RMP-EIS. <https://eplanning.blm.gov/eplanning-ui/project/2016719/510>
- Canadian Wildlife Service and USFWS. 2007. International recovery plan for the whooping crane. Ottawa: Recovery of Nationally Endangered Wildlife (RENEW), and U.S. Fish and Wildlife Service, Albuquerque, New Mexico. 162 pp.
- Coates, P. S., B. G. Prochazka, M. S. O'Donnell, C. L. Aldridge, D. R. Edmunds, A. P. Monroe, M. A. Ricca, G. T. Wann, S. E. Hanser, L. A. Wiechman, and M. P. Chenaille. 2021. Range-wide GRSG hierarchical monitoring framework—implications for defining population boundaries, trend estimation, and a targeted annual warning system: U.S. Geological Survey Open-File Report 2020-1154, 243 p., <https://doi.org/10.3133/ofr20201154>.
- Colorado Natural Heritage Program (CNHP). 1997. Colorado Rare Plant Guide website: www.cnhp.colostate.edu. Latest updated: February 22, 2013.
- Cross, T. B., M. K. Schwartz, D. E. Naugle, B. C. Fedy, J. R. Row, and S. J. Oyler-McCance. 2018. The genetic network of GRSG: range-wide identification of keystone hubs of connectivity. *Ecology and Evolution* 8(11):5394-5412.
- Cross, T. B., J. D. Tack, D. E. Naugle, M. K. Schwartz, K. E. Doherty, S. J. Oyler-McCance, R. D. Pritchert, and B. C. Fedy. 2023. The ties that bind the sagebrush biome: integrating genetic connectivity into range-wide conservation of greater sage-grouse. *Royal Society Open Science* 10:220437. <https://doi.org/10.1098/rsos.220437>.
- Doherty, K. E., J. S. Evans, P. S. Coates, L. M. Juliusson, and B. C. Fedy. 2016. Importance of regional variation in conservation planning: A Rangewide Example of the GRSG. *Ecosphere* 7(10):e01462. 10.1002/ecs2.1462.
- Doherty, K., D. M. Theobald, D. M., M. C. Holdrege, L. A. Wiechman, and J. B. Bradford. 2022. Biome-wide sagebrush core habitat and growth areas estimated from a threat-based conservation design: U.S. Geological Survey data release, <https://doi.org/10.5066/P94Y5CDV>.
- Heidel, B. 2012. Status of *Penstemon haydenii* (Blowout Penstemon) in Wyoming, 2012. Prepared for the Bureau of Land Management – Rawlins and Rock Springs Field offices and Wyoming State Office. Wyoming Natural Diversity Database, University of Wyoming, Laramie, WY.
- McLellan, B. N. 1989. Dynamics of a grizzly bear population during a period of industrial resource extraction, II: mortality rates and causes of death. *Canadian Journal of Zoology* 67:1861–1864.

- NatureServe. 2024a. NatureServe Explorer: *Astragalus montii*, Heliotrope Milkvetch. Version 7.1. NatureServe, Arlington, Virginia. Accessed 11/18/2024. <http://explorer.natureserve.org>.
- NatureServe. 2024b. NatureServe Explorer: *Pediocactus despainii*, San Rafael Cactus. Version 7.1. NatureServe, Arlington, Virginia. Accessed 11/18/2024. <http://explorer.natureserve.org>.
- NOAA (National Oceanic and Atmospheric Administration). 2022. 2022 5-Year Review: Summary and evaluation of Snake River spring/summer chinook salmon. National Marine Fisheries Service, West Coast Region. 101 pages.
- _____. 2024. Fisheries off West Coast State; West Coast Salmon Fisheries; 2024 Specifications and management. 89 FR, No. 99 May 21, 2024. 44553.
- Oyler-McCance S. J., T. B. Cross, J. R. Row, M. K. Schwartz, D. E. Naugle, J. A. Fike, K. Winiarski, B. C. Fedy. 2022. New strategies for characterizing genetic structure in wide-ranging, continuously distributed species: A GRSG case study. PLoS ONE 17(9): e0274189. <https://doi.org/10.1371/journal.pone.0274189>.
- Palmquist, K. A., D. R. Schlaepfer, R. R. Renne, S. C. Torbit, K. E. Doherty, T. E. Remington, G. Watson, J. B. Bradford, W. K. Laurenroth. 2021. Divergent climate change effects on widespread dryland plant communities driven by climatic and ecohydrological gradients. Global Change Biology, 27:5169–5185.
- Rigge, M., H. Shi, and K. Postma. 2021. Projected change in rangeland fractional component cover across the sagebrush biome under climate change through 2085. Ecosphere 12(6): e03538.10.1002/ecs2.3538.
- Row, J. R., K. E. Doherty, T. B. Cross, M. K. Schwartz, S. J. Oyler-McCance, D. E. Naugle, S. T. Knick, B. C. Fedy. 2018. Quantifying functional connectivity: the role of breeding habitat, abundance, and landscape features on range-wide gene flow in sage-grouse. Evolutionary Applications, 11:1305–1321.
- Schwartz, C.C., M.A. Haroldson, K.A.Gunther, and D. Moody. 2002. Distribution of grizzly bears in the Greater Yellowstone Ecosystem, 1990-2000. Ursus, 13:203-212.
- Stiver, S. J., E. T. Rinkes, D. E. Naugle, P. D. Makela, D. A. Nance, and J. W. Karl, eds. 2015. Sage-Grouse Habitat Assessment Framework: A Multiscale Assessment Tool. Technical Reference 6710-1. Bureau of Land Management and Western Association of Fish and Wildlife Agencies, Denver, Colorado.
- USFWS (United States Fish and Wildlife Service). 1979. Pahrump killifish recovery plan. Denver, CO. 47 pp.
- _____. 1982. (*Phacelia argillacea* Atwood) Recovery Plan. Prepared by *Phacelia argillacea* Recovery Committee.
- _____. 1985. Wright fishhook cactus (*Sclerocactus wrightae* Benson) recovery plan. 38pp.
- _____. 1992. Osterhout Milkvetch and Penland Beardtongue Recovery Plan. Denver, Colorado.
- _____. 1993. Big Spring Spinedace, *Lepidomeda moiispinis pratensis*, Recovery Plan. Portland, Oregon. 42pp.

- _____. 1994a. Utah Reed-Mustards: Clay Reed-Mustard (*Schoenocrambe argillacea*), Barneby Reed-Mustard (*Schoenocrambe barnebyi*), and Shrubby Reed-Mustard (*Schoenocrambe suffrutescens*) Recovery Plan. Denver, Colorado. 22 pp.
- _____. 1994b. White River spinedace, *Lepidomeda albivallis*, Recovery Plan. Portland, Oregon. 45pp.
- _____. 1995a. Lahontan cutthroat trout (*Oncorhynchus clarkia henshawi*) recovery plan. U.S. Fish and Wildlife Service, Region I, Portland, Oregon.
- _____. 1995b. Heliotrope milkvetch (*Astragalus montii*) recovery plan. U.S. Fish and Wildlife Service, Denver, Colorado.
- _____. 1995c. Snake River Aquatic Species Recovery Plan. Snake River Basin Office, Ecological Services, Boise, Idaho. 92 pp.
- _____. 1998a. Recovery Plan for the Endangered Speckled Dace of Clover and Independence Valleys (*Rhinichthys osculus lethoporus* and *Rhinichthys osculus oligoporus*). Portland, Oregon. 50 pp.
- _____. 1998b. Recovery Plan for the Aquatic and Riparian Species of Pahrnagat Valley. Portland, Oregon. 82 pp.
- _____. 2002a. Bonytail (*Gila elegans*) Recovery Goals: amendment and supplement to the Bonytail Chub Recovery Plan. U.S. Fish and Wildlife Service, Mountain Prairie Region (6), Denver, Colorado.
- _____. 2002b. Recovery Plan for Howell's Spectacular Thelypody (*Thelypodium howellii ssp. spectabilis*). U.S. Fish and Wildlife Service, Portland, Oregon. 47 pp.
- _____. 2004. Endangered and Threatened Wildlife and Plants; Designation of Critical habitat for *Yermo xanthocephalus* (Desert Yellowhead) (Federal Register Vol. 69, No. 51).
- _____. 2006. Recovery plan for the Carson wandering skipper (*Pseudocopaeodes eunus obscurus*). U.S. Fish and Wildlife Service, Sacramento, California. viii + 94 pages.
- _____. 2009a. Endangered and Threatened Wildlife and Plants; Listing *Lepidium papilliferum* (Slickspot Peppergrass) as a Threatened Species Throughout its Range. Federal Register Vol. 74, No. 194. October 8, 2009.
- _____. 2009b. REVISED RECOVERY OUTLINE for the Kodachrome bladderpod (*Lesquerella tumulosa*). U.S. Fish and Wildlife Service, Region 6, Utah Field Office. 11 pp.
- _____. 2010a. *Schoenocrambe suffrutescens* (Shrubby Reed-Mustard) 5-Year Review: Summary and Evaluation. Utah Field Office—Ecological Services, West Valley City.
- _____. 2010b. Recovery outline for the Colorado hookless cactus (*Sclerocactus glaucus*). Denver, Colorado.
- _____. 2010c. Endangered and Threatened Wildlife and Plants; 12-Month Findings for Petitions to List the Greater Sage- Grouse (*Centrocercus urophasianus*) as Threatened or Endangered: Washington, DC, FWS-R6-ES-2010-0018, Federal Register v. 75, no. 55 (March 25, 2010).
- _____. 2011a. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for *Lepidium papilliferum* (Slickspot Peppergrass); Proposed Rule. Federal Register Vol. 76, No. 90. May 10, 2011.

- _____. 2011b. *Phacelia formosula* (North Park Phacelia) 5-Year Review Summary and Evaluation. U.S. Fish and Wildlife Service, Western Colorado Field Office, Grand Junction, Colorado. 25 pp.
- _____. 2011c. Whooping crane (*Grus americanus*) 5-year review: Summary and evaluation. Aransas National Wildlife Refuge, Austwell, Texas and Corpus Christi Ecological Service Field Office, Texas. 44pp.
- _____. 2012. Uinta Basin hookless cactus. Biological opinion for livestock grazing program effects on three listed plants in the Bureau of Land management Grand Junction, Colorado River Valley, and Uncompahgre field offices. November 15, 2012. 65 pp.
- _____. 2013a. Independence Valley Speckled Dace (*Rhinichthys osculus lethoporus*). 5-year Status Review: Summary and Evaluation. Reno, Nevada. 16 pp.
- _____. 2013b. Autumn Buttercup (*Ranunculus acriformis* var. *aestivalis*) 5-Year Review. Utah Field Office—Ecological Services, West Valley City.
- _____. 2013c. *Townsendia aprica* (Last Chance Townsendia) 5-Year Review: Summary and Evaluation. Utah Field Office, Salt Lake City.
- _____. 2014a. Species report for *Ivesia webberi* (Webber's ivesia). Nevada Fish and Wildlife Office, Las Vegas, Nevada. January 8, 2014. Pp. 22-32.
- _____. 2014b. Endangered and threatened wildlife and plants; threatened species status for *Ivesia webberi*. Federal Register Vol. 79, No. 106:31878-31883. June 3, 2014.
- _____. 2015a. Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition To List Greater Sage-Grouse (*Centrocercus urophasianus*) as an Endangered or Threatened Species; Proposed Rule. 80 FR 59858 – 59942.
- _____. 2015b. Final Biological Opinion for the Utah Greater Sage Grouse Land Use Plan Amendment U.S. Fish and Wildlife Service Utah Ecological Services Office, West Valley, UT. 52 pp. https://eplanning.blm.gov/public_projects/lup/68351/87631/104887/Appendix_J.pdf
- _____. 2015c. Kendall warm springs dace (*Rhinichthys osculus thermalis*) Revised recovery plan. Region 6, October 14, 2015
- _____. 2015d. Wyoming Toad *Bufo hemiophrys baxteri* now known as *Anaxyrus baxteri* Revised Recovery Plan, May 2015; Original Approved September 11, 1991. U.S. Fish and Wildlife Service, Cheyenne, Wyoming. 78 pp.
- _____. 2015e. Recovery Plan for the Northern Great Plains piping plover (*Charadrius melodus*) in two volumes. Volume I: Draft breeding recovery plan for the Northern Great Plains piping plover (*Charadrius melodus*) 132 pp. and Volume II: Draft revised recovery plan for the wintering range of the Northern Great Plains piping plover (*Charadrius melodus*) and Comprehensive conservation strategy for the piping plover (*Charadrius melodus*) in its coastal migration and wintering range in the continental United States. Denver, Colorado. 166 pp.
- _____. 2018a. Species status assessment for the Humpback Chub (*Gila cypha*). U.S. Fish and Wildlife Service, Mountain-Prairie Region (6), Denver, CO. Version 1.1.

- _____. 2018b. Banbury Springs Limpet (*Lanx n* sp.) (undescribed) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Idaho Fish and Wildlife Office, Boise, Idaho. 42 pp.
- _____. 2018c. Species status assessment report for the razorback sucker *Xyrauchen texanus*. U.S. Fish and Wildlife Service, Mountain-Prairie Region (6), Denver, Colorado.
- _____. 2019a. Species Status Assessment for the Endangered Lost River Sucker and Shortnose Sucker: Final Report, version 1. U.S. Fish and Wildlife Service, Klamath Falls Fish and Wildlife Office Pacific Southwest Region. 90 pp.
- _____. 2019b. 5-YEAR REVIEW Warner Sucker (*Catostomus warnerensis*). U.S. Fish and Wildlife Service, Bend Field Office, Bend, Oregon. 98 pp.
- _____. 2019c. Clay phacelia (*Phacelia argillacea*) 5-year review short form. Utah Ecological Services Field Office. 3 pp.
- _____. 2019d. Yermo xanthocephalus (desert yellowhead) Species Status Assessment. U.S. Fish and Wildlife Service, Wyoming Ecological Services Field Office, Cheyenne, Wyoming. 59 pp.
- _____. 2019e. Species Status Assessment Report for the Black-footed Ferret (*Mustela nigripes*) Version 1.0. U.S. Fish and Wildlife Service, Mountain-Prairie Region, Denver, Colorado. 134 pp.
- _____. 2019f. Recovery Outline for the Greenback Cutthroat Trout (*Oncorhynchus clarkii stomias*). Colorado Ecological Services Field Office, Lakewood, Colorado. 22 pp.
- _____. 2020a. Colorado pikeminnow (*Ptychocheilus lucius*) 5-Year status review: summary and evaluation. Upper Colorado River Endangered Fish Recovery Program, Lakewood, CO.
- _____. 2020b. Dudley Bluffs bladderpod (*Physaria Lesquerella*) congesta). Western Colorado Ecological Services Field Office. 14pp.
- _____. 2020c. Autumn buttercup (*Ranunculus aestivalis*) 5-year Review Short Form. 48 pp.
- _____. 2020d. Black-footed ferret. 5-year review. Region 7. 9 pp.
- _____. 2020e. Species status assessment report for the Rufa red knot (*Calidris canutus rufa*). New Jersey Fish and Wildlife Field office, Galloway, New Jersey. 55 pp.
- _____. 2021a. Big Spring spinedace (*Lepidomeda mollispinis pratensis*) 5-Year Review: Summary and Evaluation. Southern Nevada Fish and Wildlife Office Las Vegas, Nevada. 18 pp.
- _____. 2021b. White River spinedace (*Lepidomeda albivallis*) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Southern Nevada Fish and Wildlife Office, Las Vegas, Nevada. 8 pp.
- _____. 2021c. Pallid sturgeon. Endangered and threatened wildlife and plants; initiation of 5-year status reviews of 6 species in the Mountain-prairie region. 84FR, no. 71, April 12, 2019. 14965-14066.
- _____. 2021d. Railroad valley springfish. (*Crenichthys nevadae*) 5-year review. Nevada Fish and Wildlife Office, Reno, Nevada. 20 pp.
- _____. 2021e. Jones cycladenia (*Cycladenia humilis* var. *jonesii*) Biological Status Report of Current Condition. Utah Field Office, Ecological Services, U.S. Fish and Wildlife Service, West Valley City, Utah. April 12, 2021. 54 pages.

- _____. 2021f. Species Status Assessment Report for the Whitebark Pine, *Pinus albicaulis*. U.S. Fish and Wildlife Service, Wyoming Ecological Services Field Office, Cheyenne, Wyoming. 188 pp.
- _____. 2021g. Species Status Assessment Report for the Tricolored Bat (*Perimyotis subflavus*), Version 1.1. December 2021. Hadley, MA.
- _____. 2021h. 5-Year Review Short Form: Utah prairie dog (*Cynomys parvidens*). Utah Ecological Services Office. West Valley City, Utah.
- _____. 2021i. Rufa red knot (*Calidris canutus rufa*) 5-year review. New Jersey Field Office, Galloway, New Jersey. 35 pp.
- _____. 2022a. Kendall Warm Springs dace (*Rhinichthys osculus thermalis*). 5-year status review. Wyoming Ecological Services Field Office 9 pp.
- _____. 2022b. Snake River Physa (*Physella natricina*). 5-Year Review Short Form Summary. Idaho Fish and Wildlife Office, Boise, Idaho. 12 pp.
- _____. 2022c. 5-YEAR REVIEW. Hiko White River Springfish (*Crenichthys baileyi grandis*) and White River Springfish (*Crenichthys baileyi baileyi*). U. S. Fish and Wildlife Service, Nevada Fish and Wildlife Office, Reno, Nevada.
- _____. 2022d. Pahrnatag roundtail chub (*Gila robusta jordanii*) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Southern Nevada Fish and Wildlife Office, Las Vegas, Nevada. 20 pp.
- _____. 2022e. Species status assessment report for DeBeque phacelia (*Phacelia submutica*). Lakewood, Colorado.
- _____. 2022f. Species status assessment report for Colorado hookless cactus (*Sclerocactus glaucus* and *Sclerocactus dawsonii*), version 1.1. Lakewood, Colorado.
- _____. 2022g. Recovery plan for Parachute Beardtongue (*Penstemon debilis*). August 2022. U.S. Fish and Wildlife Service, Mountain-Prairie Region, Denver, Colorado. 21 pages.
- _____. 2022h. Endangered and Threatened Wildlife and Plants; Endangered Species Status for the Northern Long Eared Bat. (Federal Register Vol. 87, No. 229).
- _____. 2023a. Species status assessment report for Ute ladies'-tresses (*Spiranthes diluvialis*), U.S. Fish and Wildlife Service, Utah Ecological Services Field Office. 214 pp.
- _____. 2023b. Ute ladies'-tresses (*Spiranthes diluvialis*) 5-year status review and evaluation. U.S. Fish and Wildlife Service, Mountain-Prairie Region, Denver, Colorado. 25 pp.
- _____. 2023c. STATUS REVIEW: Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*). U.S. Fish and Wildlife Service, Nevada Fish and Wildlife Office, Reno, Nevada. 88 pp.
- _____. 2023d. Pahrump poolfish (*Empetrichthys latos*) 5-year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Southern Nevada Fish and Wildlife Office, Las Vegas, Nevada. 7 pp.
- _____. 2023e. 5-Year Review Cui-ui (*Chasmistes cujus*). Reno Fish and Wildlife Office, Reno, Nevada. 8 pp.

- _____. 2023f. Species biological report for Uinta Basin hookless cactus (*Sclerocactus wetlandicus*) and Pariette cactus (*Sclerocactus brevispinus*). August 2023. U.S. Fish and Wildlife Service, Mountain-Prairie Region, Denver, Colorado. 84 pp.
- _____. 2023g. Draft recovery plan for slickspot peppergrass (*Lepidium papilliferum*). Portland, Oregon. viii + 23 pages.
- _____. 2023h. Western Regal Fritillary. Species status assessment for regal fritillary (*Argynnis (Speyeria) idalia*); eastern subspecies (*Argynnis idalia idalia*) and western subspecies (*A.i. occidentalis*). South Dakota Ecological Services Field Office, version 1.0 – September 25, 2023. 288 pp.
- _____. 2023i. Species status assessment report for *Speyeria nokomis nokomis*, Version 1.1. March 2023. Grand Junction, Colorado. 80 pp.
- _____. 2023j. California condor Endangered and threatened wildlife and plants; Corrections for eight species of endangered and threatened fish and wildlife 88FR no. 181 September 20, 2023. 64824-64831.
- _____. 2023k. Mexican spotted owl (*Strix occidentalis lucida*) 5-year status review: Summary and evaluation. Arizona Ecological Services Field Office, Flagstaff, Arizona. July 28, 2023. 16 pp.
- _____. 2023l. Species Status Assessment for the Gray Wolf (*Canis lupus*) in the Western United States. Version 1.2. Lakewood, Colorado. 362 pp.
- _____. 2023m, April. Species status assessment report for the Northwestern pond turtles (*Actinemys marmorata*) and Southwestern pond turtle (*Actinemys pallida*).
- _____. 2023n. Draft recovery plan for the contiguous United States distinct population segment of Canada lynx (*Lynx canadensis*). Mountain-Prairie Region Denver, Colorado. 39 pp.
- _____. 2023o. 5-Year Review Short Form Summary, Species Reviewed: Bruneau hot springsnail (*Pyrgulopsis bruneauensis*). Pacific Region, Idaho Fish and Wildlife Office, Boise, Idaho. 15 pp.
- _____. 2024a. Bull Trout (*Salvelinus confluentus*) 5-Year Status Review: Summary and Evaluation. Pacific Region, Idaho Fish and Wildlife Office, Boise, Idaho. 22 pp.
- _____. 2024b. Species status assessment report for Dixie Valley toad (*Anaxyrus williamsi*), Churchill County, Nevada. Version 1.2, December 2023. U.S. Fish and Wildlife Service, Pacific Southwest Region, Reno Fish and Wildlife Office, Reno, Nevada. 85 pp. + appendices.
- _____. 2024c. Biological Status Report for Winkler cactus (*Pediocactus winkleri*) and San Rafael cactus (*Pediocactus despainii*). Utah Field Office, Ecological Services, West Valley City, Utah. August 26, 2024. 59 pp.
- _____. 2024d. Standing Analysis and Implementation Plan – Northern Long-Eared Bat and Tricolored Bat Assisted Determination Key. Midwest and Northeast Regions. September 12, 2024. 71 pp.
- Wann, G. T., N. D. Van Schmidt, J. E. Shyvers, B. C. Tarbox, M. M. McLachlan, M. S. O'Donnell, A. J. Titolo, P. S. Coates, D. R. Edmunds, J. A. Heinrichs, A. P. Monroe, and C. L. Aldridge. 2022. U.S. range-wide spatial prediction layers of lek persistence probabilities for GRSG: U.S. Geological Survey data release, <https://doi.org/10.5066/P95YAUPH>.

White, J.P. and I.C. Robertson. 2009. Intense seed predation by harvester ants on a rare mustard. *Ecoscience* 16:508-513.

Witham, C. 2000. Current Knowledge and Conservation Status of *Ivesia webberii* Gray (Rosaceae), the Webber Ivesia, in Nevada. Status report prepared for the Nevada Natural Heritage Program and US Fish and Wildlife Service.

WPTRCC (Western Pond Turtle Range-wide Conservation Coalition). 2020. Western Pond Turtle Range-wide Management Strategy. 24 pp.

Appendix A: USFWS and NOAA Fisheries Endangered, Threatened, and Proposed Species and Critical Habitat with Potential to Occur in the Planning Area.

This appendix includes species occurrence and status by state and evaluation criteria. Analyses of species that overlap the decision area are included in the text of this biological assessment.

Evaluation Criteria

1. No overlap between species potential range, species occurrence, or critical habitat polygons and GRSG Habitat Management Areas (HMAs).
2. The type or intensity of the activity in the proposed action is expected to have minimal or no impact on these species or their habitat.
3. Individual animals may be accidental, dispersing, migrating, happenstance, vagrant, nomadic, or opportunistic visitors to the habitats impacted by the proposal, but no affiliation or dependence on these habitats has been shown.

Potential for effect was determined on a state-by-state basis. If there is potential for effect to a species or their habitat, then the column is marked as 'Y' for the respective state and additional effects analysis is included within the BA. If there is no potential for effect to a species the column is marked as 'N' for the respective state and rationale is provided to support the no effect determination. If the column is blank, then the potential for effect was not evaluated for that species or their habitat within the respective state because there is no potential for occurrence.

Superscripts in Status and State columns:

¹critical habitat designated within the state,

²critical habitat proposed,

³state has an experimental population (EXPN), non-essential

⁴The ESA of 1973 defines an endangered species (shown as E in the table) as any species which is in danger of extinction throughout all or a significant portion of its range; and a threatened species (shown as T in the table) as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Proposed threatened species (shown as P-T in the table) are any species the USFWS has determined is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and the USFWS has proposed a draft rule to list as threatened. Experimental populations, non-essential (EXPN in table) are species that are being reintroduced into their former range. Designated or proposed critical habitat (DCH or PCH, respectively, in table) exists for some species within the analysis area.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination									Evaluation Criteria	Comments	
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah			Wyoming
Mammals													
Black-footed ferret (<i>Mustela nigripes</i>)	E, EXPN ³		N ³		N ³				N ³	N ³	N ³	2	See analysis under “Experimental, Non-essential” and in Table 8. The USFWS determined the species has been extirpated throughout its range, except where purposely reintroduced using captive-reared or translocated wild individuals. Reintroductions of black-footed ferrets within the planning area have primarily taken place through the formulation of Section 10(j) rules, whereby populations of the species are classified as “experimental, non-essential” and are considered proposed for listing on BLM lands. In MT, there are currently no known populations or active reintroduction areas overlapping with HMAs, and in SD potential range for the species does not overlap with GRSG HMAs.
Canada lynx + critical habitat ¹ (<i>Lynx canadensis</i>)	T		N	N	N ¹					N	N ¹	3	See analysis under “Landscape species” and in Table 7.
Gray wolf (<i>Canis lupus</i>)	E, EXPN ³	N	Y ³									3	See analysis under “Experimental, Non-essential” and in Table 8.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
Grizzly bear + critical habitat ² (<i>Ursus arctos horribilis</i>)	T, EXPN			Y	Y						Y	3	See analysis under “Landscape species” and in Table 7.
North American wolverine (<i>Gulo gulo luscus</i>)	T	N		N	N	N		N		N	N	2, 3	See analysis under “Landscape species” and in Table 7. In OR potential habitat does not overlap with HMAs.
Northern Idaho ground squirrel (<i>Spermophilus brunneus brunneus</i>)	T			N								1	No effect
Northern long-eared bat (<i>Myotis septentrionalis</i>)	E				Y		Y		Y		Y		See analysis under “Bats” and in Table 5.
Preble's meadow jumping mouse + critical habitat ¹ (<i>Zapus hudsonius prebei</i>)	T		N ¹								N	1, 2	See analysis under “Riparian-associated Species” and Table 6. In CO potential range and designated critical habitat does not overlap with the GRSB HMAs (criteria 1).
Sierra Nevada red fox (Sierra Nevada DPS) (<i>Vulpes vulpes necator</i>)	E	N				N						1	No Effect
Tricolored bat (<i>Perimyotis subflavus</i>)	P-E								N ¹		N	2	See analysis under “Bats” and in Table 5. In SD potential range for the species does not overlap with GRSB HMAs (criteria 1).
Utah prairie dog (<i>Cynomys parvidens</i>)	T									Y			See analysis under “Utah prairie dog”.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
Birds													
California condor + critical habitat ² (<i>Gymnogyps californianus</i>)	E, EXPN ³					N ¹				Y ³		I, 3	See analysis under “Experimental, Non-essential species” and in Table 8. In NV potential range for the species does not overlap with GRSG HMAs (criteria I).
California least tern (<i>Sterna antillarum browni</i>)	E	N										I	No Effect
California spotted owl (Sierra Nevada) (<i>Strix occidentalis occidentalis</i>)	P-E, P-T	N				N						I	No Effect
Eastern black rail (<i>Laterallus jamaicensis</i>)	T		N									I	No Effect
Greater sage-grouse (Bi-State DPS) + critical habitat ² (<i>Centrocercus urophasianus</i>)	P-T	N ²				N ²						I	No Effect
Gunnison sage-grouse + critical habitat ¹ (<i>Centrocercus minimus</i>)	T		N ¹							N ¹		I	No Effect
Mexican spotted owl + critical habitat ¹ (<i>Strix occidentalis lucida</i>)	T		N ¹							Y ¹		2, 3	See analysis under “Landscape Species” and Table 7. In CO the potential range does not include known occurrences or potential habitat for the species within sagebrush-steppe areas.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
Northern spotted owl + critical habitat ¹ (<i>Strix occidentalis caurina</i>)	T	N ¹						N ¹				I	No Effect
Piping plover + critical habitat ¹ (<i>Charadrius melodus</i>)	T		N		N ¹		N ¹		N ¹		N	I, 2	See analysis under “Riparian-associated species” and in Table 6. In CO, ND, and SD potential range for the species does not overlap with GRSG HMAs (criteria I).
Rufa red knot + critical habitat ² (<i>Calidris canutus rufa</i>)	T				N				N			2, 3	See analysis under “Riparian-associated species” and in Table 6.
Southwestern willow flycatcher + critical habitat ¹ (<i>Empidonax trailii extimus</i>)	E					Y ¹				Y ¹		2, 3	See analysis under “Riparian-associated species” and in Table 6.
Whooping crane (<i>Grus americanus</i>)	E, EXPN ³		N ³		N		N		N		N ³	I, 2, 3	See analysis under “Experimental, non-essential species” and in Table 8. In CO, ND, SD, and WY the potential range for the species does not overlap with GRSG HMAs (criteria I).
Western yellow-billed cuckoo (Western US DPS) + critical habitat ¹ (<i>Coccyzus americanus</i>)	T	N ¹	Y ¹	Y ¹	N	N		N		Y ¹	Y ¹	2, 3	See analysis under “Riparian-associated species” and in Table 6. In CA/NV occurrences within or near GRSG HMAs and would be considered accidental or dispersing individuals. In CO approximately 25 acres of critical habitat overlap with GRSG HMAs. In ID

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
													approximately 225 acres of critical habitat overlap with GRSG HMAs. In MT there is no overlap of this species potential range with GRSG HMAs. In UT approximately 170 acres of critical habitat overlap with GRSG HMAs. In WY approximately 15,500 acres of critical habitat overlap with GRSG HMAs.
Yuma Ridgway's rail (<i>Rallus obsoletus yumanensis</i>)	E					N						I	No Effect
Reptiles													
Desert Tortoise + critical habitat (<i>Gopherus agassizii</i>)	T					N ¹				N ¹		I	No Effect
Northwestern pond turtle (<i>Actinemys marmorata</i>)	P-T	N				N		N				2	See analysis under "Riparian-associated species" and Table 6.
Insects													
American burying beetle (<i>Nicrophorus americanus</i>)	T								N			I	No Effect
Carson wandering skipper (<i>Pseudocopaeodese unus obscurus</i>)	T	N				N						2	See analysis under "Plant and Butterfly species" and in Table 4.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
Dakota skipper + critical habitat ¹ (<i>Hesperia dacotae</i>)	T								N ¹			I	No Effect
Franklin's bumble bee (<i>Bombus franklini</i>)	E	N						N				I	No Effect
Meltwater Lednian stonefly (<i>Lednia tumana</i>)	T				N							I	No Effect
Regal fritillary (<i>Speyeria idalia</i>)	P-T				Y		Y		Y		Y		See analysis under "Plant and Butterfly species" and in Table 4.
Silverspot (<i>Speyeria nokomis nokomis</i>)	T		Y							Y			See analysis under "Plant and Butterfly species" and in Table 4.
Uncompahgre fritillary butterfly (<i>Boloria acrocneuma</i>)	E		N									I	No Effect
Western Glacier Stonefly (<i>Zapada glacier</i>)	T				N						N	I	No Effect
Crustaceans													
Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	E	N										I	No Effect

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
Shasta crayfish (<i>Pacifastacus fortis</i>)	E	N										I	No Effect
Vernal Pool fairy shrimp (<i>Branchinecta lynchii</i>)	T	N										I	No Effect
Vernal Pool tadpole shrimp (<i>Lepidurus packardii</i>)	E	N										I	No Effect
Mollusks/Snails													
Higgin's eye mussel (<i>Lampsilis higginsii</i>)	E								N			I	No Effect
Scaleshell mussel (<i>Leptodea leptodon</i>)	E								N			I	No Effect
Banbury Springs limpet (<i>Idaholanx festi</i>)	E			N								2	See analysis under "Aquatic and riparian species" and in Table 3.
Bliss Rapids snail (<i>Taylorconcha serpenticola</i>)	T			N								I	No Effect
Bruneau hot springsnail (<i>Pyrgulopsis bruneauensis</i>)	E			N		N						2	See analysis under "Aquatic and riparian species" and in Table 3.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
Snake River Physa snail (<i>Physa natricina</i>)	E			N				N				2	See analysis under “Aquatic and riparian species” and in Table 3.
Amphibians													
California red-legged frog (<i>Rana draytonii</i>)	T	N										1	No Effect
Dixie Valley toad + critical habitat ² (<i>Anaxyrus williamsi</i>)	E					N ²						2	See analysis under “Aquatic and riparian species” and in Table 3. Critical habitat for the species does not overlap with GRSB HMA.
Foothill yellow-legged frog (North Feather DPS) (<i>Rana boylei</i>)	T	N										1	No Effect
Oregon Spotted frog + critical habitat ¹ (<i>Rana pretiosa</i>)	T							N ¹				1	No Effect
Sierra Nevada yellow-legged frog + critical habitat ¹ (<i>Rana sierrae</i>)	E	N ¹				N						1	No Effect
Wyoming toad (<i>Bufo baxteri</i>)	E										N	2	See analysis under “Aquatic and riparian species” and in Table 3.
Fish													
Big springs spinedace + critical habitat ¹ (<i>Lepidomena millispinis</i>)	T					Y ¹				Y ¹		2	See analysis under “Aquatic and riparian species” and in Table 3.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
Bonytail chub + critical habitat ¹ (<i>Gila elegans</i>)	E		N ¹							N ¹		2	See analysis under “Aquatic and riparian species” and in Table 3.
Bull trout + critical habitat ¹ (<i>Salvelinus confluentus</i>)	T			Y ¹	N ¹	N ¹		Y ¹				2	See analysis under “Aquatic and riparian species” and in Table 3. In MT and NV critical habitat does not overlap with GRSG HMAs.
Chinook salmon + critical habitat ¹ (Snake River spring/summer run) (<i>Onorhynchus tshawytscha</i>)	T			N ¹				N ¹				1, 2	See analysis under “Aquatic and riparian species” and in Table 3. There are approximately 600 miles of river that overlap with HMAs.
Chinook salmon + critical habitat ¹ (Snake River fall run) (<i>Onorhynchus tshawytscha</i>)	T							N ¹				1, 2	See analysis under “Aquatic and riparian species” and in Table 3.
Clover Valley speckled dace (<i>Rhinichthys osculus oligoporus</i>)	E					N						2	See analysis under “Aquatic and riparian species” and in Table 3.
Colorado pikeminnow + critical habitat ¹ (<i>Ptychocheilus lucius</i>)	E		N ¹							N ¹		2	See analysis under “Aquatic and riparian species” and in Table 3.
Cui-ui (<i>Chasmistes cujus</i>)	E	N				N						2	See analysis under “Aquatic and riparian species” and in Table 3.
Desert dace + critical habitat ¹ (<i>Eremichthys across</i>)	T					N ¹						2	See analysis under “Aquatic and riparian species” and in Table 3.
Devils Hole pupfish (<i>Cyprinodon diabolis</i>)	E	N				N						1	No Effect

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
Greenback cutthroat trout (<i>Onchorhynchus clarki ssp. Stomais</i>)	T		Y								N	1, 2	See analysis under “Aquatic and riparian species” and in Table 3. In WY potential range for the species does not overlap with GRSG HMAs.
Hiko White River springfish + critical habitat ¹ (<i>Crenichthys baileyi grandis</i>)	E					Y ¹						2	See analysis under “Aquatic and riparian species” and in Table 3. Critical habitat does not overlap with GRSG HMAs.
Humpback chub + critical habitat ¹ (<i>Gila cypha</i>)	T		Y ¹							Y ¹		2	See analysis under “Aquatic and riparian species” and in Table 3.
Hutton tui chub (<i>Gila bicolor ssp.</i>)	E							Y				2	See analysis under “Aquatic and riparian species” and in Table 3.
Independence Valley speckled dace (<i>Rhinichthys oscurus</i>)	E					Y						2	See analysis under “Aquatic and riparian species” and in Table 3.
June sucker + critical habitat ¹ (<i>Chasmistes liorus</i>)	T									N ¹		1	No Effect
Kendall warm springs dace (<i>Rhinichthys osculus thermalis</i>)	E										Y	2	See analysis under “Aquatic and riparian species” and in Table 3.
Lahontan cutthroat trout (<i>Onorhynchochos clarkia henshawi</i>)	T	N				Y		Y		Y		2	See analysis under “Aquatic and riparian species” and in Table 3. In CA potential range does not overlap with GRSG HMAs.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
Lost River Sucker + critical habitat ¹ (<i>Deltistes luxatus</i>)	E	Y ¹						N ¹				2	See analysis under “Aquatic and riparian species” and in Table 3. In NV potential range does not overlap with GRSG HMAs.
Moapa dace (<i>Moapa coriacea</i>)	T					N						1	No Effect
Pahranagat round tail chub (<i>Gila robusta Jordani</i>)	E					Y						2	See analysis under “Aquatic and riparian species” and in Table 3.
Pahrump poolfish (<i>Empetrichthys latos</i>)	E					Y						2	See analysis under “Aquatic and riparian species” and in Table 3.
Paiute cutthroat trout (<i>Oncorhynchus clarkii seleniris</i>)	T	N				N						1	No Effect
Pallid Sturgeon (<i>Scaphirhynchus albus</i>)	E				Y				N		N	1, 2	See analysis under “Aquatic and riparian species” and in Table 3. In SD and WY the potential range for the species does not overlap with GRSG HMAs.
Railroad Valley springfish + critical habitat ¹ (<i>Crenichthys nevada</i>)	T					Y ¹						2	See analysis under “Aquatic and riparian species” and in Table 3.
Razorback sucker + critical habitat ¹ (<i>Xyrauchen texanus</i>)	E		Y ¹							Y ¹		2	See analysis under “Aquatic and riparian species” and in Table 3.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
Shortnose sucker + critical habitat ¹ (<i>Chasmistes brevirostris</i>)	E	Y ¹						N ¹				2	See analysis under “Aquatic and riparian species” and in Table 3. In OR critical habitat and potential range for the species does not overlap with GRSG HMAs.
Sockeye salmon (Snake River) + critical habitat ¹ (<i>Oncorhynchus nerka</i>)	E			N ¹								I	No Effect
Steelhead trout + critical habitat ¹ (Middle Columbia River ESU) (<i>Oncorhynchus mykiss</i>)	T							N ¹				I	No Effect
Steelhead trout + critical habitat ¹ (Snake River Basin ESU) (<i>Oncorhynchus mykiss</i>)	T			N ¹				N ¹				I	No Effect
Topeka shiner + critical habitat ¹ (<i>Notropis topeka</i> (=tristis))	E								N ¹			I	No Effect
Warner sucker + critical habitat ¹ (<i>Catostomus warnerensis</i>)	T	Y ¹				Y ¹		Y ¹				2	See analysis under “Aquatic and riparian species” and in Table 3.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
White River spinedance + critical habitat ¹ (<i>Lepidomena albivalis</i>)	E					Y ¹						2	See analysis under “Aquatic and riparian species” and in Table 3.
Whiteriver springfish + critical habitat ¹ (<i>Crenichthys baileyi baileyi</i>)	E					Y ¹						2	See analysis under “Aquatic and riparian species” and in Table 3.
Plants													
Autumn buttercup (<i>Ranunculus aestivalis</i> (= <i>acriiformis</i>))	E									Y		2	See analysis under “Plant and Butterfly species” and in Table 4.
Barneby reed-mustard (<i>Schoenocrambe barnebyi</i>)	E									N		2	See analysis under “Plant and Butterfly species” and in Table 4.
Barneby ridge-cress (<i>Lepidium barnebyanum</i>)	E									N		1	No Effect
Blowout penstemon (<i>Penstemon haydenii</i>)	E										Y	2	See analysis under “Plant and Butterfly species” and in Table 4.
Clay phacelia (<i>Phacelia argillacea</i>)	E									Y		2	See analysis under “Plant and Butterfly species” and in Table 4.
Clay reed-mustard (<i>Schoenocrambe argillacea</i>)	T									Y		2	See analysis under “Plant and Butterfly species” and in Table 4.
Colorado hookless cactus (<i>Sclerocactus glaucus</i>)	T		Y									2	See analysis under “Plant and Butterfly species” and in Table 4.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
DeBeque phacelia + critical habitat ¹ (<i>Phacelia submutica</i>)	T		Y ¹									2	See analysis under “Plant and Butterfly species” and in Table 4.
Desert yellowhead + critical habitat ¹ (<i>Yermo xanthocephalus</i>)	T										Y ¹	2	See analysis under “Plant and Butterfly species” and in Table 4.
Dudley Bluffs bladderpod (<i>Lesquerella congesta</i>)	T		N									2	See analysis under “Plant and Butterfly species” and in Table 4.
Dudley Bluffs twinpod (<i>Physaria obcordate</i>)	T		Y									2	See analysis under “Plant and Butterfly species” and in Table 4.
Dwarf bear-poppy (<i>Arctomecon humilis</i>)	E									N		1	No Effect
Green's tuctoria + critical habitat ¹ (<i>Tuctoria greeni</i>)	E	N ¹										1	No Effect
Heliotrope milk-vetch + critical habitat ¹ (<i>Astragulus montii</i>)	T									N ¹		2	See analysis under “Plant and Butterfly species” and in Table 4. No critical habitat for the species overlaps with GRSG HMAs.
Howell's spectacular thelypody (<i>Thelypodium howelli</i> ssp. <i>spectabilis</i>)	T							Y				2	See analysis under “Plant and Butterfly species” and in Table 4.
Jones cycladenia (<i>Cycladenia humilis</i> var. <i>jonesii</i>)	T									Y		2	See analysis under “Plant and Butterfly species” and in Table 4.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
Kodachrome bladderpod (<i>Lesquerella tumulosa</i>)	E									Y		2	See analysis under “Plant and Butterfly species” and in Table 4.
Last chance townsendia (<i>Townsendia aprica</i>)	T									Y		2	See analysis under “Plant and Butterfly species” and in Table 4.
Leedy’s roseroot (<i>Rhodiola integrifolia</i> ssp. <i>leedyi</i>)	T								N			I	No Effect
MacFarlane's four-o'clock (<i>Mirabilis macfarlanei</i>)	T			N								I	No Effect
Maguire primrose (<i>Primula maguirei</i>)	T									N		I	No Effect
Malheur Wire-lettuce + critical habitat ¹ (<i>Stephanomeria maheurensis</i>)	E							N ¹				I	No Effect
Navajo sedge + critical habitat (<i>Carex specuicola</i>)	T									N		I	No Effect
North Park Phacelia (<i>Phacelia formosula</i>)	E		Y									2	See analysis under “Plant and Butterfly species” and in Table 4.
Osterhout milkvetch (<i>Astragalus osterhoutii</i>)	E		Y									2	See analysis under “Plant and Butterfly species” and in Table 4.
Parachute beardtongue + critical habitat ¹	T		Y ¹									2	See analysis under “Plant and Butterfly species” and in Table 4.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
(<i>Penstemon debilis</i>)													
Pariette cactus (<i>Sclerocactus brevispinus</i>)	T									N		1	No Effect
Penland alpine fen mustard (<i>Eutrema penlandii</i>)	T		N									1	No Effect
Penland beardtongue (<i>Penstemon penlandii</i>)	E		Y									2	See analysis under “Plant and Butterfly species” and in Table 4.
San Rafael cactus (<i>Pediocactusdes despainii</i>)	E									N		2	See analysis under “Plant and Butterfly species” and in Table 4. The majority of the potential range for this species is outside of GRSG HMAs.
Shivwits milk-vetch (<i>Astragalus ampullarioides</i>)	E									N		1	No Effect
Shrubby reed-mustard + critical habitat ² (<i>Schoenocrambe suffrutescens</i>)	E									Y ²		2	See analysis under “Plant and Butterfly species” and in Table 4.
Siler pincushion (<i>Pediocactus</i> [<i>= Echinocactus, = Utahia</i>] <i>sileri</i>)	T									N		1	No Effect
Slender Orcutt grass + critical habitat ¹ (<i>Orcuttia tenuis</i>)	T	Y						N				2	See analysis under “Plant and Butterfly species” and in Table 4. In OR potential range does not overlap with GRSG HMAs.

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
Slickspot peppergrass + critical habitat ¹ (<i>Lepidium papilliferum</i>)	T			Y ¹								2	See analysis under “Plant and Butterfly species” and in Table 4.
Spaldings catchfly + critical habitat ² (<i>Silene spaldingii</i>)	T			N	N			N				1	No Effect
Spring-loving centaury (<i>Centaureum namophilum</i>)	T	N				N						1	No Effect
Steamboat buckwheat (<i>Eriogonum ovalifolium</i> var. <i>williamsiae</i>)	E					N						1	No Effect
Tiehm's buckwheat + critical habitat ² (<i>Eriogonum tiehmii</i>)	E					N						1	No Effect
Uinta Basin hookless cactus (<i>Sclerocactus wetlandicus</i>)	T									Y		2	See analysis under “Plant and Butterfly species” and in Table 4.
Ute ladies'-tresses (<i>Spiranthes diluvialis</i>)	T		Y	Y	Y	Y			Y	Y	Y	2	See analysis under “Plant and Butterfly species” and in Table 4.
Webber ivesia + critical habitat ¹ (<i>Ivesia webberi</i>)	T	Y ¹				Y ¹						2	See analysis under “Plant and Butterfly species” and in Table 4.
Welsh's milkweed + critical habitat ¹ (<i>Asclepias welshi</i>)	T									N ¹		1	No Effect
Western prairie fringed orchid (<i>Platanthera praeclara</i>)	T		Y						N		Y	2	See analysis under “Plant and Butterfly species” and in Table 4. In SD potential range

Species Common Name (Scientific Name)	Status ⁴	Potential for Effect by State (Y/N) Y = Potential for Effect N = No Effect Determination										Evaluation Criteria	Comments
		California	Colorado	Idaho	Montana	Nevada	North Dakota	Oregon	South Dakota	Utah	Wyoming		
													for the species does not overlap with GRSG HMA's.
Winkler cactus (<i>Pediocactus winkleri</i>)	T									N		1	No Effect
Wright fishhook cactus (<i>Sclerocactus wrightiae</i>)	E									Y		2	See analysis under "Plant and Butterfly species" and in Table 4.
Whitebark Pine (<i>Pinus albicaulis</i>)	T	Y		Y	Y	Y		Y			Y		See analysis under "Plant and Butterfly species" and in Table 4.

Appendix B: Acres of GRSG HMAs overlap with the potential range of listed and proposed species.

Acres were determined by overlaying each species' spatial distribution information from ECOS and the spatial distribution for each type of GRSG HMA. In addition to the rangewide habitat management areas, PHMA, PHMA(LE) and GHMA, there are the following state-specific habitat management areas, which are described in more detail in the Description of the Planning Area section of this BA.

- Colorado - Linkage Management Area (LHMA)
- Idaho – Important HMA (IHMA)
- Montana/Dakotas -
 - Little Missouri HMA (LMHMA)
 - South Carter HMA (SCHMA)
 - Connectivity HMA (CHMA)
- Nevada/California - Other HMA (OHMA)
- Utah - Connectivity HMA (GCHMA)

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Black-footed ferret (<i>Mustela nigripes</i>)	0	0	16,928	0	0	0	0	0	0	0
Canada lynx (<i>Lynx canadensis</i>)	2,656,769	213	3,572,570	2	447,450	20,649	98,477	0	0	0
Canada lynx critical habitat (<i>Lynx canadensis</i>)	61,379	0	317,868	0	0	0	0	0	0	0
Gray wolf (<i>Canis lupus</i>)	956,749	1,515,167	700,182	274,730	0	0	0	0	0	0

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Grizzly bear (<i>Ursus arctos horribilis</i>)	1,433,357	879	1,756,512	0	153,590	0	0	0	0	0
North American wolverine (<i>Gulo gulo luscus</i>)	5,442,921	46,437	5,249,382	274,725	1,647,279	0	0	0	0	22,110
Northern Idaho ground squirrel (<i>Spermophilus brunneus brunneus</i>)	0	0	0	0	0	0	0	0	0	0
Northern long-eared bat (<i>Myotis septentrionalis</i>)	462,226	0	1,571,847	0	0	0	12,039	77,557	0	0
Preble's meadow jumping mouse (<i>Zapus hudsonius prebei</i>)	8,572	0	188,219	0	0	0	0	0	0	0
Preble's meadow jumping mouse critical habitat (<i>Zapus hudsonius prebei</i>)	0	0	0	0	0	0	0	0	0	0
Sierra Nevada red fox (Sierra Nevada DPS) (<i>Vulpes vulpes necator</i>)	0	0	0	0	0	0	0	0	0	0
Tricolored bat (<i>Perimyotis subflavus</i>)	666	0	151,983	0	0	0	0	0	0	0
Utah prairie dog (<i>Cynomys parvidens</i>)	1,396,853	0	162,459	0	0	0	0	0	0	233,762

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
California condor (<i>Gymnogyps californianus</i>)	556,483	0	154,294	0	0	0	0	0	0	101,187
California least tern (<i>Sterna antillarum browni</i>)	0	0	0	0	0	0	0	0	0	0
California spotted owl (Sierra Nevada) (<i>Strix occidentalis occidentalis</i>)	144	0	772	1,999	0	0	0	0	0	0
Eastern black rail (<i>Laterallus jamaicensis</i>)	0	0	18,325	0	0	0	0	0	0	0
Greater sage-grouse (Bi-State DPS) (<i>Centrocercus urophasianus</i>)	0	0	0	0	0	0	0	0	0	0
Gunnison sage-grouse + critical habitat (<i>Centrocercus minimus</i>)	0	0	0	0	0	0	0	0	0	0
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	1,195,045	0	1,483,986	0	0	0	0	0	338,942	31,534
Mexican spotted owl critical habitat (<i>Strix occidentalis lucida</i>)	12,973	0	0	0	0	0	0	0	0	0

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Northern spotted owl (<i>Strix occidentalis caurina</i>)	0	0	0	0	0	0	0	0	0	0
Northern spotted owl critical habitat (<i>Strix occidentalis caurina</i>)	0	0	0	0	0	0	0	0	0	0
Piping plover (<i>Charadrius melodus</i>)	6,138,042	607,100	6,701,949	0	0	314,931	0	0	0	0
Piping plover critical habitat (<i>Charadrius melodus</i>)	6,717	0	3,183	0	0	0	0	0	0	0
Rufa red knot (<i>Calidris canutus rufa</i>)	6,138,042	814,858	7,666,792	0	0	461,491	62,862	0	0	0
Southwestern willow flycatcher (<i>Empidonax trailii extimus</i>)	8,398	0	12,918	20,167	0	0	0	0	0	0
Southwestern willow flycatcher critical habitat (<i>Empidonax trailii extimus</i>)	0	0	0	0	0	0	0	0	0	0
Whooping crane (<i>Grus americanus</i>)	0	0	104,147	0	0	0	0	0	0	0
Western yellow-billed cuckoo (Western US DPS) (<i>Coccyzus americanus</i>)	12,060,243	343,165	9,611,715	1,348,565	63,513	0	145,229	0	0	411,207

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Western yellow-billed cuckoo (Western US DPS) critical habitat (<i>Coccyzus americanus</i>)	1,162	0	14,731	0	5	0	0	0	0	0
Yuma Ridgway's rail (<i>Rallus obsoletus yumanensis</i>)	0	0	0	0	0	0	0	0	0	0
Desert Tortoise + critical habitat (<i>Gopherus agassizii</i>)	0	0	0	0	0	0	0	0	0	0
Northwestern pond turtle (<i>Actinemys marmorata</i>)	629,787	132,834	103,030	134,705	0	0	0	0	0	0
American burying beetle (<i>Nicrophorus americanus</i>)	0	0	0	0	0	0	0	0	0	0
Carson wandering skipper (<i>Pseudocopa edesae unus obscurus</i>)	44,611	0	13,576	23,400	0	0	0	0	0	0
Dakota skipper + critical habitat (<i>Hesperia dacotae</i>)	0	0	0	0	0	0	0	0	0	0
Franklin's bumble bee (<i>Bombus franklini</i>)	0	0	0	0	0	0	0	0	0	0
Meltwater Lednian stonefly (<i>Lednia tumana</i>)	0	0	0	0	0	0	0	0	0	0
Regal fritillary (<i>Speyeria idalia</i>)	951,309	0	2,693,220	0	0	0	113,701	0	0	0

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Silverspot (<i>Speyeria nokomis nokomis</i>)	140,803	0	185,198	0	0	0	0	0	168,721	0
Uncompahgre fritillary butterfly (<i>Boloria acrocroma</i>)	0	0	0	0	0	0	0	0	0	0
Western Glacier Stonefly (<i>Zapada glacier</i>)	0	0	0	0	0	0	0	0	0	0
Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	0	0	0	0	0	0	0	0	0	0
Shasta crayfish (<i>Pacifastacus fortis</i>)	0	0	0	0	0	0	0	0	0	0
Vernal Pool fairy shrimp (<i>Branchinecta lynchii</i>)	0	0	0	0	0	0	0	0	0	0
Vernal Pool tadpole shrimp (<i>Lepidurus packardii</i>)	0	0	0	0	0	0	0	0	0	0
Higgin's eye mussel (<i>Lampsilis higginsii</i>)	0	0	0	0	0	0	0	0	0	0
Scaleshell mussel (<i>Leptodea leptodon</i>)	0	0	0	0	0	0	0	0	0	0
Banbury Springs limpet (<i>Idaholanx festi</i>)	170,789	0	166,174	0	200,725	0	0	0	0	0
Bliss Rapids snail (<i>Taylorconcha serpentina</i>)	0	0	0	0	0	0	0	0	0	0

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Bruneau hot springsnail (<i>Pyrgulopsis bruneauensis</i>)	1,107,640	174,660	253,409	48,391	359,210	0	0	0	0	0
Snake River Physa snail (<i>Physa natricina</i>)	0	0	76	0	18	0	0	0	0	0
California red-legged frog (<i>Rana draytonii</i>)	0	0	0	0	0	0	0	0	0	0
Dixie Valley toad (<i>Anaxyrus williamsi</i>)	74,822	0	70,321	110,662	0	0	0	0	0	0
Foothill yellow-legged frog (North Feather DPS) (<i>Rana boylei</i>)	0	0	0	0	0	0	0	0	0	0
Oregon Spotted frog (<i>Rana pretiosa</i>)	0	0	0	0	0	0	0	0	0	0
Oregon Spotted frog critical habitat (<i>Rana pretiosa</i>)	0	0	0	0	0	0	0	0	0	0
Sierra Nevada yellow-legged frog (<i>Rana sierrae</i>)	0	0	0	0	0	0	0	0	0	0
Sierra Nevada yellow-legged frog critical habitat (<i>Rana sierrae</i>)	0	0	0	0	0	0	0	0	0	0
Wyoming toad (<i>Bufo baxteri</i>)	11,915	0	152,458	0	0	0	0	0	0	0
Big springs spinedace (<i>Lepidomena millispinis</i>)	72,247	0	61,056	82,353	0	0	0	0	0	0

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Big springs spinedace critical habitat (<i>Lepidomena millispinis</i>)	3	0	0	0	0	0	0	0	0	0
Bonytail chub (<i>Gila elegans</i>)	3,430	0	19,835	0	0	0	0	0	0	0
Bonytail chub critical habitat (<i>Gila elegans</i>)	6	0	910	0	0	0	0	0	0	0
Bull trout (<i>Salvelinus confluentus</i>)	3,553	67	4,371	31	1,551	0	0	0	0	0
Bull trout critical habitat (<i>Salvelinus confluentus</i>)	0	0	1,546	0	44	0	0	0	0	0
Chinook salmon critical habitat (Snake River spring/summer run) (<i>Onorhynchus tshawytsha</i>)	205 miles	0	266 miles	0	136 miles	0	0	0	0	0
Chinook salmon critical habitat (Snake River fall run) (<i>Onorhynchus tshawytsha</i>)	0	0	0	0	0	0	0	0	0	0
Clover Valley speckled dace (<i>Rhinichthys osculus oligoporus</i>)	126,876	0	29,331	22,900	0	0	0	0	0	0

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Colorado pikeminnow (<i>Ptychocheilus lucius</i>)	8,516	0	37,939	0	0	0	0	0	0	1,981
Colorado pikeminnow critical habitat (<i>Ptychocheilus lucius</i>)	514	0	3,005	0	0	0	0	0	0	0
Cui-ui (<i>Chasmistes cujus</i>)	66,177	0	32,545	48,364	0	0	0	0	0	0
Desert dace (<i>Eremichthys across</i>)	66,700	39,713	13,643	29,021	0	0	0	0	0	0
Desert dace critical habitat (<i>Eremichthys across</i>)	31	1	0	0	0	0	0	0	0	0
Devils Hole pupfish (<i>Cyprinodon diabolis</i>)	0	0	0	0	0	0	0	0	0	0
Greenback cutthroat trout (<i>Onchorhynchus clarki</i> ssp. <i>Stomais</i>)	0	0	18,293	0	0	0	0	0	0	0
Hiko White River springfish (<i>Crenichthys baileyi grandis</i>)	130,453	0	92,685	227,068	0	0	0	0	0	0
Hiko White River springfish critical habitat (<i>Crenichthys baileyi grandis</i>)	0	0	0	0	0	0	0	0	0	0
Humpback chub (<i>Gila cypha</i>)	299	0	5,899	0	0	0	0	0	0	0

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Humpback chub critical habitat (<i>Gila cypha</i>)	6	0	910	0	0	0	0	0	0	0
Hutton tui chub (<i>Gila bicolor</i> ssp.)	8,302	0	3,156	0	0	0	0	0	0	0
Independence Valley speckled dace (<i>Rhinichthys oscurus</i>)	22,670	0	40,685	44,259	0	0	0	0	0	0
June sucker + critical habitat (<i>Chasmistes liorus</i>)	0	0	0	0	0	0	0	0	0	0
Kendall warm springs dace (<i>Rhinichthys osculus thermalis</i>)	0	0	17,279	0	0	0	0	0	0	0
Lahontan cutthroat trout (<i>Onorhynchochos clarkia henshawi</i>)	1,354,806	257,830	337,516	284,195	0	0	0	0	0	0
Lost River Sucker (<i>Deltistes luxatus</i>)	5,617	0	70	2,714	0	0	0	0	0	0
Lost River Sucker critical habitat (<i>Deltistes luxatus</i>)	0	0	49,439	115,358	0	0	0	0	0	0
Moapa dace (<i>Moapa coriacea</i>)	0	0	0	0	0	0	0	0	0	0

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Pahranagat round tail chub (<i>Gila robusta</i> <i>Jordani</i>)	130,453	0	92,685	227,068	0	0	0	0	0	0
Pahrump poolfish (<i>Empetrichthys latos</i>)	945,182	0	447,266	465,466	0	0	0	0	0	0
Paiute cutthroat trout (<i>Oncorhynchus clarkii</i> <i>seleniris</i>)	0	0	0	0	0	0	0	0	0	0
Pallid Sturgeon (<i>Scaphirhynchus albus</i>)	12,122	0	13,908	0	0	48	0	0	0	0
Railroad Valley springfish (<i>Crenichthys</i> <i>nevada</i>)	83,494	0	68,198	194,490	0	0	0	0	0	0
Railroad Valley springfish critical habitat (<i>Crenichthys</i> <i>nevada</i>)	0	0	0	2	0	0	0	0	0	0
Razorback sucker (<i>Xyrauchen texanus</i>)	3,430	0	19,835	0	0	0	0	0	0	0
Razorback sucker critical habitat (<i>Xyrauchen texanus</i>)	6	0	1,833	0	0	0	0	0	0	0
Shortnose sucker (<i>Chasmistes</i> <i>brevirostris</i>)	20,835	0	49,439	115,358	0	0	0	0	0	0

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Shortnose sucker critical habitat (<i>Chasmistes brevirostris</i>)	5,617	0	70	2,714	0	0	0	0	0	0
Sockeye salmon (Snake River) + critical habitat (<i>Oncorhynchus nerka</i>)	0	0	78 miles	0	0	0	0	0	0	0
Steelhead trout + critical habitat (Middle Columbia River ESU) (<i>Oncorhynchus mykiss</i>)	0	0	0	0	0	0	0	0	0	0
Steelhead trout + critical habitat (Snake River Basin ESU) (<i>Oncorhynchus mykiss</i>)	19 miles	0	155 miles	0	59 miles	0	0	0	0	0
Topeka shiner + critical habitat (<i>Notropis topeka</i> (=tristis))	0	0	0	0	0	0	0	0	0	0
Warner sucker (<i>Catostomus warnerensis</i>)	232,333	26,730	95,937	159	0	0	0	0	0	0
Warner sucker + critical habitat (<i>Catostomus warnerensis</i>)	725	6	117	0	0	0	0	0	0	0

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
White River spinedance (<i>Lepidomena albivalis</i>)	130,453	0	92,685	227,068	0	0	0	0	0	0
White River spinedance critical habitat (<i>Lepidomena albivalis</i>)	0	0	0	11	0	0	0	0	0	0
Whiteriver springfish (<i>Crenichthys baileyi baileyi</i>)	130,453	0	92,685	227,068	0	0	0	0	0	0
Whiteriver springfish critical habitat (<i>Crenichthys baileyi baileyi</i>)	0	0	0	0	0	0	0	0	0	0
Autumn buttercup (<i>Ranunculus aestivalis (= acriformis)</i>)	117,232	0	30,450	0	0	0	0	0	0	0
Barneby reed- mustard (<i>Schoenocrambe barnebyi</i>)	52	0	0	0	0	0	0	0	0	0
Barneby ridge-cress (<i>Lepidium barnebyanum</i>)	0	0	0	0	0	0	0	0	0	0
Blowout penstemon (<i>Penstemon haydenii</i>)	179,232	0	110,061	0	0	0	0	0	0	0
Clay phacelia (<i>Phacelia argillacea</i>)	12,888	0	3,659	0	0	0	0	0	0	0

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Clay reed-mustard (<i>Schoenocrambe argillacea</i>)	707	0	7,929	0	0	0	0	0	0	0
Colorado hookless cactus (<i>Sclerocactus glaucus</i>)	0	0	14,182	0	0	0	0	0	0	0
DeBeque phacelia (<i>Phacelia submutica</i>)	0	0	14,182	0	0	0	0	0	0	0
DeBeque phacelia critical habiat (<i>Phacelia submutica</i>)	0	0	1,680	0	0	0	0	0	0	0
Desert yellowhead (<i>Yermo xanthocephalus</i>)	375,261	0	44,040	0	0	0	0	0	0	0
Desert yellowhead critical habitat (<i>Yermo xanthocephalus</i>)	357	0	0	0	0	0	0	0	0	0
Dudley Bluffs bladderpod (<i>Lesquerella congesta</i>)	0	0	0	0	0	0	571	0	0	0
Dudley Bluffs twinpod (<i>Physaria obcordate</i>)	92	0	11,975	0	0	0	0	0	16,470	0
Dwarf bear-poppy (<i>Arctomecon humilis</i>)	0	0	0	0	0	0	0	0	0	0
Green's tuctoria + critical habitat (<i>Tuctoria greeni</i>)	0	0	0	0	0	0	0	0	0	0

Species Common Name (Scientific Name)	Greater Sage-Grouse Habitat Management Area and Acres of Species Potential Range									
	PHMA ¹	PHMA (LE) ¹	GHMA	OHMA	IHMA	CHMA	LMHMA	SCHMA	LHMA	GCHMA
Heliotrope milk- vetch (<i>Astragalus montii</i>)	366	0	62	0	0	0	0	0	0	0
Heliotrope milk- vetch critical habitat (<i>Astragalus montii</i>)	0	0	0	0	0	0	0	0	0	0
Howell's spectacular thelypody (<i>Thelypodium howelli ssp. spectabilis</i>)	714	0	4,898	0	0	0	0	0	0	0
Jones cycladenia (<i>Cycladenia humilis var. jonesii</i>)	5,893	0	41,103	0	0	0	0	0	0	0
Kodachrome bladderpod (<i>Lesquerella tumulosa</i>)	2,498	0	15,404	0	0	0	0	0	0	0
Last chance townsendia (<i>Townsendia aprica</i>)	82,396	0	0	0	0	0	0	0	0	0
Leedy's roseroot (<i>Rhodiola integrifolia ssp. leedyi</i>)	0	0	0	0	0	0	0	0	0	0
MacFarlane's four-o- clock (<i>Mirabilis macfarlanei</i>)	0	0	0	0	0	0	0	0	0	0
Maguire primrose (<i>Primula maguirei</i>)	0	0	0	0	0	0	0	0	0	0

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Malheur Wire- lettuce + critical habitat (<i>Stephanomeria maheurensis</i>)	0	0	0	0	0	0	0	0	0	0
Navajo sedge + critical habitat (<i>Carex specuicola</i>)	0	0	0	0	0	0	0	0	0	0
North Park Phacelia (<i>Phacelia formosula</i>)	402,182	4,547	168,770	0	0	0	0	0	9,489	0
Osterhout milkvetch (<i>Astragalus osterhoutii</i>)	117,881	0	30,524	0	0	0	0	0	0	0
Parachute beardtongue (<i>Penstemon debilis</i>)	42,559	0	48,431	0	0	0	0	0	33,877	0
Parachute beardtongue critical habitat (<i>Penstemon debilis</i>)	164	0	0	0	0	0	0	0	0	0
Pariette cactus (<i>Sclerocactus brevispinus</i>)	0	0	0	0	0	0	0	0	0	0
Penland alpine fen mustard (<i>Eutrema penlandii</i>)	0	0	0	0	0	0	0	0	0	0
Penland beardtongue (<i>Penstemon penlandii</i>)	49,844	0	5,151	0	0	0	0	0	0	0

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San Rafael cactus (<i>Pediocactusdes despainii</i>)	798	0	0	0	0	0	0	0	0	0
Shivwits milk-vetch (<i>Astragalus ampullarioides</i>)	0	0	0	0	0	0	0	0	0	0
Shrubby reed- mustard (<i>Schoenocrambe suffrutescens</i>)	699	0	56,750	0	0	0	0	0	0	0
Siler pincushion (<i>Pediocactus</i> [= <i>Echinocactus</i> , = <i>Utahia</i>] <i>sileri</i>)	0	0	0	0	0	0	0	0	0	0
Slender Orcutt grass (<i>Orcuttia tenuis</i>)	665,661	0	206,967	406,121	0	0	0	0	0	0
Slender Orcutt grass critical habitat (<i>Orcuttia tenuis</i>)	0	0	0	0	0	0	0	0	0	0
Slickspot peppergrass (<i>Lepidium papilliferum</i>)	8,909	0	41,378	0	156,897	0	0	0	0	0
Slickspot peppergrass critical habitat (<i>Lepidium papilliferum</i>)	194	0	880	0	31,036	0	0	0	0	0
Spaldings catchfly (<i>Silene spaldingii</i>)	0	0	0	0	0	0	0	0	0	0

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Spring-loving centaury (<i>Centaurium namophilum</i>)	0	0	0	0	0	0	0	0	0	0
Steamboat buckwheat (<i>Eriogonum ovalifolium</i> var. <i>williamsiae</i>)	0	0	0	0	0	0	0	0	0	0
Tiehm's buckwheat (<i>Eriogonum tiehmii</i>)	0	0	0	0	0	0	0	0	0	0
Uinta Basin hookless cactus (<i>Sclerocactus wetlandicus</i>)	1,075	0	14,702	0	0	0	0	0	0	0
Ute ladies'-tresses (<i>Spiranthes diluvialis</i>)	2,026,427	3,860	3,408,785	17,474	8,780	2,903	0	0	33,533	79,583
Webber ivesia (<i>Ivesia webberi</i>)	576	0	2,384	6,234	0	0	0	0	0	0
Webber ivesia critical habitat (<i>Ivesia webberi</i>)	0	0	13	75	0	0	0	0	0	0
Welsh's milkweed + critical habitat (<i>Asclepias welshi</i>)	0	0	0	0	0	0	0	0	0	0
Western prairie fringed orchid (<i>Platanthera praeclara</i>)	4,390,735	1,992	5,485,077	0	0	0	0	0	0	0
Winkler cactus (<i>Pediocactus winkleri</i>)	0	0	0	0	0	0	0	0	0	0

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Wright fishhook cactus (<i>Sclerocactus wrightiae</i>)	4,264	0	0	0	0	0	0	0	0	0
Whitebark Pine (<i>Pinus albicaulis</i>)	1,010,824	2,022	1,284,871	49,972	115,433	0	0	0	0	0

¹The acres for PHMA and PHMA(LE) overlap. Therefore, acres provided in the PHMA column include those acres shown in the PHMA(LE) column. This is because some management actions apply across PHMA entirely as opposed to only within PHMA(LE).