United States Department of Agriculture

Forest Service

October 2018

Greater Sage-grouse Proposed Land Management Plan Amendments (LMPA) and Draft Environmental Impact Statement (DEIS) for the Intermountain and Rocky Mountain Regions

Idaho (Boise, Caribou-Targhee, Salmon-Challis, and Sawtooth National Forests and Curlew National Grassland); Nevada (Humboldt-Toiyabe National Forest); Utah (Ashley, Dixie, Fishlake, Manti-La Sal, and Uinta-Wasatch-Cache National Forests); Wyoming (Bridger-Teton National Forest); and Wyoming/Colorado (Medicine Bow-Routt National Forest and Thunder Basin National Grassland)

Cover Photo: Courtesy of Robbert Mickelsen male and female greater sage-grouse.

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Greater Sage-grouse Proposed Land Management Plan Amendments (LMPA) and Draft Environmental Impact Statement (DEIS) for the Intermountain and Rocky Mountain Regions

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Abstract: The proposed land management plan amendments (LMPAs) and draft environmental impact statement (DEIS) has been prepared by the United States Department of Agriculture (USDA) Forest Service (FS) with input from cooperating agencies. The purpose of this LMPA is to incorporate new information to improve the clarity, efficiency, and implementation of the 2015 Greater Sage-Grouse (GRSG) Plan Amendments, including better alignment with Bureau of Land Management (BLM) and state plans, in order to benefit GRSG conservation at the landscape scale. The FS is considering amendments to 19 LMPs in Colorado, Idaho, Nevada, Utah, and Wyoming. The DEIS describes and analyzes three alternatives for managing GRSG habitat on approximately 5.2 million acres of National Forest System (NFS) lands with GRSG habitat administered by the FS.

Three alternatives are being analyzed. In the *No Action Alternative,* use of public lands and resources would continue to be managed under current FS LMP direction, as amended in 2015. The *Proposed Action Alternative* makes modifications to the No Action Alternative to incorporate new information to improve the clarity, efficiency, and implementation of GRSG plans, in order to benefit GRSG conservation on the landscape scale. This alternative was developed to promote continued collaboration with the BLM, states, and stakeholders to improve management, compatibility, and consistency between federal management plans and other plans and programs at the state level, and to continue to provide protection of GRSG habitat. This is the agency's preferred alternative, though this does not constitute a final decision and there is no requirement that the preferred alternative identified in the DEIS be selected as the agency's decision in the Record of Decision (ROD). The *State of Utah Alternative* includes all aspects of the Proposed Action Alternative, with two modifications to LMPs within the state of Utah. Specifically, the USFS would remove the General Habitat Management Area (GHMA) designation from NFS lands in Utah and would also remove the Anthro Mountain Habitat Management Area from designation on the Ashley National Forest, but not re-designate it as Priority Habitat Management Area (PHMA).

National Forests and Grasslands in the Planning Area: Idaho (Boise, Caribou-Targhee, Salmon-Challis, and Sawtooth National Forests and Curlew National Grassland); Nevada (Humboldt-Toiyabe National Forest); Utah (Ashley, Dixie, Fishlake, Manti-La Sal, and Uinta-Wasatch-Cache National Forests); Wyoming (Bridger-Teton National Forest and Thunder Basin National Grassland); and Wyoming/Colorado (Medicine Bow-Routt National Forest)

Counties in the Planning Area: Colorado (Jackson, Moffat, and Routt); Idaho (Adams, Blaine, Bonneville, Butte, Camas, Caribou, Cassia, Custer, Lemhi, Elmore, Fremont, and Madison); Nevada (Churchill, Clark, Elko, Eureka, Humboldt, Lincoln, Nye, Pershing, Washoe, and White Pine); Utah (Beaver, Box Elder, Cache, Carbon, Daggett, Davis, Duchesne, Emery, Garfield, Grand, Iron, Juab, Kane, Millard, Morgan, Piute, Rich, Salt Lake, San Juan, Sanpete, Sevier, Summit, Tooele, Uintah, Utah, Wasatch, Washington, Wayne, and Weber); Wyoming (Albany, Campbell, Carbon, Converse, Crook, Laramie, Lincoln, Natrona, Niobrara, Platte, Sublette, Teton, and Weston)

Review Period: Comments on the Greater Sage-grouse Proposed Land Management Plan Amendments (LMPA) and Draft Environmental Impact Statement (DEIS) for the Intermountain and Rocky Mountain Regions will be accepted for 90 calendar days following publication of the United States Environmental Protection Agency's (EPA) Notice of Availability in the *Federal Register*.

United States Department of Agriculture | Forest Service | Intermountain Region | 324 25th Street Ogden, UT 84401

File Code: 1950
Date: SEP 20 2018

Dear Sir/Madam:

The Draft Greater Sage-grouse Proposed Land Management Plan Amendments (LMPA) and Draft Environmental Impact Statement (DEIS), for the Intermountain and Rocky Mountain Regions, is available for your review and comment. The Forest Service (FS) prepared this document in accordance with the National Environmental Policy Act of 1969, as amended; the National Forest Management Act of 1976 (NFMA), 36 CFR 219; and all other applicable law and policy.

The planning area includes National Forests and Grasslands in Idaho (Boise, Caribou-Targhee, Salmon-Challis, and Sawtooth National Forests and Curlew National Grassland); Nevada (Humboldt-Toiyabe National Forest); Utah (Ashley, Dixie, Fishlake, Manti-La Sal, and Uinta-Wasatch-Cache National Forests); Wyoming (Bridger-Teton National Forest); and Wyoming/Colorado (Medicine Bow-Routt National Forest and Thunder Basin National Grassland) and encompasses approximately 5.2 million acres of greater sage-grouse habitat on National Forest System (NFS) lands in the Intermountain and Rocky Mountain Regions.

As directed by FS Planning Regulations, the Proposed Action has been identified in the Draft EIS as the preferred alternative. Identification of the preferred alternative does not indicate any commitment on the part of the FS with regard to a final decision. In developing the Proposed LMPA/Final EIS, which is the next phase of the planning process, the decision maker may select various management actions from each of the alternatives analyzed in the Draft LMPA/DEIS for the purpose of creating a management strategy that best meets the purpose and need of the amendment.

The FS encourages the public to review and provide comments on the Draft LMPA/DEIS. The Draft LMPA/DEIS is available on the project website at: https://www.fs.usda.gov/detail/r4/home/?cid=stelprd3843381. Hard copies are also available for public review by request.

Public comments will be accepted for ninety (90) calendar days following the Environmental Protection Agency's publication of its Notice of Availability in the *Federal Register*. The FS can best use your comments and resource information submissions if received within the review period.

Please submit comments via one of the following methods:

- *Public participation portal (preferred):* *https://cara.ecosystem-management.org/Public/CommentInput?project=52904*
- *Mail:* Sage-grouse Amendment Comment, USDA Forest Service Intermountain Region, Federal Building, 324 25th Street, Ogden, UT 84401
- *Email:* *comments-intermtn-regional-office@fs.fed.us*
- *Facsimile*: 801-625-5277

To facilitate analysis of comments and information submitted, we encourage you to submit comments in an electronic format. All comments, including names and addresses when provided, are placed in the record and are available for public inspection and copying. The public may inspect comments received online via the public reading room at: *https://cara.ecosystem-management.org/Public/ReadingRoom?project=52904*.

Thank you for your continued interest in the Greater Sage-Grouse Proposed Land Management Plan Amendments for the Intermountain and Rocky Mountain Regions. We appreciate the information and suggestions you contribute to the process.

Sincerely,

Nora B. Rasure

NORA B. RASURE
Regional Forester

Acronyms and Terms

Term or Acronym	Full Name or Phrase
BLM	Bureau of Land Management
BSU	biologically significant unit
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Colorado
CHMA	Connectivity Habitat Management Area
DC	desired condition (forest plan component)
DEIS	draft environmental impact statement
EIS	environmental impact statement
EO	Executive Order
ESA	Endangered Species Act of 1973
FEIS	final environmental impact statement
2015 FEIS or 2015 Greater Sage-Grouse Plan Amendments	Greater Sage-Grouse Proposed Land Use Plan Amendment and Final Environmental Impact Statement
FS	Forest Service
FLMPA	Federal Land Management and Policy Act
FR	Federal Register
GHMA	general habitat management area
GIS	geographic information system
GL	Guideline (forest plan component)
GRSG	greater sage-grouse
ID	Idaho
IHMA	Important Habitat Management Area
Intermountain Region	USDA Forest Service Intermountain Region (also known as Region 4)
LMP	land management plan
LMPA	land management plan amendment
MA	management approach (optional forest plan content)
NEPA	National Environmental Policy Act
NV	Nevada
NF	National Forest
NFMA	National Forest Management Act of 1976
NFS lands	National Forest System lands
NG	National Grassland
NOI	Notice of Intent
Northern Region	USDA Forest Service, Northern Region (also known as Region 1)
NRCS	Natural Resources Conservation Service
NSO	no surface occupancy
O	objective (forest plan component)
OHMA	Other Habitat Management Area
PHMA	Priority Habitat Management Area
Planning Rule	2012 Planning Rule as Amended
Rocky Mountain Region	USDA Forest Service, Rocky Mountain Region (also known as Region 2)

Term or Acronym	Full Name or Phrase
ROD	record of decision
2015 ROD	Greater Sage-grouse Record of Decision and Land Management Plan Amendments
SFA	sagebrush focal area
SO	Secretarial Order
ST	standard (forest plan component)
USDA	United States Department of Agriculture
USDI	United Stated Department of the Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UT	Utah
WY	Wyoming

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Executive Summary

ES 1 INTRODUCTION

The United States Department of Agriculture (USDA), Forest Service (FS) has prepared proposed land management plan amendments (LMPAs) and a draft environmental impact statement (DEIS) to describe in detail three alternatives for analyzing the effects of changing conservation measures for greater sage-grouse (GRSG) as well as to incorporate new information and to improve the clarity, efficiency, and implementation of the conservation measures of the 2015 Greater Sage-Grouse Plan Amendments. The DEIS describes the affected environment and discloses environmental effects of the alternatives.

Greater sage-grouse is a species dependent on sagebrush steppe ecosystems. Over the past two decades, these ecosystems have been managed in partnership by state wildlife agencies, federal agencies, local authorities, and many others to conserve GRSG and its habitat. The FS and the US Department of the Interior (USDI), Bureau of Land Management (BLM) have broad responsibilities to manage federal lands and resources for the public benefit.

In 2010, a United States Fish and Wildlife Service (USFWS) listing decision prompted a FS and BLM joint planning effort to amend FS land management plans (LMPs) and BLM equivalents to incorporate conservation measures to support the continued existence of GRSG. This effort culminated in the FS Greater Sage-grouse Records of Decisions (RODs) that were signed on September 16, 2015.

On October 2, 2015, the USFWS found that listing the GRSG under the Endangered Species Act (ESA) was not warranted (80 FR 59858). The USFWS based its finding on regulatory certainty from the conservation measures in the FS and BLM GRSG land management plan amendments and revisions, as well as on other private, state, and federal conservation efforts.

In 2017, the Secretary of the Interior issued two Secretarial Orders (SO) 3349 and 3353. SO 3349 ordered agencies to reexamine practices to better balance conservation strategies and policies with the need of creating jobs. SO 3353 was issued with a purpose of enhancing cooperation among 11 western states and the BLM in managing and conserving GRSG. It also directed an Interior Review Team, consisting of the BLM, the USFWS, and the US Geological Survey (USGS), to coordinate with the Sage-Grouse Task Force (composed of state agencies, BLM, USFWS, and the Natural Resources Conservation Service). A June 14, 2017 letter from the Forest Service Chief directed FS Regions 1, 2, and 4 to cooperate in the review. On August 4, 2017 in response to SO 3353, the Interior Review Team submitted its Report which recommended modifying the GRSG plans and associated policies to better align with individual state plans. On August 4, 2017, the Secretary issued a memo to the Deputy Secretary directing the BLM to implement the recommendations found in the report.

To solicit public comment on GRSG management issues that could warrant land management plan amendments, the FS published a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) (82 FR 55346, November 21, 2017). The FS provided the public with an opportunity to identify the preliminary need for change to the 2015 amendments and encouraged the public to help identify any issues, management questions, or concerns that should be addressed. On June 20, 2018 a Supplemental NOI was published to continue the scoping effort by seeking comments for a proposed action to make amendments to the plans (83 FR 28608). This Supplemental NOI identified the provisions in the

regulations pertaining to the National Forest System (NFS) Land Management Planning (36 CFR 219, referred to as the "planning rule") likely to be directly related, and so applicable, to proposed plan amendments. On July 2, 2018, a corrected Supplemental NOI was published to clarify that the FS is not proposing to amend LMPs for NFS lands in Montana (83 FR 30909).

The FS continues to build upon its commitment to on-the-ground management to promote conservation through close collaboration with State governments, local communities, private landowners, and other stakeholders. The FS is a cooperating agency with the BLM as they undertake a similar action.

ES 2 PURPOSE OF AND NEED FOR ACTION

The purpose and need for this planning action helps define the scope of proposed alternative actions and issues the agency must analyze. The National Forest Management Act of 1976 (NFMA) directs the FS to develop, maintain, and, as appropriate, revise LMPs which guide management of NFS lands (16 USC 1604(a)).

The FS published the 2017 NOI and the 2018 Supplemental NOI to consider the possibility of amending LMPs for GRSG that were originally amended in 2015 in the states of Colorado, Idaho, Nevada, Wyoming, and Utah (2015 Greater Sage-Grouse Plan Amendments). The need for further plan amendments is that the FS has gained new information and understanding from comments received from the NOIs, within-agency scoping, new science and research, and coordination with the Sage Grouse Task Force. The purpose of the proposed action is to incorporate new information to improve the clarity, efficiency, and implementation of the 2015 Greater Sage-Grouse Plan Amendments, including better alignment with BLM and state plans, in order to benefit GRSG conservation at the landscape scale.

ES 3 ISSUES AND RELATED RESOURCE TOPICS IDENTIFIED THROUGH SCOPING

The FS evaluated comments received during the scoping period to determine whether they constituted issues relevant to this planning process. Planning issues can drive the development of an alternative, may involve resources that are adversely affected by the proposed action, or may concern conflicts about alternative uses of available resources. These planning issues provide focus for the analysis and are used to compare the environmental effects of the alternatives. More detailed information can be found in Chapter 1 of this DEIS.

The sections below outline how the FS addressed issues and related resource topics raised during scoping and how they are considered in this DEIS. Generally, they fall into the following categories:

- Issues and related resource topics retained for further consideration in this DEIS.
- Clarification of the 2015 Greater Sage-Grouse Plan Amendments.
- Issues and resource topics not carried forward for additional consideration or analysis in this DEIS.

ES 3.1 ISSUES AND RELATED RESOURCE TOPICS RETAINED FOR FURTHER CONSIDERATION IN DEIS

The FS developed alternatives based on new issues raised during scoping that are addressed in the Proposed Action Alternative or State of Utah Alternative. In some cases, issues were previously analyzed in alternatives in the 2015 FEIS, but additional analysis is needed. In other cases, the issues were not previously considered and analysis is needed in this DEIS.

Table ES-1 contains the issues and related resource topics that could be affected that were identified during scoping. These issues are carried forward for further analysis in this DEIS.

Table ES-1. Issues carried forward for further analysis.

Issues	Resource Topics
Habitat Management Area (HMA) Designation • *ID, NV, UT, WY*: Identify a process for evaluating and updating HMA boundaries. • *ID, UT, WY*: Incentivize GRSG habitat disturbance outside of PHMA; focus protection in PHMAs. • *UT*: Change the Anthro Mountain HMA designation to PHMA designation. • *UT*: Eliminate the GHMA and Anthro Mountain designation • *NV, UT, WY*: Changes in HMA boundaries.	Special Status Species-GRSG and Habitat, Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Land Use and Realty (including Renewable Energy), Livestock Grazing, Wildland Fire, Recreation, Comprehensive Travel Management, Mineral and Energy Resources
Elimination of Sagebrush Focal Area (SFA) Designations/Withdrawals • *ID, CO, UT, NV, WY*: SFAs duplicate many protections that are already in place through the designation of priority habitat management areas (PHMA) in the absence of mineral withdrawals.	Special Status Species-GRSG and Habitat, Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Land Use and Realty (including Renewable Energy) Livestock Grazing, Wildland Fire, Recreation, Comprehensive Travel Management, Mineral and Energy Resources
Changing Net Conservation Gain and Adjustment of Compensatory Mitigation Frameworks • *ID, UT, WY, CO*: Net conservation gain changed to no net loss of habitat to ensure a minimum of compensatory mitigation that allows for state-by-state approaches to mitigation strategies. • *ID*: Alignment with the Idaho Governor's Task Force Plan. Prioritization of protection of PHMA by emphasizing compensatory mitigation in IHMA. Updated mitigation framework. • *WY*: Alignment with the Wyoming Compensatory Mitigation Framework. Updated mitigation framework. • *NV*: Alignment with the State of Nevada's mitigation strategy. Updated mitigation strategy. • *UT*: Alignment with State of Utah Compensatory Mitigation Program.	Special Status Species-GRSG and Habitat, Land Use and Realty (including Renewable Energy), Mineral and Energy Resources
Modifying Lek Buffers • *ID*: Prioritization of protection of PHMA by allowing flexibility in lek buffer application.	Special Status Species-GRSG and Habitat, Land Use and Realty (including Renewable Energy)
Including Waivers, Exceptions, and Modifications on NSO Stipulations • *ID*: The no surface occupancy (NSO) exception includes appropriate surface use and timing stipulations. Change in requirements for the USFWS to approve waivers, exceptions, or modifications. • *NV*: The no surface occupancy (NSO) exception includes appropriate use of mitigation hierarchy. Change in requirements for the USFWS to approve waivers, exceptions, or modifications.	Special Status Species-GRSG and Habitat, Mineral and Energy Resources

Issues	Resource Topics
• *UT*: Exceptions must result in no effects to GRSG or habitat or all impacts could be offset through mitigation. Added geothermal leases in addition to oil and gas leases. Change in requirements for the USFWS to approve waivers, exceptions, or modifications. • *WY*: Connectivity habitat added to NSO or surface disturbing activities being not authorized within 0.6 miles of occupied leks.	
Modifying Desired Conditions • *WY, NV*: Local ecological site potential considered, broader description of appropriate GRSG habitat requirements identified, and desired conditions table values moved to appendix. • *UT*: Updating desired condition table values.	Special Status Species-GRSG and Habitat, Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Land Use and Realty (including Renewable Energy), Livestock Grazing, Wildland Fire, Recreation, Comprehensive Travel Management, Mineral and Energy Resources
Changing Livestock Grazing Guidelines • *CO, ID, UT, WY, NV*: Livestock management guidelines revised to replace specific grass-height requirements with standardized evaluation methods (e.g., the habitat assessment framework) in order to better reflect current research and to align local management with local habitat conditions. • *NV*: Replace specific grass-height guidelines with management approaches to riparian and meadow areas. • *ID, UT, NV*: Removal of restriction on water developments in HMAs.	Special Status Species-GRSG and Habitat, Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Livestock Grazing
Adaptive Management Review Process • *ID, UT, WY*: Allow for process for reviewing or reverting to an adaptivemanagement response when causal factor is resolved. • *NV*: Ensure federal, state, and local partners are part of the causal factoranalysis process. Identify process to evaluate and respond to hard and soft triggeradaptive management responses.	Special Status Species-GRSG and Habitat, Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Land Use and Realty (including Renewable Energy), Livestock Grazing, Wildland Fire, Recreation, Comprehensive Travel Management, Mineral and Energy Resources
Treatment of Invasive Species • *ID, UT, WY, NV*: Emphasize treatment of invasive plant species in PHMA.	Special Status Species-GRSG and Habitat, Vegetation (Including Invasive, Exotic Species, and Noxious Weeds)

ES 3.2 CLARIFICATION OF THE 2015 SAGE-GROUSE PLAN AMENDMENTS

Some commenters requested clarification on the implementation of the 2015 Greater Sage-Grouse Plan Amendments. No new analysis is included in this DEIS, as these decisions were analyzed in the 2015 FEIS. The clarifying language for these planning decisions is displayed in this planning document in Chapter 2 to communicate how these issues are being addressed.

ES 3.3 ISSUES AND RESOURCE TOPICS NOT CARRIED FORWARD FOR ADDITIONAL CONSIDERATION OR ANALYSIS IN THIS DEIS

Some issues do not require additional analysis because they were analyzed in the 2015 FEIS, no significant new information has emerged, or they are not affected by the changes proposed in Chapter 2 of this DEIS. The impacts of implementing the alternatives in this DEIS are within the range of impacts of alternatives previously analyzed in the 2015 FEIS. Below is a list of issues that were analyzed in the 2015 FEIS.

- Restrictions on Right of Ways (ROWs) and infrastructure
- Wind energy development in PHMA
- Retention of lands as identified as HMAs in federal ownership
- Prioritization of fluid mineral leases outside of PHMA and GHMA in Colorado, Idaho, Nevada, and Wyoming
- Numerical noise limitations within PHMA
- Vegetation treatments and wildfire response
- Habitat assessment framework
- Contribution of disturbance caps toward GRSG conservation objectives

The following issues were evaluated, but dismissed as part of the 2015 FEIS. For the same reasons they were dismissed in the 2015 FEIS, similarly they are not carried forward for detailed analysis in this DEIS.

- Hunting greater sage-grouse
- Predator control
- Aircraft overflights
- National livestock grazing policies
- Warranted but precluded Endangered Species Act decision
- FS Inventoried Roadless Areas and recommended Wilderness

ES 4 ALTERNATIVES CONSIDERED

Alternative development and analysis is the heart of an EIS. The alternatives considered in this document address all the issues brought forward by the public and considered by the FS. The comparative analysis between alternatives establishes a framework for decision makers to understand important trade-offs and identify the most effective way to meet the purpose and need.

ES 4.1 ALTERNATIVE 1 – NO ACTION ALTERNATIVE

Under the No Action Alternative, the FS would not amend LMPs amended by the 2015 *Greater Sage-grouse Record of Decision and Land Management Plan Amendments* (For a complete list, see Chapter 1, Table 1-1). Greater sage-grouse habitat would continue to be managed under current LMP direction.

Desired conditions and objectives for FS administered lands and federal mineral estate would not change. Allowable uses and restrictions would also remain the same, as they pertain to such activities as mineral leasing and development, recreation, lands and realty, and livestock grazing. This alternative also maintains the designation of sagebrush focal areas (SFAs), although the BLM has cancelled the proposal to withdraw SFAs from locatable mineral entry (Notice of Cancellation, 82 *Federal Register* 195, October 11, 2017, p. 47248).

ES 4.2 ALTERNATIVE 2 – PROPOSED ACTION

This alternative makes modifications to the No Action Alternative to improve the clarity, efficiency, and

implementation of GRSG plans, including better alignment with BLM and state plans, in order to benefit GRSG conservation on the landscape scale.

This alternative was developed to promote continued collaboration with the BLM, states, and stakeholders to improve management, compatibility, and consistency between federal management plans and other plans and programs at the state level, and to continue to provide protection of GRSG habitat. This enhanced cooperation between the FS and the States is expected to improve management and coordination with states across the range of GRSG. The modifications made by this alternative include updating and making adjustments to HMA boundaries; removing SFA designations; removing the Anthro Mountain HMA designation and replacing it with PHMA designation; incorporating casual factor review and response processes into the adaptive management strategies; changing net conservation gain to no net loss of habitat and aligning better with states' mitigation strategies; modifying lek buffers; revising livestock management guidelines to replace grass height requirements with standardized evaluation methods; clarifying the restriction on water developments within HMAs; and emphasizing treatment of invasive plants in PHMAs. These modifications differ among states in the planning area.

Consistent with the Notice of Cancellation of the BLM's application to withdraw SFAs from locatable mineral entry (82 *Federal Register* 195, October 11, 2017, p. 47248), this alternative would also remove the recommendation for withdrawal.

ES 4.3 ALTERNATIVE 3 – STATE OF UTAH ALTERNATIVE

This alternative incorporates all aspects of Alternative 2, except it incorporates two additional modifications to LMPs within the State of Utah. Specifically, the USFS would remove the GHMA designation from NFS lands in Utah and would also remove the Anthro Mountain HMA from designation on the Ashley National Forest, and not re-designate it as PHMA.

ES 5 COMPARISON OF ALTERNATIVES

This section provides a summary comparison of the No Action, Proposed Action, and State of Utah Alternatives. A detailed description of the issues, alternatives, and environmental consequences is included in the DEIS. Table ES-2 shows acres and changes to HMA designations (See Chapter 4, Section 4.5.1) and elimination of SFA designations/withdrawals (See Chapter 4, Section 4.5.2). Table ES-3 show a comparative summary of alternatives. A more detailed description of the issue and alternatives are included in Chapters 2 and 4.

Table ES-2. Comparison summary of acres of HMAs by alternative.

NFS Surface Acres	No Action Alternative[1]	Proposed Action Alternative	State of Utah Alternative
PHMA	2,685,400	2,355,000	2,276,700
GHMA	2,006,000	1,998,400	1,970,300
IHMA (ID Only)	415,900	415,900	415,900
OHMA (NV Only)	621,400	426,500	426,500
Priority-Core (WY only)	309,200[2]	-	-
Priority-Connectivity (WY only)	68,800	-	-
Connectivity (WY Only)	-	6,400	6,400
Anthro Mountain HMA (UT Only)	41,200	-	-
Sagebrush Focal Areas (SFAs)	865,700[2]	-	-

[1] The No Action Alternative includes acreage in Montana.
[2] These acres overlay designated HMAs; the acres are not additive.

Table ES-3. Comparison of Alternatives by issue.

State	No Action Alternative	Proposed Action Alternative	State of Utah Alternative
Changing Net Conservation Gain (See Chapter 4, Section 4.5.3)			
Colorado	Net Conservation Gain	No Net Habitat Loss	--
Idaho	Net Conservation Gain	No Net Habitat Loss	--
Nevada	Net Conservation Gain	Net Conservation Gain	--
Utah	Net Conservation Gain	No Net Habitat Loss	No Net Habitat Loss
Wyoming	N/A	N/A	N/A
Modifying Lek Buffers (See Chapter 4, Section 4.5.4)			
Colorado	N/A	N/A	N/A
Idaho	PHMA, IHMA, and GHMA: 2 miles	PHMA: 2 miles IHMA: • 2 miles (communication/ metrological) • 1.2 miles (transmission lines) • 0.6 miles (distribution lines) GHMA: 0.6 miles	--
Nevada	N/A	N/A	N/A
Utah	N/A	N/A	N/A
Wyoming	N/A	N/A	N/A
Including Waivers, Exceptions, and Modifications on NSO Stipulations (See Chapter 4, Section 4.5.5)			
Colorado	Exception could be granted by the authorized officer with unanimous concurrence from a team of agency GRSG experts from the U.S. Fish and Wildlife Service.	Exception could be granted by the authorized officer. Will be reviewed by the Technical and Policy Teams.	N/A
Idaho	Exception could be granted by the authorized officer with unanimous concurrence from a team of agency GRSG experts from the U.S. Fish and Wildlife Service.	Exception could be granted by the authorized officer. Will be reviewed by the Technical and Policy Teams.	--
Nevada	Exception could be granted by the authorized officer with unanimous concurrence from a team of agency GRSG experts from the U.S. Fish and Wildlife Service.	Exception could be granted by the authorized officer.	--

State	No Action Alternative	Proposed Action Alternative	State of Utah Alternative
Utah	Exception could be granted by the authorized officer with unanimous concurrence from a team of agency GRSG experts from the U.S. Fish and Wildlife Service.	Exception could be granted by the authorized officer.	Same
Wyoming	N/A	N/A	N/A
Idaho	Exception provides a clear net conservation gain to the GRSG.	Exception could be granted if population trend not engaging adaptive management triggers, result in no net loss of habitat, impacts could be fully offset through mitigation, or co-located. Appropriate controlled surface use and timing limitation stipulations would be included and the project will not exceed the disturbance cap	--
Nevada	Granting the exception provides an alternative to a similar action occurring on a nearby parcel	Exception could be granted if the location of the proposed authorization is determined to be unsuitable and impacts from the proposed action could be offset through use of the mitigation hierarchy	--
Utah	Exception provides a clear net conservation gain to the GRSG.	Impacts could be fully offset through mitigation and the exception will include appropriate controlled surface use and timing limitation stipulations	Same
Wyoming	N/A	N/A	N/A
Modifying Desired Conditions (See Chapter 4, Section 4.5.6)			
Colorado	N/A	N/A	N/A
Idaho	N/A	N/A	N/A
Nevada	Desired Conditions Tables 1a and 1b.	Local ecological site potential considered, broader description of appropriate GRSG habitat requirements identified, and seasonal use periods and habitat preferences values moved to appendix.	--
Utah	Desired Conditions Table 1.	Updated desired conditions values.	Same

State	No Action Alternative	Proposed Action Alternative	State of Utah Alternative
Wyoming	Desired Conditions Table 1.	Local ecological site potential considered, broader description of appropriate GRSG habitat requirements identified, and seasonal use periods and habitat preferences values moved to appendix.	--
Changing Livestock Grazing Guidelines (See Chapter 4, Section 4.5.7)			
Colorado Idaho, Nevada, Utah, Wyoming	Specific residual grass and stubble height livestock grazing guidelines	In GRSG habitat, if livestock grazing is limiting achievement of seasonal desired conditions, adjust livestock management, as appropriate, to address GRSG habitat requirements.	Same
Nevada	Not considered	In priority, general, and other HMAs, grazing utilization in riparian areas and mesic meadows should be managed to promote cover, diversity, and health of important/key plant species to support sage-grouse during brood-rearing season; and during the growing season, manage grazing in riparian areas and mesic meadows to allow recovery of riparian vegetation	--
Colorado Idaho, Nevada, Utah, Wyoming	Do not approve construction of water developments unless beneficial to GRSG habitat.	Do not approve construction of water developments that would cause adverse effects to GRSG habitat.	Same
Adaptive Management Review Process (See Chapter 4, Section 4.5.8)			
Colorado	Appendix C, 2015 ROD/LMPA	Appendix B	--
Idaho	Appendix C, 2015 ROD/LMPA	Appendix C	--
Nevada	Appendix C, 2015 ROD/LMPA	Appendix D	--
Utah	Appendix C, 2015 ROD/LMPA	Appendix E	--
Wyoming	2015 ROD/LMPA	N/A	--
Treatment of Invasive Species (See Chapter 4, Section 4.5.9)			
Colorado	N/A	N/A	N/A
Idaho, Nevada, Utah, Wyoming	Not considered	Emphasize treatment of invasive plant species in PHMA.	Same

CHAPTER 1 - Purpose and Need for Action

1.1 INTRODUCTION

Greater sage-grouse (GRSG) is a species dependent on sagebrush steppe ecosystems. These ecosystems are managed in partnership across the range of the greater sage-grouse by federal, state, tribal and local authorities. Efforts to conserve the species and its habitat date back to the 1950s. Over the past two decades, state wildlife agencies, federal agencies, and many others in the range of the species have been collaborating to conserve greater sage-grouse and its habitats. The United States Department of Agriculture (USDA) Forest Service (FS) and the United States Department of the Interior (USDI) Bureau of Land Management (BLM) have broad responsibilities to manage federal lands and resources for the public benefit.

The National Forest Management Act of 1976 (NFMA) directs the FS to develop, maintain, and, as appropriate, revise land management plans (LMPs) which guide management of National Forest System (NFS) lands (16 USC 1604(a)). These plans will be generically referred to as LMPs throughout the remainder of this document.

In March 2010, the USDI Fish and Wildlife Service (USFWS) issued a 12 Month Finding for Petitions to List the greater sage-grouse (*Centrocercus urophasianus*) as Threatened or Endangered (75 Federal Register 13910, March 23, 2010). In that 12-Month Finding, the USFWS concluded that listing the GRSG as a threatened or endangered species was "warranted, but precluded by higher priority listing actions." The USFWS reviewed the status and threats to the GRSG in relation to the five Listing Factors provided in Section 4(a)(1) of the Endangered Species Act of 1973 (ESA)(16 USC 1533(a)(1)). Of the five Listing Factors reviewed, the USFWS determined that Factor A, "the present or threatened destruction, modification, or curtailment of the habitat or range," (p. 13924) and Factor D, "inadequacy of existing regulatory mechanisms" (p. 13973) posed "a significant threat to the greater sage-grouse now and in the foreseeable future" (pp. 13962 and 13982) (75 FR 13910, March 23, 2010). The USFWS identified the land and resource management plans for the FS and BLM as mechanisms through which adequate protections for greater sage-grouse could be implemented.

The 2010 USFWS listing decision prompted a FS and BLM joint planning effort to amend FS LMPs and BLM equivalents to incorporate conservation measures to support the continued existence of the greater sage-grouse. This effort culminated in the Forest Service Greater Sage-grouse Records of Decisions (2015 RODs) that were signed on September 16, 2015.

On October 2, 2015, the USFWS found that listing the greater sage-grouse under the ESA was not warranted (80 FR 59858). The USFWS based its finding on regulatory certainty from the conservation measures in the FS and BLM greater sage-grouse LMP amendments and revisions, as well as on other private, state, tribal, and federal conservation efforts.

On March 29, 2017, the Secretary of the Interior issued Secretarial Order (SO) 3349. It ordered agencies to reexamine practices to better balance conservation strategies and policies with the need of creating jobs. On June 7, 2017, the Secretary issued SO 3353 with a purpose of enhancing cooperation among eleven western states and the BLM in managing and conserving GRSG. SO 3353 directed an Interior Review Team, consisting of the BLM, the USFWS, and the US Geological Survey (USGS), to coordinate with

the Sage-Grouse Task Force. A June 14, 2017 letter from the Forest Service Chief directed Forest Service Regions 1, 2, and 4 to cooperate in the review. On August 4, 2017, the Interior Review Team submitted its Report in Response to SO 3353. In this report the team recommended modifying the GRSG plans and associated policies to better align with the individual state plans. On August 4, 2017, the Secretary issued a memo to the Deputy Secretary directing the BLM to implement the recommendations found in the report. On October 11, 2017, the BLM published the Notice of Intent to Amend Land Use Plans Regarding Greater Sage-Grouse Conservation and Prepare Associated Environment Impact Statements or Environmental Assessments (82 FR 47248).

To solicit public comment on GRSG management issues that could warrant LMP amendments, the FS published a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) (82 FR 55346, November 21, 2017). The FS provided the public with an opportunity to identify the preliminary need for change to the 2015 amendments and encouraged the public to help identify any issues, management questions, or concerns that should be addressed. A March 2018, Executive Summary of comments can be found here: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd576258.pdf. On June 20, 2018 a Supplemental NOI was published to continue the scoping effort by seeking comments for a proposed action to make amendments to the plans (83 FR 28608). This Supplemental NOI identified the provisions in the regulations pertaining to the NFS Land Management Planning (36 CFR 219, referred to as the "planning rule") likely to be directly related, and so applicable, to proposed plan amendments. On July 2, 2018, a corrected Supplemental NOI was published to clarify that the FS is not proposing to amend LMPs for NFS lands in Montana (83 FR 30909). On August 1, 2018 the comment period was extended for two weeks in response to public concerns regarding the BLM Draft Environmental Impact Statement (DEIS) comment period closing the same day as the FS (83 FR 37460). A September 2018, Executive Summary of comments is located at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd595810.pdf.

The FS prepared this DEIS to analyze changing conservation measures for GRSG as well as to incorporate new information to improve the clarity, efficiency, and implementation of the conservation measures of the 2015 Greater Sage-Grouse Plan Amendments. The FS is also a cooperating agency with the BLM as they undertake a similar action.

1.2 PLANNING AREA

The amendments would apply to the planning area that comprises NFS lands in GRSG habitat management areas (HMAs) located in national forests and grasslands. The planning area is managed under 19 LMPs, shown in Table 1-1.

Table 1-1. Forest Service LMPs proposed to be amended by GRSG planning strategy.

Managing Forest or Grassland	LMP and Year Approved[1]	State
Intermountain Region, Region 4		
Ashley National Forest	Ashley National Forest Land and Resource Management Plan (1986)	Utah, Wyoming
Boise National Forest	Boise National Forest Land and Resource Management Plan (2003)	Idaho
Bridger-Teton National Forest	Bridger-Teton Land and Resource Management Plan (1990)	Wyoming
Caribou-Targhee National Forest	Curlew National Grassland Plan (2002)	Idaho
Caribou-Targhee National Forest	Revised Forest Plan for the Caribou National Forest (2003)	Idaho

Managing Forest or Grassland	LMP and Year Approved[1]	State
Caribou-Targhee National Forest	1997 Revised Forest Plan, Targhee National Forest (1997)	Idaho
Dixie National Forest	Land and Resource Management Plan for the Dixie National Forest (1986)	Utah
Fishlake National Forest	Fishlake National Forest Land and Resource Management Plan (1986)	Utah
Humboldt-Toiyabe National Forest	Humboldt National Forest Land and Resource Management Plan (1986)	Nevada
Humboldt-Toiyabe National Forest	Land and Resource Management Plan, Toiyabe National Forest (1986)	Nevada
Manti-La Sal National Forest	Land and Resource Management Plan, Manti-La Sal (1986)	Utah
Salmon-Challis National Forest	Challis National Forest Land and Resource Management Plan (1987)	Idaho
Salmon-Challis National Forest	Salmon National Forest Land and Resource Management Plan (1988)	Idaho
Sawtooth National Forest	Sawtooth National Forest Land and Resource Management Plan (2003)	Idaho, Utah
Uinta-Wasatch-Cache National Forest	2003 Land and Resource Management Plan, Uinta National Forest (2003)	Utah, Wyoming
Uinta-Wasatch-Cache National Forest	Revised Forest Plan, Wasatch-Cache National Forest (2003)	Utah, Wyoming
Rocky Mountain Region, Region 2		
Medicine Bow-Routt National Forest	Routt National Forest Revised Land and Resource Management Plan (1997)	Colorado
Medicine Bow-Routt National Forest	Medicine Bow National Forest Revised Land and Resource Management Plan (2003)	Wyoming
Thunder Basin National Grassland	Land and Resource Management Plan for the Thunder Basin National Grassland (2001)	Wyoming

[1]As amended

1.2.1 HABITAT MANAGEMENT AREAS

The planning area is comprised of numerous areas with GRSG habitat across the local ranges of one or more GRSG populations. These habitat areas are non-contiguous, meaning they are often separated by natural geographic features/barriers or human development. In this DEIS, the planning area is further divided into HMAs. Habitat management areas are broadly mapped at a large scale and may encompass tracts of non-habitat; plan components only apply to GRSG habitat within the broad bounds of the HMAs. The HMAs are defined as follows:

- **Priority Habitat Management Areas (PHMA):** Areas that have been identified as having the highest conservation value to maintaining sustainable GRSG populations. These areas are occupied seasonally or year-round and include breeding, late brood-rearing, and winter concentration areas. The FS and BLM have identified these areas in coordination with respective state wildlife agencies. Idaho, Nevada, Utah, Wyoming, and Colorado have PHMA.

- **General Habitat Management Area (GHMA):** Areas that are likely to be occupied seasonally or year-round outside of PHMAs and where special management would apply to sustain the GRSG population. GHMA may include active leks, seasonal habitats, and fragmented or marginal habitat. These areas have been identified by the FS and BLM in coordination with respective state wildlife agencies. Idaho, Nevada, Utah, Wyoming, and Colorado have GHMA.
- **Important Habitat Management Area (IHMA):** Areas that contain additional habitat and populations that provide a management buffer for PHMA and to connect patches of PHMA. IHMAs are typically adjacent to PHMAs but generally reflect somewhat lower GRSG population status and/or reduced habitat value due to disturbance, habitat fragmentation or other factors. IHMA is only designated in Idaho.
- **Other Habitat Management Area (OHMA):** Areas with appropriate environmental conditions for GRSG that are less used by GRSG or have marginal habitat suitability. OHMA is only designated in Nevada.
- **Connectivity Habitat Management Area (CHMA):** HMAs that are known migration corridors that connect populations or population segments. CHMA is only designated in Wyoming.
- **Winter Concentration Areas:** Winter concentration areas are a habitat type that are exclusively mapped by the Wyoming Game and Fish Department (WGFD) if observed. The criteria is a habitat feature where a biologically significant core area population persistently congregates in an area December 1 to March 14. No winter concentration areas are currently mapped on NFS lands in Wyoming. If Winter Concentration Areas are identified and mapped by WGFD, the appropriate plan components would be applied. Winter Concentration Areas are only in Wyoming.

1.3 PURPOSE AND NEED

The FS published the 2017 NOI and the 2018 Supplemental NOI to gauge public opinion on the possibility of amending LMPs for GRSG that were originally amended in 2015 in the states of Colorado, Idaho, Nevada, Wyoming, and Utah (2015 Greater Sage-Grouse Plan Amendments). The need for further plan amendments is that the FS has gained new information and understanding from the 55,000 comments received as a result of the 2017 NOI, from within-agency scoping, and from coordination with the Sage Grouse Task Force (with members from state agencies, BLM, USFWS, and the Natural Resources Conservation Service). The purpose of the proposed action is to incorporate new information to improve the clarity, efficiency, and implementation of the 2015 Greater Sage-Grouse Plan Amendments, including better alignment with BLM and state plans, in order to benefit GRSG conservation at the landscape scale.

1.4 PROPOSED ACTION

The scope and scale of the proposed action is on 5.2 million acres of GRSG habitat on NFS lands in FS Intermountain and Rocky Mountain Regions. The plan amendments makes changes to the 2015 Greater Sage-Grouse Plan Amendments that are specific by state and located in Chapter 2. The following are the proposed actions:

1) Areas designated as sagebrush focal areas (SFAs) will be eliminated and designated as PHMAs in order to streamline plans in accordance with BLM and FS policy.
2) The use of mineral withdrawals will be eliminated, in accordance with the limits of FS authority.
3) Where restrictions on mineral developments are required, specific requirements for habitat disturbing activities will be inserted to clarify plan direction.
4) Where exceptions to restrictions on minerals development are allowed, the details,

requirements, and process of making the exceptions will be modified in order to streamline the plans in accordance with FS and BLM policy.

5) Updated information will be incorporated to revise mapped HMAs, and the purpose and use of HMA maps will be clarified.
6) Livestock management guidelines will be revised to remove restrictions on water developments and to replace specific grass-height requirements with standardized evaluation methods (e.g., the habitat assessment framework) in order to better reflect current research and to align local management with local habitat conditions.
7) Invasive plant management will be further emphasized by adding a plan objective that stresses treatment of invasive plants in PHMAs, since invasive plants are a primary threat to the sagebrush ecosystem and greater sage-grouse.
8) In order to promote landscape-scale effectiveness, the adaptive management framework will be changed to align the FS framework with BLM and state-based adaptive management systems.
9) Plan components will be altered to focus protections for greater sage-grouse into priority habitat management areas (PHMAs) in order to better incentivize habitat disturbance to areas outside of PHMAs.
10) The compensatory mitigation framework, including the use of no net loss or net conservation gain elements, will be changed in order to promote landscape-scale effectiveness by aligning the FS framework with BLM and state-based compensatory mitigation systems.
11) Text will be edited to correct minor clerical errors, improve clarity, and reduce redundancy within the plan and as related to national policy.

1.4.1 SUBSTANTIVE REQUIREMENTS OF THE 2012 PLANNING RULE AS AMENDED

The planning rule requires that the FS apply those substantive planning rule provisions that are directly related to the amendment, within the scope and scale of the amendment (36 CFR 219.13 (b)(5)). The FS's determination of which substantive planning rule provisions are directly related to the amendment is based on the purpose for and the effects of the amendment (36 CFR 219.13 (b)(5)(i)). The purpose of the amendment is to include new information to improve the clarity, efficiency, and implementation of the 2015 Greater Sage-Grouse Plan Amendments, including better alignment with the BLM and state plans, in order to benefit greater sage-grouse conservation on the landscape scale.

The following substantive rule provisions are related to this plan amendment:

- The requirement to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, and to contribute to social and economic sustainability (36 CFR 219.8);
- The requirement to maintain the diversity of plant and animal communities (36 CFR 219.9 (a) and (b));
- The requirement to include plan components for integrated resource management to provide for ecosystem services and multiple uses in the plan area (36 CFR 219.10 (a)).

With respect to the requirements of the rule at 36 CFR 219.8, the analysis in Chapters 3 and 4 shows that the changes to the plan components both maintain ecosystem sustainability and contribute to social and economic sustainability, within the narrow scope of the amendments for greater sage-grouse.

With respect to the requirements of the rule at 36 CFR 219.9 concerning the diversity of plant and animal communities, the greater sage-grouse has been identified as a species of conservation concern (SCC) for

the Ashley and Manti-La Sal National Forests, at this time they are the only two national forests affected by this amendment for which SCC have been identified. Taking the conservative approach for this analysis, the FS is considering the effect on the greater sage-grouse as a potential SCC for each LMP that would be amended by this decision. The analysis in this DEIS shows that the amendments maintain ecological conditions necessary for a viable population of greater sage-grouse in the plan area for each LMP to which the amendments would apply (see Chapters 3 and 4).

With respect to the requirement of the rule at 36 CFR 219.10(a), the analysis shows that the minor adjustments that modify restrictions in the 2015 Greater Sage-grouse Plan Amendments should improve the capability of the plan areas to provide for ecosystem services and multiple uses.

1.5 SCOPING AND IDENTIFICATION OF ISSUES FOR DEVELOPMENT OF THE DRAFT ALTERNATIVES

1.5.1 THE SCOPING PROCESS

Scoping takes place early in the planning process and is a way for the FS to determine the scope, or range, of issues to be addressed and to identify the significant issues to consider in the planning process. Scoping identifies public and agency concerns, defines the relevant issues and alternatives that will be examined in detail in the EIS, and eliminates those issues that are not significant or which have been covered by prior environmental review (40 CFR 1501.7).

Scoping is designed to be consistent with the public involvement requirements of NFMA and the National Environmental Policy Act (NEPA). This includes providing opportunities for public participation (36 CFR 219.4). The scoping process for these amendments included soliciting input from interested and affected state and local governments, tribal governments, other federal agencies and organizations, and individuals.

In addition to soliciting input from the public through scoping, the FS also has been engaged with states in the planning area, primarily through frequent technical meetings and during interactions with the Sage-grouse Task Force and the Association of Fish and Wildlife Agency's Sagebrush Executive Oversight Committee. The FS has also participated in government-to-government consultation with tribal governments.

The FS gave notice on November 21, 2017 of the intent to prepare an EIS for possible amendments to the LMPs that were amended in 2015 with direction for management of greater sage-grouse (82 FR 55346, November 21, 2017). The notice initiated a scoping process that invited public input on the preliminary issues the FS identified and on any related issues the public identified. On January 5, 2018, the comment period was extended two weeks (83 FR 654, January 5, 2018). The public comment period occurred from November 21, 2017 to January 19, 2018. During this timeframe, the FS received 50,535 responses (excluding duplicate submittals). Comments obtained during the scoping period were used to define the relevant issues that would be addressed by a range of reasonable alternatives. An executive summary of comments is available at: https://www.fs.usda.gov/detail/r4/home/?cid=stelprd3843381.

As the proposed action was further refined, the FS issued a Supplemental Notice of Intent inviting additional comment on June 20, 2018 (83 FR 28608, 28609, June 20, 2018). This continued the scoping effort by seeking comments about a more specific proposed action to make amendments to the plans. On July 2, 2018 a Corrected Supplemental NOI was published to clarify that the FS is not proposing to

amend LMPs for NFS lands in Montana (83 FR 30909, July 2, 2018). The public comment period occurred from June 20 to August 15, 2018. On August 1, 2018 the comment period was extended by two weeks in response to public concerns from individuals and agencies who were trying to submit comments to the BLM for their GRSG DEIS comment period, before it closed on August 2, 2018 (83 FR 37460, August 1, 2018). The FS received 8,372 responses (excluding duplicate submittals). An Executive Summary of comments can be found here: https://www.fs.usda.gov/detail/r4/home/?cid=stelprd3843381.

Each of these Federal Register notices included identification of the substantive requirements of the planning rule likely to be directly related, and therefore applicable, to the amendments, as required by the planning rule (36 CFR 219.13(b)(2)).

1.5.2 ISSUES AND RELATED RESOURCE TOPICS IDENTIFIED THROUGH SCOPING

The FS evaluated comments received during the scoping period to determine whether they constituted issues relevant to this planning process. Planning issues can drive the development of an alternative, may involve resources that are adversely affected by the proposed action, or may concern conflicts about alternative uses of available resources. These planning issues provide focus for the analysis and are used to compare the environmental effects of the alternatives.

The sections below outline how the FS addresses issues raised during scoping and related resource topics in this DEIS. Generally, they fall into the following categories:

- **Clarification of the 2015 Greater Sage-grouse Plan Amendments** – Some commenters requested clarification on the implementation of the 2015 Greater Sage-grouse Plan Amendments. No new analysis is included in this DEIS, as these decisions were analyzed in the 2015 FEIS. However, clarifying language may have been added to the tables in Chapter 2.
- **Issues and related resource topics retained for further consideration in this DEIS** – The FS developed alternatives based on some of the issues raised during scoping. In some cases, the issue and related resource topic was previously analyzed in the 2015 FEIS, but additional analysis or clarification is needed. In other cases, the issues were not previously considered and analysis is needed in this DEIS. These issues are listed in Section 1.5.3.
- **Issues and resource topics not carried forward for additional consideration or analysis in this DEIS** - Some issues do not require additional analysis because they were analyzed in the 2015 FEIS, no new information has emerged, or they are not affected by the changes proposed in Chapter 2 of this DEIS.

1.5.3 ISSUES AND RELATED RESOURCE TOPICS RETAINED FOR FURTHER CONSIDERATION IN DEIS

Table 1-2 contains the issues and related resource topics that were identified during scoping and that could be affected. These issues are carried forward for further consideration in this DEIS.

Table 1-2. Issues carried forward for further analysis.

Issues	Resource Topics	States
Habitat Management Areas Designation		
Identify a process for evaluating and updating HMA boundaries	Special Status Species-Greater Sage-Grouse (and Habitat), Land Use and Realty (including Renewable Energy), Livestock Grazing, Wildland Fire, Recreation, Comprehensive	ID, NV, UT, WY

Issues	Resource Topics	States
	Travel Management, Mineral and Energy Resources	
Focus protection in PHMAs relative to other HMA designations	Special Status Species-Greater Sage-Grouse (and Habitat), Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Land Use and Realty (including Renewable Energy), Livestock Grazing, Wildland Fire, Recreation, Comprehensive Travel Management, Mineral and Energy Resources	ID, UT, WY
Change the Anthro Mountain HMA designation to PHMA designation	Special Status Species-Greater Sage-Grouse (and Habitat), Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Land Use and Realty (including Renewable Energy) Livestock Grazing, Wildland Fire, Recreation, Comprehensive Travel Management, Mineral and Energy Resources	UT
Eliminate the GHMA and Anthro Mountain designation	Special Status Species-Greater Sage-Grouse (and Habitat), Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Land Use and Realty (including Renewable Energy) Livestock Grazing, Wildland Fire, Recreation, Comprehensive Travel Management, Mineral and Energy Resources	UT
Changes in HMA boundaries	Special Status Species-Greater Sage-Grouse (and Habitat)	NV, UT, WY
Elimination of Sagebrush Focal Area Designations/Withdrawals		
Sagebrush Focal Areas (SFAs) duplicate many protections that are already in place through the designation of PHMA in the absence of mineral withdrawals	Special Status Species-Greater Sage-Grouse (and Habitat), Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Land Use and Realty (including Renewable Energy) Livestock Grazing, Wildland Fire, Recreation, Comprehensive Travel Management, Mineral and Energy Resources	ID, CO, UT, NV, WY
Changing Net Conservation Gain and Adjustment of Compensatory Mitigation Frameworks		
Net conservation gain changed to no net loss of habitat to align with the state mitigation strategies	Special Status Species-Greater Sage-Grouse (and Habitat), Land Use and Realty (including Renewable Energy), Mineral and Energy Resources	ID, UT, WY, CO
Alignment with the Idaho Governor's Task Force Plan Prioritization of protection of PHMA by emphasizing compensatory mitigation in IHMA Updated mitigation framework	Special Status Species-Greater Sage-Grouse (and Habitat), Land Use and Realty (including Renewable Energy), Mineral and Energy Resources	ID
Alignment with the Wyoming Compensatory Mitigation Framework	Special Status Species-Greater Sage-Grouse (and Habitat), Land Use and Realty (including	WY

Issues	Resource Topics	States
Updated mitigation framework	Renewable Energy), Mineral and Energy Resources	
Alignment with the State of Nevada's mitigation strategy Updated mitigation strategy	Special Status Species-Greater Sage-Grouse (and Habitat), Land Use and Realty (including Renewable Energy), Mineral and Energy Resources	NV
Alignment with State of Utah Compensatory Mitigation Program	Special Status Species-Greater Sage-Grouse (and Habitat), Land Use and Realty (including Renewable Energy), Mineral and Energy Resources	UT
Modifying Lek Buffers		
Prioritization of protection of PHMA by allowing flexibility in lek buffer application	Special Status Species-Greater Sage-Grouse (and Habitat), Land Use and Realty (including Renewable Energy)	ID
Including Waivers, Exceptions, and Modifications on NSO Stipulations		
The no surface occupancy (NSO) exception includes appropriate surface use and timing stipulations Change in requirements for the USFWS to approve waivers, exceptions, or modifications	Special Status Species-Greater Sage-Grouse (and Habitat), Mineral and Energy Resources	ID
The no surface occupancy (NSO) exception includes appropriate use of mitigation hierarchy Change in requirements for the USFWS to approve waivers, exceptions, or modifications	Special Status Species-Greater Sage-Grouse (and Habitat), Mineral and Energy Resources	NV
Exceptions must result in no effects to GRSG or habitat or all impacts could be offset through mitigation Added geothermal leases in addition to oil and gas leases Change in requirements for the USFWS to approve waivers, exceptions, or modifications	Special Status Species-Greater Sage-Grouse (and Habitat), Mineral and Energy Resources	UT
Connectivity habitat added to NSO or surface disturbing activities being not authorized within 0.6 miles of occupied leks	Special Status Species-Greater Sage-Grouse (and Habitat), Mineral and Energy Resources	WY
Modifying Desired Conditions		
Local ecological site potential considered, broader description of appropriate GRSG habitat requirements identified, and desired conditions table values moved to appendix	Special Status Species-Greater Sage-Grouse (and Habitat), Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Land Use and Realty (including Renewable Energy), Livestock Grazing, Wildland Fire, Recreation, Comprehensive Travel Management, Mineral and Energy Resources	WY, NV
Updating desired condition table values	Special Status Species-Greater Sage-Grouse (and Habitat), Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources,	UT

Issues	Resource Topics	States
	Land Use and Realty (including Renewable Energy), Livestock Grazing, Wildland Fire, Recreation, Comprehensive Travel Management, Mineral and Energy Resources	
Changing Livestock Grazing Guidelines		
Livestock management guidelines revised to replace specific grass-height requirements with standardized evaluation methods (e.g., the habitat assessment framework) in order to better reflect current research and to align local management with local habitat conditions	Special Status Species-Greater Sage-Grouse (and Habitat), Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Livestock Grazing	CO, ID, UT, WY, NV
Replace specific grass-height guidelines with management approaches to riparian and meadow areas.	Special Status Species-Greater Sage-Grouse (and Habitat), Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Livestock Grazing	NV
Removal of restriction on water developments in HMAs	Special Status Species-Greater Sage-Grouse (and Habitat), Riparian Areas and Wetlands and Water Resources, Livestock Grazing	ID, UT, NV
Adaptive Management Review Process		
Allow for process for reviewing or reverting to an adaptivemanagement response when causal factor is resolved	Special Status Species-Greater Sage-Grouse (and Habitat), Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Land Use and Realty (including Renewable Energy), Livestock Grazing, Wildland Fire, Recreation, Comprehensive Travel Management, Mineral and Energy Resources	ID, UT, WY
Ensure federal, state, and local partners are part of the causal factoranalysis process Identify process to evaluate and respond to hard and soft triggeradaptive management responses	Special Status Species-Greater Sage-Grouse (and Habitat), Vegetation (Including Invasive, Exotic Species, and Noxious Weeds), Riparian Areas and Wetlands and Water Resources, Land Use and Realty (including Renewable Energy), Livestock Grazing, Wildland Fire, Recreation, Comprehensive Travel Management, Mineral and Energy Resources	NV
Treatment of Invasive Species		
Emphasize treatment of invasive plant species in PHMA	Special Status Species-Greater Sage-Grouse (and Habitat), Vegetation (Including Invasive, Exotic Species, and Noxious Weeds)	ID, UT, WY, NV

1.5.4 ISSUES AND RESOURCE TOPICS NOT CARRIED FORWARD

The FS will not analyze in this DEIS some of the issues and resource topics that were raised during scoping for a variety of reasons, as described below. For example, exclusive federal population management is not given a detailed analysis. Although the FS has the statutory authority, responsibility and prerogative to manage NFS lands and interests, including wildlife, the FS recognizes and respects that the authority to manage and preserve fish and game is inherent in the sovereignty of a State. In the case of management of the greater sage-grouse, the FS will continue its commitment to a strong and cooperative working

relationship with the Colorado Parks and Wildlife, Idaho Department of Fish and Game, Nevada Department of Wildlife, Utah Division of Wildlife Resources, and Wyoming Game and Fish Department.

Below is a list of issues that were analyzed in the 2015 FEIS and do not require additional analysis in this DEIS because no significant new information has emerged. The impacts of implementing the alternatives in this DEIS are within the range of impacts of alternatives previously analyzed in the 2015 FEIS.

- Restrictions on Right of Ways (ROWs) and infrastructure
- Wind energy development in PHMA
- Retention of lands as identified as HMAs in federal ownership
- Prioritization of fluid mineral leases outside of PHMA and GHMA: ID, WY, CO, NV
- Numerical noise limitations within PHMA
- Vegetation treatments and wildfire response
- Habitat assessment framework
- Contribution of disturbance caps toward Greater Sage-Grouse conservation objectives

The FS previously evaluated the following issues but did not include them in the 2015 FEIS. They are not carried forward for detailed analysis in this DEIS for the same reasons they were dismissed in the 2015 FEIS (FEIS- ID: Chapter 1, section 1.5.3; NV: Chapter 1, 1.6.3; UT: Chapter 1, section 1.6.3).

- Hunting greater sage-grouse
- Predator control
- Aircraft overflights
- National livestock grazing policies
- Warranted but precluded Endangered Species Act decision
- FS Inventoried Roadless Areas and recommended Wilderness

1.6 CONSULTATION WITH FEDERALLY RECOGNIZED INDIAN TRIBES

Government-to-government consultation between the FS and federally recognized Indian tribes is occurring. Tribes affiliated with the planning area were invited to consult on proposed changes to the Record of Decision. Gaining and acknowledging Tribal expertise and perspective is important to the success of the EIS planning effort. Tribal participation as a cooperating agency does not replace our federal agency obligation to consult on a government-to-government basis. Therefore, regardless of the tribe's decision to participate or not as a cooperating agency, government-to-government consultation will continue throughout the process.

1.7 RELATIONSHIP TO OTHER POLICIES, PLANS, AND PROGRAMS

Other land managers and government agencies are currently implementing many other ongoing programs, plans, and policies in the planning area. The FS recognizes the importance of tribal, state, and local plans. As required by the planning rule, the FS will "coordinate land management planning with the equivalent and related planning efforts of federally recognized Indian Tribes, other Federal agencies, and State and local governments" (36 CFR 219.4 (b)(1)). The FS will not "direct or control management outside

the planning area or conform management to meet non-Forest Service objectives or policies" (36 CFR 219.4 (b)(3)).

1.7.1 STATE AND LOCAL PLANS

The FS has facilitated and encouraged involvement of state and local agencies throughout the process and requested cooperating agencies in the NOI in order that their views may be appropriately considered, contribute to common objectives, address impacts, resolve or reduce conflicts, and contribute to compatibility between FS and other agencies' plans.

Colorado

- Colorado Greater Sage-Grouse Conservation Plan (2008)
- Jackson County Master Plan (Jackson County 1998)
- Middle Park Greater Sage-Grouse Conservation Plan (CPW 2001)
- Moffat County Land Use Plan (Moffat County 2001)
- Northern Eagle and Southern Routt Greater Sage-Grouse Conservation Plan (2004)
- North Park Greater Sage-Grouse Conservation Plan (CPW 2001)
- Northwestern Colorado Greater Sage-Grouse Conservation Plan (2008)
- Parachute-Piceance-Roan Plateau Greater Sage-Grouse Conservation Plan (2008)
- Routt County Master Plan (Routt County 2003)

Idaho

- Adams County Comprehensive Plan (May 2006)
- Blaine County Comprehensive Plan (As amended 1995)
- Bonneville County Comprehensive Plan (January 5, 1995; Revised 10/3/2013)
- Comprehensive Plan Caribou County (May 22, 2006)
- Cassia County Comprehensive Plan (September 1, 2006; Amended 2012)
- Elmore County 2014 Comprehensive Plan (2014)
- Fremont County Comprehensive Plan (December 17, 2008)
- Idaho Governor's Executive Order No. 2015-04-Adopting Idaho's Sage-Grouse Management Plan
- Idaho Sage-Grouse Advisory Committee Greater Sage-Grouse Conservation Plan (2006)
- Madison County Comprehensive Plan (March 25, 2008 in Draft)
- 2015-2020 Niobrara Conservation District Land and Resource Use Plan and Policy

Nevada

- Churchill County Master Plan, Nevada (Churchill County 2015)
- Clark County Comprehensive Master Plan (2013)
- Elko County, Nevada Greater Sage-Grouse Management and Conservation Strategy Plan (September 2012)
- Elko County General Open Space Plan, Nevada (Elko County 2003)
- Elko County Public Lands Policy Plan, Nevada (Elko County 2008)
- Elko County Public Land Use & Natural Resource Management Plan (2010)
- Eureka County Master Plan, Nevada (Eureka County 2010)
- Greater Sage-Grouse Conservation Plan for Nevada and Eastern California (NDOW 2004)
- Humboldt County Master Plan, Nevada (Humboldt County 2002)
- Humboldt County Master Plan Open Space Element Amendment, Nevada (Humboldt County 2003)

- Lincoln County Master Plan, Nevada (Lincoln County 2007)
- Lincoln County Open Space and Community Lands Plan, Nevada (Lincoln County 2011)
- Lincoln County Public Lands Policy Plan, Nevada (Lincoln County 2015)
- Nevada Association Of Counties Limited Functional Home Rule Additional Powers Granted to Counties through SB29 (2015)
- Nevada Department of Wildlife-Wildlife Action Plan (2012)
- Nevada Sage-Grouse Conservation Plan (2018)
- Nye County Comprehensive Master Plan, Nevada (Nye County 2011)
- Pershing County Master Plan, Nevada (Pershing County 2002)
- Pershing County Natural Resources Management Plan: Natural Resources and Federal or State Land Use, Nevada (Pershing County 2010)
- Title 7 of the Nye County Code (Comprehensive Land Use and Management Plan for Federal and State Lands within Nye County), Nevada (Nye County 2009)
- Tri-Party Framework for Interactions to Address Public Lands Issues in Nye County, Nevada (includes Nye County, the BLM, and FS), Nevada (Nye County 1996)
- 2015 Summit On Public Lands In Nevada (2015)
- Truckee Meadows Regional Plan (Washoe County Only), Nevada (TMRPA 2007)
- Washoe County Comprehensive Plan, Nevada (Washoe County 2005a)
- Washoe County Open Space & Natural Resource Management Plan, Nevada (Washoe County 2008)
- Washoe County Master Plan with Elements and Area Plans, Nevada (Washoe County, 2010, as amended)
- Washoe County Regional Open Space & Natural Resource Management Plan, Nevada (Washoe County, 2008)
- White Pine County Public Lands Policy Plan, Nevada (White Pine County 2007)
- White Pine County Water Resources Plan, Nevada (White Pine County 2006)

Utah

- Beaver County Resource Management Plan (RMP) (2017)
- Box Elder County RMP (2017)
- Cache County RMP (2017)
- Carbon County RMP (2017)
- Conservation Plan for Greater Sage-Grouse in Utah (2013)
- Daggett County RMP (2017)
- Davis County Resource Management Plan (2017)
- Duchesne County RMP (2017)
- Emery County RMP (2017)
- Garfield County RMP (2017)
- Governor's 10-year Strategic Energy Plan (2011)
- Grand County RMP (2017)
- Iron County RMP (2017)
- Juab County RMP (2017)
- Kane County RMP (2017)
- Millard County RMP (2017)
- Morgan County RMP (2017)
- Piute County RMP (2017)

- Rich County RMP (2017)
- Sanpete County RMP (2017)
- Sevier County RMP (2017)
- State of Utah Administrative Code – R-634-003 – Compensatory Mitigation Program (2018)
- State of Utah Executive Order 2015/002 – Implementing the Utah Conservation Plan for Greater Sage-Grouse (2015)
- State of Utah Resource Management Plan (2018)
- Eastern Summit County General Plan (2010) and Summit County RMP (2017)
- Tooele County RMP (2017)
- Uintah County RMP (2017)
- Uinta County Comprehensive Plan (2011)
- Utah County RMP (2017)
- Utah Wildlife Action Plan (2015)
- Wasatch County RMP (2017)
- Western Weber County Resource Management Plan (2017)
- Wayne County Public Lands RMP (2017)

Wyoming

- Albany County Wyoming Comprehensive Plan (2008)
- Revised Campbell County Natural Resource Land Use Plan (2016)
- Carbon County Comprehensive Land Use Plan (Amended 04/03/2012)
- Converse County Wyoming Land Use Plan (2015)
- 2014 Crook County Comprehensive Land Use Plan (2014)
- Laramie County Comprehensive Plan (2016)
- Lincoln County Comprehensive Plan (2006)
- 2016 Natrona County Development Plan (2016)
- 2015-2020 Niobrara Conservation District Land and Resource Use Plan and Policy (2015)
- The State of Wyoming's Greater Sage-Grouse Core Area Protection Strategy (Executive Order 2015-4)
- The State of Wyoming's Supplement to Greater Sage-Grouse Suitable Habitat Definitions (Executive Order 2017-2)
- Sublette County Comprehensive Plan (Amended November 18, 2005)
- Teton County Comprehensive Plan (April 6, 2012)
- Weston County Land Use Plan (1977)

1.8 COOPERATING AGENCIES

In the NOI announcing the development of this DEIS, the FS invited agencies and tribes with interests within the planning area to request Cooperating Agency status. The following Federal agencies, states, counties, and state agencies requested cooperating agency status in the NEPA process (36 CFR 219.4(a)(1)(iv)); the FS is currently solidifying agreements with each cooperator and intends to maintain cooperative agency relationships.

Federal Agencies

- BLM Nevada State Office
- BLM Wyoming State Office

- US Fish and Wildlife Service, Reno Office
- US Fish and Wildlife Service, Wyoming Office
- NRCS

Nevada

- Eureka County, Nevada
- Humboldt County, Nevada
- Nevada Association of Counties (as government representative),
- Nevada Department of Agriculture
- Nevada Department of Conservation and Natural Resources
- Nevada Department of Wildlife
- Nye County, Nevada
- Nevada Governor's Office of Energy
- Nevada Division of Minerals

Idaho

- Governor's Office of Species Conservation

Wyoming

- State of Wyoming, Governor's Office
- Campbell County, Wyoming
- Campbell County Conservation District, Wyoming
- Converse County Conservation District, Wyoming
- Lincoln County Conservation District, Wyoming
- Lincoln County, Wyoming
- Meeteetse Conservation District, Wyoming
- Saratoga-Encampment Rawlins Conservation District, Wyoming
- Sublette County Conservation District, Wyoming
- Sublette County, Wyoming
- Sweetwater County Conservation District, Wyoming
- Sweetwater County, Wyoming
- Uinta County Conservation District, Wyoming
- Wyoming Coalition of Local Governments (as government representative)

Utah

- Beaver County, Utah
- Carbon County, Utah
- Daggett County, Utah
- Duchesne County, Utah
- Emery County, Utah
- Garfield County, Utah
- Iron County, Utah
- Juab County, Utah
- Kane County, Utah
- Office of the Governor, Public Lands Policy Coordinating Office, Utah
- Summit County, Utah
- Uintah County, Utah

CHAPTER 2 - Alternatives

2.1 INTRODUCTION

This chapter describes the alternatives evaluated as a part of this draft environmental impact statement (DEIS) for the land management plan (LMP) amendment. This DEIS analyzes three alternatives in detail. Alternative 1 is the No Action Alternative. Alternative 2 is the Proposed Action, which was developed to meet the purpose and need presented in Chapter 1. Alternative 3 is the State of Utah Alternative. In addition to the alternatives considered in detail, this chapter describes alternatives considered but eliminated from detailed analysis. Changes are displayed in tables specific to each state: Table 2-5 (Northwestern Colorado), Table 2-6 (Idaho), Table 2-7 (Nevada), Table 2-8 (Utah, Proposed Action), Table 2-8a (Utah, State of Utah Alternative), and Table 2-9 (Wyoming).

2.1.1 FOREST SERVICE PLAN COMPONENTS AND OPTIONAL CONTENT IN THE PLAN

On National Forest System (NFS) lands, LMPs guide management activities and contain desired conditions and objectives as well as standards and guidelines that provide direction for project planning and design. Forest Service plan component definitions are in the planning rule at 36 CFR 219.7(e)(1). The following terms and definitions are used throughout this DEIS:

- **Desired Condition (DC)** - A description of specific social, economic, and/or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed. Desired conditions must be described in terms that are specific enough to allow progress toward their achievement to be determined, but do not include completion dates.

- **Objective (O)** - A concise, measurable, and time-specific statement of a desired rate of progress toward a desired condition or conditions. Objectives should be based on reasonably foreseeable budgets.

- **Standard (ST)** - A mandatory constraint on project and activity decision-making, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.
- **Guideline (GL)** - A constraint on project and activity decision-making that allows for departure from its terms, so long as the purpose of the guideline is met. Guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

The planning rule also provides for inclusion of optional content in the plan, such as potential management approaches or strategies and partnership opportunities or coordination activities (36 CFR 219.7(f)(2)). The planning rule does not require project consistency with optional content in the plan (36 CFR 219.15(d)). Optional content in the plan can be changed after public notification under the planning rule provision for administrative changes (36 CFR 219.13(c)). This plan amendment includes the optional content of “management approaches”:

- **Management Approach (MA) -** A management approach can describe the principal strategies and program priorities the Responsible Official intends to employ to carry out projects and activities developed under the LMP. The management approaches are related to the desired conditions for the alternative. Management approaches can convey the management emphasis, relate to desired conditions and may indicate the future course or direction of change. These may discuss potential processes such as analysis, assessment, inventory, project planning, or monitoring.

2.2 ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

2.2.1 VARYING CONSTRAINTS ON LAND USES AND DEVELOPMENT ACTIVITIES

During scoping, some commenters asked the Forest Service to consider additional constraints on land uses and ground-disturbing development activities to protect greater sage-grouse habitat. Such constraints would be beyond those in the current LMPs. Other commenters, in contrast, asked the Forest Service to consider eliminating or reducing constraints on land uses, or incorporating other flexibilities into the LMP plan components. Some commenters wanted the Forest Service to change the LMPs back to how they were prior to the 2015 ROD/LMPA (see descriptions of Alternative A by state below). Other commenters wanted the provisions of the 2015 RODs left in place. The Forest Service considered public scoping comments, including comments from States and cooperating agencies, in developing the Alternatives.

This planning process does not revisit every issue that the Forest Service and the BLM evaluated in the 2015 planning process. Instead, the Forest Service included changes and clarifications to the 2015 Greater Sage-Grouse Plan Amendments, consistent with the purpose and need for action. Accordingly, this DEIS has its foundation in the comprehensive 2015 FEIS and ROD/LMPA and incorporates those documents in the administrative record by reference, including the entire range of alternatives evaluated through the 2015 planning process, listed below.

Colorado

- Alternative A would have retained the management goals, objectives, and direction specified in the existing FS LMPs effective prior to the 2015 ROD/LMPA.
- Alternative B was based on the conservation measures developed by the National Technical Team (NTT) planning effort in Washington Office Instructional Memorandum (IM) Number 2012-044. As directed in the IM, the conservation measures developed by the NTT must be considered and analyzed, as appropriate, through the land use planning process and NEPA by all National Forests that contain occupied greater sage-grouse habitat. Most management actions included in Alternative B would be applied to priority habitat management areas (PHMA).
- Alternative C was based on a citizen group's recommended alternative. This alternative emphasizes improvement and protection of habitat for greater sage-grouse and was applied to all occupied greater sage-grouse habitat. Alternative C would limit commodity development in areas of occupied greater sage-grouse habitat and would close or designate portions of the planning area to some land uses.
- Alternative D, which was identified as the Preferred Alternative in the 2015 DEIS, balanced opportunities to use and develop the planning area and ensures protection of greater sage-grouse habitat based on scoping comments and input from cooperating agencies involved in the

alternatives development process. Protective measures would be applied to greater sage-grouse habitat.

- The Proposed LMPA incorporated guidance from specific State Conservation strategies, as well as additional management based on the NTT recommendations. This alternative emphasized management of greater sage-grouse seasonal habitats and maintaining habitat connectivity to support population objectives.

Idaho

- Alternative A would have retained the management goals, objectives and direction specified in the Forest Service land and resource management plans effective prior to the 2015 ROD/LMPA.
- Alternative B was based on the conservation measures developed by the National Technical Team planning effort in Washington Office IM 2012-044. As directed in the IM, the conservation measures developed by the National Technical Team must be considered and analyzed, as appropriate, through the land use planning process and NEPA by all National Forests that contain occupied greater sage-grouse habitat. Most management actions included in Alternative B would have been applied to PHMA.
- Alternative C was based on a citizen group's recommended alternative. This alternative emphasized improvement and protection of habitat for greater sage-grouse and was applied to all occupied greater sage-grouse habitat. Alternative C would have limited commodity development in areas of occupied greater sage-grouse habitat and would have closed or designated portions of the planning area to some land uses.
- Alternative D, which was identified as the Preferred Alternative in the 2015 DEIS, balanced opportunities to use and develop the planning area and protects greater sage-grouse habitat based on scoping comments and input from cooperating agencies involved in the alternatives development process. Protective measures would have been applied to greater sage-grouse habitat.
- Alternative E was the alternative provided by the State or Governor's offices for inclusion and analysis in the EISs. It incorporated guidance from specific State Conservation strategies and emphasized management of greater sage-grouse seasonal habitats and maintaining habitat connectivity to support population objectives. This alternative was identified as a co-Preferred Alternative in the Idaho 2015 DEIS.
- Alternative F was also based on a citizen group-recommended alternative. This alternative emphasized improvement and protection of habitat for greater sage-grouse and defined different restrictions for PHMA and general habitat management areas (GHMA). Alternative F would have limited commodity development in areas of occupied greater sage-grouse habitat and would have closed or designated portions of the planning area to some land uses.
- The Proposed LMPA incorporated guidance from specific State Conservation strategies, as well as additional management based on the National Technical Team recommendations. This alternative emphasized management of greater sage-grouse seasonal habitats and maintaining habitat connectivity to support population objectives.

Nevada

- Alternative A would have retained the management goals, objectives, and direction specified in the Forest Service land and resource management plans effective prior to the 2015 ROD/LMPA.
- Alternative B was based on the conservation measures developed by the National Technical Team planning effort in Washington Office Instruction Memorandum (IM) 2012-044. As directed in the IM, the conservation measures developed by the National Technical Team must be considered

and analyzed, as appropriate, through the land use planning process and NEPA by all National Forests that contain occupied greater sage-grouse habitat. Most management actions included in Alternative B would have been applied to PHMA.

- Alternative C was based on a citizen groups' recommended alternative. This alternative emphasized improvement and protection of habitat for greater sage-grouse and was applied to all occupied greater sage-grouse habitat. Alternative C would have limited commodity development in areas of occupied GRSG habitat and would have closed or designated portions of the planning area to some land uses.
- Alternative D, which was identified as the Preferred Alternative, balanced opportunities to use and develop the planning area and protects greater sage-grouse habitat based on scoping comments and input from cooperating agencies involved in the alternatives development process. Protective measures would have been applied to greater sage-grouse habitat.
- Alternative E was the alternative provided by the State or Governor's offices for inclusion and analysis in the EISs. It incorporated guidance from specific state conservation strategies and emphasized management of greater sage-grouse seasonal habitats and maintaining habitat connectivity to support population objectives.
- Alternative F was also based on a citizen group-recommended alternative. This alternative emphasized improvement and protection of habitat for greater sage-grouse and defined different restrictions for PHMA and GHMA. Alternative F would have limited commodity development in areas of occupied greater sage-grouse habitat and would have closed or designated portions of the planning area to some land uses.
- The Proposed LMPA incorporated guidance from specific State Conservation strategies, as well as additional management based on the National Technical Team recommendations. This alternative emphasized management of greater sage-grouse seasonal habitats and maintaining habitat connectivity to support population objectives.

Utah

- Alternative A would have retained the management goals, objectives and direction specified in the Forest Service land and resource management plans effective prior to the 2015 ROD/LMPA.
- Alternative B was based on the conservation measures developed by the National Technical Team planning effort in Washington Office IM 2012-044. As directed in the IM, the conservation measures developed by the National Technical Team must be considered and analyzed, as appropriate, through the land use planning process and NEPA by all National Forests that contain occupied greater sage-grouse habitat. Most management actions included in Alternative B would have been applied to PHMA.
- Alternative C was based on a citizen groups' recommended alternative and was combined with Alternative F considered by ID, NV, CA, MT, and OR. This alternative emphasized improvement and protection of habitat for greater sage-grouse and was applied to all occupied greater sage-grouse habitat. Alternative C would have limited commodity development in areas of occupied GRSG habitat, and would have closed or designated portions of the planning area to some land uses.
- Alternative D, which was identified as the Preferred Alternative in the 2015 DEIS, balanced opportunities to use and develop the planning area and protects greater sage-grouse habitat based on scoping comments and input from Cooperating Agencies involved in the alternatives development process. Protective measures would have been applied to greater sage-grouse habitat.
- Alternative E was the alternative provided by the State or Governor's offices for inclusion and

analysis in the EISs. It incorporated guidance from specific State Conservation strategies and emphasized management of greater sage-grouse seasonal habitats and maintaining habitat connectivity to support population objectives.

- The Proposed LMPA incorporated guidance from specific State Conservation strategies, as well as additional management based on the National Technical Team recommendations. This alternative emphasized management of greater sage-grouse.

Wyoming

- Alternative A would have retained the management goals, objectives and direction specified in the Forest Service LMPs effective prior to the 2015 ROD/LMPA.
- Alternative B was based on the conservation measures developed by the National Technical Team planning effort in IM 2012-044. As directed in the IM, the conservation measure developed by the National Technical Team must be considered and analyzed, as appropriate, through the land use planning process and NEPA by all National Forests that contain occupied greater sage-grouse habitat. Most management actions included in Alternative B would be applied to PHMA.
- Alternative C was based on a citizen groups' recommended alternative. This alternative emphasizes improvement and protection of habitat for greater sage-grouse and was applied to all occupied greater sage-grouse habitat. Alternative C would limit commodity development in areas of occupied greater sage-grouse habitat, and would close or designate portions of the planning area to some land uses.
- Alternative D, which was identified as the Preferred Alternative in the 2015 DEIS, balanced opportunities to use and develop the planning area and ensures protection of GRSG habitat based on scoping comments and input from cooperating agencies involved in the alternatives development process. Protective measures would be applied to greater sage-grouse habitat.
- The Proposed LUPA incorporated guidance from specific State Conservation strategies, as well as additional management based on the National Technical Team recommendations. This alternative emphasized management of greater sage-grouse seasonal habitats and maintaining habitat connectivity to support population objectives. For the Wyoming Proposed LMPA, this guidance was consistent with guidelines provided in the Governor's Sage-Grouse Implementation Team's Core Population Area strategy and the Governor's Executive Order (WY EO 2011-05).

2.3 DESCRIPTION OF ALTERNATIVES

2.3.1 ALTERNATIVE 1 - NO ACTION ALTERNATIVE

Under the No Action Alternative, the Forest Service would not amend LMPs amended by the 2015 *Greater Sage-grouse Record of Decision and Land Management Plan Amendments* (For a complete list, see Chapter 1, Table 1-1). Greater sage-grouse habitat would continue to be managed under current LMP direction.

Desired conditions and objectives for Forest Service administered lands and federal mineral estate would not change. Allowable uses and restrictions would also remain the same, as they pertain to such activities as mineral leasing and development, recreation, lands and realty, and livestock grazing. This alternative also maintains the designation of sagebrush focal areas (SFAs), although the BLM has cancelled the proposal withdrawal of SFAs from locatable mineral entry (Notice of Cancellation, 82 *Federal Register* 195, October 11, 2017, p. 47248). See Section 2.5, which describes the No Action alternative in detail.

2.3.2 ALTERNATIVE 2 – PROPOSED ACTION

This alternative makes modifications to the No Action Alternative to improve the clarity, efficiency, and implementation of GRSG plans, including better alignment with BLM and state plans, in order to benefit GRSG conservation on the landscape scale.

This alternative was developed to promote continued collaboration with the BLM, states, and stakeholders to improve management, compatibility, and consistency between federal management plans and other plans and programs at the state level, and to continue to provide protection of greater sage-grouse habitat. This enhanced cooperation between the Forest Service and the States is expected to improve management and coordination with states across the range of greater sage-grouse.

The modifications made by this alternative include updating and making adjustments to habitat management area boundaries; removing SFA designations; removing the Anthro Mountain habitat designation and replacing it with PHMA designation; incorporating causal factor review and response processes into the adaptive management strategies; changing net conservation gain to no net loss of habitat and aligning better with states' mitigation strategies; modifying lek buffers; revising livestock management guidelines to replace grass height requirements with standardized evaluation methods; clarifying the restriction on water developments within habitat management areas; and emphasizing treatment of invasive plants in PHMAs. These modifications differ among the states in the planning area, as shown in Section 2.5, which describes the Proposed Action in detail. The issues identified in column three of Tables 2-5 through 2-9 correspond with issues identified in Table 1-2.

Under this alternative, the habitat management areas would be identified as "management areas," as defined in 36 CFR 219.19. A footnote in the 2015 RODs explained that the habitat management areas were treated as "overlays" instead of replacing existing management areas, which would have been required by the prior planning rule under which the 2015 amendment was developed (p. 17 of both 2015 RODs). This amendment is being developed under the 2012 planning rule, which provides for management areas that do not have to be spatially contiguous and may overlap existing ones. The identification of habitat management areas as management areas will not change boundaries of other management areas that are identified in the LMPs.

Consistent with the Notice of Cancellation of the BLM's application to withdraw SFAs from locatable mineral entry (82 *Federal Register* 195, October 11, 2017, p. 47248), this alternative would also remove the recommendation for withdrawal. The effects of such action are included in Chapter 4.

To be consistent with the planning rule, those plan components of the 2015 Greater Sage-Grouse Plan Amendments that do not meet the definitions for plan components in 36 CFR 219.7(e)(1) were changed to management approaches.

The planning rule also states that "Plans should not repeat laws, regulations, or program management policies, practices, and procedures that are in the Forest Service Directive System." 36 CFR 219.2(b)(2). To be consistent with the planning rule, redundant plan components of the 2015 Greater Sage-Grouse Plan Amendments would be removed.

2.3.3 ALTERNATIVE 3 – STATE OF UTAH ALTERNATIVE

This alternative incorporates all aspects of Alternative 2, except it incorporates two additional modifications to plans within the state of Utah. Specifically, the FS would remove the GHMA designation from NFS lands in Utah and would also remove the Anthro Mountain management area from designation on the Ashley National Forest but not re-designate it as PHMA. See Section 2.5, Table 2-8a, which describes the State of Utah alternative in detail.

2.4 COMPARATIVE SUMMARY OF ALTERNATIVES

Tables 2-1 and 2-2 below provide a comparison between the No Action Alternative and Proposed Action with respect to the acres designated as PHMA, GHMA, Important Habitat Management Areas (IHMA, Idaho only), Other Habitat Management Areas (OHMA, Nevada only), and Anthro Mountain HMA (Utah only). The change in acres between these two alternatives is based on the following:

- Sagebrush Focal Area (SFA) designations were changed to the appropriate HMA designation.
- The Anthro Mountain HMA (Utah only) designation was changed to PHMA designation.
- The Beaverhead-Deerlodge National Forest in Southwest Montana is not within the scope of this proposed action; however, changes for Idaho result in changes to the previous combined acreage for Idaho and SW Montana.
- In areas where additional, site-specific data were gathered since 2015, acreage was updated.
- Small mapping errors were fixed. For example, the 2015 Idaho map showed a GRSG HMA in high elevation outside of actual GRSG habitat.

Table 2-3 provides the acres under the State of Utah Alternative. It is similar to the Proposed Action, except that the Anthro Mountain HMA and General HMA were removed. The State of Utah provided a portion of the analysis for this alternative.

Table 2-4 displays the acreage of greater sage-grouse habitat management areas present on each forest by alternative.

Table 2-1. No Action Alternative - Summary of habitat management areas in acres.

NFS Surface Acres	NW Colorado	Idaho/SW Montana[1]	Nevada	Wyoming	Utah	Total Acres
PHMA	5,200	575,900	986,400	381,200	736,700	2,685,400
GHMA	14,900	580,800	796,100	533,700	80,500	2,006,000
IHMA (ID/MT Only)	-	415,900	-	-	-	415,900
OHMA (NV Only)	-	-	621,400	-	-	621,400
Priority-Core (WY Only)[2]	-	-	-	309,200	-	309,200
Priority-Connectivity (WY Only)	-	-	-	68,800	-	68,800
Anthro Mountain HMA (UT Only)	-	-	-	-	41,200	41,200
Sagebrush Focal Areas (SFAs)[2]	0	248,100	566,600	3,300	47,700	865,700
Total	20,100	1,572,600	2,403,900	983,700	858,400	5,422,800

[1] The acreage calculation includes acres in Montana and Idaho.

[2]These acres overlay designated HMAs; the acres are not additive.

Table 2-2. Proposed Action - Summary of habitat management areas in acres.

NFS Surface Acres	NW Colorado	Idaho[1]	Nevada	Wyoming	Utah	Total Acres
PHMA	5,200	330,200	886,900	317,700	777,900	2,355,000
GHMA	14,900	346,300	1,094,900	514,200	80,500	1,998,400
IHMA (ID Only)		415,900				415,900
OHMA (NV Only)			426,500			426,500
Connectivity (WY only)				6,400		6,400
Total	20,100	1,092,400	2,408,300	838,300	858,400	5,202,200

[1]The acreage calculation includes acres in Idaho only.

Table 2-3. State of Utah Alternative - Summary of habitat management areas in acres.

NFS Surface Acres	NW Colorado	Idaho[1]	Nevada	Wyoming	Utah	Total Acres
PHMA	5,200	330,200	886,900	317,700	736,700	2,276,700
GHMA	14,900	346,300	1,094,900	514,200		1,970,300
IHMA (ID Only)		415,900				415,900
OHMA (NV Only)			426,500			426,500
Connectivity (WY only)				6,400		6,400
Total	20,100	1,092,400	2,408,300	838,300	736,700	5,095,800

Table 2-4. Comparative summary of GRSG habitat by alternative in acres.[1]

Forest Service Unit Name	No Action Alternative			Proposed Action			State of Utah Alternative	
	Total Acres NFS Lands[1]	Total Acres GRSG HMA intersecting NFS Lands	% GRSG HMA on NFS Lands	Total Acres NFS Lands[1]	Total Acres GRSG HMA intersecting NFS Lands	% GRSG HMA on NFS Lands	Total Acres GRSG HMA intersecting NFS Lands	% GRSG HMA on NFS Lands
Ashley National Forest	1,401,200	242,600	17%	1,401,100	242,700	17%	109,700	8%
Boise National Forest	2,950,800	131,500	4%	2,950,400	131,500	4%	--	--
Bridger-Teton National Forest	3,430,100	349,300	10%	3,430,100	179,900	5%	--	--
Caribou National Forest	1,348,200	33,200	2%	1,084,400	32,600	3%	--	--
Challis National Forest	2,479,600	362,500	15%	2,479,700	374,600	15%	--	--
Curlew National Grassland	74,700	61,100	82%	74,800	61,200	82%	--	--
Dixie National Forest	1,965,100	246,100	13%	1,965,100	246,100	13%	246,100	13%
Fishlake National Forest	1,534,000	133,400	9%	1,534,000	133,400	9%	123,900	8%
Humboldt National Forest	2,618,600	1,140,000	44%	2,618,600	1,516,300	58%	--	--
Manti-La Sal National Forest	1,414,100	109,600	8%	1,337,600	109,600	8%	97,600	7%
Medicine Bow National Forest	1,387,900	46,000	3%	1,387,900	46,400	3%	--	--
Routt National Forest	1,249,400	17,300	1%	1,249,400	17,300	1%	--	--
Salmon National Forest	1,796,800	76,900	4%	1,796,900	76,900	4%	--	--
Sawtooth National Forest	1,892,600	571,600	30%	1,892,700	479,600	25%	--	--
Targhee National Forest	1,691,900	90,200	5%	1,691,500	90,300	5%	--	--
Thunder Basin National Grassland	626,200	539,000	86%	626,200	538,900	86%	--	--
Toiyabe National Forest	4,230,500	644,400	15%	4,231,700	1,010,800	24%	--	--
Uinta National Forest	885,500	42,400	5%	961,700	42,400	4%	42,200	4%
Wasatch-Cache National Forest	2,030,200	336,400	17%	2,294,800	311,300	14%	268,600	12%

No Action Alternative - Source: FS GIS 2015
Proposed Action - Source: FS GIS 2018; State of Utah Alternative - Source: FS GIS 2018

[1] Data rounded to the nearest 100 acres.
[2] Proclaimed boundaries were used to break down forests into individual units. Proclaimed boundaries include non-NFS lands which are included in the acreage calculation.

2.5 COMPARISON OF ALTERNATIVES

Table 2-5. Northwestern Colorado - Comparison of alternatives[1]

[1]Priority, connectivity, and general habitat management areas may contain non-habitat. Management direction would not apply to non-habitat if the proposed activity in non-habitat does not preclude effective sage-grouse use of adjacent habitats.

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
Greater Sage-grouse General		
GRSG-GEN-DC-001-Desired Condition The landscape for the greater sage-grouse encompasses large contiguous areas of native vegetation, approximately 6-to-62 square miles in area, to provide for multiple aspects of species life requirements. Within these landscapes, a variety of sagebrush-community compositions exist without invasive species, which have variations in subspecies composition, co-dominant vegetation, shrub cover, herbaceous cover, and stand structure to meet seasonal requirements for food, cover, and nesting for the greater sage-grouse.	**GRSG-GEN-DC-001-Desired Condition** **No Change**	
GRSG-GEN-DC-002-Desired Condition Anthropogenic disturbance is focused in non-habitat areas outside of priority and general habitat management areas.2 Disturbance in general habitat management areas is limited, and there is little to no disturbance in priority habitat management areas except for valid existing rights and existing authorized uses.	**GRSG-GEN-DC-002-Desired Condition** **No Change**	
GRSG-GEN-DC-003-Desired Condition In greater sage-grouse management areas, including all seasonal habitat, 70% or more of lands capable of producing sagebrush have from 10 to 30% sagebrush canopy cover and less than 10% conifer canopy cover. In addition, within breeding and nesting habitat, sufficient herbaceous vegetation structure and height provides overhead and lateral concealment for nesting and early brood rearing life stages. Within brood rearing habitat, wet meadows and riparian areas sustain a rich diversity of perennial grass and forb species relative to site potential. Within winter habitat, sufficient sagebrush height and density provides food and cover for the greater sage-grouse during this seasonal	**GRSG-GEN-DC-003-Desired Condition** In all greater sage-grouse habitat management areas, habitats are adequately distributed to support GRSG populations. 70% or more of lands capable of producing sagebrush have from 5 to 25% sagebrush canopy cover and less than 10% conifer cover. Areas managed for breeding and nesting provide for lek security and nest hiding cover through sufficient sagebrush canopy, sagebrush height, and perennial grass cover to deliver overhead and lateral concealment from March 15 through June 30. Areas managed for summer/brood rearing habitat July 1 through November 30 maintain wet meadows and riparian areas in proper functioning condition, sustain diverse perennial grass and forb communities, and	**Modifying Desired Conditions**

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
period. Specific desired conditions for the greater sage-grouse based on seasonal habitat requirements are in Table 1.	maintain sagebrush cover in the 328 feet adjacent to riparian/mesic meadows. When breeding and nesting habitat overlaps with other seasonal habitats, habitat should be managed for breeding and nesting desired conditions.	
Nothing in 2015 Plan	**GRSG-GEN-MA-004-Management Approach** The values for GRSG habitat attributes in Appendix B are initial references based on range-wide habitat selection by GRSG. These initial values do not preclude collaborative refinement to fit local variables of GRSG habitat use, ecological site capability, and limitations of habitat distribution. Not all areas will be capable of achieving the indicator values, due to inherent variation in vegetation communities and ecological site potential.	**Modifying Desired Conditions**
GRSG-GEN-ST-004-Standard In priority habitat management areas and sagebrush focal areas, do not issue new discretionary written authorizations unless all existing discrete anthropogenic disturbances cover less than 3% of the total greater sage-grouse habitat within the Biologically Significant Unit and the proposed project area, regardless of ownership, and the new use will not cause exceedance of the 3% cap. Discretionary activities that might result in disturbance above 3% at the Biologically Significant Unit and proposed project area would be prohibited unless approved by the forest supervisor with concurrence from the regional forester after review of new or site-specific information that indicates the project would result in a net conservation gain at the Biologically Significant Unit and proposed project area scale. Within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation gain to the species will be achieved. This exception is limited to projects that fulfill the use for which the corridors were designated (e.g., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location. Consider the	**GRSG-GEN-ST-005-Standard** In priority habitat management areas, do not issue new discretionary written authorizations unless all existing discrete anthropogenic disturbances cover less than 3% of the total greater sage-grouse habitat within the Biologically Significant Unit and the proposed project area, regardless of ownership, and the new use will not cause exceedance of the 3% cap. Discretionary activities that might result in disturbance above 3% at the Biologically Significant Unit and proposed project area would be prohibited unless approved by the forest supervisor with concurrence from the regional forester after review of new or site-specific information that indicates the project would result in no net habitat loss at the Biologically Significant Unit and proposed project area scale. Within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that no net habitat loss will be achieved. This exception is limited to projects that fulfill the use for which the corridors were designated (e.g., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-	**Elimination of Sagebrush Focal Areas** **Changing Net Conservation Gain**

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
likelihood of surface disturbing activities as a result of development of valid existing rights when authorizing new projects in priority habitat management areas.	location. Consider the likelihood of surface disturbing activities as a result of development of valid existing rights when authorizing new projects in priority habitat management areas.	
GRSG-GEN-ST-005-Standard In priority and general habitat management areas, only allow new authorized land uses if, after avoiding and minimizing impacts, any remaining residual impacts to the greater sage-grouse or its habitat are fully offset by compensatory mitigation projects that provide a net conservation gain to the species, subject to valid existing rights by applying beneficial mitigation actions. Any compensatory mitigation will be durable, timely, and in addition to what would have resulted without the compensatory mitigation as addressed in the Mitigation Framework (Appendix B).	**GRSG-GEN-ST-006-Standard** In priority and general habitat management areas, only allow new authorized land uses if, after avoiding and minimizing impacts, any remaining residual impacts to the greater sage-grouse or its habitat are fully offset by compensatory mitigation projects that provide no net habitat loss to the species, subject to valid existing rights by applying beneficial mitigation actions. Any compensatory mitigation will be durable, timely, and in addition to what would have resulted without the compensatory mitigation as addressed in the Mitigation Framework (Appendix B).	**Changing Net Conservation Gain**
GRSG-GEN-ST-006-Standard Do not authorize new surface disturbing and disruptive activities that create noise at 10dB above ambient measured at the perimeter of an occupied lek during lekking (from March 1 to April 30) from 6 p.m. to 9 a.m. Do not include noise resulting from human activities that have been authorized and initiated within the past 10 years in the ambient baseline measurement.	**GRSG-GEN-ST-007-Standard** **No Change**	
GRSG-GEN-GL-007-Guideline During breeding and nesting (from March 1 to June 15), surface disturbing and disruptive activities to nesting birds should be avoided.	**GRSG-GEN-GL-008-Guideline** **No Change**	
GRSG-GEN-GL-008-Guideline When breeding and nesting habitat overlaps with other seasonal habitats, habitat should be managed for breeding and nesting desired conditions in Table 1.	**GRSG-GEN-GL-009-Guideline** Table 1 is now Appendix B, Table B-1.	**Clarification**
GRSG-GEN-GL-009-Guideline Development of tall structures within 2 miles from the perimeter of occupied leks, as determined by local conditions (e.g., vegetation or topography), with the potential	**GRSG-GEN-GL-010-Guideline** **No Change**	

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
to disrupt breeding or nesting by creating new perching/nesting opportunities for avian predators or by decreasing the use of an area, should be restricted within nesting habitat.		
Adaptive Management		
GRSG-AM-ST-010-Standard If a hard trigger is identified, immediate action is necessary to stop a severe deviation from greater sage-grouse conservation objectives. Upon reaching a hard trigger, an appropriate component of a more restrictive alternative analyzed in the EIS will be implemented. The Forest Service will immediately defer issuance of discretionary authorizations for new actions for a period of 90 days. In addition, within 14 days of a determination that a hard trigger has been tripped, the Northwest Colorado Greater Sage-Grouse Statewide Implementation Team will convene to develop an interim response strategy and initiate an assessment to determine the causal factor or factors. The hard triggers are discussed more fully in Appendix C – NWCO Adaptive Management Plan.	**GRSG-AM-ST-011-Standard** NWCO Adaptive Management Plan is now in Appendix B.	**Clarification**
GRSG-AM-ST-011-Standard If a soft trigger is identified by the Northwest Colorado Greater Sage-Grouse Statewide Implementation Team in the decline of the greater sage-grouse population and/or its habitat, apply more conservative or restrictive implementation measures (e.g., extending seasonal restrictions for seasonal surface disturbing activities, modifying seasons of use for livestock grazing, and applying additional restrictions on discretionary activities) for the causal factor(s) identified in the decline of population and/or habitat, considering local knowledge and conditions. The soft triggers are discussed more fully in Appendix C – NWCO Adaptive Management Plan.	**GRSG-AM-ST-012-Standard** NWCO Adaptive Management Plan is now in Appendix B.	**Clarification**
Lands and Realty		
Special-use Authorizations (non-recreation)		
GRSG-LR-SUA-O-012-Objective In nesting habitats, retrofit existing tall structures (e.g., power poles, communication	**GRSG-LR-SUA-O-013-Objective** **No Change**	

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
tower sites, etc.) with perch deterrents or other anti-perching devices within 2 years of signing the ROD.		
GRSG-LR-SUA-ST-013-Standard In priority and general habitat management areas, restrict issuance of new lands special-use authorizations that authorize infrastructure, such as high- voltage transmission lines, major pipelines, distribution lines, and communication tower sites. Exceptions may include co-location and must be limited (e.g., safety needs) and based on rationale (e.g., monitoring, modeling, or best available science) that explicitly demonstrates that adverse impacts to the greater sage-grouse will be avoided by the exception. If co-location of new infrastructure cannot be accomplished, locate it adjacent to existing infrastructure, roads, or already disturbed areas and limit disturbance to the smallest footprint or where it best limits impacts to the greater sage-grouse or its habitat. Existing authorized uses will continue to be recognized.	**GRSG-LR-SUA-ST-014-Standard** **No Change**	
GRSG-LR-SUA-ST-014-Standard In priority and general habitat management areas, do not authorize temporary lands special-uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on the greater sage-grouse or its habitat.	**GRSG-LR-SUA-ST-015-Standard** **No Change**	
GRSG-LR-SUA-ST-015-Standard In priority and general habitat management areas, require protective stipulations (e.g., noise, tall structure, guy wire removal, perch deterrent installation, etc.) when issuing new authorizations or during renewal, amendment, or reissuance of existing authorizations that authorize infrastructure (e.g., high-voltage transmission lines, major pipelines, roads, distribution lines, and communication tower sites).	**GRSG-LR-SUA-ST-016-Standard** **No Change**	
GRSG-LR-SUA-ST-016-Standard In priority and general habitat management areas, locate upgrades to existing transmission lines within the existing	**GRSG-LR-SUA-ST-017-Standard** **No Change**	

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
designated corridors or rights-of-way unless an alternate route would benefit the greater sage-grouse or its habitat.		
GRSG-LR-SUA-ST-017-Standard In priority and general habitat management areas, when a lands special-use authorization is revoked or terminated and no future use is contemplated, require the authorization holder to remove overhead lines and other surface infrastructure in compliance with 36 CFR 251.60(i).	**GRSG-LR-SUA-ST-018-Standard** **No Change**	
GRSG-LR-SUA-GL-018-Guideline In priority habitat management areas, outside of existing designated corridors and rights-of-way, new transmission lines and pipelines should be buried to limit disturbance to the smallest footprint unless explicit rationale is provided that the biological impacts to the greater sage-grouse are being avoided. If new transmission lines and pipelines are not buried, locate them adjacent to existing transmission lines and pipelines. New communication tower sites may be authorized for public safety.	**GRSG-LR-SUA-GL-019-Guideline** **No Change**	
GRSG-LR-SUA-GL-019-Guideline The best available science and monitoring should be used to inform infrastructure siting in greater sage-grouse habitat.	**GRSG-LR-SUA-GL-020-Guideline** **No Change**	
Land Ownership Adjustments		
GRSG-LR-LOA-ST-020-Standard In priority and general management areas, do not approve landownership adjustments, including land exchanges, unless the action results in a net conservation gain to the greater sage-grouse or it will not directly or indirectly adversely affect greater sage-grouse conservation.	**GRSG-LR-LOA-ST-021-Standard** In priority and general management areas, do not approve landownership adjustments, including land exchanges, unless the action results in no net habitat loss to the greater sage-grouse or it will not directly or indirectly adversely affect greater sage-grouse conservation.	**Changing Net Conservation Gain**
GRSG-LR-LOA-GL-021-Guideline In priority and general habitat management areas with minority federal ownership, consider landownership adjustments to achieve a landownership pattern (e.g., consolidation, reducing fragmentation) that supports improved greater sage-grouse population trends and habitat.	**GRSG-LR-LOA-GL-022-Guideline** **No Change**	
Land Withdrawal		

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
GRSG-LR-LW-GL-022-Guideline In priority habitat management areas, use land withdrawals as a tool, where appropriate, to withhold areas from activities that will be detrimental to the greater sage-grouse or its habitat.	**GRSG-LR-LW-GL-023-Guideline** **Delete**	**Elimination of Sagebrush Focal Areas**
Wind and Solar		
GRSG-WS-ST-023-Standard In priority habitat management areas, do not authorize new solar and wind utility-scale and/or commercial energy development except for on-site power generation associated with existing industrial infrastructure (e.g., mine sites).	**GRSG-WS-ST-023-Standard** **No Change**	
GRSG-WS-GL-024-Guideline In general habitat management areas, new solar and wind energy utility-scale and/or commercial development should be restricted. If development cannot be restricted due to existing authorized use, adjacent developments, or split estate issues, then ensure that stipulations are incorporated into the authorization to protect the greater sage-grouse and its habitat.	**GRSG-WS-GL-024-Guideline** **No Change**	
Greater Sage-grouse Habitat		
GRSG-GRSGH-ST-025-Standard Design habitat restoration projects to move towards desired conditions (Table 1).	**GRSG-GRSGH-ST-025-Standard** Table 1 is now Appendix B, Table B-1.	**Clarification**
GRSG-GRSGH-GL-026-Guideline When removing conifers that are encroaching into greater sage-grouse habitat, avoid persistent woodlands (i.e., old growth relative to the site or more than 100 years old).	**GRSG-GRSGH-GL-026-Guideline** **No Change**	
GRSG-GRSGH-GL-027-Guideline In priority and general habitat management areas, actions and authorizations should include design features to limit the spread and effect of undesirable non- native plant species.	**GRSG-GRSGH-GL-027-Guideline** **No Change**	
GRSG-GRSGH-GL-028-Guideline To facilitate safe and effective fire management actions, in priority and general habitat management areas, fuel treatments in high-risk areas (i.e., areas likely to experience wildfire at an intensity level that	**GRSG-GRSGH-GL-028-Guideline** Table 1 is now Appendix B, Table B-1.	**Clarification**

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
might result in movement away from greater sage-grouse desired conditions in Table 1, should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse attributes to move away from desired conditions (Table 1).		
GRSG-GRSGH-GL-029-Guideline In priority and general habitat management areas, native plant species should be used when possible to maintain, restore, or enhance desired conditions (Table 1).	**GRSG-GRSGH-GL-029-Guideline** Table 1 is now Appendix B, Table B-1.	**Clarification**
GRSG-GRSGH-GL-030-Guideline In priority habitat management areas, vegetation treatment projects should only be conducted if they maintain, restore, or enhance desired conditions (Table 1).	**GRSG-GRSGH-GL-030-Guideline** Table 1 is now Appendix B, Table B-1.	**Clarification**
Livestock Grazing		
GRSG-LG-DC-031-Desired Condition In priority and general habitat management areas and within lek buffers, livestock grazing is managed to maintain or move towards desired conditions (Table 1).	**GRSG-LG-DC-031-Desired Condition** In priority and general habitat management areas, livestock grazing is used as a tool to maintain or move towards desired habitat conditions (Appendix B, Table B-1).	**Clarification**
GRSG-LG-ST-032-Standard In priority habitat management areas, do not approve construction of water developments unless beneficial to greater sage-grouse habitat.	**GRSG-LG-ST-032-Standard** In priority habitat management area, do not approve construction of water developments that would cause adverse effects to greater sage-grouse habitat.	**Changing Livestock Grazing Guidelines**
GRSG-LG-GL-033-Guideline Grazing guidelines should be applied in each of the seasonal habitats in Table 2. If values in Table 2 guidelines cannot be achieved based upon a site-specific analysis using Ecological Site Descriptions, long-term ecological site potential analysis, or other similar analysis, adjust grazing management to move towards desired habitat conditions in Table 1 consistent with the ecological site potential. Do not use drought and degraded habitat condition to adjust values. Grazing guidelines in Table 2 would not apply to isolated parcels of National Forest System lands that have less than 200 acres of greater sage-grouse habitat.	**GRSG-LG-GL-033-Guideline** In greater sage-grouse habitat, if livestock grazing is limiting achievement of seasonal desired conditions, adjust livestock management, as appropriate, to address greater sage-grouse habitat requirements.	**Changing Livestock Grazing Guidelines**

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
Nothing in 2015 Plan	**GRSG-LG-MA-034-Management Approach** Conduct greater sage-grouse habitat assessments in allotments. If the assessment identifies the habitat is in less than desired seasonal habitat condition, determine factors limiting achievement of the desired seasonal habitat conditions.	**Changing Livestock Grazing Guidelines**
GRSG-LG-GL-034-Guideline In priority and general habitat management areas, when grazing permits are waived without preference or obtained through permit cancellation, consider the agency's full range of administrative authorities for future allotment management, including but not limited to allotment closure, vacancy status for resource protection, establishment of forage reserve, re-stocking, or livestock conversion as management options to maintain or achieve desired habitat conditions (Table 1).	**GRSG-LG-GL-034-Guideline** **Delete**	**Removed – covered in existing Forest Service policy and direction (FSM 2230)**
GRSG-LG-GL-035-Guideline Bedding sheep and locating camps within 1.2 miles from the perimeter of a lek during lekking (from March 1 to April 30) should be restricted.	**GRSG-LG-GL-035-Guideline** **No Change**	
GRSG-LG-GL-036-Guideline During breeding and nesting season (from March 1 to June 15), trailing livestock through breeding and nesting habitat should be minimized. Specific routes should be identified; existing trails should be used; and stopovers on active leks should be avoided.	**GRSG-LG-GL-036-Guideline** **No Change**	
GRSG-LG-GL-037-Guideline Fences should not be constructed or reconstructed within 1.2 miles from the perimeter of occupied leks unless the collision risk can be mitigated through design features or markings (e.g., mark, laydown fences, or other design features).	**GRSG-LG-GL-037-Guideline** **No Change**	
GRSG-LG-GL-038-Guideline New permanent livestock facilities (e.g., windmills, water tanks, corrals, etc.) should not be constructed within 1.2 miles from the perimeter of occupied leks.	**GRSG-LG-GL-038-Guideline** **No Change**	
Fire Management		

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
GRSG-FM-DC-039-Desired Condition In priority and general habitat management areas, protect sagebrush habitat from loss due to unwanted wildfires or damages resulting from management-related activities while using agency risk management protocols to manage for firefighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Greater sage-grouse habitat will be prioritized as a high value resource along with other high value resources and assets.	**GRSG-FM-DC-039-Desired Condition** **No Change**	
GRSG-FM-ST-040-Standard In priority and general habitat management areas, do not use prescribed fire in 12-inch or less precipitation zones unless necessary to facilitate restoration of greater sage-grouse habitat consistent with desired conditions in Table 1 or for pile burning.	**GRSG-FM-ST-040-Standard** Table 1 is now Appendix B, Table B-1.	
GRSG-FM-ST-041-Standard In priority and general habitat management areas, if it is necessary to use prescribed fire for restoration of greater sage-grouse habitat consistent with desired conditions in Table 1, the associated National Environmental Policy Act analysis must identify how the project would move towards greater sage-grouse desired conditions; why alternative techniques were not selected; and how potential threats to greater sage-grouse habitat would be minimized.	**GRSG-FM-ST-041-Standard** Table 1 is now Appendix B, Table B-1.	
GRSG-FM-GL-042-Guideline In wintering or breeding and nesting habitat, sagebrush removal or manipulation, including prescribed fire, should be restricted unless the removal strategically reduces the potential impacts from wildfire or supports the attainment of desired conditions.	**GRSG-FM-GL-042-Guideline** **No Change**	
GRSG-FM-GL-043-Guideline In planned fuels management activities or part of an overall vegetative management strategy to mitigate the impacts of wildfire in priority and general habitat management areas and sagebrush focal areas, when reseeding in fuel breaks, fire-resistant native plant species should be used if available, or	**GRSG-FM-GL-043-Guideline** In planned fuels management activities or part of an overall vegetative management strategy to mitigate the impacts of wildfire in priority and general habitat management areas, when reseeding in fuel breaks, fire-resistant native plant species should be used if available, or consider using fire resistance	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
consider using fire resistance non-native species if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term.	non-native species if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term.	
GRSG-FM-GL-044-Guideline In priority and general habitat management areas, fuel treatments should be designed to maintain, restore, or enhance greater sage-grouse habitat.	**GRSG-FM-GL-044-Guideline** **No Change**	
GRSG-FM-GL-045-Guideline Locating temporary wildfire suppression facilities (e.g., incident command posts, spike camps, helibases, mobile retardant plants) in priority and general habitat management areas and sagebrush focal areas should be avoided. When needed to best provide for firefighter or public safety or to minimize fire size in sage grouse habitat, impacts to the greater sage-grouse should be considered and removal of sagebrush should be limited.	**GRSG-FM-GL-045-Guideline** Locating temporary wildfire suppression facilities (e.g., incident command posts, spike camps, helibases, mobile retardant plants) in priority and general habitat management areas should be avoided. When needed to best provide for firefighter or public safety or to minimize fire size in sage grouse habitat, impacts to the greater sage-grouse should be considered and removal of sagebrush should be limited.	**Elimination of Sagebrush Focal Areas**
GRSG-FM-GL-046-Guideline In priority and general habitat management areas, cross-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in greater sage-grouse habitat, impacts to the greater sage-grouse should be considered and removal of sagebrush should be limited.	**GRSG-FM-GL-046-Guideline** **No Change**	
GRSG-FM-GL-047-Guideline In priority and general habitat management areas, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.	**GRSG-FM-GL-047-Guideline** **No Change**	
GRSG-FM-GL-048-Guideline In priority and general habitat management areas, prescribed fire prescriptions should minimize undesirable effects on vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).	**GRSG-FM-GL-048-Guideline** **No Change**	
GRSG-FM-GL-049-Guideline	**GRSG-FM-GL-049-Guideline** **No Change**	

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
In priority and general habitat management areas, roads and natural fuel breaks should be incorporated into planned fuel break design to improve effectiveness and minimize loss of existing sagebrush habitat.		
GRSG-FM-GL-050-Guideline In priority and general habitat management areas, where practical and available, all fire-associated vehicles and equipment should be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.	**GRSG-FM-GL-050-Guideline** **No Change**	
GRSG-FM-GL-051-Guideline Unit-specific greater sage-grouse fire management-related information should be added to wildland fire decision support systems (currently, the Wildland Fire Decision Support System); local operating plans and resource advisor plans to be used during fire situations to inform management decision; and aid in development of strategies and tactics for resource prioritization.	**GRSG-FM-GL-051-Guideline** **No Change**	
GRSG-FM-GL-052-Guideline Localized maps of priority and general habitat management areas and sagebrush focal areas should be made available to fireline, dispatch, and fire support personnel.	**GRSG-FM-GL-052-Guideline** Localized maps of priority and general habitat management areas should be made available to fireline, dispatch, and fire support personnel.	**Elimination of Sagebrush Focal Areas**
GRSG-FM-GL-053-Guideline In or near priority and general habitat management areas, a greater sage-grouse resource advisor should be assigned to all extended attack fires.	**GRSG-FM-GL-053-Guideline** **No Change**	
GRSG-FM-GL-054-Guideline On critical fire weather days, protection of greater sage-grouse habitat should receive high consideration, along with other high values, for positioning of resources.	**GRSG-FM-GL-054-Guideline** **No Change**	
GRSG-FM-GL-055-Guideline Line officers should be involved in setting pre-season wildfire response priorities and prioritizing protection of priority and general habitat management areas and sagebrush	**GRSG-FM-GL-055-Guideline** Line officers should be involved in setting pre-season wildfire response priorities and prioritizing protection of priority and general habitat management areas, along with other	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
focal areas, along with other high values. During periods of multiple fires or limited resource availability fire management organizational structure (local, regional, national) will prioritize fires and allocation of resources in which greater sage-grouse habitat is a consideration along with other high values.	high values. During periods of multiple fires or limited resource availability fire management organizational structure (local, regional, national) will prioritize fires and allocation of resources in which greater sage-grouse habitat is a consideration along with other high values.	
GRSG-FM-GL-056-Guideline In priority and general habitat management areas, consider using fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage, preventing the loss of other high value resources, or increasing the effectiveness of other tactical strategies. Agency administrators, their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized equipment may be approved by agency administrators, their designee, or fireline leadership.	**GRSG-FM-GL-056-Guideline** **No Change**	
GRSG-FM-GL-057-Guideline In priority and general habitat management areas, to minimize sagebrush habitat loss, consider using the full range of suppression techniques to protect unburned islands, doglegs, and other greater sage-grouse habitat features that may exist within the perimeter of wildfires. These suppression objectives and activities should be prioritized against other wildland fire suppression activities and priorities.	**GRSG-FM-GL-057-Guideline** **No Change**	
Recreation		
GRSG-R-DC-058-Desired Condition In priority habitat management areas, recreation activities are balanced with the ability of the land to support them while meeting greater sage-grouse seasonal habitat desired conditions (Table 1) and creating minimal user conflicts.	**GRSG-R-DC-058-Desired Condition** Table 1 is now Appendix B, Table B-1.	
GRSG-R-ST-059-Standard In priority and general habitat management areas, do not authorize temporary recreation uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e.,	**GRSG-R-ST-059-Standard** **No Change**	

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
greater than 5 years) negative impacts on greater sage-grouse or its habitat.		
GRSG-R-GL-060-Guideline In priority and general habitat management areas, terms and conditions that protect and/or restore greater sage-grouse habitat within the permit area should be included in new recreation special-use authorizations. During renewal, amendment, or reauthorization, terms and conditions in existing permits and operating plans should be modified to protect and/or restore greater sage-grouse habitat.	**GRSG-R-GL-060-Guideline** **No Change**	
GRSG-R-GL-061-Guideline In priority habitat management areas, new recreational facilities or expansion of existing recreational facilities (e.g., roads, trails, campgrounds), including special-use authorizations for facilities and activities, should not be approved unless the development results in a net conservation gain to the greater sage-grouse or its habitat or the development is required for visitor safety.	**GRSG-R-GL-061-Guideline** In priority habitat management areas, new recreational facilities or expansion of existing recreational facilities (e.g., roads, trails, campgrounds), including special-use authorizations for facilities and activities, should not be approved unless the development results in no net habitat loss to the greater sage-grouse or its habitat or the development is required for visitor safety.	**Changing Net Conservation Gain**
Roads/Transportation		
GRSG-RT-DC-062-Desired Condition In priority and general habitat management areas, within the forest transportation system and on roads and trails authorized under a special-use authorization, the greater sage-grouse experience minimal disturbance during breeding and nesting (from March 1 to June 15) and wintering (from November 1 to February 28) periods.	**GRSG-RT-DC-062-Desired Condition** **No Change**	
GRSG-RT-ST-063-Standard In priority and general habitat management areas, do not conduct or allow new road or trail construction (does not apply to realignments for resource protection) except when necessary for administrative access to existing and authorized uses, public safety, or to access valid existing rights. If necessary to construct new roads and trails for one of these purposes, construct them to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.	**GRSG-RT-ST-063-Standard** **No Change**	

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
GRSG-RT-ST-064-Standard Do not conduct or allow road and trail maintenance activities within 2 miles from the perimeter of active leks during lekking (from March 1 to April 30) from 6 p.m. to 9 a.m.	**GRSG-RT-ST-064-Standard** **No Change**	
GRSG-RT-ST-065-Standard In priority habitat management areas, prohibit public access on temporary energy development roads.	**GRSG-RT-ST-065-Standard** **No Change**	
GRSG-RT-GL-066-Guideline In priority habitat management areas, new roads and road realignments should be designed and administered to reduce collisions with the greater sage-grouse.	**GRSG-RT-GL-066-Guideline** **No Change**	
GRSG-RT-GL-067-Guideline In priority habitat management areas, road construction within riparian areas and mesic meadows should be restricted. If not possible to restrict construction within riparian areas and mesic meadows, roads should be designed and constructed at right angles to ephemeral drainages and stream crossings unless topography prevents doing so.	**GRSG-RT-GL-067-Guideline** **No Change**	
GRSG-RT-GL-068-Guideline In priority and general habitat management areas, when decommissioning roads and unauthorized routes, restoration activity should be designed to move habitat towards desired conditions (Table 1).	**GRSG-RT-GL-068-Guideline** Table 1 is now Appendix B, Table B-1.	**Clarification**
GRSG-RT-GL-069-Guideline In priority and general habitat management areas, dust abatement terms and conditions should be included in road-use authorizations when dust has the potential to affect the greater sage-grouse.	**GRSG-RT-GL-069-Guideline** **No Change**	
GRSG-RT-GL-070-Guideline In priority and general habitat management areas, road and road- way maintenance activities should be designed and implemented to reduce the risk of vehicle- or human-caused wildfires and the spread of invasive plants. Such activities include but are not limited to the removal or mowing of vegetation a car-width off the edge of roads; use of weed-free earth-moving equipment, gravel, fill, or other materials; and blading or	**GRSG-RT-GL-070-Guideline** **No Change**	

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
pulling roadsides and ditches that are infested with noxious weeds only if required for public safety or protection of the roadway.		
Minerals		
Fluid Minerals – Unleased		
GRSG-M-FMUL-ST-071-Standard In priority habitat management areas, any new oil and gas leases must include a No Surface Occupancy stipulation. There will be no waivers or modifications. An exception could be granted by the authorized officer with unanimous concurrence from a team of agency greater sage-grouse experts from the U.S. Fish and Wildlife Service, the Forest Service, and the state wildlife agency if: • There would be no direct, indirect, or cumulative effects to the greater sage-grouse or its habitat; or • Granting the exception provides an alternative to a similar action occurring on a nearby parcel; and • The exception provides a clear net conservation gain to the greater sage-grouse.	**GRSG-M-FMUL-ST-071-Standard** In priority habitat management areas, any new oil and gas leases must include a No Surface Occupancy stipulation. There will be no waivers or modifications. An exception could be granted by the authorized officer with input from a team of agency greater sage-grouse experts from the U.S. Fish and Wildlife Service, the Forest Service, and the state wildlife agency if: • There would be no direct, indirect, or cumulative effects to the greater sage-grouse or its habitat; or • Granting the exception provides an alternative to a similar action occurring on a nearby parcel; and • The exception provides no net habitat loss to the greater sage-grouse.	**Changing Net Conservation Gain**
GRSG-M-FMUL-ST-072-Standard In general habitat management areas, any new leases must include appropriate Controlled Surface Use and Timing Limitation stipulations to protect the greater sage-grouse and its habitat.	**GRSG-M-FMUL-ST-072-Standard** **No Change**	
Fluid Minerals – Leased		
GRSG-M-FML-ST-073-Standard In priority habitat management areas, when approving the Surface Use Plan of Operation portion of the Application for Permit to Drill on existing leases that are not yet developed, require that leaseholders avoid and minimize surface disturbing and disruptive activities consistent with the rights granted in the lease.	**GRSG-M-FML-ST-073-Standard** **No Change**	
GRSG-M-FML-ST-074-Standard In priority habitat management areas, when facilities are no longer needed or leases are relinquished, require reclamation plans to include terms and conditions to restore	**GRSG-M-FML-ST-074-Standard** Table 1 is now Appendix B, Table B-1.	**Clarification**

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
habitat to desired conditions as described in Table 1.		
GRSG-M-FML-ST-075-Standard In general habitat management areas, authorize new transmission line corridors, transmission line rights-of-ways, transmission line construction, or transmission line-facility construction associated with fluid mineral leases with stipulations necessary to protect the greater sage-grouse and its habitat, consistent with the terms and conditions of the permit.	**GRSG-M-FML-ST-075-Standard** **No Change**	
GRSG-M-FML-ST-076-Standard Locate compressor stations on portions of a lease that are non-habitat and are not used by the greater sage-grouse, and if there would be no direct, indirect, or cumulative effects on the greater sage-grouse or its habitat. If this is not possible, work with the operator to use mufflers, sound insulation, or other features to reduce noise, consistent with GRSG-GEN-ST-006-Standard.	**GRSG-M-FML-ST-076-Standard** **No Change**	
GRSG-M-FML-ST-077-Standard In priority and general habitat management areas, when authorizing development of fluid mineral resources, work with the operator to minimize impacts to the greater sage-grouse and its habitat, such as locating facilities in non-habitat areas first and then in the least suitable habitat.	**GRSG-M-FML-ST-077-Standard** **No Change**	
GRSG-M-FML-GL-078-Guideline In priority and general habitat management areas, operators should be encouraged to reduce disturbance to greater sage-grouse habitat. At the time of approval of the Surface Use Plan of Operation portion of the Application for Permit to Drill, terms and conditions should be included to reduce disturbance to greater sage-grouse habitat, where appropriate and feasible and consistent with the rights granted to the lessee.	**GRSG-M-FML-GL-078-Guideline** **No Change**	
GRSG-M-FML-GL-079-Guideline On existing federal leases in priority habitat management areas, when surface occupancy cannot be restricted due to valid existing rights or development requirements,	**GRSG-M-FML-GL-079-Guideline** **No Change**	

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
disturbance and surface occupancy should be limited to areas least harmful to the greater sage-grouse based on vegetation, topography, or other habitat features.		
GRSG-M-FML-GL-080-Guideline In priority and general habitat management areas, where the federal government owns the surface and the mineral estate is in non-federal ownership, coordinate with the mineral estate owner/lessee to apply appropriate stipulations, conditions of approval, conservation measures, and required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities.	**GRSG-M-FML-GL-080-Guideline** **No Change**	
Fluid Minerals – Operations		
GRSG-M-FMO-ST-081-Standard In priority habitat management areas, do not authorize employee camps.	**GRSG-M-FMO-ST-081-Standard** **No Change**	
GRSG-M-FMO-ST-082-Standard In priority habitat management areas, when feasible, do not locate tanks or other structures that may be used as raptor perches. If this is not feasible, use perch deterrents.	**GRSG-M-FMO-ST-082-Standard** **No Change**	
GRSG-M-FMO-GL-083-Guideline In priority habitat management areas, closed-loop systems should be used for drilling operations with no reserve pits, where feasible.	**GRSG-M-FMO-GL-083-Guideline** **No Change**	
GRSG-M-FMO-GL-084-Guideline In priority and general habitat management areas, during drilling operations, soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.	**GRSG-M-FMO-GL-084-Guideline** **No Change**	
GRSG-M-FMO-GL-085-Guideline In priority and general habitat management areas, dams, impoundments and ponds for mineral development should be constructed to reduce potential for West Nile virus. Examples of methods to accomplish this include the following: • Increase the depth of ponds to accommodate a greater volume of	**GRSG-M-FMO-GL-085-Guideline** **No Change**	

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
water than is discharged. • Build steep shorelines (greater than 2 feet) to reduce shallow water and aquatic vegetation around the perimeter of impoundments to reduce breeding habitat for mosquitoes. • Maintain the water level below that of rooted aquatic and upland vegetation. Avoid flooding terrestrial vegetation in flat terrain or low-lying areas. • Construct dams or impoundments that restrict down-slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage or lining constructed ponds in areas where seepage is anticipated. • Line the channel where discharge water flows into the pond with crushed rock or use a horizontal pipe to discharge inflow directly into existing open water. • Line the overflow spillway with crushed rock and construct the spillway with steep sides. • Fence pond sites to restrict access by livestock and other wild ungulates. • Remove or re-inject produced water. • Treat waters with larvicides to reduce mosquito production where water occurs on the surface.		
GRSG-M-FMO-GL-086-Guideline In priority and general habitat management areas, to keep habitat disturbance at a minimum a phased development approach should be applied to fluid mineral operations, wherever possible, consistent with the rights granted under the lease. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**GRSG-M-FMO-GL-086-Guideline** **No Change**	
Coal Mines – Unleased		
GRSG-M-CMUL-ST-087-Standard When consenting to new underground coal leases, include a lease stipulation prohibiting the location of surface facilities in priority habitat management areas.	**GRSG-M-CMUL-ST-088-Standard** **Delete**	**No coal activity occurs on NFS units in this part of CO**
Coal Mines – Leased		

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
GRSG-M-CML-ST-088-Standard In priority habitat management areas, do not authorize new appurtenant surface facilities related to existing underground mines unless no technical feasible alternative exists. If new appurtenant surface facilities associated with existing mine leases cannot be located outside of priority habitat management areas, locate them with any existing disturbed areas, if possible. If location within an existing disturbed area is not possible, then construct new facilities to minimize disturbed areas while meeting mine safety standards and requirements, as identified by the Mine Safety and Health Administration mine-plan approval process and locate the facilities in an area least harmful to greater sage-grouse habitat based on vegetation, topography, or other habitat features.	**GRSG-M-CML-ST-089-Standard** **Delete**	**No coal activity occurs on NFS units in this part of CO**
GRSG-M-CML-GL-089-Guideline In priority and general habitat management areas, when coal leases are subject to readjustment, additional requirements should be included in the readjusted lease to conserve, enhance, and restore the greater sage-grouse and its habitat for long-term viability.	**GRSG-M-CML-GL-090-Guideline** **Delete**	**No coal activity occurs on NFS units in this part of CO**
Locatable Minerals		
GRSG-M-LM-ST-090-Standard In priority habitat management areas, only approve Plans of Operation if they include mitigation to protect the greater sage-grouse and its habitat, consistent with the rights of the mining claimant as granted by the General Mining Act of 1872, as amended.	**GRSG-M-LM-ST-087-Standard** **No Change**	
GRSG-M-LM-GL-091-Guideline In priority and general habitat management areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to operations consistent with the rights granted under the General Mining Act of 1872, as amended. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**GRSG-M-LM-GL-088-Guideline** **No Change**	
GRSG-M-LM-GL-092-Guideline In priority and general habitat management areas, abandoned mine sites should be closed	**GRSG-M-LM-GL-089-Guideline** **No Change**	

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
or mitigated to reduce predation of the greater sage-grouse by eliminating tall structures that could provide nesting opportunities and perching sites for predators.		
Non-energy Leasable Minerals		
GRSG-M-NEL-GL-093-Guideline In priority and general habitat management areas, at the time of issuance of prospecting permits, exploration licenses and leases, or readjustment of leases, the Forest Service should provide recommendations to the BLM for the protection of the greater sage-grouse and its habitat.	**GRSG-M-NEL-MA-090-Management Approach** In priority and general habitat management areas, include stipulations to restrict surface use, occupancy and seasonal activities for exploration or pre-mining activities with recommendations or consent (as applicable) to issuance of prospecting permits, exploration licenses, or leases, lease modifications, lease readjustments or lease renewals. In priority habitat management areas where development would be by surface mining methods, do not consent to, or recommend, leasing in areas that exceed disturbance caps. In priority habitat management areas where development would be by underground mining methods, specify or recommend stipulations that prohibit surface use and occupancy in priority habitat management areas.	**Clarification of Regulatory Process** **Clarification of Plan Content Definition**
GRSG-M-NEL-GL-094-Guideline In priority and general habitat, the Forest Service should recommend to the BLM that expansion or readjustment of existing leases avoid, minimize, or mitigate the effects to the greater sage-grouse and its habitat.	**GRSG-M-NEL-MA-091-Management Approach** In priority and general habitat management areas, include in recommendations to the BLM regarding exploration plan or mining plans conditions to reduce invasive species, prevent fire, limit permanent tall structures and new permanent roads, and to design reclamation of surface disturbance to restore applicable greater sage-grouse habitat.	**Clarification of Regulatory Process** **Clarification of Plan Content Definition**
Mineral Materials		
GRSG-M-MM-ST-095-Standard In priority habitat management areas, do not authorize new mineral material disposal or development.	**GRSG-M-MM-ST-092-Standard** **No Change**	
GRSG-M-MM-ST-096-Standard	**GRSG-M-MM-ST-093-Standard** **No Change**	

No Action Alternative (Colorado)	Proposed Action (Colorado)	Issue/Clarification
In priority habitat management areas, free-use mineral material collection permits may be issued and expansion of existing active pits may be allowed, except from March 1 to April 30 between 6 p.m. and 9 a.m. within 2 miles from the perimeter of occupied leks, within the Biologically Significant Unit and proposed project area if doing so does not exceed the disturbance cap.		
GRSG-M-MM-ST-097-Standard In priority and general habitat management areas, any permit for existing mineral material operations must include appropriate requirements for operation and reclamation of the site to maintain, restore, or enhance desired habitat conditions (Table 1).	**GRSG-M-MM-ST-094-Standard** Table 1 is now Appendix B, Table B-1.	**Clarification**

Table 2-6. Idaho - Comparison of alternatives[1]

[1]Priority, important, and general habitat management areas may contain non-habitat. Management direction would not apply to non-habitat if the proposed activity in non-habitat does not preclude effective sage-grouse use of adjacent habitats.

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
GRSG-GEN-DC-001-Desired Condition The landscape for the greater sage-grouse encompasses large contiguous areas of native vegetation, approximately 6-to-62 square miles in area, to provide for multiple aspects of species life requirements. Within these landscapes, a variety of sagebrush- community compositions exist without invasive species, which have variations in subspecies composition, co-dominant vegetation, shrub cover, herbaceous cover, and stand structure to meet seasonal requirements for food, cover, and nesting for the greater sage-grouse.	**GRSG-GEN-DC-001-Desired Condition** **No Change**	
GRSG-GEN-DC-002-Desired Condition Anthropogenic disturbance is focused in non-habitat areas outside of priority, important, and general habitat management areas and sagebrush focal areas.2 Disturbance in general habitat management areas is limited, and there is little to no disturbance in priority and important habitat management areas and sagebrush focal areas except for valid existing rights and existing authorized uses.	**GRSG-GEN-DC-002-Desired Condition** Anthropogenic disturbance is focused in non-habitat areas outside of priority, important, and general habitat management areas. Disturbance in general habitat management areas is limited, and there is little to no disturbance in priority and important habitat management areas except for valid existing rights and existing authorized uses.	**Elimination of Sagebrush Focal Areas**
GRSG-GEN-DC-003-Desired Condition In all greater sage-grouse habitat, including all seasonal habitat, 70% or more of lands capable of producing sagebrush have from 10 to 30% sagebrush canopy cover and less than 10% conifer canopy cover. In addition, within breeding and nesting habitat, sufficient herbaceous vegetation structure and height provides overhead and lateral concealment for nesting and early brood rearing life stages. Within	**GRSG-GEN-DC-003-Desired Condition** At the landscape scale, in all greater sage-grouse habitat, including all seasonal habitat, 70% or more of lands capable of producing sagebrush have from 10 to 30% sagebrush canopy cover and less than 10% conifer canopy cover. In addition, within breeding and nesting habitat, sufficient herbaceous vegetation structure and height provides overhead and lateral concealment for nesting and early brood rearing life stages. Within	**Clarification**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
brood rearing habitat, wet meadows and riparian areas sustain a rich diversity of perennial grass and forb species relative to site potential. Within winter habitat, sufficient sagebrush height and density provides food and cover for the greater sage-grouse during this seasonal period. Specific desired conditions for the greater sage-grouse based on seasonal habitat requirements are in Table 1.	brood rearing habitat, wet meadows and riparian areas sustain a rich diversity of perennial grass and forb species relative to site potential. Within winter habitat, sufficient sagebrush height and density provides food and cover for the greater sage-grouse during this seasonal period. When and where breeding and nesting habitat overlaps with other seasonal habitats, the desired conditions are those for breeding and nesting habitat. Specific desired conditions for the greater sage-grouse based on seasonal habitat requirements are in Appendix C, Table C-1.	
Nothing in 2015 Plan	**GRSG-GEN-MA-004-Management Approach** Every 5 years or when a demonstrated need for change exists, evaluate the Habitat Management Area (HMA) Map and Biologically Significant Unit (BSU) Map. These evaluations will occur in conjunction with an interagency team, which includes the BLM and State of Idaho, to ensure consistency across administrative boundaries.	**Habitat Management Area Designation**
GRSG-GEN-ST-004-Standard In priority habitat management areas and sagebrush focal areas, do not issue new discretionary written authorizations unless all existing discrete anthropogenic disturbances cover less than 3% of the total greater sage-grouse habitat within the Biologically Significant Unit and the proposed project area, regardless of ownership, and the new use will not cause exceedance of the 3% cap. Southwestern Montana will use a 3% disturbance cap until the State of Montana Strategy, which uses a 5% disturbance cap for all lands and all disturbances, is fully implemented. The BLM in Montana has developed conditions to be met before the change in	**GRSG-GEN-ST-005-Standard** In priority and important habitat management areas, do not issue new discretionary written authorizations unless all existing discrete anthropogenic disturbances cover less than 3% of the total greater sage-grouse habitat within the Biologically Significant Unit, regardless of ownership, and the new use will not cause exceedance of the 3% cap.[1] [1] The description of the Southwestern Montana disturbance cap remains applicable to SW Montana. SW Montana is not part of this EIS process.	**Elimination of Sagebrush Focal Areas** **Changing Net Conservation Gain and Adjustment of Compensatory Mitigation Frameworks** **Habitat Management Areas Designations** **Clarification**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
the disturbance cap. Discretionary activities that might result in disturbance above 3% (5% in Montana when fully implemented) at the Biologically Significant Unit and proposed project area would be prohibited unless approved by the forest supervisor with concurrence from the regional forester after review of new or site-specific information that indicates the project would result in a net conservation gain at the Biologically Significant Unit and proposed project area scale. Within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation gain to the species will be achieved. This exception is limited to projects that fulfill the use for which the corridors were designated (e.g., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location. Consider the likelihood of surface disturbing activities as a result of development of valid existing rights when authorizing new projects in priority habitat management areas.		
Nothing in 2015 Plan	**GRSG-GEN-MA-006-Management Approach** The following would be used to implement GRSG-GEN-ST-005-Standard: a. Through coordination with the State of Idaho, it is determined that the project cannot be achieved, technically or economically, outside of this management area; and b. The project location and/or design should best reduce cumulative impacts and/or impacts on GRSG and other high value natural, cultural, or societal resources; this may include colocation within the footprint for	**Changing Net Conservation Gain and Adjustment of Compensatory Mitigation Frameworks**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
	existing infrastructure, to the extent practicable; and c. The project results in no net loss to GRSG Key habitat or with beneficial mitigation actions reduces habitat fragmentation or other threats within the Conservation Area; and d. The project design mitigates unavoidable impacts through appropriate compensatory mitigation; and e. The project will not exceed the disturbance cap.	
GRSG-GEN-ST-005-Standard In priority, general, and important management areas and sagebrush focal areas, only allow new authorized land uses if, after avoiding and minimizing impacts, any remaining residual impacts to the greater sage-grouse or its habitat are fully offset by compensatory mitigation projects that provide a net conservation gain to the species, subject to valid existing rights by applying beneficial mitigation actions. Any compensatory mitigation will be durable, timely, and in addition to what would have resulted without the compensatory mitigation as addressed in the Mitigation Framework (Appendix B).	**GRSG-GEN-ST-005-Standard** **Delete**	**Deleted-redundant with GRSG-LR-SUA-ST-013-Standard**
GRSG-GEN-ST-006-Standard Do not authorize new surface disturbing and disruptive activities that create noise at 10dB above ambient measured at the perimeter of an occupied lek during lekking (from March 1 to April 30) from 6 p.m. to 9 a.m. Do not include noise resulting from human activities that have been authorized and initiated within the past 10 years in the ambient baseline measurement.	**GRSG-GEN-ST-007-Standard** **No Change**	

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
GRSG-GEN-GL-007-Guideline During breeding and nesting (from March 1 to June 15), surface disturbing and disruptive activities to nesting birds should be avoided.	**GRSG-GEN-GL-008-Guideline** **No Change**	
GRSG-GEN-GL-008-Guideline When breeding and nesting habitat overlaps with other seasonal habitat, habitat should be managed for breeding and nesting desired conditions in Table 1.	**GRSG-GEN-GL-008-Guideline** **Delete**	**Deleted-incorporated into GRSG-GEN-DC-003-Desired Condition**
GRSG-GEN-GL-009-Guideline Development of tall structures within 2 miles from the perimeter of occupied leks, as determined by local conditions (e.g., vegetation or topography), with the potential to disrupt breeding or nesting by creating new perching/nesting opportunities for avian predators or by decreasing the use of an area, should be restricted within nesting habitat.	**GRSG-GEN-GL-009-Guideline** Development of tall structures with the potential to disrupt breeding or nesting by creating new perching/nesting opportunities for avian predators or by decreasing the use of an area should be restricted: 2 miles in priority habitat management areas; 2 miles (communication/metrological), 1.2 miles (transmission lines) and 0.6 miles (distribution lines) in important habitat management areas; and 0.6 miles in general habitat management areas from the perimeter of occupied leks. Local conditions (e.g., vegetation or topography), should be used to determine the potential to disrupt breeding or nesting by greater sage-grouse.	**Modifying Lek Buffers**
Adaptive Management		
GRSG-AM-ST-010-Standard If a hard trigger is identified, management direction applying to priority habitat management areas will be applied to important habitat management areas within the Conservation Area in Idaho, and the Sage-Grouse Implementation Task Force will evaluate available and pertinent data and recommend additional potential implementation level activities to the appropriate Forest Service line	**GRSG-AM-ST-010-Standard** If a hard trigger is tripped, management direction applying to priority habitat management areas will be applied to important habitat management areas within the Conservation Area in Idaho. The response identified in Appendix C will be followed. When habitat or maximum male population count exceeds the 2011 baseline for habitat or population levels	**Adaptive Management Review Process** **Clarification**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
officer in both Idaho and Southwest Montana (Appendix C).	within the Conservation Area, IHMA managed as PHMA will revert to management as IHMA within the Conservation Area.	
GRSG-AM-ST-011-Standard If a soft trigger is identified, the Forest Service will review available and pertinent data in coordination with the Sage-grouse Implementation Task Force, which may recommend potential implementation level activities to the appropriate agency line officer (Appendix C).	**GRSG-AM-MA-011-Management Approach** If a soft trigger is tripped, the Forest Service will review available and pertinent data in coordination with an interagency technical team, which may recommend potential implementation level activities to the appropriate agency line officer (Appendix C).	**Adaptive Management Review Process** **Clarification of Plan Content Definition**
Land and Realty		
Specials Use Authorizations (Non-Recreation)		
GRSG-LR-SUA-O-012-Objective In nesting habitat, retrofit existing tall structures (e.g., power poles, communication tower sites) with perch deterrents or other anti-perching devices within 2 years of signing the ROD.	**GRSG-LR-SUA-O-012-Objective** In nesting habitat in priority habitat management areas, retrofit existing tall structures (e.g., power poles, communication tower sites) with perch deterrents or other anti-perching devices within 3 years of reissuing permits.	**Updating Objective**
GRSG-LR-SUA-ST-013-Standard In priority and important habitat management areas and sagebrush focal areas, restrict issuance of new lands special-use authorizations for infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, and communication tower sites. Exceptions may include co-location and must be limited (e.g., safety needs) and based on rationale (e.g., monitoring, modeling, or best available science) that explicitly demonstrates that adverse impacts to the greater sage-grouse will be avoided by the exception. If co-location of new infrastructure cannot be accomplished, locate it adjacent to existing infrastructure, roads, or already disturbed areas and limit disturbance to	**GRSG-LR-SUA-ST-013-Standard** In priority habitat management areas, only allow new lands special-use authorizations for infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, and communication tower sites when infrastructure is co-located with existing infrastructure, roads, or already disturbed areas. In important habitat management areas allow new lands special-use authorizations if impacts to the greater sage-grouse or its habitat are co-located or offset by using compensatory mitigation. Any mitigation will be in accordance with the Mitigation Framework (Appendix C).	**Elimination of Sagebrush Focal Areas** **Adjustment of Compensatory Mitigation Frameworks** **Habitat Management Areas Designations** **Adaptive Management Review Process**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
the smallest footprint or where it best limits impacts to the greater sage-grouse or its habitat. Existing authorized uses will continue to be recognized.		
Nothing in 2015 Plan	**GRSG-LR-SUA-ST-014-Standard** Lands special-use authorizations in PHMA and IHMA must meet the following project screening criteria: a. The population trend for the GRSG within the associated Conservation Area is stable or increasing over a three-year period and the population levels are not currently engaging the adaptive management triggers (this applies strictly to new authorizations; renewals and amendments of existing authorizations will not be subject to this criteria when it can be shown that long-term impacts from those renewals or amendments will be substantially the same as the existing development); b. The development with associated mitigation will not result in a net loss of GRSG Key habitat **or of** the respective PHMA; c. The project and associated impacts will not result in a net loss of GRSG Key habitat or habitat fragmentation or other impacts causing a decline in the population of the species within the relevant Conservation Area; d. The development cannot be reasonably accomplished outside of the PHMA; or can be either: 1) developed pursuant to a valid existing authorization; or 2) is co-located within the footprint of existing infrastructure.	**Adjustment of Compensatory Mitigation Frameworks** **Adaptive Management Review Process**
Nothing in 2015 Plan	**GRSG-LR-SUA-MA-015-Management Approach** Large scale anthropogenic disturbances in PHMA and IHMA will be reviewed by the	**Adjustment of Compensatory Mitigation Frameworks**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
	Technical and Policy Teams as described in Appendix C.	**Adaptive Management Review Process**
GRSG-LR-SUA-ST-014-Standard In general habitat management areas, new lands special-use authorizations may be issued for infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, and communication tower sites, if they can be located within existing designated corridors or rights-of-way and the authorization includes stipulations to protect the greater sage-grouse and its habitat. Existing authorized uses will continue to be recognized.	**GRSG-LR-SUA-GL-016-Guideline** In general habitat management areas, new lands special-use authorizations may be issued for infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, and communication tower sites, within existing designated corridors or rights-of-way or if the authorization includes stipulations to minimize impacts to the GRSG and its habitat.	**Clarification** **Clarification of Plan Content Definition**
GRSG-LR-SUA-ST-015-Standard In priority and important habitat management areas and sagebrush focal areas, do not authorize temporary lands special-uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on the greater sage-grouse or its habitat.	**GRSG-LR-SUA-ST-017-Standard** In priority habitat management areas, do not authorize temporary lands special-uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on the greater sage-grouse or its habitat. In important habitat management areas only authorize temporary lands special-uses if habitat loss is offset by avoidance, minimization, or using compensatory mitigation.	**Elimination of Sagebrush Focal Areas** **Adjustment of Compensatory Mitigation Frameworks** **Habitat Management Areas Designations**
GRSG-LR-SUA-ST-016-Standard In priority, important, and general habitat management areas and sagebrush focal areas, require protective stipulations (e.g., noise, tall structure, guy wire removal, perch deterrent installation) when issuing new authorizations or during renewal, amendment, or reissuance of existing authorizations that authorize infrastructure (e.g., high-voltage transmission lines, major pipelines, roads, distribution lines, and communication tower sites).	**GRSG-LR-SUA-ST-018-Standard** In priority and important habitat management areas, require protective stipulations (e.g., noise, tall structure, guy wire removal) when issuing new authorizations or during renewal, amendment, or reissuance of existing authorizations that authorize infrastructure (e.g., high- voltage transmission lines, major pipelines, roads, distribution lines, and communication tower sites).	**Elimination of Sagebrush Focal Areas** **Adjustment of Compensatory Mitigation Frameworks**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
GRSG-LR-SUA-ST-017-Standard In priority, important, and general habitat management areas and sagebrush focal areas, locate upgrades to existing transmission lines within the existing designated corridors or rights-of-way unless an alternate route would benefit the greater sage-grouse or its habitat.	**GRSG-LR-SUA-ST-019-Standard** In priority and important habitat management areas, locate upgrades to existing transmission lines within the existing designated corridors or rights-of-way unless an alternate route would benefit the greater sage-grouse or its habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Adjustment of Compensatory Mitigation Frameworks**
GRSG-LR-SUA-ST-018-Standard In priority, important, and general habitat management areas and sagebrush focal areas, when a lands special-use authorization is revoked or terminated, and no future use is contemplated, require the authorization holder to remove overhead lines and other infrastructure in compliance with 36 CFR 251.60(i).	**GRSG-LR-SUA-ST-020-Standard** In priority, important, and general habitat management areas, when a lands special-use authorization is revoked or terminated, and no future use is contemplated, require the authorization holder to remove overhead lines and other infrastructure in compliance with 36 CFR 251.60(i).	**Elimination of Sagebrush Focal Areas**
GRSG-LR-SUA-GL-019-Guideline In priority management areas and sagebrush focal areas, outside of existing designated corridors and rights-of-way, new transmission lines and pipelines should be buried to limit disturbance to the smallest footprint unless explicit rationale is provided that the biological impacts to the greater sage-grouse and its habitat are being avoided. If new transmission lines and pipelines are not buried, locate them adjacent to existing transmission lines and pipelines.	**GRSG-LR-SUA-GL-019-Guideline** **Delete**.	**Redundant with GRSG-LR-SUA-ST-013-Standard**
GRSG-LR-SUA-GL-020-Guideline The best available science and monitoring should be used to inform infrastructure siting in greater sage-grouse habitat.	**GRSG-LR-SUA-GL-020-Guideline** **Delete**	
Land Ownership Adjustments		
GRSG-LR-LOA-ST-021-Standard In priority, important, and general habitat management areas and sagebrush focal	**GRSG-LR-LOA-GL-021-Guideline** In priority habitat management areas, do not approve landownership adjustments,	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
areas, do not approve landownership adjustments, including land exchanges, unless the action results in a net conservation gain to the greater sage-grouse or it will not directly or indirectly adversely affect greater sage-grouse conservation.	including land exchanges, unless the action results in no net habitat loss to the greater sage-grouse.	**Adjustment of Compensatory Mitigation Frameworks** **Habitat Management Areas Designations** **Changing Net Conservation gain** **Clarification of Plan Content Definition**
GRSG-LR-LOA-GL-022-Guideline In priority, important, and general habitat management areas and sagebrush focal areas with minority federal ownership, consider landownership adjustments to achieve a landownership pattern (e.g., consolidation, reducing fragmentation) that supports improved greater sage-grouse population trends and habitat.	**GRSG-LR-LOA-MA-022-Management Approach** In priority, important, and general habitat management areas with minority federal ownership, consider landownership adjustments to achieve a landownership pattern (e.g., consolidation, reducing fragmentation) that supports improved greater sage-grouse population trends and habitat.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
Land Withdrawal		
GRSG-LR-LW-GL-023-Guideline In priority and important habitat management areas and sagebrush focal areas, use land withdrawals as a tool, where appropriate, to withhold an area from activities that will be detrimental to the greater sage-grouse or its habitat.	**GRSG-LR-LW-GL-023-Guideline** **Delete**	**Elimination of Withdrawals**
Wind and Solar		
GRSG-WS-ST-024-Standard In priority management areas and sagebrush focal areas, do not authorize new solar and wind utility-scale and/or commercial energy development except for on- site power generation associated with existing industrial infrastructure (e.g., mine site).	**GRSG-WS-ST-023-Standard** In priority management areas, do not authorize new solar and wind utility-scale and/or commercial energy development except for on- site power generation associated with existing industrial infrastructure (e.g., mine site).	**Elimination of Sagebrush Focal Areas**
GRSG-WS-GL-025-Guideline In important habitat management areas, new solar and wind energy utility-scale	**GRSG-WS-GL-025-Guideline** **Delete**	**Redundant with GRSG-LR-SUA-ST-013-Standard**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
and/or commercial development should be restricted. If development cannot be restricted due to existing authorized use, adjacent developments, or split estate issues, then ensure that stipulations are incorporated into the authorization to protect the greater sage-grouse and its habitat.		
Greater Sage-grouse Habitat		
Nothing in 2015 Plan	**GRSG-GRSGH-DC-024-Desired Condition** Invasive annual grasses are either not present or in low abundance and not increasing in sage-grouse habitat.	**Treatment of Invasive Species**
GRSG-GRSGH-O-026-Objective Every 10 years for the next 50 years, improve greater sage-grouse habitat by removing invading conifers and other undesirable species based upon the number of acres shown in Table 2.	**GRSG-GRSGH-O-025-Objective** Table 2 is now Appendix C, Table C-2.	**Clarification**
GRSG-GRSGH-ST-027-Standard Design habitat restoration projects to move towards desired conditions (Table 1).	**GRSG-GRSGH-ST-027-Standard** Delete	**Removed- required by 2012 Planning Rule**
Nothing in 2015 Plan	**GRSG-GRSGH-O-026-Objective** Within 2 years of the Record of Decision, develop a map of areas prone to annual grass invasion within sage-grouse habitat using resistance and resilience concepts for each National Forest and Grassland.	**Treatment of Invasive Species**
GRSG-GRSGH-GL-028-Guideline When removing conifers that are encroaching into greater sage-grouse habitat, avoid persistent woodlands (i.e., old growth relative to the site or more than 100 years old).	**GRSG-GRSGH-GL-027-Guideline** **No Change**	
GRSG-GRSGH-GL-029-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, actions and authorizations should include design features to limit the spread	**GRSG-GRSGH-GL-028-Guideline** In priority, important, and general habitat management areas, actions and authorizations should include design	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
and effect of undesirable non-native plant species.	features to limit the spread and effect of undesirable non-native plant species.	
GRSG-GRSGH-GL-030-Guideline To facilitate safe and effective fire management actions, in priority, important, and general habitat management areas and sagebrush focal areas, fuel treatments in high-risk areas (i.e., areas likely to experience wildfire at an intensity level that might result in movement away from greater sage-grouse desired conditions in Table 1) should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse attributes to move away from desired conditions (Table 1).	**GRSG-GRSGH-MA-029-Management Approach** To facilitate safe and effective fire management actions in priority, important, and general habitat management areas, fuel treatments in high-risk areas (i.e., areas likely to experience wildfire at an intensity level that might result in movement away from greater sage-grouse desired conditions in Appendix C, Table C-1) should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse attributes to move away from desired conditions (Appendix C, Table C-1).	**Elimination of Sagebrush Focal Areas** **Clarification** **Clarification of Plan Content Definition**
GRSG-GRSGH-GL-031-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, native plant species should be used, when possible, to maintain, restore, or enhance desired conditions (Table 1).	**GRSG-GRSGH-GL-030-Guideline** In priority, important, and general habitat management areas, native plant species should be used, when possible, to maintain, restore, or enhance desired conditions (Appendix C, Table C-1).	**Elimination of Sagebrush Focal Areas**
GRSG-GRSGH-GL-032-Guideline In priority and important habitat management areas and sagebrush focal areas, vegetation treatment projects should only be conducted if they maintain, restore, or enhance desired conditions (Table 1).	**GRSG-GRSGH-GL-031-Guideline** In priority, important, and general habitat management areas and, vegetation treatment projects should only be conducted if they maintain, restore, or enhance desired conditions (Appendix C, Table C-1).	**Elimination of Sagebrush Focal Areas** **Clarification**
Nothing in 2015 Plan	**GRSG-GRSGH-MA-032-Management Approach** Prioritize treatments for established invasive plant populations that have the potential to impact sage-grouse habitat in priority habitat management areas. Early detection and rapid response treatments remain the focus.	**Treatment of Invasive Species**
Nothing in 2015 Plan	**GRSG-GRSGH-MA-033-Management Approach**	**Treatment of Invasive Species**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
	In designing post wildfire recovery treatments, consider resistance and resilience ecological site descriptions and state and transition models.	
Livestock Grazing		
GRSG-LG-DC-033-Desired Condition In priority and general habitat management areas, sagebrush focal areas, and within lek buffers, livestock grazing is managed to maintain or move towards desired conditions (Table 1).	**GRSG-LG-DC-033-Desired Condition** **Delete**	**Removed- required by 2012 Planning Rule**
GRSG-LG-ST-034-Standard In priority and important habitat management areas and sagebrush focal areas, do not approve construction of water developments unless beneficial to greater sage-grouse habitat.	**GRSG-LG-ST-034-Standard** In priority and important habitat management areas, do not approve construction of water developments that would cause adverse effects to greater sage-grouse habitat.	**Changing Livestock Grazing Guidelines**
GRSG-LG-GL-035-Guideline Grazing guidelines should be applied in each of the seasonal habitat in Table 3. If values in Table 3 guidelines cannot be achieved based upon a site-specific analysis using Ecological Site Descriptions, long-term ecological site potential analysis, or other similar analysis, adjust grazing management to move towards desired habitat conditions in Table 1 consistent with the ecological site potential. Do not use drought and degraded habitat condition to adjust values. Grazing guidelines in Table 3 would not apply to isolated parcels of National Forest System lands that have less than 200 acres of greater sage-grouse habitat.	**GRSG-LG-GL-035-Guideline** In greater sage-grouse habitat, if livestock grazing is limiting achievement of seasonal desired conditions, adjust livestock management, as appropriate, to address greater sage-grouse habitat requirements.	**Changing Livestock Grazing Guidelines**
Nothing in 2015 Plan	**GRSG-LG-MA-036-Management Approach** Conduct greater sage-grouse habitat assessments in allotments. If the assessment identifies the habitat is in less than desired seasonal habitat conditions,	**Changing Livestock Grazing Guidelines**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
	determine factors limiting achievement of the desired seasonal habitat conditions.	
GRSG-LG-GL-036-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, when grazing permits are waived without preference or obtained through permit cancellation, consider the agency's full range of administrative authorities for future allotment management, including but not limited to allotment closure, vacancy status for resource protection, establishment of forage reserve, re-stocking, or livestock conversion as management options to maintain or achieve desired habitat conditions (Table 1).	**GRSG-LG-GL-036-Guideline** **Delete**	**Removed- covered in existing FS policy and direction**
GRSG-LG-GL-037-Guideline Bedding sheep and placing camps within 1.2 miles from the perimeter of a lek during lekking (from March 1 to April 30) should be restricted.	**GRSG-LG-GL-037-Guideline** Bedding sheep and placing camps within 0.62 miles (1 km) from the perimeter of a lek during lekking (from March 1 to April 30) should be restricted to prevent disturbance of breeding GRSG.	**Clarification**
GRSG-LG-GL-038-Guideline During the breeding and nesting season (from March 1 to June 15), trailing livestock through breeding and nesting habitat should be minimized. Specific routes should be identified; existing trails should be used; and stopovers on active leks should be avoided.	**GRSG-LG-GL-038-Guideline** During the breeding and nesting season, trailing livestock through breeding and nesting habitat should be avoided to the extent practicable to prevent disturbance to breeding and nesting GRSG. Specific routes should be identified, existing trails should be used, and stopovers on active leks not allowed.	**Clarification**
GRSG-LG-GL-039-Guideline Fences should not be constructed or reconstructed within 1.2 miles from the perimeter of occupied leks unless the collision risk can be mitigated through design features or markings (e.g., mark, laydown fences, or other design features).	**GRSG-LG-GL-039-Guideline** **No Change**	
GRSG-LG-GL-040-Guideline	**GRSG-LG-GL-040-Guideline**	**Clarification of Buffer Distances**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
New permanent livestock facilities (e.g., windmills, water tanks, corrals) should not be constructed within 1.2 miles from the perimeter of occupied leks.	To prevent predation from perching raptors, new permanent livestock facilities taller than 4 feet (e.g., windmills, water tanks, corrals, etc.) should not be constructed within 1.2 miles in priority, 0.6 miles in important, and 0.12 miles in general habitat management areas from the perimeter of occupied leks.	**Clarification**
Fire Management		
GRSG-FM-DC-041-Desired Condition In priority, important, and general habitat management areas and sagebrush focal areas, protect sagebrush habitat from loss due to unwanted wildfires or damages resulting from management-related activities while using agency risk management protocols to manage for firefighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Greater sage-grouse habitat will be prioritized as a high value resource along with other high value resources and assets.	**GRSG-FM-MA-041-Management Approach** In priority, important, and general habitat management areas, protect sagebrush habitat from loss due to unwanted wildfires or damages resulting from management-related activities while using agency risk management protocols to manage for firefighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Greater sage-grouse habitat will be prioritized as a high value resource along with other high value resources and assets.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-ST-042-Standard In priority, important, and general habitat management areas and sagebrush focal areas, do not use prescribed fire in 12-inch or less precipitation zones unless necessary to facilitate restoration of greater sage-grouse habitat consistent with desired conditions in Table 1 or for pile burning.	**GRSG-FM-ST-042-Standard** In priority, important, and general habitat management areas, do not use prescribed fire in 12-inch or less precipitation zones unless necessary to facilitate restoration of greater sage-grouse habitat consistent with desired conditions in Appendix C, Table C-1 or for pile burning.	**Elimination of Sagebrush Focal Areas**
GRSG-FM-ST-043-Standard In priority, important, and general management habitat management areas and sagebrush focal areas, if it is necessary to use prescribed fire for restoration of greater sage-grouse habitat consistent with desired conditions in Table 1, the associated National Environmental Policy Act analysis must	**GRSG-FM-MA-043-Management Approach** In priority, important, and general management habitat management areas, if it is necessary to use prescribed fire for restoration of greater sage-grouse habitat consistent with desired conditions in Appendix C, Table C-1, the associated National Environmental Policy Act	**Elimination of Sagebrush Focal Areas** **Clarification** **Clarification of Plan Content Definition**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
identify how the project would move towards greater sage-grouse desired conditions, why alternative techniques were not selected, and how potential threats to greater sage-grouse habitat would be minimized.	analysis must identify how the project would move towards greater sage-grouse desired conditions, why alternative techniques were not selected, and how potential threats to greater sage-grouse habitat would be minimized.	
GRSG-FM-GL-044-Guideline In wintering or breeding and nesting habitat, sagebrush removal or manipulation, including prescribed fire, should be restricted unless the removal strategically reduces the potential impacts from wildfire or supports the attainment of desired conditions.	**GRSG-FM-GL-044-Guideline** In order to maintain sagebrush in wintering or breeding and nesting habitat, sagebrush removal or manipulation, including prescribed fire, should be restricted unless the removal strategically reduces the potential impacts from wildfire or supports the attainment of desired conditions.	**Clarification**
GRSG-FM-GL-045-Guideline In planned fuels management activities or part of an overall vegetative management strategy to mitigate the impacts of wildfire in priority and general habitat management areas and sagebrush focal areas, when reseeding in fuel breaks, fire-resistant native plant species should be used if available, or consider using fire-resistant non-native species if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term.	**GRSG-FM-MA-045-Mangement Approach** In priority, important, and general habitat management areas, when reseeding in fuel breaks, fire-resistant native plant species should be used if available, or consider using fire-resistant non-native species if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term and will prevent fire spread into GRSG habitat.	**Elimination of Sagebrush Focal Areas** **Clarification** **Clarification of Plan Content Definition**
GRSG-FM-GL-046-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, fuel treatments should be designed to maintain, restore, or enhance greater sage-grouse habitat.	**GRSG-FM-GL-046-Guideline** Delete	**Removed- required by 2012 Planning Rule**
GRSG-FM-GL-047-Guideline Locating temporary wildfire suppression facilities (e.g., incident command posts, spike camps, helibases, mobile retardant plants) in priority and general habitat management areas and sagebrush focal areas should be avoided. When needed to	**GRSG-FM-MA-046-Management Approach** Locate wildfire suppression facilities (i.e., base camps, spike camps, drop points, staging areas, helibases, etc.) in areas where physical disturbance to Greater Sage-Grouse habitat can be minimized.	**Elimination of Sagebrush Focal Areas** **Clarification** **Clarification of Plan Content Definition**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
best provide for firefighter or public safety or to minimize fire size in greater sage-grouse habitat, impacts to the greater sage-grouse should be considered and removal of sagebrush should be limited.	These include disturbed areas, grasslands, near roads/trails, or in other areas where there is existing disturbance or minimal sagebrush cover.	
GRSG-FM-GL-048-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, cross-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in greater sage-grouse habitat, impacts to the greater sage-grouse should be considered and removal of sagebrush should be limited.	**GRSG-FM-MA-047-Management Approach** In priority, important, and general habitat management areas, cross-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in greater sage-grouse habitat, impacts to the greater sage-grouse should be considered and removal of sagebrush should be limited to the extent practicable to achieve suppression objectives.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-049-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.	**GRSG-FM-MA-048-Management Approach** In priority, important, and general habitat management areas, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-050-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, prescribed fire prescriptions should minimize undesirable effects on vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).	**GRSG-FM-MA-049-Management Approach** In priority and general habitat management areas prescribed fire prescriptions should result in improvement of desired conditions for GRSG and not result in undesirable effects on vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).	**Clarification of Plan Content Definition**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
GRSG-FM-GL-051-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, roads and natural fuel breaks should be incorporated into planned fuel-break design to improve effectiveness and minimize loss of existing sagebrush habitat.	**GRSG-FM-MA-050-Management Approach** In priority, important, and general habitat management areas, roads and natural fuel breaks should be incorporated into planned fuel-break design to improve effectiveness and minimize loss of existing sagebrush habitat.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-052-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, where practical and available, all fire-associated vehicles and equipment should be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.	**GRSG-FM-ST-051-Standard** In priority, important, and general habitat management areas all fire-associated vehicles and equipment are to be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-053-Guideline Unit-specific greater sage-grouse fire management-related information should be added to wildland fire decision support systems (currently, the Wildland Fire Decision Support System); local operating plans and resource advisor plans to be used during fire situations to inform management decisions; and aid in development of strategies and tactics for resource prioritization.	**GRSG-FM-MA-052-Management Approach** Unit-specific greater sage-grouse fire management-related information should be added to wildland fire decision support systems (currently, the Wildland Fire Decision Support System); local operating plans and resource advisor plans to be used during fire situations to inform management decisions; and aid in development of strategies and tactics for resource prioritization.	**Clarification of Plan Content Definition**
GRSG-FM-GL-054-Guideline Localized maps of priority and general habitat management areas and sagebrush focal areas should be made available to fireline, dispatch, and fire support personnel.	**GRSG-FM-MA-053-Management Approach** Localized maps of priority, important, and general habitat management areas should be made available to fireline, dispatch, and fire support personnel.	**Elimination of Sagebrush Focal Areas** **Clarification** **Clarification of Plan Content Definition**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
GRSG-FM-GL-055-Guideline In or near priority, important, and general habitat management areas and sagebrush focal areas, a greater sage-grouse resource advisor should be assigned to all extended attack fires.	**GRSG-FM-MA-054-Management Approach** In or near priority, important, and general habitat management areas, a greater sage-grouse resource advisor should be assigned to all extended attack fires.	**Elimination of Sagebrush Focal Areas**
GRSG-FM-GL-056-Guideline On critical fire weather days, protection of greater sage-grouse habitat should receive high consideration, along with other high values, for positioning of resources.	**GRSG-FM-MA-055-Management Approach** On critical fire weather days, protection of greater sage-grouse habitat should receive high consideration, along with other high values, for positioning of resources.	**Clarification of Plan Content Definition**
GRSG-FM-GL-057-Guideline Line officers should be involved in setting pre-season wildfire response priorities and prioritizing protection of priority and general habitat management areas and sagebrush focal areas, along with other high values. During periods of multiple fires or limited resource availability, fire management organizational structure (local, regional, national) will prioritize fires and allocation of resources in which greater sage-grouse habitat is a consideration along with other high values.	**GRSG-FM-MA-056-Management Approach** Line officers should be involved in setting pre-season wildfire response priorities and prioritizing protection of priority, important, and general habitat management areas, along with other high values. During periods of multiple fires or limited resource availability, fire management organizational structure (local, regional, national) will prioritize fires and allocation of resources in which greater sage-grouse habitat is a consideration along with other high values.	**Clarification of Plan Content Definition**
GRSG-FM-GL-058-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, consider using fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage, preventing the loss of other high value resources, or increasing the effectiveness of other tactical strategies. Agency administrators, their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized equipment may be approved by agency	**GRSG-FM-MA-057-Management Approach** In priority, important, and general habitat management areas and sagebrush focal areas, consider using fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage, preventing the loss of other high value resources, or increasing the effectiveness of other tactical strategies. Agency administrators, their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized	**Clarification of Plan Content Definition**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
administrators, their designee, or fireline leadership.	equipment may be approved by agency administrators, their designee, or fireline leadership.	
GRSG-FM-GL-059-Guideline In priority, important, and general habitat management areas, to minimize sagebrush habitat loss, consider using the full range of suppression techniques to protect unburned islands, doglegs, and other greater sage-grouse habitat features that may exist within the perimeter of wildfires. These suppression objectives and activities should be prioritized against other wildland fire suppression activities and priorities.	**GRSG-FM-GL-058-Guideline** In priority, important, and general habitat management areas, to minimize sagebrush habitat loss, the full range of suppression techniques should be used to protect unburned islands, doglegs, and other greater sage-grouse habitat features that may exist within the perimeter of wildfires to retain as much GRSG habitat as possible.	**Clarification**
Wild Horse and Burro		
GRSG-HB-GL-060-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, wild horse and burro populations should be managed within established appropriate management levels to maintain, restore, or enhance greater sage-grouse desired habitat conditions (Table 1).	**GRSG-HB-GL-060-Guideline** **Delete**	**Removed - There are no Herd Management Areas within the NFS plan area in Idaho.**
GRSG-HB-GL-061-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, consider adjusting appropriate management levels, consistent with applicable law, if greater sage-grouse management standards are not met due to degradation that can be at least partially be attributed to wild horse or burro populations.	**GRSG-HB-GL-061-Guideline** **Delete**	**Removed - There are no Herd Management Areas within the NFS plan area in Idaho.**
Recreation		
GRSG-R-DC-062-Desired Condition In priority, important, and general habitat management areas and sagebrush focal areas, recreation activities are balanced with the ability of the land to support	**GRSG-R-DC-062-Desired Condition** **Delete**	**Removed- required by 2012 Planning Rule**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
them while meeting greater sage-grouse seasonal habitat desired conditions (Table 1) and creating minimal user conflicts.		
GRSG-R-ST-063-Standard In priority and important habitat management areas and sagebrush focal areas, do not authorize temporary recreation uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impacts on greater sage-grouse or its habitat.	**GRSG-R-GL-059-Guideline** In priority habitat management areas, do not authorize temporary recreational special-uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on the greater sage-grouse or its habitat. In important habitat management areas only authorize temporary recreational special-uses if habitat loss is offset by avoidance, minimization, or using compensatory mitigation.	**Elimination of Sagebrush Focal Areas** **Adjustment of Compensatory Mitigation Frameworks** **Clarification of Plan Content Definition** **Habitat Management Areas Designations**
GRSG-R-GL-064-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, terms and conditions that protect and/or restore greater sage-grouse habitat within the permit area should be included in new recreation special-use authorizations. During renewal, amendment, or reauthorization, terms and conditions in existing permits and operating plans should be modified to protect and/or restore greater sage-grouse habitat.	**GRSG-R-MA-060-Management Approach** In priority, important, and general habitat management areas, terms and conditions that protect and/or restore greater sage-grouse habitat within the permit area should be included in new recreation special-use authorizations. During renewal, amendment, or reauthorization, terms and conditions in existing permits and operating plans should be modified to protect and/or restore greater sage-grouse habitat.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-R-GL-065-Guideline In priority and important habitat management areas and sagebrush focal areas, new recreational facilities or expansion of existing recreational facilities (e.g., roads, trails, campgrounds), including special-use authorizations for facilities and activities, should not be approved unless the development results in a net conservation gain to the greater sage-grouse or its habitat or the development is required for visitor safety.	**GRSG-R-GL-061-Guideline** In priority habitat management areas, new recreational facilities or expansion of existing recreational facilities will be co-located with existing infrastructure or located in already disturbed areas, unless exception is required for visitor safety. In important habitat management areas allow new recreational facilities or expansion of existing recreational facilities if facilities can be co-located or impacts can be offset by compensatory mitigation, unless exception is required for visitor safety. Any mitigation will be in	**Elimination of Sagebrush Focal Areas** **Adjustment of Compensatory Mitigation Frameworks** **Habitat Management Areas Designations**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
	accordance with the Mitigation Framework (Appendix C).	
Roads/Transportation		
GRSG-RT-DC-066-Desired Condition In priority, important, and general habitat management areas and sagebrush focal areas within the forest transportation system and on roads and trails authorized under a special-use authorization, the greater sage-grouse experiences minimal disturbance during breeding and nesting (from March 1 to June 15) and wintering (from November 1 to February 28) periods.	**GRSG-RT-DC-062-Desired Condition** In priority, important, and general habitat management areas on roads and trails within the forest transportation system and those authorized under a special-use authorization, the greater sage-grouse experiences minimal disturbance and mortality.	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-RT-ST-067-Standard In priority, important, and general habitat management areas and sagebrush focal areas, do not conduct or allow new road or trail construction (does not apply to realignments for resource protection) except when necessary for administrative access to existing and authorized uses, public safety, or to access valid existing rights. If necessary to construct new roads and trails for one of these purposes, construct them to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.	**GRSG-RT-ST-063-Standard** In priority, important, and general habitat management areas, do not conduct or allow new road or trail construction (does not apply to realignments for resource protection) except when necessary for administrative access to existing and authorized uses, public safety, or to access valid existing rights. If necessary to construct new roads and trails for one of these purposes, construct them to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.	**Elimination of Sagebrush Focal Areas**
GRSG-RT-ST-068-Standard Do not conduct or allow road and trail maintenance activities within 2 miles from the perimeter of active leks during lekking (from March 1 to April 30) from 6 p.m. to 9 a.m.	**GRSG-RT-ST-064-Standard** **No Change**	
GRSG-RT-ST-069-Standard In priority and important habitat management areas and sagebrush focal areas, do not allow public motor vehicle use on temporary energy development roads.	**GRSG-RT-ST-069-Standard** **Delete**	**Removed- covered in existing Forest Service policy and direction**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
GRSG-RT-GL-070-Guideline In priority and important habitat management areas and sagebrush focal areas, new roads and road realignments should be designed and administered to reduce collisions with the greater sage-grouse.	**GRSG-RT-GL-070-Guideline** **Delete**	**Redundant with GRSG-RT-ST-067-Standard**
GRSG-RT-GL-071-Guideline In priority and important habitat management areas and sagebrush focal areas, road construction within riparian areas and mesic meadows should be restricted. If not possible to restrict construction within riparian areas and mesic meadows, roads should be designed and constructed at right angles to ephemeral drainages and stream crossings, unless topography prevents doing so.	**GRSG-RT-GL-071-Guideline** **Delete**	**Redundant with GRSG-RT-ST-067-Standard**
GRSG-RT-GL-072-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, when decommissioning roads and unauthorized routes, restoration activity should be designed to move habitat towards desired conditions (Table 1).	**GRSG-RT-GL-072-Guideline** Delete	**Removed- Required by 2012 Planning Rule**
GRSG-RT-GL-073-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, dust abatement terms and conditions should be included in road-use authorizations when dust has the potential to affect the greater sage-grouse.	**GRSG-RT-MA-065-Management Approach** In priority, important, and general habitat management areas, dust abatement terms and conditions should be included in road-use authorizations when dust has the potential to affect the greater sage-grouse.	**Clarification of Plan Content Definition**
GRSG-RT-GL-074-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, road and road-way maintenance activities should be designed and implemented to reduce the risk of vehicle- or human-caused wildfires and	**GRSG-RT-MA-066-Management Approach** In priority, important, and general habitat management areas, road and road-way maintenance activities should be designed and implemented to reduce the	**Elimination of Sagebrush Focal Areas** **Clarification** **Clarification of Plan Content Definition**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
the spread of invasive plants. Such activities include but are not limited to the removal or mowing of vegetation a car- width off the edge of roads; use of weed-free earth-moving equipment, gravel, fill, or other materials; and blading or pulling roadsides and ditches that are infested with noxious weeds only if required for public safety or protection of the roadway.	risk of vehicle- or human-caused wildfires and the spread of invasive plants.	
Minerals		
Fluid-Unleased		
GRSG-M-FMUL-ST-075-Standard In priority and important habitat management areas, any new oil and gas leases must include a No Surface Occupancy stipulation. There will be no waivers or modifications. An exception could be granted by the authorized officer with unanimous concurrence from a team of agency greater sage-grouse experts from the U.S. Fish and Wildlife Service, the Forest Service, and state wildlife agency if: • There will be no direct, indirect, or cumulative effects to greater sage-grouse or its habitat; or • Granting the exception provides an alternative to a similar action occurring on a nearby parcel; and • The exception provides a clear net conservation gain to the greater sage-grouse	**GRSG-M-FMUL-ST-067-Standard** In priority and important habitat management areas, any new oil and gas leases must include a No Surface Occupancy stipulation. There will be no waivers or modifications. An exception, after review by the Technical and Policy Teams, could be granted by the authorized officer if: • The population trend for the Greater Sage-Grouse within the associated Conservation Area is stable or increasing over a three-year period and the population levels are not currently engaging the adaptive management triggers; • The development with associated mitigation will not result in a net loss of Greater Sage-Grouse key habitat or of the respective PHMA; • There would be no direct, indirect, or cumulative effects to the greater sage-grouse or its habitat; • Impacts could be fully offset through mitigation; or • Granting the exception provides an alternative beneficial to	**Including Waivers, Exceptions, and Modifications on NSO Stipulations**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
	greater sage-grouse to a similar action occurring on a nearby parcel; or • Is collocated within the footprint of existing infrastructure; and • Includes appropriate controlled surface use and timing limitation stipulations; and • The project will not exceed the disturbance cap	
GRSG-M-FMUL-ST-076-Standard In general habitat management areas, any new leases must include appropriate controlled surface use and timing limitation stipulations to protect the greater sage-grouse and its habitat.	**GRSG-M-FMUL-ST-068-Standard** **No Change**	
GRSG-M-FMUL-ST-077-Standard In sagebrush focal areas, there will be No Surface Occupancy and no waivers, exceptions, or modifications for fluid mineral leasing.	**GRSG-M-FMUL-ST-077-Standard** **Delete**	**Elimination of Sagebrush Focal Areas**
Fluid-Leased		
GRSG-M-FML-ST-078-Standard In priority and important habitat management areas and sagebrush focal areas, when approving the Surface Use Plan of Operation portion of the Application for Permit to Drill on existing leases that are not yet developed, require that leaseholders avoid and minimize surface disturbing and disruptive activities consistent with the rights granted in the lease.	**GRSG-M-FML-ST-069-Standard** In priority habitat management areas, the Surface Use Plan of Operation portion of the Application for Permit to Drill on existing leases that are not yet developed, will require Conditions of Approval (COA) that will avoid and minimize surface disturbing and disruptive activities consistent with the rights granted in the lease.	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-M-FML-ST-079-Standard In priority and important habitat management areas and sagebrush focal areas, when facilities are no longer needed or leases are relinquished, require reclamation plans to include terms and	**GRSG-M-FML-ST-070-Standard** In priority, important, and general habitat management areas, when facilities are no longer needed or leases are relinquished, reclamation plans must include terms and conditions to restore habitat to desired	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
conditions to restore habitat to desired conditions as described in Table 1.	conditions as described in Appendix C, Table C-1.	
GRSG-M-FML-ST-080-Standard In general habitat management areas, authorize new transmission line corridors, transmission line right-of-ways, transmission line construction, or transmission line-facility construction associated with fluid mineral leases with stipulations necessary to protect the greater sage-grouse and its habitat, consistent with the terms and conditions of the permit.	**GRSG-M-FML-ST-071-Standard** In general habitat management areas, authorize new transmission line corridors, transmission line rights-of-ways, transmission line construction, or transmission line-facility construction associated with fluid mineral leases with stipulations necessary to protect the greater sage-grouse and its habitat, consistent with the terms and conditions of the permit (Appendix G).	**Clarification**
GRSG-M-FML-ST-081-Standard Locate compressor stations on portions of a lease that are non-habitat and are not used by the greater sage-grouse and if there would be no direct, indirect, or cumulative effects on the greater sage-grouse or its habitat. If this is not possible, work with the operator to use mufflers, sound insulation, or other features to reduce noise consistent with GRSG-GEN-ST-006-Standard.	**GRSG-M-FML-MA-072-Management Approach** Locate compressor stations on portions of a lease that are non-habitat and are not used by the greater sage-grouse and if there would be no direct, indirect, or cumulative effects on the greater sage-grouse or its habitat. If this is not possible, work with the operator to use mufflers, sound insulation, or other features to reduce noise consistent with GRSG-GEN-ST-006-Standard.	**Clarification of Plan Content Definition**
GRSG-M-FML-ST-082-Standard In priority and general habitat management areas and sagebrush focal areas, when authorizing development of fluid mineral resources, work with the operator to minimize impacts to the greater sage-grouse and its habitat, such as locating facilities in non-habitat areas first and then in the least suitable habitat.	**GRSG-M-FML-ST-082-Standard** **Delete**	**Redundant with GRSG-M-FML-ST-078-Standard**
GRSG-M-FML-GL-083-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, operators should be encouraged to reduce disturbance to greater sage-grouse habitat. At the time of approval of the Surface Use Plan of Operation portion of the Application for Permit to Drill,	**GRSG-M-FML-GL-073-Guideline** In priority, important, and general habitat management areas, the Surface Use Plan of Operation portion of the Application for Permit to Drill will include terms and conditions to reduce disturbance to greater sage-grouse habitat where	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
terms and conditions should be included to reduce disturbance to greater sage-grouse habitat where appropriate and feasible and consistent with the rights granted to the lessee.	appropriate, feasible, and consistent with the rights granted to the lessee.	
GRSG-M-FML-GL-084-Guideline On existing federal leases in priority and important habitat management areas and sagebrush focal areas, when surface occupancy cannot be restricted due to valid existing rights or development requirements, disturbance and surface occupancy should be limited to areas least harmful to the greater sage-grouse based on vegetation, topography, or other habitat features.	**GRSG-M-FML-GL-074-Guideline** On existing federal leases in priority and important habitat management areas, when surface occupancy must be allowed due to valid existing rights or development requirements, disturbance and surface occupancy should be restricted to areas that will minimize the impact to GRSG and its habitat to the greater sage-grouse based on vegetation, topography, or other habitat features.	**Elimination of Sagebrush Focal Areas**
GRSG-M-FML-GL-085-Guideline In priority and general habitat management areas and sagebrush focal areas, where the federal government owns the surface and the mineral estate is in non-federal ownership, coordinate with the mineral estate owner/lessee to apply appropriate stipulations, conditions of approval, conservation measures, and required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities.	**GRSG-M-FML-MA-075-Management Approach** In priority, important, and general habitat management areas, where the federal government owns the surface and the mineral estate is in non-federal ownership, coordinate with the mineral estate owner/lessee to apply appropriate stipulations, conditions of approval, conservation measures, and required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities (Appendix G).	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
Fluid-Operations		
GRSG-M-FMO-ST-086-Standard In priority and important habitat management areas and sagebrush focal areas, do not authorize employee camps.	**GRSG-M-FMO-ST-076-Standard** In priority and important habitat management areas, do not authorize employee camps.	**Elimination of Sagebrush Focal Areas**
GRSG-M-FMO-ST-087-Standard In priority and important habitat management areas and sagebrush focal areas, when feasible, do not locate tanks or other structures that may be used as	**GRSG-M-FMO-ST-077-Standard** In priority and important habitat management areas, when feasible, do not locate tanks or other structures that may be used as raptor perches. If this is not feasible, use perch deterrents.	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
raptor perches. If this is not feasible, use perch deterrents.		
GRSG-M-FMO-GL-088-Guideline In priority and important habitat management areas and sagebrush focal areas, closed-loop systems should be used for drilling operations with no reserve pits, where feasible.	**GRSG-M-FMO-MA-078-Management Approach** In priority and important habitat management areas, closed-loop systems should be used for drilling operations with no reserve pits, where feasible.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-M-FMO-GL-089-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, during drilling operations soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.	**GRSG-M-FMO-GL-079-Guideline** In priority, important, and general habitat management areas, during drilling operations soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.	**Elimination of Sagebrush Focal Areas**
GRSG-M-FMO-GL-090-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, dams, impoundments, and ponds for mineral development should be constructed to reduce potential for West Nile virus. Examples of methods to accomplish this include the following: • Increase the depth of ponds to accommodate a greater volume of water than is discharged. • Build steep shorelines (greater than 2 feet) to reduce shallow water and aquatic vegetation around the perimeter of impoundments to reduce breeding habitat for mosquitoes. • Maintain the water level below that of rooted aquatic and upland vegetation. Avoid flooding terrestrial vegetation in flat terrain or low-lying areas. • Construct dams or impoundments that restrict down-slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage	**GRSG-M-FMO-GL-080-Guideline** In priority, important, and general habitat management areas, dams, impoundments, and ponds for mineral development should be constructed to reduce potential for West Nile virus.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
or lining constructed ponds in areas where seepage is anticipated. • Line the channel where discharge water flows into the pond with crushed rock or use a horizontal pipe to discharge inflow directly into existing open water. • Line the overflow spillway with crushed rock and construct the spillway with steep sides. • Fence pond sites to restrict access by livestock and other wild ungulates. • Remove or re-inject produced water. • Treat waters with larvicides to reduce mosquito production where water occurs on the surface.		
	GRSG-M-FMO-MA-081-Management Approach Utilize the following methods to reduce to potential for West Nile virus include the following: • Increase the depth of ponds to accommodate a greater volume of water than is discharged. • Build steep shorelines (greater than 2 feet) to reduce shallow water and aquatic vegetation around the perimeter of impoundments to reduce breeding habitat for mosquitoes. • Maintain the water level below that of rooted aquatic and upland vegetation. Avoid flooding terrestrial vegetation in flat terrain or low-lying areas. • Construct dams or impoundments that restrict down-slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage or lining constructed ponds in areas where seepage is anticipated.	**Clarification of Plan Content Definition**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
	• Line the channel where discharge water flows into the pond with crushed rock or use a horizontal pipe to discharge inflow directly into existing open water. • Line the overflow spillway with crushed rock and construct the spillway with steep sides. • Fence pond sites to restrict access by livestock and other wild ungulates. • Remove or re-inject produced water. • Treat waters with larvicides to reduce mosquito production where water occurs on the surface.	
GRSG-M-FMO-GL-091-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to fluid mineral operations wherever possible, consistent with the rights granted under the lease. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**GRSG-M-FMO-GL-082-Guideline** In priority, important, and general habitat management areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to fluid mineral operations wherever possible, consistent with the rights granted under the lease. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**Elimination of Sagebrush Focal Areas**
Coal Mines-Unleased		
GRSG-M-CMUL-ST-092-Standard When consenting to new underground coal leases, include a lease stipulation prohibiting the location of surface facilities in priority and important habitat management areas and sagebrush focal areas.	**GRSG-M-CMUL-ST-092-Standard** **Delete**	**There is no commercially available coal in ID-BLM is leasing agency**
Coal Mines- Leased		
GRSG-M-CML-ST-093-Standard In priority and important habitat management areas and sagebrush focal areas, do not authorize new appurtenant facilities related to existing underground	**GRSG-M-CML-ST-093-Standard** **Delete**	**There is no commercially available coal in ID-BLM is leasing agency**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
mines unless no technically feasible alternative exists. If new appurtenant facilities associated with existing mine leases cannot be located outside of priority and important habitat management areas and sagebrush focal areas, locate them within any existing disturbed areas, if possible. If location within an existing disturbed area is not possible, then construct new facilities to minimize disturbed areas while meeting mine safety standards and requirements as identified by the Mine Safety and Health Administration mine-plan approval process and locate the facilities in an area least harmful to greater sage-grouse habitat based on vegetation, topography, or other habitat features.		
GRSG-M-CML-GL-094-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, when coal leases are subject to readjustment, additional requirements should be included in the readjusted lease to conserve, enhance, and restore the greater sage-grouse and its habitat for long-term viability.	**GRSG-M-CML-GL-094-Guideline** **Delete**	**There is no commercially available coal in ID-BLM is leasing agency**
Locatable Minerals		
GRSG-M-LM-ST-095-Standard In priority and important habitat management areas and sagebrush focal areas, only approve Plans of Operation if they include mitigation to protect the greater sage-grouse and its habitat, consistent with the rights of the mining claimant as granted by the General Mining Act of 1872, as amended.	**GRSG-M-LM-ST-083-Standard** In priority, important, and general habitat management areas, only approve Plans of Operation if they include mitigation (avoid and minimize) to protect the greater sage-grouse and its habitat, consistent with the rights of the mining claimant as granted by the General Mining Act of 1872, as amended.	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-M-LM-GL-096-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to operations	**GRSG-M-LM-GL-084-Guideline** In priority, important, and general habitat management areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to operations consistent with the rights	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
consistent with the rights granted under the General Mining Act of 1872, as amended. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	granted under the General Mining Act of 1872, as amended. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	
GRSG-M-LM-GL-097-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, abandoned mine sites should be closed or mitigated to reduce predation of the greater sage-grouse by eliminating tall structures that could provide nesting opportunities and perching sites for predators.	**GRSG-M-LM-GL-085-Guideline** In priority and general habitat management areas, when closing abandoned mine sites remove tall structures that could provide nesting opportunities and perching sites for predators to reduce predation of greater sage-grouse, consistent with the National Historic Preservation Act.	**Elimination of Sagebrush Focal Areas** **Clarification**
Non-energy Leasable Minerals		
GRSG-M-NEL-GL-098-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, at the time of issuance of prospecting permits; exploration licenses and leases; or readjustment of leases, the Forest Service should provide recommendations to the BLM for the protection of the greater sage-grouse and its habitat.	**GRSG-M-NEL-MA-086-Management Approach** In priority, important, and general habitat management areas, include stipulations to restrict surface use, occupancy and seasonal activities for exploration or pre-mining activities with recommendations or consent (as applicable) to issuance of prospecting permits, exploration licenses, or leases, lease modifications, lease readjustments or lease renewals. In priority habitat management areas where development would be by surface mining methods, do not consent to, or recommend, leasing in areas that exceed disturbance caps. In priority habitat management areas where development would be by underground mining methods, specify or recommend stipulations that prohibit surface use and occupancy in priority habitat management areas.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition** **Clarification of Regulatory Process**
GRSG-M-NEL-GL-099-Guideline In priority, important, and general habitat management areas and sagebrush focal areas, the Forest Service should recommend to the BLM that expansion or	**GRSG-M-NEL-MA-087-Management Approach** In priority, important, and general habitat management areas, include in recommendations to the BLM regarding	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**

No Action Alternative (Idaho)	Proposed Action (Idaho)	Issue/Clarification
readjustment of existing leases avoid, minimize, or mitigate the effects to the greater sage-grouse and its habitat.	exploration plan or mining plans conditions to reduce invasive species, prevent fire, limit permanent tall structures and new permanent roads, and to design reclamation of surface disturbance to restore applicable greater sage-grouse habitat.	**Clarification of Regulatory Process**
Mineral Materials		
GRSG-M-MM-ST-100-Standard In priority management areas and sagebrush focal areas, do not authorize new mineral material disposal or development.	**GRSG-M-MM-ST-88-Standard** In priority management areas, do not authorize new mineral material disposal or development.	**Elimination of Sagebrush Focal Areas**
GRSG-M-MM-ST-101-Standard In priority and important habitat management areas and sagebrush focal areas, free-use mineral material collection permits may be issued and expansion of existing active pits may be allowed, except from March 1 to April 30 between 6 p.m. and 9 a.m. within 2 miles from the perimeter of occupied leks, within the Biologically Significant Unit and proposed project area if doing so does not exceed the disturbance cap.	**GRSG-M-MM-ST-89-Standard** Do not allow free-use mineral material collection from March 1 to April 30 between 6 p.m. and 9 a.m. within 2 miles from the perimeter of occupied leks.	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-M-MM-ST-102-Standard In priority, important, and general habitat management areas and sagebrush focal areas, any permit for existing mineral material operations must include appropriate requirements for operation and reclamation of the site to maintain, restore, or enhance desired habitat conditions (Table 1).	**GRSG-M-MM-ST-90-Standard** In priority, important, and general habitat management areas, management of existing or expansion of existing pits will include appropriate requirements for operation and reclamation of the site to maintain, restore, or enhance desired habitat conditions (Appendix C, Table C-1).	**Elimination of Sagebrush Focal Areas** **Clarification**

Table 2-7. Nevada - Comparison of alternatives[1]

[1]Priority and general habitat management areas may contain non-habitat. Management direction would not apply to non-habitat if the proposed activity in non-habitat does not preclude effective sage-grouse use of adjacent habitats.

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
GRSG-GEN-DC-001-Desired Condition The landscape for greater sage-grouse encompasses large contiguous areas of native vegetation, approximately 6 to 62 square miles in area, to provide for multiple aspects of species life requirements. Within these landscapes, a variety of sagebrush- community compositions exist without invasive species, which have variations in subspecies composition, co-dominant vegetation, shrub cover, herbaceous cover, and stand structure, to meet seasonal requirements for food, cover, and nesting for greater sage-grouse.	**GRSG-GEN-DC-001-Desired Condition** The landscape for greater sage-grouse encompasses large contiguous areas of native vegetation, approximately 6 to 62 square miles in area, to provide for multiple aspects of species life requirements. Within these landscapes, a variety of sagebrush- community compositions exist without invasive species, which have variations in subspecies composition, co-dominant vegetation, shrub cover, herbaceous cover, and stand structure, to meet seasonal requirements for food, cover, and nesting for greater sage-grouse. Sagebrush vegetation communities provide contiguous habitat for greater sage grouse, which is resistant and resilient to disturbances such as fire and invasive plants.	
GRSG-GEN-DC-002-Desired Condition Anthropogenic disturbance is focused in non-habitat areas outside of priority and general habitat management areas and sagebrush focal areas[2]. Disturbance in general habitat management areas is limited, and there is little to no disturbance in priority habitat management areas and sagebrush focal areas except for valid existing rights and authorized uses.	**GRSG-GEN-DC-002-Desired Condition** Anthropogenic disturbance is focused in non-habitat areas outside of priority and general habitat management areas. Disturbance in general habitat management areas is limited, and there is little to no disturbance in priority habitat management areas except for valid existing rights and authorized uses.	**Elimination of Sagebrush Focal Areas**
GRSG-GEN-DC-003-Desired Condition In greater sage-grouse habitats, including all seasonal habitats, 70% or more of lands capable of producing sagebrush have 10 to 30% sagebrush canopy cover and less than 10% conifer canopy cover. In addition, within breeding and nesting habitat, sufficient herbaceous vegetation structure and height provides overhead and lateral	**GRSG-GEN-DC-003-Desired Condition** At the landscape scale, in greater sage-grouse habitats, including all seasonal habitats, 70% or more of lands capable of producing sagebrush have 10 to 30% sagebrush canopy cover and less than 10% conifer canopy cover. In addition, within breeding and nesting habitat, sufficient herbaceous vegetation structure and	**Modifying Desired Conditions**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
concealment for nesting and early brood rearing life stages. Within brood rearing habitat, wet meadows and riparian areas sustain a rich diversity of perennial grass and forb species relative to site potential. Within winter habitat, sufficient sagebrush height and density provides food and cover for greater sage-grouse during this seasonal period. Specific desired conditions for greater sage-grouse based on seasonal habitat requirements are in Tables 1a and 1b*.	height provides overhead and lateral concealment for nesting and early brood rearing life stages. Within brood rearing habitat, mesic meadows and riparian areas sustain a rich diversity of perennial grass and forb species relative to site potential, and adjacent sagebrush provides cover and security. Within winter habitat, sufficient sagebrush height and density provides food and cover for greater sage-grouse during this seasonal period. When and where breeding and nesting habitat overlaps with other seasonal habitats, the desired conditions are those for breeding and nesting habitat.	
	GRSG-GEN-MA-004-Management Approach Seasonal use periods for greater sage-grouse on the Humboldt-Toiyabe National Forest are in Appendix D, Table D-1. Seasonal habitat preferences for use during habitat assessment are in Appendix D, Table D-3.	**Modifying Desired Conditions**
GRSG-GEN-ST-004-Standard In priority habitat management areas and sagebrush focal areas, do not issue new discretionary written authorizations unless all existing discrete anthropogenic disturbances cover less than 3% of the total greater sage-grouse habitat within the Biologically Significant Unit and the proposed project area, regardless of ownership, and the new use will not cause exceedance of the 3% cap. Discretionary activities that might result in disturbance above 3% at the Biologically Significant Unit and proposed project area would be prohibited unless approved by the forest supervisor with concurrence from the regional forester after review of new or site- specific information that indicates the project would result in a net conservation gain at the Biologically Significant Unit and proposed project area scale. Within	**GRSG-GEN-ST-005-Standard** In priority habitat management areas, do not issue new discretionary written authorizations unless all existing discrete anthropogenic disturbances cover less than 3% of the total greater sage-grouse habitat within the Biologically Significant Unit and the proposed project area, regardless of ownership, and the new use will not cause exceedance of the 3% cap. Discretionary activities that might result in disturbance above 3% at the Biologically Significant Unit and proposed project area would be prohibited unless approved by the forest supervisor with concurrence from the regional forester after review of new or site- specific information that indicates the project would result in a net conservation gain at the Biologically Significant Unit and proposed project area scale. Within existing designated utility corridors, the 3%	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation gain to the species will be achieved. This exception is limited to projects that fulfill the use for which the corridors were designated (e.g., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location. Consider the likelihood of surface disturbing activities as a result of development of valid existing rights when authorizing new projects in priority habitat management areas.	disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation gain to the species will be achieved. This exception is limited to projects that fulfill the use for which the corridors were designated (e.g., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location.	
	GRSG-GEN-MA-006-Management Approach Consider the likelihood of surface disturbing activities as a result of development of valid existing rights when authorizing new projects in priority habitat management areas.	**Clarification of Plan Content Definition**
Nothing in 2015 Plan	**GRSG-GEN-MA-007-Management Approach** The Forest Service will conduct a NEPA sufficiency review (FSH 1909.15, Section 18.1) to update the habitat management area maps as new data (e.g., additional greater sage-grouse telemetry data, improved vegetation community data) are incorporated into the model described in "Spatially Explicit Modelling of Greater Sage-Grouse Habitat in Nevada and Northeastern California" (Coates et al. 2014, 2016, as adopted by the State of Nevada in December 2015). If the review indicates no new effects, the maps would be adopted as an administrative change to plan content. If the review indicates potential effects not previously disclosed, the appropriate NEPA and forest planning process will be followed before updating the map.	**Habitat Management Areas Designations**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
GRSG-GEN-ST-005-Standard In priority and general habitat management areas and sagebrush focal areas, only allow new authorized land uses, if after avoiding and minimizing impacts, any remaining residual impacts to greater sage-grouse or their habitats are fully offset by compensatory mitigation projects that provide a net conservation gain to the species, subject to valid existing rights, by applying beneficial mitigation actions. Any compensatory mitigation will be durable, timely, and in addition to what would have resulted without the compensatory mitigation as addressed in the Mitigation Framework (Appendix B).	**GRSG-GEN-ST-008-Standard** In priority and general habitat management areas, only allow new authorized land uses, if after avoiding and minimizing impacts, any remaining residual impacts to greater sage-grouse or their habitats are fully offset by compensatory mitigation projects that provide a net conservation gain to the species, subject to valid existing rights, by applying beneficial mitigation actions. Any compensatory mitigation will be durable, timely, and in addition to what would have resulted without the compensatory mitigation as addressed in the Mitigation Framework (Appendix D).	**Elimination of Sagebrush Focal Areas** **Adjustment of Compensatory Mitigation Frameworks**
	GRSG-GEN-MA-009-Management Approach The State of Nevada's Habitat Quantification Tool, or other standardized method, will be used to quantify the residual impacts from project activities and any pursuant compensatory mitigation projects.	**Adjustment of Compensatory Mitigation Frameworks**
GRSG-GEN-ST-006-Standard Do not authorize new surface disturbing and disruptive activities that create noise at 10dB above ambient measured at the perimeter of an occupied lek during lekking (March 1 to May 15) from 6 pm to 9 am. Do not include noise resulting from human activities that have been authorized and initiated within the past 10 years in the ambient baseline measurement.	**GRSG-GEN-ST-010-Standard** Do not authorize new surface disturbing and disruptive activities that create noise at 10dB above ambient measured at the perimeter of an active or pending lek during lekking (Table D-1, generally March 1 to May 15) from 6 pm to 9 am. Do not include noise resulting from human activities that have been authorized and initiated within the 10 years since the issuance of the 2015 ROD (2005) in the ambient baseline measurement.	**Clarification**
GRSG-GEN-GL-007-Guideline During breeding and nesting (March 1 to June 30), surface disturbing and disruptive activities to nesting birds should be avoided.	**GRSG-GEN-GL-011-Guideline** During breeding and nesting seasonal use period (Table D-1, generally March 1 to June 30), surface disturbing and disruptive activities should be avoided to minimize impacts to breeding and nesting birds.	**Clarification**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
GRSG-GEN-GL-008-Guideline In priority and general habitat management areas and sagebrush focal areas, conduct surveys during the breeding season during pre-planning operations. Use protocols such as those established by State Fish and Wildlife agencies. The surveys should encompass all suitable greater sage-grouse habitats within 4 miles of the proposed activities.	**GRSG-GEN-MA-012-Management Approach** In priority and general habitat management areas, conduct surveys during the breeding season (Table D-1) during pre-planning operations. Use protocols such as those established by State Fish and Wildlife agencies. The surveys should encompass all suitable greater sage-grouse habitats within 4 miles of the proposed activities.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-GEN-GL-009-Guideline When breeding and nesting habitat overlaps with other seasonal habitats, habitat should be managed for breeding and nesting desired conditions in Tables 1a and 1b.	**GRSG-GEN-GL-009-Guideline** **Delete**	**Incorporated into GRSG-GEN-DC-003-Desired Condition**
GRSG-GEN-GL-010-Guideline Development of tall structures within 3.0 miles from the perimeter of occupied leks, as determined by local conditions (e.g., vegetation or topography), with the potential to disrupt breeding or nesting by creating new perching/nesting opportunities for avian predators or by decreasing the use of an area, should be restricted within nesting habitat.	**GRSG-GEN-GL-013-Guideline** Development of tall structures within 3.0 miles from active or pending leks, as determined by local conditions (e.g., vegetation or topography), with the potential to disrupt breeding or nesting by creating new perching/nesting opportunities for avian predators or by decreasing the use of an area, should be restricted within nesting habitat.	**Clarification**
Adaptive Management		
GRSG-AM-ST-011-Standard If a hard trigger is identified based on either population monitoring or habitat monitoring, immediate action is necessary to stop a severe deviation from GRSG conservation objectives. The hard trigger responses are identified in Tables 1 and 2 of the Adaptive Management (Appendix C) for both priority and general management areas.	**GRSG-AM-MA-014-Management Approach** Hard triggers (signals) represent a threshold that indicates that immediate action needs be considered to stop or reverse a severe deviation from GRSG conservation goals and objectives. The process for evaluating and responding to hard triggers is documented in Appendix D.	**Adaptive Management Review Process** **Clarification of Plan Content Definition**
GRSG-AM-ST-012-Standard If a soft trigger is identified based on either population monitoring or habitat monitoring, apply more conservative or	**GRSG-AM-MA-015-Management Approach** Soft triggers represent an intermediate threshold that indicates that management	**Adaptive Management Review Process** **Clarification of**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
restrictive implementation measures (e.g., extending seasonal restrictions for seasonal surface disturbing activities, modifying seasons of use for livestock grazing, and applying additional restrictions on discretionary activities) for the specific causal factor in the decline of populations and/or habitats, with consideration of local knowledge and conditions. (Appendix C)	changes should be considered at the project or implementation level to address GRSG population and/or habitat declines. If a soft trigger is reached, consider additional implementation level management responses to address the known or probable causes of the decline in GRSG habitat or populations with consideration of local knowledge and conditions, as documented in Appendix D.	**Plan Content Definition**
Lands and Realty		
Special Use Authorizations		
GRSG-LR-SUA-O-013-Objective In nesting habitats, retrofit existing tall structures (e.g., power poles, communication tower sites) with perch deterrents or other anti-perching devices within 2 years of signing the ROD.	**GRSG-LR-SUA-O-013-Objective** **Delete**	**Included in GRSG-LR-SUA-ST-019-Standard**
GRSG-LR-SUA-ST-014-Standard In priority habitat management areas and sagebrush focal areas, restrict issuance of new lands special use authorizations for infrastructure, such as high- voltage transmission lines, major pipelines, distribution lines, and communication tower sites. Exceptions may include co-location and must be limited (e.g., safety needs) and based on rationale (e.g., monitoring, modeling, or best available science) that explicitly demonstrates that adverse impacts to greater sage-grouse will be avoided by the exception. If co-location of new infrastructure cannot be accomplished, locate it adjacent to existing infrastructure, roads, or already disturbed areas and limit disturbance to the smallest footprint or where it best limits impacts to greater sage-grouse or their habitat. Existing authorized uses will continue to be recognized.	**GRSG-LR-SUA-ST-016-Standard** In priority and general habitat management areas do not authorize new or amended lands special uses for infrastructure, such as high- voltage transmission lines, major pipelines, distribution lines, and communication tower sites, outside of existing designated corridors and rights-of-way. Exceptions may be made if any of the following apply: i. The location of the proposed authorization is determined to be unsuitable habitat or non-habitat; lacks the ecological potential to become marginal or suitable habitat; and would not result in direct, indirect, or cumulative impacts on greater sage-grouse and its habitat. ii. Impacts from the proposed action could be offset through use of the mitigation hierarchy (avoid (e.g., relocate, bury), minimize, mitigate) to achieve a net conservation gain and demonstrate that the individual	**Clarification of Exception Process**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
	and cumulative impacts of the project would not result in habitat fragmentation or other impacts that would cause greater sage-grouse populations to decline. iii. The proposed action would be authorized to address public health and safety concerns, specifically as they relate to local, state, and national priorities. iv. Renewals or re-authorizations of existing infrastructure in previously disturbed sites or expansions of existing infrastructure that have *de minimis* impacts or do not result in direct, indirect, or cumulative impacts on Greater Sage-Grouse and its habitat. v. The proposed action would be determined a routine administrative function conducted by State or local governments, including prior existing uses, authorized uses, valid existing rights and existing infrastructure (i.e., rights-of-way for roads) that serve such a public purpose. Refer to standards GRSG-GEN-ST-004 and GRSG-GEN-ST-005 for disturbance caps and compensatory mitigation for residual impacts.	
GRSG-LR-SUA-ST-015-Standard In general habitat management areas, new lands special use authorizations may be issued for infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, and communication tower sites, if they can be located within existing designated corridors or rights-of-way and the authorization includes stipulations to protect greater sage-grouse and their habitats. Existing authorized uses will continue to be recognized.	**GRSG-LR-SUA-ST-015-Standard** Delete	**Incorporated into ST-016 with exception process**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
GRSG-LR-SUA-ST-016-Standard In priority and general habitat management areas and sagebrush focal areas, do not authorize temporary lands special uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on greater sage-grouse or their habitats.	**GRSG-LR-SUA-ST-017-Standard** In priority habitat and general habitat management areas, do not authorize temporary lands special uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on greater sage-grouse or their habitats.	**Elimination of Sagebrush Focal Areas**
GRSG-LR-SUA-ST-017-Standard In priority and general habitat management areas and sagebrush focal areas, require protective stipulations (e.g., noise, tall structure, guy wire removal, perch deterrent installation) when issuing new authorizations or during renewal, amendment, or reissuance of existing authorizations that authorize infrastructure (e.g., high- voltage transmission lines, major pipelines, roads, distribution lines, and communication tower sites).	**GRSG-LR-SUA-ST-018-Standard** In priority and general habitat management areas, require protective stipulations (e.g., noise, tall structure, guy wire removal, perch deterrent installation) when issuing new authorizations or during renewal, amendment, or reissuance of existing authorizations that authorize infrastructure (e.g., high- voltage transmission lines, major pipelines, roads, distribution lines, and communication tower sites). Refer to standards GRSG-GEN-ST-004 and GRSG-GEN-ST-005 for disturbance caps and compensatory mitigation for residual impacts.	**Elimination of Sagebrush Focal Areas** **Adjustment of Compensatory Mitigation Frameworks**
GRSG-LR-SUA-ST-018-Standard In priority and general habitat management areas and sagebrush focal areas, locate upgrades to existing transmission lines within the existing designated corridors or right-of-way unless an alternate route would benefit greater sage-grouse or their habitats.	**GRSG-LR-SUA-ST-019-Standard** In priority and general habitat management areas, locate upgrades to existing transmission lines within the existing designated corridors or right-of-way unless an alternate route would benefit greater sage-grouse or their habitats.	**Elimination of Sagebrush Focal Areas**
GRSG-LR-SUA-ST-019-Standard In priority and general habitat management areas and sagebrush focal areas, when a lands special use authorization is revoked or terminated and no future use is contemplated, require the authorization holder to remove overhead lines and other surface infrastructure in compliance with 36 CFR 251.60(i).	**GRSG-LR-SUA-ST-020-Standard** In priority and general habitat management areas, when a lands special use authorization is revoked or terminated and no future use is contemplated, require the authorization holder to remove overhead lines and other surface infrastructure in compliance with 36 CFR 251.60(i).	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
GRSG-LR-SUA-GL-020-Guideline In priority habitat management areas and sagebrush focal areas, outside of existing designated corridors and rights-of-way, new transmission lines and pipelines should be buried to limit disturbance to the smallest footprint unless explicit rationale is provided that the biological impacts to greater sage-grouse and its habitat are being avoided. If new transmission lines and pipelines are not buried, locate them adjacent to existing transmission lines and pipelines.	**GRSG-LR-SUA-GL-020-Guideline** Delete	**Elimination of Sagebrush Focal Areas** **Incorporated into ST-016 with exception process**
GRSG-LR-SUA-GL-021-Guideline The best available science and monitoring should be used to inform infrastructure siting in GRSG habitat.	**GRSG-LR-SUA-MA-021-Management Approach** The best available science and monitoring should be used to inform infrastructure siting in GRSG habitat.	**Clarification of Plan Content Definition**
Land Ownership Adjustments		
GRSG-LR-LOA-ST-022-Standard In priority and general habitat management areas and sagebrush focal areas, do not approve landownership adjustments, including land exchanges, unless the action results in a net conservation gain to greater sage-grouse or it will not directly or indirectly adversely impact greater sage-grouse conservation.	**GRSG-LR-LOA-ST-022-Standard** In priority and general habitat management areas, do not approve landownership adjustments, including land exchanges, unless the action results in a net conservation gain to greater sage-grouse or it will not directly or indirectly adversely impact greater sage-grouse conservation.	**Elimination of Sagebrush Focal Areas**
GRSG-LR-LOA-GL-023-Guideline In priority and general habitat management areas and sagebrush focal areas with minority Federal ownership, consider landownership adjustments to achieve a landownership pattern (e.g., consolidation, reducing fragmentation) that supports improved greater sage-grouse population trends and habitats.	**GRSG-LR-LOA-MA-023-Management Approach** In priority and general habitat management areas with minority Federal ownership, consider landownership adjustments to achieve a landownership pattern (e.g., consolidation, reducing fragmentation) that supports improved greater sage-grouse population trends and habitats.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
Land Withdrawal		

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
GRSG-LR-LW-GL-024-Guideline In priority and general habitat management areas and sagebrush focal areas, use land withdrawals as a tool, where appropriate, to withhold an area from activities that will be detrimental to greater sage-grouse or their habitats.	**GRSG-LR-LW-GL-024-Guideline** **Delete**	**Cancellation of Mineral Withdrawal**
Wind and Solar		
GRSG-WS-ST-025-Standard In priority and general habitat management areas and sagebrush focal areas, do not authorize new solar utility-scale and/or commercial energy development except for on-site power generation associated with existing industrial infrastructure (e.g., mine site).	**GRSG-WS-ST-024-Standard** In priority and general habitat management areas, do not authorize new solar utility-scale and/or commercial energy development except for on-site power generation associated with existing industrial infrastructure (e.g., mine site).	**Elimination of Sagebrush Focal Areas**
GRSG-WS-ST-026-Standard In priority habitat management areas and sagebrush focal areas, do not authorize new wind energy utility-scale and/or commercial development.	**GRSG-WS-ST-025-Standard** In priority habitat management areas, do not authorize new wind energy utility-scale and/or commercial development.	**Elimination of Sagebrush Focal Areas**
GRSG-WS-GL-027- Guideline In general habitat management areas, new wind energy utility- scale and/or commercial development should be restricted. If development cannot be restricted due to existing authorized use, adjacent developments, or split estate issues, then ensure that stipulations are incorporated into the authorization to protect greater sage-grouse and their habitats.	**GRSG-WS-GL-026- Guideline** In general habitat management areas, new wind energy utility- scale and/or commercial development should be restricted. If development cannot be restricted due to existing authorized use, adjacent developments, or split estate issues, then ensure that stipulations are incorporated into the authorization to protect greater sage-grouse and their habitats. Refer to standards GRSG-GEN-ST-004 and GRSG-GEN-ST-005 for disturbance caps and compensatory mitigation for residual impacts.	**Adjustment of Compensatory Mitigation Frameworks**
Greater Sage-grouse Habitat		
GRSG-GRSG-DC-028-Desired Condition Sagebrush vegetation communities provide contiguous habitat for greater sage grouse,	**GRSG-GRSG-DC-028-Desired Condition** **Delete**	**Incorporated into GRSG-GEN-DC-001-Desired Condition**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
which is resistant and resilient to disturbances such as fire and invasives.		
Nothing in 2015 Plan	**GRSG-GRSGH-DC-027-Desired Condition** Invasive annual grasses are either not present or in low abundance and not increasing in sage-grouse habitat.	**Treatment of Invasive Plants**
GRSG-GRSGH-O-029-Objective Every 10 years for the next 50 years, improve greater sage-grouse habitat by removing invading conifers and other undesirable species within the number of acres shown in Table 2.	**GRSG-GRSGH-O-028-Objective** Every 10 years for the next 50 years, improve greater sage-grouse habitat by removing invading conifers and other undesirable species within the number of acres shown in Appendix D, Table D-4. When authorizing vegetation management treatments in priority and general sage grouse habitat management areas, priority should be given to treatments in Phase I and early Phase II pinyon and/or juniper stands in areas with a sagebrush component. Treatments in pinyon and/or juniper stands in late Phase II or Phase III condition should only be authorized to create movement corridors, connect habitats, or reduce the potential for catastrophic fire.	**Clarification**
GRSG-GRSGH-ST-030-Standard Design habitat restoration projects to move towards desired conditions (Table 1a or 1b).	**GRSG-GRSGH-ST-030-Standard** **Delete**	**Removed-Required by 2012 Planning Rule**
GRSG-GRSGH-GL-031-Guideline When removing conifers that are encroaching into greater sage-grouse habitat, avoid persistent woodland (i.e., old growth relative to the site or more than 100 years old).	**GRSG-GRSGH-GL-029-Guideline** **No change**	
GRSG-GRSGH-GL-032-Guideline In priority and general habitat management areas and sagebrush focal	**GRSG-GRSGH-GL-030-Guideline** In priority and general habitat management areas, actions and	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
areas, actions and authorizations should include design features to limit the spread and effect of undesirable non-native plant species.	authorizations should include design features to limit the spread and effect of undesirable non-native plant species.	
GRSG-GRSGH-GL-033-Guideline To facilitate safe and effective fire management actions, in priority and general habitat management areas and sagebrush focal areas, fuel treatments in high- risk areas (i.e., areas likely to experience wildfire at an intensity level that might result in movement away from the greater sage-grouse desired conditions in Table 1) should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse attributes to move away from desired conditions (Table 1a and Table 1b).	**GRSG-GRSGH-MA-031-Management Approach** To facilitate safe and effective fire management actions, in priority and general habitat management areas, fuel treatments in high- risk areas (i.e., areas likely to experience wildfire at an intensity level that might result in movement away from the greater sage-grouse desired conditions) should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse attributes to move away from desired conditions (GRSG-GEN-DC-001-Desired Condition).	**Elimination of Sagebrush Focal Areas** **Clarification** **Clarification of Plan Content Definition**
GRSG-GRSGH-GL-034-Guideline In priority and general habitat management areas and sagebrush focal areas, native plant species should be used, when possible, to maintain, restore, or enhance desired habitat conditions (Table 1a or 1b).	**GRSG-GRSGH-GL-032-Guideline** In priority and general habitat management areas, native plant species should be used, when possible, to maintain, restore, or enhance desired habitat conditions (GRSG-GEN-DC-001-Desired Condition).	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-GRSGH-GL-035-Guideline In priority habitat management areas and sagebrush focal areas, vegetation treatment projects should only be conducted if they maintain, restore, or enhance desired habitat conditions (Table 1a or 1b).	**GRSG-GRSGH-GL-033-Guideline** In priority habitat management areas, vegetation treatment projects should only be conducted if they maintain, restore, or enhance desired habitat conditions (GRSG-GEN-DC-003-Desired Condition).	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-GRSGH-GL-036-Guideline Vegetation treatment activities in lentic riparian areas (i.e., seeps, springs, and wet meadows) in priority and general habitat management areas and sagebrush focal areas, should only be authorized if they maintain or improve conditions to meet	**GRSG-GRSGH-GL-034-Guideline** Vegetation treatment activities in lentic riparian areas (i.e., seeps, springs, and wet meadows) in priority and general habitat management areas, should only be authorized if they maintain or improve conditions to meet greater sage-grouse	**Elimination of Sagebrush Focal Areas** **Clarification**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
greater sage-grouse desired conditions (Table 1a or 1b).	desired conditions (GRSG-GEN-DC-003-Desired Condition).	
GRSG-GRSGH-GL-037-Guideline When authorizing vegetation management treatments in priority and general sage grouse habitat management areas and sagebrush focal areas, priority should be given to treatments in Phase I and early Phase II pinyon and/or juniper stands in areas with a sagebrush component. Pinyon-Juniper treatments in Phase I and Phase II condition should be designed to maintain or enhance sagebrush in the treatment areas. Treatments in late Phase II or Phase III condition should only be authorized to create movement corridors, connect habitats, or reduce the potential for catastrophic fire.	**GRSG-GRSGH-GL-037-Guideline** **Delete**	**Incorporated into GRSG-GRSGH-O-030-Objective**
GRSG-GRSGH-GL-038-Guideline In priority and general habitat management areas and sagebrush focal areas, treatment methodologies should be based on the treatment areas' resistance to annual invasive grasses and the resilience of native vegetation to respond after disturbance. Use mechanical treatments (i.e., do not use fire) in areas with relatively low resistance to annuals and treat areas in early- to mid-phase pinyon-juniper expansion.	**GRSG-GRSGH-MA-035-Management Approach** In priority and general habitat management areas, treatment methodologies should be based on the treatment areas' resistance to annual invasive grasses and the resilience of native vegetation to respond after disturbance.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
	GRSG-GRSGH-GL-036-Guideline Use mechanical treatments (i.e., do not use fire) in areas with relatively low resistance to annuals and treat areas in early- to mid-phase pinyon-juniper expansion.	**Treatment of Invasive Species** **Clarification of Plan Content Definition**
Nothing in 2015 Plan	**GRSG-GRSGH-MA-037-Management Approach** Prioritize treatments for established invasive plant populations that have the potential to impact sage-grouse habitat in priority habitat management areas. Early	**Treatment of Invasive Species**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
	detection and rapid response treatments remain the focus.	
Nothing in 2015 Plan	**GRSG-GRSGH-O-038-Objective** Within 2 years of the Record of Decision, develop a map of areas prone to annual grass invasion within sage-grouse habitat using resistance and resilience concepts for each National Forest and Grassland.	**Treatment of Invasive Species**
Nothing in 2015 Plan	**GRSG-GRSGH-MA-039-Management Approach** In designing post wildfire recovery treatments, consider resistance and resilience ecological site descriptions and state and transition models.	**Treatment of Invasive Species**
Livestock Grazing		
GRSG-LG-DC-039-Desired Condition In priority and general habitat management areas, sagebrush focal areas, and within lek buffers, livestock grazing is managed to maintain or move towards desired conditions (Tables 1a and 1b).	**GRSG-LG-DC-039-Desired Condition** **Delete**	**Removed-Required by 2012 Planning Rule**
Nothing in 2015 Plan	**GRSG-LG-DC-040-Desired Condition** Grazing management contributes to maintaining sustainable riparian communities needed for proper functioning condition in riparian areas and mesic meadows in priority, general, and other habitat management areas.	**Changing Livestock Grazing Guidelines**
GRSG-LG-ST-040-Standard In priority and general management areas and sagebrush focal areas, do not approve construction of water developments unless beneficial to greater sage-grouse habitat and consistent with State approved water rights.	**GRSG-LG-ST-041-Standard** In priority and general habitat management areas, do not approve construction of water developments that would cause adverse effects to greater sage-grouse habitat.	**Changing Livestock Grazing Guidelines**
GRSG-LG-ST-041-Standard When vertical embankments in water troughs or open water facilities pose a drowning risk to birds, wildlife escape ramps should be installed and maintained.	**GRSG-LG-ST-042-Standard** **No change**	

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
GRSG-LG-GL-042-Guideline Grazing guidelines should be applied in each of the seasonal habitats in Table 3. If values in Table 3 guidelines cannot be achieved based upon a site-specific analysis using Ecological Site Descriptions, long-term ecological site potential analysis, or other similar analysis, adjust grazing management to move towards desired habitat conditions in Table 1a or 1b consistent with the ecological site potential. Do not use drought and degraded habitat condition to adjust values. Grazing guidelines in Table 3 would not apply to isolated parcels of National Forest System lands that have less than 200 acres of greater sage-grouse habitat.	**GRSG-LG-GL-043-Guideline** In greater sage-grouse habitat, if livestock grazing is limiting achievement of seasonal desired conditions, adjust livestock management, as appropriate, to address greater sage-grouse habitat requirements.	**Changing Livestock Grazing Guidelines**
	GRSG-LG-GL-044-Guideline In priority, general, and other habitat management areas, grazing utilization in riparian areas and mesic meadows should be managed to promote cover, diversity, and health of important/key plant species to support sage-grouse during brood-rearing season; and, during the growing season, manage grazing in riparian areas and mesic meadows to allow recovery of riparian vegetation (e.g. using riparian pastures, water developments, stockmanship, rotational grazing).	**Changing Livestock Grazing Guidelines**
Nothing in 2015 Plan	**GRSG-LG-MA-045-Management Approach** Conduct greater sage-grouse habitat assessments in allotments. If the assessment identifies the habitat is in less than desired seasonal habitat condition, determine factors limiting achievement of the desired seasonal habitat conditions.	**Changing Livestock Grazing Guidelines**
GRSG-LG-GL-043-Guideline In priority and general habitat management areas and sagebrush focal areas, when grazing permits are waived without preference or obtained through permit cancellation, consider the agency's	**GRSG-LG-GL-043-Guideline** **Delete**	**Removed-covered in existing Forest Service policy and direction**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
full range of administrative authorities for future allotment management, including, but not limited to allotment closure, vacancy status for resource protection, establishment of forage reserve, re-stocking, or livestock conversion as management options to maintain or achieve desired habitat conditions (Table 1).		
GRSG-LG-GL-044-Guideline Bedding sheep and placing camps within 2.0 miles from the perimeter of a lek during lekking (March 1 to May 15) should be restricted.	**GRSG-LG-GL-046-Guideline** Bedding sheep and placing camps within 2.0 miles from an active or pending lek during lekking (Table D-1, generally March 1 to May 15) should be restricted to prevent disturbance to breeding and nesting GRSG.	**Clarification**
GRSG-LG-GL-045-Guideline During the breeding and nesting season (March 1 to June 30), trailing livestock through breeding and nesting habitat should be minimized. Specific routes should be identified, existing trails should be used, and stopovers on active leks should be avoided.	**GRSG-LG-GL-047-Guideline** During the breeding and nesting season (Table D-1, generally March 1 to June 30), trailing livestock through breeding and nesting habitat should be avoided to the extent practicable to prevent disturbance to breeding and nesting GRSG. Specific routes should be identified, existing trails should be used, and stopovers on active leks are not allowed.	**Clarification**
GRSG-LG-GL-046-Guideline Fences should not be constructed or reconstructed within 1.2 miles from the perimeter of occupied leks, unless the collision risk can be mitigated through design features or markings (e.g., mark, laydown fences, or other design features).	**GRSG-LG-GL-048-Guideline** Fences should not be constructed or reconstructed within 1.2 miles from the perimeter of active or pending leks, unless the collision risk can be mitigated through design features or markings (e.g., mark, laydown fences, or other design features).	**Clarification**
GRSG-LG-GL-047-Guideline New permanent livestock facilities (e.g., windmills, water tanks, corrals) should not be constructed within 1.2 miles from the perimeter of occupied leks.	**GRSG-LG-GL-049-Guideline** To prevent predation from perching raptors, new permanent livestock facilities (e.g., windmills, water tanks, corrals, etc.) should not be constructed within 1.2 miles from the perimeter of active or pending leks.	**Clarification**
Fire Management		

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
GRSG-FM-DC-048-Desired Condition In priority and general habitat management areas and sagebrush focal areas, protect sagebrush sage grouse habitat from loss due to unwanted wildfires or damages resulting from management related activities while using agency risk management protocols to manage for fire fighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Sage grouse habitat will be prioritized as a high value resource along with other high value resources and assets.	**GRSG-FM-MA-050-Management Approach** In priority and general habitat management areas, protect sagebrush in sage grouse habitat from loss due to unwanted wildfires or damages resulting from management related activities while using agency risk management protocols to manage for fire fighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Sage grouse habitat will be prioritized as a high value resource along with other high value resources and assets.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-ST-049-Standard In priority and general habitat management areas and sagebrush focal areas, do not use prescribed fire in 12-inch or less precipitation zones unless necessary to facilitate restoration of greater sage-grouse habitat consistent with desired conditions in Table 1a or 1b or for pile burning.	**GRSG-FM-ST-051-Standard** In priority and general habitat management areas, do not use prescribed fire in 12-inch or less precipitation zones unless necessary to facilitate restoration of greater sage-grouse habitat consistent with desired conditions (GRSG-GEN-DC-003-Desired Condition) or for pile burning.	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-FM-ST-050-Standard In priority and general habitat management areas and sagebrush focal areas, if it is necessary to use prescribed fire for restoration of greater sage-grouse habitat consistent with desired conditions in Tables 1a and 1b, the associated NEPA analysis must identify how the project would move towards greater sage-grouse desired conditions, why alternative techniques were not selected, and how potential threats to greater sage-grouse habitat would be minimized.	**GRSG-FM-MA-052-Management Approach** In priority and general habitat management areas, if it is necessary to use prescribed fire for restoration of greater sage-grouse habitat consistent with desired conditions (GRSG-GEN-DC-003-Desired Condition), the associated NEPA analysis must identify how the project would move towards greater sage-grouse desired conditions, why alternative techniques were not selected, and how potential threats to greater sage-grouse habitat would be minimized.	**Elimination of Sagebrush Focal Areas** **Clarification** **Clarification of Plan Content Definition**
GRSG-FM-GL-051-Guideline In wintering or breeding and nesting habitat, sagebrush removal or manipulation, including prescribed fire, should be restricted unless the removal strategically reduces the potential impacts	**GRSG-FM-GL-053-Guideline** In order to maintain sagebrush in wintering or breeding and nesting habitat, sagebrush removal or manipulation, including prescribed fire, should be restricted unless the removal strategically reduces the	**Clarification**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
from wildfire or supports the attainment of desired conditions.	potential impacts from wildfire or supports the attainment of desired conditions (GRSG-GEN-DC-003-Desired Condition).	
GRSG-FM-GL-052-Guideline In planned fuels management activities or part of an overall vegetative management strategy to mitigate the impacts of wildfire in priority and general habitat management areas and sagebrush focal areas, when reseeding in fuel breaks, fire resistant native plant species should be used if available, or consider using fire resistance non-native species, if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term.	**GRSG-FM-MA-054-Management Approach** In planned fuels management activities or part of an overall vegetative management strategy to mitigate the impacts of wildfire in priority and general habitat management areas, when reseeding in fuel breaks, fire resistant native plant species should be used if available, or consider using fire resistant non-native species, if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term and will prevent fire spread into GRSG habitat.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-053-Guideline In priority and general habitat management areas and sagebrush focal areas, fuel treatments should be designed to maintain, restore, or enhance greater sage-grouse habitat.	**GRSG-FM-GL-053-Guideline** Delete	**Removed-Required by 2012 Planning Rule**
GRSG-FM-GL-054-Guideline Locating temporary wildfire suppression facilities (e.g., incident command posts, spike camps, helibases, mobile retardant plants) in priority and general habitat management areas and sagebrush focal areas should be avoided. When needed to best provide for firefighter or public safety or to minimize fire size in sage grouse habitat, impacts to greater sage grouse should be considered and removal of sagebrush should be limited.	**GRSG-FM-GL-055-Guideline** Locate wildfire suppression facilities (i.e., base camps, spike camps, drop points, staging areas, helibases, etc.) in areas where physical disturbance to GRSG habitat can be minimized. These include disturbed areas, grasslands, near roads/trails, or in other areas where there is existing disturbance or minimal sagebrush cover.	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-FM-GL-055-Guideline In priority and general habitat management areas and sagebrush focal areas, cross-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in sage	**GRSG-FM-GL-056-Guideline** In priority and general habitat management areas across-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in sage grouse habitat,	**Elimination of Sagebrush Focal Areas** **Clarification**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
grouse habitat, impacts to sage grouse should be considered and removal of sagebrush should be limited.	impacts to sage grouse should be considered and removal of sagebrush should be limited to the extent practicable.	
GRSG-FM-GL-056-Guideline In priority and general habitat management areas and sagebrush focal areas, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.	**GRSG-FM-MA-057-Management Approach** In priority and general habitat management areas, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-057-Guideline In priority and general habitat management areas and sagebrush focal areas, prescribed fire prescriptions should minimize undesirable effects on vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).	**GRSG-FM-MA-058-Management Approach** In priority and general habitat management areas prescribed fire prescriptions should result in movement toward desired conditions for GRSG and not result in undesirable effects on vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-058-Guideline In priority and general habitat management areas and sagebrush focal areas, roads and natural fuel breaks should be incorporated into planned fuel break design to improve effectiveness and minimize loss of existing sagebrush habitat.	**GRSG-FM-MA-059-Management Approach** In priority and general habitat management areas, roads and natural fuel breaks should be incorporated into planned fuel break design to improve effectiveness and minimize loss of existing sagebrush habitat.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-059-Guideline In priority and general habitat management areas and sagebrush focal areas, where practical and available, all fire-associated vehicles and equipment should be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.	**GRSG-FM-ST-060-Standard** In priority and general habitat management areas all fire-associated vehicles and equipment are to be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition** **Treatment of Invasive Plants**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
GRSG-FM-GL-060-Guideline Unit-specific greater sage-grouse fire management related information should be added to wildland fire decision support systems (currently, the Wildland Fire Decision Support System), local operating plans and resource advisor plans to be used during fire situation to inform management decision, aid in development of strategies and tactics and for the prioritization of resources.	**GRSG-FM-MA-061-Management Approach** Unit-specific greater sage-grouse fire management related information should be added to wildland fire decision support systems (currently, the Wildland Fire Decision Support System), local operating plans and resource advisor plans to be used during fire situation to inform management decision, aid in development of strategies and tactics and for the prioritization of resources.	**Clarification of Plan Content Definition**
GRSG-FM-GL-061-Guideline Localized maps of priority and general habitat management areas and sagebrush focal areas should be made available to fireline, dispatch and fire support personnel.	**GRSG-FM-MA-062-Management Approach** Localized maps of priority and general habitat management areas should be made available to fireline, dispatch and fire support personnel.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-062-Guideline In or near priority and general habitat management areas and sagebrush focal areas, a greater sage-grouse resource advisor should be assigned to all extended attack fires.	**GRSG-FM-MA-063-Management Approach** In or near priority and general habitat management areas, a greater sage-grouse resource advisor should be assigned to all extended attack fires.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-063-Guideline On critical fire weather days, protection of greater sage-grouse habitat should receive high consideration, along with other high values, for positioning of resources.	**GRSG-FM-MA-064-Management Approach** **No change**	**Clarification of Plan Content Definition**
GRSG-FM-GL-064-Guideline Line officers should be involved in setting pre-season wildfire response priorities and, prioritizing protection of priority and general habitat management areas and sagebrush focal areas, along with other high values. During periods of multiple fires or limited resource availability fire management organizational structure (local, regional, national) will prioritize fires and allocation of resources in which sage grouse habitat is a consideration along with other high values.	**GRSG-FM-MA-065-Management Approach** Line officers should be involved in setting pre-season wildfire response priorities and, prioritizing protection of priority and general habitat management areas, along with other high values. During periods of multiple fires or limited resource availability fire management organizational structure (local, regional, national) will prioritize fires and allocation of resources in which sage grouse habitat is a consideration along with other high values.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
GRSG-FM-GL-065-Guideline In priority and general habitat management areas and sagebrush focal areas, consider using fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage, preventing the loss of other high value resources, or increasing the effectiveness of other tactical strategies. Agency administrators, or their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized equipment may be approved by agency administrators, or their designee, or fireline leadership.	**GRSG-FM-MA-066-Management Approach** In priority and general habitat management areas, consider using fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage, preventing the loss of other high value resources, or increasing the effectiveness of other tactical strategies. Agency administrators, or their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized equipment may be approved by agency administrators, or their designee, or fireline leadership.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-066-Guideline In priority and general habitat management areas and sagebrush focal areas, to minimize sagebrush habitat loss, consider using the full range of suppression techniques to protect unburned islands, doglegs, and other sage grouse habitat features that may exist within the perimeter of wildfires. These suppression objectives and activities should be prioritized against other wildland fire suppression activities and priorities.	**GRSG-FM-GL-067-Guideline** In priority and general habitat management areas, to minimize sagebrush habitat loss, the full range of suppression techniques should be used to protect unburned islands, doglegs, and other greater sage-grouse habitat features that may exist within the perimeter of wildfires to retain as much GRSG habitat as possible.	**Elimination of Sagebrush Focal Areas** **Clarification**
Wild Horse and Burro		
GRSG-HB-DC-067-Desired Condition In priority and general habitat management areas, wild horse and burro populations are within established appropriate management levels.	**GRSG-HB-DC-068-Desired Condition** **No change**	
GRSG-HB-ST-068-Standard In priority and general habitat management areas, consider adjusting appropriate management levels, consistent with applicable law, if greater sage-grouse management standards are not met due to degradation that can be at least partially be	**GRSG-HB-MA-069-Management Approach** In priority and general habitat management areas, consider adjusting appropriate management levels, consistent with applicable law, if greater sage-grouse management standards are not met due to degradation that can be at least partially be	**Clarification of Plan Content Definition**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
attributed to wild horse or burro populations.	attributed to wild horse or burro populations.	
GRSG-HB-ST-069-Standard In priority and general management areas, remove wild horses and burros outside of a wild horse and burro territory.	**GRSG-HB-MA-070-Management Approach** In priority and general management areas, remove wild horses and burros outside of a wild horse and burro territory consistent with FSM 2260.31.	**Clarification** **Clarification of Plan Content Definition**
GRSG-HB-GL-070-Guideline In priority and general habitat, herd gathering should be prioritized when wild horse and burro populations exceed the upper limit of the established appropriate management level.	**GRSG-HB-MA-071-Management Approach** In priority and general habitat management areas, herd gathering should be prioritized when wild horse and burro populations exceed the upper limit of the established appropriate management level.	**Clarification** **Clarification of Plan Content Definition**
GRSG-HB-GL-071-Guideline In priority and general habitat, wild horse and burro population levels should be managed at the lower limit of established appropriate management level ranges, as appropriate.	**GRSG-HB-GL-071-Guideline** **Delete**	**Removed-covered in existing Forest Service policy and direction (FSM 2260)**
GRSG-HB-GL-072-Guideline In priority and general habitat, consider exclusion of wild horse or burros immediately following emergency situation (e.g., fire, floods, and drought).	**GRSG-HB-MA-072-Management Approach** In priority and general habitat management area, consider exclusion of wild horse or burros immediately following emergency situation (e.g., fire, floods).	**Clarification** **Clarification of Plan Content Definition**
Recreation		
GRSG-R-DC-073-Desired Condition In priority and general habitat management areas and sagebrush focal areas, recreation activities are balanced with the ability of the land to support them, while meeting greater sage-grouse seasonal habitat desired conditions (Table 1a and 1b) and creating minimal user conflicts.	**GRSG-R-DC-073-Desired Condition** **Delete**	**Removed-Required by 2012 Planning Rule**
GRSG-R-ST-074-Standard In priority and general habitat management areas and sagebrush focal areas, do not authorize temporary recreation uses (i.e., facilities or activities)	**GRSG-R-GL-073-Guideline** In priority and general habitat management areas, do not authorize temporary recreation uses (i.e., facilities or activities) that result in loss of habitat or	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impacts on greater sage-grouse or their habitats.	would have long-term (i.e., greater than 5 years) negative impacts on greater sage-grouse or their habitats.	**Definition**
GRSG-R-GL-075-Guideline In priority and general habitat management areas and sagebrush focal areas, terms and conditions that protect and/or restore greater sage-grouse habitat within the permit area should be included in new recreation special use authorizations. During renewal, amendment, or reauthorization, terms and conditions in existing permits and operating plans should be modified to protect and/or restore greater sage-grouse habitat.	**GRSG-R-MA-074-Management Approach** In priority and general habitat management areas, terms and conditions that protect and/or restore greater sage-grouse habitat within the permit area should be included in new recreation special use authorizations. During renewal, amendment, or reauthorization, terms and conditions in existing permits and operating plans should be modified to protect and/or restore greater sage-grouse habitat.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-R-GL-076-Guideline In priority and general habitat management areas and sagebrush focal areas, new recreational facilities or expansion of existing recreational facilities (e.g., roads, trails, campgrounds), including special use authorizations for facilities and activities, should not be approved unless the development results in a net conservation gain to greater sage-grouse or their habitats or the development is required for visitor safety.	**GRSG-R-GL-075-Guideline** In priority and general habitat management areas, new recreational facilities or expansion of existing recreational facilities (e.g., roads, trails, campgrounds), including special use authorizations for facilities and activities, should not be approved unless the development results in a net conservation gain to greater sage-grouse or their habitats or the development is required for visitor safety.	**Elimination of Sagebrush Focal Areas**
GRSG-R-GL-077-Guideline During breeding and nesting (March 1 to June 30), outfitter-guide activities within 0.25 mile from the perimeter of active leks should not be authorized.	**GRSG-R-ST-076-Standard** During breeding and nesting (Table D-1, generally March 1 to June 30), outfitter-guide activities within 0.25 mile from active or pending leks shall not be authorized.	**Clarification**
Roads/Transportation		
GRSG-RT-DC-078-Desired Condition In priority and general habitat management areas and sagebrush focal areas, within the forest transportation system and on roads and trails authorized under a special use authorization, greater	**GRSG-RT-DC-077-Desired Condition** In priority and general habitat management areas, within the forest transportation system and on roads and trails authorized under a special use authorization, greater sage-grouse	**Elimination of Sagebrush Focal Areas** **Clarification**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
sage-grouse experience minimal disturbance during breeding and nesting (March 1 to June 30) and wintering (November 1 to February 28) periods.	experience minimal disturbance and mortality.	
GRSG-RT-ST-079-Standard In priority and general habitat management areas and sagebrush focal areas, do not conduct or allow new road or trail construction (does not apply to realignments for resource protection) except when necessary for administrative access to existing and authorized uses, public safety, or to access valid existing rights. If necessary to construct new roads and trails for one of these purposes, construct them to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.	**GRSG-RT-ST-078-Standard** In priority and general habitat management areas, do not conduct or allow new road or trail construction (does not apply to realignments for resource protection) except when necessary for administrative access to existing and authorized uses, public safety, or to access valid existing rights. If necessary to construct new roads and trails for one of these purposes, construct them to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.	**Elimination of Sagebrush Focal Areas**
GRSG-RT-ST-080-Standard Do not construct or allow road and trail maintenance activities within 2 miles from the perimeter of active leks during lekking (March 1 to May 15) from 6 pm to 9 am.	**GRSG-RT-ST-079-Standard** Do not construct or allow road and trail maintenance activities within 2 miles from the perimeter of active or pending leks during lekking (Table D-1, generally March 1 to May 15) from 6 pm to 9 am.	**Clarification**
GRSG-RT-ST-081-Standard In priority habitat management areas and sagebrush focal areas, do not allow public motor vehicle use on temporary energy development roads.	**GRSG-RT-ST-081-Standard** **Delete**	**Redundant with Special Use Permit issuance**
GRSG-RT-GL-082-Guideline In priority habitat management areas and sagebrush focal areas, new roads and road realignments should be designed and administered to reduce collisions with greater sage-grouse.	**GRSG-RT-GL-082-Guideline** **Delete**	**Added to DC-078**
GRSG-RT-GL-083-Guideline In priority habitat management areas and sagebrush focal areas, road construction within riparian areas and mesic meadows should be restricted. If not possible to restrict construction within riparian areas	**GRSG-RT-GL-080-Guideline** In priority habitat management areas, road construction within riparian areas and mesic meadows should be avoided to the extent practicable. If not possible to restrict construction within riparian areas and	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
and mesic meadows, roads should be designed and constructed at right angles to ephemeral drainages and stream crossings, unless topography prevents doing so.	mesic meadows, roads should be constructed at right angles to ephemeral drainages and stream crossings, unless topography prevents doing so to minimize impacts to riparian habitat.	
GRSG-RT-GL-084-Guideline In priority and general habitat management areas and sagebrush focal areas, when decommissioning roads and unauthorized routes, restoration activity should be designed to move habitat towards desired conditions (Table 1a or 1b).	**GRSG-RT-GL-084-Guideline** **Delete**	**Removed-Required by 2012 Planning Rule**
GRSG-RT-GL-085-Guideline In priority and general habitat management areas and sagebrush focal areas, dust abatement terms and conditions should be included in road-use authorizations when dust has the potential to impact greater sage-grouse.	**GRSG-RT-MA-081-Management Approach** In priority and general habitat management areas, dust abatement terms and conditions should be included in road-use authorizations when dust has the potential to impact greater sage-grouse.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-RT-GL-086-Guideline In priority and general habitat management areas and sagebrush focal areas, road and road-way maintenance activities should be designed and implemented to reduce the risk of vehicle or human-caused wildfires and the spread of invasive plants. Such activities include but are not limited to the removal or mowing of vegetation a car-width off the edge of roads; use of weed-free earth-moving equipment, gravel, fill, or other materials; and blading or pulling roadsides and ditches that are infested with noxious weeds only if required for public safety or protection of the roadway.	**GRSG-RT-MA-082-Management Approach** In priority and general habitat management areas, road and road-way maintenance activities should be designed and implemented to reduce the risk of vehicle or human-caused wildfires and the spread of invasive plants. Such activities include but are not limited to the removal or mowing of vegetation a car-width off the edge of roads; use of weed-free earth-moving equipment, gravel, fill, or other materials; and blading or pulling roadsides and ditches that are infested with noxious weeds only if required for public safety or protection of the roadway.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-RT-GL-087-Guideline In priority and general habitat management areas and sagebrush focal areas, during breeding and nesting (March 1 to June 30), consider seasonal road	**GRSG-RT-GL-083-Guideline** In priority and general habitat management areas, during breeding and nesting season (Table D-1, generally March 1 to June 30), seasonally close National Forest System motorized travel routes with	**Elimination of Sagebrush Focal Areas** **Clarification**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
closures on motorized travel routes with high traffic volume, speeds, or noise levels.	high traffic volume, speeds, or noise levels that are demonstrably having a negative impact on GRSG breeding and nesting behavior.	
GRSG-RT-GL-088-Guideline In priority and general habitat management areas and sagebrush focal areas, from November 1 to February 28, consider limiting over-snow motorized vehicles in wintering areas.	**GRSG-RT-MA-084-Management Approach** In priority and general habitat management areas, during winter seasonal use periods (Table D-1, generally November 1 to February 28), consider limiting over-snow motorized vehicles in wintering areas.	**Clarification** **Clarification of Plan Content Definition**
Minerals		
Fluid- Unleased		
GRSG-M-FMUL-ST-089-Standard In priority habitat management areas, any new oil and gas leases must include a no surface occupancy stipulation. There will be no waivers or modifications. An exception could be granted by the authorized officer with unanimous concurrence from a team of agency greater sage-grouse experts from the Fish and Wildlife Service, Forest Service, and State wildlife agency if: • There would be no direct, indirect, or cumulative effects to greater sage-grouse or their habitats; or • Granting the exception provides an alternative to a similar action occurring on a nearby parcel; and • The exception provides a clear net conservation gain to greater sage-grouse.	**GRSG-M-FMUL-ST-085-Standard** In priority habitat management areas, any new oil and gas leases or geothermal leases must include a no surface occupancy stipulation. There will be no waivers or modifications. An exception could be granted by the authorized officer if one of the following applies: • The location of the proposed authorization is determined to be unsuitable (by a qualified biologist with Greater Sage-Grouse experience); lacks the ecological potential to become marginal or suitable habitat; and would not result in direct, indirect, or cumulative impacts on greater sage-grouse and its habitat. • Impacts from the proposed action could be offset through use of the mitigation hierarchy (avoid, minimize, mitigate) to achieve a net conservation gain and demonstrate that the individual and cumulative impacts of the project would not result in habitat fragmentation or other impacts that would cause greater sage-grouse populations to decline.	**Adjustment of Compensatory Mitigation Frameworks** **Including Waivers, Exceptions, and Modifications on NSO Stipulations** **Clarification**
GRSG-M-FMUL-ST-090-Standard	**GRSG-M-FMUL-ST-086-Standard**	

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
In general habitat management areas, any new leases must include appropriate controlled surface use and timing limitation stipulations to protect sage-grouse and their habitat.	No change	
GRSG-M-FMUL-ST-091-Standard In sagebrush focal areas, there will be no surface occupancy and no waivers, exceptions, or modifications for fluid mineral leasing.	**GRSG-M-FMUL-ST-091-Standard** Delete	**Elimination of Sagebrush Focal Areas**
GRSG-M-FMUL-ST-092-Standard In priority habitat management areas outside of sagebrush focal areas, proposed geothermal projects may be considered if: • A team of agency greater sage-grouse experts from the Fish and Wildlife Service, Forest Service, BLM, and State Wildlife agency advises on project-mitigation measures, including lek buffer distances, using the best available science; • Mitigation actions are consistent with the Mitigation Strategy; and • The footprint of the project is consistent with the disturbance protocols identified in GRSG-GEN-ST-004.	**GRSG-M-FMUL-ST-092-Standard** Delete	**Redundant with GRSG-M-FMUL-ST-089-Standard**
GRSG-M-FMUL-ST-093-Standard In priority and general habitat management areas and sagebrush focal areas, only allow geophysical exploration or similar type of exploratory operations that are consistent with vegetation objectives in Table 1a or 1b, as appropriate, and include applicable seasonal restrictions.	**GRSG-M-FMUL-ST-087-Standard** In priority and general habitat management areas, include applicable seasonal restrictions (Table D-1) when authorizing geophysical exploration or similar type of exploratory operations.	**Elimination of Sagebrush Focal Areas** **Clarification**
Fluid Minerals-Leased		

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
GRSG-M-FML-ST-094-Standard In priority habitat management areas and sagebrush focal areas, when approving the Surface Use Plan of Operation portion of the Application for Permit to Drill on existing leases that are not yet developed, require that leaseholders avoid and minimize surface disturbing and disruptive activities consistent with the rights granted in the lease.	**GRSG-M-FML-ST-088-Standard** In priority habitat management areas the Surface Use Plan of Operation portion of the Application for Permit to Drill on existing leases that are not yet developed, will require Conditions of Approval (COA) that will avoid and minimize surface disturbing and disruptive activities consistent with the rights granted in the lease.	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-M-FML-ST-095-Standard In priority and general habitat management areas and sagebrush focal areas, when facilities are no longer needed or leases are relinquished, require reclamation plans to include terms and conditions to restore habitat to desired conditions as described in Table 1a or 1b.	**GRSG-M-FML-ST-089-Standard** In priority and general habitat management areas, when facilities are no longer needed or leases are relinquished, reclamation plans must include terms and conditions to restore habitat to desired conditions (GRSG-GEN-DC-003-Desired Condition).	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-M-FML-ST-096-Standard In priority and general habitat management areas and sagebrush focal areas, authorize new transmission line corridors, transmission line right-of- ways, transmission line construction, or transmission line-facility construction associated with fluid mineral leases with stipulations necessary to protect greater sage-grouse and their habitats, consistent with the terms and conditions of the permit.	**GRSG-M-FML-ST-090-Standard** In priority and general habitat management areas, authorize new transmission line corridors, transmission line right-of- ways, transmission line construction, or transmission line-facility construction associated with fluid mineral leases with stipulations necessary to protect greater sage-grouse and their habitats, consistent with the terms and conditions of the permit (Appendix G).	**Elimination of Sagebrush Focal Areas**
GRSG-M-FML-ST-097-Standard Locate compressor stations on portions of a lease that are non-habitat and are not used by greater sage-grouse, and if there would be no direct, indirect, or cumulative effects on sage-grouse or their habitat. If this is not possible, work with the operator to use mufflers, sound insulation, or other features to reduce noise, consistent with GRSG-GEN- ST-006-Standard.	**GRSG-M-FML-MA-091-Management Approach** Locate compressor stations on portions of a lease that are non-habitat and are not used by greater sage-grouse, and if there would be no direct, indirect, or cumulative effects on sage-grouse or their habitat. If this is not possible, work with the operator to use mufflers, sound insulation, or other features to reduce noise, consistent with GRSG-GEN-ST-006-Standard.	**Clarification of Plan Content Definition**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
GRSG-M-FML-ST-098-Standard In priority and general habitat management areas and sagebrush focal areas, when authorizing development of fluid mineral resources, work with the operator to minimize impacts to greater sage-grouse and their habitat, such as locating facilities in non-habitat areas first and then in the least suitable habitat.	**GRSG-M-FML-MA-092-Management Approach** In priority and general habitat management areas, when authorizing development of fluid mineral resources, work with the operator to minimize impacts to greater sage-grouse and their habitat, such as locating facilities in non-habitat areas first and then in the least suitable habitat.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-M-FML-GL-099-Guideline In priority and general habitat management areas and sagebrush focal areas, operators should be encouraged to reduce disturbance to greater sage-grouse habitat. At the time of approval of the Surface Use Plan of Operation portion of the Application for Permit to Drill, terms and conditions should be included to reduce disturbance to greater sage-grouse habitat, where appropriate and feasible and consistent with the rights granted to the lessee.	**GRSG-M-FML-MA-093-Management Approach** In priority and general habitat management areas operators should be encouraged to reduce disturbance to greater sage-grouse habitat. At the time of approval of the Surface Use Plan of Operation portion of the Application for Permit to Drill, terms and conditions should be included to reduce disturbance to greater sage-grouse habitat, where appropriate and feasible and consistent with the rights granted to the lessee.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-M-FML-GL-100-Guideline On existing Federal leases in priority and general habitat management areas and sagebrush focal areas, when surface occupancy cannot be restricted due to valid existing rights or development requirements, disturbance and surface occupancy should be limited to areas least harmful to greater sage-grouse based on vegetation, topography, or other habitat features.	**GRSG-M-FML-MA-094-Guideline** On existing Federal leases in priority and general habitat management areas, when surface occupancy cannot be restricted due to valid existing rights or development requirements, disturbance and surface occupancy should be limited to areas least harmful to greater sage-grouse based on vegetation, topography, or other habitat features.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-M-FML-GL-101-Guideline In priority and general habitat management areas and sagebrush focal areas, where the Federal government owns the surface and the mineral estate is in non-Federal ownership, coordinate with the mineral estate owner/lessee to apply appropriate stipulations, conditions of approval, conservation measures, and	**GRSG-M-FML-MA-095-Management Approach** In priority and general habitat management areas, where the Federal government owns the surface and the mineral estate is in non-Federal ownership, coordinate with the mineral estate owner/lessee to apply appropriate stipulations, conditions of approval,	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities.	conservation measures, and required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities.	
Fluid Minerals- Operations		
GRSG-M-FMO-ST-102-Standard In priority and general habitat management areas and sagebrush focal areas, do not authorize employee camps.	**GRSG-M-FMO-ST-96-Standard** In priority and general habitat management areas, do not authorize employee camps.	**Elimination of Sagebrush Focal Areas**
GRSG-M-FMO-ST-103-Standard In priority and general habitat management areas and sagebrush focal areas, when feasible, do not locate tanks or other structures that may be used as raptor perches. If this is not feasible, use perch deterrents.	**GRSG-M-FMO-ST-097-Standard** In priority and general habitat management areas, when feasible, do not locate tanks or other structures that may be used as raptor perches. If this is not feasible, use perch deterrents.	**Elimination of Sagebrush Focal Areas**
GRSG-M-FMO-GL-104-Guideline In priority and general habitat management areas and sagebrush focal areas, closed-loop systems should be used for drilling operations with no reserve pits, where feasible.	**GRSG-M-FMO-MA-98-Management Approach** In priority and general habitat management areas, closed-loop systems should be used for drilling operations with no reserve pits, where feasible.	**Elimination of Sagebrush Focal Areas**
GRSG-M-FMO-GL-105-Guideline In priority and general habitat management areas and sagebrush focal areas, during drilling operations, soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.	**GRSG-M-FMO-MA-99-Management Approach** In priority and general habitat management areas, during drilling operations, soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-M-FMO-GL-106-Guideline In priority and general habitat management areas and sagebrush focal areas, dams, impoundments and ponds for mineral development should be constructed to reduce potential for West	**GRSG-M-FMO-GL-100-Guideline** In priority and general habitat management areas, dams, impoundments and ponds for mineral development should be constructed to reduce potential for West Nile virus.	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
Nile virus. Examples of methods to accomplish this include: • Increase the depth of ponds to accommodate a greater volume of water than is discharged. • Build steep shorelines (greater than 2 feet) to reduce shallow water and aquatic vegetation around the perimeter of impoundments to reduce breeding habitat for mosquitoes. • Maintain the water level below that of rooted aquatic and upland vegetation. Avoid flooding terrestrial vegetation in flat terrain or low-lying areas. • Construct dams or impoundments that restrict down-slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage or lining constructed ponds in areas where seepage is anticipated. • Line the channel where discharge water flows into the pond with crushed rock or use a horizontal pipe to discharge inflow directly into existing open water. • Line the overflow spillway with crushed rock and construct the spillway with steep sides. • Fence pond sites to restrict access by livestock and other wild ungulates. • Remove or re-inject produced water. • Treat waters with larvicides to reduce mosquito production where water occurs on the surface.		
	GRSG-M-FMO-MA-101-Management Approach Utilize the following methods to reduce to potential for West Nile virus:	**Clarification of Plan Content Definition**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
	• Increase the depth of ponds to accommodate a greater volume of water than is discharged. • Build steep shorelines (greater than 2 feet) to reduce shallow water and aquatic vegetation around the perimeter of impoundments to reduce breeding habitat for mosquitoes. • Maintain the water level below that of rooted aquatic and upland vegetation. Avoid flooding terrestrial vegetation in flat terrain or low-lying areas. • Construct dams or impoundments that restrict down-slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage or lining constructed ponds in areas where seepage is anticipated. • Line the channel where discharge water flows into the pond with crushed rock or use a horizontal pipe to discharge inflow directly into existing open water. • Line the overflow spillway with crushed rock and construct the spillway with steep sides. • Fence pond sites to restrict access by livestock and other wild ungulates. • Remove or re-inject produced water. • Treat waters with larvicides to reduce mosquito production where water occurs on the surface	
GRSG-M-FMO-GL-107-Guideline In priority and general habitat management areas and sagebrush focal areas to keep habitat disturbance at a minimum, a phased development approach should be applied to fluid mineral operations, wherever possible, consistent with the rights granted under the lease.	**GRSG-M-FMO-GL-102-Guideline** In priority and general habitat management areas to keep habitat disturbance at a minimum, a phased development approach should be applied to fluid mineral operations, wherever possible, consistent with the rights granted under the lease. Disturbed areas should be	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	reclaimed as soon as they are no longer needed for mineral operations.	
Locatable Minerals		
GRSG-M-LM-ST-108-Standard In priority and general habitat management areas and sagebrush focal areas, only approve Plans of Operation if they include mitigation to protect greater sage-grouse and their habitats, consistent with the rights of the mining claimant as granted by the General Mining Act of 1872, as amended.	**GRSG-M-LM-ST-103-Standard** In priority and general habitat management areas, only approve Plans of Operation if they include mitigation to protect greater sage-grouse and their habitats, consistent with the rights of the mining claimant as granted by the General Mining Act of 1872, as amended.	**Elimination of Sagebrush Focal Areas**
GRSG-M-LM-GL-109-Guideline In priority and general habitat management areas and sagebrush focal areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to operations consistent with the rights granted under the General Mining Act of 1872, as amended. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**GRSG-M-LM-GL-104-Guideline** In priority and general habitat management areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to operations consistent with the rights granted under the General Mining Act of 1872, as amended. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**Elimination of Sagebrush Focal Areas**
GRSG-M-LM-GL-110-Guideline In priority and general habitat management areas and sagebrush focal areas, abandoned mine sites should be closed or mitigated to reduce predation of greater sage-grouse by eliminating tall structures that could provide nesting opportunities and perching sites for predators.	**GRSG-M-LM-GL-105-Guideline** In priority and general habitat management areas, when closing abandoned mine sites remove tall structures that could provide nesting opportunities and perching sites for predators to reduce predation of greater sage-grouse, consistent with the National Historic Preservation Act.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
Non-energy Leasable Minerals		
GRSG-M-NEL-GL-111-Guideline In priority and general habitat management areas and sagebrush focal areas, at the time of issuance of prospecting permits, exploration licenses and leases, or readjustment of leases, the Forest Service should provide	**GRSG-M-NEL-MA-106-Management Approach** In priority and general habitat management areas, include stipulations to restrict surface use, occupancy and seasonal activities for exploration or pre-mining activities with recommendations or	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
recommendations to the BLM for the protection of greater sage-grouse and their habitats.	consent (as applicable) to issuance of prospecting permits, exploration licenses, or leases, lease modifications, lease readjustments or lease renewals. In priority habitat management areas where development would be by surface mining methods, do not consent to, or recommend, leasing in areas that exceed disturbance caps. In priority habitat management areas where development would be by underground mining methods, specify or recommend stipulations that prohibit surface use and occupancy in priority habitat management areas.	**Clarification of Regulatory Process**
GRSG-M-NEL-GL-112-Guideline In priority and general habitat management areas and sagebrush focal areas, the Forest Service should recommend to the BLM that expansion or readjustment of existing leases avoid, minimize, or mitigate the effects to greater sage-grouse and their habitat.	**GRSG-M-NEL-MA-107-Management Approach** In priority and general habitat management areas, include in recommendations to the BLM regarding exploration plan or mining plans conditions to reduce invasive species, prevent fire, limit permanent tall structures and new permanent roads, and to design reclamation of surface disturbance to restore applicable greater sage-grouse habitat.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition** **Clarification of Regulatory Process**
Mineral Materials		
GRSG-M-MM-ST-113-Standard In priority management areas and sagebrush focal areas, do not authorize new mineral material disposal or development.	**GRSG-M-MM-ST-108-Standard** In priority management areas, do not authorize new mineral material disposal or development.	**Elimination of Sagebrush Focal Areas**
GRSG-M-MM-ST-114-Standard In priority habitat management areas and sagebrush focal areas, free-use mineral material collection permits may be issued and expansion of existing active pits may be allowed, except from March 1 to May 15 between 6 pm and 9 am within 2 miles from the perimeter of occupied leks, within the Biologically Significant Unit and	**GRSG-M-MM-ST-109-Standard** Do not allow free-use mineral material collection during lekking season (Table D-1, generally March 1 to May 15) between 6 p.m. and 9 a.m. within 2 miles from the perimeter of occupied leks.	**Elimination of Sagebrush Focal Areas** **Clarification**

No Action Alternative (Nevada)	Proposed Action (Nevada)	Issue/Clarification
proposed project area if doing so does not exceed the disturbance cap.		
GRSG-M-MM-ST-115-Standard In priority and general habitat management areas and sagebrush focal areas, any permit for existing mineral material operations must include appropriate requirements for operation and reclamation of the site to maintain, restore, or enhance desired habitat conditions (Table 1a or 1b).	**GRSG-M-MM-ST-110-Standard** In priority and general habitat management areas, management of existing or expansion of existing pits, will include appropriate requirements for operation and reclamation of the site to maintain, restore, or enhance desired habitat conditions (Appendix D, Table D-3).	**Elimination of Sagebrush Focal Areas** **Clarification**
Predation		
GRSG-P-DC-116-Desired Condition Anthropogenic uses on public lands are managed to reduce the effects of predation on greater sage-grouse.	**GRSG-P-DC-111-Desired Condition** **No change**	
Nothing in 2015 Plan	**GRSG-P-MA-112-Management Approach** Efforts by other agencies to minimize impacts from predators on the greater sage-grouse should be supported and encouraged where needs have been documented.	**Added - Support for other agencies that manage predators**

Table 2.8. Utah - Comparison of alternatives[1]

[1]Priority and general habitat management areas may contain non-habitat. Management direction would not apply to non-habitat if the proposed activity in non-habitat does not preclude effective sage-grouse use of adjacent habitats.

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
GRSG-GEN-DC-001-Desired Condition The landscape for the greater sage-grouse encompasses large contiguous areas of native vegetation, approximately 6-to-62 square miles in area, to provide for multiple aspects of species life requirements. Within these landscapes, a variety of sagebrush-community compositions exist without invasive species, which have variations in subspecies composition, co-dominant vegetation, shrub cover, herbaceous cover, and stand structure to meet seasonal requirements for food, cover, and nesting for the greater sage-grouse.	**GRSG-GEN-DC-001-Desired Condition** **No Change**	
GRSG-GEN-DC-002-Desired Condition Anthropogenic disturbance is focused in non-habitat areas outside of priority and general habitat management areas and sagebrush focal areas.[2] Disturbance in general management areas is limited, and there is little to no disturbance in priority habitat management areas and sagebrush focal areas except for valid existing rights and existing authorized uses. [2]Priority habitat management areas and general habitat management areas may contain areas of non-habitat, and management direction would not apply to those areas of non-habitat. However, management direction would apply to all areas within sagebrush focal areas including non habitat.	**GRSG-GEN-DC-002-Desired Condition** Anthropogenic disturbance is focused in non-habitat areas outside of priority and general habitat management areas. Disturbance in general management areas is limited, and there is little to no disturbance in priority habitat management areas except for valid existing rights and existing authorized uses.	**Elimination of Sagebrush Focal Areas**
GRSG-GEN-DC-003-Desired Condition In greater sage-grouse seasonal habitat, including all seasonal habitats, 70% or more of lands capable of producing sagebrush have from 10 to 30% sagebrush canopy cover and less than 10% conifer canopy cover. In addition, within breeding and nesting habitat, sufficient herbaceous	**GRSG-GEN-DC-003-Desired Condition** At the landscape scale, in greater sage-grouse seasonal habitat, including all seasonal habitats, 70% or more of lands capable of producing sagebrush have from 10 to 30% sagebrush canopy cover and less than 10% conifer canopy cover. In addition, within breeding and nesting habitat,	**Modifying Desired Conditions**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
vegetation structure and height provides overhead and lateral concealment for nesting and early brood rearing life stages. Within brood rearing habitat, wet meadows and riparian areas sustain a rich diversity of perennial grass and forb species relative to site potential. Within winter habitat, sufficient sagebrush height and density provides food and cover for the greater sage-grouse during this seasonal period. Specific desired conditions for the greater sage-grouse based on seasonal habitat requirements are in Table 1.	sufficient herbaceous vegetation structure and height provides overhead and lateral concealment for nesting and early brood rearing life stages. Within brood rearing habitat, wet meadows and riparian areas sustain a rich diversity of perennial grass and forb species relative to site potential. Within winter habitat, sufficient sagebrush height and density provides food and cover for the greater sage-grouse during this seasonal period. When and where breeding and nesting habitat overlaps with other seasonal habitats, the desired conditions are those for breeding and nesting habitat. Specific desired conditions for the greater sage-grouse based on seasonal habitat requirements are in Appendix E, Table E-1. The values in the tables should be considered as initial references and do not preclude development of local desired conditions or utilizing other indicators/values, based on site selection preferences of the local population and ecological site capability of sagebrush communities.	
GRSG-GEN-ST-004-Standard In priority habitat management areas and sagebrush focal areas, do not issue new discretionary written authorizations unless all existing discrete anthropogenic disturbances cover less than 3% of the total greater sage-grouse habitat within the Biologically Significant Unit and the proposed project area, regardless of ownership, and the new use will not cause exceedance of the 3% cap. Discretionary activities that might result in disturbance above 3% at the Biologically Significant Unit and proposed project area would be prohibited unless approved by the forest supervisor with concurrence from the regional forester after review of new or site- specific information that indicates the project would result in a net conservation gain at the Biologically Significant Unit and proposed project area scale. Within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation	**GRSG-GEN-ST-004-Standard** In priority habitat management areas, do not issue new discretionary written authorizations unless all existing discrete anthropogenic disturbances cover less than 3% of the total greater sage-grouse habitat within the Biologically Significant Unit and the proposed project area, regardless of ownership, and the new use will not cause exceedance of the 3% cap. Discretionary activities that might result in disturbance above 3% at the Biologically Significant Unit and proposed project area would be prohibited unless approved by the forest supervisor with concurrence from the regional forester after review of new or site- specific information that indicates the project results in no net loss of habitat at the Biologically Significant Unit and proposed project area scale. Within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates no net loss of habitat. This exception is limited to projects that	**Elimination of Sagebrush Focal Areas** **Changing Net Conservation Gain**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
gain to the species will be achieved. This exception is limited to projects that fulfill the use for which the corridors were designated (e.g., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location. Consider the likelihood of surface disturbing activities as a result of development of valid existing rights when authorizing new projects in priority habitat management areas.	fulfill the use for which the corridors were designated (e.g., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location. Consider the likelihood of surface disturbing activities as a result of development of valid existing rights when authorizing new projects in priority habitat management areas.	
GRSG-GEN-ST-005-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, only allow new authorized land uses if after avoiding and minimizing impacts, any remaining residual impacts to the greater sage-grouse or its habitat are fully offset by compensatory mitigation projects that provide a net conservation gain to the species, subject to valid existing rights, by applying beneficial mitigation actions. Any compensatory mitigation will be durable, timely, and in addition to what would have resulted without the compensatory mitigation as addressed in the Mitigation Strategy (Appendix B).	**GRSG-GEN-ST-005-Standard** In priority habitat management areas, only allow new authorized land uses if after avoiding and minimizing impacts, any remaining residual impacts to the greater sage-grouse or its habitat are fully offset by compensatory mitigation projects that result in no net loss, subject to valid existing rights, by applying beneficial mitigation actions. Any compensatory mitigation will be durable, timely, and in addition to what would have resulted without the compensatory mitigation as addressed in the Mitigation Strategy (Appendix E).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Changing Net Conservation Gain**
GRSG-GEN-ST-006-Standard Do not authorize new surface disturbing and disruptive activities that create noise at 10dB above ambient measured at the perimeter of an occupied lek during lekking (from March 1 to April 30) from 6 p.m. to 9 a.m. Do not include noise resulting from human activities that have been authorized and initiated within the past 10 years in the ambient baseline measurement.	**GRSG-GEN-ST-006-Standard** Do not authorize new surface disturbing and disruptive activities that create noise at 10dB above ambient measured at the perimeter of an occupied lek during lekking (from March 1 to April 30) from 6 p.m. to 9 a.m. Do not include noise resulting from human activities that have been authorized and initiated within the past 10 years in the ambient baseline measurement since the issuance of the 2015 ROD (2005).	
GRSG-GEN-GL-007-Guideline During breeding and nesting (from March 1 to June 15), surface disturbing and disruptive activities to nesting birds should be avoided.	**GRSG-GEN-GL-007-Guideline** **No Change**	
GRSG-GEN-GL-008-Guideline When breeding and nesting habitat overlaps with other seasonal habitats,	**GRSG-GEN-GL-008-Guideline** **Delete**	**Added to GRSG-GEN-DC-003-Desired Condition**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
habitat should be managed for breeding and nesting desired conditions in Table 1.		
GRSG-GEN-GL-009-Guideline Development of tall structures within 2 miles from the perimeter of occupied leks, as determined by local conditions (e.g., vegetation or topography), with the potential to disrupt breeding or nesting by creating new perching/nesting opportunities for avian predators or by decreasing the use of an area, should be restricted within nesting habitat.	**GRSG-GEN-GL-008-Guideline** **No Change**	
Nothing in 2015 Plan	**GRSG-GEN-MA-009-Management Approach** Every 5 years or in conjunction BLM and State of Utah, evaluate the Habitat Management Area (HMA) Map and Biologically Significant Unit (BSU) Map when a demonstrated need for change exists. These evaluations will occur in conjunction with an interagency team to ensure consistency across administrative boundaries.	**Habitat Management Area Designation**
Adaptive Management		
GRSG-AM-ST-010-Standard If a hard trigger is met, immediate action is necessary to stop a severe deviation from greater sage-grouse conservation objectives. The hard trigger responses are identified in table XX of the Adaptive Management Appendix XX. The Forest Service will review available and pertinent data in coordination with greater sage-grouse biologists from multiple agencies.	**GRSG-AM-ST-010-Standard** When conditions result in a 20% or greater decline of average males per lek for four consecutive years (or remainder of criteria described in Appendix E) or there is a 20% loss of total GRSG habitat in PHMA or 20% loss of habitat within nesting or wintering areas within PHMAs, more restrictive management direction will be applied, in addition to identifying causal factors and implementing a corrective strategy. The responses identified in Appendix E will be followed.	
GRSG-AM-ST-011-Standard If a soft trigger is met, the Forest Service will determine the specific cause or causes that are contributing to the decline. In completing this evaluation, the Forest Service will coordinate with greater sage-grouse biologists from multiple agencies. If it is determined that the decline is related to a natural variation in the population, no specific management actions would be required. However, if Forest Service	**GRSG-AM-MA-011-Management Approach** If a soft trigger is met, the Forest Service will determine the specific cause or causes that are contributing to the decline. In completing this evaluation, the Forest Service will coordinate with greater sage-grouse biologists from multiple agencies. If it is determined that the decline is related to a natural variation in the population, no specific management actions would be required. However, if Forest Service	**Clarification of Plan Content Definition**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
management actions are determined to be the cause or contribute to the decline, the Forest Service would apply measures within its implementation-level discretion to mitigate the decline of populations and/or habitat. These measures would apply more conservative or restrictive implementation-level conservation conditions, terms, or decisions within the agency's discretion to mitigate the decline.	management actions are determined to be the cause or contribute to the decline, the Forest Service would apply measures within its implementation-level discretion to mitigate the decline of populations and/or habitat. These measures would apply more conservative or restrictive implementation-level conservation conditions, terms, or decisions within the agency's discretion to mitigate the decline (Appendix E).	
Lands and Realty		
Special-use Authorizations (Non-recreation)		
GRSG-LR-SUA-O-012-Objective In nesting habitats, retrofit existing tall structures (e.g., power poles, communication tower sites, etc.) with perch deterrents or other anti-perching devices within 2 years of signing the ROD.	**GRSG-LR-SUA-O-012-Objective** In nesting habitats, retrofit existing tall structures (e.g., power poles, communication tower sites, etc.) with perch deterrents or other anti-perching devices within 3 years of reissuing permits.	**Clarification**
GRSG-LR-SUA-ST-013-Standard In priority habitat, sagebrush focal areas, and Anthro Mountain, restrict issuance of new lands special-use authorizations that authorize infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, and communication tower sites. Exceptions must be limited (e.g., safety needs) and based on rationale (e.g., monitoring, modeling, or best available science) that explicitly demonstrates that adverse impacts to the greater sage-grouse will be avoided by the exception. Existing authorized uses will continue to be recognized.	**GRSG-LR-SUA-ST-013-Standard** In priority habitat management areas, only allow new lands special-use authorizations for infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, and communication tower sites when infrastructure is co-located with existing infrastructure, roads, or already disturbed areas. Impacts to greater sage-grouse must be avoided. In limited circumstances, when other alternatives are not feasible or impacts cannot be avoided, offset by using compensatory mitigation (GRSG-GEN-ST-005-Standard).	**Clarification** **Habitat Management Areas Designations**
GRSG-LR-SUA-ST-014-Standard In general habitat management areas, new lands special-use authorizations may be issued for infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, and communication tower sites if they can be located within existing designated corridors or rights-of-way and the authorization includes stipulations to protect the greater sage-grouse and its habitat. Existing authorized uses will continue to be recognized.	**GRSG-LR-SUA-GL-014-Guideline** In general habitat management areas, new lands special-use authorizations may be issued for infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, and communication tower sites if they can be located within existing designated corridors or rights-of-way and the authorization includes stipulations to protect the greater sage-grouse and its habitat.	**Clarification of Plan Content Definition**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
GRSG-LR-SUA-ST-015-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, do not authorize temporary lands special-uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on the greater sage-grouse or its habitat.	**GRSG-LR-SUA-ST-015-Standard** In priority habitat management areas, do not authorize temporary lands special-uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on the greater sage-grouse or its habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-LR-SUA-ST-016-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, require protective stipulations (e.g., noise, tall structure, guy wire removal, perch deterrent installation, etc.) when issuing new authorizations or during renewal, amendment, or reissuance of existing authorizations that authorize infrastructure (e.g., high-voltage transmission lines, major pipelines, roads, distribution lines, and communication tower sites).	**GRSG-LR-SUA-ST-016-Standard** In priority and general habitat management areas, require protective stipulations (e.g., noise, tall structure, guy wire removal, perch deterrent installation, etc.) when issuing new authorizations or during renewal, amendment, or reissuance of existing authorizations that authorize infrastructure (e.g., high-voltage transmission lines, major pipelines, roads, distribution lines, and communication tower sites).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-LR-SUA-ST-017-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, locate upgrades to existing transmission lines within the existing designated corridors or rights-of way unless an alternate route would benefit the greater sage-grouse or its habitat.	**GRSG-LR-SUA-ST-017-Standard** In priority habitat management areas, locate upgrades to existing transmission lines within the existing designated corridors or rights-of way unless an alternate route would benefit the greater sage-grouse or its habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-LR-SUA-ST-018-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, when a lands special-use authorization is revoked or terminated and no future use is contemplated, require the authorization holder to remove overhead lines and other surface infrastructure in compliance with 36 CFR 251.60(i).	**GRSG-LR-SUA-ST-018-Standard** In priority and general habitat management areas, when a lands special-use authorization is revoked or terminated and no future use is contemplated, authorization holder must remove overhead lines and other surface infrastructure in compliance with 36 CFR 251.60(i).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-LR-SUA-GL-019-Guideline In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, outside of existing designated corridors and rights-of-way, new transmission lines and pipelines should be buried to limit disturbance to the smallest	**GRSG-LR-SUA-GL-019-Guideline** **Delete**	**Redundant with GRSG-LR-SUA-ST-013-Standard**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
footprint unless explicit rationale is provided that the biological impacts to the greater sage-grouse are being avoided. When new transmission lines and pipelines are not buried, locate them adjacent to existing transmission lines and pipelines.		
GRSG-LR-SUA-GL-020-Guideline The best available science and monitoring should be used to inform infrastructure siting in greater sage-grouse habitat.	**GRSG-LR-SUA-MA-019-Management Approach** **No Change**	**Clarification of Plan Content Definition**
Land Ownership Adjustments		
GRSG-LR-LOA-ST-021-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, do not approve landownership adjustments, including land exchanges, unless the action results in a net conservation gain to the greater sage-grouse or it will not directly or indirectly adversely affect greater sage-grouse conservation.	**GRSG-LR-LOA-ST-020-Standard** In priority habitat management areas, do not approve landownership adjustments, including land exchanges, unless the action results in no net loss of greater sage-grouse habitat or it will not directly or indirectly adversely affect greater sage-grouse conservation.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Changing Net Conservation Gain**
GRSG-LR-LOA-GL-022-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, and with minority federal ownership, consider landownership adjustments to achieve a landownership pattern (e.g., consolidation, reducing fragmentation, etc.) that supports improved greater sage-grouse population trends and habitat.	**GRSG-LR-LOA-MA -021-Management Approach** In priority and general habitat management areas, and with minority federal ownership, consider landownership adjustments to achieve a landownership pattern (e.g., consolidation, reducing fragmentation, etc.) that supports improved greater sage-grouse population trends and habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
Land Withdrawal		
GRSG-LR-LW-GL-023-Guideline In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, use land withdrawals as a tool, where appropriate, to withhold an area from activities that will be detrimental to the greater sage-grouse or its habitat.	**GRSG-LR-LW-GL-023-Guideline** **Delete**	**Deleted - Mineral withdrawal is no longer valid.**
Wind and Solar		
GRSG-WS-ST-024-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, do not authorize new solar utility-scale and/or commercial energy	**GRSG-WS-ST-022-Standard** In priority habitat management areas, do not authorize new solar utility-scale and/or commercial energy development except for on-site power generation associated with	**Elimination of Sagebrush Focal Areas** **Habitat Management**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
development except for on-site power generation associated with existing industrial infrastructure (e.g., mine sites).	existing industrial infrastructure (e.g., mine sites).	**Areas Designations**
GRSG-WS-ST-025-Standard In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, do not authorize new wind utility-scale and/or commercial energy development except for on-site power generation associated with existing industrial infrastructure (e.g., mine sites).	**GRSG-WS-ST-023-Standard** In priority habitat management areas, do not authorize new wind utility-scale and/or commercial energy development except for on-site power generation associated with existing industrial infrastructure (e.g., mine sites).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
Greater Sage-grouse Habitat		
GRSG-GRSGH-O-026-Objective Every 10 years for the next 50 years, improve greater sage-grouse habitat by removing invading conifers and other undesirable species based upon the number of acres shown in Table 2.	**GRSG-GRSGH-O-024-Objective** Table 2 is now Appendix E, Table E-2.	**Clarification**
Nothing in 2015 Plan	**GRSG-GRSGH-DC-025-Desired Condition** Invasive annual grasses are either not present or in low abundance and not increasing in sage-grouse habitat.	**Treatment of Invasive Species**
GRSG-GRSGH-ST-027-Standard Design habitat restoration projects to move towards desired conditions (Table 1).	**GRSG-GRSGH-ST-027-Standard** Delete	**Removed-Required by 2012 Planning Rule**
GRSG-GRSGH-ST-028-Standard On the Dixie and Fishlake National Forests, where greater sage-grouse priority habitat management areas overlap with identified Utah prairie dog habitat, the most current version of conservation measures developed by the U.S. Fish and Wildlife Service will be used during implementation of recovery actions.	**GRSG-GRSGH-MA-026-Management Approach** On the Dixie and Fishlake National Forests, where greater sage-grouse priority habitat management areas overlap with identified Utah prairie dog habitat, the most current version of conservation measures developed by the U.S. Fish and Wildlife Service will be used during implementation of recovery actions.	**Clarification of Plan Content Definition**
GRSG-GRSGH-GL-029-Guideline When removing conifers that are encroaching into greater sage-grouse habitat, avoid persistent woodlands (i.e., old growth relative to the site or more than 100-years old).	**GRSG-GRSGH-GL-027-Guideline** **No Change**	
GRSG-GRSGH-GL-030-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro	**GRSG-GRSGH-GL-028-Guideline** In priority and general habitat management areas, actions and authorizations should	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
Mountain, actions and authorizations should include design features to limit the spread and effect of undesirable non-native plant species.	include design features to limit the spread and effect of undesirable non-native plant species.	**Habitat Management Areas Designations**
GRSG-GRSGH-GL-031-Guideline To facilitate safe and effective fire management actions in priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, fuel treatments in high-risk areas (i.e., areas likely to experience wildfire at an intensity level that might result in movement away from the greater sage-grouse desired conditions in Table 1 should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse attributes to move away from desired conditions (Table 1).	**GRSG-GRSGH-MA-029-Management Approach** To facilitate safe and effective fire management actions in priority and general habitat management areas, fuel treatments in high-risk areas (i.e., areas likely to experience wildfire at an intensity level that might result in movement away from the greater sage-grouse desired conditions in Appendix E, Table E-1 should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse habitat attributes to move away from desired conditions (Appendix E, Table E-1).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification** **Clarification of Plan Content Definition**
GRSG-GRSGH-GL-032-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, native plant species should be used when possible to maintain, restore, or enhance desired conditions (Table 1).	**GRSG-GRSGH-GL-030-Guideline** In priority and general habitat management areas, native plant species should be used when possible to maintain, restore, or enhance desired conditions (Appendix E, Table E-1).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification**
GRSG-GRSGH-GL-033-Guideline In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, vegetation treatment projects should only be conducted if they maintain, restore, or enhance desired conditions (Table 1).	**GRSG-GRSGH-GL-031-Guideline** In priority and general habitat management areas, vegetation treatment projects should only be conducted if they maintain, restore, or enhance desired conditions (Appendix E, Table E-1).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification**
Nothing in 2015 Plan	**GRSG-GRSGH-O-032-Objective** Within 2 years of the Record of Decision, develop a map of areas prone to annual grass invasion within sage-grouse habitat using resistance and resilience concepts, ecological site descriptions, and state and transition models for each National Forest and Grassland.	**Treatment of Invasive Species**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
Nothing in 2015 Plan	**GRSG-GRSGH-MA-033-Management Approach** In designing post wildfire recovery treatments, consider resistance and resilience ecological site descriptions and state and transition models.	**Treatment of Invasive Species**
Nothing in 2015 Plan	**GRSG-GRSGH-GL-034-Management Approach** Prioritize treatments for established invasive plant populations that have the potential to impact sage-grouse habitat in priority habitat management areas. Early detection and rapid response treatments remain the focus.	**Treatment of Invasive Species**
Livestock Grazing		
GRSG-LG-DC-034-Desired Condition In priority and general habitat management areas, sagebrush focal areas, within lek buffers, and Anthro Mountain, livestock grazing is managed to maintain or move towards desired conditions (Table 1).	**GRSG-LG-DC-034-Desired Condition** Delete	**Removed-Required by 2012 Planning Rule**
GRSG-LG-ST-035-Standard In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, do not approve construction of water developments unless beneficial to greater sage-grouse habitat.	**GRSG-LG-ST-035-Standard** In priority habitat management area, do not approve construction of water developments that would cause adverse effects to greater sage-grouse habitat.	**Clarification**
GRSG-LG-GL-036-Guideline Grazing guidelines should be applied in each of the seasonal habitats in Table 3. If values in Table 3 guidelines cannot be achieved based upon a site-specific analysis using Ecological Site Descriptions, long-term ecological site potential analysis, or other similar analysis, adjust grazing management to move towards desired habitat conditions in Table 1 consistent with the ecological site potential. Do not use drought and degraded habitat condition to adjust values. Grazing guidelines in Table 3 would not apply to isolated parcels of National Forest System lands that have less than 200 acres of greater sage-grouse habitat.	**GRSG-LG-GL-036-Guideline** In greater sage-grouse habitat, if livestock grazing is limiting achievement of seasonal desired conditions, adjust livestock management, as appropriate, to address greater sage-grouse habitat requirements.	**Changing Livestock Grazing Guidelines**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
Nothing in 2015 Plan	**GRSG-LG-MA-037-Management Approach** Conduct greater sage-grouse habitat assessments in allotments. If the assessment identifies the habitat is in less than desired seasonal habitat condition, determine factors limiting achievement of the desired seasonal habitat conditions.	**Changing Livestock Grazing Guidelines**
GRSG-LG-GL-037-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, when grazing permits are waived without preference or obtained through permit cancellation, consider the agency's full range of administrative authorities for future allotment management, including but not limited to allotment closure, vacancy status for resource protection, establishment of forage reserve, re-stocking, or livestock conversion as management options to maintain or achieve desired habitat conditions (Table 1).	**GRSG-LG-GL-037-Guideline** **Delete**	**Removed – Covered in existing Forest Service policy and direction**
GRSG-LG-GL-038-Guideline Bedding sheep and placing camps within 1.2 miles from the perimeter of a lek during lekking (from March 1 to April 30) should be restricted.	**GRSG-LG-GL-038-Guideline** Bedding sheep and placing camps within 0.62 miles (1 km) from the perimeter of a lek during lekking (from March 1 to April 30) should be restricted to prevent disturbance to breeding and nesting GRSG.	**Clarification**
GRSG-LG-GL-039-Guideline During the breeding and nesting season (from March 1 to June 15), trailing livestock through breeding and nesting habitat should be minimized. Specific routes should be identified; existing trails should be used; and stopovers on active leks should be avoided.	**GRSG-LG-GL-039-Guideline** During the breeding and nesting season, trailing livestock through breeding and nesting habitat should be avoided to the extent practicable to prevent disturbance to breeding and nesting GRSG. Specific routes should be identified, existing trails should be used, and stopovers on active leks are not allowed.	**Clarification**
GRSG-LG-GL-040-Guideline Fences should not be constructed or reconstructed within 1.2 miles from the perimeter of occupied leks unless the collision risk can be mitigated through design features or markings (e.g., mark, laydown fences, or other design features).	**GRSG-LG-GL-040-Guideline** **No Change**	
GRSG-LG-GL-041-Guideline	**GRSG-LG-GL-041-Guideline**	**Clarification**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
New permanent livestock facilities (e.g., windmills, water tanks, corrals, etc.) should not be constructed within 1.2 miles from the perimeter of occupied leks.	To prevent predation from perching raptors, new permanent livestock facilities (e.g., windmills, water tanks, corrals, etc.) should not be constructed within 1.2 miles from the perimeter of occupied leks.	
Fire Management		
GRSG-FM-DC-042-Desired Condition In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, protect sagebrush sage grouse habitat from loss due to unwanted wildfires or damages resulting from management related activities while using agency risk management protocols to manage for firefighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Sage grouse habitat will be prioritized as a high value resource along with other high value resources and assets.	**GRSG-FM-MA-042-Management Approach** In priority and general habitat management areas, protect sagebrush sage grouse habitat from loss due to unwanted wildfires or damages resulting from management related activities while using agency risk management protocols to manage for firefighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Sage grouse habitat will be prioritized as a high value resource along with other high value resources and assets.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-FM-ST-043-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, do not use prescribed fire in 12-inch or less precipitation zones unless necessary to facilitate restoration of greater sage-grouse habitat consistent with desired conditions in Table 1 or for pile burning.	**GRSG-FM-ST-043-Standard** In priority and general habitat management areas, do not use prescribed fire in 12-inch or less precipitation zones unless necessary to facilitate restoration of greater sage-grouse habitat consistent with desired conditions in Appendix E, Table E-1 or for pile burning.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification**
GRSG-FM-ST-044-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, if it is necessary to use prescribed fire for restoration of greater sage-grouse habitat consistent with desired conditions in Table 1, the associated National Environmental Policy Act analysis must identify how the project would move towards greater sage-grouse desired conditions; why alternative techniques were not selected; and how potential threats to greater sage-grouse habitat would be minimized.	**GRSG-FM-MA-044-Management Approach** In priority and general habitat management areas, if it is necessary to use prescribed fire or other mechanical means for restoration of greater sage-grouse habitat consistent with desired conditions in Appendix E, Table E-1, the associated National Environmental Policy Act analysis must identify how the project would move towards greater sage-grouse desired conditions; why alternative techniques were not selected; and how potential threats to greater sage-grouse habitat would be minimized.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification** **Clarification of Plan Content Definition**
GRSG-FM-GL-045-Guideline In wintering or breeding and nesting habitat, sagebrush removal or	**GRSG-FM-GL-045-Guideline** In order to maintain sagebrush in wintering or breeding and nesting habitat, sagebrush removal or manipulation, including	**Clarification**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
manipulation, including prescribed fire, should be restricted unless the removal strategically reduces the potential impacts from wildfire or supports the attainment of desired conditions.	prescribed fire, should be restricted unless the removal strategically reduces the potential impacts from wildfire or supports the attainment of desired conditions.	
GRSG-FM-GL-046-Guideline In planned fuels management activities or part of an overall vegetative management strategy to mitigate the impacts of wildfire in priority and general habitat management areas and sagebrush focal areas, when reseeding in fuel breaks, fire resistant native plant species should be used if available, or consider using fire resistance non-native species if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term.	**GRSG-FM-MA-046-Management Approach** In priority and general habitat management areas, when reseeding in fuel breaks, fire resistant native plant species should be used if available, or consider using fire resistance non-native species if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term (> 5 years) and will prevent fire spread into GRSG habitat.	**Clarification** **Clarification of Plan Content Definition**
GRSG-FM-GL-047-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, fuel treatments should be designed to maintain, restore, or enhance greater sage-grouse habitat.	**GRSG-FM-GL-047-Guideline** Delete	**Removed-Required by 2012 Planning Rule**
GRSG-FM-GL-048-Guideline Locating temporary wildfire suppression facilities (e.g., incident command posts, spike camps, helibases, mobile retardant plants) in priority and general habitat management areas and sagebrush focal areas should be avoided. When needed to best provide for firefighter or public safety or to minimize fire size in sage grouse habitat, impacts to the greater sage-grouse should be considered, and removal of sagebrush should be limited.	**GRSG-FM-MA-047-Management Approach** Locate wildfire suppression facilities (i.e., base camps, spike camps, drop points, staging areas, helibases, etc.) in areas where physical disturbance to GRSG habitat can be minimized. These include disturbed areas, grasslands, near roads/trails, or in other areas where there is existing disturbance or minimal sagebrush cover.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-049-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, cross-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in greater sage-grouse habitat, impacts to the greater sage-grouse should be considered, and removal of sagebrush should be limited.	**GRSG-FM-MA-048-Management Approach** In priority and general habitat management areas, cross-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in greater sage-grouse habitat, impacts to the greater sage-grouse should be considered, and removal of sagebrush should be limited to the extent practicable to achieve suppression objectives.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
GRSG-FM-GL-050-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.	**GRSG-FM-MA-049-Management Approach** In priority and general habitat management areas, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition** **Habitat Management Areas Designations**
GRSG-FM-GL-051-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, prescribed fire prescriptions should minimize undesirable effects on vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).	**GRSG-FM-MA-050-Management Approach** In priority and general habitat management areas prescribed fire prescriptions should result in improvement of desired conditions for GRSG and not result in undesirable effects on vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-FM-GL-052-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, roads and natural fuel breaks should be incorporated into planned fuel break design to improve effectiveness and minimize loss of existing sagebrush habitat.	**GRSG-FM-MA-051-Management Approach** In priority and general habitat management areas, roads and natural fuel breaks should be incorporated into planned fuel break design to improve effectiveness and minimize loss of existing sagebrush habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-FM-GL-053-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, where practical and available, all fire-associated vehicles and equipment should be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.	**GRSG-FM-ST-052-Standard** In priority and general habitat management areas, all fire-associated vehicles and equipment are to be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-FM-GL-054-Guideline	**GRSG-FM-MA-053-Management Approach**	

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
Unit-specific greater sage-grouse fire management-related information should be added to wildland fire decision support systems (currently, the Wildland Fire Decision Support System); local operating plans and resource advisor plans to be used during fire situations to inform management decisions; and aid in development of strategies and tactics for resource prioritization.	Unit-specific greater sage-grouse fire management-related information should be added to wildland fire decision support systems (currently, the Wildland Fire Decision Support System); local operating plans and resource advisor plans to be used during fire situations to inform management decisions; and aid in development of strategies and tactics for resource prioritization.	
GRSG-FM-GL-055-Guideline Localized maps of priority and general habitat management areas and sagebrush focal areas should be made available to fireline, dispatch, and fire support personnel.	**GRSG-FM-MA-054-Management Approach** Localized maps of priority and general habitat management areas should be made available to fireline, dispatch, and fire support personnel.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-056-Guideline In or near priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, a greater sage-grouse resource advisor should be assigned to all extended attack fires.	**GRSG-FM-MA-055-Management Approach** In or near priority and general habitat management areas, a greater sage-grouse resource advisor should be assigned to all extended attack fires.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-FM-GL-057-Guideline On critical fire weather days, protection of greater sage-grouse habitat should receive high consideration, along with other high values, for positioning of resources.	**GRSG-FM-MA-056-Management Approach** On critical fire weather days, protection of greater sage-grouse habitat should receive high consideration, along with other high values, for positioning of resources.	**Clarification of Plan Content Definition**
GRSG-FM-GL-058-Guideline Line officers should be involved in setting pre-season wildfire response priorities and prioritizing protection of priority and general habitat management areas and sagebrush focal areas, along with other high values. During periods of multiple fires or limited resource availability, fire management organizational structure (local, regional, national) will prioritize fires and allocation of resources in which greater sage-grouse habitat is a consideration along with other high values.	**GRSG-FM-MA-057-Management Approach** Line officers should be involved in setting pre-season wildfire response priorities and prioritizing protection of priority and general habitat management areas along with other high values. During periods of multiple fires or limited resource availability, fire management organizational structure (local, regional, national) will prioritize fires and allocation of resources in which greater sage-grouse habitat is a consideration along with other high values.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
GRSG-FM-GL-059-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, consider using fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage; preventing the loss of other high value resources; or increasing the effectiveness of other tactical strategies. Agency administrators, their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized equipment may be approved by agency administrators, their designee, or fireline leadership.	**GRSG-FM-MA-058-Management Approach** In priority and general habitat management areas, use fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage; preventing the loss of other high value resources; or increasing the effectiveness of other tactical strategies. Agency administrators, their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized equipment may be approved by agency administrators, their designee, or fireline leadership.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-FM-GL-060-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, to minimize sagebrush habitat loss consider using the full range of suppression techniques to protect unburned islands, doglegs, and other greater sage-grouse habitat features that may exist within the perimeter of wildfires. These suppression objectives and activities should be prioritized against other wildland fire suppression activities and priorities.	**GRSG-FM-GL-059-Guideline** In priority and general habitat management areas, to minimize sagebrush habitat loss, the full range of suppression techniques should be used to protect unburned islands, doglegs, and other greater sage-grouse habitat features that may exist within the perimeter of wildfires to retain as much GRSG habitat as possible.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
Recreation		
GRSG-R-DC-061-Desired Condition In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, recreation activities are balanced with the ability of the land to support them while meeting greater sage-grouse seasonal habitat desired conditions (Table 1) and creating minimal user conflicts.	**GRSG-R-DC-059-Desired Condition** Delete	**Removed-Required by 2012 Planning Rule**
GRSG-R-ST-062-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, do not authorize temporary recreation uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impacts on the greater sage-grouse or its habitat.	**GRSG-R-GL-060-Guideline** In priority habitat management areas, do not authorize temporary recreation uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impacts on the greater sage-grouse or its habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
		Clarification of Plan Content Definition
GRSG-R-GL-063-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, terms and conditions that protect and/or restore greater sage-grouse habitat within the permit area should be included in new recreation special-use authorizations. During renewal, amendment, or reauthorization, terms and conditions in existing permits and operating plans should be modified to protect and/or restore greater sage-grouse habitat.	**GRSG-R-MA-061-Management Approach** In priority and general habitat management areas, terms and conditions that protect and/or restore greater sage-grouse habitat within the permit area should be included in new recreation special-use authorizations. During renewal, amendment, or reauthorization, terms and conditions in existing permits and operating plans should be modified to protect and/or restore greater sage-grouse habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-R-GL-064-Guideline In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, new recreational facilities or expansion of existing recreational facilities (e.g., roads, trails, campgrounds), including special-use authorizations for facilities and activities, should not be approved unless the development results in a net conservation gain to the greater sage-grouse or its habitat or the development is required for visitor safety.	**GRSG-R-GL-062-Guideline** In priority habitat management areas, new recreational facilities or expansion of existing recreational facilities (e.g., roads, trails, campgrounds), including special-use authorizations for facilities, should not be approved unless the development results in no net loss of greater sage-grouse habitat or the development is required for safety.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Changing Net Conservation Gain**
Roads/Transportation		
GRSG-RT-DC-065-Desired Condition In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, within the forest transportation system and on roads and trails authorized under a special-use authorization, the greater sage-grouse experience minimal disturbance during breeding and nesting (from March 1 to June 15) and wintering (from November 1 to February 28) periods.	**GRSG-RT-DC-063-Desired Condition** In priority and general habitat management areas, within the forest transportation system and on roads and trails authorized under a special use authorization, greater sage-grouse experience minimal disturbance and mortality.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification**
GRSG-RT-ST-066-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, do not conduct or allow new road or trail construction (does not apply to realignments for resource protection) except when necessary for administrative access to existing and authorized uses, public safety, or to access valid existing	**GRSG-RT-ST-064-Standard** In priority and general habitat management areas, do not conduct or allow new road or trail construction (does not apply to realignments for resource protection) except when necessary for administrative access to existing and authorized uses, public safety, or to construct new roads	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
rights. If necessary to construct new roads and trails for one of these purposes, construct them to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.	and trails for one of these purposes, construct them to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.	
GRSG-RT-ST-067-Standard Do not conduct or allow road and trail maintenance activities within 2 miles from the perimeter of active leks during lekking (from March 1 to April 30) from 6 p.m. to 9 a.m.	**GRSG-RT-ST-065-Standard** **No Change**	
GRSG-RT-ST-068-Standard In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, do not allow public motor vehicle use on temporary energy development roads.	**GRSG-RT-ST-068-Standard** **Delete**	**Redundant with Special Use Permit Issuance**
GRSG-RT-GL-069-Guideline In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, new roads and road realignments should be designed and administered to reduce collisions with the greater sage-grouse.	**GRSG-RT-GL-069-Guideline** **Delete**	**Included in DC-65**
GRSG-RT-GL-070-Guideline In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, road construction within riparian areas and mesic meadows should be restricted. If not possible to restrict construction within riparian areas and mesic meadows, roads should be designed and constructed at right angles to ephemeral drainages and stream crossings unless topography prevents doing so.	**GRSG-RT-GL-070-Guideline** **Delete**	**Redundant with GRSG-RT-ST-066-Standard**
GRSG-RT-GL-071-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, when decommissioning roads and unauthorized routes, restoration activity should be designed to move habitat towards desired conditions (Table 1).	**GRSG-RT-GL-071-Guideline** **Delete**	**Removed-Required by 2012 Planning Rule**
GRSG-RT-GL-072-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, dust abatement terms and	**GRSG-RT-MA-066-Management Approach** In priority and general habitat management areas, dust abatement terms and conditions should be included in road-use	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
conditions should be included in road-use authorizations when dust has the potential to affect the greater sage-grouse.	authorizations when dust has the potential to affect the greater sage-grouse.	**Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-RT-GL-073-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, road and road-way maintenance activities should be designed and implemented to reduce the risk of vehicle- or human-caused wildfires and the spread of invasive plants. Such activities include but are not limited to the removal or mowing of vegetation a car- width off the edge of roads; use of weed-free earth-moving equipment, gravel, fill, or other materials; and blading or pulling roadsides and ditches that are infested with noxious weeds only if required for public safety or protection of the roadway.	**GRSG-RT-MA-067-Management Approach** In priority and general habitat management areas, road and road-way maintenance activities should be designed and implemented to reduce the risk of vehicle- or human-caused wildfires and the spread of invasive plants.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification** **Clarification of Plan Content Definition**
Minerals		
Fluid-Unleased		
GRSG-M-FMUL-ST-074-Standard In priority habitat management areas and Anthro Mountain, any new oil and gas leases must include a No Surface Occupancy stipulation. There will be no waivers or modifications. An exception could be granted by the authorized officer with unanimous concurrence from a team of agency greater sage-grouse experts from the U.S. Fish and Wildlife Service, the Forest Service, and state wildlife agency if: • There would be no direct, indirect, or cumulative effects to the greater sage-grouse or its habitat; or • Granting the exception provides an alternative to a similar action occurring on a nearby parcel; and • The exception provides a clear net conservation gain to the greater sage-grouse.	**GRSG-M-FMUL-ST-068-Standard** In priority habitat management areas, any new oil and gas leases or geothermal leases must include a No Surface Occupancy stipulation. There will be no waivers or modifications. An exception could be granted by the authorized officer if: • There would be no direct, indirect, or cumulative effects to the greater sage-grouse or its habitat; or • Impacts could be fully offset through mitigation; and • The exception will include appropriate controlled surface use and timing limitation stipulations	**Habitat Management Areas Designations** **Including Waivers, Exceptions, and Modifications on NSO Stipulation** **Adjustment of Compensatory Mitigation Frameworks** **Clarification**
GRSG-M-FMUL-ST-075-Standard	**GRSG-M-FMUL-ST-075-Standard** **Delete**	**Mineral withdrawal no longer valid**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
In sagebrush focal areas, there will be No Surface Occupancy and no waivers, exceptions, or modifications for fluid mineral leasing.		
Fluid-Leased		
GRSG-M-FML-ST-076-Standard In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, when approving the Surface Use Plan of Operation portion of the Application for Permit to Drill on existing leases that are not yet developed, require that leaseholders avoid and minimize surface disturbing and disruptive activities consistent with the rights granted in the lease.	**GRSG-M-FML-ST-069-Standard** In priority habitat management areas the Surface Use Plan of Operation portion of the Application for Permit to Drill on existing leases that are not yet developed, will require Conditions of Approval (COA) that will avoid and minimize surface disturbing and disruptive activities consistent with the rights granted in the lease.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-M-FML-ST-077-Standard In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, when facilities are no longer needed or leases are relinquished, require reclamation plans to include terms and conditions to restore habitat to desired conditions as described in Table 1.	**GRSG-M-FML-ST-070-Standard** In priority habitat management areas, when facilities are no longer needed or leases are relinquished, reclamation plans must include terms and conditions to restore habitat to desired conditions as described in Appendix E, Table E-1.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-M-FML-ST-078-Standard In general management areas, authorize new transmission line corridors, transmission line right-of-ways, transmission line construction, or transmission line-facility construction associated with fluid mineral leases with stipulations necessary to protect the greater sage-grouse and its habitat, consistent with the terms and conditions of the permit.	**GRSG-M-FML-ST-071-Standard** In general management areas, authorize new transmission line corridors, transmission line right-of-ways, transmission line construction, or transmission line-facility construction associated with fluid mineral leases with stipulations necessary to protect the greater sage-grouse and its habitat, consistent with the terms and conditions of the permit (Appendix G).	**Clarification**
GRSG-M-FML-ST-079-Standard Locate compressor stations on portions of a lease that are non-habitat and are not used by the greater sage-grouse, and if there would be no direct, indirect, or cumulative effects on the greater sage-grouse or its habitat. If this is not possible, work with the operator to use mufflers, sound insulation, or other features to reduce noise, consistent with GRSG-GEN-ST-006-Standard.	**GRSG-M-FML-MA-072-Management Approach** Locate compressor stations on portions of a lease that are non-habitat and are not used by the greater sage-grouse, and if there would be no direct, indirect, or cumulative effects on the greater sage-grouse or its habitat. If this is not possible, work with the operator to use mufflers, sound insulation, or other features to reduce noise, consistent with GRSG-GEN-ST-006-Standard.	**Clarification of Plan Content Definition**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
GRSG-M-FML-ST-080-Standard In priority and general habitat management areas, when authorizing development of fluid mineral resources, work with the operator to minimize impacts to the greater sage-grouse and its habitat, such as locating facilities in non-habitat areas first and then in the least suitable habitat.	**GRSG-M-FML-MA-073-Management Approach** In priority and general habitat management areas, when authorizing development of fluid mineral resources, work with the operator to minimize impacts to the greater sage-grouse and its habitat, such as locating facilities in non-habitat areas first and then in the least suitable habitat.	**Clarification of Plan Content Definition**
GRSG-M-FML-ST-081-Standard Apply the following conditions of approval on existing fluid mineral leases in Anthro Mountain. • Use a phased approach for development in greater sage-grouse habitat. • No well pads or permanent structures will be permitted within a 0.6 mile buffer of an occupied lek. • Project-related activities and vehicle access will not be allowed in or through the 0.6 mile lek buffer. • No project-related vehicles or activities (including routine maintenance, production vehicles, or work-over rigs) will be allowed from 1 hour before sunset to 2 hours after sunrise within mapped sage-grouse habitat from March 1 to May 31. • No surface disturbing activities (including construction, drilling, and well-flaring) will be allowed for wells located within mapped greater sage-grouse habitat from March 1 through June 30. • No well pad construction, road construction, drilling, or work-over rigs will be allowed on ridge tops from November 1 to March 1 within 4 miles of a lek. • Within mapped greater sage-grouse habitat, disturbance will be limited to an average of one disturbance per square mile (640 acres). Disturbance should be clustered in areas of habitat most distal from leks or areas of habitat least important to the greater sage-grouse.	**GRSG-M-FML-ST-081-Standard** **Delete**	**Habitat Management Areas Designation**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
• Disturbance within the mapped greater sage-grouse habitat on Anthro Mountain will be no more than 3%. • Within 4 miles of a lek, well pads and roads should avoid openings in the pinyon/juniper tracts. If avoidance of an opening is not possible, then well pads and roads should be located as close to the edge of the opening as possible. • Noise levels at leks must be limited to no more than 10dB above ambient (not to exceed 20- 24 dB), measured at the perimeter of a lek, during the breeding season (from March 1 to May 31). • Low profile tanks will be required for all well pads within mapped greater sage-grouse habitat. • Raptor perch avoidance devices will be installed on any required tank batteries in greater sage-grouse habitat. • Closed-loop drilling will be used for wells within greater sage-grouse habitat. If a new lek is discovered outside of mapped habitat, contiguous greater sage-grouse habitat within 4 miles of the lek will be mapped. Apply the same protections to the new mapped habitat and the new lek.		
GRSG-M-FML-GL-082-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, operators should be encouraged to reduce disturbance to greater sage-grouse habitat. At the time of approval of the Surface Use Plan of Operation portion of the Application for Permit to Drill, terms and conditions should be included to reduce disturbance to greater sage-grouse habitat where appropriate and feasible and consistent with the rights granted to the lessee.	**GRSG-M-FML-GL-074-Guideline** In priority and general habitat management areas, the Surface Use Plan of Operation portion of the Application for Permit to Drill will include terms and conditions to reduce disturbance to greater sage-grouse habitat where appropriate, feasible, and consistent with the rights granted to the lessee.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-M-FML-GL-083-Guideline On existing Federal leases in priority habitat management areas, sagebrush focal areas, and Anthro Mountain, when surface	**GRSG-M-FML-GL-075-Guideline** On existing federal leases in priority habitat management areas, when surface occupancy must be allowed due to valid	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
occupancy cannot be restricted due to valid existing rights or development requirements, disturbance and surface occupancy should be limited to areas least harmful to greater sage-grouse based on vegetation, topography, or other habitat features.	existing rights or development requirements, disturbance and surface occupancy should be restricted to areas that will minimize the impact to the greater sage-grouse based on vegetation, topography, or other habitat features.	**Habitat Management Areas Designations**
GRSG-M-FML-GL-084-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, where the federal government owns the surface and the mineral estate is in non-federal ownership, coordinate with the mineral estate owner/lessee to apply appropriate stipulations, conditions of approval, conservation measures, and required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities.	**GRSG-M-FML-MA-076-Management Approach** In priority and general habitat management areas, where the federal government owns the surface and the mineral estate is in non-federal ownership, coordinate with the mineral estate owner/lessee to apply appropriate stipulations, conditions of approval, conservation measures, and required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities (Appendix G).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition** **Clarification**
Fluid- Operations		
GRSG-M-FMO-ST-085-Standard In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, do not authorize employee camps.	**GRSG-M-FMO-ST-077-Standard** In priority habitat management areas do not authorize employee camps.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-M-FMO-ST-086-Standard In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, when feasible do not locate tanks or other structures that may be used as raptor perches. If this is not feasible, use perch deterrents.	**GRSG-M-FMO-ST-078-Standard** In priority habitat management areas, when feasible do not locate tanks or other structures that may be used as raptor perches. If this is not feasible, use perch deterrents.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-M-FMO-GL-087-Guideline In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, closed-loop systems should be used for drilling operations with no reserve pits, where feasible.	**GRSG-M-FMO-MA-079-Management Approach** In priority habitat management areas, closed-loop systems should be used for drilling operations with no reserve pits, where feasible.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
		Clarification of Plan Content Definition
GRSG-M-FMO-GL-088-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, during drilling operations, soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.	**GRSG-M-FMO-GL-080-Guideline** In priority and general habitat management areas, during drilling operations, soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-M-FMO-GL-089-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, dams, impoundments, and ponds for mineral development should be constructed to reduce potential for West Nile virus. Examples of methods to accomplish this include the following: • Increase the depth of ponds to accommodate a greater volume of water than is discharged. • Build steep shorelines (greater than 2 feet) to reduce shallow water and aquatic vegetation around the perimeter of impoundments to reduce breeding habitat for mosquitoes. • Maintain the water level below that of rooted aquatic and upland vegetation. Avoid flooding terrestrial vegetation in flat terrain or low-lying areas. • Construct dams or impoundments that restrict down-slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage or lining constructed ponds in areas where seepage is anticipated. • Line the channel where discharge water flows into the pond with crushed rock or use a horizontal pipe to discharge inflow directly into existing open water. • Line the overflow spillway with crushed rock and construct the spillway with steep sides.	**GRSG-M-FMO-GL-081-Guideline** In priority and general habitat management areas, dams, impoundments, and ponds for mineral development should be constructed to reduce potential for West Nile virus.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
• Fence pond sites to restrict access by livestock and other wild ungulates. • Remove or re-inject produced water. • Treat waters with larvicides to reduce mosquito production where water occurs on the surface.		
	GRSG-M-FMO-MA-082-Management Approach Utilize the following methods to reduce to potential for West Nile virus include the following: • Increase the depth of ponds to accommodate a greater volume of water than is discharged. • Build steep shorelines (greater than 2 feet) to reduce shallow water and aquatic vegetation around the perimeter of impoundments to reduce breeding habitat for mosquitoes. • Maintain the water level below that of rooted aquatic and upland vegetation. Avoid flooding terrestrial vegetation in flat terrain or low-lying areas. • Construct dams or impoundments that restrict down-slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage or lining constructed ponds in areas where seepage is anticipated. • Line the channel where discharge water flows into the pond with crushed rock or use a horizontal pipe to discharge inflow directly into existing open water. • Line the overflow spillway with crushed rock and construct the spillway with steep sides. • Fence pond sites to restrict access by livestock and other wild ungulates. • Remove or re-inject produced water. • Treat waters with larvicides to reduce mosquito production where water occurs on the surface.	**Clarification of Plan Content Definition**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
GRSG-M-FMO-GL-090-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, to keep habitat disturbance at a minimum, a phased development approach should be applied to fluid mineral operations wherever possible, consistent with the rights granted under the lease. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**GRSG-M-FMO-GL-083-Guideline** In priority and general habitat management areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to fluid mineral operations wherever possible, consistent with the rights granted under the lease. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
Coal Mines- Unleased		
GRSG-M-CMUL-ST-091-Standard When consenting to new underground coal leases, include a lease stipulation prohibiting the location of surface facilities in priority habitat management areas, sagebrush focal areas, and Anthro Mountain.	**GRSG-M-CMUL-ST-084-Standard** When consenting to coal leases or coal lease modifications where development would be by underground mining methods, include a lease stipulation prohibiting the location of surface facilities in priority habitat management areas. At coal lease readjustment, bring forward stipulations for prohibiting the location of surface facilities in priority habitat management areas. For coal exploration licenses, prohibit surface facilities in priority habitat management areas; prescribe stipulations to protect greater sage-grouse and its habitat. Recommend operating conditions for exploration plans to reduce invasive species, prevent fire, limit permanent tall structures and new permanent roads, and design reclamation of surface disturbance to restore applicable greater sage-grouse habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Regulatory Process**
Coal Mines- Leased		
GRSG-M-CML-ST-092-Standard In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, do not authorize new appurtenant surface facilities related to existing underground mines unless no technically feasible alternative exists. If new appurtenant surface facilities associated with existing mine leases cannot be located outside of priority habitat management areas and sagebrush focal areas, locate them within any existing	**GRSG-M-CML-ST-085-Standard** If not stipulated in a coal lease, during the state agency permitting process, recommend against placement of surface facilities related to existing underground mines in priority habitat management areas. If new surface facilities associated with existing leases cannot be located outside of priority habitat management areas, then recommend location within any existing disturbed areas. If location within an existing disturbed area is not possible,	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Regulatory Process**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
disturbed areas, if possible. If location within an existing disturbed area is not possible, then construct new facilities to minimize disturbed areas while meeting mine safety standards and requirements as identified by the Mine Safety and Health Administration mine-plan approval process and locate the facilities in an area least harmful to greater sage-grouse habitat based on vegetation, topography, or other habitat features.	then locate the facilities in an area least harmful to greater sage-grouse habitat based on vegetation, topography, or other habitat features, and recommend to the authorizing state agency that reclamation be designed to restore any disturbed greater sage-grouse habitat.	
GRSG-M-CML-GL-093-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, when coal leases are subject to readjustment, additional requirements should be included in the readjusted lease to conserve, enhance, and restore greater sage-grouse and its habitat for long-term viability.	**GRSG-M-CML-GL-086-Guideline** When responding to the authorized state agency regarding mine permitting actions that cause surface disturbance, if applicable, include conditions for surface use occupancy and timing prohibitions and restrictions based on habitat present. During permitting actions and/or 5-year permit reviews, advise the state agency that the post-mining land use is wildlife habitat involving greater sage-grouse habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Regulatory Process**
Locatable Minerals		
GRSG-M-LM-ST-094-Standard In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, only approve Plans of Operation if they include mitigation to protect the greater sage-grouse and its habitat, consistent with the rights of the mining claimant as granted by the General Mining Act of 1872, as amended.	**GRSG-M-LM-ST-087-Standard** In priority and general habitat management areas, only approve Plans of Operation with mitigation (avoid and minimize) to protect the greater sage-grouse and its habitat, consistent with the rights of the mining claimant as granted by the Mining Law of 1872, as amended.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-M-LM-GL-095-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, to keep habitat disturbance at a minimum, a phased development approach should be applied to operations consistent with the rights granted under the General Mining Act of 1872, as amended. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**GRSG-M-LM-GL-088-Guideline** In priority and general habitat management areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to operations consistent with the rights granted under the General Mining Act of 1872, as amended. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-M-LM-GL-096-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro	**GRSG-M-LM-GL-089-Guideline** In priority and general habitat management areas, when closing abandoned mine sites	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
Mountain, abandoned mine sites should be closed or mitigated to reduce predation of the greater sage-grouse by eliminating tall structures that could provide nesting opportunities and perching sites for predators.	remove tall structures that could provide nesting opportunities and perching sites for predators to reduce predation of greater sage-grouse, consistent with the National Historic Preservation Act.	**Habitat Management Areas Designations**
Non-energy Leasable Minerals		
GRSG-M-NEL-GL-097-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, at the time of issuance of prospecting permits; exploration licenses and leases; or readjustment of leases, the Forest Service should provide recommendations to the BLM for the protection of greater sage-grouse and its habitat.	**GRSG-M-NEL-MA-090-Management Approach** In priority and general habitat management areas, include stipulations to restrict surface use, occupancy and seasonal activities for exploration or pre-mining activities with recommendations or consent (as applicable) to issuance of prospecting permits, exploration licenses, or leases, lease modifications, lease readjustments or lease renewals. In priority habitat management areas where development would be by surface mining methods, do not consent to, or recommend, leasing in areas that exceed disturbance caps. In priority habitat management areas where development would be by underground mining methods, specify or recommend stipulations that prohibit surface use and occupancy in priority habitat management areas.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition** **Clarification of Regulatory Process**
GRSG-M-NEL-GL-098-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, the Forest Service should recommend to the BLM that expansion or readjustment of existing leases avoid, minimize, or mitigate the effects to the greater sage-grouse and its habitat.	**GRSG-M-NEL-MA-091-Management Approach** In priority and general habitat management areas, include in recommendations to the BLM regarding exploration plan or mining plans conditions to reduce invasive species, prevent fire, limit permanent tall structures and new permanent roads, and to design reclamation of surface disturbance to restore applicable greater sage-grouse habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition** **Clarification of Regulatory Process**
Mineral Materials		
GRSG-M-MM-ST-099-Standard	**GRSG-M-MM-ST-092-Standard**	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Utah)	Proposed Action (Utah)	Issue/Clarification
In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, do not authorize new mineral material disposal or development.	In priority habitat management areas, do not authorize new mineral material disposal or development.	**Habitat Management Areas Designations**
GRSG-M-MM-ST-100-Standard In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, free-use mineral material collection permits may be issued and expansion of existing active pits may be allowed, except from March 1 to April 30 between 6 p.m. and 9 a.m. within 2 miles from the perimeter of occupied leks, within the Biologically Significant Unit and proposed project area if doing so does not exceed the disturbance cap.	**GRSG-M-MM-ST-93-Standard** Do not allow mineral material collection from March 1 to April 30 between 6 p.m. and 9 a.m. within 2 miles from the perimeter of occupied leks.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification**
GRSG-M-MM-ST-101-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, any permit for existing mineral material operations must include appropriate requirements for operation and reclamation of the site to maintain, restore, or enhance desired habitat conditions (Table 1).	**GRSG-M-MM-ST-094-Standard** In priority and general habitat management areas, management of existing or expansion of existing pits, will include appropriate requirements for operation and reclamation of the site to maintain, restore, or enhance desired habitat conditions (Appendix E, Table E-1).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Desired Conditions** **Clarification**

Table 2-8a. Comparisons of State of Utah Alternative[1]

[1]Priority and general habitat management areas may contain non-habitat. Management direction would not apply to those areas of non-habitat if the proposed activity in non-habitat does not preclude effective sage-grouse use of adjacent habitats.

No Action Alternative (Utah)	State of Utah Alternative (Utah)	Issue/Clarification
GRSG-GEN-DC-002-Desired Condition Anthropogenic disturbance is focused in non-habitat areas outside of priority and general habitat management areas and sagebrush focal areas.[2] Disturbance in general management areas is limited, and there is little to no disturbance in priority habitat management areas and sagebrush focal areas except for valid existing rights and existing authorized uses. [2]Priority habitat management areas and general habitat management areas may contain areas of non-habitat, and management direction would not apply to those areas of non-habitat. However, management direction would apply to all areas within sagebrush focal areas including non habitat.	**GRSG-GEN-DC-002-Desired Condition** Anthropogenic disturbance is focused in non-habitat areas outside of priority habitat management. There is little to no disturbance in priority habitat management areas except for valid existing rights and existing authorized uses.	**Elimination of Sagebrush Focal Areas** **Added footnote to definition of HMAs**
Special-use Authorizations (Non-recreation)		
GRSG-LR-SUA-ST-014-Standard In general habitat management areas, new lands special-use authorizations may be issued for infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, and communication tower sites if they can be located within existing designated corridors or rights-of-way and the authorization includes stipulations to protect the greater sage-grouse and its habitat. Existing authorized uses will continue to be recognized.	**GRSG-LR-SUA-ST-014-Standard** **Delete**	**Removed-Required by 2012 Planning Rule**
GRSG-LR-SUA-ST-016-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, require protective stipulations (e.g., noise, tall structure, guy wire removal, perch deterrent installation, etc.) when issuing new authorizations or during renewal, amendment, or reissuance of existing authorizations that authorize infrastructure (e.g., high-voltage	**GRSG-LR-SUA-ST-017-Standard** In priority habitat management areas, require protective stipulations (e.g., noise, tall structure, guy wire removal, perch deterrent installation, etc.) when issuing new authorizations or during renewal, amendment, or reissuance of existing authorizations that authorize infrastructure (e.g., high-voltage transmission lines, major	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**

No Action Alternative (Utah)	State of Utah Alternative (Utah)	Issue/Clarification
transmission lines, major pipelines, roads, distribution lines, and communication tower sites).	pipelines, roads, distribution lines, and communication tower sites).	
GRSG-LR-SUA-ST-018-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, when a lands special-use authorization is revoked or terminated and no future use is contemplated, require the authorization holder to remove overhead lines and other surface infrastructure in compliance with 36 CFR 251.60(i).	**GRSG-LR-SUA-ST-018-Standard** In priority habitat management areas, when a lands special-use authorization is revoked or terminated and no future use is contemplated, authorization holder must remove overhead lines and other surface infrastructure in compliance with 36 CFR 251.60(i).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
Land Ownership Adjustments		
GRSG-LR-LOA-GL-022-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, and with minority federal ownership, consider landownership adjustments to achieve a landownership pattern (e.g., consolidation, reducing fragmentation, etc.) that supports improved greater sage-grouse population trends and habitat.	**GRSG-LR-LOA-MA-021-Management Approach** In priority habitat management areas, and with minority federal ownership, consider landownership adjustments to achieve a landownership pattern (e.g., consolidation, reducing fragmentation, etc.) that supports improved greater sage-grouse population trends and habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
Greater Sage-grouse Habitat		
GRSG-GRSGH-GL-030-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, actions and authorizations should include design features to limit the spread and effect of undesirable non-native plant species.	**GRSG-GRSGH-GL-028-Guideline** In priority habitat management areas, actions and authorizations should include design features to limit the spread and effect of undesirable non-native plant species.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-GRSGH-GL-031-Guideline To facilitate safe and effective fire management actions in priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, fuel treatments in high-risk areas (i.e., areas likely to experience wildfire at an intensity level that might result in movement away from the greater sage-grouse desired conditions in Table 1 should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse attributes to move away from desired conditions (Table 1).	**GRSG-GRSGH-MA-029-Management Approach** To facilitate safe and effective fire management actions in priority habitat management areas, fuel treatments in high-risk areas (i.e., areas likely to experience wildfire at an intensity level that might result in movement away from the greater sage-grouse desired conditions in Appendix E, Table E-1 should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse attributes to move away from desired conditions (Appendix E, Table E-1).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**

No Action Alternative (Utah)	State of Utah Alternative (Utah)	Issue/Clarification
GRSG-GRSGH-GL-032-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, native plant species should be used when possible to maintain, restore, or enhance desired conditions (Table 1).	**GRSG-GRSGH-GL-030-Guideline** In priority habitat management areas, native plant species should be used when possible to maintain, restore, or enhance desired conditions (Appendix E, Table E-1).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-GRSGH-GL-033-Guideline In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, vegetation treatment projects should only be conducted if they maintain, restore, or enhance desired conditions (Table 1).	**GRSG-GRSGH-GL-031-Guideline** In priority habitat management areas, vegetation treatment projects should only be conducted if they maintain, restore, or enhance desired conditions (Appendix E, Table E-1).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
Livestock Grazing		
GRSG-LG-ST-035-Standard In priority habitat management areas, sagebrush focal areas, and Anthro Mountain, do not approve construction of water developments unless beneficial to greater sage-grouse habitat.	**GRSG-LG-ST-035-Standard** In priority habitat management area, do not approve construction of water developments that would cause adverse effects to greater sage-grouse habitat.	
GRSG-LG-GL-036-Guideline Grazing guidelines should be applied in each of the seasonal habitats in Table 3. If values in Table 3 guidelines cannot be achieved based upon a site-specific analysis using Ecological Site Descriptions, long-term ecological site potential analysis, or other similar analysis, adjust grazing management to move towards desired habitat conditions in Table 1 consistent with the ecological site potential. Do not use drought and degraded habitat condition to adjust values. Grazing guidelines in Table 3 would not apply to isolated parcels of National Forest System lands that have less than 200 acres of greater sage-grouse habitat.	**GRSG-LG-GL-036-Guideline** In greater sage-grouse habitat, if livestock grazing is limiting achievement of seasonal desired conditions, adjust livestock management, as appropriate, to address greater sage-grouse habitat requirements.	**Changing Livestock Grazing Guidelines**
Nothing in 2015 Plan	**GRSG-LG-MA-037-Management Approach** Conduct greater sage-grouse habitat assessments in allotments. If the assessment identifies the habitat is in less than desired seasonal habitat condition, determine factors limiting achievement of the desired seasonal habitat conditions.	**Changing Livestock Grazing Guidelines**

No Action Alternative (Utah)	State of Utah Alternative (Utah)	Issue/Clarification
GRSG-LG-GL-037-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, when grazing permits are waived without preference or obtained through permit cancellation, consider the agency's full range of administrative authorities for future allotment management, including but not limited to allotment closure, vacancy status for resource protection, establishment of forage reserve, re-stocking, or livestock conversion as management options to maintain or achieve desired habitat conditions (Table 1).	**GRSG-LG-GL-037-Guideline** **Delete**	**Removed-Covered in existing Forest Service policy and direction**
Fire Management		
GRSG-FM-DC-042-Desired Condition In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, protect sagebrush sage grouse habitat from loss due to unwanted wildfires or damages resulting from management related activities while using agency risk management protocols to manage for firefighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Sage grouse habitat will be prioritized as a high value resource along with other high value resources and assets.	**GRSG-FM-MA-042-Management Approach** In priority habitat management areas, protect sagebrush sage grouse habitat from loss due to unwanted wildfires or damages resulting from management related activities while using agency risk management protocols to manage for firefighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Sage grouse habitat will be prioritized as a high value resource along with other high value resources and assets.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-FM-ST-043-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, do not use prescribed fire in 12-inch or less precipitation zones unless necessary to facilitate restoration of greater sage-grouse habitat consistent with desired conditions in Table 1 or for pile burning.	**GRSG-FM-ST-043-Standard** In priority habitat management areas, do not use prescribed fire in 12-inch or less precipitation zones unless necessary to facilitate restoration of greater sage-grouse habitat consistent with desired conditions in Appendix E, Table E-1 or for pile burning.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-FM-ST-044-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, if it is necessary to use prescribed fire for restoration of greater sage-grouse habitat consistent with desired conditions in Table 1, the associated	**GRSG-FM-MA-044-Management Approach** In priority habitat management areas, if it is necessary to use prescribed fire for restoration of greater sage-grouse habitat consistent with desired conditions in Appendix E, Table E-1, the associated National Environmental Policy Act analysis	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**

No Action Alternative (Utah)	State of Utah Alternative (Utah)	Issue/Clarification
National Environmental Policy Act analysis must identify how the project would move towards greater sage-grouse desired conditions; why alternative techniques were not selected; and how potential threats to greater sage-grouse habitat would be minimized.	must identify how the project would move towards greater sage-grouse desired conditions; why alternative techniques were not selected; and how potential threats to greater sage-grouse habitat would be minimized.	**Clarification of Plan Content Definition**
GRSG-FM-GL-046-Guideline In planned fuels management activities or part of an overall vegetative management strategy to mitigate the impacts of wildfire in priority and general habitat management areas and sagebrush focal areas, when reseeding in fuel breaks, fire resistant native plant species should be used if available, or consider using fire resistance non-native species if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term.	**GRSG-FM-MA-046-Management Approach** In priority habitat management areas, when reseeding in fuel breaks, fire resistant native plant species should be used if available, or consider using fire resistance non-native species if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term (> 5 years) and will prevent fire spread into GRSG habitat.	**Clarification** **Clarification of Plan Content Definition**
GRSG-FM-GL-049-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, cross-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in greater sage-grouse habitat, impacts to the greater sage-grouse should be considered, and removal of sagebrush should be limited.	**GRSG-FM-MA-048-Management Approach** In priority habitat management areas, cross-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in greater sage-grouse habitat, impacts to the greater sage-grouse should be considered, and removal of sagebrush should be limited to the extent practicable to achieve suppression objectives.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-FM-GL-050-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.	**GRSG-FM-MA-049-Management Approach** In priority habitat management areas, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition** **Habitat Management Areas Designations**
GRSG-FM-GL-051-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, prescribed fire prescriptions should minimize undesirable effects on	**GRSG-FM-MA-050-Management Approach** In priority habitat management areas prescribed fire prescriptions should result in improvement of desired conditions for GRSG and not result in undesirable effects	**Elimination of Sagebrush Focal Areas** **Habitat Management**

No Action Alternative (Utah)	State of Utah Alternative (Utah)	Issue/Clarification
vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).	on vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).	**Areas Designations** **Clarification of Plan Content Definition**
GRSG-FM-GL-052-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, roads and natural fuel breaks should be incorporated into planned fuel break design to improve effectiveness and minimize loss of existing sagebrush habitat.	**GRSG-FM-MA-051-Management Approach** In priority habitat management areas, roads and natural fuel breaks should be incorporated into planned fuel break design to improve effectiveness and minimize loss of existing sagebrush habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-FM-GL-053-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, where practical and available, all fire-associated vehicles and equipment should be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.	**GRSG-FM-ST-052-Standard** In priority habitat management areas, all fire-associated vehicles and equipment are to be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-FM-GL-055-Guideline Localized maps of priority and general habitat management areas and sagebrush focal areas should be made available to fireline, dispatch, and fire support personnel.	**GRSG-FM-MA-054-Management Approach** Localized maps of priority habitat management areas should be made available to fireline, dispatch, and fire support personnel.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-056-Guideline In or near priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, a greater sage-grouse resource advisor should be assigned to all extended attack fires.	**GRSG-FM-MA-055-Management Approach** In or near priority habitat management areas, a greater sage-grouse resource advisor should be assigned to all extended attack fires.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**

No Action Alternative (Utah)	State of Utah Alternative (Utah)	Issue/Clarification
GRSG-FM-GL-059-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, consider using fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage; preventing the loss of other high value resources; or increasing the effectiveness of other tactical strategies. Agency administrators, their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized equipment may be approved by agency administrators, their designee, or fireline leadership.	**GRSG-FM-MA-058-Management Approach** In priority habitat management areas, use fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage; preventing the loss of other high value resources; or increasing the effectiveness of other tactical strategies. Agency administrators, their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized equipment may be approved by agency administrators, their designee, or fireline leadership.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-FM-GL-060-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, to minimize sagebrush habitat loss consider using the full range of suppression techniques to protect unburned islands, doglegs, and other greater sage-grouse habitat features that may exist within the perimeter of wildfires. These suppression objectives and activities should be prioritized against other wildland fire suppression activities and priorities.	**GRSG-FM-GL-059-Guideline** In priority habitat management areas, to minimize sagebrush habitat loss, the full range of suppression techniques should be used to protect unburned islands, doglegs, and other greater sage-grouse habitat features that may exist within the perimeter of wildfires to retain as much GRSG habitat as possible.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
Recreation		
GRSG-R-ST-062-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, do not authorize temporary recreation uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impacts on the greater sage-grouse or its habitat.	**GRSG-R-GL-060-Guideline** In priority habitat management areas, do not authorize temporary recreation uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impacts on the greater sage-grouse or its habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
Roads/Transportation		
GRSG-RT-DC-065-Desired Condition In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, within the forest transportation system and on roads and trails authorized under a special-use authorization, the	**GRSG-RT-DC-063-Desired Condition** In priority habitat management areas, within the forest transportation system and on roads and trails authorized under a special use authorization, greater sage-	**Elimination of Sagebrush Focal Areas** **Habitat Management**

No Action Alternative (Utah)	State of Utah Alternative (Utah)	Issue/Clarification
greater sage-grouse experience minimal disturbance during breeding and nesting (from March 1 to June 15) and wintering (from November 1 to February 28) periods.	grouse experience minimal disturbance and mortality.	**Areas Designations** **Clarification**
GRSG-RT-ST-066-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, do not conduct or allow new road or trail construction (does not apply to realignments for resource protection) except when necessary for administrative access to existing and authorized uses, public safety, or to access valid existing rights. If necessary to construct new roads and trails for one of these purposes, construct them to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.	**GRSG-RT-ST-064-Standard** In priority habitat management areas, do not conduct or allow new road or trail construction (does not apply to realignments for resource protection) except when necessary for administrative access to existing and authorized uses, public safety, or to access valid existing rights. If necessary to construct new roads and trails for one of these purposes, construct them to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-RT-GL-072-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, dust abatement terms and conditions should be included in road-use authorizations when dust has the potential to affect the greater sage-grouse.	**GRSG-RT-MA-066-Management Approach** In priority habitat management areas, dust abatement terms and conditions should be included in road-use authorizations when dust has the potential to affect the greater sage-grouse.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-RT-GL-073-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, road and road-way maintenance activities should be designed and implemented to reduce the risk of vehicle- or human-caused wildfires and the spread of invasive plants. Such activities include but are not limited to the removal or mowing of vegetation a car- width off the edge of roads; use of weed-free earth-moving equipment, gravel, fill, or other materials; and blading or pulling roadsides and ditches that are infested with noxious weeds only if required for public safety or protection of the roadway.	**GRSG-RT-MA-067-Management Approach** In priority habitat management areas, road and road-way maintenance activities should be designed and implemented to reduce the risk of vehicle- or human-caused wildfires and the spread of invasive plants.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification** **Clarification of Plan Content Definition**
Minerals		

No Action Alternative (Utah)	State of Utah Alternative (Utah)	Issue/Clarification
GRSG-M-FML-ST-080-Standard In priority and general habitat management areas, when authorizing development of fluid mineral resources, work with the operator to minimize impacts to the greater sage-grouse and its habitat, such as locating facilities in non-habitat areas first and then in the least suitable habitat.	**GRSG-M-FML-MA-073-Management Approach** In priority habitat management areas, when authorizing development of fluid mineral resources, work with the operator to minimize impacts to the greater sage-grouse and its habitat, such as locating facilities in non-habitat areas first and then in the least suitable habitat.	**Clarification of Plan Content Definition**
GRSG-M-FML-GL-082-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, operators should be encouraged to reduce disturbance to greater sage-grouse habitat. At the time of approval of the Surface Use Plan of Operation portion of the Application for Permit to Drill, terms and conditions should be included to reduce disturbance to greater sage-grouse habitat where appropriate and feasible and consistent with the rights granted to the lessee.	**GRSG-M-FML-GL-074-Guideline** In priority habitat management areas, the Surface Use Plan of Operation portion of the Application for Permit to Drill will include terms and conditions to reduce disturbance to greater sage-grouse habitat where appropriate, feasible, and consistent with the rights granted to the lessee.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-M-FML-GL-084-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, where the federal government owns the surface and the mineral estate is in non-federal ownership, coordinate with the mineral estate owner/lessee to apply appropriate stipulations, conditions of approval, conservation measures, and required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities.	**GRSG-M-FML-MA-076-Management Approach** In priority habitat management areas, where the federal government owns the surface and the mineral estate is in non-federal ownership, coordinate with the mineral estate owner/lessee to apply appropriate stipulations, conditions of approval, conservation measures, and required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities (Appendix G).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition** **Clarification**
Fluid- Operations		
GRSG-M-FMO-GL-088-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, during drilling operations, soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.	**GRSG-M-FMO-GL-080-Guideline** In priority habitat management areas, during drilling operations, soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-M-FMO-GL-089-Guideline	**GRSG-M-FMO-GL-081-Guideline**	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Utah)	State of Utah Alternative (Utah)	Issue/Clarification
In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, dams, impoundments, and ponds for mineral development should be constructed to reduce potential for West Nile virus. Examples of methods to accomplish this include the following: • Increase the depth of ponds to accommodate a greater volume of water than is discharged. • Build steep shorelines (greater than 2 feet) to reduce shallow water and aquatic vegetation around the perimeter of impoundments to reduce breeding habitat for mosquitoes. • Maintain the water level below that of rooted aquatic and upland vegetation. Avoid flooding terrestrial vegetation in flat terrain or low-lying areas. • Construct dams or impoundments that restrict down-slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage or lining constructed ponds in areas where seepage is anticipated. • Line the channel where discharge water flows into the pond with crushed rock or use a horizontal pipe to discharge inflow directly into existing open water. • Line the overflow spillway with crushed rock and construct the spillway with steep sides. • Fence pond sites to restrict access by livestock and other wild ungulates. • Remove or re-inject produced water. Treat waters with larvicides to reduce mosquito production where water occurs on the surface.	In priority habitat management areas, dams, impoundments, and ponds for mineral development should be constructed to reduce potential for West Nile virus.	**Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-M-FMO-GL-090-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, to keep habitat disturbance at a minimum, a phased development approach should be applied to fluid mineral operations wherever possible, consistent	**GRSG-M-FMO-GL-083-Guideline** In priority habitat management areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to fluid mineral operations wherever possible, consistent with the rights granted under the lease. Disturbed	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**

No Action Alternative (Utah)	State of Utah Alternative (Utah)	Issue/Clarification
with the rights granted under the lease. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	areas should be reclaimed as soon as they are no longer needed for mineral operations.	
Coal Mines- Unleased		
Coal Mines- Leased		
GRSG-M-CML-GL-093-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, when coal leases are subject to readjustment, additional requirements should be included in the readjusted lease to conserve, enhance, and restore greater sage-grouse and its habitat for long-term viability.	**GRSG-M-CML-GL-086-Guideline** When responding to the authorized state agency regarding mine permitting actions that cause surface disturbance, if applicable, include conditions for surface use occupancy and timing prohibitions and restrictions based on habitat present. During permitting actions and/or 5-year permit reviews, advise the state agency that the post-mining land use is wildlife habitat involving greater sage-grouse habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Regulatory Process**
Locatable Minerals		
GRSG-M-LM-GL-095-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, to keep habitat disturbance at a minimum, a phased development approach should be applied to operations consistent with the rights granted under the General Mining Act of 1872, as amended. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**GRSG-M-LM-GL-088-Guideline** In priority habitat management areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to operations consistent with the rights granted under the General Mining Act of 1872, as amended. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-M-LM-GL-096-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, abandoned mine sites should be closed or mitigated to reduce predation of the greater sage-grouse by eliminating tall structures that could provide nesting opportunities and perching sites for predators.	**GRSG-M-LM-GL-089-Guideline** In priority habitat management areas, when closing abandoned mine sites remove tall structures that could provide nesting opportunities and perching sites for predators to reduce predation of greater sage-grouse, consistent with the National Historic Preservation Act.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
Non-energy Leasable Minerals		
GRSG-M-NEL-GL-097-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, at the time of issuance of prospecting permits; exploration licenses	**GRSG-M-NEL-MA-090-Management Approach** In priority habitat management areas, include stipulations to restrict surface use, occupancy and seasonal activities for	**Elimination of Sagebrush Focal Areas** **Habitat Management**

No Action Alternative (Utah)	State of Utah Alternative (Utah)	Issue/Clarification
and leases; or readjustment of leases, the Forest Service should provide recommendations to the BLM for the protection of greater sage-grouse and its habitat.	exploration or pre-mining activities with recommendations or consent (as applicable) to issuance of prospecting permits, exploration licenses, or leases, lease modifications, lease readjustments or lease renewals. In priority habitat management areas where development would be by surface mining methods, do not consent to, or recommend, leasing in areas that exceed disturbance caps. In priority habitat management areas where development would be by underground mining methods, specify or recommend stipulations that prohibit surface use and occupancy in priority habitat management areas.	**Areas Designations** **Clarification of Plan Content Definition** **Clarification of Regulatory Process**
GRSG-M-NEL-GL-098-Guideline In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, the Forest Service should recommend to the BLM that expansion or readjustment of existing leases avoid, minimize, or mitigate the effects to the greater sage-grouse and its habitat.	**GRSG-M-NEL-MA-091-Management Approach** In priority habitat management areas, include in recommendations to the BLM regarding exploration plan or mining plans conditions to reduce invasive species, prevent fire, limit permanent tall structures and new permanent roads, and to design reclamation of surface disturbance to restore applicable greater sage-grouse habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition** **Clarification of Regulatory Process**
Mineral Materials		
GRSG-M-MM-ST-101-Standard In priority and general habitat management areas, sagebrush focal areas, and Anthro Mountain, any permit for existing mineral material operations must include appropriate requirements for operation and reclamation of the site to maintain, restore, or enhance desired habitat conditions (Table 1).	**GRSG-M-MM-ST-094-Standard** In priority habitat management areas, management of existing or expansion of existing pits, will include appropriate requirements for operation and reclamation of the site to maintain, restore, or enhance desired habitat conditions (Table 2-7a).	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Desired Conditions** **Clarification**

Table 2-9. Wyoming - Comparison of alternatives[1]

[1]Priority, connectivity, and general habitat management areas may contain non-habitat. Management direction would not apply to those areas of non-habitat if the proposed activity in non-habitat does not preclude effective sage-grouse use of adjacent habitats.

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
GRSG-GRSGH-DC-001-Desired Condition The landscape for the greater sage-grouse encompasses large contiguous areas of native vegetation, approximately 6-to-62 square miles in area, to provide for multiple aspects of species life requirements. Within these landscapes, a variety of sagebrush-community compositions exist without invasive species, which have variations in subspecies composition, co-dominant vegetation, shrub cover, herbaceous cover, and stand structure to meet seasonal requirements for food, cover, and nesting for the greater sage-grouse.	**GRSG-GEN-DC-001-Desired Condition** The landscape for the greater sage-grouse encompasses large contiguous areas of native vegetation to provide for multiple aspects of species life requirements (e.g. breeding, nesting, brood rearing, etc.). Within these landscapes, a variety of sagebrush-community compositions exist without invasive species, which have variations in subspecies composition, co-dominant vegetation, shrub cover, herbaceous cover, and stand structure to provide for food, cover, and nesting habitat for the greater sage-grouse.	**Clarification**
GRSG-GRSGH-DC-002-Desired Condition In greater sage-grouse habitat management areas, including all seasonal habitat, 70% or more of lands capable of producing sagebrush have from 10 to 30% sagebrush canopy cover and less than 10% conifer canopy cover. In addition, within breeding and nesting habitat, sufficient herbaceous vegetation structure and height provides overhead and lateral concealment for nesting and early brood rearing life stages. Within brood rearing habitat, wet meadows and riparian areas sustain a rich diversity of perennial grass and forb species relative to site potential. Within winter habitat, sufficient sagebrush height and density provides food and cover for the greater sage-grouse during this seasonal period. Specific desired conditions for the greater sage-grouse based on seasonal habitat requirements are in Table 1.	**GRSG-GEN-DC-002-Desired Condition** In greater sage-grouse habitat management areas, habitats are adequately distributed to support greater sage-grouse populations. 70% or more of lands capable of producing sagebrush have from 5 to 25% sagebrush canopy cover and less than 10% conifer cover. Areas managed for breeding and nesting provide for lek security and nest hiding cover through sufficient sagebrush canopy, sagebrush height, and perennial grass cover to deliver overhead and lateral concealment from March 15 through June 30. Areas managed for summer/brood rearing habitat July 1 through November 30 maintain wet meadows and riparian areas in proper functioning condition, sustain diverse perennial grass and forb communities, and maintain sagebrush cover in the 328 feet adjacent to riparian/mesic meadows. When breeding and nesting habitat overlaps with other seasonal habitats, habitat should be managed for breeding and nesting desired conditions. Within Winter Concentration Areas (as mapped by the State of Wyoming) sufficient sagebrush height and	**Habitat Management Areas Designations** **Modifying Desired Conditions**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
	density provides food and cover during this seasonal period.	
	GRSG- GEN -MA-003-Management Approach The values for greater sage-grouse habitat attributes in Appendix F are initial references based on range-wide habitat selection by greater sage-grouse. These initial references should be refined collaboratively to fit local habitats used by greater sage-grouse, ecological site capability, and limitations of habitat distribution. Not all areas will be capable of achieving the indicator values, due to inherent variation in vegetation communities and ecological site potential.	**Modifying Desired Conditions**
GRSG-GRSGH-ST-003-Standard Design habitat restoration projects to move towards the desired conditions in Table 1.	**GRSG-GRSGH-ST-003-Standard** Delete	**Removed- Required by 2012 Planning Rule**
GRSG-GRSGH-ST-004-Standard A soft trigger is hit when there is any deviation from normal trends in habitat or population in any given year. Normal population trends are calculated as the five-year running mean of annual population counts. Metrics include but are not limited to annual lek counts, wing counts, aerial surveys, habitat monitoring, and Density and Disturbance Calculation Tool evaluations. The Forest Service, with the assistance of the BLM, local Wyoming Game and Fish Department offices, and local sage-grouse working groups, will evaluate the metrics with the Adaptive Management Working Group on an annual basis. The purpose of these strategies is to address the localized greater sage-grouse population and habitat changes by providing the framework in which project management will change if monitoring identifies negative population and habitat anomalies to avoid crossing a hard trigger threshold. This strategy may include curtailment of activities that may adversely affect the greater sage-grouse population or habitat. In cooperation with	**GRSG- GEN -MA-004-Management Approach** A soft trigger is hit when there is any deviation from normal trends in habitat or population in any given year. Normal population trends are calculated as the five-year running mean of annual population counts. Metrics include but are not limited to annual lek counts, wing counts, aerial surveys, habitat monitoring, and Density and Disturbance Calculation Tool evaluations. The Forest Service, with the assistance of the BLM, local Wyoming Game and Fish Department offices, and local sage-grouse working groups, will evaluate the metrics with the Adaptive Management Working Group on an annual basis. The purpose of these strategies is to address the localized greater sage-grouse population and habitat changes by providing the framework in which project management will change if monitoring identifies negative population and habitat anomalies to avoid crossing a hard trigger threshold. This strategy may include curtailment of activities that may adversely affect the greater sage-grouse	**Clarification of Plan Content Definition**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
the Adaptive Management Working Group, implement an appropriate response strategy to address causal factors.	population or habitat. In cooperation with the Adaptive Management Working Group, implement an appropriate response strategy to address causal factors.	
GRSG-GRSGH-ST-005-Standard Hard triggers are considered a catastrophic indicator that the species is not responding to conservation actions or that a larger-scale impact or set of impacts is having a negative effect. Metrics include but are not limited to number of active leks, acres of available habitat, and population trends based upon lek counts. Within the range of normal population variables (five-year running mean of annual population counts), hard triggers shall be determined to take effect when two of the three metrics exceed 60 percent of normal variability for the area under management in a single year or when any of the three metrics exceed 40% of normal variability for a 3-year time period within a 5-year range of analysis. A minimum of 3 consecutive years in a 5-year period is used to determine trends (i.e., Y1-2-3, Y2-3-4, Y3-4-5). If a hard trigger is hit, the Forest Service will immediately defer issuance of discretionary authorizations for new actions for a period of 90 days. Cooperate with the Adaptive Management Working Group to initiate development of an interim response strategy within 14 days and initiate a causal factor assessment. Implement the interim response strategy within 90 days for the appropriate Biologically Significant Unit. Once the causal factor assessment has been completed, the interim strategy will be modified to adequately address the causal factors.	**GRSG-GEN-ST-005-Standard** Hard triggers are considered a catastrophic indicator that the species is not responding to conservation actions or that a larger-scale impact or set of impacts is having a negative effect. Metrics include but are not limited to number of active leks, acres of available habitat, and population trends based upon lek counts. Within the range of normal population variables (five-year running mean of annual population counts), hard triggers shall be determined to take effect when two of the three metrics exceed 60 percent of normal variability for the area under management in a single year or when any of the three metrics exceed 40% of normal variability for a 3-year time period within a 5-year range of analysis. A minimum of 3 consecutive years in a 5-year period is used to determine trends (i.e., Y1-2-3, Y2-3-4, Y3-4-5). If a hard trigger is hit, the Forest Service will immediately defer issuance of discretionary authorizations for new actions for a period of 90 days. Adaptive management actions will be reversed once the identified causal factor is resolved.	**Adaptive Management Review Process**
	GRSG-GEN-MA-006-Management Approach Cooperate with the Adaptive Management Working Group to initiate development of an interim response strategy within 14 days and initiate a causal factor	**Adaptive Management Review Process**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
	assessment. Implement the interim response strategy within 90 days for the appropriate Biologically Significant Unit. Once the causal factor assessment has been completed, the interim strategy will be modified to adequately address the causal factors. The Adaptive Management Working Group will establish a process to review and reverse adaptive management actions once the identified causal factor is resolved (e.g., returning to previous management once objectives of interim management strategy have been met).	
GRSG-GRSGH-GL-006-Guideline Within priority habitat management areas and sagebrush focal areas in northeast Wyoming, vegetation treatments in nesting and wintering habitat that would reduce sagebrush canopy to less than 15% should be restricted.	**GRSG-GEN-GL-007-Guideline** Within priority habitat management areas in northeast Wyoming, to maintain adequate nesting and wintering habitat, vegetation treatments that would reduce sagebrush canopy to less than 15% should be restricted.	**Elimination of Sagebrush Focal Areas**
GRSG-GRSGH-GL-007- Guideline When removing conifers that are encroaching into greater sage-grouse habitat, avoid persistent woodlands (i.e., old growth relative to the site or more than 100 years old).	**GRSG-GEN-GL-008-Guideline** **No change**	**Clarification**
GRSG-GRSGH-GL-008-Guideline In priority and general habitat management areas and sagebrush focal areas, actions and authorizations should be designed to limit the spread and effect of undesirable non-native plant species.	**GRSG-GEN-GL-009-Guideline** In priority, connectivity and general habitat management areas actions and authorizations should be designed to limit the spread and effect of noxious and invasive plant species.	**Elimination of Sagebrush Focal Areas**
GRSG-GRSGH-GL-009-Guideline To facilitate safe and effective fire management actions, in priority and general habitat management areas and sagebrush focal areas, fuel treatments in high- risk areas (i.e., areas likely to experience wildfire at an intensity level that might result in movement away from the greater sage-grouse desired conditions in Table 1) should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse attributes to move away from desired conditions (Table 1).	**GRSG-GEN-GL-010-Guideline** To facilitate safe and effective fire management actions, in priority and general habitat management areas, fuel treatments in high- risk areas (i.e., areas likely to experience wildfire at an intensity level that might result in movement away from the greater sage-grouse desired conditions) should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse attributes to move away from desired conditions.	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
GRSG-GRSGH-GL-010-Guideline In priority and general habitat management areas and sagebrush focal areas, native plant species should be used, when possible, to maintain, restore, or enhance desired conditions (Table 1).	**GRSG- GEN-GL-011-Guideline** In priority and general habitat management areas, native plant species should be used, when possible, to maintain, restore, or enhance desired conditions.	**Elimination of Sagebrush Focal Areas**
GRSG-GRSGH-GL-011-Guideline When breeding and nesting habitat overlaps with other seasonal habitats, habitat should be managed for breeding and nesting desired conditions (Table 1).	**GRSG-GRSGH-GL-011-Guideline** **Delete**	**Incorporated into DC-002**
Nothing in 2015 Plan	**GRSG-GEN-MA-012-Management Approach** Every 5 years or in conjunction with State of Wyoming and the Sage-grouse Interagency Team, evaluate the Habitat Management Area (HMA) Map when a demonstrated need for change exists. These evaluations will ensure that the latest version of the Wyoming Core Area maps are considered, and promote consistency across administrative boundaries. If the Sage-grouse Interagency Team adopts a new version of Wyoming Core Area maps, during the interim period before the HMAs can be amended (Plan Amendment), if projects occur in newly established Core Areas, the Forest Service would consider project level adjustments/decisions/alternatives that align with the State of Wyoming's Core Area designation and protections.	**Habitat Management Areas Designations**
Nothing in 2015 Plan	**GRSG-GEN-MA-013-Management Approach** Within the broader context of Early Detection and Rapid Response strategies for invasive species management, prioritize treatments for invasive plant populations that have the potential to impact sage-grouse habitat in priority habitat management areas.	**Treatment of Invasive Species**
Timing, Distance, Density, and Disturbance[1] [1] An exception may be made with concurrence from the next higher official that the approved action would not impair the function of the WY designated core		

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
area to provide for the current or subsequent seasonal habitat, life-history, or behavioral needs of the greater sage-grouse. Exceptions may also be granted for prescribed fire activity that is intended to protect or improve greater sage-grouse habitat over time.		
GRSG-TDDD-GL-021-Guideline[11] In priority-core habitat management areas and sagebrush focal areas, limit the density of activities related to oil and gas development or mining activities to no more than an average of one pad or mining operation per 640 acres, using the current Density Disturbance Calculation Tool process or its replacement.	**GRSG-TDDD-ST-014-Standard** In priority habitat management areas, limit the density of activities related to oil and gas development to no more than an average of one pad per 640 acres, using the current Density Disturbance Calculation Tool process or its replacement.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-TDDD-GL-022-Guideline[11] In priority habitat management areas and sagebrush focal areas, do not authorize surface disturbing activities unless all existing discrete anthropogenic disturbances cover less than 5% of the suitable habitat in the surrounding area using the current Density Disturbance Calculation Tool process or its replacement and the new use will not cause exceedance of the 5% cap. An exception is described in GRSG-M-LM-ST-097-Standard. Consider the likelihood of surface disturbing activities as a result of development of valid existing rights when authorizing new projects in priority habitat management areas.	**GRSG-TDDD-GL-015-Guideline** In priority habitat management areas, do not authorize surface disturbing activities unless all existing discrete anthropogenic disturbances cover less than 5% of the suitable habitat in the surrounding area using the current Density Disturbance Calculation Tool process or its replacement and the new use will not cause exceedance of the 5% threshold. In connectivity habitat management areas the threshold not to be exceeded is an average of 5% per 640 acres. An exception is described in GRSG-M-LM-ST-095-Standard.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-TDDD-ST-012-Standard[2] In priority habitat management areas and sagebrush focal areas, do not authorize new surface occupancy or surface disturbing activities on or within a 0.6 mile radius of the perimeter of occupied leks that are located in priority habitat management and sagebrush focal areas.	**GRSG-TDDD-GL-016-Guideline** To support breeding opportunities in priority and connectivity habitat management areas, do not authorize new surface occupancy or surface disturbing activities on or within a 0.6 mile radius of the perimeter of occupied leks.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-TDDD-ST-013-Standard[10] In general habitat management areas, do not authorize new surface occupancy or surface disturbing activities on or within a 0.25 mile radius of the perimeter of occupied leks.	**GRSG-TDDD-GL-017-Guideline** To support breeding opportunities in general habitat management areas, do not authorize new surface occupancy or surface disturbing activities on or within a	**Clarification of Plan Content Definition**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
	0.25 mile radius of the perimeter of occupied leks.	
GRSG-TDDD-GL-016-Guideline[3] In priority-core habitat management areas and sagebrush focal areas, do not authorize new surface disturbing or disruptive activities from March 15 through June30. Where credible data, based upon field analysis, support different timeframes for the seasonal restriction, dates may be shifted by either 14 days before or subsequent to the above dates, but not both.	**GRSG-TDDD-GL-018-Guideline** To support breeding and nesting in priority habitat management areas, do not authorize new surface disturbing or disruptive activities from March 15 through June 30. Where data based upon field analysis support different seasonal restriction timeframes, dates may be shifted by up to 14 days before or subsequent to the above dates, but not both.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-TDDD-GL-017-Guideline[11] Within priority-connectivity habitat management areas, do not authorize new surface disturbing or disruptive activities from March 15 through June 30 within 4 miles of a lek perimeter. Where credible data, based upon field analysis, support different timeframes for this seasonal restriction, dates may be shifted by either 14 days before or after the above dates, but not both.	**GRSG-TDDD-GL-019-Guideline** To support breeding and nesting within connectivity habitat management areas, do not authorize new surface disturbing or disruptive activities from March 15 through June 30 within 4 miles of a lek perimeter. Where data based upon field analysis, support different seasonal restriction timeframes, dates may be shifted by up to 14 days before or after the above dates, but not both.	**Habitat Management Areas Designations**
GRSG-TDDD-GL-018-Guideline[11] In general habitat management areas, do not authorize new surface disturbing or disruptive activities from March 15 to June 30 within 2 miles of the lek or lek perimeter of any occupied lek located inside general areas. Where credible data, based upon field analysis, support different timeframes for this restriction, dates may be shifted by either 14 days before or subsequent to the above dates, but not both.	**GRSG-TDDD-GL-020-Guideline** To support breeding and nesting in general habitat management areas, do not authorize new surface disturbing or new disruptive activities from March 15 to June 30 within 2 miles of the lek or lek perimeter of any occupied lek located inside general areas. Where data based upon field analysis, support different seasonal restriction timeframes, dates may be shifted by up to 14 days before or subsequent to the above dates, but not both.	**Clarification**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
GRSG-TDDD-ST-014-Standard Do not authorize new surface disturbing and disruptive activities that create noise at 10dB above ambient measured at the perimeter of an occupied lek during lekking (from March 1 to May 15) from 6 p.m. to 8 a.m. Do not include noise resulting from human activities that have been authorized and initiated within the past 10 years in the ambient baseline measurement.	**GRSG-TDDD-GL-021-Guideline** To support breeding near leks in priority habitat management areas, do not authorize new surface disturbing activities that create noise (individually or cumulatively) at 10dB above baseline noise measured at the perimeter of an occupied lek from 6 p.m. to 8 a.m. during the breeding season (March 1 to May 15). Do not include noise resulting from human activities that have been authorized and initiated within 10 years prior to the issuance of the 2015 ROD, in the ambient baseline measurement.	**Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-TDDD-ST-015-Standard In priority and general habitat management areas and sagebrush focal areas, only allow new authorized land uses if after avoiding and minimizing impacts, any remaining residual impacts to the greater sage-grouse or its habitat are fully offset by compensatory mitigation projects that provide a net conservation gain to the species, subject to valid existing rights, by applying beneficial mitigation actions. Any compensatory mitigation will be durable, timely, and in addition to what would have resulted without the compensatory mitigation as addressed in the Mitigation Framework (Appendix B).	**GRSG-TDDD-ST-022-Standard** In priority habitat management areas, only allow new authorized land uses if after avoiding and minimizing impacts, any remaining residual impacts to the greater sage-grouse or its habitat are fully offset by compensatory mitigation that provide no net habitat loss to the species, measured at the statewide scale, subject to valid existing rights, by applying beneficial mitigation actions. Any compensatory mitigation will be durable, timely, and in addition to what would have resulted without the compensatory mitigation as addressed in the State of Wyoming Greater Sage-grouse Compensatory Mitigation Framework.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Changing Net Conservation Gain**
	GRSG-TDDD-GL-023-Guideline To reduce impacts to sage-grouse in general habitat management areas, new land use authorizations may be issued, but should be collocated, as practicable, within existing designated corridors, rights-of-way, disturbances, or non-habitat areas. The authorization should consider design criteria to avoid and minimize impacts to the greater sage-grouse and its habitat.	**Adjustment of Compensatory Mitigation Frameworks** **Clarification**
	GRSG-TDDD-MA-024-Management Approach If, after avoidance and minimization, a proposed project still exceeds timing, density, disturbance, distance or noise requirements (WY Executive Order 2015-4	**Adjustment of Compensatory Mitigation Frameworks**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
	Stipulations), the Wyoming Compensatory Mitigation Framework is the primary mechanism to evaluate and quantify debits, and calculate the number of credits required for compensatory mitigation. Refer to Appendix F for the Mitigation Framework.	
GRSG-TDDD-GL-019-Guideline[11] Within mapped winter concentration areas in priority-core habitat management areas and sagebrush focal areas, do not authorize new surface disturbing or disruptive activities from December 1 through March 14 to protect priority-core and sagebrush focal area greater sage-grouse populations that use these winter concentration habitats.	**GRSG-TDDD-GL-025-Guideline** Use Forest Orders to restrict surface disturbing or disruptive activities from December 1 through March 14 in mapped Winter Concentration Areas. As new data become available regarding Winter Concentration Areas, update seasonal use maps and apply stipulations (Appendix G).	**Clarification** **Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-TDDD-GL-020-Guideline[11] Within mapped winter concentration areas in priority- connectivity and general habitat management areas, do not authorize new surface disturbing or disruptive activities from December 1 through March 14 where winter concentration areas are identified as supporting populations of greater sage-grouse that attend leks within priority-core habitat management areas and sagebrush focal areas.	**GRSG-TDDD-GL-020-Guideline**[11] **Delete**	**Deleted - Redundant with GRSG-TDDD-GL-019-Guideline**
Infrastructure		
GRSG-INFRA-GL-023-Guideline In priority habitat management areas and sagebrush focal areas, when constructing new infrastructure and during maintenance, replacement, and upgrades to existing infrastructure, impacts to the greater sage-grouse and its habitat should be mitigated. • Existing guy wires should be removed or appropriately marked with bird flight diverters to make them more visible to the greater sage-grouse in flight. Authorization of new infrastructure with guy wires should be restricted. • Power lines (distribution and transmission) should be designed to minimize wildlife-related impacts and	**GRSG-INFRA-GL-026-Guideline** In priority habitat management areas, when constructing new infrastructure and during maintenance, replacement, and upgrades to existing infrastructure, impacts to the greater sage-grouse and its habitat should be mitigated. • Existing guy wires should be removed or appropriately marked with bird flight diverters to make them more visible to the greater sage-grouse in flight. Authorization of new infrastructure with guy wires should be restricted. • Power lines (distribution and transmission) should be designed to minimize wildlife-related impacts and	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
constructed to the latest APLIC standards. • Permanent structures should be designed or sited to minimize impacts to the greater sage-grouse, with emphasis on locating and operating facilities that create movement (e.g., pump jacks) or attract frequent human use and vehicular traffic (e.g., fluid storage tanks) in a manner that will minimize disturbance of the greater sage-grouse or interference with habitat use. • Liquid gathering facilities in priority habitat management areas should be buried and reclaimed to limit or eliminate human disturbance and physical habitat disturbance. To reduce truck traffic and perching and nesting of ravens and raptors, tanks should not be placed at well locations.	constructed to the latest APLIC standards. • Permanent structures should be designed or sited to minimize impacts to the greater sage-grouse, with emphasis on locating and operating facilities that create movement (e.g., pump jacks) or attract frequent human use and vehicular traffic (e.g., fluid storage tanks) in a manner that will minimize disturbance of the greater sage-grouse or interference with habitat use. • Liquid gathering facilities in priority habitat management areas should be buried and reclaimed to limit or eliminate human disturbance and physical habitat disturbance. To reduce truck traffic and perching and nesting of ravens and raptors, tanks should not be placed at well locations.	
Lands and Realty		
Special-use Authorizations (non-recreation)		
GRSG-LR-SUA-ST-024-Standard In priority habitat management areas and sagebrush focal areas, restrict issuance of new special-use authorizations for infrastructure, such as high-voltage transmission lines, major pipelines distribution lines, and communication towers. Exceptions may include co-location and must be limited (e.g., safety needs) and based on rationale (e.g., monitoring, modeling, or best available science) that explicitly demonstrates that adverse impacts to the greater sage-grouse will be avoided with the exception. If co-location of new infrastructure cannot be accomplished, locate it adjacent to existing infrastructure, roads, or already disturbed areas and limit disturbance to the smallest footprint or where it best limits impacts to the greater sage-grouse or its habitat. Existing authorized uses will continue to be recognized.	**GRSG-LR-SUA-ST-027-Standard** In priority habitat management areas, restrict issuance of new special-use authorizations for infrastructure, such as high-voltage transmission lines, major pipelines distribution lines, and communication towers. Exceptions may include co-location and must be limited (e.g., safety needs) and based on rationale (e.g., monitoring, modeling, or best available science) that explicitly demonstrates that adverse impacts to the greater sage-grouse will be avoided with the exception. If co-location of new infrastructure cannot be accomplished, locate it adjacent to existing infrastructure, roads, or already disturbed areas and limit disturbance to the smallest footprint or where it best limits impacts to the greater sage-grouse or its habitat and refer to Standard 23 (compensatory mitigation). Existing authorized uses will continue to be recognized.	**Elimination of Sagebrush Focal Areas** **Adjustment of Compensatory Mitigation Frameworks**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
GRSG-LR-SUA-ST-025-Standard In priority and general habitat management areas and sagebrush focal areas, do not authorize temporary lands special-use permits (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on the greater sage-grouse or its habitat.	**GRSG-LR-SUA-ST-028-Standard** In priority habitat management areas, do not authorize temporary lands special-use permits (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on the greater sage-grouse or its habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-LR-SUA-ST-026-Standard In priority and general habitat management areas and sagebrush focal areas, when a lands special-use authorization is revoked or terminated and no future use is contemplated, require the authorization holder to remove overhead lines and other infrastructure in compliance with 36 CFR 251.60(i).	**GRSG-LR-SUA-ST-029-Standard** In priority and general habitat management areas, when a lands special-use authorization is revoked or terminated and no future use is contemplated, require the authorization holder to remove overhead lines and other infrastructure in compliance with 36 CFR 251.60(i).	**Elimination of Sagebrush Focal Areas**
GRSG-LR-SUA-ST-027-Standard In priority habitat management areas and sagebrush focal areas, new power transmission projects must be located within the 2-mile wide transmission line route in south-central and southwestern Wyoming or as close as technically feasible (i.e., within 0.5 mile) on either side of existing 115 kV or larger transmission lines or corridors creating a route no wider than 1 mile. These projects will not be counted against the 5% disturbance cap.	**GRSG-LR-SUA-GL-030-Guideline** In priority habitat management areas, new power transmission projects must be located within the 2-mile wide transmission line route in south-central and southwestern Wyoming or as close as technically feasible (i.e., within 0.5 mile) on either side of existing 115 kV or larger transmission lines or corridors creating a route no wider than 1 mile. These projects will not be counted against the 5% disturbance threshold.	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-LR-SUA-ST-029-Standard In priority and general habitat management areas and sagebrush focal areas, locate upgrades to existing transmission lines within the existing designated corridors or rights-of-way unless an alternate route would benefit greater sage-grouse or their habitats.	**GRSG-LR-SUA-ST-031-Standard** In priority habitat management areas, locate upgrades to existing transmission lines within the existing designated corridors or rights-of-way unless an alternate route would not have negative impacts on or benefit greater sage-grouse or their habitats.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-LR-SUA-GL-030-Guideline Authorization of new temporary meteorological towers should be restricted in priority habitat management areas and sagebrush focal areas within 2 miles of occupied greater sage-grouse leks, unless they are out of direct line of sight of an occupied lek.	**GRSG-LR-SUA-GL-032-Guideline** Authorization of new temporary meteorological towers should not be allowed in priority habitat management areas within 2 miles of occupied greater sage-grouse leks, unless they are out of direct line of sight of an occupied lek to reduce disturbance to breeding GRSG.	**Elimination of Sagebrush Focal Areas** **Clarification**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
GRSG-LR-SUA-GL-031-Guideline In priority habitat management areas and sagebrush focal areas, outside of existing designated corridors and rights-of-way, new transmission lines and pipelines should be buried to limit disturbance to the smallest footprint unless explicit rationale is provided that the biological impacts to the greater sage-grouse are being avoided. If new transmission lines and pipelines are not buried, locate them adjacent to existing transmission lines and pipelines.	**GRSG-LR-SUA-GL-031-Guideline** **Delete**	**Deleted – Redundant with GRSG-LR-SUA-ST-024-Standard**
Land Ownership Adjustments		
GRSG-LR-LOA-ST-032-Standard In priority and general management areas and sagebrush focal areas, do not approve landownership adjustments, including land exchanges, unless the action results in a net conservation gain to the greater sage-grouse or it will not directly or indirectly adversely affect greater sage-grouse conservation.	**GRSG-LR-LOA-ST-033-Standard** In priority habitat management areas, do not approve landownership adjustments, including land exchanges, unless the action results in no net habitat loss to the greater sage-grouse or it will not directly or indirectly adversely affect greater sage-grouse conservation.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Changing Net Conservation Gain**
GRSG-LR-LOA-GL-033-Guideline In priority habitat management areas and sagebrush focal areas, do not issue new discretionary written authorizations unless all existing discrete anthropogenic disturbances cover less than 5% of the total greater sage-grouse habitat within the Biologically Significant Unit and the proposed project area, regardless of ownership, and the new use will not cause exceedance of the 5% cap. Discretionary activities that might result in disturbance above 5% at the Biologically Significant Unit and proposed project area would be prohibited unless approved by the forest supervisor with concurrence from the regional forester after review of new or site-specific information that indicates the project would result in a net conservation gain at the Biologically Significant Unit and proposed project area scale. Within existing designated utility corridors, the 5% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation	**GRSG-LR-LOA-ST-034-Standard** In priority habitat management areas, do not issue new discretionary written authorizations unless all existing discrete anthropogenic disturbances cover less than 5% of the total greater sage-grouse habitat within the proposed project area, regardless of ownership, and the new use will not cause exceedance of the 5% threshold. Discretionary activities that might result in disturbance above 5% at the proposed project area would be prohibited unless approved by the forest supervisor with concurrence from the regional forester after review of new or site-specific information that indicates the project would result in no net habitat loss at the State-wide scale. Within existing designated utility corridors, the 5% disturbance threshold may be exceeded at the project area scale if the site specific NEPA analysis indicates that no net habitat loss to the species will be achieved. This exception is limited to projects that fulfill the use for which the corridors were	**Elimination of Sagebrush Focal Areas** **Changing Net Conservation Gain** **Clarification of Plan Content Definition**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
gain to the species will be achieved. This exception is limited to projects that fulfill the use for which the corridors were designated (e.g., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location. Consider the likelihood of surface disturbing activities as a result of development of valid existing rights when authorizing new projects in priority habitat management areas.	designated (e.g., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location.	
Land Withdrawal		
GRSG-LR-LW-GL-034-Guideline In priority habitat management areas and sagebrush focal areas, use land withdrawals as a tool, where appropriate, to withhold an area from activities that will be detrimental to the greater sage-grouse or its habitat.	**GRSG-LR-LW-GL-034-Guideline** **Delete**	**Deleted - Elimination of Withdrawal**
Wind Energy Development		
GRSG-WS-GL-035-Guideline In priority habitat management areas and sagebrush focal areas, restrict authorization of wind utility-scale and/or commercial energy development except for on- site power generation associated with existing industrial infrastructure (e.g., mine site).	**GRSG-WS-ST-035-Guideline** In priority habitat management areas, restrict authorization of wind utility-scale and/or commercial energy development except for on-site power generation associated with existing industrial infrastructure (e.g., mine site) to contribute GRSG conservation.	**Elimination of Sagebrush Focal Areas**
Livestock Grazing		
GRSG-LG-DC-036-Desired Condition In priority and general habitat management areas, sagebrush focal areas, and within lek buffers, livestock grazing is managed to maintain or move towards desired habitat conditions (Table 1).	**GRSG-LG-MA-036-Management Approach** In priority and general habitat management areas, livestock grazing is used as a tool to maintain or move towards desired habitat conditions.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-LG-GL-037-Guideline Grazing guidelines in Table 2 should be applied in each of the seasonal habitats in Table 2. If values in Table 2 cannot be achieved based upon a site-specific analysis using Ecological Site Descriptions, long-term ecological site potential analysis, or other similar analysis, adjust grazing management to move towards desired habitat conditions in Table 1 consistent with the ecological site potential. Do not use drought and	**GRSG-LG-GL-037-Guideline** In greater sage-grouse habitat, if livestock grazing is limiting achievement of desired conditions for seasonal habitats on capable sites, adjust livestock management, as appropriate, to address species life requirements (e.g., cover, food, shelter).	**Changing Livestock Grazing Guidelines**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
degraded habitat condition to adjust values. Grazing guidelines in Table 2 would not apply to isolated parcels of National Forest System lands that have less than 200 acres of greater sage-grouse habitat.		
Nothing in 2015 Plan	**GRSG-LG-MA-038-Management Approach** In areas where domestic livestock grazing is authorized within priority and general sage-grouse habitat, managers may use the Habitat Assessment Framework in conjunction with rangeland monitoring information, site capability, and greater sage-grouse biological use data to assess habitat conditions at the appropriate times and locations relative to the greater sage-grouse habitat attributes of interest. Ecological Site Descriptions, site potential, and historic data will be used to determine whether or not the site is capable of producing the desired greater sage-grouse habitat. If greater sage-grouse habitat condition is deteriorated or trending away from desired conditions, then assess causal factors before prescribing changes to livestock grazing management.	**Changing Livestock Grazing Guidelines**
GRSG-LG-GL-038-Guideline On the Thunder Basin National Grassland, if 90% or more of the allotment falls within nesting or brood rearing habitat, 25% of the allotment would be exempted from the breeding/nesting residual perennial grass height guidelines in Table 2.	**GRSG-LG-GL-038-Guideline** **Delete**	**Removed- No longer required due to changes made to GRSG-LG-DC-036-Desired Condition**
GRSG-LG-GL-039-Guideline In priority and general habitat management areas and sagebrush focal areas, when grazing permits are waived without preference or obtained through permit cancellation, consider the agency's full range of administrative authorities for future allotment management, including but not limited to allotment closure, vacancy status for resource protection, establishment of forage reserve, re-stocking, or livestock conversion as management options to maintain or achieve desired habitat conditions (Table 1).	**GRSG-LG-GL-039-Guideline** **Delete**	**Removed – Covered in existing Forest Service policy and direction**
GRSG-LG-GL-040-Guideline	**GRSG-LG-GL-039-Guideline**	**Clarification**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
Bedding sheep and locating camps within 0.6 miles from the perimeter of a lek during lekking (from March 1 to May 15) should be restricted.	Bedding sheep and placing camps within 0.62 miles (1 km) from the perimeter of a lek during lekking (from March 1 to April 30) should be restricted to prevent disturbance of breeding GRSG.	
GRSG-LG-GL-GL-041-Guideline From March 15 through June 30, trailing livestock should be limited to existing trails. Specific routes and timeframes should be identified; existing trails should be used; and stopovers on occupied leks should be avoided. New trailing activities should be assessed to determine a route that will minimize impacts to the greater sage-grouse and its habitats. Where credible data based upon field analysis support different timeframes for the seasonal restriction, dates may be shifted by either 14 days before or subsequent to the above dates, but not both.	**GRSG-LG-GL-GL-040-Guideline** **No Change**	
GRSG-LG-GL-042-Guideline Collision risk associated with existing fences within 1.2 miles of leks should be minimized through removal or modification (e.g. marking, laydown fences, or other design features).	**GRSG-LG-GL-041-Guideline** To minimize collision risk associated with fences, existing fences within 1.2 miles of leks should be modified through removal, marking, laydown, or other design features. New fencing within 0.6 miles of a lek would not be constructed March 15 through June 30, or on the lek itself.	**Consistency with the Wyoming Executive Order**
GRSG-LG-GL-043-Guideline In priority habitat management areas and sagebrush focal areas, new permanent livestock facilities, except fences, should not be constructed within 0.6 miles from the perimeter of occupied leks. In general habitat management areas, new permanent livestock facilities should not be constructed within 0.25 miles of occupied leks.	**GRSG-LG-GL-042-Guideline** To prevent predation from perching raptors in priority habitat management areas, new permanent livestock facilities, should not be constructed within 0.6 miles from the perimeter of occupied leks. In general habitat management areas, new permanent livestock facilities should not be constructed within 0.25 miles of occupied leks.	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-LG-GL-044-Guideline On the Thunder Basin National Grassland, where general habitat management areas overlap with Management Area 8.4 (Mineral Production), Management Area 3.63 (Black-footed Ferret Reintroduction Habitat), or other designated areas for short-grass species, livestock grazing	**GRSG-LG-GL-043-Guideline** **No Change**	

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
should be managed to meet the objectives for that Management Area.		
Fire Management		
GRSG-FM-DC-045-Desired Condition In priority and general habitat management areas and sagebrush focal areas, protect sagebrush habitat from loss due to unwanted wildfires or damages resulting from management related activities while using agency risk management protocols to manage for firefighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Greater sage-grouse habitat will be prioritized as a high value resource along with other high value resources and assets.	**GRSG-FM-MA-044-Management Approach** In priority and general habitat management areas, protect sagebrush habitat from loss due to unwanted wildfires or damages resulting from management related activities while using agency risk management protocols to manage for firefighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Greater sage-grouse habitat will be prioritized as a high value resource along with other high value resources and assets.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-ST-046-Standard In priority and general habitat management areas and sagebrush focal areas, when prescribed fire is used for fuels management or vegetation treatments, design the burn to move towards desired habitat conditions (Table 1). Restrict prescribed fire in areas of Wyoming big sagebrush, other xeric sagebrush species, where cheatgrass or other fire-invasive species occur, and/or within areas of less than 12-inch precipitation zones unless necessary for restoration of greater sage-grouse habitat consistent with desired conditions in Table 1.	**GRSG-FM-GL-045-Guideline** To maintain or improve existing habitat in priority and general habitat management areas, when prescribed fire is used for fuels management or vegetation treatments, design the burn to move towards desired habitat conditions. Avoid prescribed fire in areas where Wyoming big sagebrush, other xeric sagebrush species, cheatgrass or other fire-invasive species occur, unless beneficial to greater sage-grouse habitat consistent with desired conditions.	**Elimination of Sagebrush Focal Areas** **Clarification** **Clarification of Plan Content Definition**
GRSG-FM-ST-047-Standard In priority and general habitat management areas and sagebrush focal areas, if it is necessary to use prescribed fire for restoration of greater sage-grouse habitat consistent with desired conditions in Table 1, the associated National Environmental Policy Act analysis must identify how the project would move towards greater sage-grouse desired conditions; why alternative techniques were not selected; and how potential	**GRSG-FM-MA-046-Management Approach** In priority and general habitat management areas if it is necessary to use prescribed fire for restoration of greater sage-grouse habitat consistent with desired conditions, the associated National Environmental Policy Act analysis must identify how the project would move towards greater sage-grouse desired conditions; why alternative techniques were not selected; and how potential	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
threats to greater sage-grouse habitat would be minimized.	threats to greater sage-grouse habitat would be minimized.	
GRSG-FM-ST-048-Standard On the Thunder Basin National Grassland, where general habitat management areas overlap with Management Area 3.63 (Black-footed Ferret Reintroduction Habitat) or other designated areas for short-grass species, allow prescribed fire to meet objectives for that Management Area.	**GRSG-FM-ST-047-Standard** **No Change**	
GRSG-FM-GL-049-Guideline In planned fuels management activities or part of an overall vegetative management strategy to mitigate the impacts of wildfire in priority and general habitat management areas and sagebrush focal areas, when reseeding in fuel breaks, fire-resistant native plant species should be used if available or consider using fire-resistant non-native species if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term.	**GRSG-FM-GL-048-Guideline** In priority and general habitat management areas when reseeding in fuel breaks, fire-resistant native plant species should be used if available or use fire-resistant non-native plants only if they would not degrade greater sage-grouse habitat in the long-term.	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-FM-GL-050-Guideline Locating temporary wildfire suppression facilities (e.g., incident command posts, spike camps, helibases, mobile retardant plants) in priority and general habitat management areas and sagebrush focal areas should be avoided. When needed to best provide for firefighter or public safety or to minimize fire size in greater sage-grouse habitat, impacts to the greater sage-grouse should be considered and removal of sagebrush should be limited.	**GRSG-FM-MA-049-Management Approach** Locating temporary wildfire suppression facilities (e.g., incident command posts, spike camps, helibases, mobile retardant plants) in priority and general habitat management areas should be avoided. When needed to best provide for firefighter or public safety or to minimize fire size in greater sage-grouse habitat, impacts to the greater sage-grouse should be considered and removal of sagebrush should be limited.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-051-Guideline In priority and general habitat management areas and sagebrush focal areas, cross-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in greater sage-grouse habitat, impacts to the greater sage-grouse should be	**GRSG-FM-GL-050-Guideline** In priority and general habitat management areas, cross-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in greater sage-grouse habitat, impacts to the greater sage-grouse should be considered and removal	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
considered and removal of sagebrush should be limited.	of sagebrush should be limited to the extent practicable to achieve suppression objectives.	
GRSG-FM-GL-052-Guideline In priority and general habitat management areas and sagebrush focal areas, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.	**GRSG-FM-MA-051-Management Approach** In priority and general habitat management areas, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-053-Guideline In priority and general habitat management areas and sagebrush focal areas, prescribed fire prescriptions should minimize undesirable effects on vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).	**GRSG-FM-MA-052-Management Approach** In priority and general habitat management areas, prescribed fire prescriptions should minimize undesirable effects on vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).	**Clarification of Plan Content Definition**
GRSG-FM-GL-054-Guideline In priority and general habitat management areas and sagebrush focal areas, roads and natural fuel breaks should be incorporated into planned fuel break design to improve effectiveness and minimize loss of existing sagebrush habitat.	**GRSG-FM-MA-053-Management Approach** In priority and general habitat management areas, roads and natural fuel breaks should be incorporated into planned fuel break design to improve effectiveness and minimize loss of existing sagebrush habitat.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-055-Guideline In priority and general habitat management areas and sagebrush focal areas, where practical and available, all fire-associated vehicles and equipment should be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.	**GRSG-FM-ST-054-Standard** In priority and general habitat management areas, all fire-associated vehicles and equipment are to be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-056-Guideline	**GRSG-FM-MA-055-Management Approach**	**Clarification of Plan Content Definition**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
Unit-specific greater sage-grouse fire management related information should be added to wildland fire decision support systems (currently, the Wildland Fire Decision Support System, WFDSS); local operating plans and resource advisor plans to be used during fire situation to inform management decisions; and aid in development of strategies and tactics for resource prioritization.	Unit-specific greater sage-grouse fire management related information should be added to wildland fire decision support systems (currently, the Wildland Fire Decision Support System, WFDSS); local operating plans and resource advisor plans to be used during fire situation to inform management decisions; and aid in development of strategies and tactics for resource prioritization.	
GRSG-FM-GL-057-Guideline Localized maps of priority and general habitat management areas and sagebrush focal areas should be made available to fireline, dispatch, and fire support personnel.	**GRSG-FM-MA-056-Management Approach** Localized maps of priority and general habitat management areas should be made available to fireline, dispatch, and fire support personnel.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-058-Guideline In or near priority and general habitat management areas and sagebrush focal areas, a greater sage-grouse resource advisor should be assigned to all extended attack fires.	**GRSG-FM-MA-057-Management Approach** In or near priority and general habitat management areas, a greater sage-grouse resource advisor should be assigned to all extended attack fires.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-059-Guideline On critical fire weather days, protection of greater sage-grouse habitat should receive high consideration, along with other high values, for positioning of resources.	**GRSG-FM-MA-058-Management Approach** On critical fire weather days, protection of greater sage-grouse habitat should receive high consideration, along with other high values, for positioning of resources.	**Clarification of Plan Content Definition**
GRSG-FM-GL-060-Guideline Line officers should be involved in setting pre-season wildfire response priorities and prioritizing protection of priority and general habitat management areas and sagebrush focal areas, along with other high values. During periods of multiple fires or limited resource availability, fire management organizational structure (local, regional, national) will prioritize fires and allocation of resources in which greater sage-grouse habitat is a consideration along with other high values.	**GRSG-FM-MA-059-Management Approach** Line officers should be involved in setting pre-season wildfire response priorities and prioritizing protection of priority and general habitat management areas, along with other high values. During periods of multiple fires or limited resource availability, fire management organizational structure (local, regional, national) will prioritize fires and allocation of resources in which greater sage-grouse habitat is a consideration along with other high values.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-061-Guideline In priority and general habitat management areas and sagebrush focal areas, consider using fire retardant and	**GRSG-FM-MA-060-Management Approach** In priority and general habitat management areas consider using fire	**Clarification of Plan Content Definition**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
mechanized equipment only if it is likely to result in minimizing burned acreage; preventing the loss of other high value resources; or increasing the effectiveness of other tactical strategies. Agency administrators, their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized equipment may be approved by agency administrators, their designee, or fireline leadership.	retardant and mechanized equipment only if it is likely to result in minimizing burned acreage; preventing the loss of other high value resources; or increasing the effectiveness of other tactical strategies. Agency administrators, their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized equipment may be approved by agency administrators, their designee, or fireline leadership.	
GRSG-FM-GL-062-Guideline In priority and general habitat management areas and sagebrush focal areas, to minimize sagebrush habitat loss, consider using the full range of suppression techniques to protect unburned islands, doglegs, and other sage grouse habitat features that may exist within the perimeter of wildfires. These suppression objectives and activities should be prioritized against other wildland fire suppression activities and priorities.	**GRSG-FM-MA-061-Management Approach** In priority and general habitat management areas, to minimize sagebrush habitat loss, consider using the full range of suppression techniques to protect unburned islands, doglegs, and other sage grouse habitat features that may exist within the perimeter of wildfires.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-FM-GL-063-Guideline In wintering or breeding and nesting habitat, sagebrush removal or manipulation, including prescribed fire, should be restricted unless the removal strategically reduces the potential impacts from wildfire or supports the attainment of desired conditions.	**GRSG-FM-GL-062-Guideline** In priority habitat management areas, sagebrush removal or manipulation, including prescribed fire, should be avoided unless the removal strategically reduces the potential impacts from wildfire or supports the enhancement of habitat conditions for greater sage-grouse.	**Clarification**
Recreation		
GRSG-R-DC-064-Desired Condition In priority habitat management areas and sagebrush focal areas, recreation activities are balanced with the ability of the land to support them while meeting greater sage-grouse seasonal habitat desired conditions (Table 1) and creating minimal user conflicts.	**GRSG-R-DC-064-Desired Condition** **Delete**	**Removed- Required by 2012 Planning Rule**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
GRSG-R-ST-065-Standard In priority and general habitat management areas and sagebrush focal areas, do not authorize temporary recreation uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on the greater sage-grouse or its habitat.	**GRSG-R-GL-063-Guideline** In priority habitat management areas, do not authorize temporary recreation uses that result in loss of habitat or would have long-term negative impact on the greater sage-grouse or its habitat.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations** **Clarification of Plan Content Definition**
GRSG-R-GL-066-Guideline In priority and general habitat management areas and sagebrush focal areas habitat management areas, terms and conditions that protect and restore greater sage-grouse habitat within the permit area should be included in new recreation special-use authorizations. During renewal, amendment, or reauthorization, terms and conditions in existing permits and operating plans should be modified to protect and/or restore greater sage-grouse habitat.	**GRSG-R-MA-064-Management Approach** In priority and general habitat management areas, terms and conditions that protect and restore greater sage-grouse habitat within the permit area should be included in new recreation special-use authorizations. During renewal, amendment, or reauthorization, terms and conditions in existing permits and operating plans should be modified to protect and/or restore greater sage-grouse habitat.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-R-GL-067-Guideline In priority habitat management areas and sagebrush focal areas, new recreational facilities or expansion of existing recreational facilities (e.g., roads, trails, campgrounds), including special-use authorizations for facilities and activities, should not be approved unless the development results in a net conservation gain to the greater sage-grouse or its habitat or the development is required for visitor safety.	**GRSG-R-GL-065-Guideline** In priority habitat management areas, new recreational facilities or expansion of existing recreational facilities (e.g., roads, trails, campgrounds), including special-use authorizations for facilities and activities, should not be approved unless the development results in no net loss of greater sage-grouse habitat or the development is required for safety.	**Elimination of Sagebrush Focal Areas** **Changing Net Conservation Gain**
Roads/Transportation		
GRSG-RT-DC-068-Desired Condition In priority and general habitat management areas and sagebrush focal areas, within the forest transportation system and on roads and trails authorized under a special-use authorization, the greater sage-grouse experience minimal disturbance during breeding and nesting (from March 15 to June 30) and wintering (from December 1 to March 15) periods; dates may be shifted by either 14 days	**GRSG-RT-DC-066-Desired Condition** In priority habitat management areas, within the forest transportation system and on roads and trails authorized under a special-use authorization, the greater sage-grouse experience minimal disturbance from March 15 to June 30 within a 0.6 mile perimeter of an occupied lek where breeding, nesting, and early brood-rearing habitat is present. In Winter Concentration Areas as mapped by the State of Wyoming, there should be	**Elimination of Sagebrush Focal Areas** **Consistency with the Wyoming Executive Order**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
before or after the above dates, but not both.	minimal disturbance from December 1 to March 15. Dates may be shifted by either 14 days before or after the above dates, but not both.	
GRSG-RT-ST-069-Standard Restrict construction of new maintenance level 4 and 5 roads within 1.9 miles of the perimeter of occupied greater sage-grouse leks within priority habitat management areas and sagebrush focal areas unless construction allows decommissioning of an existing route that negatively affects the greater sage-grouse.	**GRSG-RT-ST-067-Standard** Do not construct new maintenance level 4 and 5 roads within 1.9 miles of the perimeter of occupied greater sage-grouse leks within priority habitat management areas unless construction allows decommissioning of an existing route that negatively affects the greater sage-grouse.	**Elimination of Sagebrush Focal Areas**
GRSG-RT-ST-070-Standard Do not allow any category of road construction within 0.6 miles from the perimeter of occupied leks in priority habitat management areas and sagebrush focal areas or 0.25 miles from the perimeter of occupied leks in general habitat management areas as described in GRSG-TDDD-ST-012 and 013-Standards.	**GRSG-RT-ST-068-Standard** Do not allow any category of road construction within 0.6 miles from the perimeter of occupied leks in priority habitat management areas or 0.25 miles from the perimeter of occupied leks in general habitat management areas as described in GRSG-TDDD-ST-012 and 013-Standards.	**Elimination of Sagebrush Focal Areas**
GRSG-RT-ST-071-Standard In priority habitat management areas and sagebrush focal areas, do not allow improvements to existing routes that would change route category (level 1 through 5) or capacity unless the upgrading would have minimal impact on the greater sage-grouse; is necessary for motorist safety; or eliminates the need to construct a new road.	**GRSG-RT-ST-069-Standard** In priority habitat management areas, do not allow improvements to existing routes that would change route category (level 1 through 5) or capacity unless the upgrading would have minimal impact on the greater sage-grouse; is necessary for motorist safety; or eliminates the need to construct a new road.	**Elimination of Sagebrush Focal Areas**
GRSG-RT-ST-072-Standard If necessary to construct new roads and trails in priority or sagebrush focal areas for one of the reasons listed in GRSG-RT-ST-070-Standard or to access valid existing rights, limit construction to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.	**GRSG-RT-ST-070-Standard** If necessary to construct new roads and trails in priority habitat management areas to access valid existing rights, limit construction to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-RT-ST-073-Standard In priority and general habitat management areas and sagebrush focal areas, do not allow public motor vehicle use on temporary energy development roads.	**GRSG-RT-ST-071-Standard** In priority and general habitat management areas, do not allow public motor vehicle use on temporary energy development roads.	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
GRSG-RT-GL-074-Guideline In priority and general habitat management areas and sagebrush focal areas, new roads and road realignments should be designed and administered to reduce collisions with the greater sage-grouse.	**GRSG-RT-GL-072-Guideline** In priority and general habitat management areas, new roads and road realignments should be designed and administered to reduce collisions with the greater sage-grouse.	**Elimination of Sagebrush Focal Areas**
GRSG-RT-GL-075-Guideline In priority and general habitat management areas and sagebrush focal areas, road construction within riparian areas and mesic meadows should be restricted. If not possible to restrict construction within riparian areas and mesic meadows, roads should be designed and constructed perpendicular to ephemeral drainages and stream crossings, unless topography prevents doing so.	**GRSG-RT-GL-073-Guideline** In priority and general habitat management areas, road construction within riparian areas and mesic meadows should be restricted. If not possible to restrict construction within riparian areas and mesic meadows, roads should be designed and constructed perpendicular to ephemeral drainages and stream crossings, unless topography prevents doing so.	**Elimination of Sagebrush Focal Areas**
GRSG-RT-GL-076-Guideline In priority and general habitat management areas and sagebrush focal areas, when decommissioning roads and unauthorized routes, restoration activity should be designed to move habitat towards desired conditions (Table 1).	**GRSG-RT-GL-076-Guideline** **Delete**	**Removed- Required by 2012 Planning Rule**
GRSG-RT-GL-077-Guideline In priority and general habitat management areas and sagebrush focal areas, dust abatement terms and conditions should be included in road-use authorizations when dust has the potential to affect the greater sage-grouse.	**GRSG-RT-GL-074-Guideline** In priority and general habitat management areas, dust abatement terms and conditions should be included in road-use authorizations when dust has the potential to affect the greater sage-grouse.	**Elimination of Sagebrush Focal Areas**
GRSG-RT-GL-078-Guideline In priority and general habitat management areas and sagebrush focal areas, road and road-way maintenance activities should be designed and implemented to reduce the risk of vehicle- or human-caused wildfires and the spread of invasive plants. Such activities include but are not limited to the removal or mowing of vegetation a car-width off the edge of roads; use of weed-free earth-moving equipment, gravel, fill, or other materials; and blading or pulling roadsides	**GRSG-RT-MA-075-Management Approach** In priority and general habitat management areas, road and road-way maintenance activities should be designed and implemented to reduce the risk of vehicle- or human-caused wildfires and the spread of invasive plants.	**Elimination of Sagebrush Focal Areas** **Clarification** **Clarification of Plan Content Definition**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
and ditches that are infested with noxious weeds only if required for public safety or protection of the roadway.		
Minerals		
Fluid Minerals – Unleased		
GRSG-M-FMUL-ST-079-Standard In priority and general habitat management areas and sagebrush focal areas, new oil and gas leases may be offered consistent and subject to the leasing stipulations in the timing, distance, density, and disturbance direction in the Timing, Distance, Density and Disturbance section.	**GRSG-M-FMUL-ST-076-Standard** In priority habitat management areas, new oil and gas leases that may be offered must be consistent with and include leasing stipulations for direction in the Timing, Distance, Density, and Disturbance section.	**Elimination of Sagebrush Focal Areas** **Clarification**
GRSG-M-FMUL-ST-080-Standard In priority habitat management areas and sagebrush focal areas, require geophysical exploration projects to be designed to minimize greater sage-grouse habitat fragmentation.	**GRSG-M-FMUL-ST-077-Standard** In priority habitat management areas, do not approve geophysical exploration projects unless designed to minimize impacts to greater sage-grouse to the extent possible.	**Elimination of Sagebrush Focal Areas**
Fluid Minerals – Leased		
GRSG-M-FML-ST-081-Standard In priority habitat management areas and sagebrush focal areas when approving the Surface Use Plan of Operation portion of the Application for Permit to Drill on existing leases that are not yet developed, require that leaseholders avoid and minimize surface disturbances and disruptive activities consistent with the rights granted in the lease.	**GRSG-M-FML-ST-078-Standard** In priority habitat management areas, the Surface Use Plan of Operation portion of the Application for Permit to Drill on existing leases that are not yet developed, will require avoidance and minimization of surface disturbing and disruptive activities consistent with the rights granted in the lease.	**Elimination of Sagebrush Focal Areas**
GRSG-M-FML-ST-082-Standard In priority habitat management areas and sagebrush focal areas, when facilities are no longer needed or leases are relinquished, require reclamation plans to include terms and conditions to restore habitat to desired conditions as described in Table 1.	**GRSG-M-FML-ST-079-Standard** In priority habitat management areas, when facilities are no longer needed or leases are relinquished, reclamation plans must include terms and conditions to restore habitat towards desired conditions.	**Elimination of Sagebrush Focal Areas**
GRSG-M-FML-GL-083-Guideline Compressor stations should be located on portions of a lease that are non-habitat and are not used by the greater sage-grouse and if there would be no direct, indirect, or cumulative effects on the greater sage-grouse or its habitat. If this is	**GRSG-M-FML-MA-080-Management Approach** Compressor stations should be located on portions of a lease that are non-habitat and are not used by the greater sage-grouse and if there would be no direct, indirect, or cumulative effects on the	**Clarification of Plan Content Definition**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
not possible, work with the operator to use mufflers, sound insulation, or other features to reduce noise consistent with GRSG-TDDD-ST-014-Standard.	greater sage-grouse or its habitat. If this is not possible, work with the operator to use mufflers, sound insulation, or other features to reduce noise consistent with GRSG-TDDD-ST-014-Standard.	
GRSG-M-FML-ST-084-Standard In priority and general habitat management areas and sagebrush focal areas, when authorizing development of fluid mineral resources, work with the operator to minimize impacts to the greater sage-grouse and its habitat, such as locating facilities in non-habitat areas first and then in the least suitable habitat.	**GRSG-M-FML-MA-081-Management Approach** In priority and general habitat management areas when authorizing development of fluid mineral resources, work with the operator to avoid and minimize impacts to the greater sage-grouse and its habitat, such as locating facilities in non-habitat areas first and then in the least suitable habitat.	**Clarification of Plan Content Definition**
GRSG-M-FML-GL-085-Guideline In priority and general habitat management areas and sagebrush focal areas on existing leases, operators should be encouraged to reduce disturbance to greater sage-grouse habitat. At the time of approval of the Surface Use Plan of Operation portion of the Application for Permit to Drill, terms and conditions should be included to reduce disturbance to greater sage-grouse habitat, where appropriate and feasible and consistent with the rights granted to the lessee.	**GRSG-M-FML-MA-082-Management Approach** In priority and general habitat management areas on existing leases, operators should be encouraged to reduce disturbance to greater sage-grouse habitat. At the time of approval of the Surface Use Plan of Operation portion of the Application for Permit to Drill, terms and conditions should be included to reduce disturbance to greater sage-grouse habitat, where appropriate and feasible and consistent with the rights granted to the lessee.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-M-FML-GL-086-Guideline On existing federal leases in priority and general habitat management areas and sagebrush focal areas, when surface occupancy cannot be restricted due to valid existing rights or development requirements, disturbance and surface occupancy should be limited to areas least harmful to the greater sage-grouse, based on vegetation, topography, or other habitat features.	**GRSG-M-FML-GL-083-Guideline** On existing federal leases in priority habitat management areas, when surface occupancy must be allowed due to valid existing rights or development requirements, disturbance and surface occupancy should be restricted to areas that will minimize the impact to GRSG and its habitat grouse based on vegetation, topography, or other habitat features.	**Elimination of Sagebrush Focal Areas**
GRSG-M-FML-GL-087-Guideline In priority and general habitat management areas and sagebrush focal areas, where the federal government owns the surface and the mineral estate is in non-federal ownership, coordinate with the mineral estate owner/lessee to apply	**GRSG-M-FML-MA-084-Management Approach** In priority and general habitat management areas, where the federal government owns the surface and the mineral estate is in non-federal ownership, coordinate with the mineral estate	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
appropriate stipulations, conditions of approval, conservation measures, and required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities.	owner/lessee to apply appropriate stipulations, conditions of approval, conservation measures, and required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities.	
Fluid Minerals – Operations		
GRSG-M-FMO-GL-088-Guideline In priority habitat management areas and sagebrush focal areas, do not authorize employee camps.	**GRSG-M-FMO-ST-085-Standard** In priority habitat management areas, do not authorize new employee camps.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-M-FMO-GL-089-Guideline In priority habitat management areas and sagebrush focal areas, closed-loop systems should be used for drilling operations with no reserve pits where feasible.	**GRSG-M-FMO-GL-086-Guideline** In priority habitat management areas, closed-loop systems should be used for drilling operations with no reserve pits where feasible.	**Elimination of Sagebrush Focal Areas**
GRSG-M-FMO-GL-090-Guideline In priority and general habitat management areas and sagebrush focal areas, during drilling operations, soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.	**GRSG-M-FMO-MA-087-Management Approach** In priority and general habitat management areas, during drilling operations, soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**
GRSG-M-FMO-GL-091-Guideline In priority and general habitat management areas and sagebrush focal areas, dams, impoundments, and ponds for mineral development should be constructed to reduce potential for West Nile virus. Examples of methods to accomplish this include the following: • Increase the depth of ponds to accommodate a greater volume of water than is discharged. • Build steep shorelines (greater than 2 feet) to reduce shallow water and aquatic vegetation around the perimeter of impoundments to reduce breeding habitat for mosquitoes. • Maintain the water level below that of rooted aquatic and upland vegetation. Avoid flooding terrestrial	**GRSG-M-FMO-GL-088-Guideline** In priority and general habitat management areas, dams, impoundments, and ponds for mineral development should be constructed to reduce potential for West Nile virus.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
vegetation in flat terrain or low-lying areas. • Construct dams or impoundments that restrict down-slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage or lining constructed ponds in areas where seepage is anticipated. • Line the channel where discharge water flows into the pond with crushed rock or use a horizontal pipe to discharge inflow directly into existing open water. • Line the overflow spillway with crushed rock and construct the spillway with steep sides. • Fence pond sites to restrict access by livestock and other wild ungulates. • Remove or re-inject produced water. • Treat waters with larvicides to reduce mosquito production where water occurs on the surface.		
	GRSG-M-FMO-MA-089-Management Approach Utilize the following methods to reduce to potential for West Nile virus: • Increase the depth of ponds to accommodate a greater volume of water than is discharged. • Build steep shorelines (greater than 2 feet) to reduce shallow water and aquatic vegetation around the perimeter of impoundments to reduce breeding habitat for mosquitoes. • Maintain the water level below that of rooted aquatic and upland vegetation. Avoid flooding terrestrial vegetation in flat terrain or low-lying areas. • Construct dams or impoundments that restrict down-slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage or lining constructed ponds in areas where seepage is anticipated.	**Clarification of Plan Content Definition**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
	• Line the channel where discharge water flows into the pond with crushed rock or use a horizontal pipe to discharge inflow directly into existing open water. • Line the overflow spillway with crushed rock and construct the spillway with steep sides. • Fence pond sites to restrict access by livestock and other wild ungulates. • Remove or re-inject produced water. • Treat waters with larvicides to reduce mosquito production where water occurs on the surface.	
GRSG-M-FMO-GL-092-Guideline In priority and general habitat management areas and sagebrush focal areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to fluid mineral operations, wherever possible, consistent with the rights granted under the lease. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**GRSG-M-FMO-GL-090-Guideline** In priority and general habitat management areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to fluid mineral operations, wherever practicable, consistent with the rights granted under the lease. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**Elimination of Sagebrush Focal Areas** **Clarification**
Coal Mines		
GRSG-M-CM-ST-093-Standard Apply all restrictions listed in the Timing, Distance, Density and Disturbance section to coal exploration and new coal lease projects.	**GRSG-M-CM-ST-091-Standard** For coal exploration licenses, in priority habitat management areas, prescribe stipulations as applicable for surface use and occupancy, and timing prohibitions and restrictions from GRSG-TDDD-GL-15 through 24. Recommend operating conditions for exploration plans to reduce invasive species, prevent fire, limit permanent tall structures and new permanent roads, and design reclamation of surface disturbance to restore applicable greater sage-grouse habitat.	**Reworded to make applicable to regulatory process**
GRSG-M-CM-ST-094-Standard Priority habitat management areas and sagebrush focal areas are essential habitat for maintaining the greater sage-grouse for purposes of the suitability criteria set forth at 43 CFR 3461.5(o)(1).	**GRSG-M-CM-ST-092-Standard** Priority habitat management areas are essential habitat for maintaining the greater sage-grouse for purposes of the unsuitability criteria set forth at 43 CFR 3461.5(o)(1). If consultation with the State occurs according to this criterion, apply GRSG-TDDD-GL-015 using the portion of the proposed lease that overlaps PHMA,	**Elimination of Sagebrush Focal Areas** **Reworded to make applicable to regulatory process**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
	when calculating disturbance, to determine if all or certain stipulated methods of coal mining would have long term impacts on GRSG.	
GRSG-M-CM-GL-095-Guideline In priority and general habitat management areas and sagebrush focal areas, when coal leases are subject to readjustment, additional requirements should be included in the readjusted lease to protect and reduce threats to conserve, enhance, and restore the greater sage-grouse and its habitat for long-term viability.	**GRSG-M-CM-GL-093-Guideline** When responding to the state regulatory authority regarding coal mine permitting actions that cause surface disturbance other than mining, in priority habitat management areas, forward applicable conditions for surface use and occupancy, and timing prohibitions and restrictions from GRSG-TDDD-ST-15 through 24. During permitting actions and/or 5-year permit reviews involving lands that contain priority habitat management areas, for reclamation requirements, advise the state regulatory authority that the post-mining land use is wildlife habitat involving greater sage-grouse.	**Reworded to make applicable to regulatory process for readjustment and reclamation**
Locatable Minerals		
GRSG-M-LM-ST-096-Standard In priority habitat management areas and sagebrush focal areas, only approve Plans of Operation with mitigation to protect the greater sage-grouse and its habitat, consistent with the rights of the mining claimant as granted by the Mining Law of 1872, as amended.	**GRSG-M-LM-ST-094-Standard** In priority habitat management areas, only approve Plans of Operation with appropriate avoidance, minimization, and compensatory mitigation to protect the greater sage-grouse and its habitat, consistent with the rights of the mining claimant as granted by the Mining Law of 1872, as amended.	**Elimination of Sagebrush Focal Areas** **Habitat Management Areas Designations**
GRSG-M-LM-ST-097-Standard The disturbance cap described in GRSG-TDDD-ST-022- Standard will not be applied to foreclose development of locatable minerals on unpatented claims located under the General Mining Act of 1872, as amended; the disturbance from locatable mining will be accounted for when determining the percent disturbance and whether the cap has been exceeded.	**GRSG-M-LM-ST-095-Standard** The disturbance thresholds described in GRSG-TDDD-GL-015- Guideline will not be applied to foreclose development of locatable minerals on unpatented claims located under the General Mining Act of 1872, as amended; the disturbance from locatable mining will be accounted for when determining the percent disturbance and whether the threshold has been exceeded.	**Clarification**
Non-energy Leasable Minerals		
GRSG-M-NEL-GL-098-Guideline In priority and general habitat management areas and sagebrush focal areas, at the time of issuance of prospecting permits; exploration licenses	**GRSG-M-NEL-MA-096-Management Approach** In priority and general habitat management areas, include stipulations to restrict surface use, occupancy and	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
and leases; or readjustment of leases for non-energy leasable minerals, the Forest Service should provide recommendations to the BLM for the protection of the greater sage-grouse and its habitats.	seasonal activities for exploration or pre-mining activities with recommendations or consent (as applicable) to issuance of prospecting permits, exploration licenses, or leases, lease modifications, lease readjustments or lease renewals. In priority habitat management areas where development would be by surface mining methods, do not consent to, or recommend against, leasing in priority or general habitat management areas in established distances from leks. Consider disturbance thresholds when assessing whether or not to consent to, or recommend leasing. In priority habitat management areas where development would be by underground mining methods, specify or recommend stipulations that prohibit surface use and occupancy in priority habitat management areas.	**Clarification of Regulatory Process**
GRSG-M-NEL-GL-099-Guideline In priority and general habitat management areas and sagebrush focal areas, the Forest Service should recommend to the BLM that expansion or readjustment of existing leases avoid, minimize, or mitigate the effects to the greater sage-grouse and its habitat.	**GRSG-M-NEL-MA-097-Management Approach** In priority and general habitat management areas, include in recommendations to the BLM regarding exploration plan or mining plans conditions to reduce invasive species, prevent fire, limit permanent tall structures and new permanent roads, and to design reclamation of surface disturbance to restore applicable greater sage-grouse habitat.	**Elimination of Sagebrush Focal Areas** **Clarification of Plan Content Definition** **Clarification of Regulatory Process**
Mineral Materials		
GRSG-M-MM-ST-100-Standard Apply all restrictions listed in the Timing, Distance, Density and Disturbance section to authorizations for mineral material sales and free use.	**GRSG-M-MM-ST-098-Standard** **No Change**	
GRSG-M-MM-ST-101-Standard Permits for mineral material operations in priority, sagebrush focal, or general sage-grouse habitat management areas must include appropriate requirements for reclamation of the site to maintain,	**GRSG-M-MM-ST-099-Standard** Permits for mineral material operations in priority or general sage-grouse habitat management areas must include appropriate requirements for reclamation	**Elimination of Sagebrush Focal Areas**

No Action Alternative (Wyoming)	Proposed Action (Wyoming)	Issue/Clarification
restore, or enhance desired habitat conditions (Table 1).	of the site to maintain, restore, or enhance desired habitat conditions.	
Predators		
GRSG-PR-GL-102-Guideline Efforts by other agencies to minimize impacts from predators on the greater sage-grouse should be supported and encouraged where needs have been documented.	**GRSG-PR-MA-100-Management Approach** **No Change**	**Clarification of Plan Content Definition**

2.6 PREFERRED ALTERNATIVE

Forest Service regulations require the agency to identify a preferred alternative in the Draft EIS (40 CFR 1502.14). The preferred alternative represents those goals, objectives, and actions determined to be most effective at resolving planning issues and balancing resource use at this stage of the process. The Forest Service has identified the Proposed Action as the preferred alternative.

It is important to note that the identification of a preferred alternative does not constitute a final decision, and there is no requirement that the preferred alternative identified in this DEIS be selected as the agency's decision in the ROD.

2.7 PLAN EVALUATION, MONITORING, AND ADAPTIVE MANAGEMENT

Plan evaluation is the process by which the plan and monitoring data are reviewed to determine if management objectives are being met and progress is being made toward meeting management goals and if management direction is sound. LMP evaluations determine if decisions are being implemented, if mitigation measures are satisfactory, if there are significant changes in the related plans of other entities, if there are new data of significance to the plan, and if decisions should be amended or revised.

Plan monitoring provides the information needed to determine if a change in plan components or content is needed and measures management effectiveness and progress toward achieving or maintaining desired conditions. The Forest Service would use LMP evaluations to determine if the plan amendment approved by the decision is still valid in light of new information and monitoring data. Evaluations would follow the process established by the Forest Service Land Management Planning Handbook (FSH 1909.12).

This DEIS also includes adaptive management strategies that can be found in the Appendices for each state. These appendices are associated with the Proposed Action and the State of Utah alternative.

CHAPTER 3 - Affected Environment

3.1 INTRODUCTION

The purpose of this chapter is to describe the existing biological, physical, and socioeconomic characteristics of the planning area, including human uses that could be affected by implementing the alternatives described in Chapter 2. The affected environment provides the context for assessing potential impacts described in Chapter 4. The resource topics included in this chapter reflect those in Table 1-2 as corresponding to an issue carried forward for detailed analysis in the 2015 Final Environmental Impact Statement (FEIS).

The geographic extent of this environmental analysis is the same as that in the 2015 FEIS. The FS acknowledges that there have been changes to the landscape since 2015; however, due to the scale of this analysis covering 5.2 million acres of FS-administered lands, habitat monitoring data collected consistently across the range (including sagebrush availability, habitat degradation, and energy and mining density) indicate that the extent of these changes to the landscape are relatively minimal. For example, FS habitat monitoring data collected and analyzed annually at the biologically significant unit (BSU) scale, as outlined in the Greater Sage-Grouse Monitoring Framework (Appendix D of the 2015 ROD/LUPA), indicates that natural and human caused disturbances impacted less than 1 percent of PHMA range-wide from 2015 through 2017.

Management decisions and actions taken by the Forest Service since publication of the 2015 FEIS and ROD have been consistent with the ROD. The FS will continue to implement the decisions in the 2015 ROD and any decisions and authorizations that include reference to and content from the 2015 ROD, unless those decisions are amended.

Acreage figures and other numbers were approximated using geographic information systems (GIS) technology; they do not reflect exact measurements or precise calculations.

3.1.1 GREATER SAGE-GROUSE LITERATURE, 2015–2018

To inform the consideration of whether to amend some, all, or none of the 2015 Greater Sage-Grouse land management plans (LMPs), the BLM requested the USGS to develop an annotated bibliography of greater sage-grouse science published since January 2015 (Carter et al. 2018) and a report that synthesized and outlined the potential management implications of this new science (Hanser et al. 2018).

Following issuance of the 2015 Greater Sage-Grouse Plan Amendments, the scientific community has continued to improve the knowledge available to inform implementation of management actions and an overall understanding of Greater Sage-Grouse populations, their habitat requirements, and their response to human activity. The report discussed the science related to six major topics identified by an interagency team, which are summarized below:

- Multiscale habitat suitability and mapping tools
- Discrete human activities

- Diffuse activities
- Fire and invasive species
- Restoration effectiveness
- Population estimation and genetics

Multiscale Habitat Suitability and Mapping Tools

Greater sage-grouse habitat is analyzed at the broad, mid-, fine, and site scales. At the broad scale (range-wide) and mid-scale (population and sub-population) scales, higher resolution geospatial information allows for better understanding of habitat characteristics, which in turn improves modeling techniques. Advances in modeling and mapping techniques at these scales can help inform allocations and targeting of land management resources to benefit greater sage-grouse conservation. These tools and modelling output have in some cases produced improved maps that are reflected in proposed actions for some states; in other states they do not indicate a need for change in habitat management. The FS has described the process required to determine if changes are needed to habitat management areas boundaries and how to proceed in using an interagency method (Table 2-4).

At the fine scale (home ranges and seasonal habitats) and site scale (within seasonal habitats and daily use sites), the existing state of knowledge for greater sage-grouse habitat use has been described and synthesized (Connelly et al. 2000, 2011; Hagen et al. 2007; Stiver et al. 2015). This information was included in the Seasonal Habitat Desired Conditions for GRSG tables in the 2015 FEISs (USDI BLM and USDA FS 2015). The science developed since 2015 largely corroborates the knowledge prior to 2015 regarding greater sage-grouse habitat selection; namely that sage-grouse select large, relatively flat, intact sagebrush landscapes with very low human disturbance.

Specific to nesting and brood-rearing habitat, scientific literature published since 2015 demonstrates that there is not as strong a correlation between grass height and nest success as previously believed. This new information indicates a need to reevaluate guidelines from the 2015 ROD specific to grazing. Other site-scale vegetation measurements, especially sagebrush cover, remain important for sage-grouse habitat use and survival and are critical for identifying desired habitat conditions (Hanser et al. 2018).

Discrete Human Activities

The science developed since 2015 corroborates the knowledge prior to 2015 regarding the impact of discrete human activities on greater sage-grouse. New science suggests that strategies to limit surface disturbance may be successful at limiting range-wide population declines, but they are not expected to reverse the declines, particularly where active oil and gas operations are present (Hanser et al. 2018). This information may have relevance when considering the impact of changes to management actions designed to limit discrete disturbances.

Diffuse Activities

The science developed since 2015 does not appreciably change the knowledge prior to 2015 regarding diffuse activities (e.g., livestock grazing, predation, hunting, wild horses and burros, fences, recreation); however, some study authors questioned current assumptions, provided refinements, or corroborated existing understanding.

- Studies have shown that the effects of livestock grazing will vary with grazing intensity and season.
- Predation can be limiting to greater sage-grouse populations in areas with overabundant predator numbers or degraded habitats. Application of predator control has potential short-term benefits in small, declining populations; however, reducing human subsidies may be necessary to generate long-term changes in raven numbers. This is because raven control has produced only short-term declines in local raven populations.
- Refinements to the current hunting seasons used by state wildlife agencies may minimize potential effects on greater sage-grouse populations, but none of the studies implicated current application of hunting seasons and timings as a plausible cause for greater sage-grouse declines.
- No new insights into the effects of wild horses and burros, fence collision, or recreational activity on greater sage-grouse have been developed (Hanser et al. 2018).

Fire and Invasive Species

Science since 2015 indicates that wildfire will continue to threaten greater sage-grouse through loss of available habitat, reductions in multiple vital rates (survival and recruitment), and declining population trends, especially in the western part of its range. The concepts of resilience after wildfire and resistance to invasion by nonnative annual grasses have been mapped across the sagebrush ecosystem using links to soil temperature and moisture regimes. These concepts inform restoration and management strategies and help prioritize application of greater sage-grouse management resources (Hanser et al. 2018).

Restoration Effectiveness

Since 2015, tools have been developed to help managers strategically place and design restoration treatments where they will have the greatest benefit for greater sage-grouse. New publications have also contributed to our understanding of success following treatments aimed at restoring habitat:

- Vegetation treatment methods and site potential can affect post-treatment vegetation characteristics.
- Conifer removal benefits greater sage-grouse through increased female survival and nest and brood success.
- Sagebrush manipulation treatments seem to benefit greater sage-grouse populations and brood-rearing habitat availability, but benefits may be limited to areas with high sagebrush cover at higher elevations and in mountain big sagebrush (*Artemisia tridentata vaseyana*) communities.
- Studies indicate that greater sage-grouse populations did not benefit from, or were negatively affected by, prescribed fire and mechanical sagebrush removal treatments (Hanser et. al. 2018).

Restoration activities occur mainly at the Ranger District project level, and the FS maintains the flexibility to incorporate new tools in the agency's project planning for restoration actions.

Population Estimation and Genetics

Although all lands and sage-grouse leks cannot be precisely surveyed, the accuracy of estimating greater sage-grouse populations has increased because of improved sampling procedures used to complete count surveys at leks and the development of correction factors for potential bias in lek count data. In addition, techniques to map greater sage-grouse genetic structure at multiple spatial scales has improved. This genetic data is used in statistical models to increase understanding of how landscape features and configuration affect gene flow. This understanding emphasizes the importance of maintaining connectivity between populations to ensure genetic diversity and distribution (Hanser et al. 2018). New information continues to affirm the FS's understanding that greater sage-grouse is a species that selects for large, intact landscapes and habitat patches.

3.2 RESOURCES AFFECTED

Per Chapter 1 (see Section 1.5), the following resources may have potential effects based on the actions considered in Chapter 2. Table 3-1, below, provides the location of baseline information in the 2015 FEISs (BLM and FS 2015), and, where applicable, additional information contained in the Sagebrush Focal Area Withdrawal Draft EIS (BLM 2016).

Table 3-1. Resource topics carried forward for additional analysis.

Resource Topic	State	Location of Baseline Information
Special Status Species- Greater Sage-Grouse (and Habitat)	CO	Chapter 3, Section 3.3, pages 3-33 to 3-81 (BLM and FS 2015)
	ID	Chapter 3, Section 3.5, pages 3-5 to 3-23 (BLM and FS 2015)
	NV	Chapter 3, Section 3.2, pages 3-3 to 3-41 (BLM and FS 2015)
	UT	Chapter 3, Section 3.3, pages 3-4 to 3-44 (BLM and FS 2015)
	WY	Chapter 3, Section 3.14, pages 3-232 to 3-337 (BLM and FS 2015)
	All	Chapter 3, Section 3.7, pages 3-139 to 3-180 (BLM 2016)
Vegetation (Including Invasive, Exotic Species, and Noxious Weeds)	CO	Chapter 3, Section 3.5, page 3-92 to 3-109 (BLM and FS 2015)
	ID	Chapter 3, Section 3.3, page 3-23 to 3-41 (BLM and FS 2015)
	NV	Chapter 3, Section 3.3, page 3-41 to 3-57 (BLM and FS 2015)
	UT	Chapter 3, Section 3.8, page 3-64 to 3-99 (BLM and FS 2015)
	WY	Chapter 3, Section 3.16, page 3-356 to 3-403 (BLM and FS 2015)
	All	Chapter 3, Section 3.6, page 3-128 to 3-138 (BLM 2016)
Livestock Grazing (Range Management)	CO	Chapter 3, Section 3.12, page 3-159 to 3-167 (BLM and FS 2015)
	ID	Chapter 3, Section 3.8, page 3-65 to 3-71 (BLM and FS 2015)
	NV	Chapter 3, Section 3.8, page 3-93 to 3-101 (BLM and FS 2015)
	UT	Chapter 3, Section 3.8, page 3-64 to 3-999 (BLM and FS 2015)
	WY	Chapter 3, Section 3.7, page 3-74 to 3-97 (BLM and FS 2015)
Land Use and Realty (including Renewable Energy)	CO	Chapter 3, Section 3.4, page 3-81 to 3-92 (BLM and FS 2015)
	ID	Chapter 3, Section 3.11, page 3-84 to 3-98 (BLM and FS 2015)
	NV	Chapter 3, Section 3.11, page 3-110 to 3-121 (BLM and FS 2015) Chapter 3, Section 3.12, page 3-121 to 3-124 (BLM and FS 2015)
	UT	Chapter 3, Section 3.19, page 3-180 to 3-190 (BLM and FS 2015) Chapter 3, Section 3.20, page 3-190 to 3-199 (BLM and FS 2015)
	WY	Chapter 3, Section 3.5, page 3-50 to 3-71 (BLM and FS 2015)
Mineral and Energy Resources	CO	Chapter 3, Section 3.7, page 3-116 to 3-134 (BLM and FS 2015) Chapter 3, Section 3.8, page 3-134 to 3-138 (BLM and FS 2015) Chapter 3, Section 3.9, page 3-138 to 3-141 (BLM and FS 2015)

Resource Topic	State	Location of Baseline Information
	ID	Chapter 3, Section 3.12, page 3-98 to 3-117 (BLM and FS 2015)
	NV	Chapter 3, Section 3.13, page 3-124 to 3-143 (BLM and FS 2015)
	UT	Chapter 3, Section 3.21, page 3-199 to 3-224 (BLM and FS 2015)
	WY	Chapter 3, Section 3.8, page 3-97to 3-142 (BLM and FS 2015)
	All	Chapter 3, Section 3.4, page 3-2 to 3-8 (BLM 2016)
Comprehensive Travel Management (Transportation and Access Management)	CO	Chapter 3, section 3.10, page 3-141 to 3-149 (BLM and FS 2015)
	ID	Chapter 3, section 3.10, page 3-78 to 3-84 (BLM and FS 2015)
	NV	Chapter 3, section 3.10, page 3-104 to 3-110 (BLM and FS 2015)
	UT	Chapter 3, section 3.18, page 3-177 to 3-180 (BLM and FS 2015)
	WY	Chapter 3, section 3.15, page 3-337 to 3-356 (BLM and FS 2015)
Recreation	CO	Chapter 3, section 3.11, page 3-149 to 3-159 (BLM and FS 2015)
	ID	Chapter 3, section 3.9, page 3-71 to 3-78 (BLM and FS 2015)
	NV	Chapter 3, section 3.9, page 3-101 to 3-104 (BLM and FS 2015)
	UT	Chapter 3, section 3.17, page 3-171 to 3-177 (BLM and FS 2015)
	WY	Chapter 3, section 3.10, page 3-152 to 3-169 (BLM and FS 2015)
Riparian Areas and Wetlands and Water Resources	CO	Chapter 3, section 3.5, page 3-92 to 3-109 (BLM and FS 2015) Chapter 3, section 3.15, page 3-186 to 3-196 (BLM and FS 2015)
	ID	Chapter 3, Section 3.3, page 3-23 to 3-41 (BLM and FS 2015) Chapter 3, Section 3.15, page 3-139 to 3-143 (BLM and FS 2015)
	NV	Chapter 3, Section 3.4, page 3-58 to 3-61 (BLM and FS 2015) Chapter 3, Section 3.15, page 3-154 to 3-164 (BLM and FS 2015)
	UT	Chapter 3, Section 3.7, page 3-60 to 3-64 (BLM and FS 2015) Chapter 3, Section 3.8, page 3-64 to 3-99 (BLM and FS 2015)
	WY	Chapter 3, Section 3.18, page 3-415 to 3-449 (BLM and FS 2015)
Wildland Fire	CO	Chapter 3, Section 3.6, page 3-109 to 3-116 (BLM and FS 2015)
	ID	Chapter 3, Section 3.7, page 3-57 to 3-65 (BLM and FS 2015)
	NV	Chapter 3, Section 3.7, page 3-82 to 3-93 (BLM and FS 2015)
	UT	Chapter 3, Section 3.7, page 3-154 to 3-163 (BLM and FS 2015)
	WY	Chapter 3, Section 3.14, page 3-449 to 3-462 (BLM and FS 2015)

3.2.1 GREATER SAGE-GROUSE AND ITS HABITAT

The existing condition of greater sage-grouse in the planning area is described in the respective states' 2015 FEIS in the sections listed in Table 3-1 (Special Status Species- Greater Sage-Grouse and Habitat); therefore, except as otherwise expressly indicated by new or updated information contained in this section, the affected environment for greater sage-grouse described in the 2015 FEISs are hereby incorporated by reference.

Since 2015, the BLM and Forest Service have been implementing the greater sage-grouse conservation measures outlined in the 2015 FEIS. In addition to working with partners, such as state wildlife agencies and USGS, to monitor the status of greater sage-grouse populations in the planning area, the FS has also been tracking human disturbance, wildland fire, and reclamation/restoration efforts in greater sage-grouse habitat management areas.

GREATER SAGE-GROUSE POPULATION STATUS

Table 3-2 shows very broad greater sage-grouse population counts at a state-wide level. Research has

not delineated population trends by land ownership or region, so habitat trends cannot be surmised by these numbers. Data is collected and reported by state wildlife agencies.

Table 3-2. Greater sage-grouse population counts by state.

	GRSG Male Bird Counts on Leks			
	2014	**2015**	**2016**	**2017**
Colorado[1]	ND	ND	2,245	3,904
Idaho[2]	11,963	13,083	16,089	12,888
Nevada[2]	8,869	11,907	12,661	10,721
Utah[3]	4,449	5,332	5,183	4,423
Wyoming[2]	20,211	36,233	42,433	36,948

[1]Northwest Colorado and North Park males counted on leks
[2]Total state count, males on leks
[3]Sage-grouse Management Area males counted on leks only

3.2.2 VEGETATION

Existing conditions for vegetation, including invasive species, in the planning area are described in the 2015 FEISs (Table 3-1), as well as in the 2016 DEIS (BLM 2016) (Table 3-1). This section identifies additions or changes which are applicable to the analysis and decision-making process.

Table 3-3 identifies the treatments implemented by the FS to restore or improve greater sage-grouse in 2016 and 2017. Habitat improvement projects include meadow restoration, installation of fence markers, spring exclosures, and road decommissioning.

Table 3-3. Acres of greater sage-grouse conservation actions.

	Conifer Removal		Invasive Species Treatment		Habitat Improvement	
	2016	**2017**	**2016**	**2017**	**2016**	**2017**
Region 2						
Colorado[1]						
Wyoming		170	4,816	1,443	8,436	10,430
Region 4						
Idaho		1,137		2,400		46,003
Nevada	6,793	7,936		5,570	16,999	116,605
Utah					6,947	15,897

[1]All data from Medicine Bow-Routt NF shown under WY although some acres may be in CO

3.2.3 RIPARIAN AREAS AND WETLANDS AND WATER RESOURCES

The existing condition of riparian areas, wetlands, and water resources in the planning area is described in the 2015 FEISs (Table 3-1). Riparian areas, wetlands, and water resources remain generally as described in the 2015 FEISs and impacts on greater sage-grouse are also as disclosed. Authorized activities relevant to riparian areas, wetlands, and water resources within greater sage-grouse habitat include stream channel and meadow restoration projects, spring improvements, and riparian exclosure fences.

Since 2015, authorized activities relevant to riparian areas, wetlands, and water resources within greater sage-grouse habitat were consistent with the state-specific 2015 ROD direction (USDA FS 2017b and USDA FS 2018d). The FS continues to manage riparian areas, wetlands, and water resources within greater sage-grouse habitat following the management direction in the 2015 decision.

3.2.4 LAND USE AND REALTY (INCLUDING RENEWABLE ENERGY)

The existing condition of land use and realty in the planning area is described in the 2015 FEISs (Table 3-1). The lands and realty program remains as described in the 2015 FEISs and the program's impacts on greater sage-grouse are also as disclosed. Land use authorization requests are customer driven. Within the planning area, most authorizations processed are for roads, electric distribution lines, small buried fiber optic lines, and communications sites. Major ROWs are those large-scale utility projects, such as for 500kV electric transmission, wind, and solar development. The FS has not received applications for large-scale utility projects in the planning area since 2015.

Since 2015, authorized lands and realty actions were consistent with the state-specific 2015 ROD direction (USDA FS 2017b and USDA FS 2018d). The FS continues to manage the Lands and Realty programs following the management direction in the 2015 decision.

3.2.5 HUMAN DISTURBANCE

Human disturbance was discussed in the 2015 FEISs (Colorado, Section 3.3.1; Idaho, Section 3.2.3; Nevada, Section 3.2.4; Utah, Section 3.3.6; Wyoming, Section 3.14.1). The BLM has tracked human disturbance in PHMAs from 2015 to 2017 (BLM Anthropogenic Disturbance Database), which is summarized in Table 3-4. Human disturbance has incrementally increased in all the states, with a total average of 0.89% of all PHMA annually.

Table 3-4. Broad scale estimates of anthropogenic disturbance[1].

State	BSU Acres	Acres of PHMA in BSU	Disturbance Estimate 2015		Disturbance Estimate 2016		Disturbance Estimate 2017	
			Acres of Disturbance on PHMA	% of PHMA	Acres of Disturbance on PHMA	% of PHMA	Acres of Disturbance on PHMA	% of PHMA
Colorado	3,831,829	2,363,984	36,255	1.62%	36,423	1.64%	36,856	1.66%
Idaho[2]	8,504,747	8,504,757	42,688	0.52%	43,201	0.53%	43,386	0.53%
Nevada[3]	34,915,581	11,958,171	62,560	0.47%	65,249	0.48%	65,553	0.48%
Utah	5,587,896	5,470,326	51,097	0.99%	53,517	1.02%	54,202	1.03%
Wyoming	14,968,085	14,376,688	105,599	0.74%	109,996	0.75%	111,925	0.77%
Total	67,808,138	42,673,926	298,199	0.87%	308,386	0.88%	311,922	0.89%

[1]Estimates are cumulative over time
[2]IHMA included in Idaho totals
[3]California BSUs omitted

3.2.6 LIVESTOCK GRAZING

The existing condition of livestock grazing/range management in the planning area is described in the 2015 FEISs (Table 3-1). Livestock grazing/range management remains as described in the 2015 FEISs and the program's impacts on greater sage-grouse are also as disclosed.

In the report that synthesized and outlined the potential management implications of new science (Hanser et al. 2018, Section 3.3.3), livestock grazing was included within the diffuse activities topics. Literature published and reviewed in Hanser et al. 2018 did not appreciably change knowledge of the effects of livestock grazing on sage-grouse. The studies questioned current assumptions, provided refinements, or corroborated existing understanding. Studies demonstrated that grazing impacts to sage-grouse habitat, resulting in a population level effect, is dependent on grazing intensity and timing relative to vegetation phenology and productivity.

During the development of the 2015 Greater Sage-Grouse Plan Amendments grazing guidelines, peer-reviewed research (Hagen et al. 2007, Holloran et al. 2005, Connelly et al. 2000, Doherty et al. 2014) indicated a relationship between perennial grass height and sage-grouse nest success. This research was foundational to the assumption that livestock grazing occurring within sage-grouse nesting habitat during the nesting season must be managed so that in breeding/nesting habitat, 7 inch droop height of perennial grass species is present at the end of the nesting period and in breeding/nesting habitat, 4 inch droop height of perennial grass species is present at the end of the growing season to ensure nest success; and in summer/brood-rearing habitat, 4 inch stubble height of for herbaceous riparian/mesic meadow vegetation is present at the end of the grazing period for brood-rearing success. The 2015 Greater Sage-Grouse Plan Amendments grazing guidelines were developed as conservation measures consistent with the findings of this research to reduce/ameliorate the threat of livestock grazing to nesting sage-grouse.

After the issuance of the RODs in September 2015, several greater sage-grouse researchers found there may be a significant and overlooked bias in research that linked greater sage-grouse nest success to grass height. Subsequent to 2015, there have been several publications that document the bias of plant phenology and timing of measurements of grass heights, which resulted in an over-estimate of the importance of grass height as a significant factor in nesting success (Gibson et al. 2016, Sage Grouse Initiative 2017, Smith et al. 2017a, Smith et al. 2017b).

Current literature also indicates that grazing forage use levels in mesic meadows and riparian areas, rather than stubble height, are consistent with either maintenance or improvement of sage-grouse brood-rearing habitat. Research suggests that moderate livestock grazing or less in mid to late summer, fall, or winter is generally compatible with the maintenance of perennial grasses and forbs in sagebrush habitat (Pechanec and Stewart 1949, Mueggler 1950, Laycock and Conrad 1967, 1981, Gibbens and Fisser 1975, Miller et al. 1994, Bork et al. 1998). Moderate use has traditionally been defined as occurring within the range of 40–60% utilization by weight, however, generalizing a specific level of utilization that represents "proper use" can be difficult (Caldwell 1984). However, moderate utilization by livestock in spring, early summer, or winter is sustainable in non-degraded meadow and riparian areas within sagebrush habitat (Shaw 1992, Clary et al. 1996, Mosley et al. 1997). Moderate use equates to a 10-cm (4 inch) residual stubble height for most grasses and sedges and 5-cm (2 inch) for Kentucky bluegrass (Mosley et al. 1997, Clary and Leininger 2000).

In riparian brood-rearing habitat, sage-grouse prefer the lower vegetation (5–15 cm vs. 30–50 cm; Oakleaf 1971, Neel 1980, Klebenow 1982, Evans 1986) and succulent forb growth stimulated by moderate livestock grazing (Neel 1980, Evans 1986). Brood-rearing habitat may be enhanced by grazing practices

that favor upland forb production (e.g., fall grazing) and prescribed light (< 40%) to moderate spring grazing can remove standing herbage and make forbs more accessible (Smith et al. 1979, Fulgham et al. 1982).

During 2016 and 2017, National Forests included in the 2015 Greater Sage-Grouse Plan Amendments began measuring droop and stubble heights. Sampling occurred on 2,965 sites. Where sampling occurred, data indicate that management of livestock grazing based on pre-2015 ROD direction included in Forest Plans, current term grazing permits, and project area grazing decisions provides for the stated droop height and stubble height provisions from the RODs (Tables 3-5, 3-6, 3-7, 3-8, 3-9).

Many Forests were unable to gather sufficient data to report brood-rearing stubble height measurements. For most of these forests, pre-2015 ROD forest plan direction includes utilization standards within the range considered moderate use to promote desired conditions in riparian areas and mesic meadows (Table 3-7). The Humboldt-Toiyabe National Forest includes some allotments in which utilization standards exceed moderate use and proposes additional plan components to ensure movement toward desired conditions for brood-rearing habitat (Table 2-4).

Table 3-5. Droop and stubble height measurements.

			Nesting/Breeding (> 7" Droop Height) End Nesting Season		Nesting/Breeding (> 4" Droop Height) End Growing Season		Brood-rearing/Summer (4" Stubble Height)	
State	**Forest**	**Year**	**Number of Samples**	**Average Height in Inches**	**Number of Samples**	**Average Height in Inches**	**Number of Samples**	**Average Height in Inches**
UT	Ashley	2017	40	10	95	7	0	N/A
ID	Boise	2017	3	19	0	N/A	0	N/A
ID	Caribou-Targhee	2016/2017	2	12	75	12	9	10
ID	Curlew NG	2016/2017	98	16	245	12	9	6
WY	Bridger-Teton	2016/2017	113	11	61	11	7	10
UT	Dixie	2016/2017	165	10	220	10	0	N/A
UT	Fishlake	2016/2017	45	7	53	11	0	N/A
NV	Humboldt-Toiyabe	2016/2017	206	13	132	12	0	N/A
UT	Manti-La Sal	2016/2017	50	9	205	8	0	N/A
ID	Sawtooth	2017	6	14	34	14	144	5
ID	Salmon-Challis	2016/2017	23	11	169	12	232	5
WY/CO	Medicine Bow-Routt	2016/2017	184	9	104	11	366	25
UT	Uinta-Wasatch-Cache	2016/2017	272	11	36	11	0	N/A
Total/Average			**1,164**	**12**	**1,334**	**11**	**767**	**10**

Table 3-6. Idaho LMP grazing use levels.

Forest/Grassland Plan	Existing Upland Use Level[1]	Existing Riparian Use Level[1]	Consistent with GRSG Research
Boise National Forest Land and Resource Management Plan (2003)	• 40% - Early season or season long • 50% late season	▪ Maximum 45% ▪ 4" hydric greenline – whichever comes first	Yes
Revised Forest Plan for the Caribou National Forest (2003)	35% - 55%	4"- 6" SH	Yes
Revised Forest Plan, Targhee National Forest (1997)	35% - 55%	• 4" SH • 30% Browse[3]	Yes
Curlew National Grassland Plan (2002)	50% - 60%	Use levels established at site specific level or in AMP	Yes
Salmon National Forest Land and Resource Management Plan (1988)	▪ 25% - 65% ▪ 3" - 6" SH	▪ 25% - 65% ▪ 3"- 6" SH	Yes
Challis National Forest Land and Resource Management Plan (1987)	None (Defers to AMP)	▪ Use levels established at site specific level or in AMP ▪ 50% Browse	No
Sawtooth National Forest Land and Resource Management Plan (2003)	• 40% early season or season long • 50% late season	▪ Maximum 45% or 4" hydric greenline whichever occurs first	Yes

[1] As described in the current Land Resource Management Plan. Ranges vary according to grazing system (e.g., rest or deferred), season of use (e.g., early or late), range condition (e.g., satisfactory or unsatisfactory), vegetation type (e.g., alpine or non-native seeding), or other categories (e.g., greenline, key area, age class).
[2] SH- stubble height
[3] Annual utilization of current year's growth of woody vegetation

Table 3-7. Nevada LMP grazing use levels.

Forest Plan	Existing Upland Use Level[1]	Existing Riparian Use Level[1]	Consistent with GRSG Research
Humboldt National Forest Land and Resource Management Plan (1986)	• 55% - 65% • 50% Browse	▪ 35% - 70% ▪ 35% Browse[2]	Somewhat; 40-60% or moderate use is reported
Land and Resource Management Plan, Toiyabe National Forest (1986)	• 30% - 55% • 20-50% Browse	▪ 45% - 65% ▪ 20-35% Browse	Yes

[1] As described in the current Land Resource Management Plan. Ranges vary according to grazing system (e.g., rest or deferred), season of use (e.g., early or late), range condition (e.g., satisfactory or unsatisfactory), vegetation type (e.g., alpine or non-native seeding), or other categories (e.g., greenline, key area, age class).
[2] Annual utilization of current year's growth of woody vegetation

Table 3-8. Utah LMP grazing use levels.

Forest Plan	Existing Upland Use Level[1]	Existing Riparian Use Level[1]	Consistent with GRSG Research
Ashley National Forest Land and Resource Management Plan (1986)	None (Defers to AMP)	50% Browse[2]	Not in Forest Plan, but included in the Allotment Management Plans*
Land and Resource Management Plan for the Dixie National Forest (1986)	50% - 60%	▪ 50% - 60% ▪ 50% Browse	Yes
Land and Resource Management Plan for the Dixie National Forest (1986)	40% - 60%	▪ 1.5" – 6" SH[3] ▪ 40% - 50% Browse	Yes
Land and Resource Management Plan, Manti-La Sal (1986)	40% - 65%	▪ 30% - 60% ▪ 4"- 5" SH	Yes
Sawtooth National Forest Land and Resource Management Plan (2003)	• 40% -early season or season long • 50% late season	▪ Maximum 45% or 4" hyrdric greenline, whichever comes first	Yes
Land and Resource Management Plan, Uinta National Forest (2003)	▪ 40% - 60% ▪ 6"- 7" SH[4]	▪ 35% - 65% ▪ 2"- 6" SH ▪ 6"- 7" SH[4] ▪ 35% - 50% Browse	Yes
Revised Forest Plan, Wasatch-Cache National Forest (2003)	▪ 50% - 60% ▪ 50% Browse	▪ 30% - 60% ▪ 3"- 5" SH ▪ 50% Browse	Yes

[1] As described in the current Land Resource Management Plan. Ranges vary according to grazing system (e.g., rest or deferred), season of use (e.g., early or late), range condition (e.g., satisfactory or unsatisfactory), vegetation type (e.g., alpine or non-native seeding), or other categories (e.g., greenline, key area, age class).
[2] Annual utilization of current year's growth of woody vegetation
[3] SH - stubble height
[4] Applies to greater sage-grouse breeding habitat through June 15 in the Vernon and Strawberry Reservoir Management Areas respectively.

Table 3-9. Wyoming and Northwest Colorado LMP grazing use levels.

Forest or Grassland Plan	Existing Upland Use Level[1]	Existing Riparian Use Level[1]	Consistent with GRSG Research
Medicine Bow National Forest Revised Land and Resource Management Plan (2003)	0-55%	SH: 3-6"	Yes
Land and Resource Management Plan for the Thunder Basin National Grassland (2001)	Vegetation is managed by seral and structural objectives for each Management area within each Geographic Area.		Yes (specific MA direction included below)
Routt National Forest Revised Land and Resource Management Plan (1997)	0-55%	SH: 4-6"	Yes

[1] As described in the current Land Resource Management Plan. Ranges vary according to grazing system (e.g., rest or deferred), season of use (e.g., early or late), range condition (e.g., satisfactory or unsatisfactory), vegetation type (e.g., alpine or non-native seeding), or other categories (e.g., greenline, key area, age class). Seral and

Structure objectives vary by the Geographic Area.

3.2.7 WILDLAND FIRE

The wildland fire threat and impacts on greater sage-grouse are disclosed in the 2015 FEISs (Table 3-1). From 2015 to 2017 there have been additional large-scale wildfires within the decision area (Table 3-10). These wildfires burned approximately 3.3 million acres of greater sage-grouse PHMA, GHMA, IHMA, and OHMA range-wide. Of those acres, approximately 63,000 acres were within the FS planning area.

Table 3-10. Acres of GRSG habitat burned by wildfire.

State	2015	2016	Forest Service 2016	2017	Forest Service 2017
Colorado	3,359	3,215	0	27,780	0
Idaho	260,931	104,849	176	251,443	1,064
Nevada	12,233	215,073	3	967,324	4,056
Utah	377	33,269	4,077	93,295	35,164
Wyoming	20,777	55,152	2,138	69,410	0
TOTAL[1]	**562,734**	**626,268**	**6,394**	**2,073,859**	**40,284**
Forest Service	**16,121**	**14,008**	**-**	**102,987**	**-**

[1]Includes acreage from states not included in this analysis effort: California, Montana, Oregon, and Washington
Data from the National Interagency Fire Center

3.2.8 RECREATION

The existing condition of recreation in the planning area is described in the 2015 FEISs (Table 3-1). The recreation program remains as described in the 2015 FEISs and the program's impacts on greater sage-grouse are also as disclosed. Within the planning area authorized recreation uses included outfitter and guide permits, recreation site infrastructure, and special recreation use permits (such as races).

Since 2015, authorized recreation uses were consistent with the state-specific 2015 ROD direction (USDA FS 2017b and USDA FS 2018d). The FS continues to manage the recreation programs following the management direction in the 2015 RODs.

3.2.9 COMPREHENSIVE TRAVEL MANAGEMENT

The existing condition of travel management in the planning area is described in the 2015 FEISs (Table 3-1). Travel management remains as described in the 2015 FEISs and impacts on greater sage-grouse are also as disclosed. Within the planning area, authorized activities regarding travel management include road reconstruction, trail improvements, and unauthorized route closures.

Since 2015, authorized travel management activities were consistent with the state-specific 2015 ROD direction (USDA FS 2017b and USDA FS 2018d). The FS continues to manage Travel Management following the direction in the 2015 decision.

3.2.10 MINERAL AND ENERGY RESOURCES

The existing condition of mineral and energy resources in the planning area is described in the 2015 FEISs (Table 3-1). The Mineral and Energy Resources program remains as described in the 2015 FEISs and the program's impacts on greater sage-grouse are also as disclosed. Within the planning area authorized mineral and energy resource projects included coal lease (permit only, activity not permitted), gravel pit reauthorization, quarry expansion, and oil and gas leasing (no lease alternative selected).

Since 2015, authorized mineral and recreation resource projects have been consistent with state-specific 2015 ROD direction (USDA FS 2017b and USDA FS 2018d). The FS continues to manage the Mineral and Energy Resource programs following the management direction in the 2015 decision.

No economically viable coal resources have been discovered in Idaho. As there is no development potential in Idaho, the lands are determined to be unsuitable for leasing. Impacts to greater sage-grouse were not analyzed in the 2015 EIS and will not be analyzed in this DEIS (Table 3-1, Section 3.12 Idaho).

3.3 RESOURCES NOT CARRIED FORWARD FOR ANALYSIS

The following resources and resource uses analyzed in the 2015 FEIS were reviewed to determine if they could have potentially significant effects based on the actions considered in Chapter 2. The changes proposed in the action alternative would not substantially alter management direction or result in different outcomes for the resources listed below. Because of this, no additional analysis was completed for the resources shown in Table 3-11, below; therefore, no new information on affected environment is provided.

References to Wild Horse and Burros are removed from the Preferred Alternative in Idaho because there are no herd management areas on FS lands in Idaho.

Table 3-11. Resources and resource uses not carried forward for analysis.

Air Quality	Social and Economic Conditions and Environmental Justice
Climate Change	Soil Resources
Cultural Resources	Soundscapes
Fish, Wildlife, and Special Status Species	Special Designations
Forest and Woodland Products	Tribal Interests
Paleontological Resources	Visual Resources
Roadless Areas	Wild Horses and Burros

CHAPTER 4. Environmental Consequences

4.1 INTRODUCTION

This chapter presents the anticipated direct, indirect, and cumulative impacts on the human and natural environment that may be caused by implementing the alternatives described in Chapter 2. Discussions of environmental consequences in this chapter allow a reasonable prediction of consequences. However, this document does not describe every environmental process or condition. Chapter 4 also describes to decision-makers and the public how the environment could change if either of the alternatives were implemented. This chapter is organized by topic, based on the affected resources identified in Chapters 1 and 3. Only those issues listed in Table 1-2 were carried forward for analysis.

Impact analysis is a cause-and-effect process. Discussions of potential effects draw on existing analysis included in the 2015 RODs and FEISs, resource reports and related information, literature reviews, and other sources as indicated. Impact analysis is also based on information provided by experts in the Forest Service, other agencies, cooperating agencies, interest groups, and concerned citizens.

This Draft Environmental Impact Statement (DEIS) is a programmatic document. It discloses the environmental consequences on a large scale, at the planning level. This is in contrast to analyses conducted for site-specific projects. The DEIS presents a programmatic action at the Forest and Grassland level of analysis, but does not predict what will happen each time the standards and guidelines are implemented. Environmental consequences of individual, site-specific projects on each of the Forests or Grasslands are not described. The environmental effects of individual projects will depend on the implementation of each project, the environmental conditions at each project location, and the application of the standards and guidelines in each case.

The baseline used for the impact analysis is the current condition or situation, as described in Chapter 3. Impacts on resources and resource uses are analyzed and discussed in detail, commensurate with resource issues and concerns identified through the process. At times, impacts are described in qualitative terms or using ranges of potential impacts.

4.2 USE OF BEST AVALABLE SCIENTIFIC INFORMATION

The 2012 planning rule, as amended, requires the responsible official to use the best available scientific information to inform the planning process for developing, amending, or revising a forest plan, including plan components (36 CFR 219.3 and 219.14(a)(3)). The plan components developed for the Forests and Grasslands were based on the best available scientific information and analyses therein. New best available science published since the 2015 RODs has been used by resource specialists to develop the plan components and inform this DEIS. This information includes material that was readily available from public sources (libraries, research institutions, scientific journals, and online literature). It also includes information obtained from other sources, such as participation and attendance at scientific conferences, scientific knowledge from local experts, findings from ongoing research projects, workshops and

collaborations, professional knowledge and experience, and information received during public participation periods. Resource specialists considered what is most accurate, reliable, and relevant in their use of the best available scientific information. The best available scientific information includes the publications and other sources listed in the references section and provided in the project record. Cooperation between Local, State, and Federal agencies and tribes described in Chapter 1 also contributed to the best available scientific information. Information that was used was applied to the issues considered and is described under each section, where applicable.

4.3 ANALYTICAL ASSUMPTIONS

Several overarching assumptions have been made to facilitate analysis of project impacts. These assumptions set analytical constraints and provide reasonably foreseeable projected levels of development that would occur in the planning area during the planning period. These assumptions should not be interpreted as constraining or redefining the management objectives and actions proposed for each alternative, as described in Chapter 2.

The following general assumptions apply to all resource categories; any specific resource assumptions are provided in the methods of analysis section for that resource:

- Forest Service budget directly affects the level of activities and outputs that may occur when a forest plan is implemented. Budgets are expected to remain flat or decrease in the future. Objectives in the forest plan are based on the assumption that there will not be a significant increase to current budget levels. To analyze effects without consideration of expected budgets would be a misrepresentation of expected outcomes.
- Project-level actions necessary to execute the LMP-level decisions in this DEIS would be subject to further environmental review, including under NEPA.
- Direct and indirect impacts of implementing the DEIS would primarily occur on public lands administered by the Forest Service in the planning area.
- The discussion of impacts is based on best available scientific information and data as described in Section 4.2. Knowledge of the planning area and decision area and professional judgment, based on observation and analysis of conditions and responses in similar areas, are used for environmental impacts where data are limited.
- Restrictions (such as siting, design, and mitigation measures) would apply, where appropriate, to surface-disturbing activities associated with land use authorizations and permits issued on Forest Service administered lands and federal mineral estate.
- GIS data have been used in developing acreage calculations and to generate the figures in this DEIS. Calculations depend on the quality and availability of data. Acreage figures and other numbers are approximate projections for comparison and analysis only; readers should not infer that they reflect exact measurements or precise calculations. In the absence of quantitative data, best professional judgment was used. Impacts were sometimes described using ranges of potential impacts, or they were described qualitatively, when appropriate.

4.4 IMPACTS FROM NO ACTION

The impacts of the No Action Alternative, or current management, of this LMPA were analyzed as Alternatives in the 2015 Final Environmental Impact Statement (FEIS). The impacts of sagebrush focal area withdrawals were analyzed in the Sagebrush Focal Area Withdrawal DEIS (BLM 2016). The Forest Service has reviewed new information to verify that the analysis in the 2015 FEISs remains sound; therefore, impacts from implementing the No Action Alternative are substantially the same as those analyzed the 2015 FEISs. The Forest Service is tiering to the previous analysis and Table 4-1 shows where the analysis of impacts of the No Action Alternative can be found in the 2015 FEISs.

Table 4-1. Environmental consequences for the No Action Alternative incorporated by reference.

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
Air Quality	CO	Chapter 4, Air Quality Section 4.18.3, page 4-468
	ID	Chapter 4, Nature and Type of Effects Section 4.0, page 4-1
	NV	Chapter 4, Air Quality Section 4.2 (Air Quality Impacts), pages 4-7 to 4-57 Chapter 4, Air Quality Section 4.2.4 (Air Quality Impacts associated with Oil and Gas Development), pages 4-56 to 4-57 Chapter 4, Air Quality Section 4.2.5 (Air Quality Impacts associated with Non-Oil and Gas Development Activities), page 4-57
	UT	Chapter 4, Air Quality Section 4.4, Alternatives Analysis Section 4.4.2, pages 4-136 to 4-137
	WY	Chapter 4, Air Quality Section 4.2, pages 4-5 to 4-58 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-488 to 4-490
Cultural Resources	CO	Chapter 4, Cultural Resources Section 4.23.4, pages 4-551 to 4-553
	ID	Chapter 4, Nature and Type of Effects Section 4.0, page 4-1
	NV	Chapter 4, Introduction Section 4.1, pages 4-2; See Tribal Interests
	UT	Chapter 4, Cultural Resources Section 4.12, Alternatives Analysis Section 4.12.2, pages 4-200 to 4-202
	WY	Chapter 4, Cultural Resources Section 4.3, pages 4-58 to 4-67 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-490 to 4-491
Tribal Interests (including Native American Religious Concerns)	CO	Chapter 4, Cultural Resources Section 4.23.4, pages 4-510 to 4-514; 4-533 to 4-536; 4-544 to 4-549; 4-551 to 4-553
	ID	Chapter 4, Nature and Type of Effects Section 4.0, page 4-1
	NV	Chapter 4, Tribal Interests (including Native American Religious Concerns) Section 4.19, Impacts Common to All Alternatives Section 4.19.3, pages 4-370 to 4-372 Alternative D Section 4.19.7, pages 4-376 to 4-378 Proposed Plan Section 4.19.10, pages 4-380 to 4-382
	UT	Chapter 4, Tribal Interests Section 4.24, pages 4-404 to 4-407
Special Status Species - Greater Sage- Grouse (and Habitat)	CO	Chapter 4, Special Status Species, Section 4.5.2, page 4-109
	ID	Chapter 4, Greater Sage-Grouse and Habitat Section 4.2, Impacts Common to All Alternatives Section 4.2.3, pages 4-20 to 4-31Alternatives D and E Sections 4.2.8 and 4.2.9, pages 4-65 to 4-77 Proposed Plan Section 4.2.1, pages 4-80 to 4-91
	NV	Chapter 4, Greater Sage-Grouse and Habitat Section 4.4, Impacts Common to All Alternatives Section 4.4.3, pages 4-20 to 4-21

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
		Alternative D Section 4.4.7, pages 4-37 to 4-42 Proposed Plan Section 4.4.10, pages 4-51 to 4-60
	UT	Chapter 4, Greater Sage-Grouse and Habitat Section 4.3, Alternative D Section 4.3.5, pages 4-81 to 4-97 Proposed Plan Section 4.3.7. pages 4-113 to 4-135
	WY	Chapter 4, Special Status Species Section 4.14, pages 4-250 to 4-347 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-498 to 4-504
	ID, NV, UT, WY	Chapter 4, Wildlife and Specials Status Species Section 4.5.5, pages 4-92 to 4-96; Cumulative Wildlife Impacts Section 4.5.9, pages 4-105 to 4-107 (BLM 2016)
Other Special Status Species	CO	Chapter 4, Special Status Terrestrial Wildlife Section 4.5.3, Pages 4-109 to 4-123; 4-130 to 4-131 Chapter 4, Special Status Plants Section 4.5.3, pages 4-131 to 4-142; 4-178
	ID	Chapter 4, Nature and Type of Effects Section 4.0, page 4-1
	NV	Chapter 4, Special Status Species Section 4.7, pages 4-148 to 4-149
	UT	Chapter 4, Other Special Status Species Section 4.9, Alternatives Analysis Section 4.9.2, pages 4-172 to 4-183
	WY	Chapter 4, Special Status Species Section 4.14, pages 4-250 to 4-347 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-498 to 4-504
Soil	CO	Chapter 4, Soil and Water Resources Section 4.17.4, pages 4-445 to 4-446
	ID	Chapter 4, Nature and Type of Effects Section 4.0, page 4-1
	NV	Chapter 4, Vegetation and Soils Section 4.5, Impacts Common to All Alternatives Section 4.5.3, pages 4-65 to 4-66 Alternative D Section 4.5.7, pages 4-37 to 4-42
	UT	Chapter 4, Soil Resources Section 4.6, Alternatives Analysis Section 4.6.2, pages 4-147 to 4-151
	WY	Chapter 4, Soils Section 4.12, pages 4-220 to 4-241 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-496 to 4-497
Riparian Areas and Wetlands and Water Resources	CO	Chapter 4, Soil and Water Resources Section 4.17.4, pages 4-445 to 4-446
	ID	Chapter 4, Nature and Type of Effects Section 4.0, page 4-1
	NV	Chapter 4, Water Resources Section 4.18, Impacts Common to All Alternatives Section 4.18.3, pages 4-344 to 4-348 Alternative D Section 4.18.7, pages 4-356 to 4-360 Proposed Plan Section 4.6.10, pages 4-136 to 4-148 Proposed Plan Section 4.18.10, pages 4-365 to 4-369
	UT	Chapter 4, Water Resources Section 4.7, Alternatives Analysis Section 4.7.2, pages 4-151 to 4-153
	WY	Chapter 4, Watershed and Water Quality Section 4.18, pages 4-374 to 4-396 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-505 to 4-506
Vegetation (Including Invasive, Exotic Species, and Noxious Weeds)	CO	Chapter 4, Vegetation Section 4.7.4, page 4-210
	ID	Chapter 4, Vegetation Section 4.3, Impacts Common to All Alternatives Section 4.3.3, pages 4-97 to 4-98 Alternatives D and E Sections 4.3.7 and 4.3.8, pages 4-131 to 4-135 Proposed Plan Section 4.3.10, pages 4-136 to 4-140
	NV	Chapter 4, Vegetation and Soils Section 4.5,

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
		Impacts Common to All Alternatives Section 4.5.3, pages 4-65 to 4-66 Alternative D Section 4.5.7, pages 4-37 to 4-42 Proposed Plan Section 4.5.10, pages 4-91 to 4-98
	UT	Chapter 4, Vegetation (Including Noxious Weeds, Riparian Areas and Wetlands) Section 4.8, Alternatives D Section 4.8.5, pages 4-164 to 4-167 Proposed Plan section 4.8.7, pages 4-168 to 4-171
	WY	Chapter 4, Forestry Section 4.4, pages 4-67 to 4-70 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, page 4-491 Chapter 4, Vegetation Section 4.16, pages 4-352 to 4-365 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-504 to 4-505
	ID, NV, UT, WY	Chapter 4, Vegetation, including Special Status Plants, Section 4.4.5, pages 4-73 to 4-75; Cumulative Vegetation Impacts, Section 4.4.9, pages 4-81 to 4-82 (BLM 2016)
Fisheries and Wildlife	CO	Chapter 4, Terrestrial Wildlife, Section 4.3.2, pages 4-48 to 4-49; Chapter 4, Aquatic Wildlife, including Special Status Fish and Other Aquatic Species, Section 4.4.3, page 4-74
	ID	Chapter 4, Nature and Type of Effects Section 4.0, page 4-1
	NV	Chapter 4, Introduction Section 4.1, page 4-2; Also see Riparian Areas and Wetlands and Water Resources
	UT	Chapter 4, Fish and Wildlife Section 4.10, Alternatives Analysis Section 4.10.2, pages 4-184 to 4-195
	WY	Chapter 4, Wildlife and Fisheries Section 4.21, pages 4-418 to 4-464 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-507 to 4-508
Wild Horse and Burros	CO	Chapter 4, Wild Horse Management Section 4.15.4, page 4-374-375
	ID	Chapter 4, Wild Horse and Burro Management Section 4.4, Impacts Common to All Alternatives Section 4.4.3, pages 4-142 Alternatives D and E Sections 4.2.7 and 4.4.8, pages 4-131 to 4-135
	NV	Chapter 4, Wild Horse and Burros Section 4.8, Impacts Common to All Alternatives Section 4.8.3, pages 4-151 to 4-152 Alternative D Section 4.8.7, pages 4-156 to 4-158 Proposed Plan Section 4.8.10, pages 4-162 to 4-165
	UT	Chapter 4, Wild Horse and Burros Section 4.11, Alternatives Analysis Section 4.11.2, pages 4-196 to 4-199
	WY	Chapter 4, Wild Horses Section 4.19, pages 4-396 to 4-408 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-506 to 4-507
Paleontological Resources	CO	Chapter 4, Paleontological Resources Section 4.24.4, pages 4-584 to 4-585
	ID	Chapter 4, Nature and Type of Effects Section 4.0, page 4-1
	NV	Chapter 4, Incomplete or Unavailable Information Section 4.3.2, page 4-6
	WY	Chapter 4, Paleontology Section 4.9, pages 4-118 to 4-127 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-494
Visual Resources	CO	Chapter 4, Visual Resources Section 4.20.4, page 4-491
	ID	Chapter 4, Nature and Type of Effects Section 4.0, page 4-1

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
	NV	Chapter 4, Introduction Section 4.1, page 4-2
	UT	Chapter 4, Visual Resources Section 4.13, Alternatives Analysis Section 4.13.2, pages 4-203 to 4-205
	WY	Chapter 4, Visual Resources Section 4.17, pages 4-365 to 4-374 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-505
Wildland Fire and Fuel's Management	CO	Chapter 4, Wildland Fire Ecology and Management Section 4.8.4, pages 4-211 to 4-213; 4-231
	ID	Chapter 4, Wildland Fire Management Section 4.5, Impacts Common to All Alternatives Section 4.5.3, pages 4-157 to 4-159 Alternatives D and E Sections 4.5.7 and 4.5.8, pages 4-164 to 4-168 Proposed Plan Section 4.5.10, pages 4-170 to 4-173
	NV	Chapter 4, Wildland Fire and Fire Management Section 4.9, Alternative D Section 4.9.6, pages 4-180 to 4-186 Proposed Plan Section 4.9.9, pages 4-195 to 4-201
	UT	Chapter 4, Wildland Fire Management Section 4.14, Alternative D Section 4.14.5, pages 4-214 to 4-216 Proposed Plan Section 4.14.7, pages 4-218 to 4-221
	WY	Chapter 4, Wildland Fire and Fuels Section 4.20, pages 4-408 to 4-418 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-507; 4-547 to 4-548; 4-571 to 4-572
Lands with Wilderness Characteristics	CO	Chapter 4, Lands with Wilderness Characteristics Section 4.21.4, page 4-504
	ID	Chapter 4, Lands with Wilderness Characteristics and Roadless Areas Section 4.14, Impacts Common to All Alternatives Section 4.14.3, pages 4-279 Alternatives D and E Sections 4.14.7 and 4.14.8, pages 4-285 to 4-287
	NV	Chapter 4, Lands With Wilderness Characteristics Section 4.14, Impacts Common to All Alternatives Section 4.16.3, pages 4-328 to 4-329 Alternative D Section 4.16.7, pages 4-331 Proposed Plan Section 4.16.10, pages 4-333 to page 4-334
	UT	Chapter 4, Wilderness Characteristics Section 4.15, Alternatives Analysis Section 4.15.2, pages 4-222 to 4-227
	WY	Chapter 4, Lands with Wilderness Characteristics Section 4.6, pages 4-81 to 4-89
Roadless Areas	ID	Chapter 4, Lands with Wilderness Characteristics and Roadless Areas Section 4.14, Impacts Common to All Alternatives Section 4.14.3, pages 4-279 Alternatives D and E Sections 4.14.7 and 4.14.8, pages 4-285 to 4-287
Special Designations	CO	Chapter 4, Areas of Critical Environmental Concern and Zoological Areas Section 4.16.1, pages 4-391 to 4-393 Chapter 4, Wilderness Study Areas Section 4.16.2, pages 4-404 to 4-405 Chapter 4, Wild and Scenic Rivers Section 4.16.3, pages 4-413 to 4-414 Chapter 4, National Trails and Byways Section 4.16.4, pages 4-430-4-431
	ID	Chapter 4, Nature and Type of Effects Section 4.0, page 4-1 Chapter 4, Areas of Critical Environmental Concern and Zoological Areas Section 4.13.1, Nature and Type of Effects Section 4.13.3, pages 4-267 to 4-273 Alternatives D and E Sections 4.13.7 and 4.13.8, pages 4-273
	NV	Chapter 4, Areas of Critical Environmental Concern Section 4.17, pages 4-334 to 4-338

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
	UT	Chapter 4, Areas of Critical Environmental Concern and Zoological Areas Section 4.22.1, pages 4-367 to 4-369 Chapter 4, Wilderness Study Areas Section 4.22.2, pages 4-369 to 4-370 Chapter 4, Other Special Designations Section 4.22.3, pages 4-370 to 4-372
	WY	Chapter 4, Special Designations and Management Areas Section 4.13, pages 4-241 to 4-250 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-497 to 4-498
Recreation	CO	Chapter 4, Recreation Section 4.13.4, page 4-334
	ID	Chapter 4, Nature and Type of Effects Section 4.0, page 4-1
	NV	Chapter 4, Recreation Section 4.11, Impacts Common to All Alternatives Section 4.11.3, pages 4-242 Alternative D Section 4.11.7, pages 4-245 to 4-246 Proposed Plan Section 4.11.10, pages 4-248 to 4-249
	UT	Chapter 4, Recreation Section 4.17, Alternatives Analysis Section 4.17.2, pages 4-253 to 4-255
	WY	Chapter 4, Recreation Resources Section 4.10, pages 4-127 to 4-134 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-494 to 4-495; 4-547 to 4-548; 4-572 to 4-575
Comprehensive Travel Management	CO	Chapter 4, Travel Management Section 4.12.4, page 4-315
	ID	Chapter 4, Travel Management Section 4.7, Impacts Common to All Alternatives Section 4.7.3, pages 4-206 Alternatives D and E Sections 4.7.7 and 4.7.8, pages 4-207
	NV	Chapter 4, Travel and Transportation Management Section 4.12, Impacts Common to All Alternatives Section 4.12.3, pages 4-250 Alternative D Section 4.12.7, pages 4-251 to 4-252
	UT	Chapter 4, Comprehensive Travel and Transportation Management Section 4.18, Alternatives Analysis Section 4.18.2, pages 4-256 to 4-258
	WY	Chapter 4, Transportation and Access Management Section 4.15, pages 4-347 to 4-352 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-504
Livestock Grazing (Range Management)	CO	Chapter 4, Range Management Section 4.14.4, page 4-353
	ID	Chapter 4, Livestock Grazing/Range Management Section 4.6, Impacts Common to All Alternatives Section 4.6.3, pages 4-178 to 4-179 Alternatives D and E Sections 4.6.7 and 4.6.8, pages 4-190 to 4-194 Proposed Plan Section 4.6.10, pages 4-196 to 4-203
	NV	Chapter 4, Livestock Grazing Section 4.10, Impacts Common to All Alternatives Section 4.10.3, pages 4-208 Alternative D Section 4.10.7, pages 4-221 to 4-224 Proposed Plan Section 4.10.10, pages 4-232 to 4-241
	UT	Chapter 4, Livestock Grazing/Range Management Section 4.16, Alternative D Section 4.16.5, pages 4-239 to 4-242 Proposed Plan Section 4.16.7, pages 4-246 to 4-252
	WY	Chapter 4, Livestock Grazing Section 4.7, pages 4-89 to 4-106 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-492 to 4-493; 4-540 to 4-547; 4-566 to 4-571
Land Use and Realty	CO	Chapter 4, Lands and Realty Section 4.6.4, page 4-188
	ID	Chapter 4, Lands and Realty Section 4.8, Impacts Common to All Alternatives Section 4.8.3, pages 4-211

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
		Alternatives D and E Sections 4.8.7 and 4.8.8, pages 4-216 to 4-219 Proposed Plan Section 4.8.10, pages 4-220 to 4-224
	NV	Chapter 4, Land Use and Realty Section 4.13, Impacts Common to All Alternatives Section 4.13.3, pages 4-256 to 4-257 Alternative D Section 4.13.7, pages 4-263 to 4-265 Proposed Plan Section 4.13.10, pages 4-269 to 4-273
	UT	Chapter 4, Lands and Realty Section 4.19, Alternative D Section 4.19.5, pages 4-266 to 4-269
	WY	Chapter 4, Lands and Realty Section 4.5, pages 4-71 to 4-81 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-491 to 4-492
Renewable Energy	CO	Chapter 4, Wind and Solar Energy Development, pages 4-18 to 4-20; 4-57 to 4-58; 4-83 to 4-85; 4-152; 4-154; 4-196 to 4-197; 4-219 to 4-220
	ID	Chapter 4, Renewable Energy Section 4.2.2, pages 4-18 to 4-20; 4-42; 4-56; 4-63 to 4-64; 4-79; 4-150; 4-210; 4-214; 4-217 to 4-218; 4-278; 4-309
	NV	Chapter 4, Renewable Energy Resources Section 4.14, Impacts Common to All Alternatives Section 4.14.3, pages 4-278 to 4-279 Alternative D Section 4.14.7, pages 4-282 to 4-283
	UT	Chapter 4, Renewable Energy Section 4.20, Alternative D Section 4.20.5, pages 4-283 to 4-285
	WY	Chapter 4, Minerals and Energy Section 4.8, pages 4-106 to 4-118 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-493 to 4-494; 4-537 to 4-540; 4-563 to 4-565
Solid Minerals	CO	Chapter 4, Coal Section 4.9.2, pages 4-66-4-69; 4-287-4-290
	ID	Chapter 4, Nature and Type of Effects Section 4.9.1 and 4.11.2, page 4-227; 4-256; 4-259 to 4-260; 4-264 to 4-266
	NV	Chapter 4, Mineral Resources Section 4.15, pages 4-290; 4-306; 4-320
	UT	Chapter 4, Coal Section 4.21.3, pages 4-332 to 4-346
	WY	Chapter 4, Minerals and Energy Section 4.8, pages 4-106 to 4-118 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-493 to 4-494; 4-529 to 4-530; 4-556 to 4-557
Fluid Minerals	CO	Chapter 4, Fluid Leasable Minerals Section 4.9.1, page 4-263
	ID	Chapter 4, Leasable Minerals (Leased and Unleased), Including Fluid Minerals and Nonenergy Solid Leasable Minerals Section 4.9, pages 4-224 Chapter 4, Fluid Minerals Section 4.9.1, pages 4-224 to 4-236 Chapter 4, Geothermal Section 4.9.2, pages 4-236 to 4-248
	NV	Chapter 4, Fluid Minerals Section 4.15.1, pages 4-286 to 4-304
	UT	Chapter 4, Oil and Gas Section 4.21.1, pages 4-288 to 4-318
	WY	Chapter 4, Minerals and Energy Section 4.8, pages 4-106 to 4-118 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-493 to 4-494; 4-524 to 4-529; 4-552 to 4-556
Leasable Minerals	CO	Chapter 4, Minerals (Leasable) Section 4.9, pages 4-231-4-234; 4-263-4-266
	ID	Chapter 4, Nonenergy Leasable Minerals Section 4.12, Nature and Types of Effects Section 4.12.2, pages 4-260 Alternatives D and E Sections 4.12.6 and 4.12.7, pages 4-263 to 4-264
	NV	Chapter 4, Solid (Nonenergy) Leasable Minerals Section 4.15.4, pages 4-319 to 4-325
	UT	Chapter 4, Nonenergy Leasable Minerals Section 4.21.2, pages 4-318 to 4-332
	WY	Chapter 4, Minerals and Energy Section 4.8, pages 4-106 to 4-118

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
		Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-493 to 4-494; 4-534 to 4-553; 4-560 to 4-563
Locatable Minerals	CO	Chapter 4, Locatable Minerals Section 4.10.4, page 4-298
	ID	Chapter 4, Locatable Minerals Section 4.10, Impacts Common to All Alternatives Section 4.10.3, pages 4-251 Alternatives D and E Sections 4.10.7 and 4.10.8, pages 4-253 to 4-254 Proposed Plan Section 4.10.10, page 4-254
	NV	Chapter 4, Locatable Minerals Section 4.15.2, pages 4-304 to 4-311
	UT	Chapter 4, Locatable Minerals Section 4.21.4, pages 4-346 to 4-353
	WY	Chapter 4, Minerals and Energy Section 4.8, pages 4-106 to 4-118 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-493 to 4-494; 4-532 to 4-534; 4-558 to 4-559
	ID, NV, UT, WY	Chapter 4, Geology and Mineral Resources Section 4.2.5, pages 4-13 to 4-14; Cumulative Geology and Mineral Resource Impacts Section 4.2.9, pages 4-18 to 4-20 (BLM 2016)
Salable Minerals	CO	Chapter 4, Salable Minerals Section 4.11.4, pages 4-308 to 4-309
	ID	Chapter 4, Mineral Materials (Salable) Section 4.11, Nature and Types of Effects Section 4.11.2, pages 4-255 Alternatives D and E Sections 4.11.6 and 4.11.7, pages 4-257 to 4-258
	NV	Chapter 4, Salable Minerals Section 4.15.3, pages 4-311 to 4-319
	UT	Chapter 4, Mineral Materials Section 4.21.5, pages 4-353 to 4-363 Chapter 4, Oil Shale and Tar Sands Section 4.21.6, pages 4-363 to 4-367
	WY	Chapter 4, Minerals and Energy Section 4.8, pages 4-106 to 4-118 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-493 to 4-494; 4-530 to 4-532; 4-557 to 4-558
Social and Economic Conditions and Environmental Justice	CO	Chapter 4, Economic Impacts Section 4.25.3, pages 4-585 to 4-608 Chapter 4, Social Impacts Section 4.25.4, pages 4-608 to 4-617 Chapter 4, Environmental Justice Section 4.25.5, pages 4-617 to 4-619
	ID	Chapter 4, Social and Economic Conditions (Including Environmental Justice) Section 4.15, Chapter 4, Economic Impacts Section 4.15.3, pages 4-293 to 4-310 Chapter 4, Social Impacts Section 4.15.4, pages 4-310 to 4-316 Chapter 4, Environmental Justice Impacts Section 4.15.5, pages 4-316 to 4-319
	NV	Chapter 4, Economic Impacts Section 4.21.2, pages 4-407 to 4-430 Chapter 4, Social Impacts Section 4.21.3, pages 4-430 to 4-439 Chapter 4, Environmental Justice Section 4.21.4, pages 4-439 to 4-442
	UT	Chapter 4, Social and Economic Conditions (Including Environmental Justice) Section 4.23, page 4-372 Chapter 4, Economic Impacts Section 4.23.3, pages 4-375 to 4-395; Summary 4-398 to 4-402 Chapter 4, Social Impacts Section 4.23.4, pages 4-395 to 4-402 Chapter 4, Environmental Justice Impacts Section 4.23.6, pages 4-402 to 4-404
	WY	Chapter 4, Socioeconomics Section 4.11, pages 4-134 to 4-220 Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-495 to 4-496
	ID, NV, UT, WY	Chapter 4, Social and Economic Conditions Section 4.3.3 to 4.3.12, pages 4-25 to 4-64; Cumulative Economic and Social Impacts Section 4.3.13, pages 4-64 to 4-68 (BLM 2016)
Climate Change	CO	Chapter 4, Climate Change Section 4.19, page 4-469
	ID	Chapter 4, Methods and Assumptions Section 4.2.1, page 4-7

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
		Nature and Type of Effects Section 4.2.2, pages 4-10 to 4-12; 4-51 to 4-52; 4-81; 4-127; 4-165; 4-172
	NV	Chapter 4, Climate Change Section 4.20, Impacts Common to All Alternatives Section 4.20.3, pages 4-382 to 4-387 Alternative D Section 4.20.7, pages 4-376 to 4-378 Proposed Plan Section 4.20.10, pages 4-399 to 4-402
	UT	Chapter 4, Climate Change Section 4.5, Alternatives Analysis Section 4.5.2, pages 4-137 to 4-147
	WY	Chapter 4, Air Quality Impacts Associated with Non-Oil and Gas Development Activities Section 4.2.5, pages 4-57; 4-491; 4-523 to 4-524; 4-544; 4-551;
Noise/Soundscape	CO	Chapter 4, Soundscape Section 4.22.4, page 4-506
	ID	Chapter 4, Sage-Grouse and Sage-Grouse Habitat Section 4.2, pages 4-15 to 4-31 Chapter 4, Fluid Minerals Section 4.9.1, pages 4-227; 4-230 Chapter 4, Geothermal Section 4.9.2, pages 4-239 to 4-247 Chapter 4, Locatable Minerals Section 4.10, pages 4-250 to 4-254 Chapter 4, Mineral Materials (Salable Section) 4.11, pages 4-254 to 4-258 Chapter 4, Nonenergy Leasable Minerals Section 4.12, pages 4-259 to 4-264 Chapter 4, Impacts on lands with Wilderness Characteristics Common to All Alternatives Section 4.14.3, pages 4-279
	NV	Chapter 4, Greater Sage-Grouse and GRSG Habitat Section 4.4, pages 4-10 to 4-59 Chapter 4, Renewable Energy Resources Section 4.14, pages 4-282 to 4-286 Chapter 4, Mineral Resources Section 4.15, pages 4-286 to 4-298; 4-316; 4-323 Chapter 4, Tribal Interests Section 4.19, pages 4-370
	UT	Chapter 4, Surface Disturbance Restrictions for GRSG in Existing Land Use Plans Table 4.1; pages 4-11 to 4-14 Chapter 4, Special Status Species - Greater Sage-Grouse Section 4.3, pages 4-83 to 4-91; 4-117 to 4-135 Chapter 4, Other Special Status Species Section 4.9, pages 4-174 to 4-182 Chapter 4, Fish and Wildlife Section 4.10, pages 4-193 to 4-194 Chapter 4, Comprehensive Travel and Transportation Management Section 4.18, pages 4-255 Chapter 4, Renewable Energy Section 4.20, pages 4-282 to 4-288 Chapter 4, Oil and Gas Section 4.21.1, pages 4-297; 4-304 to 4-315 Chapter 4, Nonenergy Leasable Minerals Section 4.21.2, pages 4-326 to 4-330 Chapter 4, Coal Section 4.21.3, pages 4-341 to 4-346 Chapter 4, Mineral Materials Section 4.21.5, pages 4-358 to 4-363 Chapter 4, Oil Shale and Tar Sands Section 4.21.6, pages 4-363 to 4-366 Chapter 4, Economic Impacts Section 4.23.3, pages 4-384
	WY	Chapter 4, Lands with Wilderness Characteristics Section 4.6, pages 4-82 to 4-88 Chapter 4, Minerals and Energy Section 4.8, pages 4-110 to 4-117 Chapter 4, Recreation Resources Section 4.10, pages 4-128 to 4-132 Chapter 4, Economic Impacts by Alternative Section 4.11.5, pages 4-191 to 4-4-210 Chapter 4, Special Designations and Management Areas Section 4.13, pages 4-244 to 4-248 Chapter 4, Special Status Species Section 4.14, pages 4-257 to 4-417 Chapter 4, Wildlife and Fisheries Section 4.21, pages 4-426 to 4-463 Chapter 4, Cumulative Impacts Section 4.22, pages 4-495 to 4-573

[1]Information for Table 4-1 is found in Chapter 4 of the following documents:

- Northwest Colorado Greater Sage-Grouse Final EIS 2015 (https://eplanning.blm.gov/epl-front-office/projects/lup/36511/58677/63740/NWCO_4_FEIS_201506_508.pdf)
- Idaho and Southwestern Montana Final EIS 2015 (https://eplanning.blm.gov/epl-front-office/projects/lup/31652/58564/63627/08_-_ID_swMT_FEIS_Chapter_4.pdf)
- Nevada and Northeastern California Greater Sage-Grouse Final EIS 2015 (https://eplanning.blm.gov/epl-front-office/projects/lup/21152/58710/63773/9_Volume_2_Chapter_4_NVCA_GRSG.pdf)
- Utah Greater Sage-Grouse Final EIS 2015 (https://eplanning.blm.gov/epl-front-office/projects/lup/68351/93845/113166/Chapter4.pdf)
- Wyoming Greater Sage-Grouse Final EIS 2015 (https://eplanning.blm.gov/epl-front-office/projects/lup/9153/58493/63913/11_Chapter-4_Environmental-Consequences_FEIS_052115.pdf)
- Sagebrush Focal Area Withdrawal Draft EIS 2016

  (https://eplanning.blm.gov/epl-front-office/projects/lup/103347/143428/176389/SFA_DEIS_Main_Text.pdf)

4.5 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION AND STATE OF UTAH ALTERNATIVE

Section 4.5 identifies potential direct and indirect impacts identified with implementation of the Proposed Action and/or the State of Utah Alternative. Please refer to Table 2-5 (Colorado), 2-6 (Idaho), 2-7 (Nevada), 2-8 (Utah) and 2-9 (Wyoming) for detailed information regarding the proposed management actions and Table 2-8a (Utah) for detailed information regarding the State of Utah alternative. Table 1-1 identifies which LMPs would be affected by the proposed alternative and Table 1-2 identifies which of the issues carried forward apply to which state.

Table 4-2. Location of environmental analysis in 2015 FEIS by resource topic.

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
Special Status Species - Greater Sage- Grouse (and Habitat)	CO	Chapter 4, Special Status Species, Section 4.5.2, page 4-76 to 4-109
	ID	Chapter 4, Greater Sage-Grouse and Habitat Section 4.2 Nature and Type of Effects Section 4.2.2, pages 4-9 to 4-20 Impacts Common to All Alternatives Section 4.2.3, pages 4-20 to 4-31 Alternatives A through F Sections 4.2.4 and 4.2.10, pages 4-31 to 4-80 Proposed Plan Section 4.2.1, pages 4-80 to 4-91
	NV	Chapter 4, Greater Sage-Grouse and Habitat Section 4.4 Impacts Common to All Alternatives Section 4.4.3, pages 4-20 to 4-21 Alternative A through F Section 4.4.4 to 4.4.9, pages 4-21 to 4-51 Proposed Plan Section 4.4.10, pages 4-51 to 4-60
	UT	Chapter 4, Greater Sage-Grouse and Habitat Section 4.3, Alternatives A through E Section 4.3.2 to 4.3.6, pages 4-10 to 4-113 Proposed Plan Section 4.3.7. pages 4-113 to 4-135
	WY	Chapter 4, Special Status Species Section 4.14, pages 4-250 to 4-347 Alternatives A through D Sections 4.14.3 to 4.14.6 pages 4-252 to 4-334 Proposed LUP Amendments Section 4.14.7, pages 4-334 to 4-347

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
	ID, NV, UT, WY	Chapter 4, Wildlife and Specials Status Species Section 4.5.4, pages 4-87 to 4-92 (BLM 2016)
Riparian Areas and Wetlands and Water Resources	CO	Chapter 4, Soil and Water Resources Sections 4.17.2 to 4.17.4, pages 4-431 to 4-446
	ID	Chapter 4, Vegetation Section 4.3, Impacts Common to All Alternatives Section 4.3.3, pages 4-97 to 4-98 Alternatives A and F Sections 4.3.4 and 4.3.9, pages 4-98 to 4-136 Proposed Plan Section 4.3.10, pages 4-136 to 4-140
	NV	Chapter 4, Riparian Areas and Wetlands Section 4.6 and Water Resources Section 4.18 Impacts Common to All Alternatives Section 4.6.3, pages 4-105 to 4-106 Impacts Common to All Alternatives Section 4.18.3, pages 4-344 to 4-348 Alternatives A through F Section 4.6.4 to 4.6.9, pages 4-106 to 4-136 Alternatives A through F Section 4.18.4 to 4.18.9, pages 4-348 to 4-365 Proposed Plan Section 4.6.10, pages 4-136 to 4-148 Proposed Plan Section 4.18.10, pages 4-365 to 4-369
	UT	Chapter 4, Water Resources Section 4.7, Alternatives Analysis Section 4.7.2, pages 4-151 to 4-153 Chapter 4, Vegetation (Including Riparian Areas and Wetlands) Section 4.8, Alternatives A through E Section 4.8.2 to 4.8.6, pages 4-155 to 4-168 Proposed Plan section 4.8.7, pages 4-168 to 4-171
	WY	Chapter 4, Watershed and Water Quality Section 4.18, pages 4-374 to 4-375 Alternatives A to D Sections 4.18.3 to 4.18.6, pages 4-375 to 4- 3-391 Proposed LUP Amendments Section 4.18.7, pages 4-391 to 4-396
Vegetation (Including Invasive, Exotic Species, and Noxious Weeds)	CO	Chapter 4, Vegetation Section 4.7.2 to 4.7.4 , page 4-189 to 4-211
	ID	Chapter 4, Vegetation Section 4.3, Impacts Common to All Alternatives Section 4.3.3, pages 4-97 to 4-98 Alternatives A and F Sections 4.3.4 and 4.3.9, pages 4-98 to 4-136 Proposed Plan Section 4.3.10, pages 4-136 to 4-140
	NV	Chapter 4, Vegetation and Soils Section 4.5, Impacts Common to All Alternatives Section 4.5.3, pages 4-65 to 4-66 Alternatives A through F Section 4.5.4 to 4.5.9, pages 4-66 to 4-91 Proposed Plan Section 4.5.10, pages 4-91 to 4-98
	UT	Chapter 4, Vegetation (Including Noxious Weeds, Riparian Areas and Wetlands) Section 4.8, Alternatives A through E Section 4.8.2 to 4.8.6, pages 4-155 to 4-168 Proposed Plan section 4.8.7, pages 4-168 to 4-171
	WY	Chapter 4, Forestry Section 4.4, pages 4-67 to 4-70 Chapter 4, Vegetation Section 4.16, Alternatives A through D, Section 4.16.3 to 4.14.6 pages 4-352 to 4-362 Proposed LUP Amendments Section 4.16.7, pages 4-362 to 4-365
	ID, NV, UT, WY	Chapter 4, Vegetation, including Special Status Plants, Section 4.4.4, pages 4-71 to 4-73 (BLM 2016)
Wildland Fire and Fuels Management	CO	Chapter 4, Wildland Fire Ecology and Management Section 4.8.2 to 4.8.4, pages 4-211 to 231
	ID	Chapter 4, Wildland Fire Management Section 4.5, Impacts Common to All Alternatives Section 4.5.3, pages 4-157 to 4-159 Alternatives A and F Sections 4.5.4 and 4.5.9, pages 4-159 to 4-170 Proposed Plan Section 4.5.10, pages 4-170 to 4-173

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
	NV	Chapter 4, Wildland Fire and Fire Management Section 4.9, Alternatives A through F Section 4.9.3 to 4.9.8, pages 4-170 to 4-195 Proposed Plan Section 4.9.9, pages 4-195 to 4-201
	UT	Chapter 4, Wildland Fire Management Section 4.14, Alternatives A through E Section 4.14.2 to 4.14. 6, pages 4-206 to 4-218 Proposed Plan Section 4.14.7, pages 4-218 to 4-221
	WY	Chapter 4, Wildland Fire and Fuels Section 4.20, pages 4-408 to 4-418 Alternatives A through D Sections 4.20.3 to 4.20.6 pages 4-409 to 4-415 Proposed LUP Amendments Section 4.20.7, pages 4-415 to 4-418
Recreation	CO	Chapter 4, Recreation Section 4.13.2 to 4.13.4, page 4-316 to 4-335
	ID	Chapter 4, Nature and Type of Effects Section 4.0, page 4-1
	NV	Chapter 4, Recreation Section 4.11, Impacts Common to All Alternatives Section 4.11.3, pages 4-242 Alternative A through F Section 4.11.4 to 4.11.9, pages 4-242 to 4-248 Proposed Plan Section 4.11.10, pages 4-248 to 4-249
	UT	Chapter 4, Recreation Section 4.17, Alternatives Analysis Section 4.17.2, pages 4-253 to 4-255
	WY	Chapter 4, Recreation Resources Section 4.10, pages 4-127 to 4-134 Alternatives A through D Sections 4.10.3 to 4.10.6 pages 4-128 to 4-132 Proposed LUP Amendments Section 4.10.7, pages 4-132 to 4-134
Comprehensive Travel Management	CO	Chapter 4, Travel Management Section 4.12.2 to 4.12.4, page 4-309 to 4-315
	ID	Chapter 4, Travel Management Section 4.7, Impacts Common to All Alternatives Section 4.7.3, pages 4-206 Alternatives A and F Sections 4.7.4 and 4.7.9, pages 4-206 to 4-207
	NV	Chapter 4, Travel and Transportation Management Section 4.12, Impacts Common to All Alternatives Section 4.12.3, pages 4-250 Alternative A through F Section 4.12.4 to 4.14.9, pages 4-250 to 4-252
	UT	Chapter 4, Comprehensive Travel and Transportation Management Section 4.18, Alternatives Analysis Section 4.18.2, pages 4-256 to 4-258
	WY	Chapter 4, Transportation and Access Management Section 4.15, pages 4-347 to 4-352 Alternatives A through D Sections 4.15.3 to 4.15.6 pages 4-347 to 4-351 Proposed LUP Amendments Section 4.15.7, pages 4-351 to 3-352
Livestock Grazing (Range Management)	CO	Chapter 4, Range Management Section 4.14.2 to 4.14.4, page 4-338 to 4-353
	ID	Chapter 4, Livestock Grazing/Range Management Section 4.6, Impacts Common to All Alternatives Section 4.6.3, pages 4-178 to 4-179 Alternatives A and F Sections 4.6.4 and 4.6.9, pages 4-179 to 4-196 Proposed Plan Section 4.6.10, pages 4-196 to 4-203
	NV	Chapter 4, Livestock Grazing Section 4.10, Impacts Common to All Alternatives Section 4.10.3, pages 4-208 Alternatives A through F Section 4.10.4 to 4.10.9, pages 4-208 to 4-232 Proposed Plan Section 4.10.10, pages 4-232 to 4-241
	UT	Chapter 4, Livestock Grazing/Range Management Section 4.16, Alternatives A through E Section 4.16.2 to 4.16.6, pages 4-228 to 4-246 Proposed Plan Section 4.16.7, pages 4-246 to 4-252
	WY	Chapter 4, Livestock Grazing Section 4.7, pages 4-89 to 4-106 Alternatives A through D Sections 4.7.3 to 4.7.6 pages 4-90 to 4-100 Proposed LUP Amendments Sections 4.7.7, pages 4-100 to 4-106

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
Land Use and Realty	CO	Chapter 4, Lands and Realty Section 4.6.2 to 4.6.4, page 4-181 to 4-188
	ID	Chapter 4, Lands and Realty Section 4.8, Impacts Common to All Alternatives Section 4.8.3, pages 4-211 Alternatives A and F Sections 4.8.4 and 4.8.9, pages 4-212 to 4-220 Proposed Plan Section 4.8.10, pages 4-220 to 4-224
	NV	Chapter 4, Land Use and Realty Section 4.13, Impacts Common to All Alternatives Section 4.13.3, pages 4-256 to 4-257 Alternatives A through F Section 4.13.4 to 4.13.9, pages 4-257 to 4-269 Proposed Plan Section 4.13.10, pages 4-269 to 4-273
	UT	Chapter 4, Lands and Realty Section 4.19, Alternatives A through E Section 4.19.2 to 4.19.6, pages 4-260 to 4-271 Proposed Plans Section 4.19.7, pages 4-271 to 4-275
	WY	Chapter 4, Lands and Realty Section 4.5, pages 4-71 to 4-81 Alternatives A to D Sections 4.5.3 to 4.5.6 pages 4-72 to 4-78 Proposed LUP Amendments Section 4.5.7, pages 4-78 to 4-81
Renewable Energy	CO	Chapter 4, Wind and Solar Energy Development, pages 4-18 to 4-20; 4-57 to 4-58; 4-83 to 4-85; 4-152; 4-154; 4-196 to 4-197; 4-219 to 4-220
	ID	Chapter 4, Renewable Energy Section 4.2.2, pages 4-18 to 4-20; 4-42; 4-56; 4-63 to 4-64; 4-79; 4-150; 4-210; 4-214; 4-217 to 4-218; 4-278; 4-309
	NV	Chapter 4, Renewable Energy Resources Section 4.14, Impacts Common to All Alternatives Section 4.14.3, pages 4-278 to 4-279 Alternatives A through F Section 4.14.4 to 4.14.9, pages 4-279 to 4-284
	UT	Chapter 4, Renewable Energy Section 4.20, Alternatives A to E Section 4.20.2 to 4.20.6, pages 4-278 to 4-287
	WY	Chapter 4, Minerals and Energy Section 4.8.1 to 4.8.2, pages 4-106 to 4-108 Alternatives A through D Sections 4.8.3 to 4.8.6, pages 4-108 to 4-115 Proposed LUP Amendments Section 4.8.7, pages 4-115 to 4-118
Solid Minerals	CO	Chapter 4, Coal Section 4.9.2, pages 4-266 to 4-290
	ID	Chapter 4, Nature and Type of Effects Section 4.9.1 and 4.11.2, page 4-227; 4-256; 4-259 to 4-260; 4-264 to 4-266
	NV	Chapter 4, Mineral Resources Section 4.15.4, pages 4-319 to 326
	UT	Chapter 4, Coal Section 4.21.3, pages 4-332 to 4-346
	WY	Chapter 4, Minerals and Energy Section 4.8.1 to 4.8.2, pages 4-106 to 4-108 Alternatives A through D Sections 4.8.3 to 4.8.6, pages 4-108 to 4-115 Proposed LUP Amendments Section 4.8.7, pages 4-115 to 4-118
Fluid Minerals	CO	Chapter 4, Fluid Leasable Minerals Section 4.9.1, page 4-231 to 4-266
	ID	Chapter 4, Leasable Minerals (Leased and Unleased), Including Fluid Minerals and Nonenergy Solid Leasable Minerals Section 4.9, pages 4-224 Chapter 4, Fluid Minerals Section 4.9.1, pages 4-224 to 4-236 Chapter 4, Geothermal Section 4.9.2, pages 4-236 to 4-248
	NV	Chapter 4, Fluid Minerals Section 4.15.1, pages 4-286 to 4-304
	UT	Chapter 4, Oil and Gas Section 4.21.1, pages 4-288 to 4-318
	WY	Chapter 4, Minerals and Energy Section 4.8.1 to 4.8.2, pages 4-106 to 4-108 Alternatives A through D Sections 4.8.3 to 4.8.6, pages 4-108 to 4-115 Proposed LUP Amendments Section 4.8.7, pages 4-115 to 4-118
Leasable Minerals	CO	Chapter 4, Fluid Leasable Minerals Section 4.9.1, page 4-231 to 4-266
	ID	Chapter 4, Nonenergy Leasable Minerals Section 4.12, Nature and Types of Effects Section 4.12.2, pages 4-260 Alternatives A to F Sections 4.12.3 and 4.12.8, pages 4-261 to 4-265
	NV	Chapter 4, Solid (Nonenergy) Leasable Minerals Section 4.15.4, pages 4-319 to

Related Resource Topic	State	Location in 2015 FEIS or 2016 DEIS[1]
		4-325
	UT	Chapter 4, Nonenergy Leasable Minerals Section 4.21.2, pages 4-318 to 4-332
	WY	Chapter 4, Minerals and Energy Section 4.8.1 to 4.8.2, pages 4-106 to 4-108 Alternatives A through D Sections 4.8.3 to 4.8.6, pages 4-108 to 4-115 Proposed LUP Amendments Section 4.8.7, pages 4-115 to 4-118
Locatable Minerals	CO	Chapter 4, Locatable Minerals Section 4.10.2 to 4.10.4, page 4-290 to 4-298
	ID	Chapter 4, Locatable Minerals Section 4.10, Impacts Common to All Alternatives Section 4.10.3, pages 4-251 to 4-252 Alternatives A to F Sections 4.10.4 and 4.10.8, pages 4-252 to 4-254 Proposed Plan Section 4.10.10, page 4-254
	NV	Chapter 4, Locatable Minerals Section 4.15.2, pages 4-304 to 4-311
	UT	Chapter 4, Locatable Minerals Section 4.21.4, pages 4-346 to 4-353
	WY	Chapter 4, Minerals and Energy Section 4.8.1 to 4.8.2, pages 4-106 to 4-108 Alternatives A through D Sections 4.8.3 to 4.8.6, pages 4-108 to 4-115 Proposed LUP Amendments Section 4.8.7, pages 4-115 to 4-118
	ID, NV, UT, WY	Chapter 4, Geology and Mineral Resources Section 4.2.4, page 4-13 to 4-20 (BLM 2016)
Salable Minerals	CO	Chapter 4, Salable Minerals Section 4.11.2 to 4.11.4, pages 4-299 to 4-308
	ID	Chapter 4, Mineral Materials (Salable) Section 4.11, Nature and Types of Effects Section 4.11.2, pages 4-255 to 4-256 Alternatives A and F Sections 4.11.3 and 4.11.8, pages 4-256 to 4-258
	NV	Chapter 4, Salable Minerals Section 4.15.3, pages 4-311 to 4-319
	UT	Chapter 4, Mineral Materials Section 4.21.5, pages 4-353 to 4-363 Chapter 4, Oil Shale and Tar Sands Section 4.21.6, pages 4-363 to 4-367
	WY	Chapter 4, Minerals and Energy Section 4.8.1 to 4.8.2, pages 4-106 to 4-108 Alternatives A through D Sections 4.8.3 to 4.8.6, pages 4-108 to 4-115 Proposed LUP Amendments Section 4.8.7, pages 4-115 to 4-118

4.5.1 HABITAT MANAGEMENT AREA DESIGNATIONS

Table 4-3. HMA designations considered in the 2015 FEIS.

Issue	Considered in 2015 FEIS
Identify a process for evaluating and updating habitat management area (HMA) boundaries	Idaho: Common to All Alternatives, Appendix F Nevada: Alternatives D and E Utah: Common to All Alternatives, Appendix N Great Basin and Rocky Mountain RODs
Changes in HMA boundaries	Nevada: Not considered Wyoming: Alternatives B, C, D (partial- PHMA-core and connectivity identified as GHMA)
Incentivize GRSG habitat disturbance outside of PHMA; focus protection in PHMAs	Prioritization of PHMA was analyzed: Idaho: Alternatives B, D, F and Proposed Plan Alternative Utah: Alternatives B, D, and Proposed Plan Alternative Nevada: Alternatives B, D, E, F and Proposed Plan Alternative Wyoming: Alternatives B, C, D and Proposed LUP Amendments
Change the Anthro Mountain HMA designation to PHMA designation	Utah: Not considered
Eliminate the GHMA and Anthro Mountain designation	Utah: Anthro Mountain and GHMA was not identified as a HMA or any other habitat designation in the E1 Alternative.

Identify a process for evaluating and updating habitat management area (HMA) boundaries

Both the Rocky Mountain and Great Basin Records of Decision addressed updating of HMA boundaries: "As new information about GRSG habitat becomes available, including seasonal habitats, in coordination with the State wildlife agency and USFWS, and based on best available scientific information, the Forest Service may revise the GRSG habitat management area maps and associated management decisions through LMP amendment/revision, as appropriate" (page 21 and 22, respectively). Maps of the alternatives can be found in the DEIS in Appendix A.

The Proposed Action for Idaho, Nevada, Utah, and Wyoming includes a management approach that identifies the process for evaluating and updating HMA boundary maps. HMAs are used to identify where plan components apply. A plan amendment is required to modify where one or more plan components apply to all or part of a plan area (including management areas, 36 CFR 219.13).

Changes in HMA boundaries

The Proposed Action for Idaho, Nevada, Utah, and Wyoming include adjustments to HMA boundary maps. HMAs in Colorado and Idaho would remain the same as in the 2015 FEISs; therefore, this is not discussed further. Appendix A includes maps for each alternative by state and forest.

Nevada

The HMA boundaries in Nevada have been adjusted during this amendment process. PHMA decreased by 99,500 acres, GHMA increased by 298,800 acres, and OHMA decreased by 194,900 acres (Tables 2-1 and 2-2). Overall, the change represents an increase in acreage in HMAs. PHMA, GHMA, and OHMA acres have been better classified based on incorporation of current science including new lek locations, improved understanding of sage-grouse space-use from marked birds and modelling work, and removal of areas of non-habitat including areas near town and city centers (Coates et al. 2016). No impact to GRSG is anticipated from the HMA boundary adjustment.

Wyoming

The HMA boundaries in Wyoming have been adjusted during this amendment process. In the 2015 EIS, PHMA, PHMA-Core, and PHMA-Connectivity designations were identified. PHMA decreased by 63,500 acres, GHMA decreased by 19,500 acres, PHMA-Connectivity (CHMA) decreased by 62,400 acres, and the PHMA-Core designation was eliminated (Tables 2-1 and 2-2).

The change in PHMA acreage is due to 56,000 acres being changed to GHMA because the PHMA designation was not consistent with the State of Wyoming's updated mapping effort. An additional 6,940 acres of PHMA were also not consistent with the Wyoming Version 4 map because of being timbered non-habitat. There were 138,000 acres of GHMA removed from HMA designation because they were not consistent with the Wyoming Version 4 map because of being timbered non-habitat.

The CHMA designation acreage decreased because 53,000 acres identified in the 2015 EIS as PHMA-Connectivity on the Bridger-Teton NF were designated inappropriately and did not align with the State of Wyoming mapping effort. The former PHMA-Connectivity habitat on the Bridger-Teton NF that aligned with the State of Wyoming's updated mapping effort have been designated as GHMA. There were 9,400 acres of CHMA removed from HMA designation because they were not consistent with the Wyoming

Version 4 map. The PHMA-Core was mapped by the State of Wyoming and overlaid PHMA. The PHMA-Core designation is being eliminated because it overlaid PHMA and created confusion. In this amendment, boundaries have been aligned with the State of Wyoming's updated mapping effort which reflects more accurate habitat mapping. The acres that were dropped were non-habitat or private land. No impact to GRSG is anticipated from the HMA boundary adjustment.

Change the Anthro Mountain HMA designation to PHMA designation

Utah

In the 2015 FEIS, all plan components that applied to the Anthro Mountain habitat designation also applied to PHMA designation. The exception was GRSG-M-FML-ST-81-Standard that outlined conditions for approval on existing fluid mineral leases on Anthro Mountain. The change in designation would have all plan components relevant to PHMA be applicable to the portion of habitat formerly known as Anthro Mountain. No impact to GRSG is anticipated from the PHMA designation.

Eliminate the GHMA and Anthro Mountain designation

Utah

Under the State of Utah Alternative, GHMA and Anthro Mountain habitat designations would be removed along with corresponding plan components from the 2015 Greater Sage-Grouse Plan Amendments. Disturbance would be focused outside of PHMA, which is similar to the 2015 Greater Sage-Grouse Plan Amendments. This alternative would eliminate protections given to GHMA in all plan components.

GHMA areas on NFS lands is approximately 5.6 percent of the Forest Service decision area in Utah. These habitat areas tend to be fragmented habitats, areas containing small isolated populations, and many acres of unoccupied and non-habitats and is of low-biological significance to sage-grouse.

Prior to the development of the 2015 Greater Sage-Grouse Plan Amendments, the State of Utah conducted an analysis of the GHMAs relative to the State SGMAs (Alternative E1). Utah's SGMA (which corresponded with PHMA in federal plans), encompassed over 96 percent of the known sage-grouse population areas in Utah and the habitats which offer the best ecological potential (UT GRSG Working group 2013). GHMA on FS lands makes up only 1 percent of the habitat utilized by sage-grouse based on Utah's known GPS and telemetry data. In 2017, fewer than 300 male sage-grouse were found in all GHMA and other non-PHMA habitat throughout Utah in 2017. Sage-grouse tracked by telemetry have very little interaction or use with USFS's lands designated as GHMA (State of UT 2018b).

A recently-released study (Cross et al. 2018) attempted to quantify the importance of connectivity across the range of GRSG. The study identified certain portions of Utah as important for connectivity.
However, the study did not consider the impacts that translocated birds have had in Utah. Since the 1950s to the present, the Utah has utilized hundreds of translocated birds from all parts of the State as a tool to move birds and recover or supplement populations. Many of the areas identified in the paper as being important for "gene-flow" or connectivity, have been artificially connected through state management and translocation of sage-grouse.

The idea that GHMA is important for gene-flow and connectivity is not supported by the best available local data and science. The removal of habitat management designation from GHMA would serve to

incentivize protections in PHMA. There are currently plan components addressing GHMA which prioritize protection of PHMA and allow development in GHMA. The long-term effect of this alternative on GRSG is expected to ultimately be similar to effects in the No Action and Proposed Action Alternatives.

The State of Utah Alternative considers eliminating HMA designation from the Anthro Mountain area located on the Ashley National Forest. There are 119 leks within northeastern Utah, in the Anthro Mountain, Blue Mountain, Emma Park, Diamond Mountain, Little Mountain, Uinta South Slope, Strawberry Valley, Three Corners, West Tavaputs, Deadman's Bench, and Book Cliffs areas. The Ashley NF lies within this broader complex of sage-grouse populations. There are 13 leks occurring on the Ashley NF; 6 of which occur in the Anthro Mountain area. In 2018, Ashley NF personnel, who count males on leks for UDWR, counted a total of 62 males on the Anthro Mountain leks, an increase of 8% over the 2017 lek count. Anthro Mountain leks account for between 10 to 48% of the total males counted on the Ashley NF, depending upon the year (Rodriguez 2018).

The State of Utah analyzed population trends in this area using the methods in the State's Draft Conservation Plan for the 119 lek locations in northeastern Utah using 2018 lek count data.
The State of Utah evaluated the proportion of the population, population trends, and population growth rates of the area with Anthro Mountain sage-grouse included, and with Anthro Mountain sage-grouse excluded. There is a 20-year average of 958 males on leks in the broader northeastern Utah area, of which 30 were from Anthro Mountain which represents 3 percent of total males. When evaluating population trends using the most recent 20 years of lek count data, population trends and growth rates were highly positive, both with and without Anthro Mountain sage-grouse included in the analysis. Sage-grouse populations in northeastern Utah are growing at a rate of over 45 birds per year on average over the course of the last 20 years. When the Anthro Mountain birds are excluded from the analysis, the sage-grouse populations in northeastern Utah are growing at a rate of over 42 birds per year on average over the course of the last 20 years (State of Utah 2018b).

Telemetry data (over 1,700 locations) collected from 2002 to 2008 by UDWR and FS staff demonstrated that the Anthro Mountain area provides connectivity between the Emma Park and West Tavaputs populations (Christensen 2008). There has been no documentation of bird movements between West Tavaputs and Emma Park; however, movements to and from Anthro Mountain to both these populations has been recorded (Christensen 2008, Gruber 2012, and Duvuvuei 2013). Telemetry data also demonstrated that birds trapped on Anthro Mountain may also breed in West Tavaputs (Christensen 2008). Anthro Mountain's connectivity to these other two populations was also substantiated by Utah State University in 2009-2013 (Gruber 2012 and Duvuvuei 2013). This study demonstrated that Anthro Mountain birds wintered in West Tavaputs and Emma Park, thus illustrating connectivity between populations, and without the Anthro Mountain population, possible genetic exchange between these two populations may be lost. The Anthro Mountain population of sage-grouse was augmented with translocated sage-grouse in 2009 and 2010 (Gruber 2012); however, the Anthro Mountain sage-grouse movements to Emma Park and West Tavaputs were documented as early as 2002 (Christensen 2008).

Based on the analysis above, the Anthro Mountain PHMA designation is not necessary to ensure biological persistence of greater sage-grouse in northeastern Utah, however, the leks in the Anthro Mountain area have relevance to species persistence on the Ashley NF as the Anthro Mountain area has nearly half of the known leks on the Forest. If Anthro Mountain is not retained as PHMA, the area could be negatively impacted by future development that could reduce the distribution of sage-grouse on the Ashley NF. Other sage-grouse habitats on the Ashley NF remain designated as PHMA under the State of Utah

Alternative, so a loss of the Anthro Mountain leks impacts species persistence, but does not necessarily result in a loss of greater sage-grouse viability on the Ashley NF.

4.5.2 ELIMINATION OF SAGEBRUSH FOCAL AREA DESIGNATIONS/WITHDRAWALS

Table 4-4. Elimination of SFA designations/withdrawals considered in the 2015 FEIS.

Issue	Considered in 2015 FEIS
Sagebrush Focal Areas (SFAs) duplicate many protections that are already in place through the designation of priority habitat management areas (PHMAs) in the absence of mineral withdrawals	Idaho: Analyzed in Alternatives A, B, C, D, E, and F Nevada: Analyzed in Alternatives A, B, C, D, E, and F Utah: Analyzed in Alternatives A, B, C, D, and E1 Wyoming: Analyzed in Alternatives A, B, C, and D All: SFA Withdrawal DEIS, No Action Alternative

Sagebrush Focal Areas (SFAs)

SFAs are a subset of PHMA and are managed as PHMA with some additional management, however that additional management overlaps significantly with management of PHMA. Both SFA and PHMA are managed as no surface occupancy (NSO) for fluid mineral leasing, the only difference is that PHMA allows for a limited exception and the exceptions must meet a stringent series of criteria to be approved. The removal of SFA designations would have no measurable effect on the conservation of greater sage-grouse because the management direction proposed for PHMA would remain in place and continue to protect greater sage-grouse habitat. SFA removal would add flexibility for responsible development with stringent requirements including mitigation to achieve a no net loss to greater sage-grouse habitat in PHMA. This DEIS tiers to the 2016 Sagebrush Focal Area DEIS.

Sagebrush Focal Area Mineral Withdrawal

The proposed mineral withdrawal was canceled with a Notice of Cancellation published in the Federal Register on October 11, 2017, which canceled the BLM's application to withdraw SFA from locatable mineral entry (82 FR 47248, October 11, 2017). The impacts associated with not pursuing withdrawal were analyzed in the 2016 Sagebrush Focal Area DEIS which analyzed the impacts of not moving forward with a withdrawal in the No Action Alternative. Applicable analyses from the 2015 FEIS and 2016 DEIS explain the impacts from these actions, and are incorporated by reference (Table 4-1). There were no SFA mineral withdrawals in Colorado.

4.5.3 CHANGING NET CONSERVATION GAIN

Table 4-5. Changing Net Conservation Gain and adjustment of compensatory mitigation frameworks considered in the 2015 FEIS.

Issue	Considered in 2015 FEIS
Net conservation gain changed to no net loss of habitat to align with the state mitigation strategies	"No net loss" analyzed in: Colorado: Not considered Idaho: Alternative D Utah: Not considered Wyoming: Not considered
Alignment with the Idaho Governor's Task Force Plan Prioritization of protection of PHMA by emphasizing compensatory mitigation in IHMA	Idaho: Proposed Plan Alternatives

Issue	Considered in 2015 FEIS
Alignment with the Wyoming Compensatory Mitigation Framework	Wyoming: Proposed LUP Amendments
Alignment with the State of Nevada's Mitigation Strategy	Nevada: Proposed Plan Alternatives
Alignment with State of Utah Compensatory Mitigation Program	Utah: Proposed Plan Alternatives

Colorado

The Forest Service will require mitigation that provides a minimum of no net habitat loss for the greater sage-grouse (GRSG) when undertaking Forest Service management actions, and consistent with valid existing rights and applicable law, in authorizing third party actions that result in GRSG habitat loss and degradation. The Northwest Colorado Mitigation Strategy can be found in Appendix B.

The application of a robust and transparent Mitigation Strategy will contribute to GRSG habitat conservation by reducing, eliminating, or minimizing threats and compensating for residual impacts to the GRSG and its habitat. Any impacts associated with the need for compensatory mitigation, or the applicability of compensatory mitigation, would be identified at the site-specific project level.

The impacts associated with the removal of the compensatory mitigation standard of "net conservation gain" would have minimal impacts across the range of greater sage-grouse in Colorado. This is because the Mitigation Strategy provides a replacement of habitat, including indirect effects, with assurances and durability over the life of the impact; however, there is the potential for local adverse impacts on greater sage-grouse as a result of modifying the decisions associated with compensatory mitigation and net conservation gain. Site-specific impacts would be identified at the time of site-specific environmental review.

Idaho

Net conservation gain was incorporated into the Mitigation Strategies between the 2015 DEIS and the FEIS, which did not provide the public opportunity to comment on this approach. In Idaho, the Mitigation Strategy is being modified to align with the Idaho State Mitigation Strategy by changing "net conservation gain" to "no net habitat loss". Conceptually, "no net loss" would result in fewer acres being restored, improved, or protected as compared with "net conservation gain". However, if the proponent is not willing to provide mitigation that exceeds the minimal net gain standard, the resulting acreage would be similar. There are very few large-scale projects requiring compensatory mitigation on Forest Service lands in Idaho; the acres of habitat not restored because of the reduction in the mitigation standard from net gain to no net loss would be much less than one percent of the vegetation treatments completed each year. The mitigation strategy for the Proposed Action in Idaho can be found in Appendix C.

In Idaho, mitigation would not be required in GHMA, and a primary goal of the Governor's Greater Sage-Grouse plan is to push development out of PHMA and IHMA into GHMA or outside of habitat; therefore, greater sage-grouse in GHMA or outside designated habitat would be at increased risk of habitat loss or displacement; however, this area typically contains lower quality or marginal Greater Sage-Grouse habitat. The Forest Service would continue to avoid and minimize impacts in GHMA, but there would be

loss and degradation of habitat. This change would encourage proponents to develop in GHMA or outside of greater sage-grouse habitat.

Utah

Net conservation gain was incorporated into the Mitigation Strategies between the 2015 DEIS and the FEIS, which did not provide the public opportunity to comment on this approach. In Utah, the change to compensatory mitigation would also change "net conservation gain" to "no net habitat loss" to align with the State of Utah's Compensatory Mitigation Program which was developed subsequent to the 2015 FEIS. Mitigation would only be required in PHMA, where protections are being focused under the Proposed Action, because PHMA provides higher quality habitat. Improving higher quality habitat would be expected to benefit greater sage-grouse rather than focusing efforts in the lower quality habitat that GHMA provides. The Forest Service would continue to avoid and minimize impacts in GHMA, but there would be loss and degradation of habitat in the Proposed Action and the State of Utah Alternative. This change would encourage proponents to develop in GHMA or outside of greater sage-grouse habitat. The mitigation strategy for the Proposed Action in Utah can be found in Appendix E.

Nevada

Net conservation gain was analyzed in Alternative E in the 2015 FEIS and remains in place for the No Action Alternative and the Proposed Action. Environmental analysis would occur at the project level for current or future projects. When authorizing third-party actions that would result in direct, indirect, or cumulative impacts on greater sage-grouse or their habitat, the FS would require those impacts to be quantified using the State of Nevada's Habitat Quantification Tool (HQT) to ensure consistency in tracking/reporting changes to habitat quality and quantity. Applicable analyses from the 2015 FEIS explain the impacts from these actions, and are incorporated by reference. No additional analysis is needed. The mitigation strategy for the Proposed Action in Nevada can be found in Appendix D.

Wyoming

The FS expects to rely on the State of Wyoming's Greater Sage-Grouse Compensatory Mitigation Framework if the need for compensatory mitigation is identified by the State of Wyoming through the Executive Order review process and appropriate coordination. The FS proposes applying minimal compensatory mitigation requirements of no net habitat loss to maximize consistency in plans across state and federal lands; state plans can produce gains above net habitat loss that can be considered in decisions. The mitigation strategy for the Proposed Action in Wyoming can be found in Appendix F.

Determination of the applicability of the framework and amount of compensatory mitigation would be made by the State of Wyoming. Any impacts associated with the need for compensatory mitigation, or the applicability of compensatory mitigation, would be identified at the site-specific project level.

The impacts associated with the removal of the compensatory mitigation standard of "net conservation gain" would have minimal impacts across the range of greater sage-grouse in Wyoming. This is because the State of Wyoming's compensatory mitigation framework provides a replacement of habitat, including indirect effects, with assurances and durability over the life of the impact; however, there is the potential for local adverse impacts on greater sage-grouse as a result of modifying the decisions associated with compensatory mitigation and net conservation gain. Site-specific impacts would be identified at the time of site-specific environmental review.

4.5.4 MODIFYING LEK BUFFERS

Table 4-6. Modifying Lek Buffers Considered in the 2015 FEIS.

Issue	Considered in 2015 FEIS
Prioritization of protection of PHMA by allowing flexibility in lek buffer application	Idaho: Proposed Plan Amendments

Idaho

Lek buffers would remain the same in PHMA, which contain approximately two thirds of all known occupied leks. There would be no effect to greater sage-grouse in PHMA.

The minimum recommended buffer distances documented by a USGS literature review (Manier et al. 2014) would be applied in IHMA, which has approximately a quarter of all known occupied leks, and GHMA, which contains less than 10 percent of all known leks. These buffers, which are smaller than the buffers identified for use in the 2015 ROD/LMPA, would be applied to tall structures and would vary for different types of structures. Other restrictions in IHMA such as mitigation, disturbance cap, and NSO with limited exception would serve to ensure responsible development; however, infrastructure would be allowed closer to leks, subject to the before-mentioned restrictions. There is very little new development of infrastructure in PHMA or IHMA. The reduction of buffers in IHMA would not result in increased development around most leks because disturbance in FS HMAs is limited; however, if development were to occur nearer than the buffers identified in the No Action, those leks would be at an increased risk of being abandoned. GHMA contains very few leks and is lower quality habitat compared to PHMA and IHMA.

The reduced buffer distance in IHMA and GHMA would improve alignment with the Governor's Plan by having the most restrictive management in PHMA and reducing those restrictions in IHMA and further reducing restrictions in GHMA.

4.5.5 INCLUDING WAIVERS, EXCEPTIONS, AND MODIFICATIONS ON NSO STIPULATIONS

Table 4-7. Including Waivers, Exceptions, and Modifications on NSO Stipulations considered in the 2015 FEIS.

Issue	Considered in 2015 FEIS
The no surface occupancy (NSO) exception includes appropriate surface use and timing stipulations Change in requirements for the USFWS to approve waivers, exceptions, or modifications	Idaho: Proposed Plan Amendments
The no surface occupancy (NSO) exception includes appropriate use of mitigation hierarchy Change in requirements for the USFWS to approve waivers, exceptions, or modifications	Nevada: Proposed Plan Amendments
Exceptions must result in no effects to GRSG or habitat or all impacts could be offset through mitigation	Utah: Proposed Plan Amendment

Issue	Considered in 2015 FEIS
Clarified geothermal leases included in fluid leases Change in requirements for the USFWS to approve waivers, exceptions, or modifications	
Connectivity habitat added to NSO or surface disturbing activities being not authorized within 0.6 miles of occupied leks	Wyoming: Proposed LUP Amendments

Idaho

The removal of the requirement for a unanimous finding between FS, FWS, and the State of Idaho to grant an exception for NSO in fluid minerals development would be replaced by the authorization being granted by the authorized officer. The deciding official must disclose effects of and rationale for the decision, but decision authority cannot be deferred to other agencies or the state. Coordination with an interagency team, which would include both FWS and the State of Idaho, would still be required under the adaptive management, mitigation, and HMA boundary modification processes.

Nevada

The removal of the requirement for a unanimous finding between FS, FWS, and the State of Nevada to grant an exception for NSO in fluid minerals development would be replaced by the authorization being granted by the authorized officer. The deciding official must disclose effects of and rationale for the decision, but decision authority cannot be deferred to other agencies or the state. Coordination with an interagency team, which would include both FWS and the State of Nevada, would still be required under the adaptive management, mitigation, and HMA boundary modification processes.

Utah

The removal of the requirement for a unanimous finding between FS, FWS, and the State of Utah to grant an exception for NSO in fluid minerals development would be replaced by the authorization being granted by the authorized officer. The deciding official must disclose effects of and rationale for the decision, but decision authority cannot be deferred to other agencies or the state. Coordination with an interagency team, which would include both FWS and the State of Utah, would still be required under the adaptive management, mitigation, and HMA boundary modification processes.

Wyoming

Including CHMA is merely a clarification since this designation is a component of PHMA.

The removal of the requirement for a unanimous finding between FS, FWS, and the State of Wyoming to grant an exception for NSO in fluid minerals development would be replaced by the authorization being granted by the authorized officer. The deciding official must disclose effects of and rationale for the decision, but decision authority cannot be deferred to other agencies or the state. Coordination with an interagency team, which would include both FWS and the State of Wyoming, would still be required under the adaptive management, mitigation, and HMA boundary modification processes.

4.5.6 MODIFYING DESIRED CONDITIONS

Table 4-8. Modifying desired conditions considered in the 2015 FEIS.

Issue	Considered in 2015 FEIS
Local ecological site potential considered, broader description of appropriate GRSG habitat requirements identified, and seasonal use periods and habitat preferences values moved to appendix	Nevada: Alternatives B, D, E, and F and Proposed Plan Wyoming: Alternative B, C and D
Updating desired condition table values	Utah: Alternative D

Nevada

The seasonal use periods and habitat preferences table is identified as a management approach and is included in Appendix D. This will allow the table to be revised to incorporate best available science in coordination with partners. The best available science would be reviewed and incorporated and recommend adjustments would be based on regionally and locally derived data. Modifying seasonal use periods and habitat preferences would better align with state conservation plans and management strategies resulting in improved management of great sage-grouse.

Desired conditions are identified in the 2015 FEIS and in the Proposed Action at GRSG-GEN-DC-003-Desired Condition. The seasonal use periods and habitat preferences table would be implemented following the guidance that these are broad goals based on habitat selection that may not be achievable in all areas and should be based on sources such as ecological site descriptions and associated state-and-transition models.

Wyoming

The values for greater sage-grouse habitat attributes table is identified as a management approach and is included in Appendix F. This will allow the table to be revised to incorporate best available science in coordination with partners. The best available science would be reviewed and incorporated and recommend adjustments would be based on regionally and locally derived data. Modifying habitat attributes would better align with state conservation plans and management strategies resulting in improved management of the greater sage-grouse.

Utah

In the 2015 FEIS, Alternative D includes an objective to “maintain or restore vegetation to provide habitat for lekking, nesting, brood rearing, winter, and transition areas” and specifies that the “desired cover percentages and heights for sagebrush, grasses, and forbs in seasonal habitats will be managed to meet habitat guidelines from scientific literature (e.g., Connelly et al. 2000 and Hagen et al. 2007), where such standards can be met” (page 2-85 to 2-86). Additionally, “adjustments from the guidelines may be made, but must be based on documented regional variation of habitat characteristics (e.g., sagebrush type, ecological site potential), quantitative data from population and habitat monitoring, and evaluation of local research” (page 2-86). Applicable analyses from the 2015 FEIS explain the impacts from these actions, and are incorporated by reference. No additional analysis is needed.

4.5.7 CHANGING LIVESTOCK GRAZING GUIDELINES

Table 4-9. Changing livestock grazing guidelines considered in the 2015 FEIS.

Issue	Considered in 2015 FEIS
Replace specific grass-height guidelines with guidelines and management approaches that would have greater sage-grouse habitat assessments conducted in allotments to determine if livestock management is a causal factor and adjust as management as needed	Colorado: Alternatives A, B, C, and D Idaho: Alternatives A, B, D Utah: Alternatives A, B, D Nevada: Alternatives A, B, D Wyoming: Alternatives A, B, D
Replace specific grass-height guidelines with guidelines for riparian and meadow areas	Nevada: Alternatives A, D, and E
Modify language regarding water developments in HMAs	Idaho: Alternatives A and E Nevada: Alternatives A and E Utah: Alternatives A and E

Colorado, Idaho, Nevada, Utah, and Wyoming

Desired Condition

The 2015 Greater Sage-Grouse Plan Amendments listed a Desired Condition for livestock grazing being "managed to maintain or move towards desired conditions" (ID-GRSG-LG-DC-033-Desired Condition; NV- GRSG-LG-DC-039-Desired Condition; UT- GRSG-LG-DC-034-Desired Condition). This desired condition is being modified or removed because it does not provide any specific direction and is a circular statement; a desired condition cannot be to maintain or move toward a desired condition. The desired conditions for breeding, nesting, upland summer, and winter habitats are defined for each state (Table 2-5).

Replace specific grass-height guidelines with management approaches that would have greater sage-grouse habitat assessments conducted in allotments to determine if livestock management is a causal factor.

Based on the new understanding of habitat characteristics, plant phenology and sampling bias (Hanser et al. 2018), the biological foundation for the development of the 2015 Greater Sage-Grouse Plan Amendments grazing guidelines has changed and this changed condition warrants removal of the grazing guidelines, which are not necessary as conservation measures for sage-grouse.

Monitoring of greater sage-grouse seasonal habitats that occurred in 2016 and 2017 showed that in the majority of the cases, nesting, breeding, upland summer, and winter habitats were in suitable condition with grazing being managed consistent with direction in existing land management plans (USDA FS 2018). Existing plan components, when compared to published scientific findings, are generally compatible with habitat requirements for sage-grouse and monitoring showed that livestock grazing is not affecting the achievement or maintenance of desired conditions described in the 2015 Greater Sage-Grouse Plan Amendments.

Monitoring associated with droop heights on grasses showed that the existing land management plan direction was also providing for perennial grass at or above the droop heights planned for in the 2015

Greater Sage-Grouse Plan Amendment grazing guidelines (Table 3-5). While stubble height monitoring was more limited, it also showed that the existing land management plan direction was providing sufficient direction for meeting that identified in the 2015 Greater Sage-Grouse Plan Amendment grazing guidelines and that existing plan management plan direction is adequate in addressing potential grazing impacts to seasonal sage-grouse habitats (Table 3-6, 3-7, 3-8, and 3-9). If grazing is determined to be a causal agent for less than suitable habitat conditions, Forests may implement specific management changes on those respective allotments. It is more appropriate to address these issues at the forest or allotment level rather than through grazing guidelines applied at a regional scale. Monitoring data specific to the Humboldt-Toiyabe National Forest indicate that many riparian areas and mesic meadows in HMAs are not in proper functioning condition or moving toward desired conditions for sage-grouse brood-rearing habitat. Additional plan components are included in the Nevada proposed action to address this issue.

Modify language regarding water developments in HMAs

This standard addressing water developments stated that in PHMAs (CO, ID, UT, NV), IHMAs (ID), and GHMAs (NV), construction was not to be approved unless beneficial to sage-grouse habitat. Limiting approval or construction of water developments only to situations that are beneficial to sage-grouse can preclude the use of water developments as an effective tool to help ensure proper grazing management. The original intent of this standard was to ensure that construction of water developments would not cause adverse effects to sage-grouse or cause the degradation or loss of sage-grouse habitat, however the standard as written does not communicate that intent clearly. Water developments are a tool that could improve or maintain habitat indirectly over time. The approval and/or the construction of a water development is inherently a site-specific determination, which would be considered in a separate analysis process which would consider effects to biological resources, including greater sage-grouse.

4.5.8 ADAPTIVE MANAGEMENT REVIEW PROCESS

Table 4-10. Adaptive management review process considered in the 2015 FEIS.

Issue	Considered in 2015 FEIS
Allow for process for reviewing or reverting to an adaptive management response when causal factor is resolved	Adaptive management triggers and response were analyzed in: Idaho: Alternative D, E, and Proposed Plans; described in Appendix G Utah: Proposed Plans; described in Appendix B Wyoming: Alternatives B, C, D, and Proposed LUP Amendments; described in Appendix D
Ensure federal, state, and local partners are part of the causal factoranalysis process Identify process to evaluate and respond to hard and soft triggeradaptive management responses	Adaptive management triggers and response were analyzed in: Nevada: Proposed Plans; described in Chapter 2 (2.7.1) of FEIS

Idaho

The Proposed Action adds clarification to the adaptive management process to more closely align with the State of Idaho's process. The identification of causal factors and the identification of a reversal process

if habitat or populations improve allows for more flexibility and applicability of the adaptive management process. The FS and the State of Idaho, along with partners, would do a causal factor analysis and recommend actions to prevent further declines if there is a soft trigger trip. This would facilitate better coordination and management of greater sage-grouse. Refer to Appendix C.

Nevada

Adaptive management hard and soft triggers would be updated as summarized and described in Table 2-2 and Appendix D. This update would ensure that the FS is utilizing the best available data and decision support tools to guide management at the appropriate spatial scale. Analysis scale, population and habitat warnings and triggers, and the response and monitoring process would be addressed in coordination with USGS, NDOW, USFWS, and others as described in Appendix D.

Impacts on Greater Sage-Grouse and its habitat would be beneficial as a result of this update to adaptive management triggers, providing the ability to detect declining populations and/or habitat and change management on the ground.

Utah

The identification of causal factors and the identification of a reversal process if habitat or populations improve allows for more flexibility and applicability of the adaptive management process. The FS and partners would review the scientific information, complete causal factor analysis, and identify corrective strategy. If necessary, the FS would also undertake any appropriate plan amendments or revisions. More information regarding the adaptive management strategy can be found in Appendix E.

No appreciable additive impacts are anticipated from updating the adaptive management process as described in Proposed Action. This update would ensure that the FS is utilizing the best available science and decision support tools to guide management at the appropriate spatial scale, thus improving the FS's assessment and response to changing conditions that could impact greater sage-grouse populations and/or habitat.

Wyoming

Impacts associated with returning greater sage-grouse management to previous management actions once adaptive management action objectives in the interim response strategy have been met would be similar to those identified in Proposed LUP Amendments of the 2015 FEIS. There would be no change as to the identification of triggers, nor to the application of adaptive management. The only change for adaptive management would be at the implementation level, when the Adaptive Management Working Group identifies a process for returning to previous management. The impacts associated with returning to previous management would be the same as those identified in Proposed LUP Amendments for the 2015 FEIS. Refer to Appendix F.

4.5.9 TREATMENT OF INVASIVE SPECIES

Table 4-11. Treatment of invasive species considered in the 2015 FEIS.

Issue	Considered in 2015 FEIS
Emphasize treatment of invasive plant species in PHMA	Idaho: Alternative D, E Nevada: Alternatives D, E, and Proposed Plan Utah: Alternatives B, D, E1

Issue	Considered in 2015 FEIS
	Wyoming: Alternatives B, C, and D

The Proposed Action includes the addition of desired conditions and management approaches that emphasize invasive plant treatments, with a focus on annual grasses. The impact of invasive species and the effect of treatments on sage-grouse habitat was analyzed in each state 2015 FEIS and analysis is incorporated by reference. Impacts are similar to those disclosed in the 2015 analysis. The addition of these plan components is to emphasize mapping and treatment of invasive species, which are one the greatest threats to greater sage-grouse.

4.6 INCOMPLETE OR UNAVAILABLE INFORMATION

The Council on Environmental Quality (CEQ) promulgated implementing regulations for NEPA that require a federal agency to identify in an EIS any relevant information that may be incomplete or unavailable for evaluating reasonably foreseeable significant adverse impacts (40 CFR 1502.22). If the information is essential to a reasoned choice among alternatives, it must be included or addressed in an EIS, unless the cost of obtaining such information is exorbitant (40 CFR 1502.22(a).

The best available information pertinent to the decisions to be made was used in developing the DEIS. The Forest Service has made a considerable effort to acquire and convert resource data into digital format for use in the DEIS, both their own and from outside sources.

Some of the major types of data that are incomplete or unavailable are the following:

- Comprehensive planning area-wide inventory of wildlife and special status species occurrence and condition
- GIS data used for disturbance calculations on private lands
- Site-specific surveys of cultural and paleontological resources
- Amount of acres of HMA burned during the 2018 fire year.

For these resources, estimates were made concerning their number, type, and significance, based on previous surveys and existing knowledge.

In addition, some impacts of proposed management actions could not be quantified and instead were projected in qualitative terms or were described as unknown. Subsequent site-specific, project-level analyses would provide the opportunity to collect and examine site-specific inventory data to determine appropriate application of forest plan level guidance. In addition, the Forest Service and other agencies in the planning area continue to update and refine information used to implement this plan.

4.7 CUMULATIVE EFFECTS ANALYSIS

4.7.1 INTRODUCTION

This section presents the anticipated cumulative impacts on the environment that could occur from implementing the alternatives presented in Chapter 2. A cumulative impact is the impact on the environment that results from the incremental impact of the action, when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such actions (40 CFR 1508.7). Actions may occur inside or outside habitat management areas (HMAs).

Cumulative impacts can result from individually minor, but collectively significant, actions taking place over time. The cumulative impacts resulting from the implementation of the alternatives in this DEIS may be influenced by other actions, as well as activities and conditions on other public and private lands, including those beyond the planning area boundary. These include the concurrent BLM planning effort to amend resource management plans for BLM field offices and BLM national monuments in Idaho, Nevada, Utah, Colorado, and Wyoming. These were previously amended in September 2015 to incorporate conservation measures to support the continued existence of the greater sage-grouse. As a result, the sum of the effects of these incremental impacts involves determinations that often are complex, limited by the availability of information, and, to some degree, subjective.

4.7.2 ANALYSIS INCORPORATED BY REFERENCE

This DEIS incorporates by reference the analysis in the 2015 FEISs and the 2016 Sagebrush Focal Areas Withdrawal DEIS. The preparers of these documents comprehensively analyzed the cumulative impacts associated with the planning decisions under consideration in those processes, including the impacts associated with what became the Selected Alternative in the 2015 RODs.

The 2015 FEISs evaluated the cumulative impacts associated with the No Action Alternative in this DEIS, as well as the cumulative impacts associated with this DEIS's Proposed Action, which comprises planning decisions evaluated by the 2015 FEISs. This includes the six state-wide BLM LMPA/EISs occurring in the greater sage-grouse range and similar plan amendment efforts being undertaken by the BLM; therefore, the Proposed Action's effects, including its cumulative effects, are entirely within the range of effects analyzed by the 2015 FEISs. Refer to Tables 4-1 and 4-2 for a list of environmental consequences incorporated by reference for the No Action Alternative, and other alternatives as applicable.

While the analysis for the 2015 FEIS is quite recent, the Forest Service has reviewed conditions to verify that they have not changed significantly. The assessment that conditions have not changed significantly is based, in part, on the USGS science review (see Chapter 3), as well as the Forest Service's review of additional past, present, and reasonably foreseeable actions in 2018 (See Table 4-13). Since the nature and context of the cumulative effects scenario has not appreciably changed since 2015, and the 2015 analyses covered the entire range of the greater sage-grouse, the cumulative effects analysis in the 2015 FEISs applies to this planning effort and provides a foundation for the Forest Service to identify any additional cumulative impacts.

Table 4-12, below, identifies the resource topic and location of applicable cumulative effects analysis from the 2015 FEISs. Unless otherwise addressed in this chapter, the cumulative effects of the alternatives analyzed in this DEIS are covered by the 2015 FEISs. This includes the incremental impacts across the range of BLM and Forest Service lands being amended in concurrent plan amendment efforts.

Cumulative impact analyses from the 2015 FEISs are hereby incorporated by reference into this DEIS. The location of the applicable cumulative impact analysis on all resources identified from the No Action Alternative are shown in Table 4-12.

Table 4-12. Cumulative effects analysis for the No Action Alternative incorporated by reference.

Related Resource Topic	State	Location in 2015 FEIS[1]
Air Quality	CO	Chapter 5, Air Quality Section 5.15, page 5-89 to 5-91
	ID	Chapter 4, Introduction, page 4-1, Air Resources not discussed in detail
	NV	Chapter 4, Introduction 4.1, page 4-2, Air Quality not discussed in detail
	UT	Chapter 5, Air Quality Section 5.5, pages 5-161 to 5-162
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-488 to 4-490
Cultural Resources	CO	Chapter 5, Cultural Resources Section 5.20, pages 5-95 to 5-96
	ID	Chapter 4, Introduction, page 4-1, Cultural Resources not discussed in detail
	NV	Chapter 4, Introduction 4.1, page 4-2, Cultural Heritage Resources not discussed in detail
	UT	Chapter 5, Cultural Resources Section 5.13, pages 5-173 to 5-174
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-490 to 4-491
Tribal Interests (including Native American Religious Concerns)	ID	Chapter 4, Introduction, page 4-1, Tribal Interests not discussed in detail.
	NV	Chapter 5, Tribal Interests (including Native American Religious Concerns) Section 5.17, pages 5-235 to 5-236
	UT	Chapter 5, Tribal Interests Section 5.25, pages 5-195 to 5-196
Special Status Species - Greater Sage-grouse (and Habitat)	CO	Chapter 5, Special Status Species Greater Sage-grouse, Conclusions, Section 5.4, page 5-65 to 5-77
	ID	Chapter 5, discussed in detail all areas
	NV	Chapter 5, discussed in detail all areas
	UT	Chapter 5, Special Status Species - Greater Sage-Grouse Section 5.4
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-498 to 4-504
	ID, NV, UT, WY	Cumulative Wildlife Impacts Section 4.5.9, pages 4-105 to 4-107 (BLM 2016)
Other Special Status Species	CO	Chapter 5, Special Status Species (Other Species of Issue) Section 5.5, page 5-78
	ID	Chapter 4, Introduction, page 4-1, Special Status Species (Other than GRSG) not discussed in detail
	UT	Chapter 5, Other Special Status Species Section 5.10, pages 5-170 to 5-171
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-498 to 4-504
Soil	CO	Chapter 5, Soil and Water Resources Section 5.14, pages 5-87 to 5-89
	ID	Chapter 4, Introduction, page 4-1, Soil Resources not discussed in detail
	NV	Chapter 5, Conclusions Section 5.1.15, pages 5-131 to 5-140 Chapter 5, Soil Section 5.5, pages 5-181 to 5-182
	UT	Chapter 5, Soil Resources Section 5.7, pages 5-164 to 5-165
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-496 to 4-497
Riparian Areas and Wetlands and Water	CO	Chapter 5, Soil and Water Resources Section 5.14, pages 5-87 to 5-89
	ID	Chapter 4, Introduction, page 4-1, Water Resources not discussed in detail

Related Resource Topic	State	Location in 2015 FEIS[1]
Resources	NV	Chapter 5, Conclusions Section 5.1.15, pages 5-131 to 5-140 Chapter 5, Riparian Areas and Wetlands Section 5.6, pages 5-183 to 5-187 Chapter 5, Water Resources Section 5.16, pages 5-232 to 5-235
	UT	Chapter 5, Water Resources Section 5.8, pages 5-165
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-505 to 4-506
Vegetation (Including Invasive, Exotic Species, and Noxious Weeds)	CO	Chapter 5, Vegetation (Forest, Rangelands, Riparian and Wetlands, and Noxious Weeds) Section 5.7, page 5-80
	ID	Chapter 5, Vegetation Section 5.3.1, page 5-156 to 5-159
	NV	Chapter 5, Spread of Invasive Plants Section 5.1.6, pages 5-23 to 5-25 Chapter 5, Conifer Encroachment Section 5.1.6, pages 5-25 to 5-26 Chapter 5, Spread of Invasive Plants Section 5.1.10, pages 5-72 to 5-74 Chapter 5, Conifer Encroachment Section 5.1.10, pages 5-74 to 5-75 Chapter 5, Spread of Invasive Plants Section 5.1.14, pages 5-105 to 5-106 Chapter 5, Conifer Encroachment Section 5.1.14, pages 5-105 to 5-107 Chapter 5, Conclusions Section 5.1.15, pages 5-131 to 5-140 Chapter 5, Vegetation Section 5.4, pages 5-179 to 5-180
	UT	Chapter 5, Vegetation (Including Noxious Weeds, Riparian Areas and Wetlands) Section 5.9, pages 5-165 to 5-169
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource (Forestry) Section 4.22, page 4-491; (Vegetation) Section 4.22, pages 4-504 to 4-505
Fisheries and Wildlife	CO	Chapter 5, Fish and Wildlife, Section 5.3, page 5-12
	ID	Chapter 4, Introduction, page 4-1, Fish and Wildlife not discussed in detail
	NV	Chapter 4, Introduction 4.1, page 4-2, Fish and Wildlife not discussed in detail
	UT	Chapter 5, Fish and Wildlife Section 5.11, pages 5-171 to 5-172
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-507 to 4-508
Wild Horse and Burros	CO	Chapter 5, Wild Horse Management Section 5.12, page 5-86
	ID	Chapter 5, Wild Horse and Burro Section 5.3.2, pages 5-159 to 5-160
	NV	Chapter 5, Wild Horse and Burros Section 5.7, page 5-187
	UT	Chapter 5, Wild Horse and Burros Section 5.12, pages 5-172 to 5-173
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-506 to 4-507
Paleontological Resources	CO	Chapter 5, Paleontological Resources Section 5.21, pages 5-96 to 5-97
	ID	Chapter 4, Introduction, page 4-1, Paleontological Resources not discussed in detail
	NV	Chapter 4, Incomplete or Unavailable Information Section 4.3.2, page 4-6
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-494
Visual Resources	CO	Chapter 5, Visual Resources Section 5.17, page 5-92 to 5-92
	ID	Chapter 4, Introduction, page 4-1, Visual Resources not discussed in detail
	NV	Chapter 4, Introduction 4.1, page 4-2, Visual Resources not discussed in detail
	UT	Chapter 5, Visual Resources Section 5.14, pages 5-174
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-505

Related Resource Topic	State	Location in 2015 FEIS[1]
Wildland Fire and Fuel's Management	CO	Chapter 5, Wildland Fire Ecology and Management Section 5.8, pages 5-80 to 5-82
	ID	Chapter 5, Wildland Fire Section 5.3.3, pages 5-160 to 5-161
	NV	Chapter 5, Wildfire Section 5.1.6, pages 5-20 to 5-23 Chapter 5, Wildfire Section 5.1.10, pages 5-70 to 5-72 Chapter 5, Wildfire Section 5.1.14, pages 5-103 to 5-105 Chapter 5, Conclusions Section 5.1.15, pages 5-131 to 5-140 Chapter 5, Wildland Fire and Fire Management Section 5.8, pages 5-188 to 5-192
	UT	Chapter 5, Wildland Fire Management 5.15, pages 5-174 to 5-176
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-507; 4-547 to 4-548; 4-571 to 4-572
Lands with Wilderness Characteristics	CO	Chapter 5, Lands with Wilderness Characteristics Section 5.18, page 5-93 to 5-94
	ID	Chapter 5, Lands with Wilderness Characteristics Section 5.3.12, pages 5-173 to 5-174
	UT	Chapter 5, Wilderness Characteristics Section 5.16, pages 5-176 to 5-178
	WY	Chapter 4, Lands with Wilderness Characteristics Section 4.6, pages 4-81 to 4-89
Special Designations	CO	Chapter 5, Special Designations Section 5.13, pages 5-86 to 5-87
	ID	Chapter 5, Special Designations Section 5.3.11, pages 5-172 to 5-173
	NV	Chapter 5, Special Designations - Areas of Critical Environmental Concern Section 5.15, page 5-231 Chapter 4, Introduction 4.1, page 4-2, Special Designations not discussed in detail
	UT	Chapter 5, Special Designations Section 5.23, pages 5-190 to 5-191
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-497 to 4-498
Recreation	CO	Chapter 5, Recreation and Travel Management Section 5.10, page 5-83 to 5-85
	ID	Chapter 5, Recreation Section, page 5-47 to 5-50
	NV	Chapter 5, Recreation Section 5.1.6, pages 5-58 to 5-61 Chapter 5, Recreation Section 5.1.10, pages 5-97 to 5-99 Chapter 5, Recreation Section 5.1.14, pages 5-128 to 5-130
	UT	Chapter 5, Recreation Section 5.18, page 5-179
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-494 to 4-495; 4-547 to 4-548; 4-572 to 4-575
Comprehensive Travel Management	CO	Chapter 5, Recreation and Travel Management Section 5.10, page 5-83 to 5-85
	ID	Chapter 5, Travel and Transportation Section 5.3.5, pages 5-164 to 5-165
	NV	Chapter 5, Transportation and Travel Management Section 5.11, pages 5-199 to 5-200
	UT	Chapter 5, Comprehensive Travel and Transportation Management Section 5.19, pages 5-180 to 5-180
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-504
Livestock Grazing (Range Management)	CO	Chapter 5, Range Management Section 5.11, page 5-85 to 5-86
	ID	Chapter 5, Livestock Grazing Section 5.3.4, pages 5-162 to 5-164
	NV	Chapter 5, Livestock Grazing and Free Roaming Equids Section 5.1.6, pages 5-33 to 5-44 Chapter 5, Livestock Grazing and Free Roaming Equids Section 5.1.10, pages 5-81 to 5-85 Chapter 5, Livestock Grazing and Free Roaming Equids Section 5.1.14, pages 5-114 to 5-119

Related Resource Topic	State	Location in 2015 FEIS[1]
		Chapter 5, Conclusions Section 5.1.15, pages 5-131 to 5-140 Chapter 5, Livestock Grazing Section 5.9, pages 5-192 to 5-198
	UT	Chapter 5, Livestock Grazing/Range Management Section 5.17, pages 5-177 to 5-179
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-492 to 4-493; 4-540 to 4-547; 4-566 to 4-571
Land Use and Realty	CO	Chapter 5, Lands and Realty Section 5.6, page 5-79
	ID	Chapter 5, Lands and Realty Section 5.3.6, pages 5-165 to 5-168
	NV	Chapter 5, Infrastructure Section 5.1.6, pages 5-26 to 5-31 Chapter 5, Infrastructure Section 5.1.10, pages 5-75 to 5-78 Chapter 5, Infrastructure Section 5.1.14, pages 5-108 to 5-111 Chapter 5, Conclusions Section 5.1.15, pages 5-131 to 5-140 Chapter 5, Land Use and Realty Section 5.12, pages 5-200 to 5-207
	UT	Chapter 5, Lands and Realty Section 5.20, pages 5-180 to 5-182
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-491 to 4-492
Renewable Energy	CO	Chapter 5, Lands and Realty Section 5.6, page 5-79
	ID	Chapter 5, Renewable Energy, page 5-27 to 5-29; 5-52; 5-56; 5-69; 5-71; 5-81; 5-167; 5-169; 5-170 to 5-175
	NV	Chapter 5, Renewable Energy (Wind and Solar) Section 5.1.6, pages 5-31 to 5-33 Chapter 5, Renewable Energy (Wind and Solar) Section 5.1.10, pages 5-78 to 5-81 Chapter 5, Renewable Energy (Wind and Solar) Section 5.1.14, pages 5-111 to 5-114 Chapter 5, Conclusions Section 5.1.15, pages 5-131 to 5-140 Chapter 5, Renewable Energy Section 5.13, pages 5-207 to 5-211
	UT	Chapter 5, Renewable Energy Section 5.21, page 5-182
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-493 to 4-494; 4-537 to 4-540; 4-563 to 4-565
Solid Minerals	ID	Chapter 5, Nonenergy Leasable Section 5.3.10, page 5-172
	NV	Chapter 5, Coal Section 5.1.6, pages 5-50 to 5-51 Chapter 5, Coal Section 5.1.14, pages 5-123 Chapter 5, Conclusions Section 5.1.15, pages 5-131 to 5-140 Chapter 5, Solid (Nonenergy) Leasable Minerals Section 5.14.4, pages 5-227 to 5-231
	UT	Chapter 5, Coal Section 5.22.3, page 5-186
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-493 to 4-494; 4-529 to 4-530; 4-556 to 4-557
Fluid Minerals	ID	Chapter 5, Leasable Minerals Section 5.3.7, pages 5-168 to 5-170
	NV	Chapter 5, Oil and Gas Section 5.1.6, pages 5-44 to 5-48 Chapter 5, Geothermal Section 5.1.6, pages 5-49 to 5-50 Chapter 5, Oil and Gas Section 5.1.10, pages 5-86 to 5-89 Chapter 5, Geothermal Section 5.1.10, pages 5-89 to 5-90 Chapter 5, Oil and Gas Section 5.1.14, pages 5-119 to 5-123 Chapter 5, Geothermal Section 5.1.14, pages 5-123 to 5-124 Chapter 5, Conclusions Section 5.1.15, pages 5-131 to 5-140 Chapter 5, Fluid Minerals Section 5.14.1, pages 5-211 to 5-218
	UT	Chapter 5, Fluid Minerals Section 5.22.1, pages 5-182 to 5-184
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-493 to 4-494; 4-524 to 4-529; 4-552 to 4-556

Related Resource Topic	State	Location in 2015 FEIS[1]
Leasable Minerals	CO	Chapter 5, Minerals – Leasable, Locatable, Salable, and Nonenergy Leasable Section 5.9, pages 5-82 to 5-83
	ID	Chapter 5, Nonenergy Leasable Section 5.3.10, page 5-172
	NV	Chapter 5, Nonenergy Leasable Section 5.1.6, pages 5-56 to 5-57 Chapter 5, Nonenergy Leasable Section 5.1.10, pages 5-95 to 5-97 Chapter 5, Nonenergy Leasable Section 5.1.14, pages 5-128
	UT	Chapter 5, Nonenergy Leasable Section 5.22.2, pages 5-184 to 5-186
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-493 to 4-494; 4-534 to 4-553; 4-560 to 4-563
Locatable Minerals	CO	Chapter 5, Minerals – Leasable, Locatable, Salable, and Nonenergy Leasable Section 5.9, pages 5-82 to 5-83
	ID	Chapter 5, Locatable Minerals Section 5.3.8, pages 5-170 to 5-171
	NV	Chapter 5, Locatable Minerals Section 5.1.6, pages 5-53 to 5-56 Chapter 5, Locatable Minerals Section 5.1.10, pages 5-93 to 5-95 Chapter 5, Locatable Minerals Section 5.1.14, pages 5-126 to 5-128 Chapter 5, Conclusions Section 5.1.15, pages 5-131 to 5-140 Chapter 5, Locatable Minerals Section 5.14.2, pages 5-218 to 5-223
	UT	Chapter 5, Locatable Minerals Section 5.22.4, pages 5-186 to 5-188
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-493 to 4-494; 4-532 to 4-534; 4-558 to 4-559
Salable Minerals	CO	Chapter 5, Minerals – Leasable, Locatable, Salable, and Nonenergy Leasable Section 5.9, pages 5-82 to 5-83
	ID	Chapter 5, Mineral Materials Section 5.3.9, pages 5-171 to 5-171
	NV	Chapter 5, Mineral Materials Section 5.1.6, pages 5-51 to 5-53 Chapter 5, Mineral Materials Section 5.1.10, pages 5-91 to 5-93 Chapter 5, Mineral Materials Section 5.1.14, pages 5-124 to 5-126 Chapter 5, Conclusions Section 5.1.15, pages 5-131 to 5-140 Chapter 5, Mineral Materials Section 5.14.3, pages 5-223 to 5-227
	UT	Chapter 5, Mineral materials Section 5.22.5, pages 5-188 to 5-189
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-493 to 4-494; 4-530 to 4-532; 4-557 to 4-558
Social and Economic Conditions and Environmental Justice	CO	Chapter 5, Social and Economic Conditions (Including Environmental Justice) Section 5.22, pages 5-97 to 5-103
	ID	Chapter 5, Social and Economic Conditions (Including Environmental Justice) Section 5.3.13, pages 5-174 to 5-177
	NV	Chapter 5, Social and Economic Impacts (including Environmental Justice) Section 5.19, pages 5-238 to 5-241
	UT	Chapter 5, Social and Economic Impacts (Including Environmental Justice) Section 5.24, pages 5-191 to 5-195
	WY	Chapter 4, Planning Area Cumulative Impacts by Resource Section 4.22, pages 4-495 to 4-496
Climate Change	CO	Chapter 5, Climate Change Section 5.16, page 5-91 to 5-92
	ID	Chapter 5, Climate Change, pages 5-5 to 5-6; 5-17 to 5-18, 5-160 to 5-163; 5-167; 5-172 to 5-173
	NV	Chapter 5, Climate Change Section 5.18, pages 5-236 to 5-238
	UT	Chapter 5, Climate Change Section 5.6, pages 5-163 to 5-164
	WY	Chapter 4, Air Quality Impacts Associated with Non-Oil and Gas Development Activities Section 4.2.5, pages 4-57; 4-491; 4-523 to 4-524; 4-544; 4-551;
Noise/Soundscape	CO	Chapter 5, Soundscape Section 5.19, page 5-94 to 5-95

Related Resource Topic	State	Location in 2015 FEIS[1]
	ID	Chapter 5, Wildfire, page 5-18 Chapter 5, Infrastructure, page 5-23 Chapter 5, Renewable Energy, page 5-27 Chapter 5, Oil and Gas, pages 5-36 to 5-37 Chapter 5, Geothermal, page 5-40 Chapter 5, Locatable Minerals, page 5-43 Chapter 5, Recreation, pages 5-47 to 5-48; 5-78 Chapter 5, Fluid Minerals, page 5-60 Chapter 5, Special Designations, pages 5-172 to 5-173 Chapter 5, Lands with Wilderness Characteristics, page 5-173
	NV	Chapter 5, Noise, pages 5-20; 5-27; 5-31; 5-44; 5-47; 5-49; 5-50; 5-53; 5-58 to 5-59; 5-97; 5-129; 5-198
	UT	Chapter 5, Noise, pages 5-47 to 5-48; 5-53; 5-57; 5-64; 5-67 to 5-68; 5-70 to 5-71; 5-74; 5-77 to 5-78; 5-82; 5-87; 5-89; 5-97; 5-99 to 5-100; 5-102; 5-105 to 5-106; 5-111; 5-114 to 5-115; 5-114; 5-118; 5-121; 5-125; 5-133; 5-134; 5-177; 5-179
	WY	Chapter 4, Cumulative Impacts Section 4.22, pages 4-495 to 4-573

[1]Information incorporated by reference for Table 4-12 is found in the following documents:

- Northwest Colorado Greater Sage-Grouse Proposed LUPA and Final EIS 2015, Chapter 5 (https://eplanning.blm.gov/epl-front-office/projects/lup/36511/58678/63741/NWCO_5_FEIS_201506_508.pdf)
- Idaho and Southwestern Montana Proposed LUPA and Final EIS 2015, Chapter 5 (https://eplanning.blm.gov/epl-front-office/projects/lup/31652/58565/63628/09_-_ID_swMT_FEIS_Chapter_5.pdf)
- Nevada and Northeastern California Greater Sage-Grouse Proposed LUPA and Final EIS 2015, Chapter 5 (https://eplanning.blm.gov/epl-front-office/projects/lup/21152/58711/63774/10_Volume_3_Chapter_5_NVCA_GRSG.pdf)
- Utah Greater Sage-Grouse Proposed LUPA and Final EIS 2015, Chapter 5 (https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage&currentPageId=99423)
- Wyoming Greater Sage-Grouse Land Use Plan Amendment and Final EIS 2015, Chapter 4 (https://eplanning.blm.gov/epl-front-office/projects/lup/9153/58493/63913/11_Chapter-4_Environmental-Consequences_FEIS_052115.pdf)

4.7.3 PAST, PRESENT, AND REASONABLY FORSEEABLE ACTIONS

Approximately 350 species of plants and wildlife rely on sagebrush steppe ecosystems, coexist with greater sage- grouse, and may be similarly affected by development or disturbance. Nothing in the considered alternatives would lessen the Forest Service's authority or responsibility to provide for the needs of threatened, endangered, and sensitive plants and animals, as described in Forest Service land management plans, policies, and laws, including Forest Service Manual 2600, the Endangered Species Act, and NFMA.

Increased flexibility for other uses within greater sage-grouse habitat do not necessarily increase potential

impacts on other wildlife or plant species. Site-specific NEPA analyses, including an evaluation of impacts on special status species, is required for on-the-ground projects within the planning area.

In addition to tiering to the analysis in the 2015 FEISs and 2016 DEIS (listed in Table 4-12), other anticipated incremental impacts are discussed below in association with planning issues and related resource topics carried forward and analyzed in this DEIS.

While the Proposed Action removes the greater sage-grouse specific language, it emphasizes wildlife/special status species standards that would include greater sage-grouse, as long as they retain sensitive species status. As greater sage-grouse will continue to be considered at the implementation level with site-specific analysis, following management prescriptions analyzed in the 2014 and 2015 FEISs, no additive impact of this change is anticipated.

Table 4-13 represents the past, present, and reasonably foreseeable actions across the entire range for greater sage-grouse, which are separated by state. When assessing the cumulative impact of the DEIS on greater sage-grouse and its habitat, there are multiple geographic scales that the Forest Service has considered. Forest Service projects being analyzed or completed are listed on the Forest Service's Schedule of Proposed Actions (SOPA, https://www.fs.fed.us/sopa/). Specific projects that could contribute to cumulative impacts are included in Table 4-13 under the applicable state. This table also includes BLM and NRCS projects identified in the BLMs 2018 DEIS.

Further, the entire sum of past, present, and reasonably foreseeable actions listed below represent cumulative effects across the range of greater sage-grouse habitat and management areas. These effects are important to consider for future management of the species as a whole and are not solely being analyzed at the local or state level. That is why all ongoing Forest Service LMPAs/EISs refer to past, present, and reasonably foreseeable actions across states undergoing a plan amendment.

The increased flexibility in these amendments is not expected to result in a large increase in development proposals on public land. Similarly, the increased protections from the 2015 FEISs have not resulted in a large decrease in ROW applications or an increase in rejected applications; therefore, the changes proposed under the Proposed Action and the State of Utah Alternative are not expected to result in large changes to the rate of development in the five states or in their economy.

Table 4-13. Greater sage-grouse range-wide impacts from past, present, and reasonably foreseeable future actions.

Action	Location and Activity	Cumulative Effects
General – Past projects on National Forest System (NFS) lands in the planning area Data Summarized From: Forest Service Greater Sage-grouse Monitoring Annual Reports, First and Second Year Summaries: September 2015-September 2017. Information is being gathered for FY2018.		
Greater sage-grouse conservation - Fence Clips/Tags/Markers	**USFS, Bridger-Teton, Caribou-Targhee, Humboldt-Toiyabe, and Medicine Bow-Routt National Forests (NFs)**: Past habitat restoration and improvement projects (fiscal years[2] 2015, 2016, 2017).	79,641 acres of habitat improvement projects benefiting GRSG on NFS lands. GRSG are most at-risk of hitting fences that are close to leks, spring courtship dancing grounds, where males gather

[2] A fiscal year is from October 1 to September 30.

Action	Location and Activity	Cumulative Effects
		and fly in before dawn in the darkness. The flatter the landscape, the harder it is for the sage grouse to see fences.
Greater sage-grouse conservation - Fence Removal	**USFS, Ashley, Bridger-Teton, Humboldt-Toiyabe, and Uinta-Wasatch-Cache NFs**: Past habitat restoration and improvement projects (fiscal years 2015, 2016, 2017).	35,208 acres and 2 miles of habitat improvement projects benefiting GRSG on NFS lands.
Greater sage-grouse conservation - Fence Exclosures	**USFS, Caribou-Targhee and Humboldt-Toiyabe NFs**: Past habitat restoration and improvement projects (fiscal years 2015, 2016, 2017).	21,927 acres of habitat improvement projects benefiting GRSG on NFS lands.
Greater sage-grouse conservation - Install gates to improve wildlife habitat and water quality	**USFS, Sawtooth NF**: Past habitat restoration and improvement projects (fiscal years 2015, 2016, 2017).	8 Miles of habitat improvement projects benefiting GRSG on NFS lands.
Greater sage-grouse conservation - Wildlife Habitat Improved (Includes Game Improvements, Conifer/Pinion/Juniper/ Invasive Tree Removal/ GRSG Habitat Improvement/ Thinning)	**USFS, Ashley, Boise, Caribou-Targhee, Dixie, Fishlake, Humboldt-Toiyabe, Manti-La Sal, Medicine Bow-Routt, Salmon-Challis, Sawtooth, and Uinta-Wasatch-Cache National Forests**: Habitat restoration and improvement projects. Past Actions (fiscal years 2015, 2016, and 2017).	60,177 Acres and 4 miles of habitat improvement projects benefiting GRSG on NFS lands.
Greater sage-grouse conservation - Non-native/Invasive/ Noxious Weed Treatments	**USFS, Boise, Bridger-Teton, Humboldt-Toiyabe, Medicine Bow-Routt, and Salmon-Challis National Forests**: Habitat restoration and improvement projects. Past Actions (fiscal years 2015, 2016, and 2017).	14,172 acres and 55 miles of habitat improvement projects benefiting GRSG on NFS lands.
Greater sage-grouse conservation - Native Plant Treatment and Restoration	**USFS, Boise, Bridger-Teton, and Sawtooth National Forests**: Habitat restoration and improvement projects. Past Actions (fiscal years 2015, 2016, and 2017).	2,121 acres of habitat improvement projects benefiting GRSG on NFS lands.
Greater sage-grouse conservation - Prescribed Fire	**USFS, Ashley, Bridger-Teton, and Salmon-Challis NFs**: Past habitat restoration and improvement projects (fiscal years 2015, 2016, 2017).	1,609 acres of habitat improvement projects benefiting GRSG on NFS lands.
Greater sage-grouse conservation - Connector spur, spur, road decommission, User-created spur road barrier and obliteration, Road obliteration, road	**USFS, Bridger-Teton, Salmon-Challis, Sawtooth, and Uinta-Wasatch-Cache National Forests**: Past habitat restoration and improvement projects (fiscal years 2015, 2016, 2017).	30,330 acres and 2.2 miles of habitat improvement projects benefiting GRSG on NFS lands.

Action	Location and Activity	Cumulative Effects
improvement		
Greater sage-grouse conservation - Spring, Gully, Meadow, Wetland, Riparian improvement and rehabilitation	**USFS, Bridger-Teton, Caribou-Targhee, Dixie, Humboldt-Toiyabe, Sawtooth National Forests**: Past habitat restoration and improvement projects. Past Actions (fiscal years 2015, 2016, 2017).	3,100 acres and 0.27 miles of habitat improvement projects benefiting GRSG on NFS lands.
General – Activities taking place in multiple Agencies, Regions, or Forests		
Wildland Fires	**National Forest System lands located in: California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming**: Past acres burned on National Forest System lands (fiscal years 2015, 2016, 2017).	Since the ROD was signed in 2015 (i.e., fiscal years 2015 to 2017), 3,262,861 acres have burned for all administrative agencies tracked by the National Interagency Fire Center in 11 states. During that timeframe, 133,116 acres of GRSG HMA burned on NFS lands in eleven states. The number of NFS lands burned represents less than 1% of the acres burned on various agency lands. The percentage is even lower for the five states included in the analysis area for this DEIS. Wildland fires continue to be a threat to GRSG and its habitat. As a result of wildfires, post-fire rehabilitation and Burned Area Emergency Response (BAER) activities have taken place since the ROD was signed in 2015. However, it is too soon to determine the effectiveness of rehabilitation. (See tables 4-4 to 4-6 for additional fire data). Wildland fires are actively occurring in Fiscal Year 2018; however, acres of GRSG HMAs burned is not known at this time.
Continued oil and gas development	**USFS, BLM, and Other Agencies**: Disturbance and fragmentation	Development is consistent with the reasonably foreseeable development scenarios analyzed as part of the 2015 FEIS and the associated LMPs. Additional impacts are expected to be within the range analyzed in 2015 FEIS cumulative impacts analysis.

Action	Location and Activity	Cumulative Effects
Livestock grazing permit reissuance, allotment improvements (cattle and sheep)	**USFS, Forests in the Planning Area**: Ongoing projects.	Forests in each state are reissuing grazing permits, authorizing improvements to fences, riparian areas, and waterlines, etc. Refer to the SOPA for a list of forests and current grazing projects: https://www.fs.fed.us/sopa/ Impacts are covered in the cumulative impacts of the 2015 FEIS as reasonably foreseeable. Some actions, such as projects that result in better livestock distribution, may result in increased habitat effectiveness to GRSG.
Travel management	**USFS and BLM**: Ongoing projects. Some forests and BLM field offices are considering area-wide travel route designations in Travel Management plans.	These actions represent implementation of objectives from 2015 LMPA to prioritize travel management in GRSG habitat. Impacts are covered in the cumulative impacts of the 2015 FEIS as reasonably foreseeable.
Habitat Restoration Programmatic EIS	**BLM**: Great Basin-wide programmatic habitat restoration project	Programmatic document effects will be realized when the field implements projects. This action will provide opportunities to improve and enhance habitat through vegetation treatments.
Fuel Breaks Programmatic EIS	**BLM**: Great Basin-wide programmatic habitat fuel break project	Programmatic document effects will be realized when the field implements projects. This action will help to reduce the loss of habitat due to catastrophic fires.
Northwest Colorado		
Yampa Valley Electric Association, Columbine North, Powerline Realignment Categorical Exclusion (CE)	**USFS, Medicine Bow-Routt NF, Hahns Peak/Bears Ears Ranger District (RD) (CO)**: Permit amendment to authorize installation of 4,553 feet of new underground powerline.	This project is not in GRSG HMA. Therefore, this project would not contribute to cumulative effects.
Northwest Colorado Programmatic Vegetation Treatment Environmental Assessment (EA) and Decision (DOI-BLM-CO-N000-2017-0001-EA)	**BLM-administered lands in Colorado**: Programmatic NEPA document for streamlining habitat treatments in sagebrush	Programmatic document effects will be realized when the field implements projects. This action will help to reduce the loss of habitat due to catastrophic fires and improve GRSG habitat.
Idaho		
Salmon-Challis Forest Plan Revision EIS	**USFS, Salmon-Challis NF**: The Salmon-Challis National Forest is revising and updating the 1987 Challis and the 1988 Salmon Land and Resource Management Plan (Forest Plan).	This is a programmatic document. Effects will be realized when the field implements projects.
Boise & Sawtooth Forest-wide Invasive Plant Species	**USFS, Boise and Sawtooth NFs (ID and UT)**: Analyze and disclose the effects of treating invasive and noxious weeds	Programmatic document effects will be realized when the field implements projects. This action will provide

Action	Location and Activity	Cumulative Effects
Treatments EIS	forest-wide on the Boise & Sawtooth National Forests.	opportunities to improve and enhance habitat through vegetation treatments. Invasive plant treatments allow the native vegetation to outcompete invasive plants, which could result in improved GRSG habitat.
Black Pine Exploration Plan of Operations EA	**USFS, Sawtooth NF, Minidoka RD**: Pilot Gold (USA), a subsidiary of Liberty Gold, plans to drill reverse circulation and/or core drill holes from 371 proposed drill sites for the purposes of exploring for gold mineralization at the former Black Pine Mine. Acres of new disturbance is estimated at 69 acres. Disturbance associated with opening reclaimed areas is estimated at 37 acres.	This project is located in General HMA. Activities associated with exploration could result in loss of GRSG GHMA and vehicle mortality due to increased traffic. Most of these impacts should be removed by forest plan components identified in the selected alternative.
Stibnite Gold Plan of Operations EIS	**USFS, Boise NF, Cascade RD and Krassel RD**: The Forest is processing a plan of operations for open pit mining, processing, new road construction, utility upgrades, reclamation, and restoration at the Stibnite mine site.	There are no GRSG HMAs on the Krassel or Cascade RD. Therefore, this project would not contribute to cumulative effects.
2018 CuMo Exploration Project EA	**USFS, Boise NF, Idaho City RD**: Locatable minerals exploration. Proposal to drill 259 new exploratory holes to retrieve core samples. Project will construct about 13.3 miles of new temporary road and use of about 4.7 miles existing unauthorized road as temporary roads.	There are no GRSG HMAs on the Idaho City RD. Therefore, this project would not contribute to cumulative effects.
Kilgore Project EA	**USFS, Caribou-Targhee NF, Dubois RD**: A multi-year mineral exploration program within valid mining claims near Kilgore, Idaho.	There are no GRSG HMAs located in the project area. Therefore, this project would not contribute to cumulative effects.
Dairy Syncline Phosphate Mine EIS	**USFS, Caribou-Targhee NF, Soda Springs RD**: Analyze a proposed new phosphate mine plan and associated projects and infrastructure on existing lease I-28115 and I-0258, encompassing approximately 1,672 acres on lease and approximately 1,058 acres off lease. Considers land exchange proposal.	This project is located in General HMA. Activities associated with development of the lease could result in loss of GRSG GHMA and vehicle mortality due to increased traffic. Most of these impacts should be removed by forest plan components identified in the selected alternative.
East Smoky Panel Mine EIS	**USFS, Caribou-Targhee NF, Soda Springs RD**: Analyze a proposed phosphate mine expansion plan and associated projects and infrastructure at the existing J.R. Simplot Company's Smoky Canyon Mine on leases I-26843, I-012890, and I-015259. 710 acres of disturbance on lease, 164 acres off lease.	There are no GRSG HMAs located in the project area. Therefore, this project would not contribute to cumulative effects.
Colson Copper Exploration Drilling	**USFS, Salmon-Challis NF, North Fork RD**: Reopening of 2,400 feet of previously	There are no GRSG HMAs located in the project area. Therefore, this project

Action	Location and Activity	Cumulative Effects
Project CE	reclaimed road, construction of four drill pads, and core drilling of up to 6 holes at each pad to delineate anticipated mineralization.	would not contribute to cumulative effects.
Arnett Creek Drilling EA	**USFS, Salmon-Challis NF, Salmon-Cobalt RD**: Drill on up to 53 drill sites. Total disturbance up to 15 acres. Operations are anticipated to start in summer 2018 with final reclamation by October 2020. Existing, undesignated mine roads and temporary roads would be used and decommissioned.	There are no GRSG HMAs located in the project area. Therefore, this project would not contribute to cumulative effects.
Iron Creek Trenching and Drilling Project EA	**USFS**, **Salmon-Challis NF, Salmon-Cobalt RD**: The Operator proposes to trench approximately 1,435 linear feet, drill on up to six drill pads, and remove up to 10 tons of sample material removed for further analysis.	There are no GRSG HMAs located in the project area. Therefore, this project would not contribute to cumulative effects.
Big Creek Geothermal Leasing Project EIS	**USFS, Salmon-Challis NF, Salmon-Cobalt RD**: The Forest proposes to consent with stipulations to BLM issuance of three contiguous, noncompetitive geothermal leases.	There are no GRSG HMAs located in the project area. Therefore, this project would not contribute to cumulative effects.
Valley County Quarry Development CE	**USFS, Boise NF, Cascade RD**: Analyze request from Valley County to develop and operate a quarry on NFS lands. Material would be used for road maintenance along backcountry roads. Quarry development would coincide with reclamation of the Valdez Pit.	There are no GRSG HMAs on the Cascade RD. Therefore, this project would not contribute to cumulative effects.
Lower Valley Energy Natural Gas Pipeline EIS	**USFS, Caribou-Targhee NF, Montpelier RD (ID and WY)**: Construct a 50 mile, eight inch natural gas pipeline between Bear Lake County and Afton, Wyoming. Approximately 20 miles of this pipeline would be on NFS lands.	Approximately 3 miles of this pipeline is located in GRSG HMA on NFS lands. Activities associated with the pipeline may result in the removal of vegetation due to construction activities. Increased maintenance activities could lead to an increase in collision mortalities. However, most of these impacts should be removed by forest plan components identified in the selected alternative.
Idaho Power Company (IPC) - Horseshoe Bend to Garden Valley Project EA	**USFS, Boise NF, Idaho City RD, Emmett RD**: Issuance of a FLPMA permit authorizing IPC to use NFS lands for the purpose of operating and maintaining a 34.5-kilovolt distribution power line. The line would run from Horseshoe Bend to Placerville and Placerville to Garden Valley.	There are no GRSG HMAs on the Idaho City or Emmett RDs. Therefore, this project would not contribute to cumulative effects.
Century Link Fiber Optic Cable Project 2018 CE	**USFS, Boise NF, Idaho City RD**: CenturyLink proposes to add 20 miles of fiber optic cable, approximately 6.0 miles	There are no GRSG HMAs on the Idaho City RD. Therefore, this project would not contribute to cumulative effects.

Action	Location and Activity	Cumulative Effects
	of which crosses NFS lands; new cable on NFS lands will be installed in/along existing roads in Grimes Greek, Idaho City and Centerville areas.	
Buckboard Gulch Sage-Grouse Habitat Improvement CE	**USFS, Caribou-Targhee NF, Dubois RD**: Removes encroaching Douglas fir in 2,400 acres of sagebrush steppe to enhance and restore habitat for Greater Sage-Grouse, pygmy rabbits, and sagebrush songbirds of conservation concern.	This project will provide opportunities to improve, enhance, and restore 2,400 acres of GRSG habitat through vegetation treatments. This project and other habitat improvement projects will result in beneficial cumulative effects to GRSG and its habitat.
Salmon-Challis Conifer Encroachment CE	**USFS, Salmon-Challis NF, All Units**: Reduce conifers encroaching into sage steppe GRSG habitat. The project would authorize approx. 199,500 acres and treat roughly 3,000 acres per year. Trees would be hand felled, lopped, and/or piled for burning.	This project will provide opportunities to improve, enhance, and restore approximately 199,500 acres (roughly 3,000 per year) of GRSG habitat through vegetation treatments. These habitat improvement projects will result in beneficial cumulative effects to GRSG and its habitat.
Toponce Habitat Enhancement CE	**USFS, Caribou-Targhee NF, Westside RD**: Improve and maintain aspen and mountain brush habitat for wildlife benefits and manage forest fuels near multiple ownership jurisdictions.	This project will provide opportunities to improve and maintain habitat for wildlife through vegetation treatments and manage forest fuels. These habitat improvement projects will result in beneficial cumulative effects for wildlife.
Goose Creek Sage-Grouse Habitat Restoration Project EA	**USFS**, **Sawtooth NF, Minidoka RD**: Proposing approximately 18,488 acres of hand thinning and 13,816 acres of mechanical treatment of juniper to maintain and improve sage-grouse habitat in the Goose Creek area of the Cassia Div.	This project will provide opportunities to improve, maintain, and restore 32,304 acres of GRSG habitat through vegetation treatments. These habitat improvement projects will result in beneficial cumulative effects to GRSG and its habitat.
Pahsimeroi Aspen Restoration Project CE	**USFS, Salmon-Challis NF, Challis-Yankee Fork RD**: Cut conifers from aspen stands by either hand (chainsaw) cutting or girdling. To protect natural resources, the cutting of conifers will be done by hand with chainsaws. No roads, temporary roads or any type of ground disturbing activities will occur.	GRSG HMA is present within the project area. This project will provide aspen restoration. Cutting of conifers will be done by hand, and no ground disturbing activities will occur. Conifer removal would improve GRSG habitat and open areas to GRSG that were previously unavailable because of juniper encroachment. Therefore, this project will result in beneficial cumulative effects and will provide beneficial impacts to aspen restoration on the district.
Withington Aspen Improvement Project CE	**USFS, Salmon-Challis NF, Salmon-Cobalt RD**: Remove small diameter (<4 inch) conifers out of and within 100 feet of 210 acres of aspen clones in the project area. Conifers would be cut, lopped, and	There are no GRSG HMAs located in the project area. Therefore, this project would not contribute to cumulative effects.

Action	Location and Activity	Cumulative Effects
	scattered on site. No ground disturbing equipment would be used.	
Albion-Raft River Aspen Habitat Restoration Project CE	**USFS, Sawtooth NF, Minidoka RD (ID, UT)**: Restore aspen ecosystems in key wildlife habitats. Implementation of proposed treatments would progress towards meeting the Sawtooth National Forest Plan goals and IDFG habitat goals.	There are no GRSG HMAs located in the project area. Therefore, this project would not contribute to cumulative effects.
French Hazard WUI EA	**USFS, Boise NF, Cascade RD**: Create or enhance defensible space for suppression resources, restore vegetative conditions more reflective of fire-adapted ecosystems, reduce hazardous fuels, and minimizing risks to public health and safety.	There are no GRSG HMAs on the Cascade RD. Therefore, this project would not contribute to cumulative effects.
Teton Canyon Hazardous Fuels Reduction Project EA	**USFS, Caribou-Targhee NF, Teton Basin RD**: Reduce hazardous fuels adjacent to private property, the town of Alta, the Alta municipal water supply, the Treasure Mountain Boy Scout Camp, Teton and Reunion Flats Campgrounds. Improve access along Teton Canyon Road for public safety.	There are no GRSG HMAs on the Teton Basin RD. Therefore, this project would not contribute to cumulative effects.
John Wood Forest Management Project EIS	**USFS, Caribou-Targhee NF, Soda Springs RD**: The Forest Service proposes to conduct forest vegetation management activities (mechanical timber harvest and pre-commercial thinning) and road work (temporary and permanent).	There are no GRSG HMAs located in the project area. Therefore, this project would not contribute to cumulative effects.
Buffalo TSI EIS	**USFS, Caribou-Targhee NF, Ashland/ Island Park RD**: Precommercially thin approximately 3,900 acres to reduce/prolong the overall susceptibility to mountain pine beetle attacks & crown fires in previously harvested areas.	There are no GRSG HMAs located in the project area. Therefore, this project would not contribute to cumulative effects.
Elk Mountain East Vegetation Management CE	**USFS, Sawtooth NF, Sawtooth National Recreation Area**: Proposal to conduct vegetation management activities to address insect infestations and resulting fuel build-up in the Elk Mountain and Dry Creek Area.	There are no GRSG HMAs located in the project area. Therefore, this project would not contribute to cumulative effects.
West Side Divide – Cottonwood CE West Side Divide - Ola Summit CE West Side Divide – Tripod CE	**USFS, Boise NF, Emmett RD**: Manage forest structure and species composition to improve forest landscape resiliency to recover from uncharacteristic insect and disease disturbance.	There are no GRSG HMAs on the Emmett RD. Therefore, this project would not contribute to cumulative effects.
Boise Ridge Forest Health Project CE Sinker Creek Project CE	**USFS, Boise NF, Mountain Home RD**: These projects will treat vegetation on approximately 6,000 acres to reduce	There are no GRSG HMAs located in the project area. Therefore, this project

Action	Location and Activity	Cumulative Effects
	insect and disease disturbance in the wildland urban interface.	would not contribute to cumulative effects.
Lodgepole Springs Restoration Burn CE	**USFS, Boise NF, Emmett RD**: Implement a series of prescribed burns to restore species composition and stand structure by reducing undesirable species and stand densities.	There are no GRSG HMAs on the Emmett RD. Therefore, this project would not contribute to cumulative effects.
Crane Basin Timber Stand Improvement CE	**USFS, Salmon-Challis NF, Challis-Yankee Fork RD**: Mixed severity prescribed fire In Crane Basin and adjoining McGowan Creek will introduce fire back into an ecosystem that has missed historic fire return intervals. This will improve stand health and provide positive changes to wildlife habitat.	There is GRSG HMA within the project area. However, prescribed fire is not planned within IHMA. This project will provide positive improvements to GRSG and wildlife habitat, within the 5,760 acre project area.
Bartlett Creek Vegetation Project CE	**USFS, Salmon-Challis NF, Lost River RD**: Prescribed fire over a majority of the 3,000 acre project area. Manual thinning using chainsaws may occur in site specific locations.	There are no GRSG HMAs located in the project area. Therefore, this project would not contribute to cumulative effects.
Boise Basin Experimental Forest Project EA	**USFS, Boise NF, Idaho City RD**: The Boise Basin Experimental Forest Project would conduct vegetation management and prescribed fire activities in the Boise Basin Experimental Forest as part of a Rocky Mountain Research Station research project.	There are no GRSG HMAs on the Idaho City RD. Therefore, this project would not contribute to cumulative effects.
West Lowman Natural Fuels Reduction Project CE	**USFS, Boise NF, Lowman RD**: The Forest proposes to utilize prescribed fire and non-commercial thinning to improve forest health conditions within the Lowman WUI and other forest lands by reducing tree densities, ladder fuels and other fuel loads.	There are no GRSG HMAs on the Lowman RD. Therefore, this project would not contribute to cumulative effects.
Salmon Municipal Watershed EA	**USFS, Salmon-Challis NF, Salmon-Cobalt RD**: Use thinning treatments and prescribed fire to reduce hazardous fuel loading, restore forest resilience to insects and disease, reduce unauthorized usage that lowers water quality, and improve wildland firefighter safety.	There are no GRSG HMAs located in the project area. Therefore, this project would not contribute to cumulative effects.
Wildland fires 2015–2017	**BLM-administered lands in Idaho**: Past acres burned on BLM-administered land	534,744 acres of HMA burned since the ROD was signed in 2015. Post-fire rehabilitation was implemented. Too soon to determine the effectiveness of rehabilitation.
Habitat treatments 2015–2017	**BLM-administered lands in Idaho**: Past habitat improvement projects	431,295 acres treated to restore or improve potential GRSG habitat. Too soon to determine the effectiveness of treatment

Action	Location and Activity	Cumulative Effects
Bruneau-Owyhee Sage-Grouse Habitat Project (BOSH)	**BLM-administered lands in Idaho**: Future removal of juniper encroaching into GRSG habitat	BOSH would remove encroaching juniper from GRSG habitat and render the habitat usable for GRSG. Results in a net benefit to GRSG habitat.
ROWs issued 2015–2017	**BLM-administered lands in Idaho**: Past ROWs issued on BLM-administered land	97 ROWs were issued in the planning area but fewer than 10 were in GRSG habitat and resulted in new habitat loss. The effects were mitigated, using the mitigation hierarchy.
Pending ROWs 2015–2017	Future ROW under analysis on BLM-administered land	123 ROW applications have been submitted and are pending review and analysis.
Soda Fire restoration	**BLM-administered lands in Idaho**: Present habitat restoration and fuel break construction	Restoration of previously burned GRSG habitat. Results in a net benefit to GRSG habitat.
Tristate Fuel Breaks Project	**BLM-administered lands in Idaho**: Future GRSG habitat protection	Fuel breaks would protect habitat from wildfires. Some sagebrush may be lost during fuel break construction. Results in a net benefit to GRSG habitat.
Boise District Vegetation Project	**BLM-administered lands in Idaho**: Future habitat treatment project that improves GRSG habitat district-wide	Restoration of GRSG habitat and improved rangeland conditions result in a net benefit to GRSG habitat.
Twin Falls Vegetation Project	**BLM-administered lands in Idaho**: Present habitat treatment project that improves GRSG habitat district-wide	Restoration of GRSG habitat and improved rangeland conditions. Results in a net benefit to GRSG habitat.
Idaho Falls Vegetation Project	**BLM-administered lands in Idaho**: Present habitat treatment project that improves GRSG habitat district-wide	Restoration of GRSG habitat and improved rangeland conditions. Results in a net benefit to GRSG habitat.
Conifer removal	**NRCS in Idaho**: Present (2018) 1,862 acres of conifer removal on private land to improve GRSG habitat	Conifer removal would improve GRSG habitat and open areas to GRSG that were previously unavailable because of juniper encroachment.
	Future (2019–2023) 5,541 acres of conifer removal on private land to improve GRSG habitat	Conifer removal would improve GRSG habitat and open areas to GRSG that were previously unavailable because of juniper encroachment.
Weed treatments	**NRCS in Idaho**: Present (2018) 95 acres of weed treatments on private land to reduce noxious weeds in GRSG habitat	Weed treatments allow the native vegetation to outcompete weeds on treated acres.
	Future (2019–2023) 357 acres of weed treatments on private land to reduce noxious weeds in GRSG habitat	Weed treatments allow the native vegetation to outcompete weeds on treated acres.
Water development	**NRCS in Idaho**: Present (2018) 21,308 feet of pipeline and 40 watering tanks installed on private land	Water development to move livestock out of natural springs and wet meadows.
	Future (2019–2023) 82,502 feet of pipeline and 46 watering tanks installed on private land	Water development to move livestock out of natural springs and wet meadows
Nevada		

Action	Location and Activity	Cumulative Effects
Humboldt-Toiyabe Integrated Invasive Plant Treatment Project EIS	**USFS, Humboldt-Toiyabe NF, All Units**: Update current management to provide for integrated and timely management of invasive species, now and in the future, with the goal of promoting healthy and thriving native plant communities across the HTNF.	Programmatic document effects will be realized when the field implements projects. This action will provide opportunities to improve and enhance habitat through vegetation treatments. Invasive plant treatments allow the native vegetation to outcompete invasive plants, which could result in improved GRSG habitat.
California Integrated Weed Management EA	**USFS, Humboldt-Toiyabe NF, Carson RD and Bridgeport RD (CA and NV)**: The proposed action includes the development and implementation of an Integrated Weed Management System (IWMS) to treat noxious and invasive weeds on Humboldt-Toiyabe National Forest System Lands in California.	Programmatic document effects will be realized when the field implements projects. This action will provide opportunities to improve and enhance habitat through vegetation treatments. Invasive plant treatments allow the native vegetation to outcompete invasive plants, which could result in improved GRSG habitat.
Hickison Wild Burro Territory Appropriate Management Levels and Management Actions Project EA	**USFS, Humboldt-Toiyabe NF, Austin RD**: Project proposes to establish appropriate wild burro herd management levels, authorize population management actions, and approve reconstruction of water developments.	There is GRSG HMA within the project area. Wild horse and burros can have an impact on GRSG habitat, as described in the FEIS (see Table 4-2, Wild Horse and Burros for page number). Wild burro management efforts are projected to increase over the analysis period. When wild horse and burro management within Nevada is added to conservation actions, this would result in a net conservation gain to GRSG habitats and populations. Impacts may be reduced, where AMLs are evaluated with consideration of GRSG habitat objectives and Forest Plan components for Forest Service administered lands.
Spring Mountains Wild Horse & Burro Complex Project EA	**USFS, Humboldt-Toiyabe NF, Spring Mountains NRA**: Analyze appropriate management levels and horse gathers on the Spring Mountains NRA and the Southern NV BLM District.	This project is not in GRSG HMA. Therefore, this project would not contribute to cumulative effects.
Indian Valley Greater Sage-grouse Habitat Improvement Project CE	**USFS, Humboldt-Toiyabe NF, Austin RD**: Remove pinyon pine and juniper on up to 17,000 acres within the Indian Valley project area. Treatment would be done on foot using chainsaws and other hand tools. No vehicles or mechanized equipment would be operated off road.	There is GRSG HMA within the project area. This project will provide opportunities to improve, maintain, and restore 17,000 acres of GRSG habitat through vegetation treatments. These habitat improvement projects will result in beneficial cumulative effects to GRSG and its habitat.
Bodie Hills Habitat Improvement Project CE	**USFS, Humboldt-Toiyabe NF, Bridgeport RD**: This project will remove conifers from about 4,700 acres of sagebrush ecosystems in the Bodie Hills to improve	This project is not in a GRSG HMA. Bi-State sage-grouse habitat areas are managed separately from other GRSG.

Action	Location and Activity	Cumulative Effects
	habitat for the Bi-State sage-grouse.	This project will provide opportunities to improve, maintain, and restore 4,700 acres of Bi-State sage-grouse habitat through vegetation treatments. These habitat improvement projects will result in beneficial cumulative effects to Bi-State sage-grouse and its habitat.
Sagebrush Habitat Restoration Project CE	**USFS, Humboldt-Toiyabe NF, Ely RD**: Use crews with chainsaws to cut and leave Phase I and II (Less than 100 years old) pinyon-Juniper trees to restore sagebrush and mountain brush communities.	There is GRSG HMA within the project area. This project will provide opportunities to restore GRSG habitat through vegetation treatments. This habitat improvement project will result in beneficial cumulative effects to GRSG and its habitat.
West Carson Habitat Restoration Project CE	**USFS, Humboldt-Toiyabe NF, Carson RD**: Aspen stand restoration, and habitat improvement activities for TES species. Aspen stand restoration would consist of reducing conifer encroachment to increasing aspen regeneration and diversity.	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects.
Ruby Mountains Oil and Gas Leasing Availability Analysis EA	**USFS, Humboldt-Toiyabe NF, Ruby Mountains RD**: Proposal is to make available for oil and gas leasing approximately 54,000 acres of NFS land in the Ruby Mountains.	There is GRSG HMA within the project area. The act of making NFS land available for leasing would have no direct or indirect effects, and therefore no cumulative effects, as no specific disturbance is taken as a result of purchasing a lease. If future development is proposed following the EA decision (expected November 2018), environmental analysis would occur. Lease stipulations would apply as described in the leases according to GRSG HMA category. The development of wells within these areas could lead to fragmentation and loss of habitat due to construction activities. Increased noise levels associated with traffic and compressors may impact lek attendance. Increased traffic associated with day to day operations may also increase the potential for collision mortality. However, most of these impacts should be removed by forest plan components identified in the selected alternative.
B2Gold Rockland Exploration Drilling Project CE	**USFS, Humboldt-Toiyabe NF, Bridgeport RD**: B2Gold Corporation proposes an exploration drilling project for locatable	This project is not in GRSG HMA, it is in the bi-state area. Therefore, this project

Action	Location and Activity	Cumulative Effects
	minerals in the Wilson Mining District (aka, Rockland Mining District), Lyon County, Nevada. Activities proposed under the project include the drilling of exploration core holes.	would not contribute to cumulative effects.
Pine Grove Geotechnical Project CE	**USFS, Humboldt-Toiyabe NF, Bridgeport RD:** Exploration drilling for locatable minerals in the Wilson Mining District. Activities would include drilling 4 groundwater exploration wells, 9 mineral exploration holes, 6 geotechnical engineering auger holes, and 11 test pits for soil evaluation.	This project is not in GRSG HMA, it is in the bi-state area. Therefore, this project would not contribute to cumulative effects.
Barcelona Minerals Exploration Project CE	**USFS, Humboldt-Toiyabe NF, Austin RD**: Minerals exploration project in the Toquima Range. Seven drill sites on FS administered land.	There is GRSG HMA within the project area. Approximately 1.05 acres will be disturbed to collect samples of rock for mineral and chemical analysis from below the ground surface by means of boreholes using truck mounted, core drill rigs. May remove a minor amount of vegetation due to drilling activities (approximately 1.05 total acres spread across seven sites). Increased activities could lead to an increase in collision mortalities. However, most of these impacts should be removed by forest plan components identified in the selected alternative. This project would not contribute to cumulative effects, as it would be minimal and result in less than 1% of total GRSG HMA acreage disturbed.
Corcoran Canyon Exploration Project CE	**USFS, Humboldt-Toiyabe NF, Tonopah RD**: Exploration drilling project in the Toquima mountain range north of Belmont NV (up to 29 drill sites and 2 groundwater monitoring wells at two drill sites). Groundwater monitoring wells will be used to collect baseline water quality data and groundwater characteristics (e.g., recharge/discharge rates) for a potential future mine proposal. Groundwater monitoring wells and access routes will be used for a period of five years following construction and reclaimed.	There is GRSG HMA within the project area. Approximately 3.47 total acres will be disturbed to explore for precious metal mineral resources. May remove a minor amount of vegetation due to drilling activities (approximately 3.47 total acres spread across 29 sites). Increased activities could lead to an increase in collision mortalities. However, most of these impacts should be removed by forest plan components identified in the selected alternative. This project would not contribute to cumulative effects, as it would be minimal and result in less

Action	Location and Activity	Cumulative Effects
		than 1% of total GRSG HMA acreage disturbed.
Danbo Exploration Project CE	**USFS, Humboldt-Toiyabe NF, Tonopah RD**: Exploration drilling project, nine proposed drill holes all on existing disturbance, no new road construction, widening or maintenance proposed.	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects.
Keystone Jumbo CE	**USFS, Humboldt-Toiyabe NF, Tonopah RD**: Exploration project near the Keystone and Jumbo Pits adjacent to Manhattan NV. A total of 29 proposed exploration drill holes, up to 3 holes drilled per site. A total of 1.44 acres of proposed disturbance. No new road construction or maintenance.	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects.
Longstreet 2018 Exploration Project CE	**USFS, Humboldt-Toiyabe NF, Tonopah RD**: Exploration drilling program in the southern Monitor Range including new road construction, installation of 1 production well and 7 groundwater monitoring wells and 12 exploration drill holes. 1.97 acres of total disturbance.	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects.
Bordertown to California 120kV Transmission Line EIS	**USFS, Humboldt-Toiyabe NF, Carson RD (CA and NV)**: Construct 120kV transmission line connecting the Bordertown and California substations.	This project is not located in GRSG HMA on the Humboldt-Toiyabe NF. Therefore, this project would not contribute to cumulative effects.
Wildland fires 2015–2017	**BLM-administered lands in Nevada and Northeastern California**: Past acres burned on BLM-administered land	Approximately 1.3 million acres of GRSG HMA burned between 2015-2017. Post fire restoration is being implemented as described below.
Fire Restoration (Emergency Stabilization and Rehabilitation)	**BLM-administered lands in Nevada and California**: Past and Present – Habitat restoration following wildland fires	1.8 million acres of habitat are either currently being treated or scheduled to be treated according to specific prescriptions outlined in Emergency Stabilization and Burned Area Rehabilitation plans following wildfire.
Habitat treatments 2015–2017	**BLM-administered lands in Nevada and Northeastern California**: Past habitat improvement projects	Over 176,000 acres of GRSG habitat was treated between 2015 and 2017 to maintain or improve conditions for GRSG. Treatments included conifer removal, fuel breaks, invasive species removal and habitat protection/ restoration.
Land Use and Realty (issued and pending) 2015-2018	**BLM-administered lands in Nevada:** Past ROWs issued on BLM land	227 ROWs were issued in the planning area between 2015-2017. This includes amendments and reauthorizations, which may not have resulted in new disturbance. For ROWs occurring in GRSG habitat, effects were offset using the mitigation hierarchy.

Action	Location and Activity	Cumulative Effects
	Future pending ROWs	85 ROW applications are pending review and analysis. New ROWs would be held to the same mitigation standard under the management alignment alternative as described in the 2015 EIS, so no additional cumulative impacts beyond those described in 2015 are anticipated. In addition, BLM Nevada is also currently evaluating a proposed withdrawal for expansion of the Fallon Naval Air Station, Fallon Range Training Complex for defense purposes.
Oil and Gas	**BLM-administered lands in Nevada:** Past oil and gas projects	BLM has offered for lease 425,711 acres in HMAs; 407,478 acres of that total were leased. Lease stipulations apply as described in the leases according to GRSG HMA category.
	Future pending oil and gas projects	BLM has a scheduled lease sale in June 2018 that will offer 110,556 acres in GRSG HMAs. Lease stipulations would still be as described in 2015 until a decision is made on this draft.
Geothermal	**BLM-administered lands in Nevada:** Past and present geothermal projects	Between 2015 and 2017, the BLM has offered for lease 24,468 acres within HMAs. Lease stipulations apply as described in the leases as analyzed in the 2015 FEIS. 6 geothermal development permits have been approved and drilled on existing pads on existing leases. McGinness Hills Phase 3 EA authorized up to 42 acres of disturbance on existing leases, which will be offset according to the mitigation hierarchy.
Geothermal	**Forest Service in Nevada**: Future Pending geothermal projects	6,901 acres of HMA pending Forest Service concurrence to lease, no pending geothermal development permits. If in HMAs, stipulations would be as described in 2015.
Locatable Mineral Projects	**BLM-administered lands in Nevada:** Past and present locatable mineral projects	Between 2015 and 2017, the BLM has approved 18 new mines and/or expansions in the planning area, which is within the reasonably foreseeable development scenario outlined in the 2015 FEIS (Section 5.1.16).
	Future Pending locatable minerals projects	The BLM is currently reviewing 20 plans of development for new mines or expansions, which is within the reasonably foreseeable development

Action	Location and Activity	Cumulative Effects
		scenario outlined in the 2015 FEIS (Section 5.1.16).
Fuel Breaks PEIS	**BLM-administered lands in Nevada:** Future – Great Basin-wide programmatic habitat fuel break project	Programmatic document effects will be realized when the field implements projects.
Utah		
Manti-La Sal National Forest Land and Resource Management Plan EIS	**USFS, Manti-La Sal NF**: Forest Plan Revision. The Manti-La Sal National Forest is in the process of revising its Forest Plan pursuant to the 2012 Planning Rule (36 CFR 219). For more information, visit http:/bit.do/mlsnfplanningpage	This is a programmatic document. Effects will be realized when the field implements projects.
Bears Ears National Monument (BENM) Management Plan EIS	**USFS, Manti-La Sal NF**: FS to serve as a co-lead and cooperating agency to the BLM in development of a management plan for the Shash Jaa unit of the BENM	This is a programmatic document. Effects will be realized when the field implements projects.
Brian Head Fire Rehabilitation Project EA	**USFS, Dixie NF, Cedar City RD**: In the summer of 2017 the Brian Head fire burned more than 71,000 acres of private, state, and federal land. This project focuses on rehabilitation for the burned area and areas immediately adjacent.	The Brian Head fire burned through some areas identified as PHMA. In some areas encroaching conifers were reduced, enhancing sage-steppe habitat for sage-grouse. These habitat improvement projects could result in beneficial cumulative effects to GRSG and its habitat.
Brian Head Fire Rehabilitation Project CE	**USFS, Dixie NF, Cedar City RD**: This project will strive to improve public health and safety and natural resource conditions impacted by the Brian Head fire while continuing to promote multiple use management.	The Brian Head fire burned through some areas identified as PHMA. In some areas encroaching conifers were reduced, enhancing sage-steppe habitat for sage-grouse. These habitat improvement projects could result in beneficial cumulative effects to GRSG and its habitat.
North Hills Wild Horse Management Plan EA	**USFS, Dixie NF, Pine Valley RD**: Collaborative analysis for continued wild horse management in southern Utah lands administered by USDI Bureau of Land Management and USDA Forest Service-Dixie National Forest.	There are no GRSG HMAs on the Pine Valley RD. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
Mud Springs Wildlife Habitat Improvement Project CE	**USFS, Dixie NF, Powell RD**: Protect and restore sage-steppe habitats for the benefit of the threatened Utah prairie dog and the Forest Service sensitive sage-grouse. Restore watershed conditions to facilitate improved wildlife habitat effectiveness. Reduce encroaching conifers.	This project will provide opportunities to reduce encroaching conifers and protect and restore sage-steppe habitat for sage-grouse. These habitat improvement projects will result in beneficial cumulative effects to GRSG and its habitat.
Paunsaugunt Plateau Wildlife Habitat Improvement Project CE	**USFS, Dixie NF, Powell RD**: Maintain and improve the status of the Paunsaugunt boreal toad population and other key wildlife species by increasing the availability of woody browse, such as	This project is located in an area that does not support suitable sage-grouse habitat and improvements to that are going to enhance aspen and will not enhance habitat for sage-grouse.

Action	Location and Activity	Cumulative Effects
	aspen, adjacent to current, historic and potential use areas.	Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
Green Canyon and Providence Canyon Watershed Wildlife Habitat Improvement CE	**USFS, Logan RD, Uinta-Wasatch-Cache NF**: Remove juniper in Green Canyon, Logan Dry Canyon and Providence Canyon. Juniper would be removed by hand cutting and the area seeded with browse species to improve the quality and quantity of forage for wildlife.	This project is located in an area that do not support suitable sage-grouse habitat. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
Uinta-Wasatch-Cache Phase 1 Pinyon/Juniper Treatments CE	**USFS, Forest-wide, Uinta-Wasatch-Cache NF**: Mechanically treat, by lop and scatter, juniper and pinyon pine whips on approximately 71,868 acres.	This project is in locations across the forest that could provide opportunities to improve GRSG habitat through vegetation treatments. These habitat improvement projects could result in beneficial cumulative effects to GRSG and its habitat.
Jacob's Valley Vegetation Management Project EA	**USFS, Dixie NF, Escalante RD**: Address forest health at the stand and landscape level to maintain and enhance ecosystem function, watershed characteristics, visual aesthetics, recreational and implementation of the motorized travel plan.	This project will provide opportunities to reduce encroaching conifers and protect and restore sage-steppe habitat for sage-grouse. These habitat improvement projects will result in beneficial cumulative effects to GRSG and its habitat.
North End Habitat Improvement project CE	**USFS, Manti-La Sal NF, Moab RD**: Vegetation management project on the north side of the La Sal Mountains to improve forage production for big game and to reduce the continuity of fuels for wildland fire management, utilizing mechanical (bullhog) and hand (chainsaw) treatments.	This area on the Manti-La Sal National Forest does not contain suitable sage-grouse habitat. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
Red Ryder Vegetation Management Project EA	**USFS, Ogden and Logan RDs, Uinta-Wasatch-Cache NF**: Proposal includes a combination of commercial timber harvesting, pre-commercial thinning, and prescribed fire to treat approx. 13,263 acres. Access to the project area would involve use of temporary and existing roads.	This project is a timber sale outside of suitable habitat for the greater sage-grouse. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
Upper Midway Salvage Project CE	**USFS, Dixie NF, Cedar City RD**: Salvage of 168 acres of dead (beetle killed) spruce using tractor logging, mechanical harvest equipment and whole tree removal. Slash would be available as biomass or fuel load. Slash at landing burned through a burn plan. Replanting if needed.	This project is a timber sale outside of suitable habitat for the greater sage-grouse. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
Canyons Project EA	**USFS, Manti-La Sal NF, Sanpete RD**: Salvage dead Engelmann spruce trees and implement fuels reduction	There are no GRSG HMAs on the Sanpete RD. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.

Action	Location and Activity	Cumulative Effects
	treatments under HFRA. About 33,500 acres of treatment proposed.	
Upper Provo Watershed Fuels Project – Addition CE	**USFS, Heber-Kamas RD, Uinta-Wasatch-Cache NF**: Proposal is an addition to the approved and partially implemented Upper Provo Watershed EA signed in 2014. Of the 1,316 acres, 500 acres are polygons within the 91,000 acre boundary.	This project is a fuels reduction project outside of suitable habitat for the greater sage-grouse. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
Pinto Watershed and Defensible Fire Space Improvement Project EA	**USFS, Dixie NF, Pine Valley RD**: WUI fuels reduction, winter range enhancement, grass and forb diversity improvement, and watershed improvement to reduce TMDL to Newcastle reservoir.	There are no GRSG HMAs on the Pine Valley RD. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
Fishlake National Forest & Boulder Mountain Pinyon- Juniper Project EA	**USFS, Fishlake NF, All Units**: Pinyon-juniper removal to improve and maintain sage-steppe, grassland, oak, and open woodland cover. Treatments include hand-cutting, mechanical and prescribed burning to address encroachment.	This project is located in an area that does not occur in PHMA, however, small areas of PHMA designated habitat occur within the analysis boundary. These habitat improvement projects will result in some beneficial cumulative effects to GRSG and its habitat.
South Beaver Vegetation Management Project EA	**USFS, Fishlake NF, Beaver RD**: Analyze the potential effects of thinning and burning within the 42,900 acre South Beaver project area.	This project is a thinning and fuels reduction project outside of suitable habitat for GRSG. Therefore, this project would have no cumulative effect to GRSG and its habitat.
Trail Mountain Wildlife Habitat Enhancement and Aspen Regeneration Project CE	**USFS, Manti-La Sal NF, Ferron RD**: Prescribe burn approximately 4,004 acres within a 17,115 project area to regenerate aspen, improve wildlife habitat, protect watershed values, and reduce hazardous fuel conditions.	Project design is to enhance big game habitat by regenerating aspen. A wildfire occurred and burned much of the project area, impacting limited areas of General habitat. This project had minimal cumulative impacts on GRSG and GHMA habitat.
South Fork Lease Modification Project EA	**BLM and U.S. Forest Service, Fishlake NF, Richfield RD and Manti-La Sal NF, Ferron RD**: Analyze the impacts of a request by Canyon Fuel Company, LLC to modify the lease boundaries for federal coal leases UTU-84102 (Greens Hollow) and U-63214 (Quitchupah).	This project in part occurs in PHMA in the Greens Hollow area. If the project is implemented it will have adverse cumulative effects to GRSG and its habitat in the Greens Hollow Area. While activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.
Diamond Fork Phosphate Project EA	**USFS, Spanish Fork RD, Uinta-Wasatch-Cache NF**: Proposal to conduct phosphate mining activities on a lease area regulated by the BLM with concurrence from the USFS as the surface landowner.	This project is located in an area that does not support suitable sage-grouse habitat. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.

Action	Location and Activity	Cumulative Effects
Jim and Iver #1 and 2 Mining Claims Plan of Operations EA	**USFS, Fishlake NF, Beaver RD**: In accordance with mining law, evaluate the potential effects of mining the Jim and Iver claims as described in the plan of ops. This includes reopening a collapsed adit and taking geologic samples.	This project is located in an area that does not support suitable sage-grouse habitat. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
North Fork North Creek Mineral Material Pit Management Plan CE	**USFS, Fishlake NF, Beaver RD**: Proposing to implement a pit management plan for the North Fork of North Creek Mineral Material Pit, which will define future development, production, and reclamation in order to respond to requests for permits.	This project is located in an area that does not support suitable sage-grouse habitat. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
South Central Communications Upper Boulder Fiber Optic Project CE	**USFS, Dixie NF, Escalante RD**: South Central Communications is proposing to construct, operate and maintain a telecommunications system north of Boulder on Hwy 12. Project components include placement of fiber and installation of access vaults, needed for improved services.	This project is located in an area that does not support suitable sage-grouse habitat. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
Wildland fires 2015–2017	**BLM-administered lands in Utah**: Past acres burned by wildfire	Past: Approximately 61,262 acres of PHMA/GHMA burned between 2015 and 2017. Post fire restoration is being implemented across all population areas that are affected. Effects: Potential loss of habitat value due to the removal of vegetation by fire.
Fire Restoration (Emergency Stabilization and Rehabilitation)	**BLM-administered lands in Utah**: Acres of habitat restoration following wildland fires	Past: Approximately 173,100 acres of HMA were treated/restored between 2015 and 2017. All of these acres are being restored according to specific prescriptions outlined in Emergency Stabilization and Burned Area Rehabilitation plans following wildfire across all population areas that are affected. Effect: Potentially improve or increase habitat due to vegetative restoration activities.
State of Utah Greater Sage-Grouse Management	**State of Utah**: Update of the State's Conservation Plan for GRSG in Utah, as well as implementation of the State's compensatory mitigation rule	Past: The Conservation Plan for GRSG in Utah was finalized in 2013; it was designed to be updated every 5 years. While it requires a 4:1 mitigation ratio in the State's Sage-Grouse Management Areas (SGMA), there was no established approach to implement that mitigation standard to the State's 11 SGMAs.

Action	Location and Activity	Cumulative Effects
		Effect: The plan establishes the management actions necessary for the State of Utah to continue to enhance and conserve the GRSG while still allowing for economic opportunities. Future: The State is updating their GRSG plan and incorporating the compensatory mitigation rule that provides a process to develop a banking system to apply the state's 4:1 mitigation ratio that is designed to improve habitat for GRSG. Effect: This effort will help to refine and identify areas to improve management actions and allow for the incorporation of new and local science to better balance GRSG management across the state. It will also provide an opportunity for economic development to occur while offsetting the impacts to habitat quality.
Habitat Treatments	**BLM-administered lands in Utah**: Acres of habitat improvement projects	Past: Over 219,000 acres of GRSG habitat was treated between 2015-2017 to maintain or improve conditions for GRSG across all populations. Treatments included conifer removal, fuel breaks, invasive species removal and habitat protection/restoration. Effect: Potentially improve or increase habitat due to vegetative restoration activities. Future: Over 524,702 acres of GRSG habitat is being proposed for treatment over the next 5 years. Treatments will include conifer removal, fuel breaks, invasive species removal and habitat protection/restoration across all populations. Effect: Potentially improve or increase habitat due to vegetative restoration activities.
Land Use and Realty (issued and pending) 2015-2018	**BLM-administered lands in Utah**: Past ROWs issued or pending on BLM land	Past: 841 ROWs were issued in the planning area between 2015 and 2017.

Action	Location and Activity	Cumulative Effects
		This includes amendments and reauthorizations, which may not have resulted in new disturbance. For ROWs occurring in GRSG habitat, effects were offset using the mitigation hierarchy. Future: 380 ROW applications are pending review and analysis. Effect: New ROWs would be held to the same mitigation standard under the management alignment alternative as described in the 2015 EIS, so no additional cumulative impacts beyond those described in 2015 are anticipated.
Zephyr Transmission Line	**BLM-administered lands in Utah**: 500 kV transmission line	Application received – could impact the Bald Hills, Uintah, Carbon, Strawberry, Emery, and Sheeprocks populations. Effects: May remove vegetation due to construction activities. Towers may provide perching opportunities for avian predators. However, most of these impacts should be removed by management standards identified in the selected alternative.
Parker Knoll Pump Storage Hydroelectric Federal Energy Regulatory Commission Project	**BLM-administered lands in Utah**: Create electricity using a two-reservoir, gravity-fed system; approximately 200 acres of GRSG habitat would be lost; mitigation involves GRSG habitat-improvement work in areas adjacent to the lost habitat.	Still in planning and NEPA stages – could impact the Parker Mountain population. Effects: May remove vegetation due to construction activities. Increased maintenance activities could lead to an increase in collision mortalities. Any associated tall structures may provide perching opportunities for avian predators. However, most of these impacts should be removed by management standards identified in the selected alternative.
Enefit Utility Project	**BLM-administered lands in Utah**: Five rights-of-way across public lands for infrastructure (a road, 3 pipelines, and 2 powerlines) to support development of a mine on private lands. Estimated 1,037 acres of disturbance for the rights-of-way (7,000 to 9,000 acre mine and 320-acre processing plant).	Still in planning and NEPA stages – could impact the Uintah population. Effects: May remove vegetation due to construction activities. Increased maintenance activities could lead to an increase in collision mortalities. Any associated tall structures may provide perching opportunities for avian predators. However, most of these impacts should be removed by

Action	Location and Activity	Cumulative Effects
		management standards identified in the selected alternative.
Oil and Gas Leases	**BLM-administered lands in Utah**: Acres of BLM land leased for Oil and Gas development	Past: From 2105-2017 the BLM has leased approximately 25,000 acres in HMAs, of which approximately 25 of those acres were located in PHMA. Lease stipulations apply as described in the leases according to HMA category. BLM had a scheduled lease sale in June 2018 that offered 646 acres in HMAs. Effects: The act of leasing would have no direct effect. Future: The BLM is required to conduct quarterly lease sales which could include parcels in HMA. Lease stipulations would still be as described in 2015 until a decision is made on this RMPA/EIS. Effect: The act of leasing would have no direct effect, as no specific disturbance is taken as a result of purchasing a lease. Leasing could occur in any of the populations, but would be most likely to impact the Uintah, Carbon, Emery, and Rich populations due to mineral potential.
Oil and Gas Wells	**BLM-administered lands in Utah**: Oil and Gas exploration and development	Future: Based on the reasonably foreseeable development assumptions, it is anticipated that 2,968 oil and gas wells will be drilled within occupied GRSG habitat within the population areas of which 2,289 wells are anticipated to be producing wells. Exploration wells expected in all populations. Development wells anticipated in Uintah, Carbon, Emery, and Rich populations. Effect: The development of wells within these areas could lead to fragmentation and loss of habitat due to construction activities. Increased noise levels associated with traffic and compressors may impact lek attendance. Increased traffic associated with day to day operations may also increase the

Action	Location and Activity	Cumulative Effects
		potential for collision mortality. However, most of these impacts should be removed by management standards identified in the selected alternative.
Asphalt Ridge Tar Sands Development	**BLM-administered lands in Utah**: Lease approximately 6,000 acres of Tar Sands Lands described in the Asphalt Ridge Tract, which is directly adjacent to existing approximately 16,000 acres of State leases	Future: In planning and NEPA stages – could impact the Uintah population. Effect: As a largely underground operation on BLM-administered lands, this would disturb a small amount of land associated with ancillary features. On the portions of the mine that would be mined through surface means, habitat would be lost and noise, dust and light would affect adjacent areas.
Flat Canyon Coal Lease by application	**BLM-administered lands in Utah**: The Flat Canyon Coal Lease Tract is approximately 2, 692 acres of federal coal reserves	Present: Forest Service completed the consent to BLM. Approximately 23 acres out of the 2,692 acres are within the Emery Population Area. Effect: The act of leasing would have no direct effect. However, the activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.
Alton Coal Tract Lease-by-Application	**BLM-administered lands in Utah**: Add 3,576 acres of federal surface or mineral estate to existing 300-acre mine on private land.	Future: In planning and NEPA stages – could impact the Panguitch population. Effect: Activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.
Williams Draw Coal Lease by Application	**BLM-administered lands in Utah**: The proposed action includes 4,200 acres of federal surface and mineral estate; the proposal may have several vents, drilling exploration holes on the surface and underground, and load-out facilities	Future: In planning and NEPA stages; could impact the Carbon population. Effect: The act of leasing would have no direct effect. However, the activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.
Greens Hollow Coal Lease by Application	**BLM-administered lands in Utah**: Proposal includes 6,700 acres; a vent is proposed off site; minimal surface	Future: The area has been leased, but development is on hold due to

Action	Location and Activity	Cumulative Effects
	disturbances with the exception for exploration drilling	litigation. Would affect the Emery population. Effect: Activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.
Flat Canyon Coal Lease by Application	**BLM-administered lands in Utah**: Lease by Application 3,792 acres; and Exploration License, 595 acres	Present: Leased and under production in the Carbon population. Effect: The act of leasing would have no direct effect. However, the activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.
Gilsonite Leasing	**BLM-administered lands in Utah**: 16,810 acres that are currently under prospecting permit application; the permits would either be issued or a Known Gilsonite Leasing Area would be established, thus allowing competitive leasing.	The prospecting permit applications have been in place since the late 1980s; Known Gilsonite Leasing Area report ongoing, after which NEPA will begin to address backlogs for these areas in the Uintah population. Effect: Activities associated with development or prospecting of the permit/lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.
Phosphate Fringe Acreage Lease	**BLM-administered lands in Utah**: 1,627 acres of fringe acreage lease on BLM-administered lands.	Future: NEPA has started and awaiting a Development Scenario to complete the NEPA for this area in the Uintah population. Effect: The act of leasing would have no direct effect. However, the activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.
Phosphate Competitive Lease Application	**BLM and Forest Service in Utah**: 1,186 acres on National Forest System lands	Future: NEPA has started and awaiting a Development Scenario to complete the

Action	Location and Activity	Cumulative Effects
		NEPA for this area in the Uintah population. Effect: Activities associated with development of the lease could result in loss of habitat and vehicle mortality due to increased traffic. Most of these impacts should be removed by management standards identified in the selected alternative.
Hard Rock Prospecting Permits being considered on Bankhead Jones	**BLM-administered lands in Utah**: Hard rock exploration permits	Future: Pending consideration for this area in the Sheeprocks population. Effect: Activities associated with development of the lease could result in loss of habitat, vehicle mortality due to increased traffic and disruption of seasonal use areas. Most of these impacts should be removed by management standards identified in the selected alternative.
Gooseberry Narrows Reservoir	**BLM, BOR, USFS in Utah**: Bureau of Reclamation project on Forest Service and private land; project is approximately 1,200 acres	Future: EIS is complete, pending EPA review and approval for this portion of the Carbon population. Effect: Activities associated with construction and operation of the reservoir would result in loss of habitat within the project area and a potential increase for vehicle mortality due to increased traffic. However, the habitat lost within the project area may be supplemented by improving the quality and seasonal functionality of the adjacent habitat. Most of the impacts should be removed by management standards identified in the selected alternative.
Grand Staircase-Escalante National Monument Management Plan	**BLM-administered lands in Utah**: Development of a resource management plan	Still in early planning stages for this area that overlaps the Panguitch population. Effect: This action would provide a framework to manage both the remaining monument areas and the areas no longer within the monument boundaries. It is too early in the process to determine a cumulative effect since the proposed plan is unknown.
Wyoming		
Invasive Plant Management EIS	**USFS, Bridger-Teton NF, All Units**: Control of noxious and other invasive plants	Programmatic document effects will be realized when the field implements

Action	Location and Activity	Cumulative Effects
	through the integration of manual, mechanical, biological, and ground and aerial herbicide control methods.	projects. This action will provide opportunities to improve and enhance habitat through vegetation treatments. Invasive plant treatments allow the native vegetation to outcompete invasive plants, which will result in improved GRSG habitat.
Riley Ridge Natural Gas Development (Forest Service Portion) EA	**USFS, Bridger-Teton NF, Big Piney RD**: Authorization of one existing gas well & construction of approximately 1,200 feet of buried pipeline.	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects.
True Oil Lander Peak Area Exploratory Proposal EA	**USFS, Bridger-Teton NF, Big Piney RD**: True Oil has submitted the Lander Peak Exploration Proposal for two exploratory wells; one from an existing pad and one from a reclaimed pad.	Location of well pad 23-15 occurs within GRSG PHMA. The Forest Service analyzed potential effects to GRSG using the Wyoming Game and Fish Department Density Disturbance Calculation Tool (DDCT). Decision will contribute to cumulative effects, but does not cause exceedance of density or disturbance thresholds set by Guidelines 21 and 22 of the 2015 ROD and FEIS.
Encampment Minerals Core Drilling CE	**USFS, Brush Creek/Hayden RD, Medicine Bow-Routt NF**: Mineral exploration and sampling conducted through boring four geologic cores for analysis. Cores will be removed and remaining holes plugged with concrete.	There is GRSG HMA within the project area. Less than 1 acre will be disturbed to bore four geological cores for analysis. May remove a minor amount of vegetation due to drilling activities. Increased activities could lead to an increase in collision mortalities. However, most of these impacts should be removed by forest plan components identified in the decision. Effects would be minimal and result in less than 1% of total GRSG HMA acreage disturbed.
Encampment Minerals Core Drilling - Muddy Mountain CE	**USFS, Brush Creek/Hayden RD, Medicine Bow-Routt NF**: Encampment Minerals to drill three core samples for the purpose of minerals exploration. Cores will be 3.25 inches in diameter and range from 300 to 800 feet in length.	There is GRSG HMA within the project area. Less than 1 acre will be disturbed to drill three core samples for mineral exploration. May remove a minor amount of vegetation due to drilling activities. Increased activities could lead to an increase in collision mortalities. However, most of these impacts should be removed by forest plan components identified in the decision. Effects would be minimal and result in less than 1% of total GRSG HMA acreage disturbed.

Action	Location and Activity	Cumulative Effects
Encampment Minerals Core Drilling Prospect Mountain CE	**USFS, Brush Creek/Hayden RD, Medicine Bow-Routt NF**: Encampment Minerals proposes to drill six core samples for minerals exploration purposes. Cores will be 3.25 inches diameter and anywhere from 250 - 550 feet in length. Drilling area is accessed by one open public road and two decommissioned roads.	There is GRSG HMA within the project area. Less than 1 acre will be disturbed to drill six core samples for minerals exploration purposes. May remove a minor amount of vegetation due to drilling activities. Increased activities could lead to an increase in collision mortalities. However, most of these impacts should be removed by forest plan components identified in the decision. Effects would be minimal and result in less than 1% of total GRSG HMA acreage disturbed.
Converse County Oil and Gas Project EIS	**USFS, Douglas and Thunder Basin RD, Medicine Bow-Routt NF**: An Operator Group (OG) proposed an oil and natural gas development project. They propose to conduct drilling to develop the hydrocarbon resources from oil and gas leases owned, at least in part, by members of the OG within the Converse County Project Area (CCPA) in Converse County, Wyoming. The OG has identified approximately 5,000 oil and natural gas wells on 1,500 well pads. The CCPA encompasses approximately 1.5 million acres of land owned or administered as follows: •Approximately 88,466 surface acres (6% of the CCPA) are administered by the BLM Casper Field Office; •Approximately 63,911 surface acres (4% of the CCPA) are administered by the USFS; •Approximately 101,012 surface acres (7%) administered by the State of Wyoming; and •Approximately 1,247,477 surface acres (83%) are privately owned. The DEIS for this project is located at: https://eplanning.blm.gov/epl-front-office/eplanning/docset_view.do?projectId=66551&currentPageId=95977&documentId=131874	The CCPA contains 199,281 acres of GRSG PHMA. There are 1,287,429 acres of GRSG GHMA within the CCPA. Environmental effects are currently being analyzed. The project will contribute to cumulative effects. Lease stipulations would apply as described in the leases according to GRSG HMA category. The development of wells within these areas could lead to fragmentation and loss of habitat due to construction activities. Increased noise levels associated with traffic and compressors may impact lek attendance. Increased traffic associated with day to day operations may also increase the potential for collision mortality. However, most of these impacts should be lessened or removed by forest plan components identified in the selected alternative. Development is consistent with the reasonably foreseeable development scenarios analyzed as part of the 2015 FEIS and the associated LMPs. Additional impacts are expected to be within the range analyzed in 2015 FEIS cumulative impacts analysis.
Jibilian Federal Oil and Gas Development - True Oil LLC CE	**USFS, Douglas and Thunder Basin RD, Medicine Bow-Routt NF**: Oil and gas development that includes access road, well pad, and wells.	There is GRSG HMA within the project area. This project may disturb approximately 10 acres.

Action	Location and Activity	Cumulative Effects
		The development of wells within these areas could lead to fragmentation and loss of habitat due to construction activities. Increased noise levels associated with traffic and compressors may impact lek attendance. Increased traffic associated with day to day operations may also increase the potential for collision mortality. However, most of these impacts should be removed by forest plan components identified in the selected alternative. Development is consistent with the reasonably foreseeable development scenarios analyzed as part of the 2015 FEIS and the associated LMPs. Additional impacts are expected to be within the range analyzed in 2015 FEIS cumulative impacts analysis.
Special Use Authorization for Use and Occupancy of Additional NFS Lands at Black Thunder Mine EA	**USFS, Douglas and Thunder Basin RD, Medicine Bow-Routt NF**: Amendment of existing permit to add 353 acres for overstripping of topsoil and overburden and stockpiling material for reclamation and other mining activities at Black Thunder Mine, and restrict public access to an additional area.	There is GRSG HMA within the project area. This project may disturb approximately 353 acres. The use of the 353 acres could lead to fragmentation and loss of habitat due to construction activities. However, most of these impacts should be removed by forest plan components identified in the selected alternative.
34.5-kilovolt Power Line and Right-of-Way at Antelope Mine CE	**USFS, Douglas and Thunder Basin RD, Medicine Bow-Routt NF**: Amend an existing special use authorization, named DGL344, to include construction and operation of a new power line segment at Antelope Mine within a new right-of-way in order to provide electricity to an existing entrance guard facility.	There is GRSG HMA within the project area. The new power line segment is located within a new right of way. The project may result in the removal of vegetation due to construction activities. Increased maintenance activities could lead to an increase in collision mortalities. Any associated tall structures may provide perching opportunities for avian predators. However, most of these impacts should be removed by management standards identified in the selected alternative.
West Fork Post & Pole CE	**USFS, Bridger-Teton NF, Big Piney RD**: Commercial thinning of live/dead/ diseased lodgepole pine (35 acres). Harvesting would include a combination of ground based mechanized equipment and/or hand falling with chainsaws. Construction of ½ mile of temporary roads.	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects.

Action	Location and Activity	Cumulative Effects
Togwotee Lodge Vegetation Management CE	**USFS, Bridger-Teton NF, Buffalo RD**: Harvest of dead and dying trees infested with spruce beetle in the wildland urban interface zone to prevent the spread of infestation and subsequent increase in fuel loading adjacent to the resort.	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects.
Tribasin Salvage Commercial Timber Project CE	**USFS, Bridger-Teton NF, Greys River RD**: Commercial harvest of timber suffering mortality and decline due to insect and disease infestation.	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects.
Medicine Bow Landscape Vegetation Analysis (LaVA) Project EIS	**USFS, Brush Creek/Hayden and Laramie RDs, Medicine Bow-Routt NF**: Insect and disease vegetation management project on 360,000 acres over 15-20 years to mitigate the negative effects of the current beetle epidemic.	There is 1,927 acres of PHMA and 17,281 acres of GHMA in this project. Effects for the project will be mitigated. However, the Biological Evaluation for the project states, "May adversely impact individuals, but not likely to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing." The project may contribute to cumulative effects to GRSG or its habitat.
North Savery Project EIS	**USFS, Brush Creek/Hayden RD, Medicine Bow-Routt NF**: Treat hazardous trees and fuels - Up to 6,834 acres hazard tree clearing, precommercial thinning & timber harvest; associated road proposals to improve motorized public access to the forest while minimizing road impacts to other resources	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
Ryan Park Vegetation and Fuels Project CE	**USFS, Brush Creek/Hayden RD, Medicine Bow-Routt NF**: Treat up to 3,000 acres of vegetation to decrease hazardous fuels and increase resiliency of timber stands	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects to GRSG and its habitat.
Fox Creek Vegetation Management Project CE	**USFS, Laramie RD, Medicine Bow-Routt NF**: Treat up to 3,000 acres in Mountain Pine Beetle infested stands of lodgepole pine.	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects.
Illinois River Vegetation Management Project CE	**USFS, Parks RD, Medicine Bow-Routt NF**: Treat up to 3,000 acres of mountain pine beetle effected timber stands	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects.
Red Vista Vegetation Management Project CE	**USFS, Yampa RD, Medicine Bow-Routt NF**: Harvest treatments of up to 3,000 acres in mostly beetle killed conifers	This project is not located in GRSG HMA. Therefore, this project would not contribute to cumulative effects.
Wildland fires 2015–2017	**BLM-administered lands in Wyoming**: Past acres burned on BLM-administered land	Approximately 137,000 acres of HMA burned between 2015 and 2017. Post fire restoration and habitat treatments are being implemented, as described below, to diminish impacts of habitat lost to wildland fire.
Fire Restoration (Emergency	**BLM-administered lands in Wyoming**: Past and Present – Habitat restoration	Approximately 4,030 acres of BLM-administered habitat are either

Action	Location and Activity	Cumulative Effects
Stabilization and Rehabilitation)	following wildland fires	currently being treated or scheduled to be treated according to specific prescriptions outlined in Emergency Stabilization and Burned Area Rehabilitation plans following wildfire.
Habitat Treatments	**BLM-administered lands in Wyoming**: Past – Habitat improvement projects	More than 96,000 acres of GRSG habitat were treated between 2015 and 2017 to maintain or improve conditions for Greater Sage-Grouse. Treatments included conifer removal, fuel breaks, invasive species removal and habitat protection/ restoration.
Land Use and Realty (issued and pending) 2015-2018	**BLM-administered lands in Wyoming**: Past ROWs issued on BLM land BLM: Future pending	BLM Wyoming issued approximately 3,000 ROWs in the planning area between 2015-2017. This includes amendments and reauthorizations, which may not have resulted in new disturbance. For ROWs occurring in sage grouse habitat, effects were offset by the management prescriptions in the RMPs and ARMPA. There are approximately 590 ROW applications pending review and analysis. New ROWs under the Management Alignment Alternative would align with the management prescriptions of the Core Area Strategy and State of Wyoming Mitigation Framework. No additional cumulative impacts are anticipated, beyond those described.
Oil and Gas	**BLM-administered lands in Wyoming**: Past	BLM Wyoming has offered for lease 861,634 acres; 812,123 acres of that total was leased. Leases followed management prescriptions in the RMPs and ARMPA and stipulations apply as described in the leases according to HMA category. Therefore, the act of leasing would have no cumulative effect.
	BLM-administered lands in Wyoming: Future pending	BLM Wyoming has a scheduled lease sale that will offer 198,588 acres for lease. The actions proposed in the Management Alignment Alternative to not propose to change stipulations analyzed in the 2014 and 2015 plans. Therefore, the act of leasing would have no cumulative effect.

Action	Location and Activity	Cumulative Effects
Locatable Mineral Projects	**BLM-administered lands in Wyoming:** Past and present locatable mineral projects	Between 2015 and 2017, the BLM has approved 17 new mines and/or expansions within the planning area (including non-habitat). The Management Alignment Alternative does not propose changes to any decisions associated with locatable minerals, which were sufficiently analyzed on the existing plans.
	BLM-administered lands in Wyoming: Future pending locatable mineral projects	The BLM is currently reviewing 26 plans of operation for new mines, mine expansions and notice-level activities. This number also includes 10 pending mine patents, which are in the process of being patented into private ownership. The Management Alignment Alternative does not propose changes to any decisions associated with locatable minerals, and future impacts would be analyzed in future EISs, adhering to existing requirements of the RMPs and ARMPA.
Leasable Mineral Projects (Coal)	**BLM-administered lands in Wyoming**: Past and present leasable mineral projects (coal)	Two coal lease modifications were issued in 2018, totaling 1,306.61 acres. For lease modifications occurring in sage grouse habitat, effects were offset by the management prescriptions in the RMPs and ARMPA.
Leasable Mineral Projects (Coal)	**BLM-administered lands in Wyoming**: Future pending leasable mineral projects (coal)	BLM Wyoming is currently reviewing 4 coal lease applications/modifications totaling 10,148.56 acres. No management decisions for leasable minerals are proposed for change under the Management Alignment Alternative.

4.7.4 CUMULATIVE EFFECTS - WILDLAND FIRE

The Forest Service has committed resources to habitat restoration. From 2015 to 2017, the Forest Service completed habitat restoration and various projects that benefit GRSG and its habitat on approximately 248,285 acres and 71 miles of linear features (see Table 4-13). The BLM has committed resources to habitat restoration and has treated 1.4 million acres of Greater Sage-Grouse habitat range-wide over the past 5 years.

Wildland fire and invasive species remain the greatest threats to greater sage-grouse in the Great Basin. Between 2008 and 2017, wildfires burned an average of 900,000 acres per year in greater sage-grouse

habitat management areas range-wide[3]; this is within the range of projected wildland fire analyzed in the 2015 FEIS.

Since the ROD was signed in 2015, wildland fire data was compiled by the National Interagency Fire Center and summarized by the Forest Service from September 2015 to September 2017[4]. During that timeframe, 133,116 acres of greater sage-grouse HMA has burned on National Forest System lands in eleven states and 3,262,861 acres burned on all administrative agencies in those 11 states. The acres of NFS lands burned represents less than 1% of the acres burned on public lands or 0.25% in three years. Data for wildland fires that occurred in fiscal year 2018 is still being collected and entered into databases.

Table 4-14. Cumulative acres of GRSG habitat burned from 2015-2017 by administrative agency[1], across eleven states[2].

ADMINISTRATIVE AGENCY	2017 GRSG Acres Burned	2016 GRSG Acres Burned	2015 GRSG Acres Burned
Bureau of Indian Affairs	26,792	30,239	0
Bureau of Land Management	1,182,871	342,450	366,751
Fish and Wildlife Service	1,448	0	200
Forest Service	102,987	14,008	16,121
National Park Service	219	1,956	0
Private Lands	651,154	180,017	156,779
State Lands	50,878	23,775	22,623
Other Federal Lands	57,510	33,823	260
TOTAL	**2,073,859**	**626,268**	**562,734**

[1] Data compiled by the National Interagency Fire Center and summarized in the *Forest Service Greater Sage-grouse Monitoring Annual Report, Second Year Summary: October 2016-September 2017*.
[2] The eleven states include: California, Colorado, Idaho, Montana, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming.

Table 4-15. Cumulative acres of GRSG habitat burned from 2015-2017 representing all administrative agencies by states located in analysis area[1]

State	2017 GRSG Acres Burned	2016 GRSG Acres Burned	2015 GRSG Acres Burned	Total Acres by State
Colorado	27,780	3,215	3,359	**34,354**
Idaho	251,443	104,849	260,931	**617,223**
Nevada	967,324	215,073	12,233	**1,194,630**
Utah	93,295	33,269	377	**126,941**
Wyoming	69,410	55,152	20,777	**145,339**
TOTAL	**1,409,253**	**411,558**	**297,677**	**2,118,488**

[3] Removing 2012 and 2017, which were above-average wildland fire years, the 8-year average is approximately 500,000 acres burned per year.
[4] Information can be found in: *Forest Service Greater Sage-grouse Monitoring Annual Report First Year Summary: September 2015-September 2016;* and *Forest Service Greater Sage-grouse Monitoring Annual Report, Second Year Summary: October 2016-September 2017*.

Table 4-16. Acres of GRSG habitat burned in 2016 and 2017 on National Forest System lands by states located in analysis area.

State	USFS GRSG Acres Burned 2016	USFS GRSG Acres Burned 2017
Colorado	0	0
Idaho	176	1,064
Nevada	3	4,056
Utah	4,077	35,164
Wyoming	2,138	0
Total	**6,394**	**40,284**

Wildland fires remain a threat to greater sage-grouse and its habitat. The Forest Service and other agencies implement some form of burned area emergency responses to address immediate threats following a fire in some areas, depending on the issue. The Forest Service has vegetation projects to restore habitat and projects intended to reduce impacts to greater sage-grouse and its habitat should a fire become established (see Table 4-13). Desired conditions, standards, guidelines, and management approaches in Chapter 2 have been developed and are intended to reduce the impacts of wildfire and invasive species.

Wildland fires burn an average of 900,000 acres per year in greater sage-grouse habitat management areas range-wide; this is within the range of projected wildland fire analyzed in the 2015 FEIS and this DEIS. Wildland fires and invasive species will continue to contribute toward negative cumulative effects, including loss of habitat and threats to greater sage-grouse itself in all alternatives. Under the State of Utah Alternative, 80,500 acres of GHMA and 41,200 acres of Anthro Mountain HMA designations would be removed along with corresponding plan components from the 2015 Greater Sage-Grouse Plan Amendments. While this does reduce the number of acres of HMA, treatment of invasive species and planned projects in Utah will continue.

4.7.5 CUMULATIVE EFFECTS - HABITAT MANAGEMENT AREA DESIGNATIONS

Since the ROD was signed in 2015, the Forest Service has coordinated with various state wildlife agencies and the USFWS to collect additional data and review new research about GRSG and its habitat. The Proposed Action includes a management approach that identifies a process for evaluating and updating HMA boundaries. As HMA boundaries were updated, the underlying HMA allocations developed to conserve greater sage-grouse would not change, and these updates reflect the most recent knowledge concerning greater sage-grouse habitat use and distribution. Changes in HMA acreage did not result in any direct or indirect impacts to GRSG or its habitat as discussed in Section 4.5.1. Because of this there would be no appreciable additive impact from the implementation of the Proposed Action on greater sage-grouse.

Under the State of Utah Alternative, GHMA and Anthro Mountain habitat designations would be removed along with corresponding plan components from the 2015 Greater Sage-Grouse Plan Amendments. This alternative would eliminate protections given to 41,200 acres of Anthro Mountain HMA and 80,500 acres of GHMA in all plan components. GHMA areas on NFS lands is approximately 5.6 percent of the Forest Service management area in Utah. These habitat areas tend to be fragmented habitats, areas containing

small isolated populations, and many acres of unoccupied and non-habitats and is of low-biological significance to sage-grouse. In addition, GHMA on FS lands makes up only 1 percent of the habitat utilized by sage-grouse based on Utah's known GPS and telemetry data.

Management actions, including lek buffers, required design features, fluid mineral leasing prioritization, and habitat objectives—which are part of the No Action and Proposed Action—seek to minimize impacts on greater sage-grouse habitat within GHMA. They provide a hierarchy of potential conditions to minimize effects while still allowing for development. Thus, development could still occur in GHMA. Although GHMA remains a part of the No Action and Proposed Action, the potential decline for Greater Sage-Grouse in GHMA exists. Under the State of Utah Alternative, removing GHMA and its associated management actions would likely incentivize development in areas formally identified as GHMA, resulting in the continued long-term declines of greater sage-grouse population in GHMA. The long-term effect of this alternative on GRSG is expected to ultimately be similar to effects in the No Action and Proposed Action. In Conclusion, protections in PHMA will continue to be incentivized, development is allowed in GHMA and would be allowed without the designation, there would be minimal impacts to the 1% of GHMA habitat utilized by GRSG in Utah. The cumulative impacts from the alternatives would ultimately be the same, though the State of Utah Alternative would likely accelerate the effect.

The PHMA designation is not necessary for the Anthro Mountain population areas to ensure biological persistence of greater sage-grouse in northeastern Utah. In conclusion, removal of the 41,200 acres of Anthro Mountain HMA protections could lead to a loss of the Anthro Mountain leks and impact species persistence, but it would not necessarily result in a loss of greater sage-grouse viability on the Ashley NF.

4.7.6 CUMULATIVE EFFECTS - ELIMINATION OF SAGEBRUSH FOCAL AREA DESIGNATIONS/WITHDRAWALS

Direct and indirect effects of eliminating sagebrush focal area designations/withdrawals were discussed in Section 4.5.2. No appreciable additive impacts are anticipated for the removal of SFAs or the recommendation to withdraw SFAs from location and entry under the Mining Law of 1872. Under the Proposed Action and State of Utah Alternative, the recommendation to withdraw SFAs from location and entry under the Mining Law of 1872 would be removed, as the EIS process considering the withdrawal was cancelled on October 11, 2017. In its 2016 SFA Withdrawal EIS, the BLM quantified the possible adverse effects from locatable mineral exploration and mining on the approximately 10 million acres of SFAs proposed for withdrawal, finding that they would be limited to approximately 9,000 acres of surface disturbance over 20 years, with approximately 0.58 percent of greater sage-grouse male birds affected per year. The other action alternatives evaluated in the 2016 SFA Withdrawal EIS similarly demonstrated minimal benefit of the proposed withdrawal to greater sage-grouse and its habitat. The cumulative effects of implementing the Proposed Action and State of Utah Alternative are as described in the 2016 SFA Withdrawal EIS, under the No Action Alternative, in which SFAs are not carried forward.

Additionally, mining operations that do occur are subject to regulation under the BLM's surface management regulations at 43 CFR Part 3809. These regulations ensure that operators comply with environmental standards in conducting exploration, mining, and reclamation. For example, the Forest Service must approve a plan of operations for locatable mining operations on public lands, which includes compliance with the National Environmental Policy Act, National Historic Preservation Act, and

Endangered Species Act. Plans of operation must also include those measures to meet specific performance standards and to prevent unnecessary or undue degradation of the lands (43 CFR 3809.411).

4.7.7 CUMULATIVE EFFECTS - CHANGING NET CONSERVATION GAIN AND ADJUSTMENT OF COMPENSATORY MITIGATION FRAMEWORKS

Direct and indirect effects of changing net conservation gain were discussed in Section 4.5.3. Under the Proposed Action Alternative, language would be added to clarify how project level decisions would be guided regarding the compensatory mitigation framework for a broad set of actions and the proposed modifications to the language will be more in line with state strategies.

Net conservation gain was analyzed in Alternative E in the 2015 FEIS and remains in place for the No Action Alternative and the Proposed Action for Nevada. Applicable analyses from the 2015 FEIS explain the impacts from these actions, and are incorporated by reference. No additional analysis is needed.

As a result of changing "net conservation gain" to "no net habitat loss," there is the potential for incremental contributions to cumulative effects in Colorado, Idaho, Utah, and Wyoming (see Section 4.5.3). This change would encourage proponents to develop in GHMA or outside of greater sage-grouse habitat. Improving higher quality habitat in PHMAs would be expected to benefit greater sage-grouse rather than focusing efforts in the lower quality habitat that GHMA provides. Conceptually, "no net loss" would result in fewer acres being restored, improved, or protected as compared with "net conservation gain." The Forest Service would continue to avoid and minimize impacts in GHMA, but there would be loss and degradation of habitat in the Proposed Action (1,998,400 acres of GHMA) and slightly more in the State of Utah Alternative (1,970,300 acres of GHMA). Any impacts associated with the need for compensatory mitigation, or the applicability of compensatory mitigation, would be identified during the environmental analysis at the site-specific project level.

Table 4-17. Comparison summary of habitat management areas in acres by Alternative.

NFS Surface Acres	No Action Alternative[1]	Proposed Action Alternative	State of Utah Alternative
PHMA	2,685,400	2,355,000	2,276,700
GHMA	2,006,000	1,998,400	1,970,300
IHMA (ID Only)	415,900	415,900	415,900
OHMA (NV Only)	621,400	426,500	426,500
Priority-Core (WY only)	309,200[2]	-	-
Priority-Connectivity (WY only)	68,800	-	-
Connectivity (WY Only)	-	6,400	6,400
Anthro Mountain HMA (UT Only)	41,200	-	-
Sagebrush Focal Areas (SFAs)	865,700[2]	-	-

[1] The No Action Alternative includes acreage in Montana.

[2] These acres overlay designated HMAs; the acres are not additive.

4.7.8 CUMULATIVE EFFECTS - MODIFYING LEK BUFFERS

Direct and indirect effects of modifying lek buffers were discussed in Section 4.5.4. The change to the Proposed Action was to apply the minimum recommended buffer distances to IHMAs and GHMAs documented by a USGS literature review (Manier et al. 2014). Other restrictions in IHMA would ensure

responsible development, although there is very little development in IHMA. Although this would be closer to leks, the distance would be within the minimum identified in literature (Manier et al. 2014). The reduced buffer distance in IHMA and GHMA would improve alignment with the Governor's Plan and the best available science supports the distances.

No additive impact is anticipated by the change proposed to buffer distances under the Proposed Action. Site-specific impacts would be identified at the time a project-level application is received, and additional additive impacts would be analyzed at that time. Applicable analysis from the 2015 FEIS explains the impacts of lek buffers, and is incorporated by reference.

4.7.9 CUMULATIVE EFFECTS - INCLUDING WAIVERS, EXCEPTIONS, AND MODIFICATIONS ON NSO STIPULATIONS

Direct and indirect effects of including waivers, exceptions, and modifications on NSO stipulations were discussed in Section 4.5.5. The changes to the proposed action included a clarification to decision making (removal of the requirement for a unanimous finding between FS, USFWS, and the State), and including CHMA for clarification in Wyoming. Because the proposed changes were clarifications, these actions would not result in any direct or indirect effects, therefore, it will not result in any contribution to cumulative effects. At a site-specific project level, the deciding official must disclose effects of and rationale for the decision, but decision authority cannot be deferred to other agencies or the state. Coordination with an interagency team, which would include both FWS and the State the project is located in, would still be required under the adaptive management, mitigation, and HMA boundary modification processes according to each States process (see Appendices B through F).

No additive impact is anticipated by the change proposed to fluid mineral leasing prioritization under the Proposed Action or State of Utah Alternative. A fluid mineral lease does not authorize surface-disturbing activities; therefore, impacts related to changes in the prioritization of leasing outside of PHMA would be likely to beneficially affect greater sage-grouse conservation. Site-specific impacts would be identified at the time a project-level application is received, and additional additive impacts would be analyzed at that time.

4.7.10 CUMULATIVE EFFECTS - MODIFYING DESIRED CONDITIONS

Direct and indirect effects of modifying desired conditions were discussed in Section 4.5.6. Under the Proposed Action and State of Utah Alternative, language would be modified in the habitat objectives table. This will allow the tables to be revised to incorporate best available science in coordination with partners. The best available science would be reviewed and incorporated and recommended adjustments would be based on regionally and locally derived data. Modifying seasonal use periods and habitat preferences would better align with state conservation plans and management strategies resulting in improved management of greater sage-grouse. The proposed language is intended to clarify the use of the tables and does not alter management actions associated with the tables. The No Action Alternative does not preclude the use of the science supporting the objective defined by the No Action Alternative. Because the Proposed Action Alternative either does not alter management actions, or is included in the

No Action Alternative, there are no cumulative effects from this change. Applicable analyses from the 2015 FEIS explain the impacts from these actions, and are incorporated by reference. No additional analysis is needed.

4.7.11 CUMULATIVE EFFECTS - CHANGING LIVESTOCK GRAZING GUIDELINES

Direct and indirect effects of changing livestock grazing guidelines were discussed in Section 4.5.7. The 2015 Greater Sage-Grouse Plan Amendments listed a Desired Condition for livestock grazing being "managed to maintain or move towards desired conditions". The desired condition is being modified or removed in the Proposed Action and State of Utah Alternative because it does not provide any specific direction and is a circular statement; a desired condition cannot be to maintain or move toward a desired condition. The desired conditions for breeding, nesting, upland summer, and winter habitats are defined for each state. Changes and clarifications will not result in any direct, indirect, or cumulative effects.

The Proposed Action and State of Utah Alternative proposes to modify language regarding water developments in HMAs. Water developments can be an effective tool to ensure proper grazing management that could improve or maintain GRSG habitat indirectly over time. The approval and/or the construction of a water development is inherently a site-specific determination, which would be considered in a separate analysis process which would consider effects to biological resources, including greater sage-grouse. These changes and clarifications will not result in any direct, indirect, or cumulative effects.

Under the Proposed Action and State of Utah Alternative, specific grass-height guidelines are replaced with management approaches that would have greater sage-grouse habitat assessments conducted in allotments to determine if livestock management is a causal factor. Based on the new understanding of habitat characteristics, plant phenology and sampling bias (Hanser et al. 2018), the biological foundation for the development of the 2015 Greater Sage-Grouse Plan Amendments grazing guidelines has changed and this changed condition warrants removal of the grazing guidelines, which are not necessary as conservation measures for sage-grouse.

As described in section 4.5.6, monitoring of greater sage-grouse seasonal habitats, monitoring associated with droop heights on grasses, and stubble height monitoring during 2016-2017 showed the majority in suitable condition and showed that the existing land management plan direction was providing sufficient direction for meeting criteria identified in the 2015 Greater Sage-Grouse Plan Amendments grazing guidelines (USDA FS 2018). Monitoring data specific to the Humboldt-Toiyabe National Forest indicate that many riparian areas and mesic meadows in HMAs are not in proper functioning condition or moving toward desired conditions for sage-grouse brood-rearing habitat. Additional plan components are included in the Nevada proposed action to address this issue. Monitoring will continue.

Replacing specific grass-height guidelines with management approaches and guidelines will not result in any direct, indirect, or cumulative effects. Existing plan components, when compared to published scientific findings, are generally compatible with habitat requirements for sage-grouse and monitoring shows that livestock grazing is not affecting the achievement or maintenance of desired conditions described in the 2015 Greater Sage-Grouse Plan Amendments.

In the few cases where grazing is a causal agent for not providing suitable habitat or adequate plant species diversity or cover, Forests may implement specific management changes on the respective allotments. It is more appropriate to address these issues at the forest or allotment level rather than through grazing guidelines applied at a regional scale.

4.7.12 CUMULATIVE EFFECTS - ADAPTIVE MANAGEMENT REVIEW PROCESS

Direct and indirect effects of the adaptive management process were discussed in Section 4.5.8. There is no anticipated additive impact from updating the adaptive management process as described in the Proposed Action or the State of Utah Alternative. The updated language does not alter the adaptive management actions described and analyzed in the No Action Alternative; instead, it aims to codify the intent and ability to return to previous management actions once an identified threat has been alleviated.

This update would ensure that the FS is more closely aligned with State processes, the process is clarified, and best available data and decision support tools to guide management are utilized at the appropriate spatial scale. It also allows for more flexibility and applicability of the adaptive management process. Impacts on Greater Sage-Grouse and its habitat would be beneficial as a result of this update to adaptive management triggers, providing the ability to detect declining populations and/or habitat and change management on the ground.

4.7.13 CUMULATIVE EFFECTS - TREATMENT OF INVASIVE SPECIES

Direct and indirect effects of the treatment of invasive species were discussed in Section 4.5.9. The Proposed Action and the State of Utah Alternative includes the addition of desired conditions, objectives, and management approaches that emphasize invasive plant treatments, with a focus on annual grasses. The impact of invasive species and the effect of treatments on sage-grouse habitat was analyzed in each state 2015 FEIS and analysis is incorporated by reference. Impacts are similar to those disclosed in the 2015 analysis. The addition of these plan components is to emphasize mapping and treatment of invasive species, which are one the greatest threats to greater sage-grouse. Therefore, the addition of the forest plan components will create beneficial cumulative effects.

4.8 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OFRESOURCES

Section 102(2)(C) of NEPA requires a discussion of any irreversible or irretrievable commitments of resources from an alternative, should it be implemented (42 USC 4332(C)(v)). An irreversible commitment of a resource is one that cannot be reversed, such as the extinction of a species or loss of a cultural resource site without proper documentation; an irretrievable commitment of a resource is one in which the resource or its use is lost for a period of time, such as extraction of oil and gas.

Implementation of the Proposed Action and State of Utah Alternative would still allow for surface-disturbing activities, including mineral and energy development and infrastructure development that would result in irreversible or irretrievable commitments of resources. These surface-disturbing activities

would result in long-term or permanent alterations to soil, removal of vegetation cover, fragmentation of wildlife habitat, and damage to cultural and paleontological resources. Wildlife dependent on affected habitats may be displaced and populations may be reduced as the carrying capacity of the range is reduced.

Increases in sediment, salinity, and nonpoint source pollution that result from these activities could result in degradation of water quality and an irretrievable loss of water utility, aquatic habitats, and aquatic-dependent species. Impacts on these resources are detailed in the 2015 FEIS and ROD, and are not repeated in this DEIS; however, management prescriptions and mitigation prescribed under the existing LMP decisions that are designed to protect greater sage-grouse habitat would reduce the magnitude of these impacts by limiting surface disturbance and disruptive activities.

Because none of the proposed changes identified in this DEIS identify additional irreversible or irretrievable commitments of resources, there is no expectation that impacts additional to or different from those identified in the 2015 FEISs would occur.

4.9 UNAVOIDABLE ADVERSE IMPACTS

Section 102(C) of NEPA requires disclosure of any adverse environmental impacts that could not be avoided should the proposal be implemented (42 USC 4332(C)(ii)). Unavoidable adverse impacts are those that remain following the implementation of mitigation measures or impacts for which there are no mitigation measures. Some unavoidable adverse impacts happen from implementing the LMPA; others are a result of public use of Forest Service-administered lands in the planning area.

There are no unavoidable adverse impacts identified that would be additional to, or different from those identified in the 2015 FEISs. It is likely that local adverse effects may occur as a result of the implementation of the Proposed Action or State of Utah Alternatives; however, they would be similar to those local adverse effects identified in the 2015 FEISs and would not affect greater sage-grouse conservation.

4.10 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

Section 102(C) of NEPA requires a discussion of the relationship between local, short-term uses of human environment and the maintenance and enhancement of long-term productivity of resources (42 USC 4332(C)(iv)). Short-term is defined as anticipated to occur within the first 5 years of implementation of the activity; long-term is defined as following the first 5 years of implementation but within the life of the LMPA.

Any use of natural resources within the planning area is likely to adversely impact long-term productivity of these natural resources. The short-term uses that would result in the greatest impact on long-term productivity include mineral and energy development, dispersed recreation, livestock grazing, and infrastructure development. These uses result in surface-disturbing and disruptive activities that remove vegetation, increase soil erosion and compaction, create visual intrusions and landscape alterations, increase noise, impair water quality, and degrade and fragment wildlife habitat.

Although management actions, BMPs, surface use restrictions, and lease stipulations are intended to minimize the effect of short-term uses, some impact on long-term productivity of resources would occur, regardless of management approach; however, because allocations are not being affected and impacts as a result of the Proposed Action or State of Utah Alternative would be minimal, no additional or different impacts on short-term uses and long-term productivity than those that were identified in the 2015 FEISs would occur.

CHAPTER 5 - Preparers and Distribution of the DEIS

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and other organization and individuals during the development of this environmental impact statement. Refer to Chapter 1 for list of cooperating agencies and tribes consulted.

5.1 PREPARERS

The list of preparers in Table 5-1 is limited to people who were members of the interdisciplinary team who worked on compiling the DEIS document. Preparation of the document was also supported and assisted by numerous employees of the Intermountain and Rocky Mountain Regional Offices.

Table 5-1. List of Preparers

Name	Title/Unit	Role/Responsibility
John Shivik	National Sage-grouse Coordinator, Intermountain Region	Coordination and Document Preparation
Jennifer Purvine	ID Team Leader (detail), Salmon-Challis NF	Analysis and Document Preparation
Amy Barker	Branch Chief, WO EMC	Analysis and Document Preparation
Robert Mickelsen	Ecosystem Branch Chief, Caribou-Targhee NF	Idaho GRSG Technical Specialist
Monique Nelson	Sage-grouse Coordinator, Humboldt-Toiyabe NF	Nevada GRSG Technical Specialist
Ron Rodriguez	Wildlife and Fish Program Manager, Dixie and Fishlake NFs	Utah GRSG Technical Specialist
Steve Kozlowski	Resource Team Leader, Medicine Bow-Routt NF	NW Colorado and Wyoming GRSG Technical Specialist
Sue Baughman	Minerals Administrator, Dixie NF	Minerals Technical Specialist
Georgina Lampman	R4 Regional Planner, Intermountain Region	Review
Sandra Underhill	Wyoming Capitol City Coordinator, Medicine Bow-Routt NF	Communication Plan
Dalinda Damm	Geospatial Analyst, FS Contractor Cherokee Nation Technologies	GIS
Kevin Halverson	Information Management, Intermountain Region	GIS

5.2 DISTRIBUTION OF THE DRAFT EIS

The following agencies, organizations and individuals have been sent copies of the DEIS or have been directed to the Greater Sage-grouse Home Page where the DEIS is available online: https://www.fs.usda.gov/detail/r4/home/?cid=stelprd3843381. The identified organizations or

individuals are either required by regulation or they have asked to be sent the DEIS. The DEIS is available online to anyone who wishes to access it and hardcopies are available to those who request.

Federal Government

- Advisory Council on Historic Preservation
- Department of Energy, National Environmental Policy Act Policy and Compliance
- Federal Aviation Administration, Northwest Mountain Region
- Federal Highway Administration
- U.S. Army Corps of Engineers, Northwestern Division
- USDA Animal and Plant Health Inspection Service, Policy and Program Development/Environmental Analysis and Documentation
- USDA Office of Civil Rights
- U.S. Department of Agriculture - National Agricultural Library
- U.S. Department of Agriculture, Natural Resources Conservation Service, National Environmental Coordinator
- U.S. Department of the Interior, Office of Environmental Policy and Compliance
- U.S. Environmental Protection Agency
- Northwest Power Planning Council
- Chief of Naval Operations, Energy and Environmental Readiness Division

State and Local Government Requesting Cooperating Agency Status

Idaho

- Governor's Office of Species Conservation

Nevada

- Nevada Governor's Office of Energy
- Nevada Division of Minerals
- Nevada Department of Agriculture
- Nevada Department of Conservation and Natural Resources
- Nevada Department of Wildlife
- Nevada Association of Counties (as government representative)
- Eureka County, Nevada
- Humboldt County, Nevada
- Nye County, Nevada

Utah

- Office of the Governor, Public Lands Policy Coordinating Office
- Beaver County
- Carbon County
- Daggett County
- Duchesne County
- Emery County
- Garfield County
- Iron County
- Juab County

- Kane County
- Summit County
- Uintah County

Wyoming

- Governor's Office and the State of Wyoming and it's State Agencies
- Campbell County, WY
- Campbell County Conservation District, WY
- Converse County Conservation District, WY
- Lincoln County Conservation District, WY
- Lincoln County, WY
- Meeteetse Conservation District, WY
- Saratoga-Encampment Rawlins Conservation District, WY
- Sublette County Conservation District, WY
- Sublette County, WY
- Sweetwater County Conservation District, WY
- Sweetwater County, WY
- Teton County, WY
- Uinta County Conservation District, WY
- Weston County, WY
- Wyoming Coalition of Local Governments (as government representative)

Tribal Governments *(Region 4 Tribal contact list pending)*

- Southern Ute Tribe
- Ute Mountain Ute Tribe (Weeminuche Band)
- Northern Arapaho
- Eastern Shoshone
- Cheyenne and Arapaho Tribes
- Cheyenne River Sioux Tribe
- Crow Creek Sioux Tribe
- Lower Brule Sioux Tribe
- Oglala Sioux Tribe
- Rosebud Sioux Tribe
- Santee Sioux Tribe of Nebraska
- Sisseton-Wahpeton Oyate Tribes
- Standing Rock Sioux Tribe
- Three Affiliated Tribes
- Yankton Sioux Tribe

Individuals

Individuals who commented during scoping were notified of the availability of the DEIS.

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GLOSSARY OF TERMS AS USED IN THIS DEIS

Active lek – Any lek that has had two or more males observed at least twice in the last five years.

Additionality (Colorado) – The conservation benefits of compensatory mitigation are demonstrably new and would not have resulted without the compensatory mitigation project.

Adjacent – Installation of new linear improvements parallel, near, or next to existing linear improvements.

Administrative access – Access for resource management and administrative purposes such as wildfire suppression, cadastral surveys, permit compliance, law enforcement, and military in the performance of their official duty, or other access needed to manage National Forest System lands or uses.

Allotment – A designated area of land in which one or more livestock operators graze their livestock. An allotment may include one or more separate pastures. Livestock numbers and periods of use are specified for each allotment.

Ambient (noise level) – Sometimes called background noise level, reference sound level, or room noise level; the background sound pressure level at a given location, normally specified as a reference level to study a new intrusive sound source.

Anthropogenic disturbances – Human-created features including but not limited to paved highways, graded gravel roads, transmission lines, substations, wind turbines, oil and gas wells and associated facilities, geothermal wells and associated facilities, pipelines, landfills, agricultural conversion, homes, and mines.

Appurtenant (minerals) – A piece of equipment (e.g., pump jack, separator, storage tank, compressor station, metering equipment, etc.) necessary for production.

Authorized use – An activity (i.e., resource use) occurring on public lands that is either explicitly or implicitly recognized and legalized by law or regulation. The term may refer to activities occurring on public lands for which the Forest Service has issued a formal authorization document (e.g., livestock grazing permit, special-use authorization, approved plan of operation, etc.). Formal authorized uses can involve both commercial and non-commercial activity, facility placement, or event. These authorized uses are often spatially or temporally limited. Unless constrained or bounded by statute, regulation, or an approved forest plan decision, legal activities involving public enjoyment and use of the public lands (e.g., hiking, camping, hunting, etc.) require no formal Forest Service authorization.

Avoidance mitigation (Colorado) – Avoiding the impact altogether by not taking a certain action or parts of an action. (40 CFR 1508.20(a)) (e.g., may also include avoiding the impact by moving the proposed action to a different time or location.)

Baseline condition – The pre-existing condition of a defined area and/or resource that can be quantified by an appropriate metric(s). During environmental reviews, the baseline is considered the affected environment that exists at the time of the review's initiation and is used to compare predictions of the effects of the proposed action or a reasonable range of alternatives.

Biologically Significant Unit – A geographical/spatial area within greater sage-grouse habitat that contains relevant and important habitat that is used as the basis for comparative calculations to support evaluation of changes to habitat. A Biologically Significant Unit or subset of the unit is used in the calculation of the anthropogenic disturbance threshold and in the adaptive management habitat trigger. Specifically:

- *NW Colorado*- A geographical/spatial area within greater sage-grouse habitat that contains relevant and important habitat that is used as the basis for comparative calculations to support evaluation of changes to habitat. A Biologically Significant Unit or subset of the unit is used in the calculation of the anthropogenic disturbance threshold and in the adaptive management habitat trigger.
- *Idaho*- All of the modeled nesting and delineated winter habitat, based on 2011 data, within priority and/or important habitat management areas within a Conservation Area.
- *Utah*- The total priority habitat management area associated with a greater sage-grouse population area.
- *Nevada*- Represents nested lek clusters with similar climate and vegetation conditions. A BSU boundary is defined by similar environmental conditions where GRSG population dynamics are likely driven by larger scale variations (e.g., climate). BSUs are defined by the USGS (Coates et al. 2017) and are also used for anthropogenic disturbance calculations.

Causal factor – A resource use or activity (e.g., livestock grazing or oil and gas development) or other factor (e.g., wildfire or drought) contributing to the decline of GRSG habitat and/or populations as identified under the Adaptive Management, resulting in a soft or hard trigger being tripped. A causal factor can occur singly or in combination with one another.

Co-location – Installation of new linear improvements (i.e., communication towers, electrical lines, other rights-of-way, or designated corridors) in, on, or adjacent to existing linear improvements.

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

Compensatory mitigation – Compensating for the residual impact of a certain action or parts of an action by replacing or providing substitute resources or environments(s). (40 CFR 1508.20)

Compensatory mitigation projects – The restoration, creation, enhancement, and/or preservation of impacted resources (adopted and modified from 33 CFR 332), such as on-the-ground actions to improve and/or protect habitat (e.g., chemical vegetation treatments, land acquisitions, conservation easements, etc.).

Compensatory mitigation sites (Colorado) – The durable areas where compensatory mitigation projects will occur. Durability (protective and ecological): the maintenance of the effectiveness of a mitigation site and project for the duration of the associated impacts, which include resource, administrative/legal, and financial considerations.

Connectivity Habitat Management Area (CHMA) – Habitat management areas that are known migration corridors that connect populations or population segments. CHMA is only designated in Wyoming.

Conservation Area (Idaho and Utah as administered by the Sawtooth NF) – Areas determined to be necessary to monitor population objectives to evaluate the disturbance density and adaptive regulatory

triggers and engage adaptive management responses. Conservation Areas may contain priority, important, and general habitat management areas. Specifically, these areas are Mountain Valleys, Desert, and West Owyhee.

Controlled surface use – A category of moderate constraint stipulations that allows some use and occupancy of public land while protecting identified resources or values and is applicable to fluid mineral leasing and all activities associated with fluid mineral leasing (e.g., truck-mounted drilling and geophysical exploration equipment off designated routes, construction of wells and/or pads, etc.).

Corridor – A tract of land varying in width forming passageway through which various commodities such as oil, gas, and electricity are transported.

Disruptive activities – Land resource uses/activities that are likely to alter the behavior, displace, or cause excessive stress to the greater sage-grouse population occurring at a specific location and/or time. Actions that alter behavior or cause the displacement of individuals such that reproductive success is negatively affected or an individual's physiological ability to cope with environmental stress is compromised.

Distribution line – An electrical utility line with a capacity of less than 100kV or a natural gas, hydrogen, or water pipeline less than 24” in diameter.

Diversity (biological) – The number and distribution of plant and animal species within a specified geographic area. For purpose of the National Forest Management Act, the geographic area is a national forest or grassland unit.

Durable (protective and ecological) – The administrative, legal, and financial assurances that secure and protect the conservation status of a compensatory mitigation site and the ecological benefits of a compensatory mitigation project, for at least as long as the associated impacts persist.

Enhance – The improvement of habitat by increasing missing or modifying unsatisfactory components and/or attributes of the habitat (e.g., road commissioning) to meet greater sage-grouse objectives.

Exception (minerals) – A case-by-case exemption from a lease stipulation. The stipulation continues to apply to all other sites within the leasehold to which the restrictive criteria apply. The authorized officer (any employee of the Forest Service to whom has been delegated the authority to perform the duties described in the applicable Forest Service manual or handbook) may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, would not impair the function or utility of the site for the current or subsequent seasonal habitat, life-history, or behavioral needs of the greater sage-grouse.

Feasible – See technically/economically feasible.

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

Forage reserve – Designation for allotments on which there is no current term permit obligation for some or all of the estimated livestock grazing capacity and where there has been a determination made to use the available forage on the allotment to enhance management flexibility for authorized livestock use (FSH id_2209.13-2007-1).

Forest transportation system – Roads, trails, and areas designated for motor vehicle use that provide access to National Forest System lands for both motorized and non-motorized uses in a manner that is socially, environmentally, and economically sustainable over the long-term; enhances public enjoyment of National Forest System roads; and maintains other important values and uses.

General Habitat Management Areas (GHMA) – Areas that are likely to be occupied seasonally or year-round outside of PHMAs and where special management would apply to sustain the GRSG population. GHMA may include active leks, seasonal habitats, and fragmented or marginal habitat. These areas have been identified by the BLM and Forest Service in coordination with respective state wildlife agencies. Idaho, Nevada, Utah, Wyoming, and Colorado have GHMA.

Habitat – An environment that meets a specific set of physical, biological, temporal, or spatial characteristics that satisfy the requirements of a plant or animal species or group of species for part or all of its life cycle.

Hard trigger – A threshold indicating that immediate action is necessary to stop a severe deviation from greater sage-grouse conservation objectives set forth in the land and RMP.

High-voltage transmission line – An electrical power line that is 100 kilovolts or larger.

High elevation (Utah) – High elevation covers mid to high elevation areas comprised primarily of basin (mid-elevation) and mountain big sagebrush (high-elevation), as well as other mesic and higher elevation vegetation communities. (Previously the Mesic precipitation zone).

Holder – An individual or entity that holds a valid special-use authorization.

Impact – The effect, influence, alteration, or imprint caused by an action.

Important Habitat Management Areas (IHMA) – Areas that contain additional habitat and populations that provide a management buffer for PHMA and to connect patches of PHMA. IHMAs are typically adjacent to PHMAs but generally reflect somewhat lower GRSG population status and/or reduced habitat value due to disturbance, habitat fragmentation or other factors. IHMAs are only in Idaho.

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

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

Isolated parcel – An individual parcel of land that may share a corner but does not have a common border with another parcel.

Key habitat (Idaho) – Key habitat includes areas of generally intact sagebrush that provide sage-grouse habitat during some portion of the year. The Key Habitat Map is updated annually and tracks effective habitat, effects to that habitat from fire, restoration efforts and use by GRSG.

Landownership adjustment – Land adjustments to National Forest System lands by purchase, exchange,

interchange, or conveyance under authority delegated by law to the Secretary of Agriculture.

Landscape – A distinct association of land types that exhibit a unique combination of local climate, landform, topography, geomorphic process, surficial geology, soil, biota, and human influences. Landscapes are generally of a size that the eye can comprehend in a single view.

Landscape scale – At a scale that allows for bird dispersal and migration movements within the population and subpopulation area (Stiver et al 2015).

Lease – A contract granting use or occupation of property during a specified period in exchange for a specified rent or other form of payment; a type of special-use authorization (usually granted for uses other than linear rights-of-way) that is used when substantial capital investment is required and when conveyance of a conditional and transferable interest in National Forest System lands is necessary or desirable to serve or facilitate authorized long-term uses and that may be revocable and compensable according to the terms.

Leasable minerals – Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920, as amended, and the Mineral Leasing Act for Acquired Lands of 1947. These include energy-related mineral resources such as oil, natural gas, coal, and geothermal and some non- energy minerals, such as phosphate, sodium, potassium, and sulfur. Geothermal resources are also leasable under the Geothermal Steam Act of 1970**.**

Lek – A courtship display area attended by the male greater sage-grouse in or adjacent to sagebrush-dominated habitat.

Lek cluster (Nevada) – A group of leks in the same vicinity, among which GRSG may interchange over time and representing a group of closely related individuals. A lek cluster boundary is defined by minimal GRSG movement between clusters, so demographic rates are influenced by birth/death rates rather than immigration/emigration. Lek clusters are defined by the USGS (Coates et al. 2017).

Lessee – A person or entity holding record title in a lease issued by the United States; a person or entity authorized to use and occupy National Forest System lands under a specific instrument identified as a lease.

Livestock conversion – To change the kind of livestock authorized to graze on National Forest System lands (e.g., a change from sheep to cows).

Locatable minerals – Mineral disposable under the General Mining Act of 1872, as amended, that was not excepted in later legislation. These include hardrock, placer, and industrial minerals and uncommon varieties of rock found on public domain lands.

Low Elevation (Utah) – Low elevation areas in the state, comprised primarily of Wyoming big sagebrush communities, with some basin big sagebrush included. (Previously the Arid precipitation zone).

Major pipeline – A pipeline that is 24 inches or more in outside-pipe diameter (Mineral Leasing Act of 1920, as amended, 30 U.S.C. § 181; 36 CFR 251.54(f)(1)).

Marginal habitat – An area that supports the species but has generally lower survival rates and

reproductive success by comparison and may or may not have the potential to become suitable in the future (Stiver et al. 2015).

Mineral – Any naturally formed inorganic material; solid or fluid inorganic substance that can be extracted from the earth; any of various naturally occurring homogeneous substances (e.g., stone, coal, salt, sulfur, sand, petroleum, water, or natural gas) obtained usually from the ground. Under federal laws, considered as locatable (subject to the general mining laws), leasable (subject to the Mineral Leasing Act of 1920, as amended), and salable (subject to the Materials Act of 1947).

Mineral materials – Common varieties of mineral materials such as soil, sand and gravel, stone, pumice, pumicite, and clay that are not obtainable under the mining or leasing laws but that can be acquired under the Materials Act of 1947, as amended.

Minimization mitigation – Minimizing impacts by limiting the degree or magnitude of the action and its implementation (40 CFR 1508.20 (b)).

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

Modification (oil and gas) – A fundamental change to the provisions of a lease stipulation either temporarily or for the term of the lease. A modification may include an exemption from or alteration to a stipulated requirement. Depending on the specific modification, the stipulation may or may not apply to all other sites within the leasehold to which the restrictive criteria applied.

Native plant species – A plant species that occurs naturally in a particular region, state, ecosystem, and habitat without direct or indirect human actions.

Net conservation gain – The actual benefit or gain above baseline conditions. Actions which result in habitat loss and degradation include those identified as threats which contribute to GRSG disturbance as identified by the USFWS in its 2010 listing decision (75 *Federal Register* 13910) and shown in Table 2 in the Greater Sage-Grouse Monitoring Framework (Appendix A).

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

Non-habitat – An area within the historical distribution of sage-grouse that is unoccupied, does not currently provide habitat, and does not have the potential to provide habitat in the foreseeable future

(<100 years) (Stiver et al. 2015).

Occupied lek – A lek that has been active during at least one strutting season within the prior 10 years.

Other Habitat Management Area (OHMA) – Areas with appropriate environmental conditions for GRSG that are less used by GRSG or have marginal habitat suitability. OHMA is only designated in Nevada.

Pending lek (Nevada) – Any lek that has two or more males observed only once in the last five years.

Permit — A special-use authorization that provides permission, without conveying an interest in land, to occupy and use National Forest System lands or facilities for specified purposes and which is both revocable and terminable.

Permit cancellation – Action taken to permanently invalidate a term grazing permit in whole or part.

Persistent woodlands – Long-lived pinyon-juniper woodlands that typically have sparse understories and occur on poor substrates in the assessment area.

Plan of Operation – A Plan of Operation is required for all mining activity conducted under the General Mining Act of 1872, as amended, if the proposed operations will likely cause significant disturbance of surface resources. The Plan of Operation describes the type of operations proposed and how they would be conducted; the type and standard of existing and proposed roads or access routes; the means of transportation to be used; the period during which the proposed activity will take place; and measures to be taken to meet the requirements for environmental protection (36 CR 228.4).

Prescribed fire – Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and National Environmental Policy Act requirements, where applicable, must be met before ignition.

Priority habitat management areas – Areas that have been identified as having the highest conservation value to maintaining sustainable GRSG populations. These areas are occupied seasonally or year-round and include breeding, late brood-rearing, and winter concentration areas. The BLM and Forest Service have identified these areas in coordination with respective state wildlife agencies. Idaho, Nevada, Utah, Wyoming, and Colorado have PHMA.

Prohibit – To forbid (something) by law, rule, or other authority; no authorizations will be issued, meaning no authorization will be granted.

Proper Functioning Condition – A riparian-wetland area in which adequate vegetation or other structure components are present to dissipate energy, reduce erosion and improve water quality, filter sediment and aid in floodplain development, improve flood-water retention and ground-water recharge, stabilize streambanks and shorelines, develop diverse ponding and channel characteristics for fish and wildlife habitat among other things, and support greater biodiversity.

Reclamation plans – Plans that guide the suite of actions taken within an area affected by human disturbance, the outcome of which is intended to change the condition of the disturbed area to meet pre-determined objectives and/or make it acceptable for certain defined resources (e.g., wildlife habitat, grazing, ecosystem function, etc.).

Residual impacts – Impacts from an implementation-level decision that remain after applying avoidance and minimization mitigation; also referred to as unavoidable impacts.

Restoration – Implementation of a set of actions that promotes plant community diversity and structure that allows plant communities to be more resilient to disturbance and invasive species over the long-term. The long-term goal is to create functional, high quality habitat that is occupied by the greater sage-grouse. The short-term goal may be to restore the landform, soils, and hydrology and increase the percentage of preferred vegetation, seeding of desired species, or treatment of undesired species.

Restriction/restrict – A limitation or constraint, not a prohibition, on public land uses and operations. Restrictions can be of any kind but most commonly apply to certain types of vehicle use, temporal and/or spatial constraints, or certain authorizations.

Right-of-way – Land authorized to be used or occupied for the construction, operation, maintenance, and termination of a project or facility passing over, upon, under, or through such land.

Road or trail – A road or trail wholly or partly within or adjacent to and serving the National Forest System that the Forest Service determines is necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources.

Sagebrush Focal Areas – Areas identified by the U.S. Fish and Wildlife Service that represent recognized "strongholds" for the greater sage-grouse that have been noted and referenced as having the highest densities of greater sage-grouse and other criteria important for the persistence of the species.

Soft triggers – An intermediate threshold indicating that management changes are needed at the implementation level to address habitat or population losses.

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

Stipulation (general) – A term or condition in an agreement, contract, or written authorization.

Stipulation (oil and gas) – A provision that modifies standard lease rights and is attached to and made a part of the lease. Lease stipulations include No Surface Occupancy, Timing Limitations, and Controlled Surface Use.

Suitable condition –

Suitable habitat – An area that provides environmental conditions necessary for successful survival and reproduction to sustain stable populations (Stiver et al. 2015).

Surface disturbing activities – Actions that alter the vegetation, surface/near surface soil resources, and/or surface geologic features beyond natural site conditions and on a scale that affects other public land values. Examples of surface disturbing activities may include operation of heavy equipment to construct well pads, roads, pits, and reservoirs; installation of pipelines and power lines; maintenance activities; and several types of vegetation treatments (e.g., prescribed fire, etc.). Surface disturbing

activities may be restricted, not allowed, or not authorized.

Surface occupancy – Placement or construction on the land surface of semi-permanent or permanent facilities requiring continual service or maintenance. Casual use is not included.

Surface use – Activities that may be present on the surface or near-surface (e.g., pipelines) of public lands. When administered as a use restriction (e.g., No Surface Occupancy), this phrase prohibits all but specified resource uses and activities in a certain area to protect particular sensitive resource values and property. This designation typically applies to small acreage sensitive resource sites (e.g., plant community study exclosure, etc.) and/or administrative sites (e.g., government ware-yard, etc.) where only authorized agency personnel are admitted.

Tall structures – A wide array of infrastructures (e.g., poles that support lights, telephone, and electrical distribution; communication towers; meteorological towers; high-tension transmission towers; and wind turbines) that have the potential to disrupt lekking or nesting birds by creating new perching/nesting opportunities and/or decreasing the use of an area. A determination as to whether something is considered a tall structure would be based on local conditions such as vegetation or topography.

Technically/economically feasible – Actions that are practical or feasible from the technical and economic standpoint and using common sense rather than simply desirable from the standpoint of the applicant. It is the Forest Service's responsibility to determine what actions are technically and economically feasible based on a review of the applicant's rationale and the available best science. The Forest Service will consider whether implementation of the proposed action is likely given past and current practice and technology; this consideration does not necessarily require a cost-benefit analysis or speculation about an applicant's costs and profit.

Temporary special-use permit – A type of permit that terminates within 1 year or less after the approval date. All other provisions applicable to permits apply fully to temporary permits.
Temporary special-use permits are issued for seasonal or short-duration uses involving minimal improvement and investment.

Term permit – An authorization to occupy and use National Forest System lands other than rights- of-way for a specified period that is both revocable and compensable according to its terms.

Timeliness (Colorado) – The lack of a time lag between impacts and the achievement of compensatory mitigation goals and objectives.

Timely – The conservation benefits from compensatory mitigation accruing as early as possible or before impacts have begun.

Timing limitations – A moderate constraint, applicable to fluid mineral leasing, on all activities associated with fluid mineral leasing (e.g., truck-mounted drilling and geophysical exploration equipment off designated routes; construction of wells and/or pads); and other surface disturbing activities (i.e., those not related to fluid mineral leasing). Areas identified for Timing Limitations are closed to fluid mineral exploration and development; surface-disturbing activities; and intensive human activity during identified timeframes. This stipulation does not apply to operation and basic maintenance activities, including associated vehicle travel, unless otherwise specified. Construction, drilling, completions, and other operations considered to be intensive in nature are not allowed. Intensive maintenance, such as

workovers on wells, is not permitted. Timing Limitations can overlap spatially with No Surface Occupancy and Controlled Surface Use, as well as with areas that have no other restrictions.

Transmission line – An electrical utility line with a capacity greater than or equal to 100kV or a natural gas, hydrogen, or water pipeline greater than or equal to 24" in diameter.

Unsuitable habitat – An area that does not currently provide one or more of the life requisites and therefore does not provide habitat, but it may provide habitat sometime in the foreseeable future (<100 years) through succession or restoration (Stiver et al. 2015).

Utility-scale and/or commercial energy development – A project that is capable of producing 20 or more megawatts of electricity for distribution to customers through the electricity-transmission- grid system.

Valid existing rights – Documented legal rights or interests in the land that allow a person or entity to use said land for a specific purpose and that are still in effect. Such rights include but are not limited to fee title ownership, mineral rights, and easements. Such rights may have been reserved, acquired, granted, permitted, or otherwise authorized under various statutes of law over time.

Vegetation treatments – Management practices that are designed to maintain current vegetation structure or change the vegetation structure to a different stage of development. Vegetation treatment methods may include managed fire, prescribed fire, chemical, mechanical, and seeding.

Waived without preference – A permittee waives a term grazing permit to the United States without identifying a preferred applicant (i.e., a third party that has purchased either permitted livestock, base property, or both).

Waiver (oil and gas) – Permanent exemption from a lease stipulation. The stipulation no longer applies anywhere within the leasehold.

West Nile virus – A virus that is found in temperate and tropical regions of the world and most commonly transmitted by mosquitoes. West Nile virus can cause flu-like symptoms in humans and can be lethal to birds, including the greater sage-grouse.

Wildfire suppression – An appropriate management response to wildfire or prescribed fire that results in curtailment of fire spread and eliminates all identified threats from the particular fire.

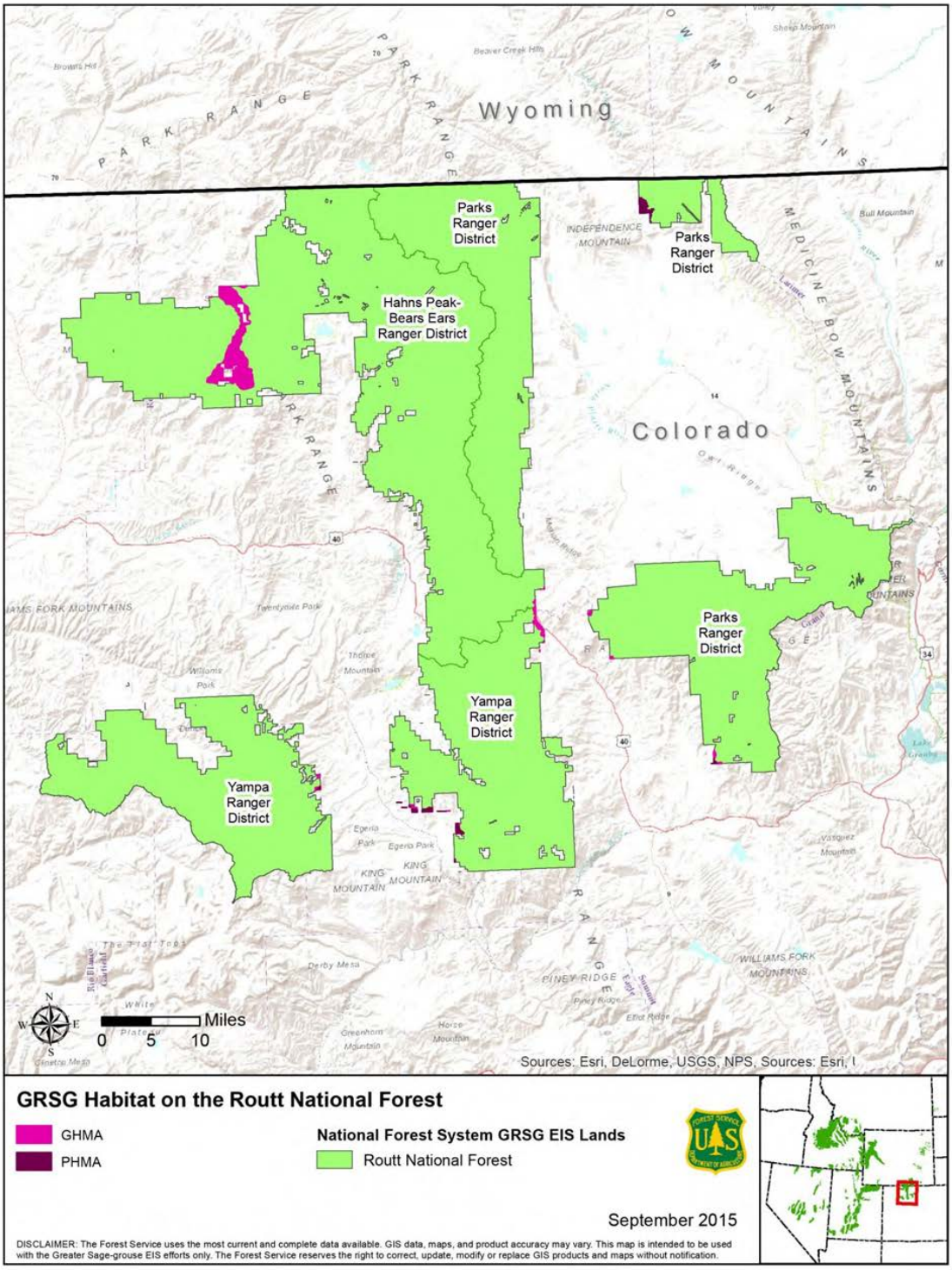
Winter concentration areas – Winter concentration areas are a habitat type that are exclusively mapped by the Wyoming Game and Fish Department (WGFD). The general criteria is an observed core area population persistently congregating in an area December 1 to March 14. No winter concentration areas are currently mapped on NFS lands in Wyoming. Once mapped, appropriate plan components would be applied.

Withdrawal (land) – Withholding an area of federal land from settlement, sale, location, or entry under some or all of the general land laws, including the mining and mineral leasing laws, for the purpose of limiting activities under those laws to maintain other public values in the area or for reserving the area for a particular public purpose or program.

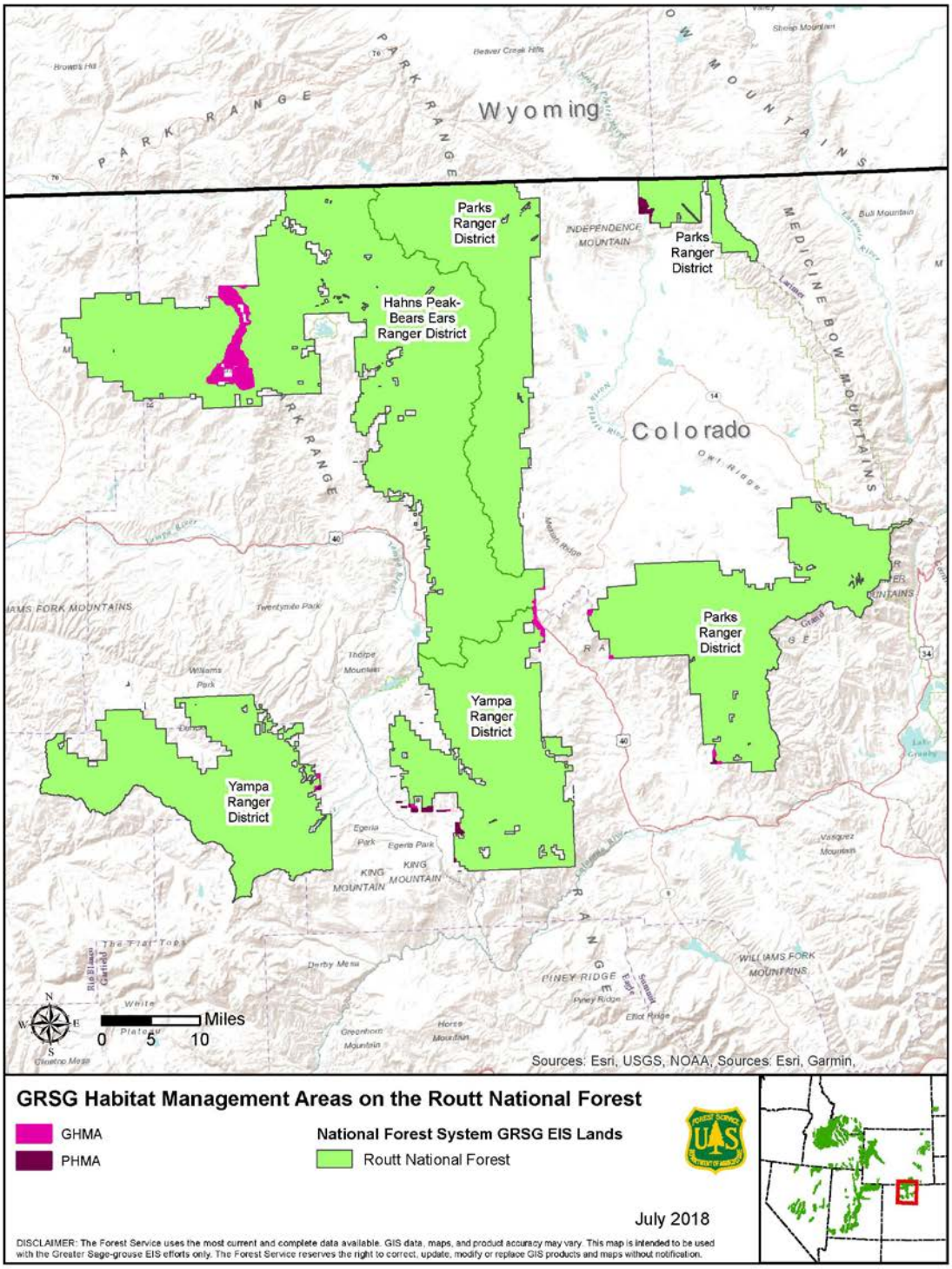
APPENDIX A - MAPS

Colorado Maps

Map A-1. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Routt National Forest, Colorado.

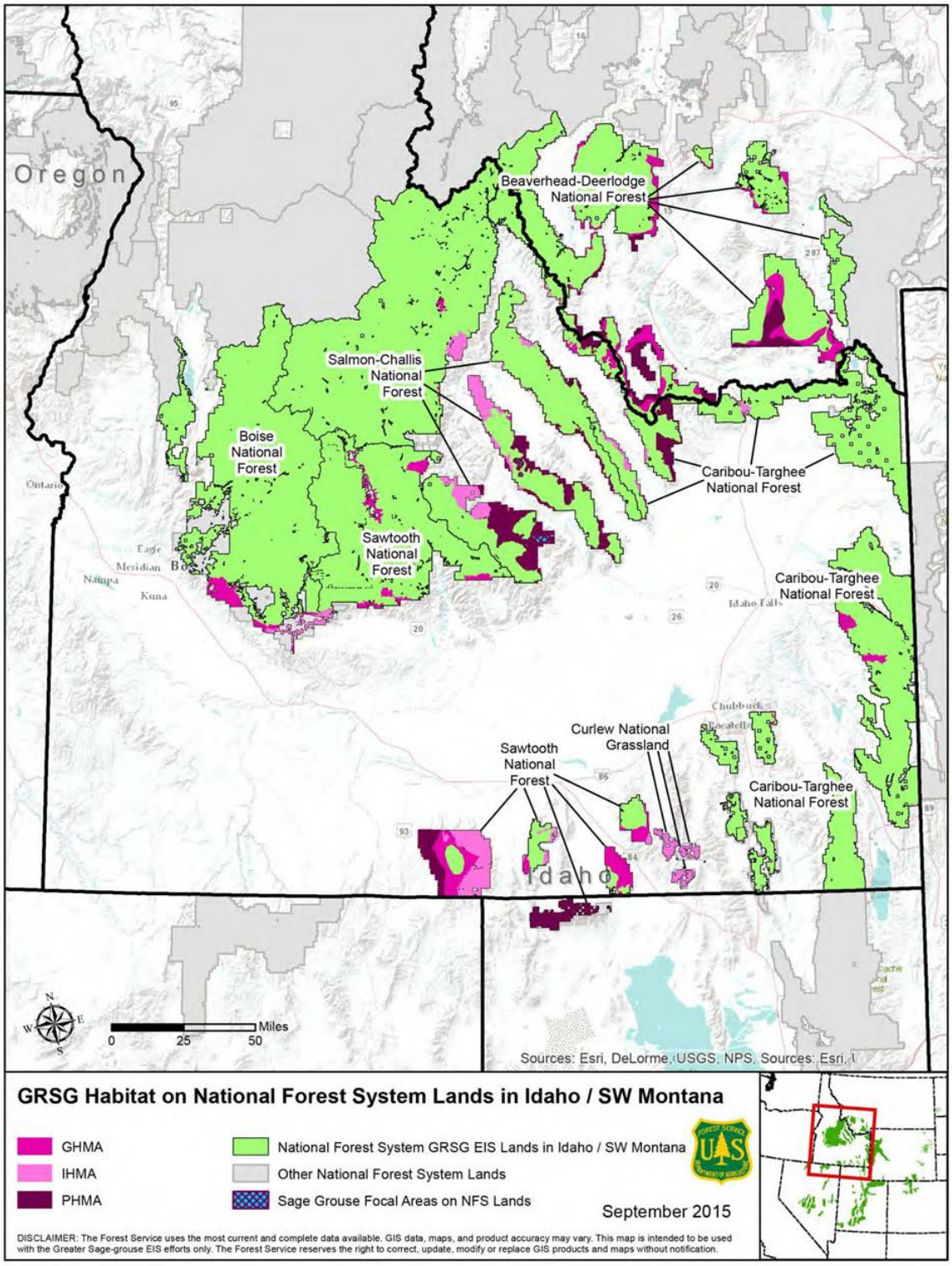


Map A-2. Alternative 2 – Proposed Action Alternative. GRSG Habitat Management Areas on the Routt National Forest, Colorado.

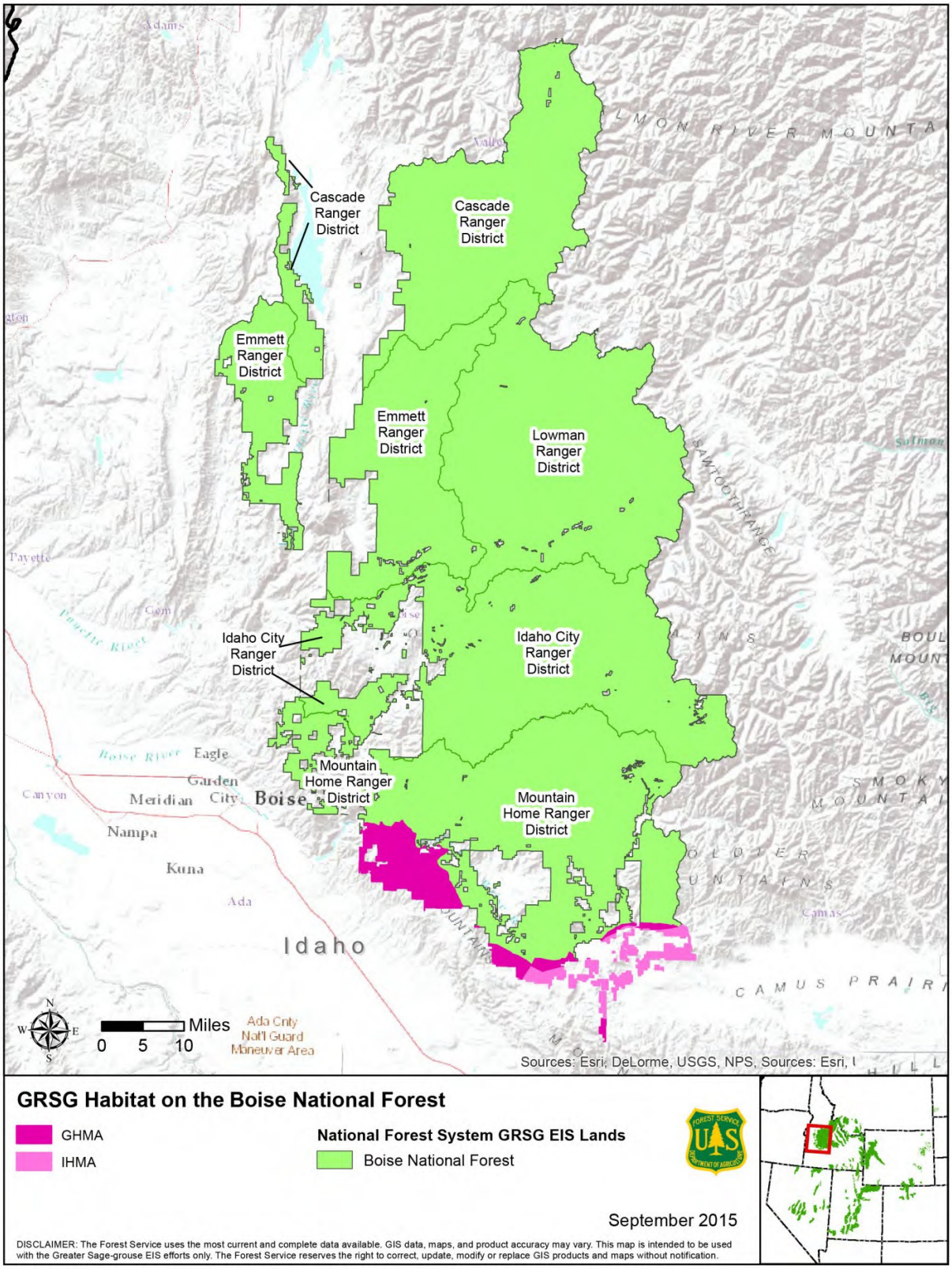


Idaho Maps

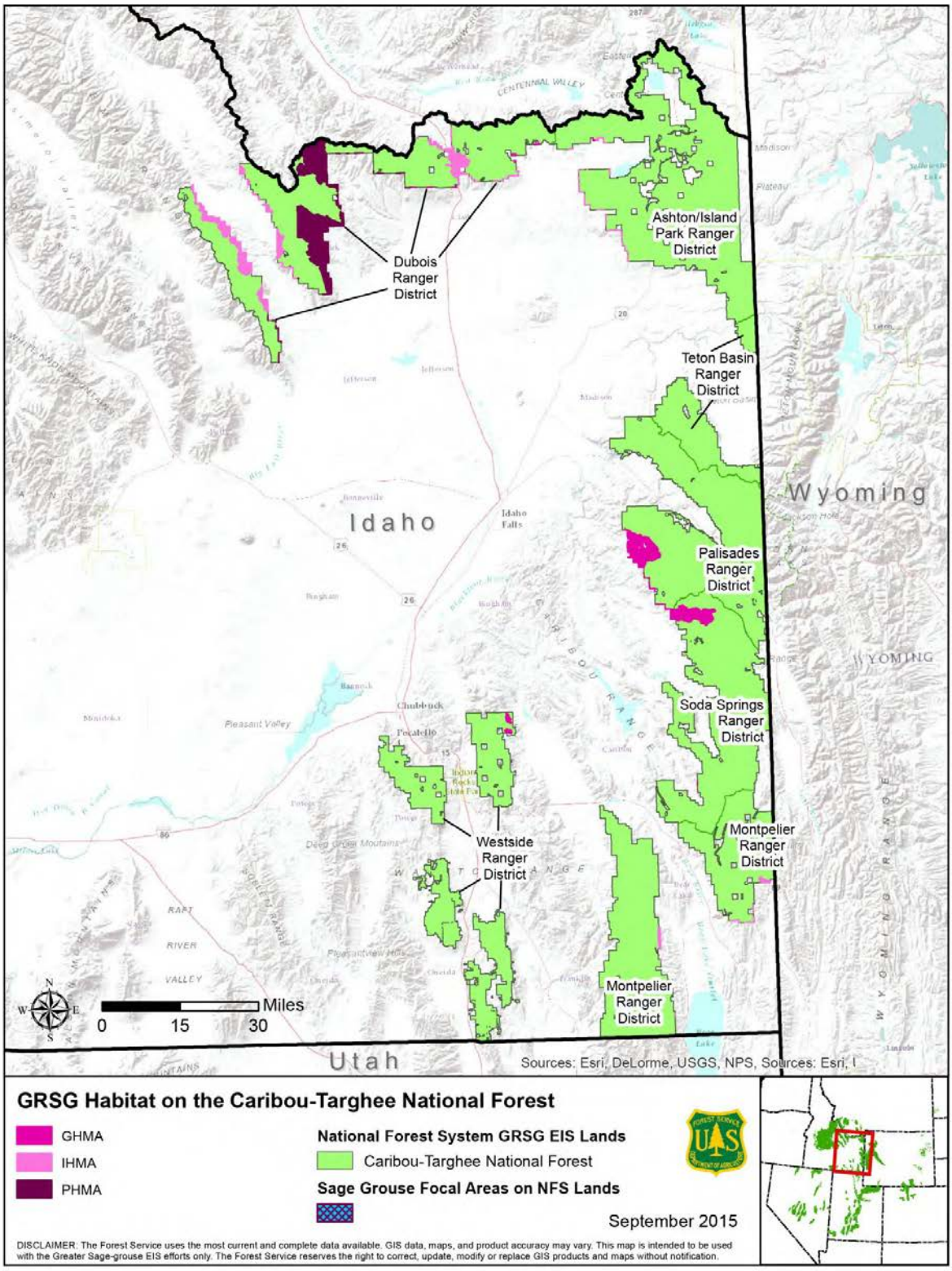
Map A-3. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas in Idaho/SW Montana.



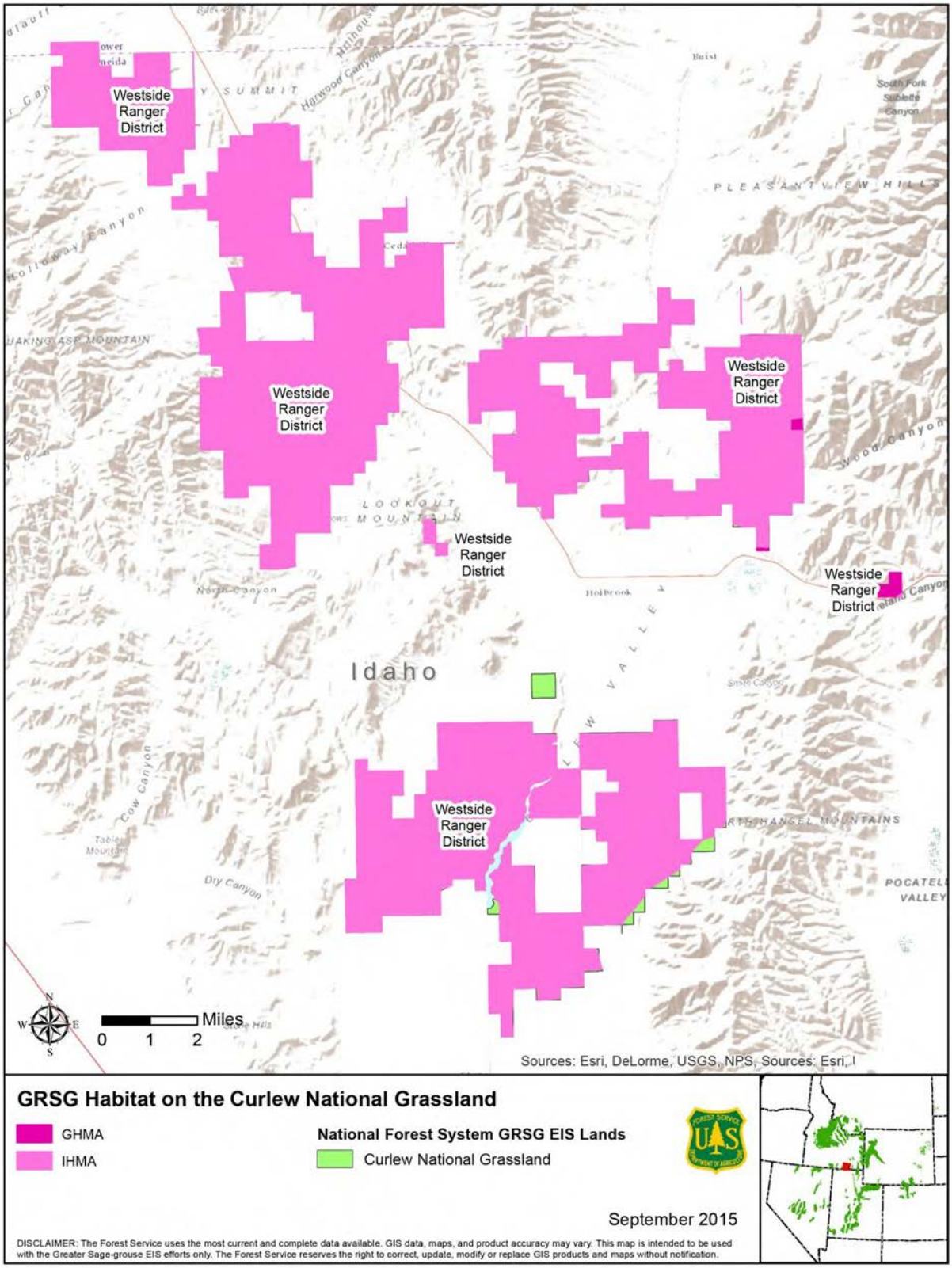
Map A-4. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Boise NF.



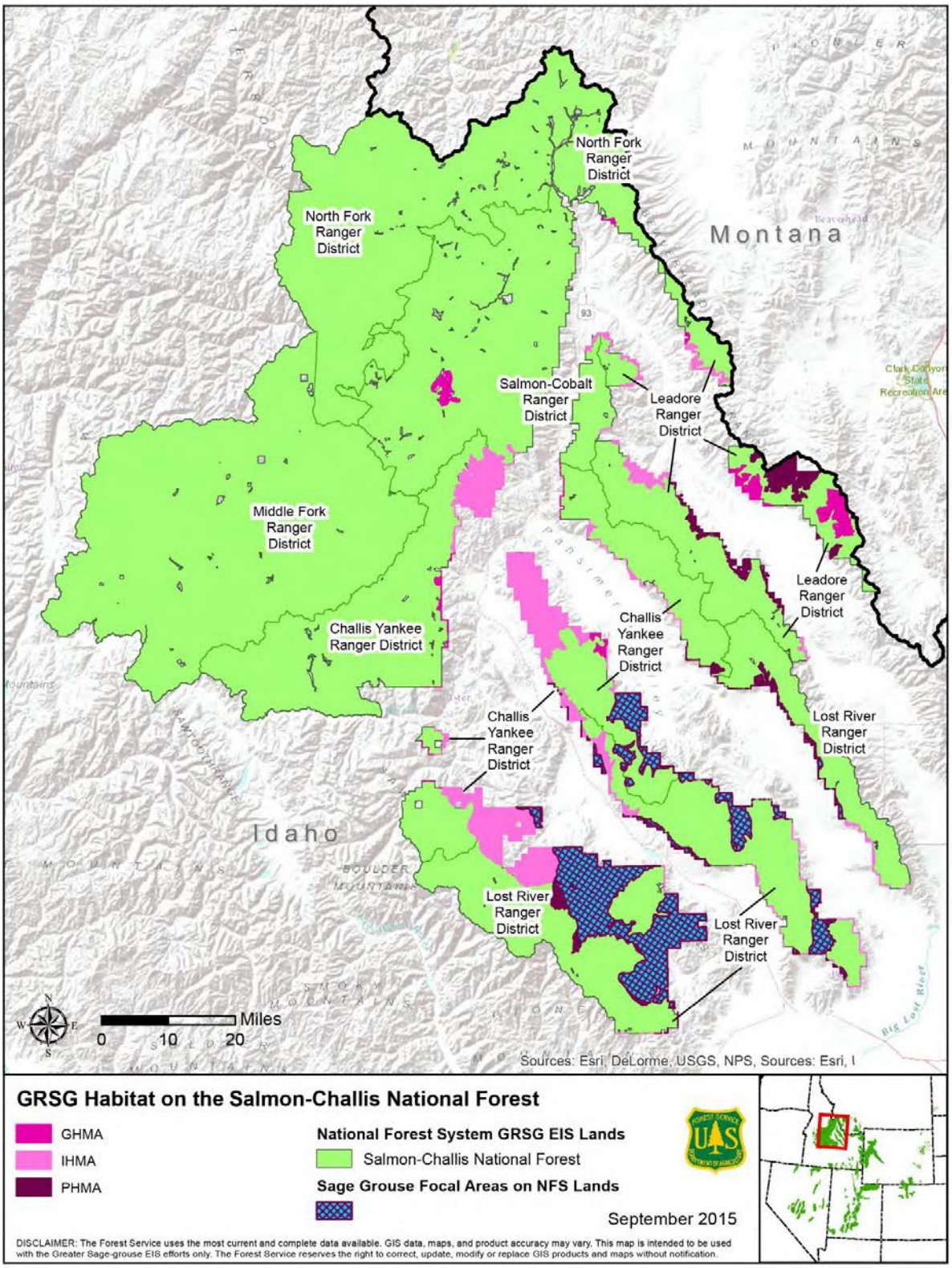
Map A-5. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Caribou-Targhee National Forest.



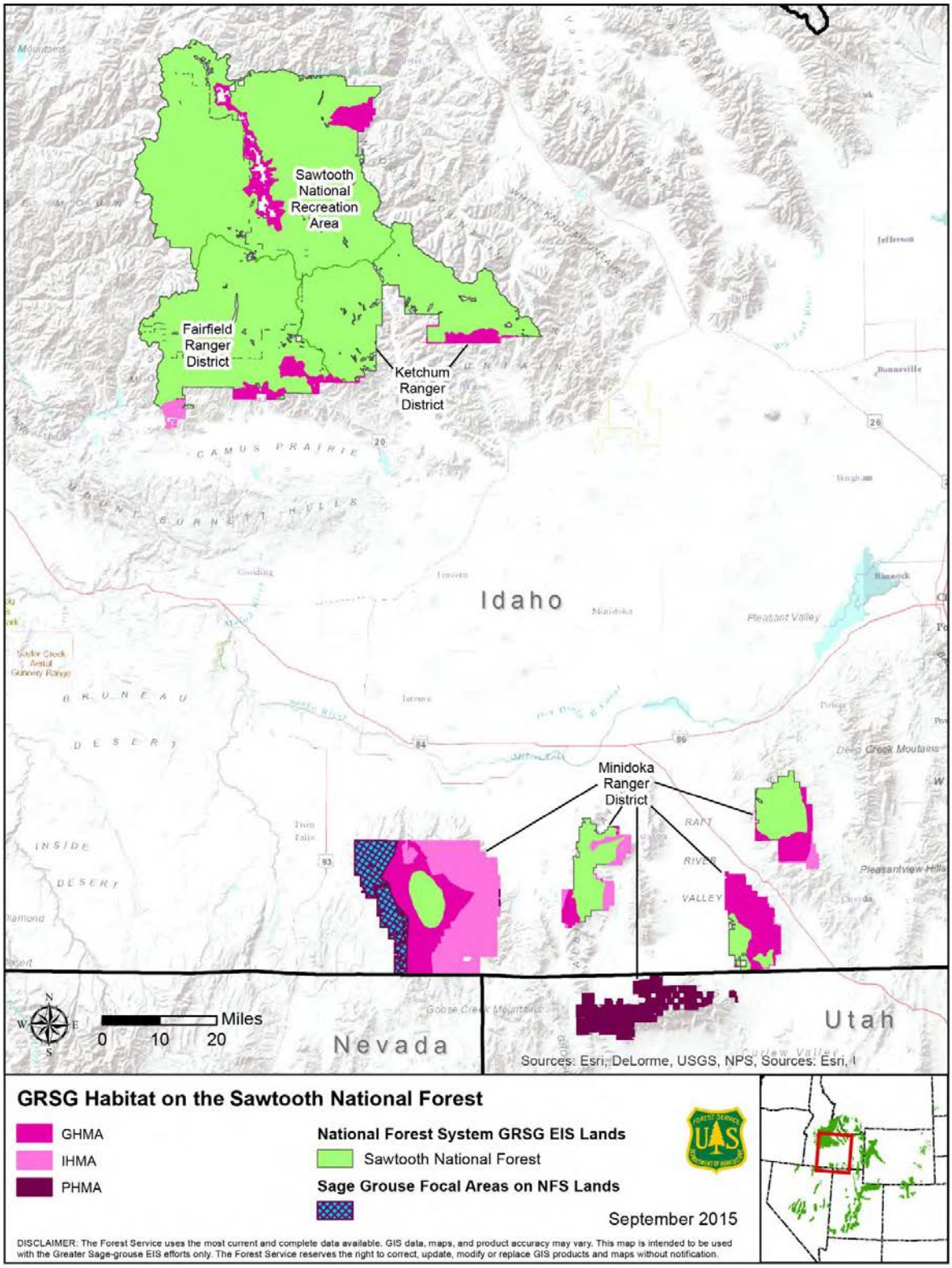
Map A-6. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Curlew National Grassland.



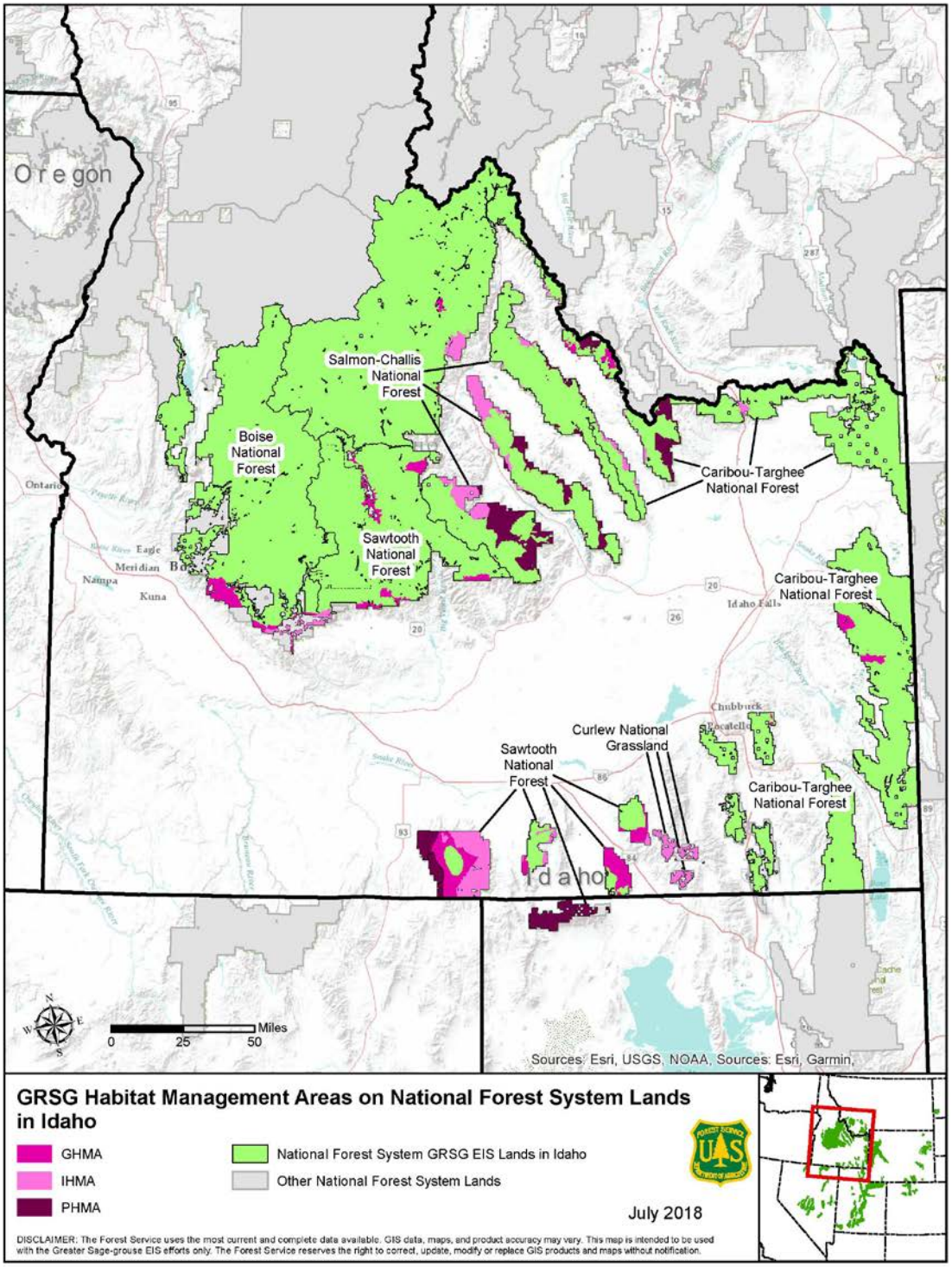
Map A-7. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Salmon-Challis National Forest.



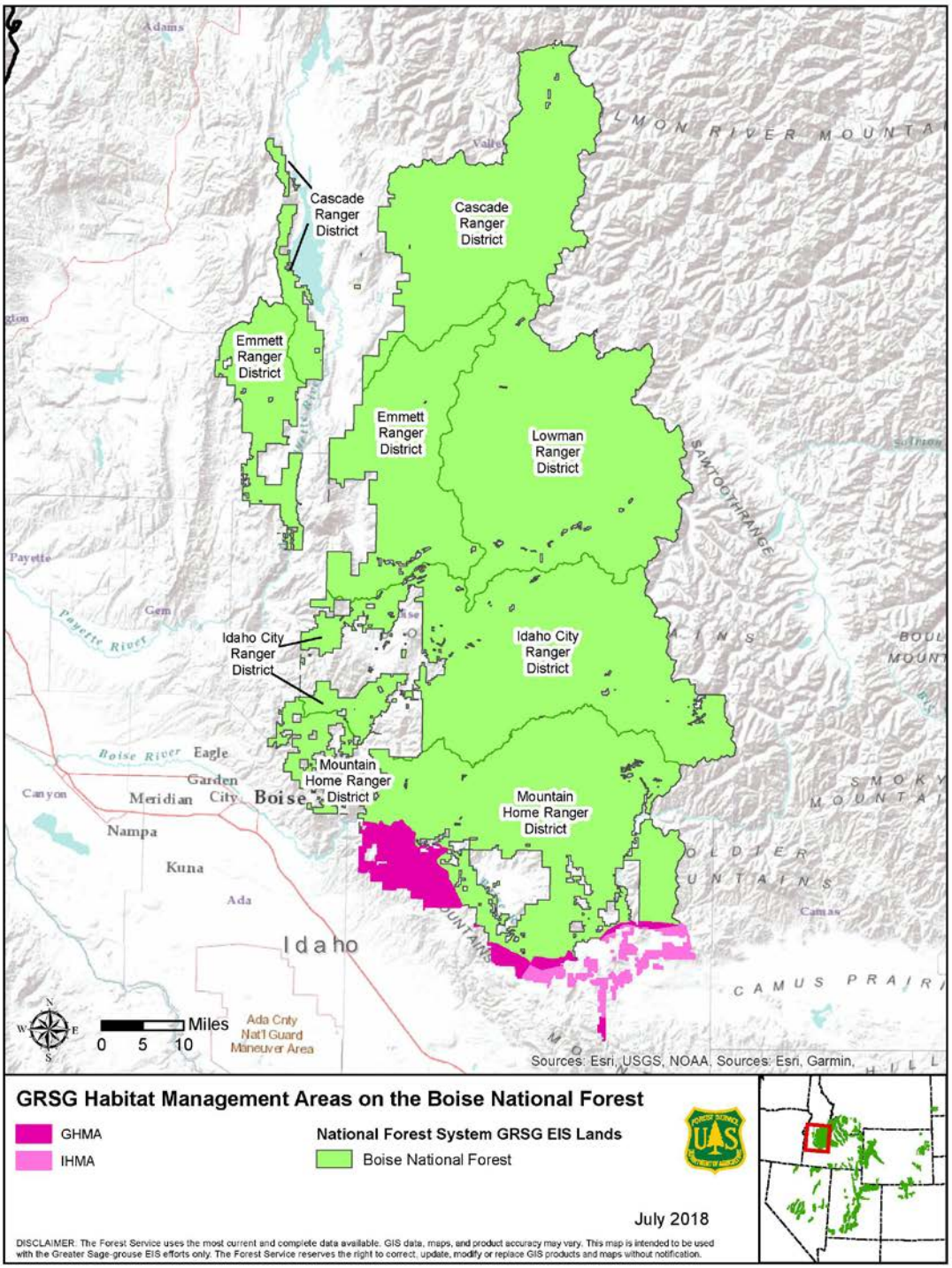
Map A-8. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Sawtooth National Forest.



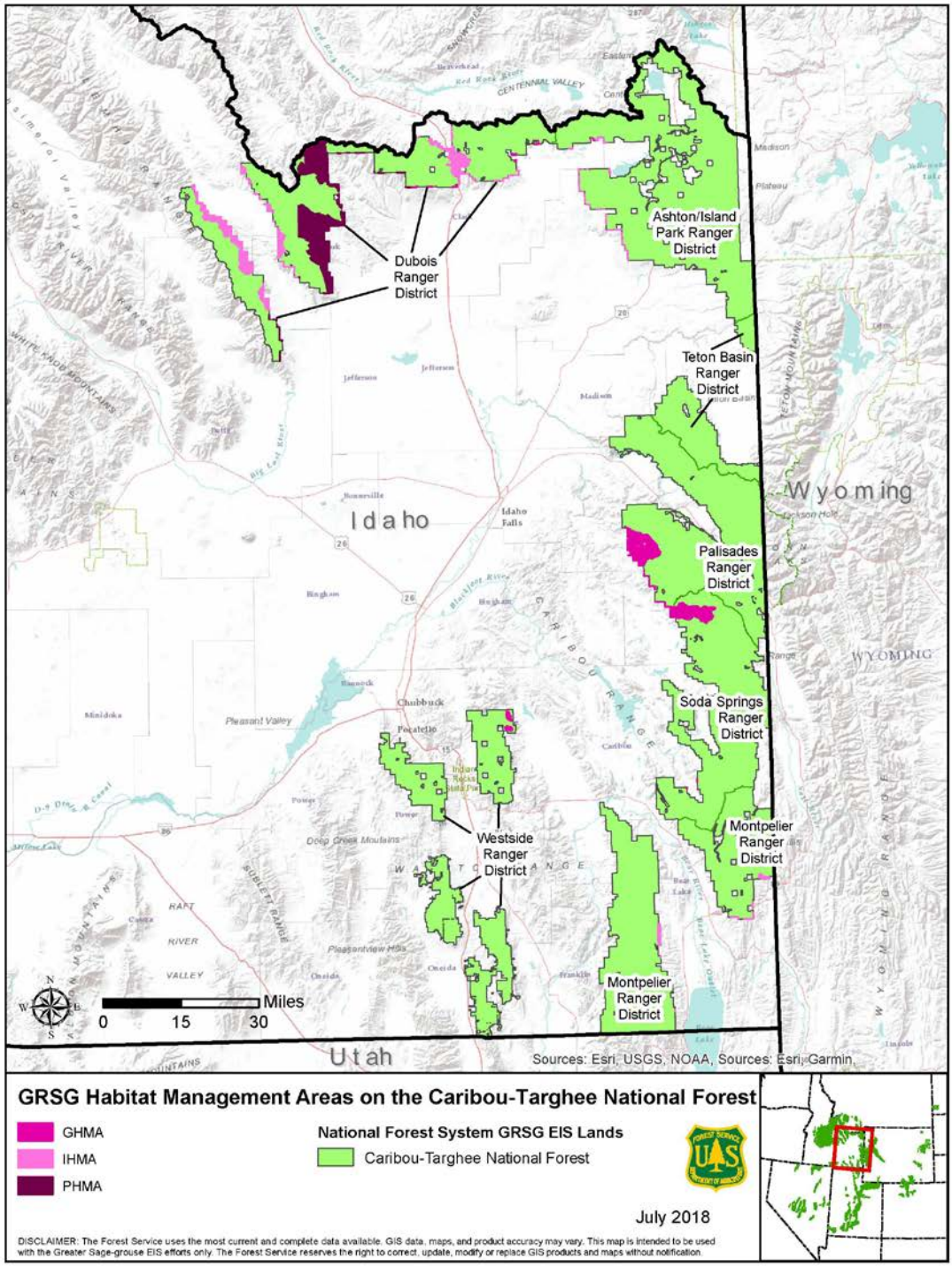
Map A-9. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas in Idaho.



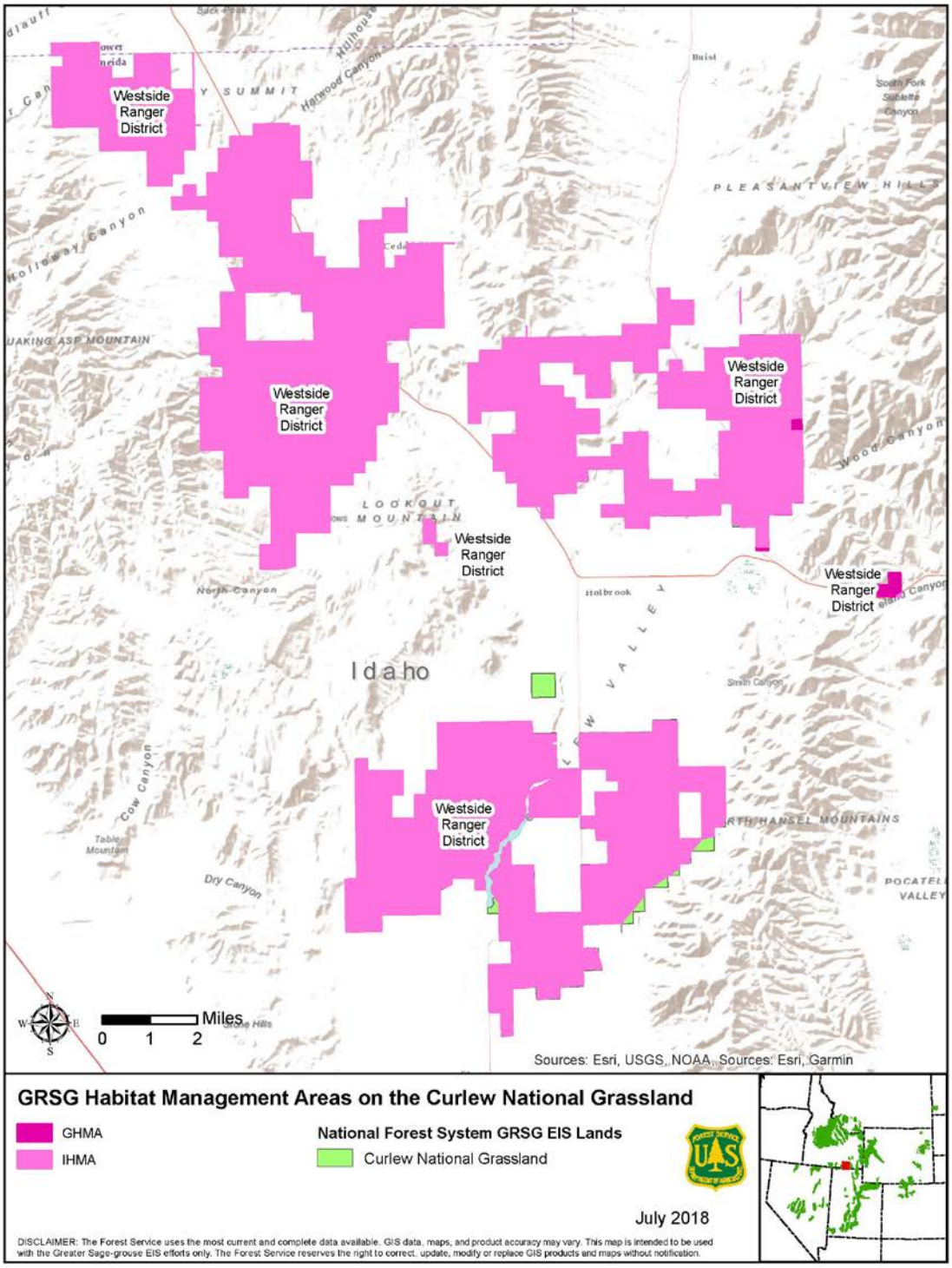
Map A-10. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Boise NF.



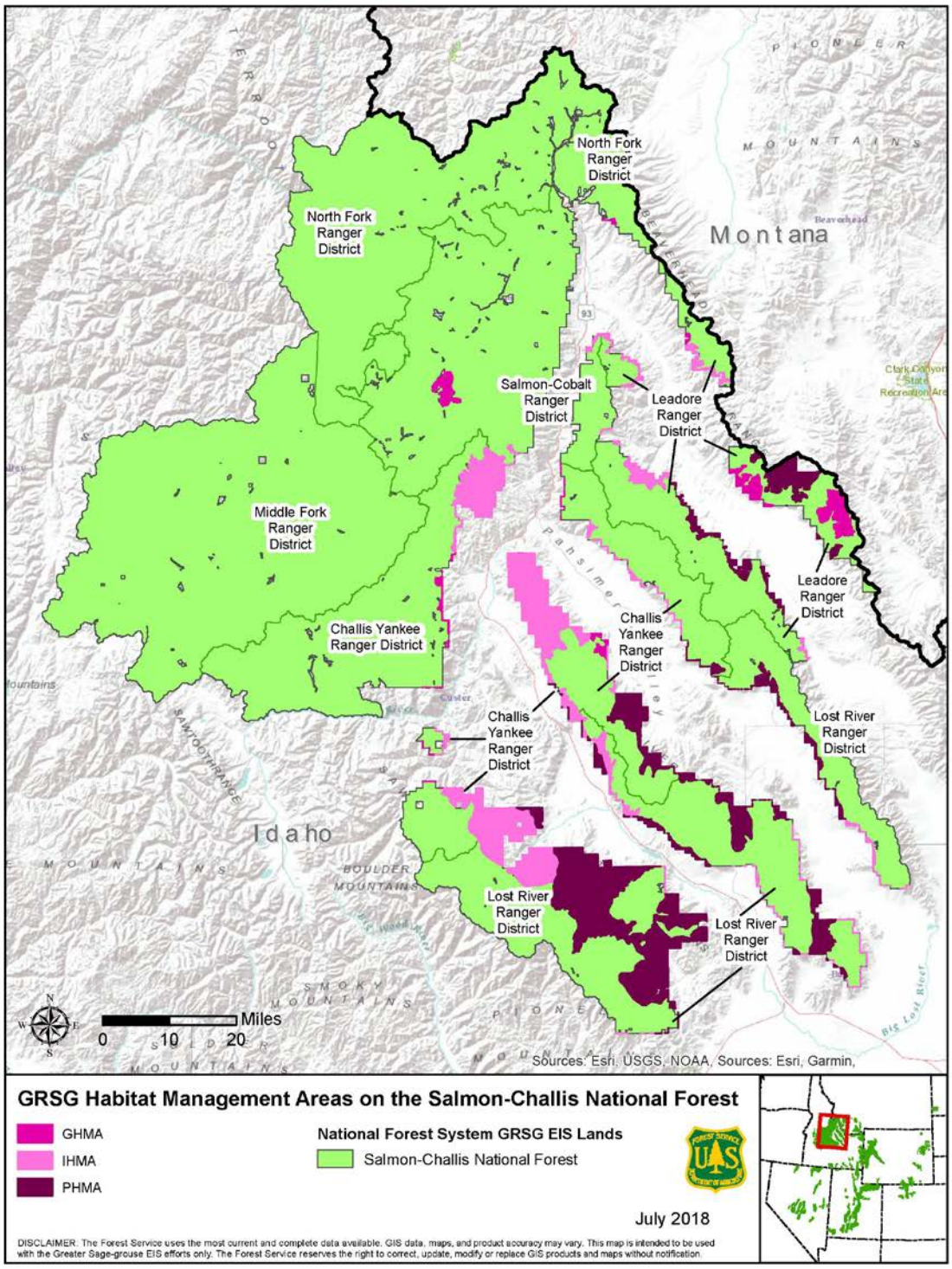
Map A-11. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Caribou-Targhee National Forest.



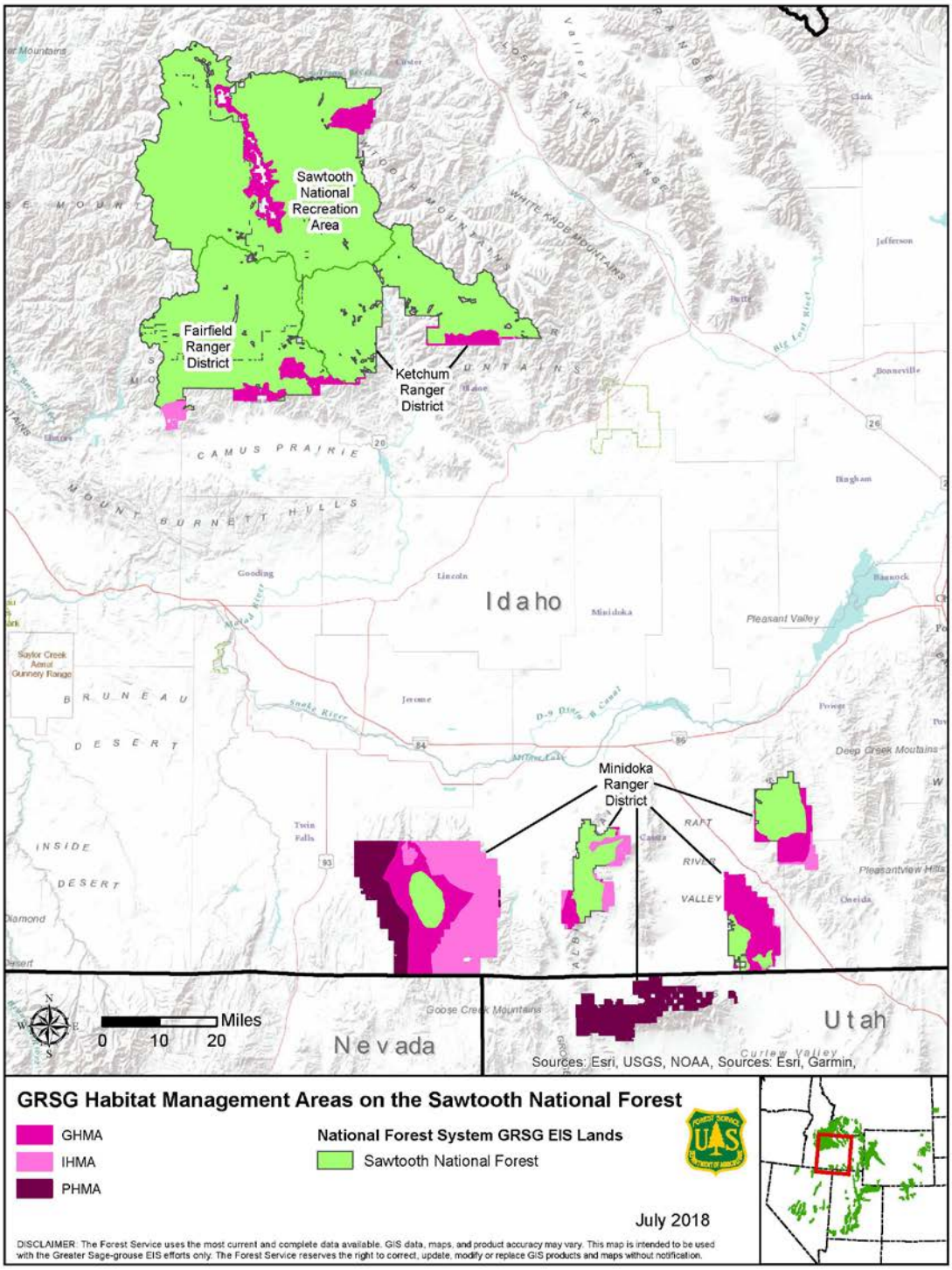
Map A-12. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Curlew National Grassland.



Map A-13. Alternative 2 - Proposed Action. GRSG Habitat Management Areas on the Salmon-Challis National Forest.

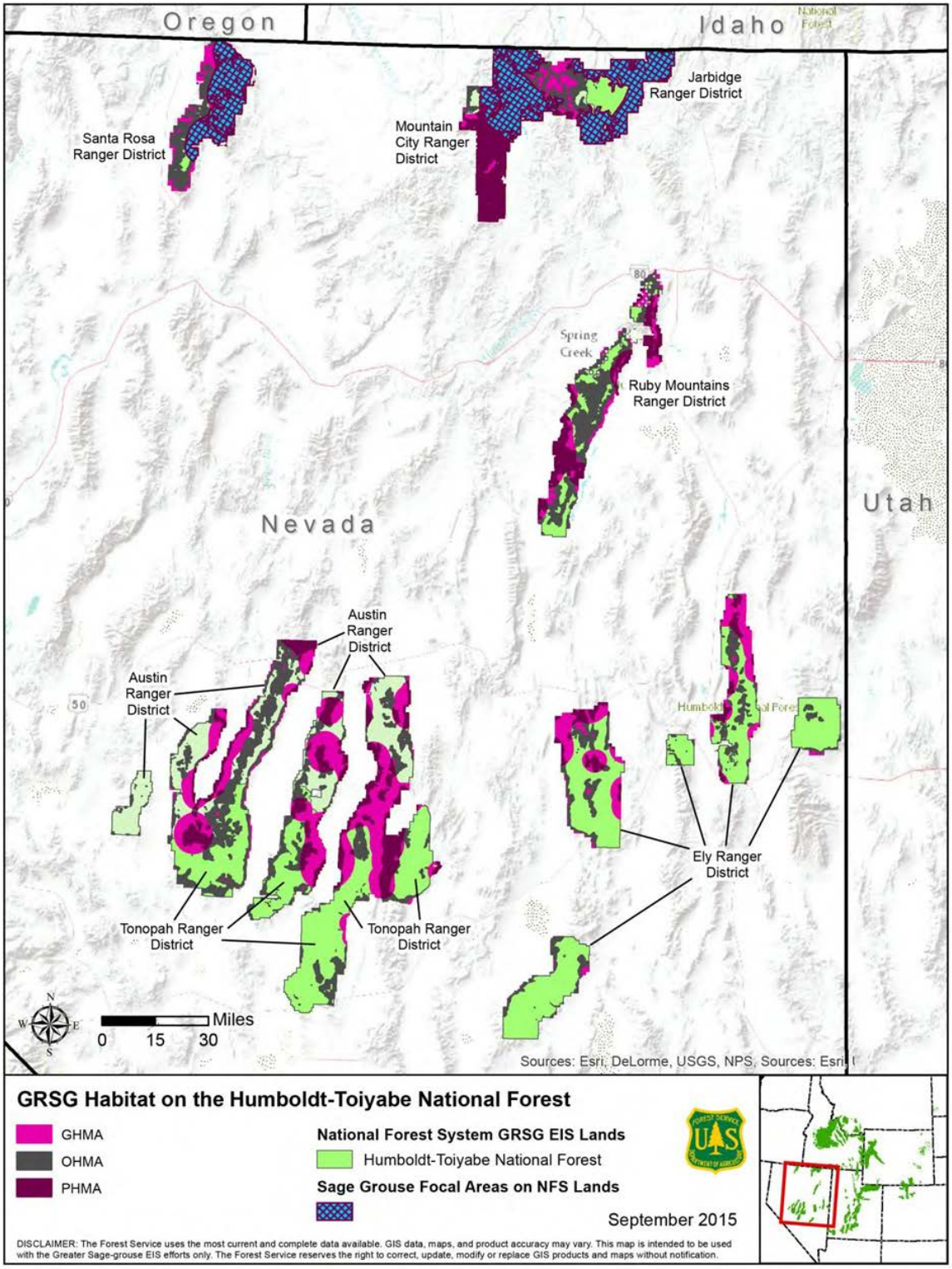


Map A-14. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Sawtooth National Forest.

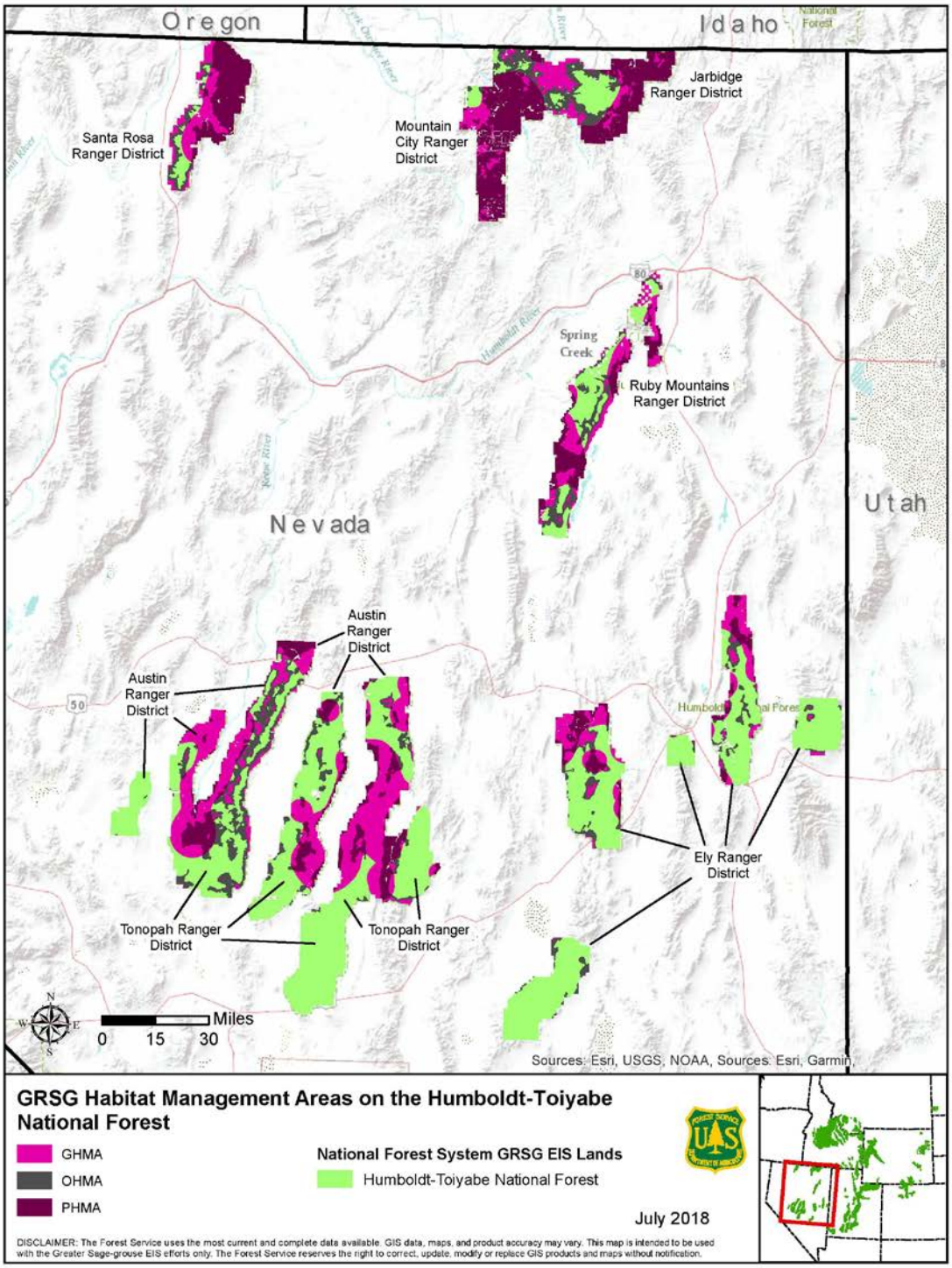


Nevada Maps

Map A-15. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Humboldt-Toiyabe National Forest, Nevada.

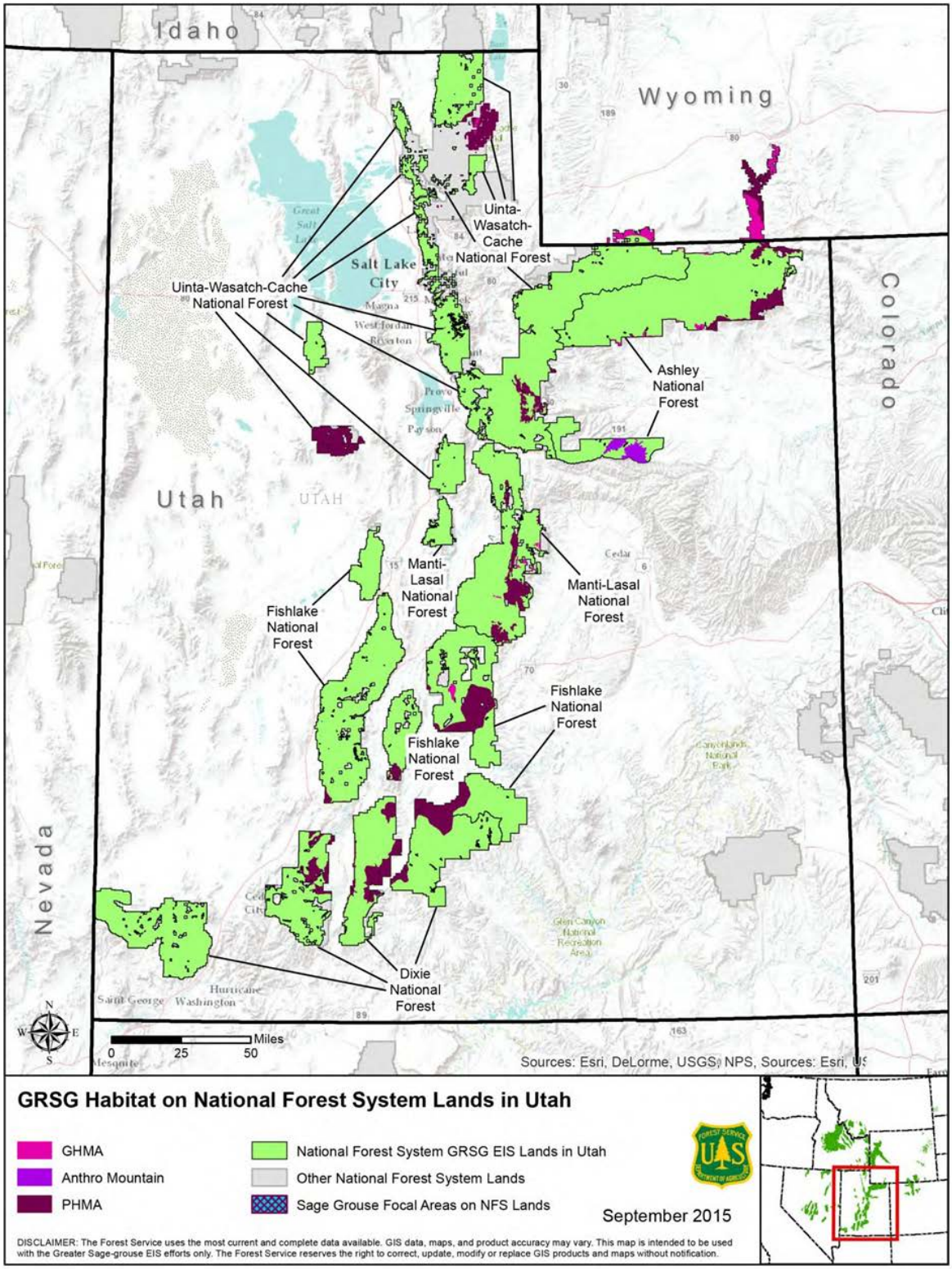


Map A-16. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Humboldt-Toiyabe National Forest, Nevada.

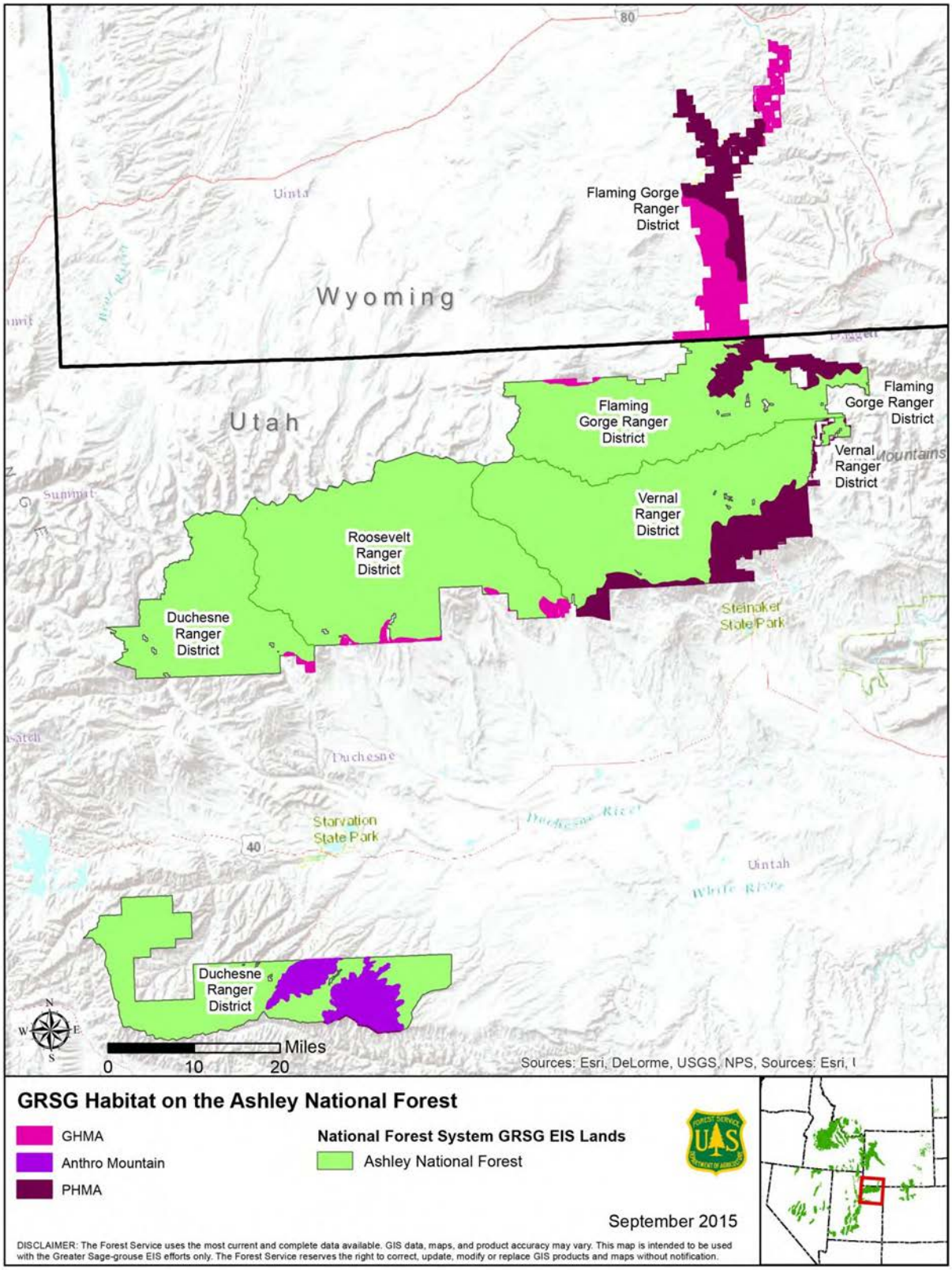


Utah Maps

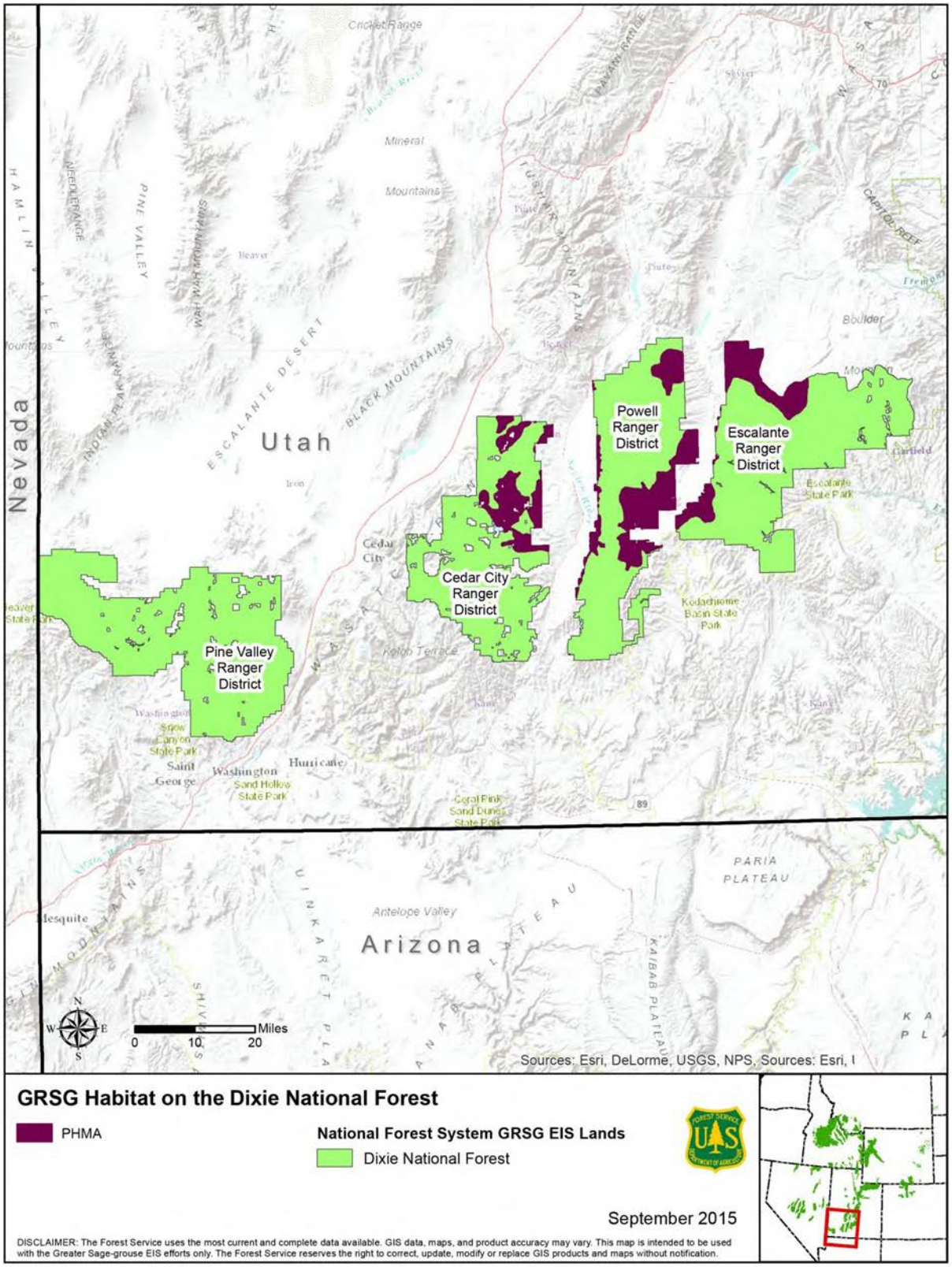
Map A-17. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas in Utah.



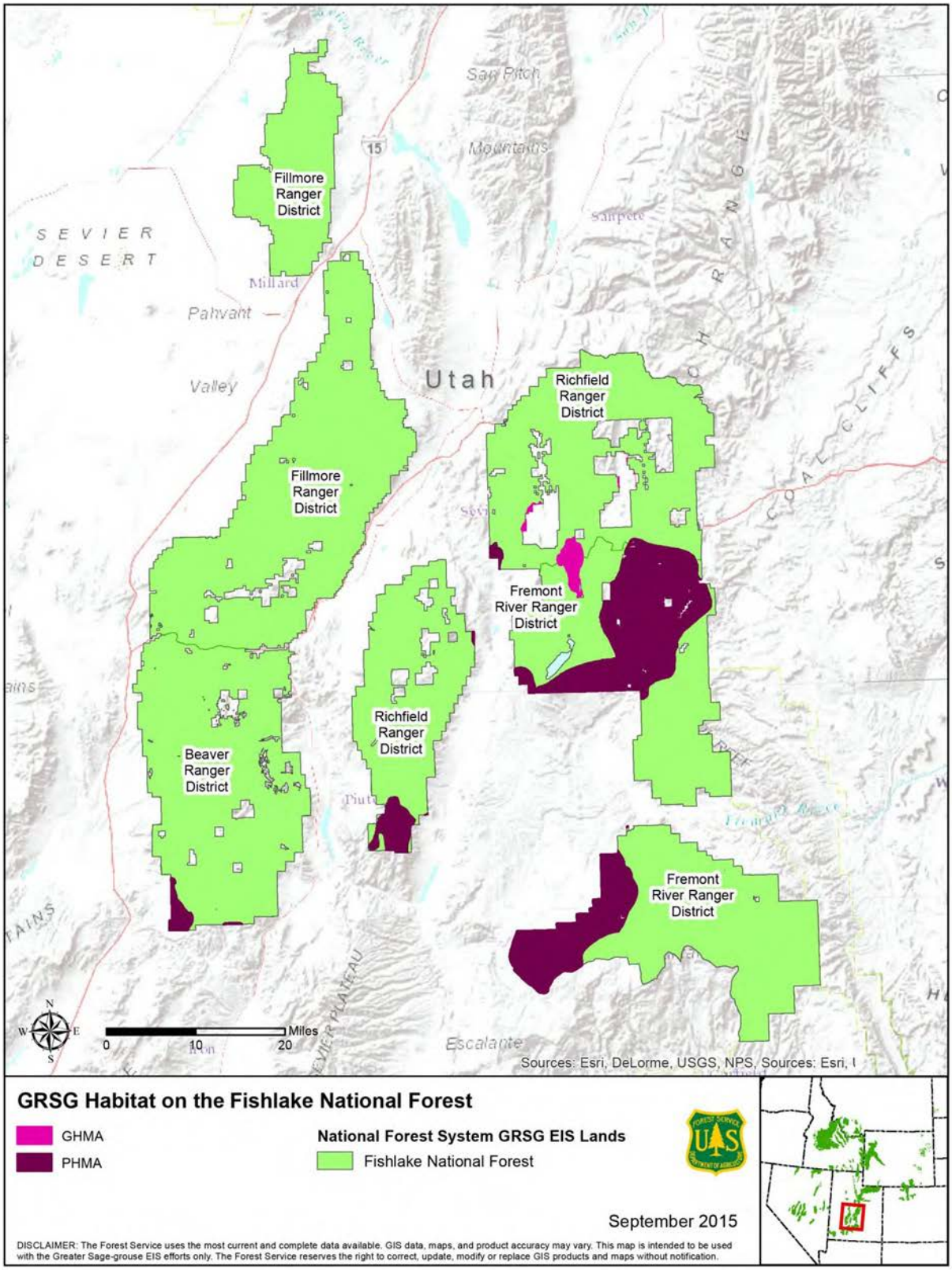
Map A-18. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Ashley NF.



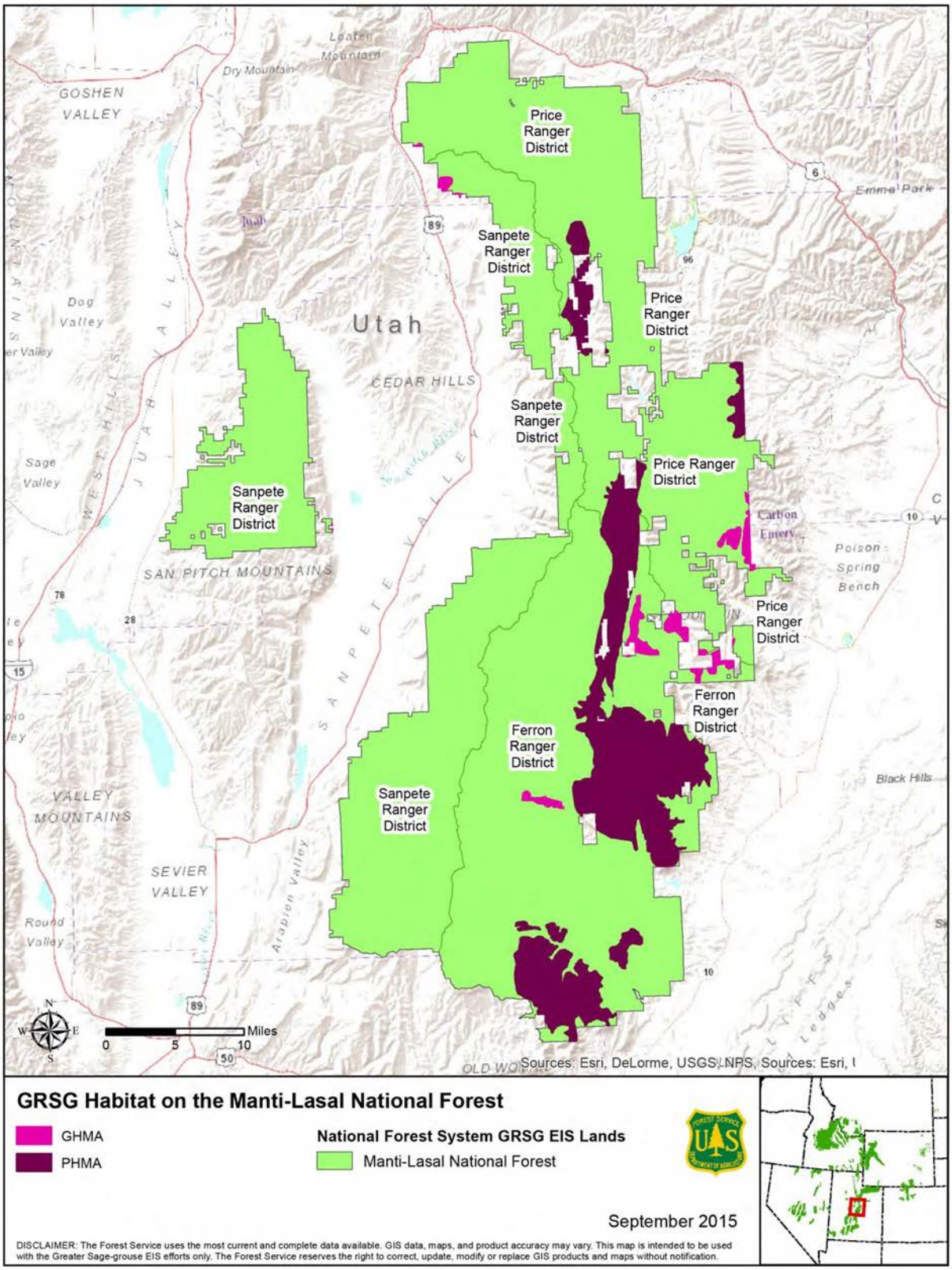
Map A-19. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Dixie NF.



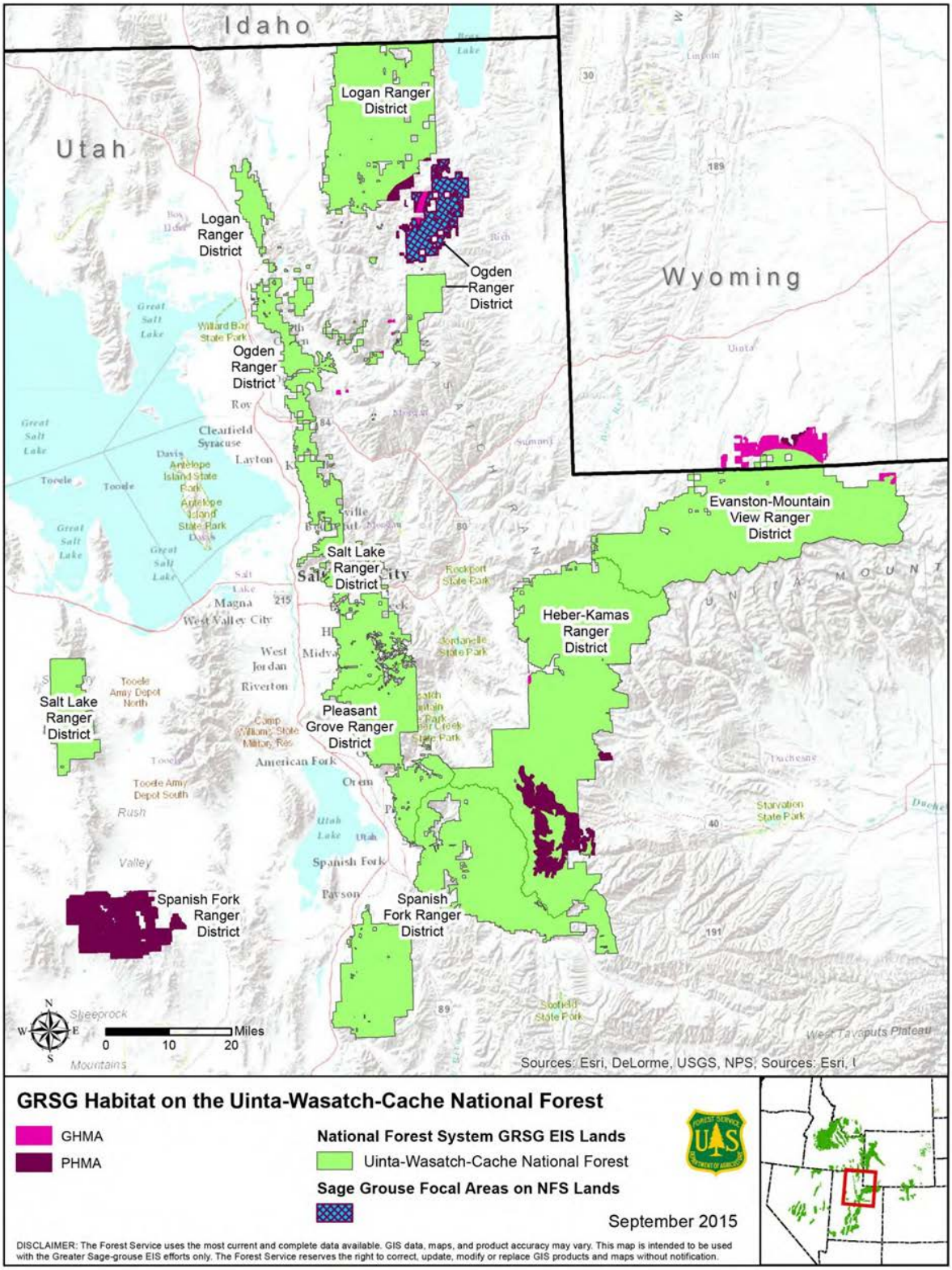
Map A-20. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Fishlake NF.



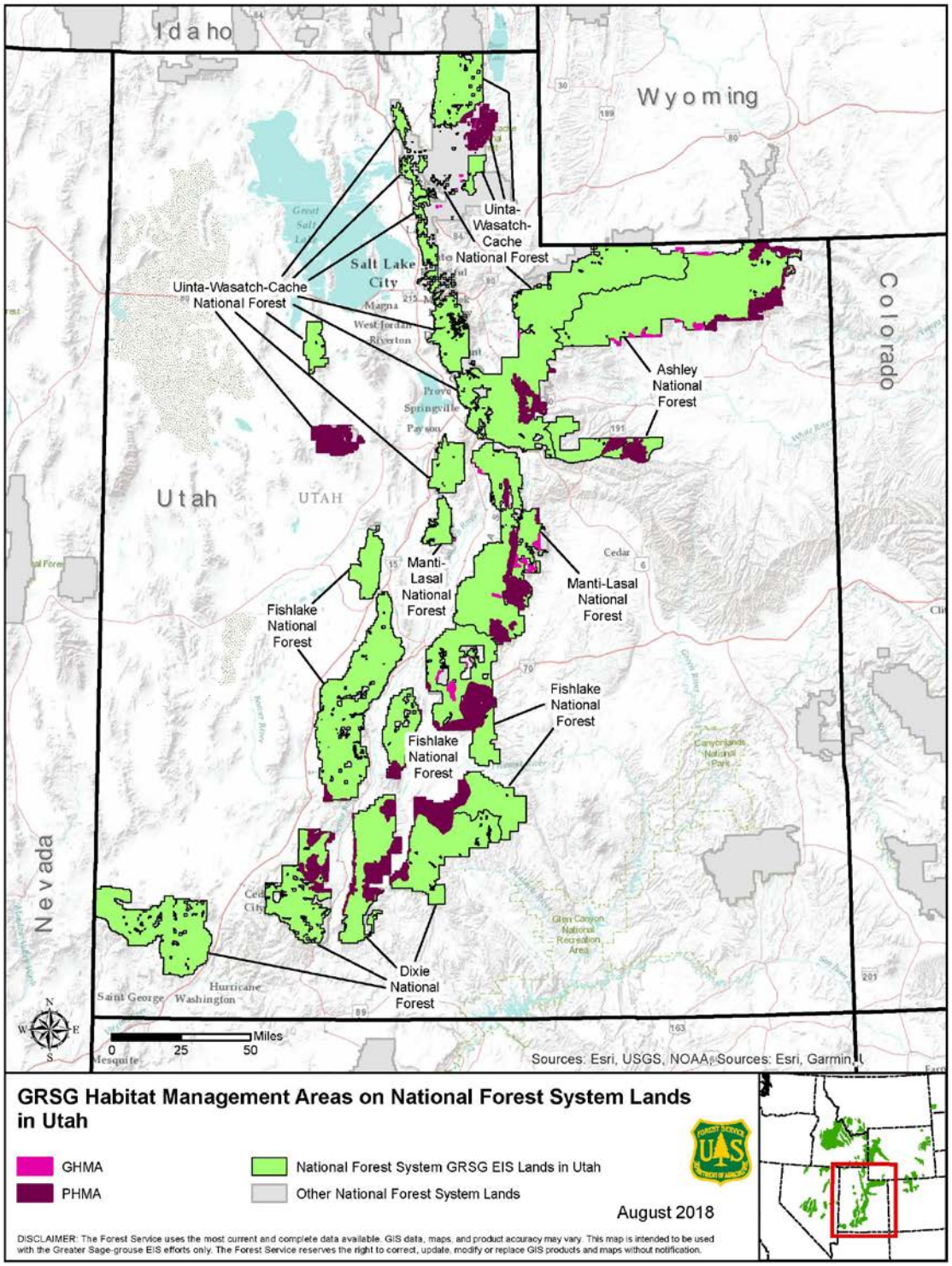
Map A-21. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Manti-La Sal NF.



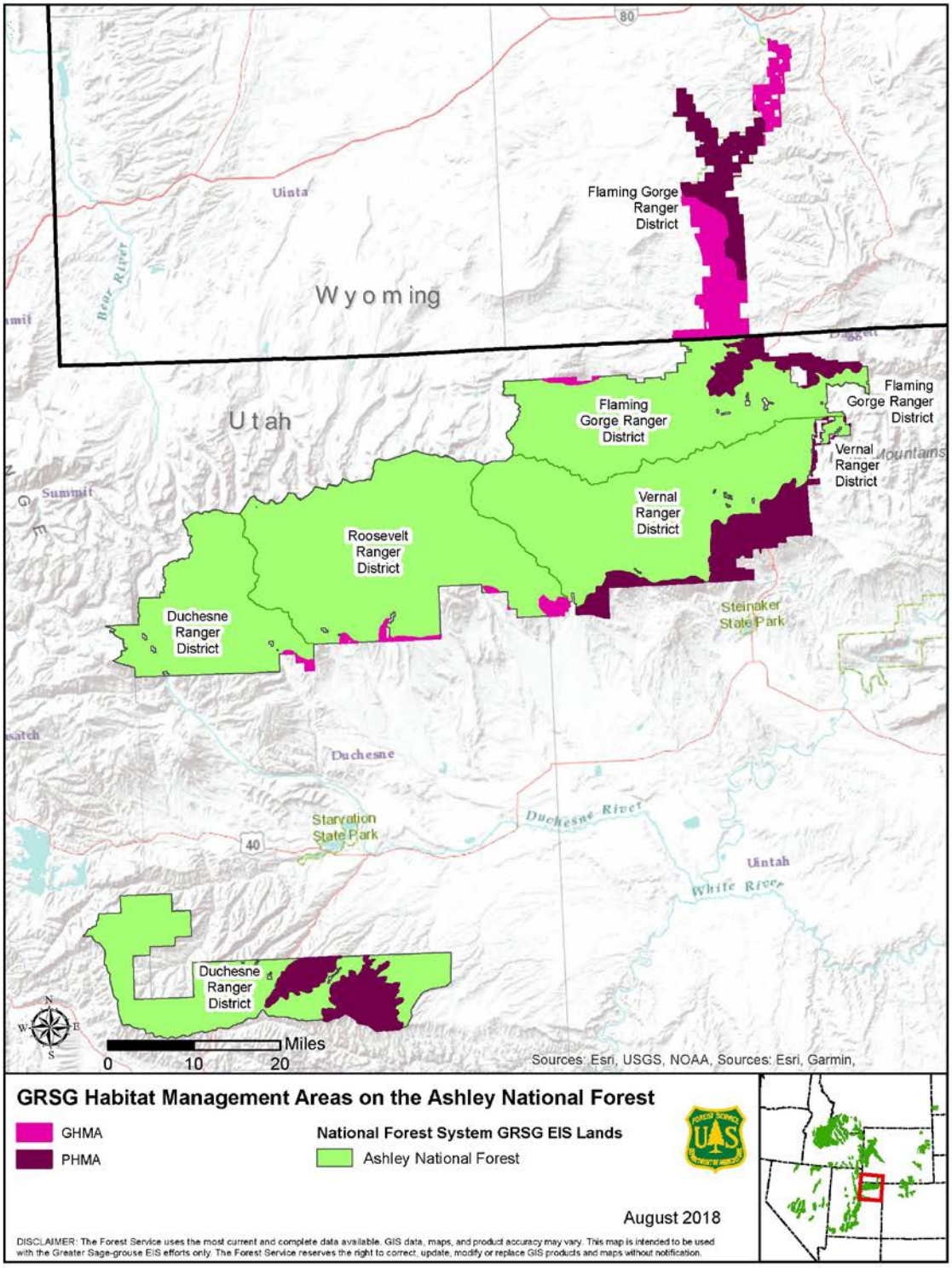
Map A-22. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Uinta-Wasatch-Cache NF.



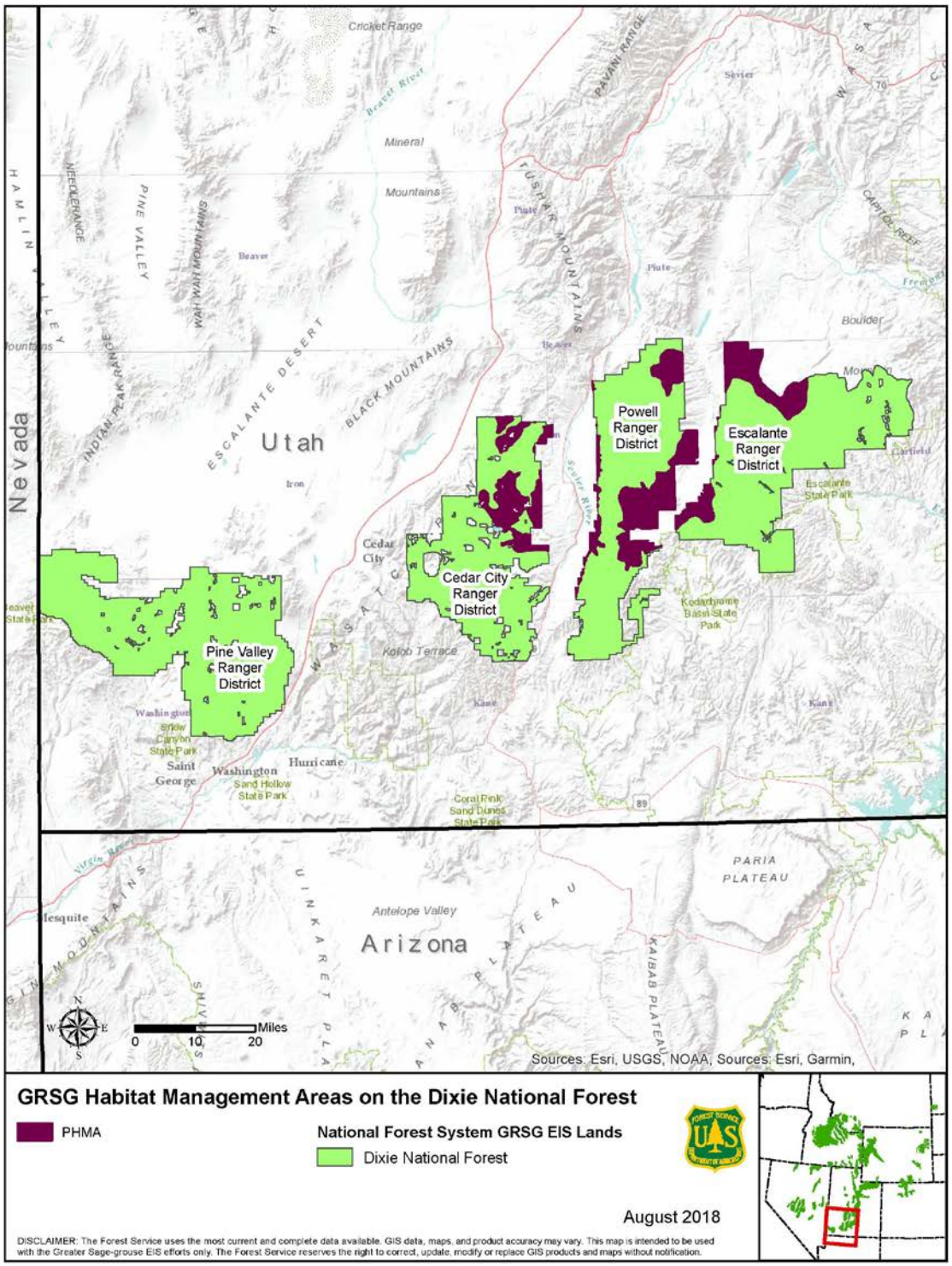
Map A-23. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas in Utah.



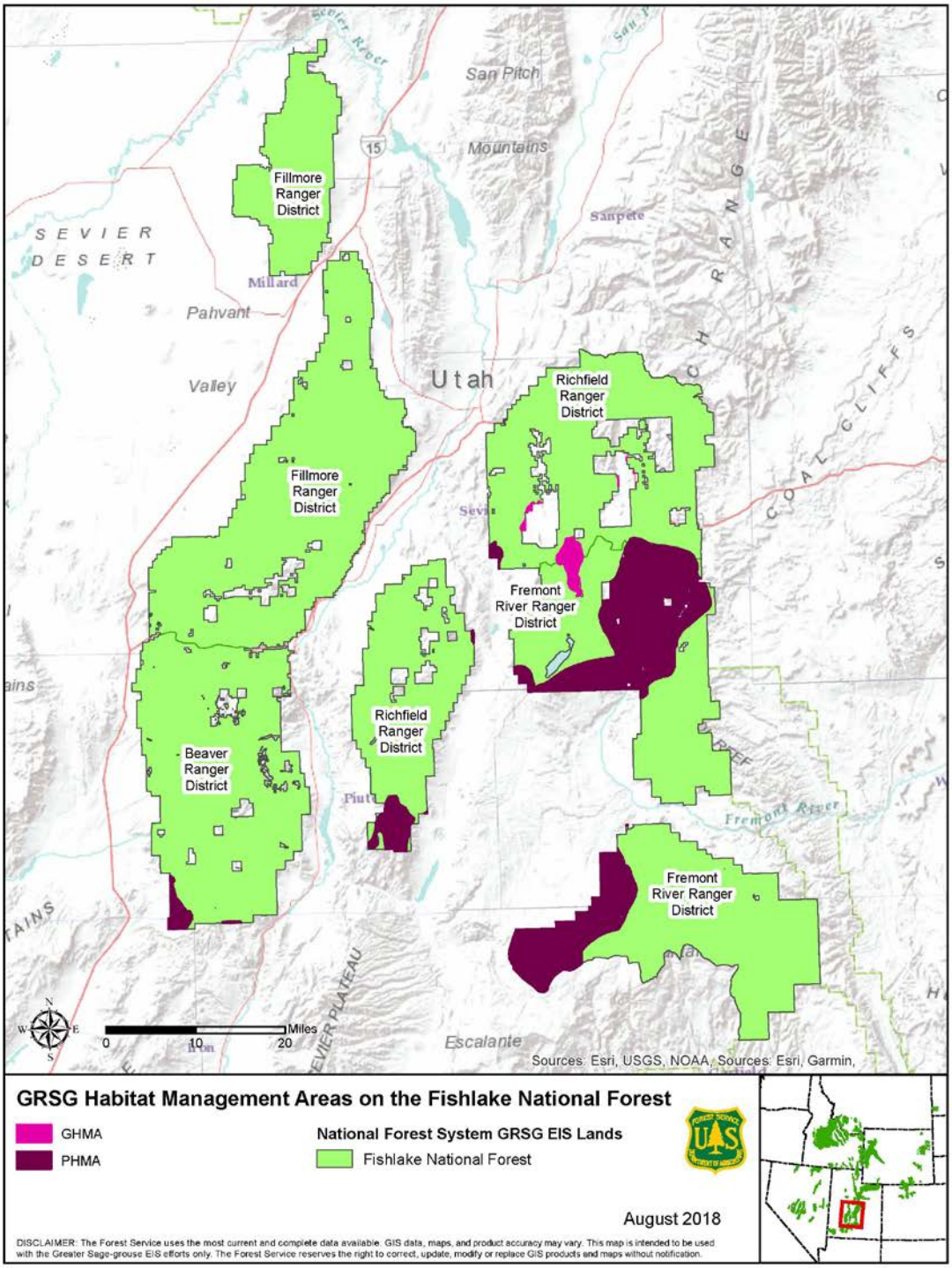
Map A-24. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Ashley NF.



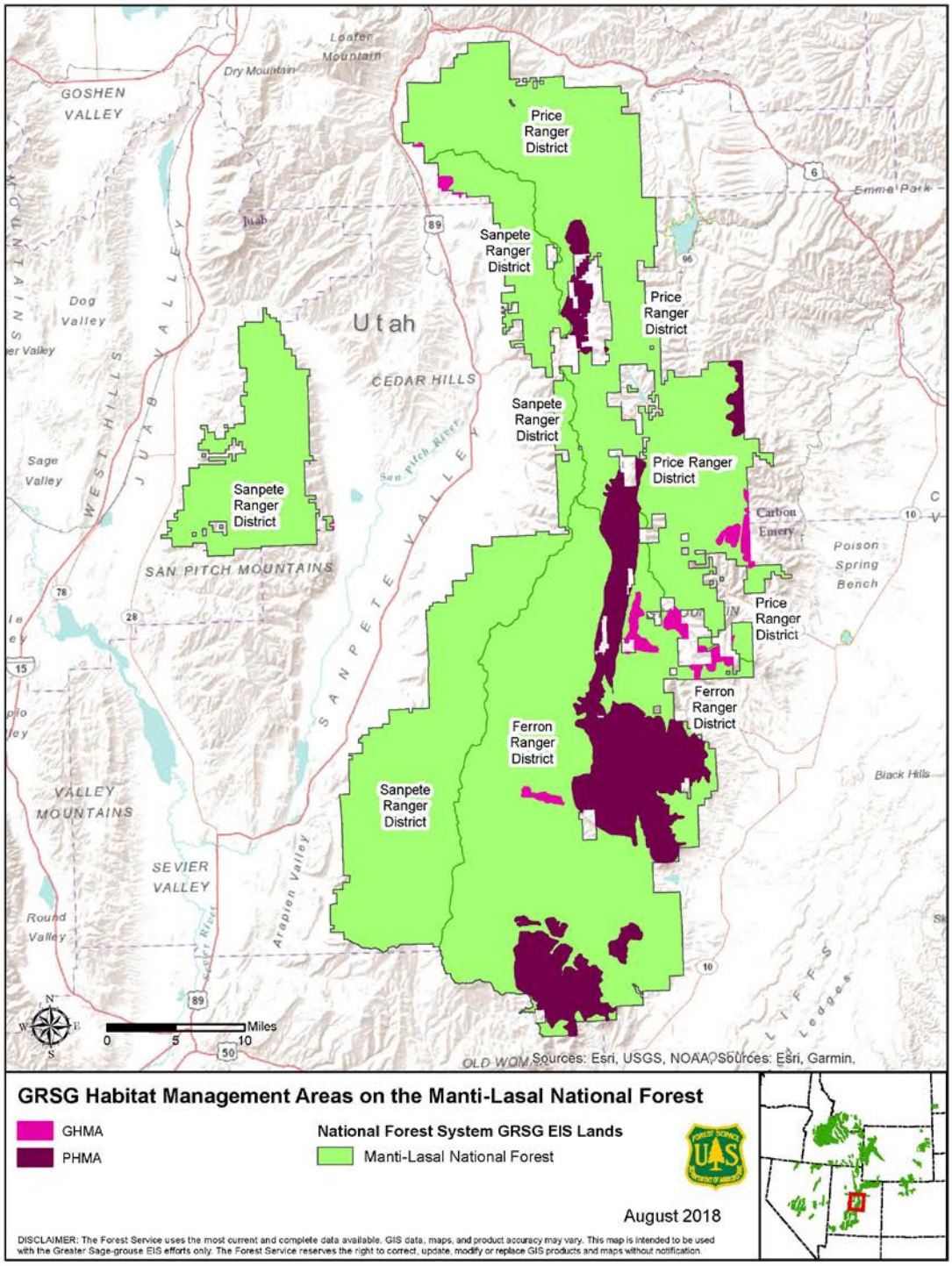
Map A-25. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Dixie NF.



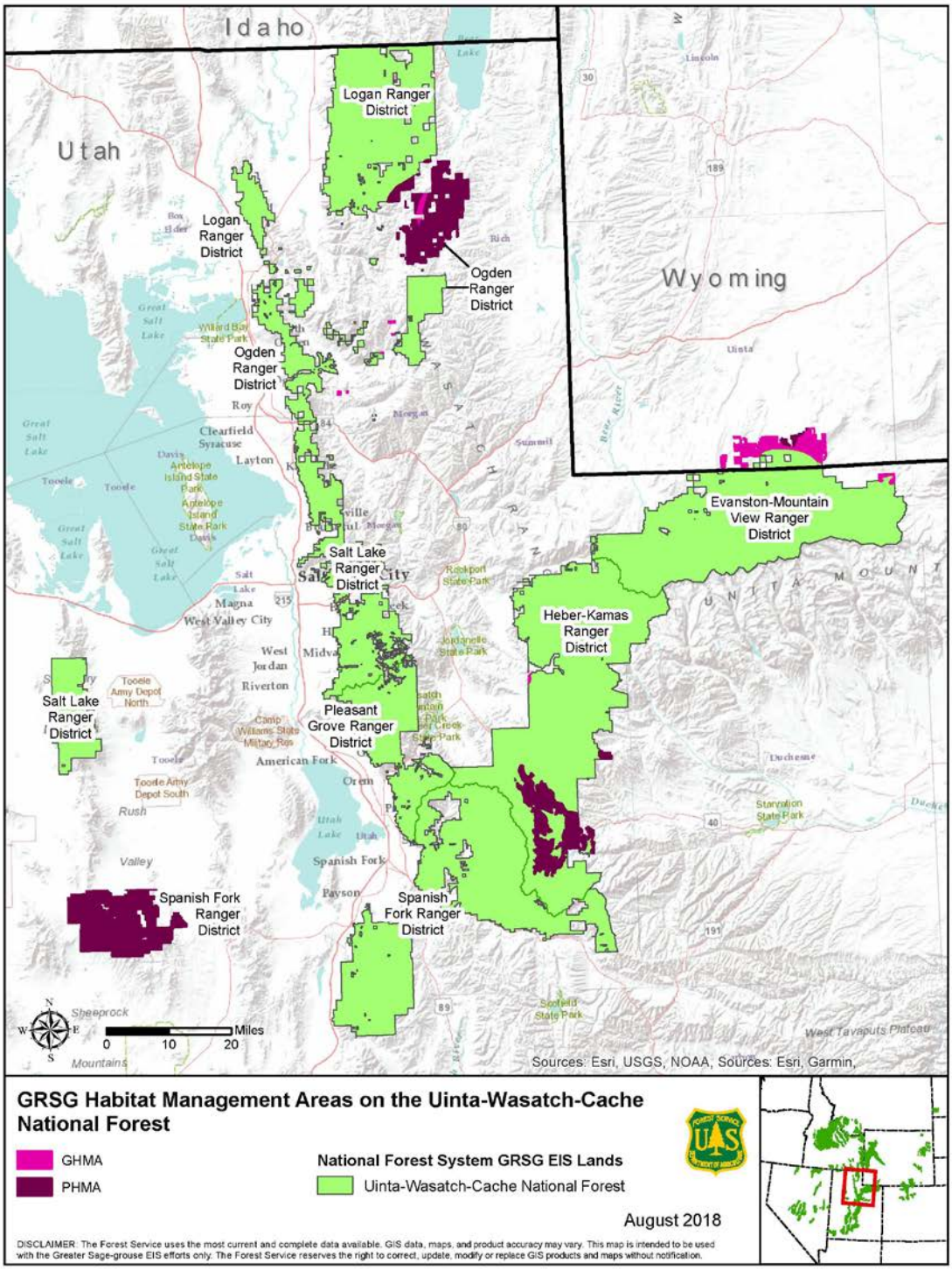
Map A-26. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Fishlake NF.



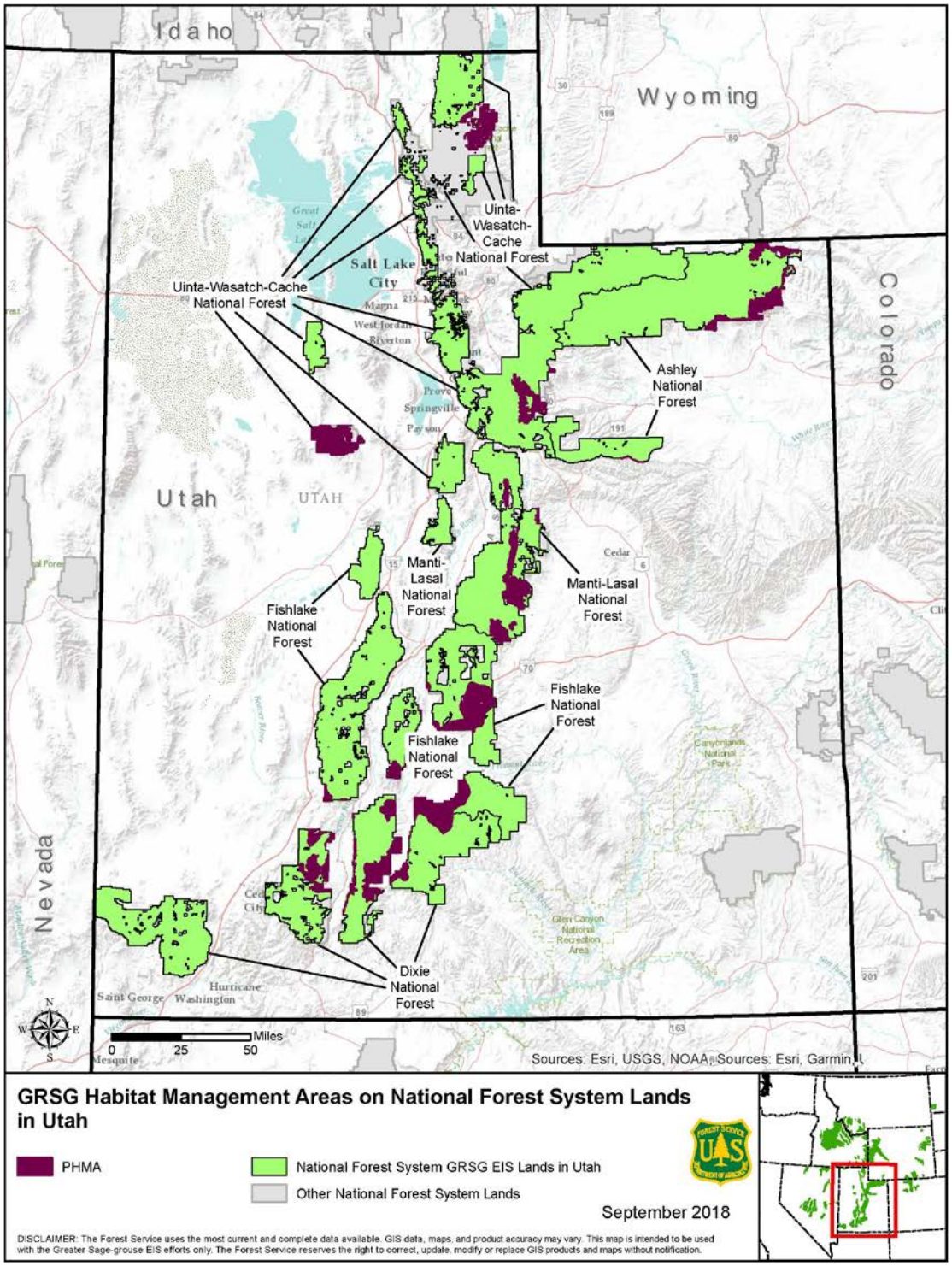
Map A-27. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Manti-La Sal NF.



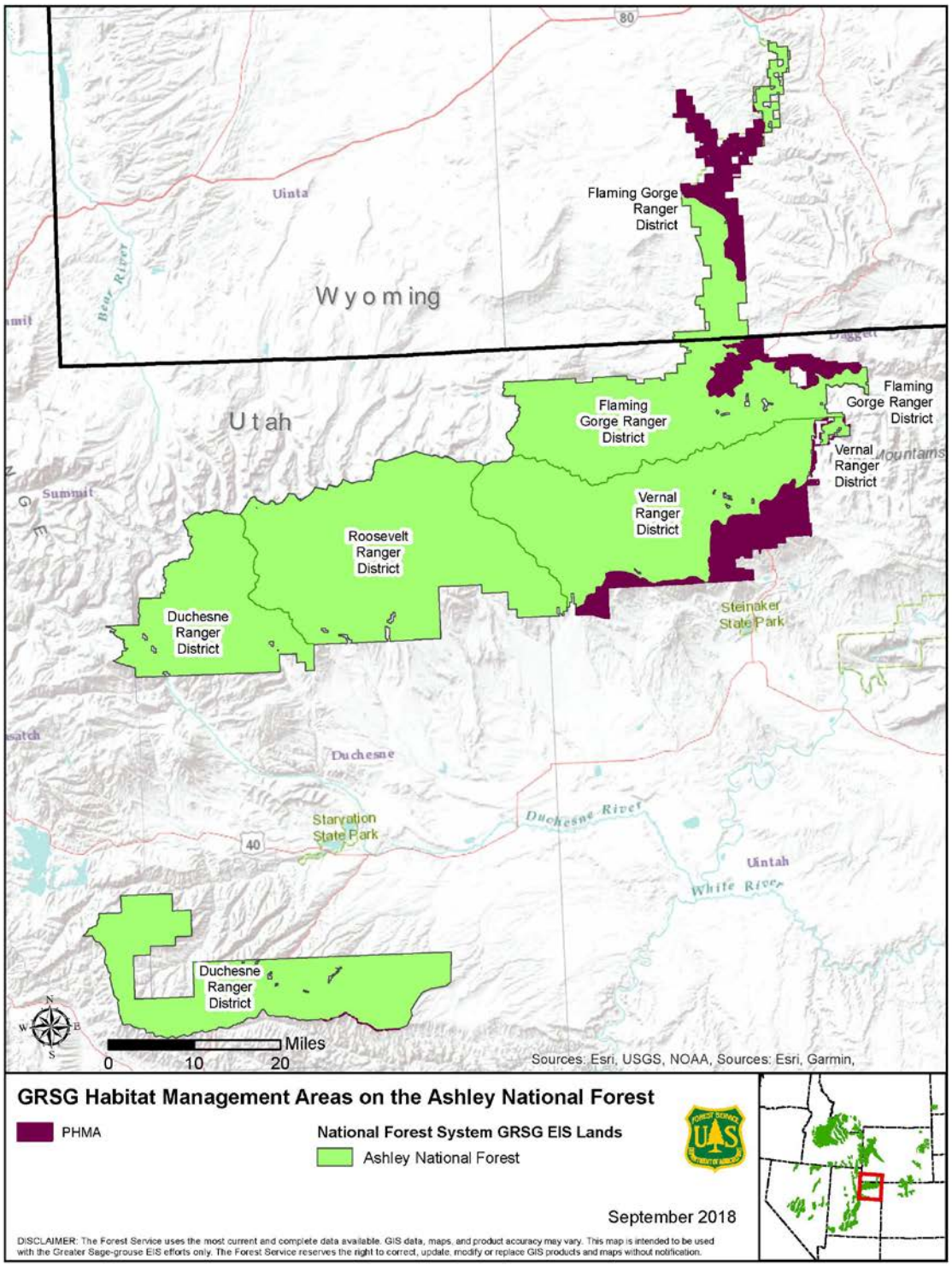
Map A-28. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Uinta-Wasatch-Cache NF.



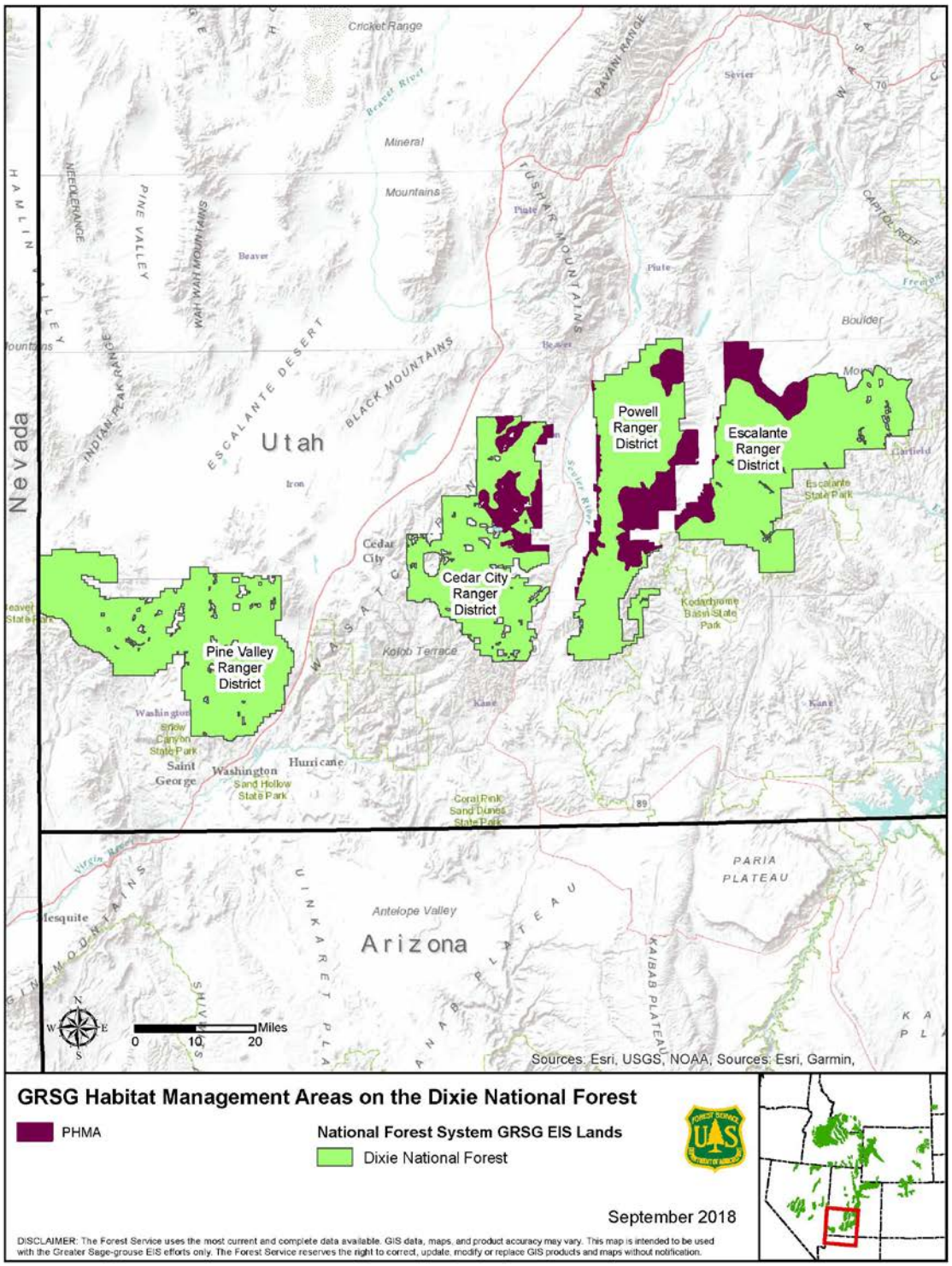
Map A-29. Alternative 3 – State of Utah Alternative. GRSG Habitat Management Areas in Utah.



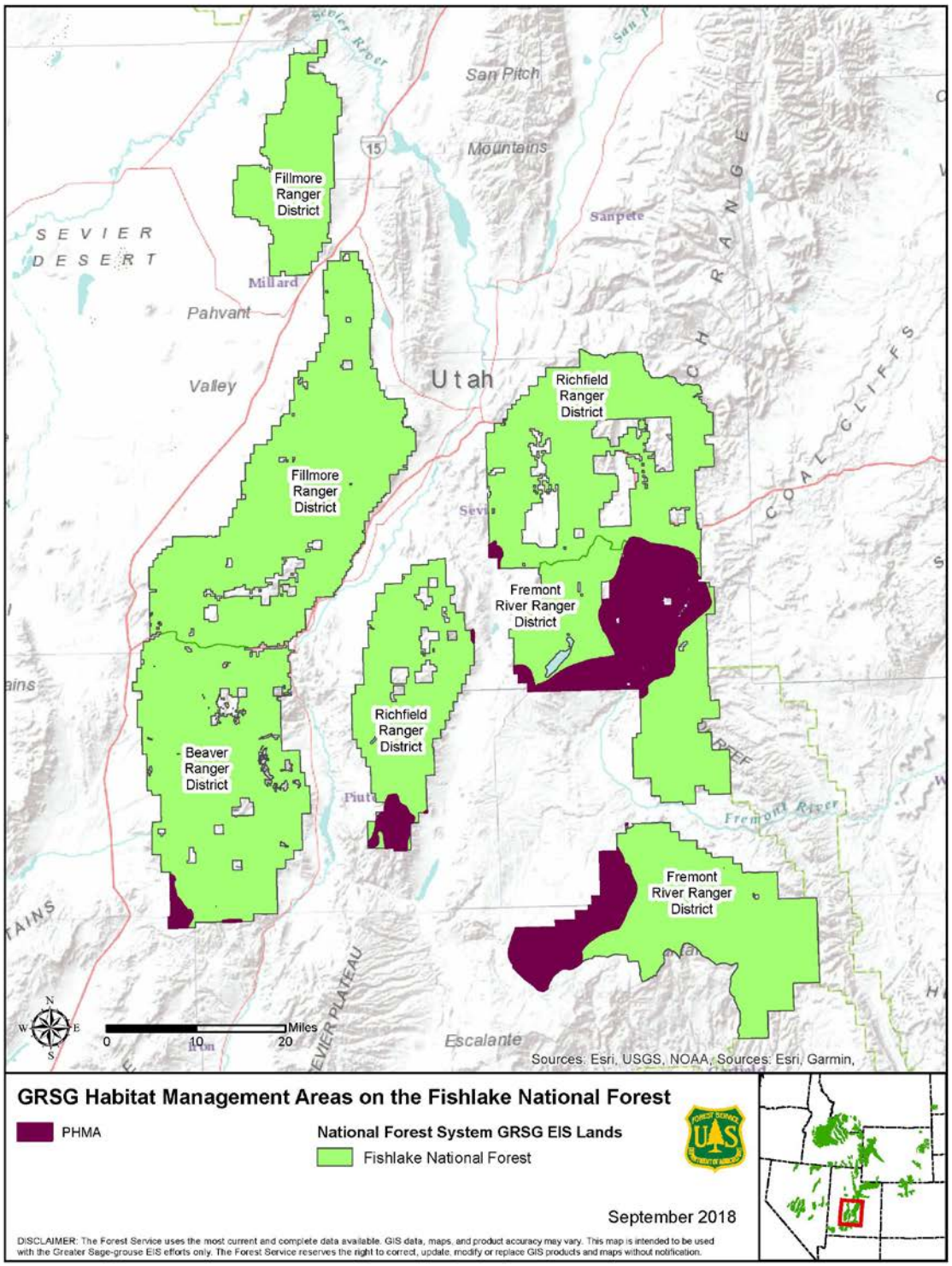
Map A-30. Alternative 3 – State of Utah Alternative. GRSG Habitat Management Areas on the Ashley NF.



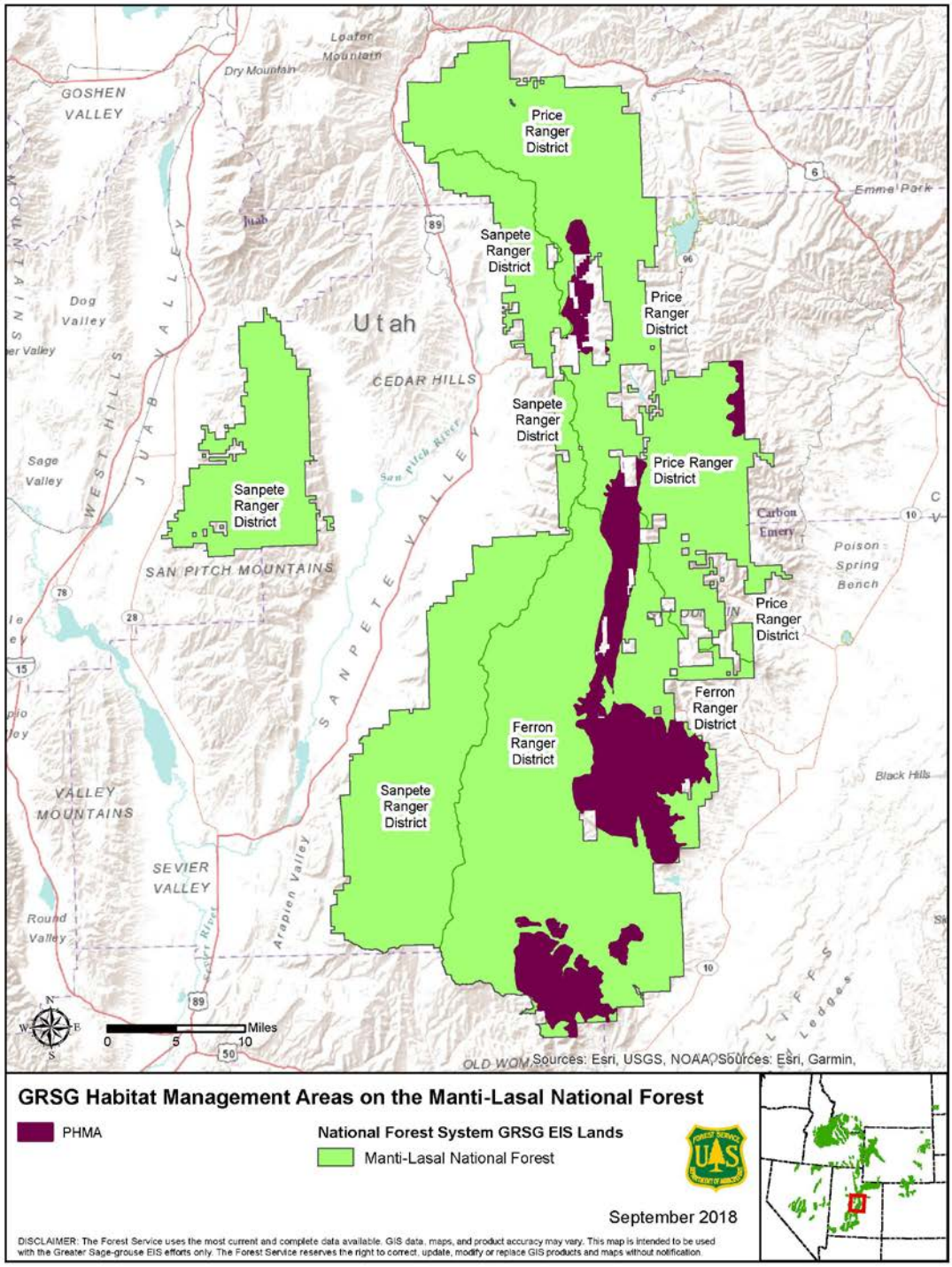
Map A-31. Alternative 3 – State of Utah Alternative. GRSG Habitat Management Areas on the Dixie NF.



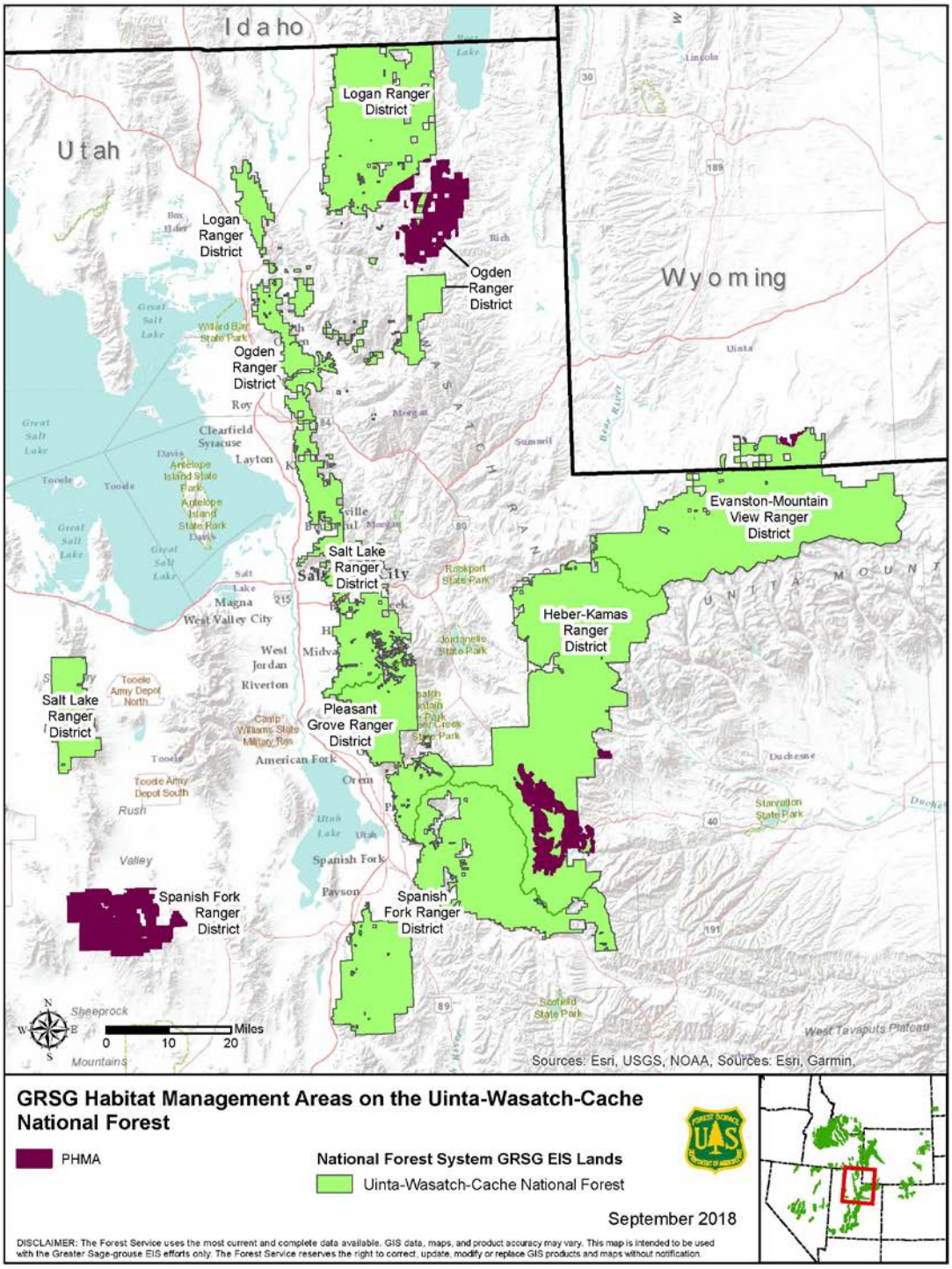
Map A-32. Alternative 3 – State of Utah Alternative. GRSG Habitat Management Areas on the Fishlake NF.



Map A-33. Alternative 3 – State of Utah Alternative. GRSG Habitat Management Areas on the Manti-La Sal NF.

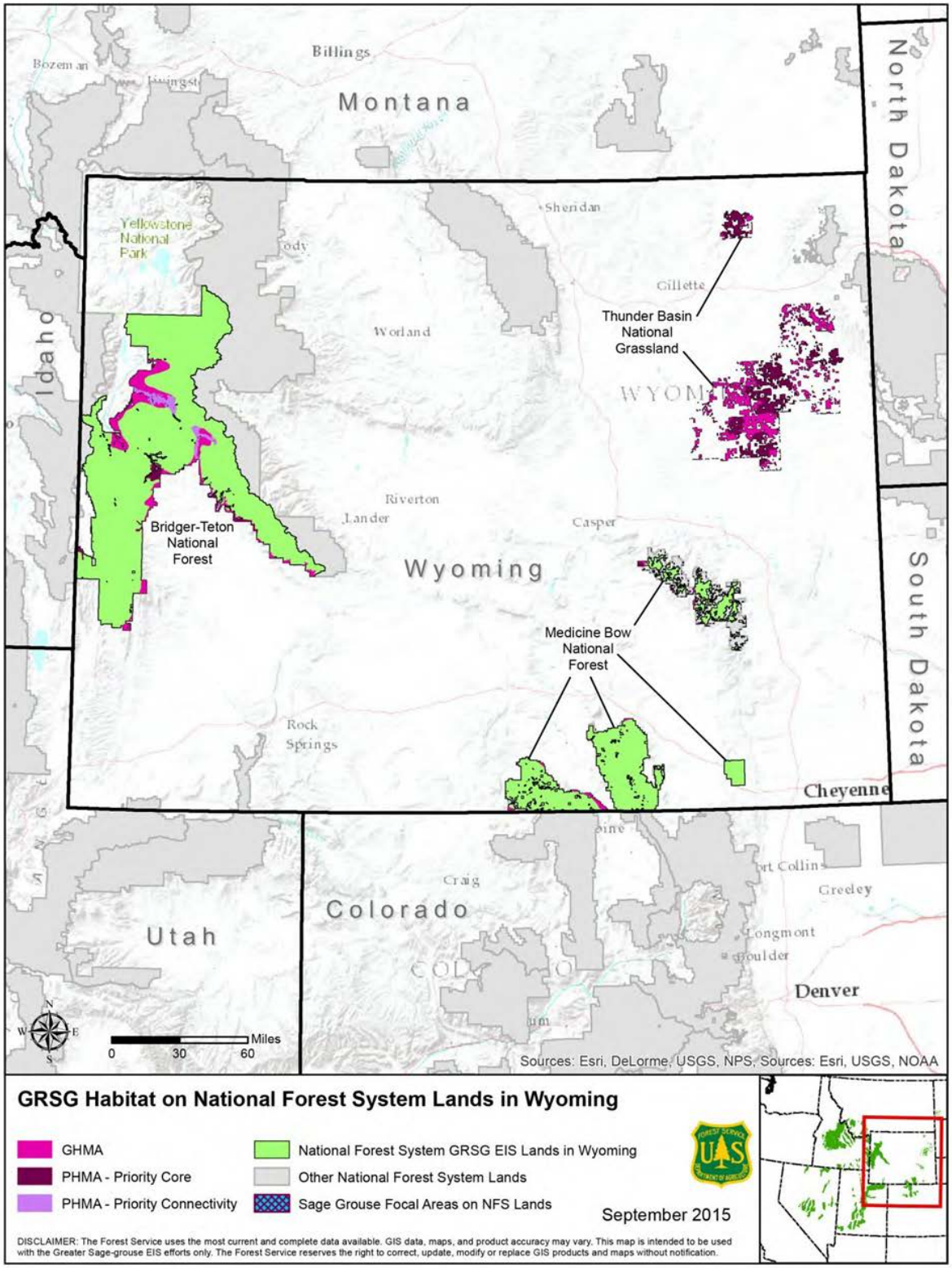


Map A-34. Alternative 3 – State of Utah Alternative. GRSG Habitat Management Areas on the Uinta-Wasatch-Cache NF.

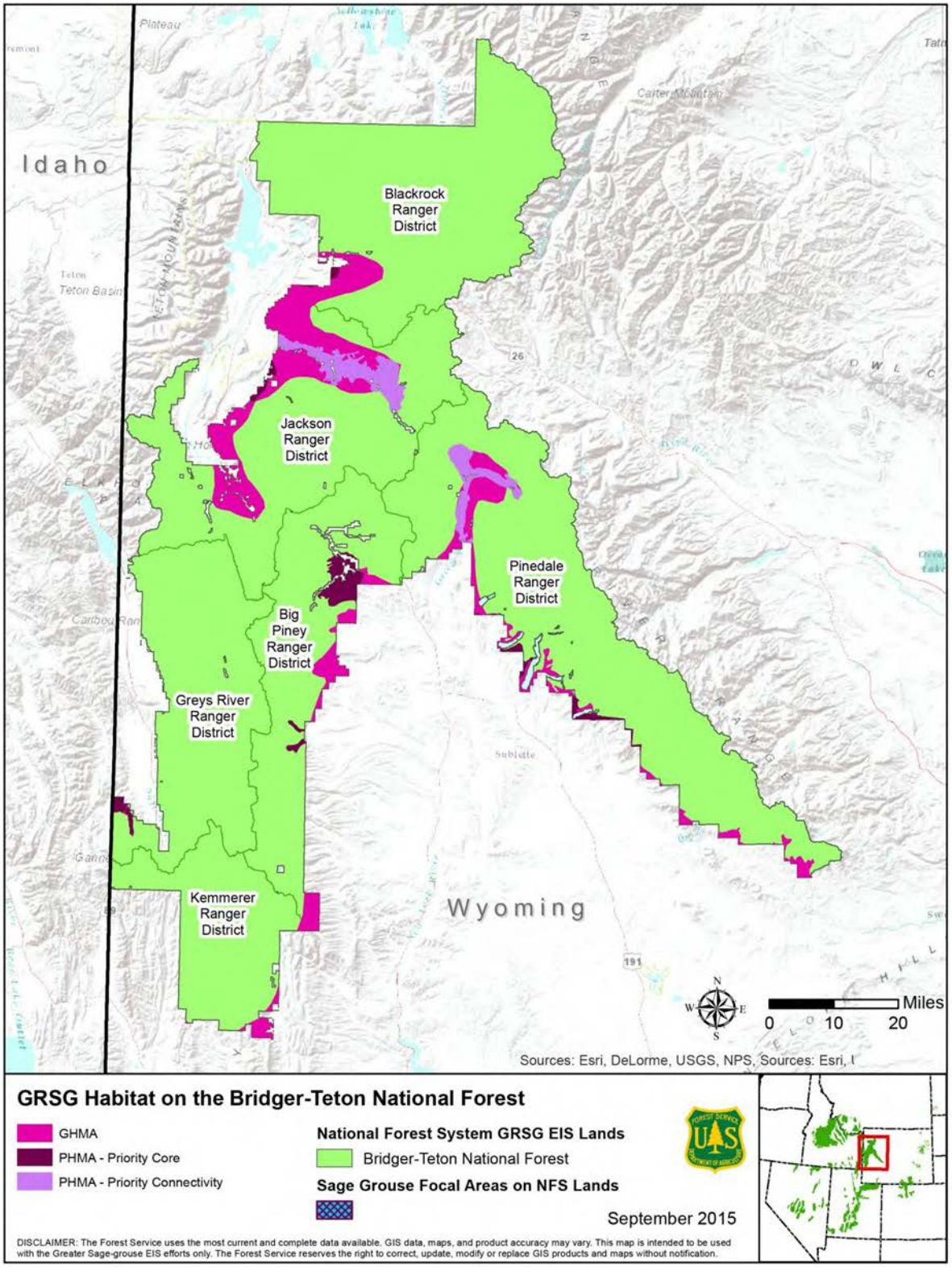


Wyoming Maps

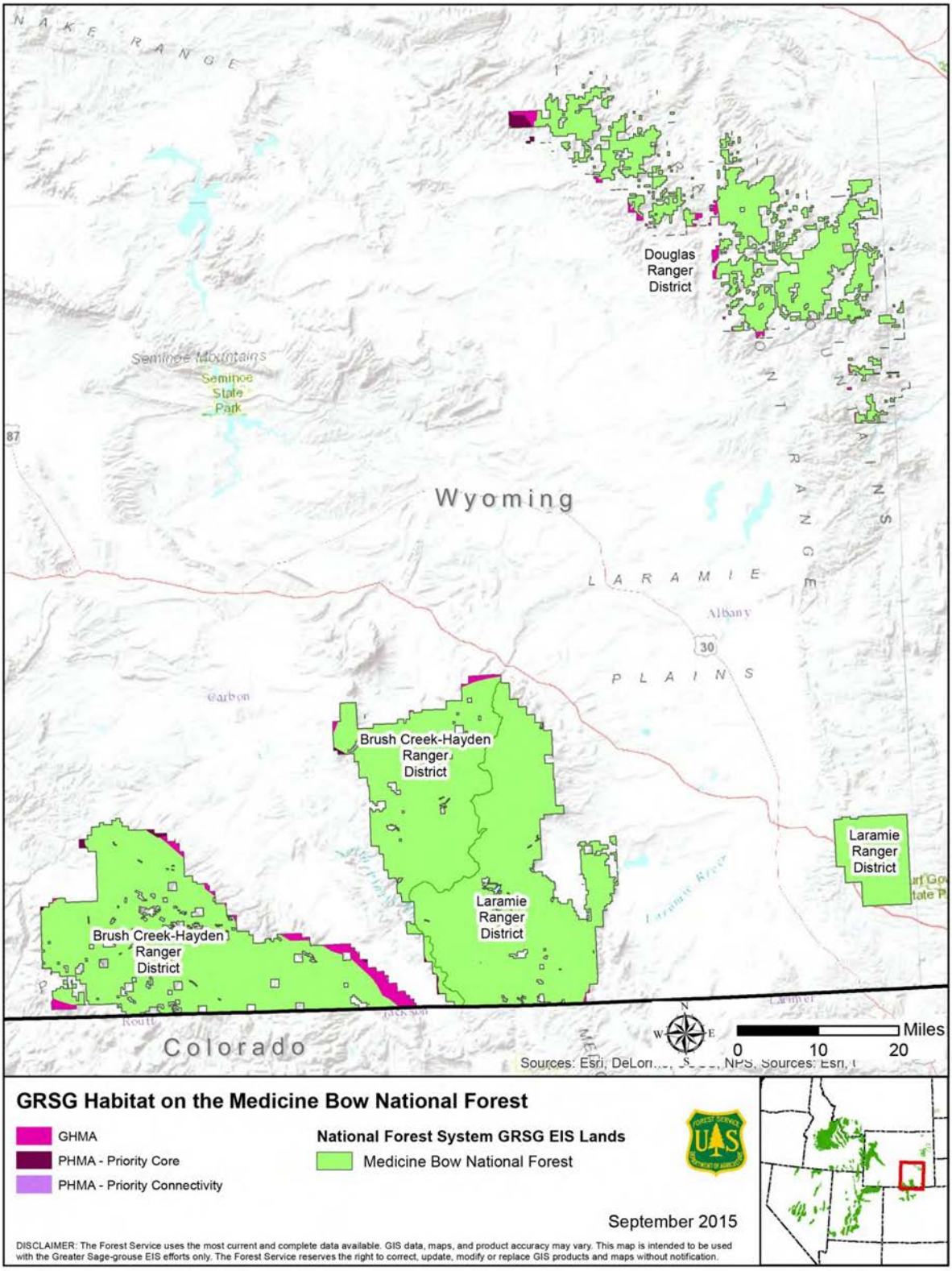
Map A-35. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas in Wyoming.



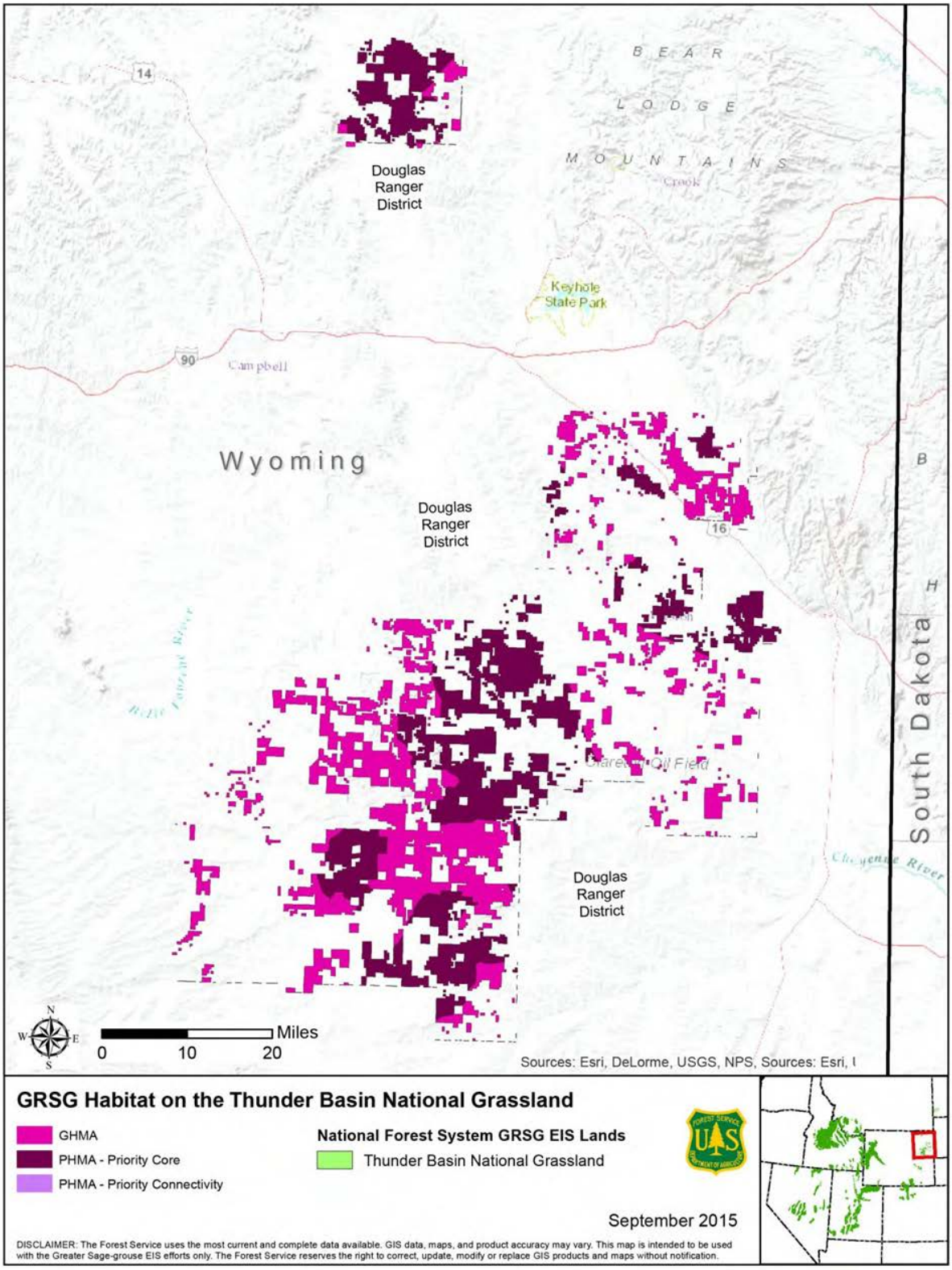
Map A-36. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Bridger-Teton National Forest.



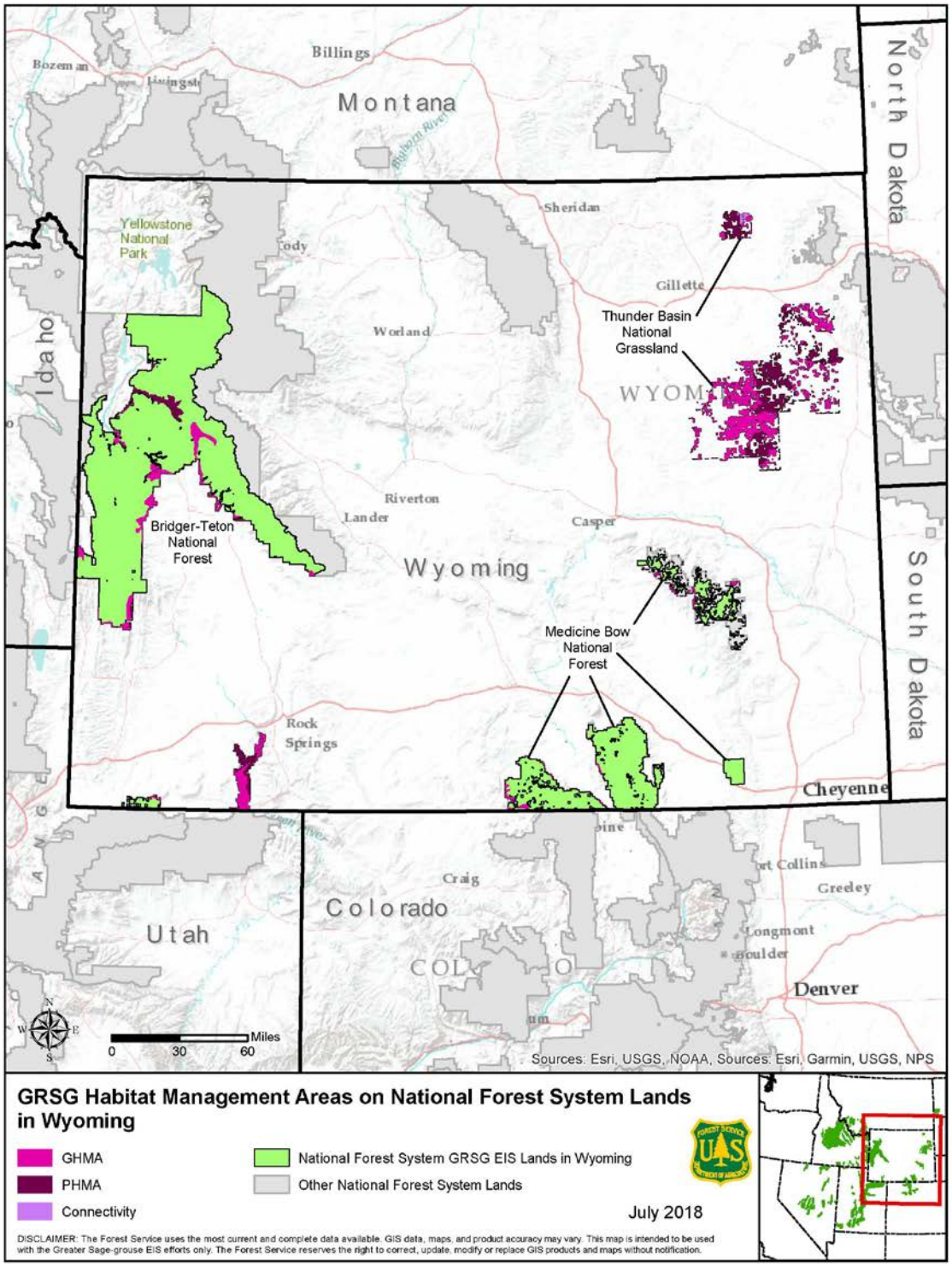
Map A-37. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Medicine Bow National Forest.



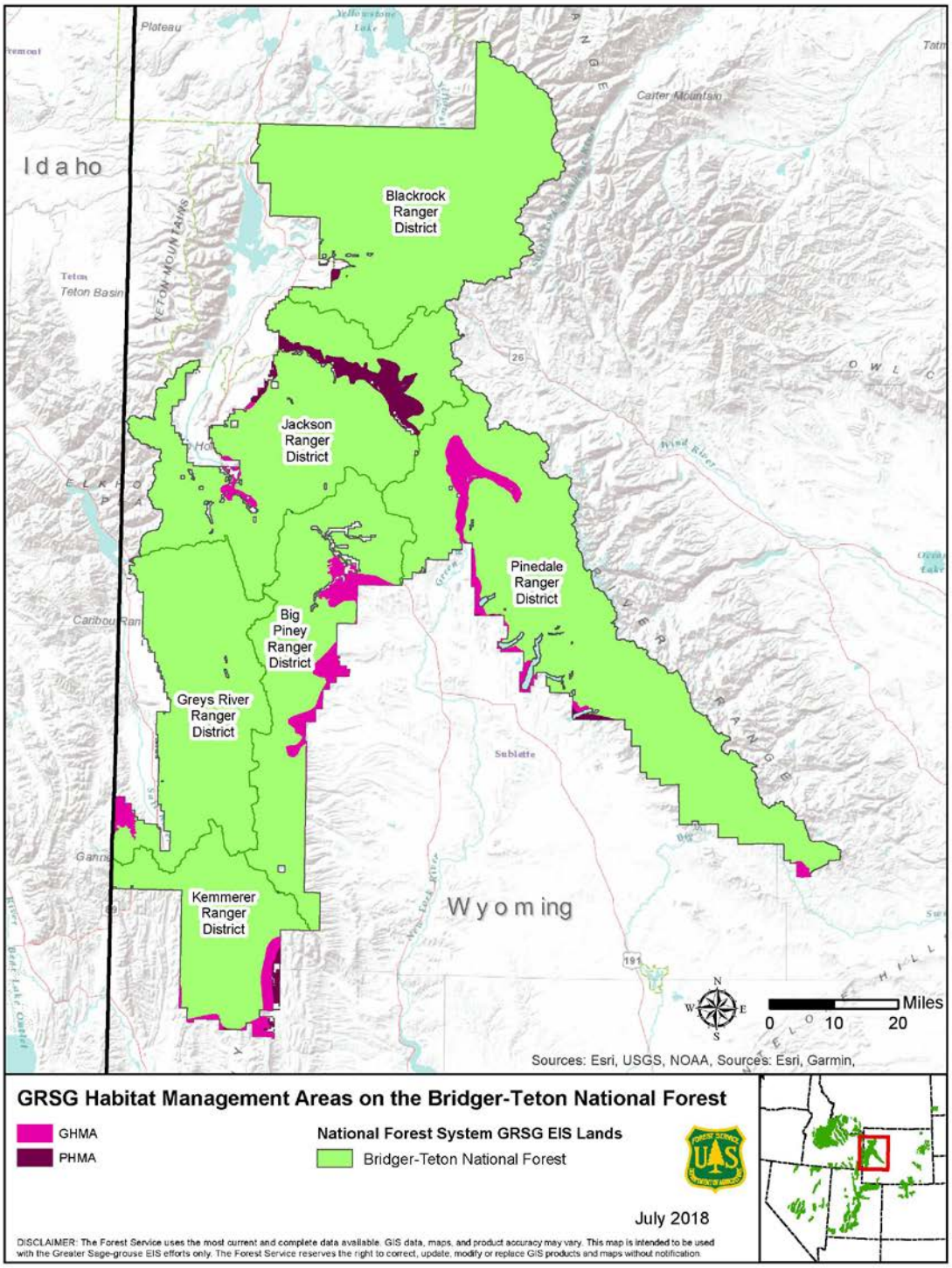
Map A-38. Alternative 1 - No Action Alternative. GRSG Habitat Management Areas on the Thunder Basin National Grassland.



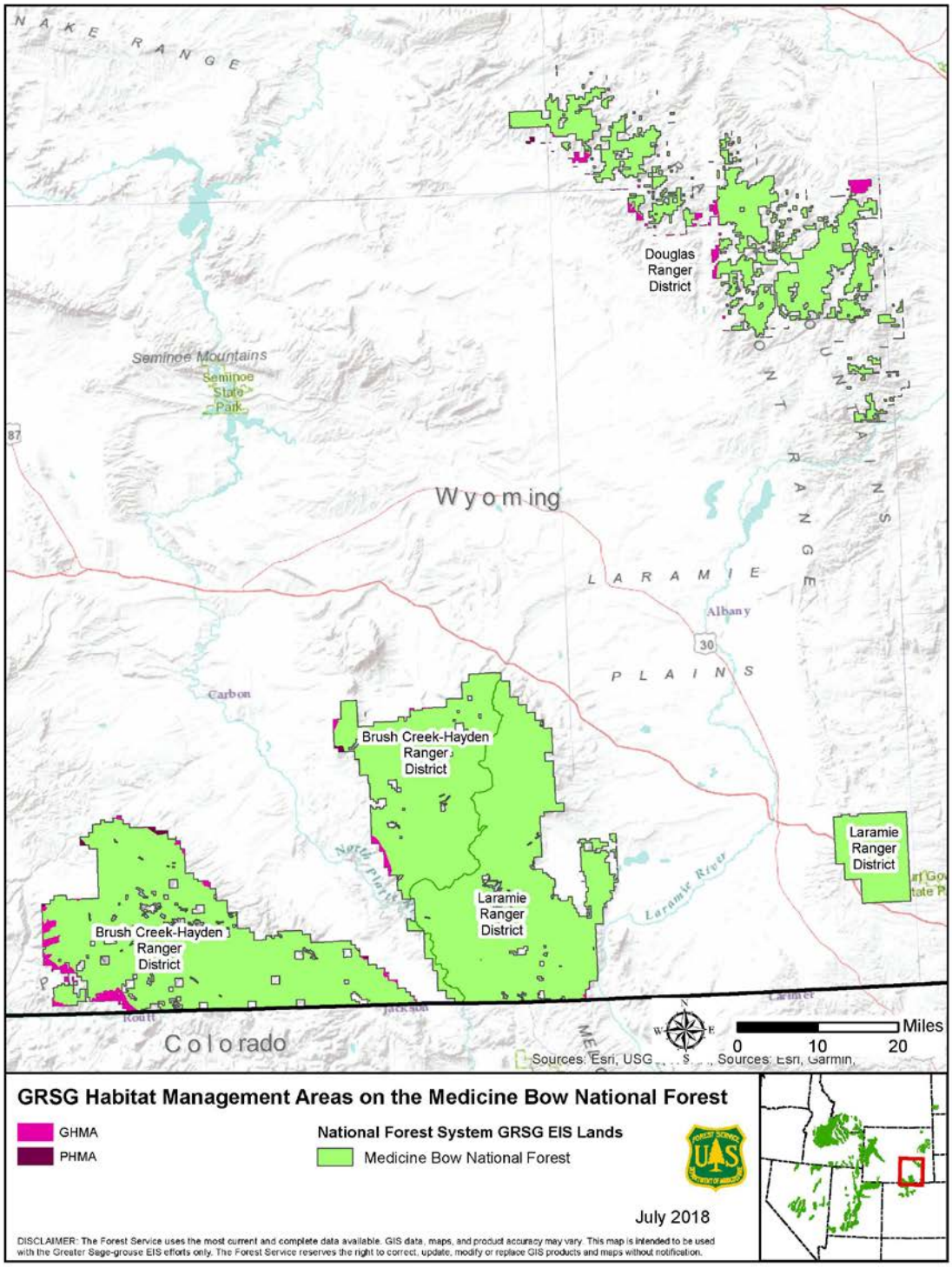
Map A-39. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas in Wyoming.



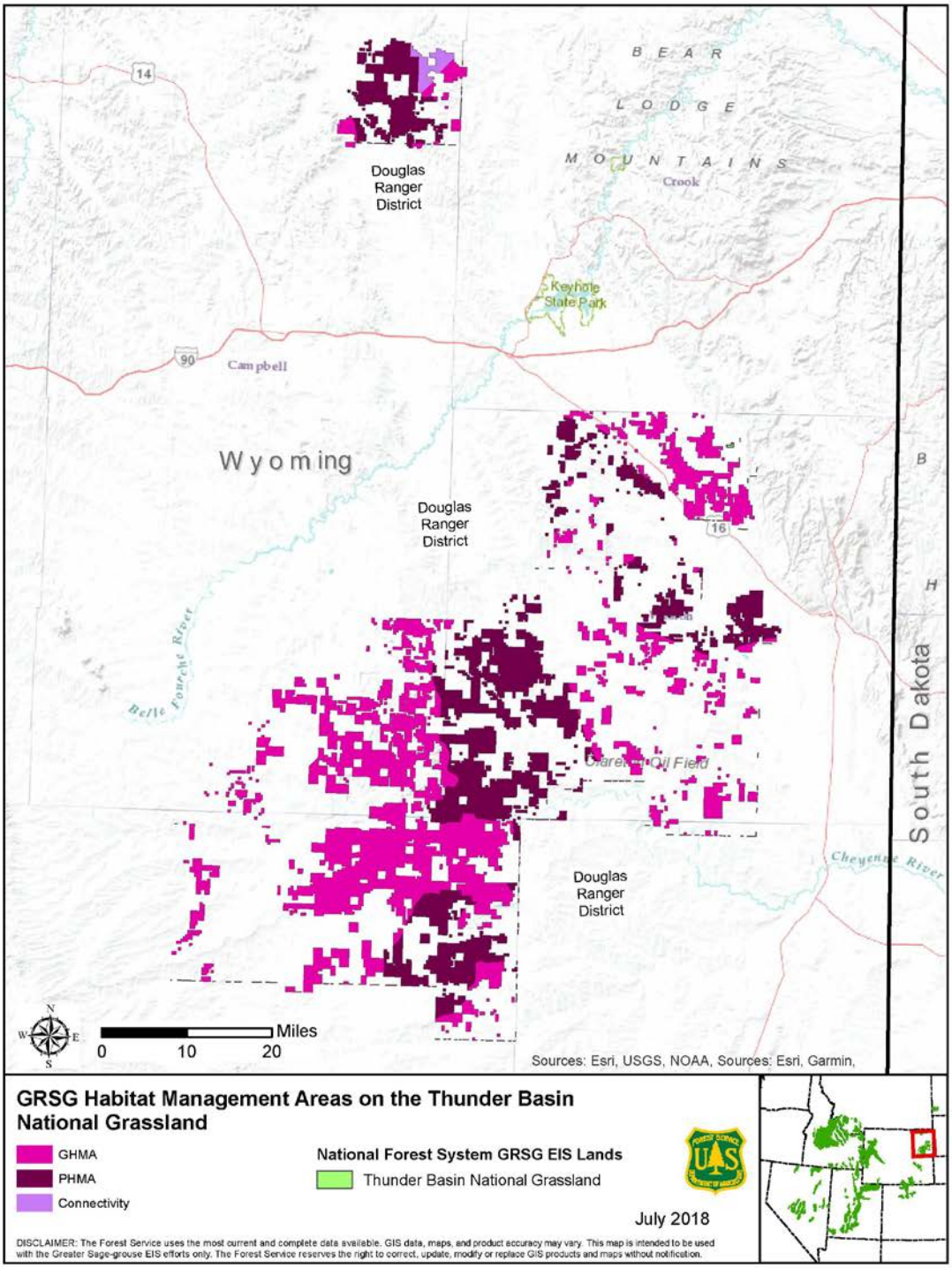
Map A-40. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Bridger-Teton National Forest.



Map A-41. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Medicine Bow National Forest.



Map A-42. Alternative 2 - Proposed Action Alternative. GRSG Habitat Management Areas on the Thunder Basin National Grassland.



APPENDIX B - NORTHWESTERN COLORADO

Table B-1. Northwestern Colorado - Seasonal habitat desired conditions for the greater sage-grouse at the landscape scale.

ATTRIBUTE	INDICATORS	DESIRED CONDTION
BREEDING AND NESTING[1,2,3] (Seasonal Use Period from March 1 to June 15) Apply 4 miles from active leks.[4]		
Lek Security	Proximity of trees[5]	Trees or other tall structures are absent to uncommon within 1.86 miles of leks.[6,7]
	Proximity of sagebrush to leks[6]	Adjacent protective sagebrush cover within 328 feet of lek.[6]
Cover	Seasonal habitat extent[7] (Percent of seasonal habitat meeting desired conditions.)	>80% of the breeding and nesting habitat.
	Sagebrush canopy cover[6,7,8]	15 to 25%.
	Sagebrush height[7] Arid sites[6,7,9] Mesic sites[6,7,10]	 12 to 32 inches. 16 to 32 inches.
	Predominant sagebrush shape [6]	>50% in spreading.[11]
	Perennial grass canopy cover[6,7] Arid sites[7,9] Mesic sites[7,10]	 ≥10%. ≥15%.
	Perennial grass height[6,7,8]	Provide overhead and lateral concealment from predators.[7,15]
	Perennial forb canopy cover[6,7,8] Arid sites[9] Mesic sites[10]	 ≥5%.[6,7] ≥10%.[6,7]
BROOD-REARING/SUMMER[1] (Seasonal Use Period from June 16 to October 31)		
Cover	Seasonal habitat extent[7] (Percent of seasonal habitat meeting desired conditions)	>40% of the brood-rearing/summer habitat.
	Sagebrush canopy cover[6,7,8]	10 to 25%.
	Sagebrush height[7,8]	16 to 32 inches.
	Perennial grass and forb canopy cover[7,8]	>15%.
	Riparian areas/mesic meadows	Proper Functioning Condition.[12]
	Upland and riparian perennial forb availability[6,7]	Preferred forbs are common with several preferred species present [13]
	Sagebrush cover adjacent to riparian areas/mesic meadows[6]	Within 328 feet.
WINTER[1] (Seasonal Use Period from November 1 to February 28)		
Cover and Food	Seasonal habitat extent[6,7,8] (Percent of seasonal habitat meeting desired conditions)	>80% of the winter habitat.
	Sagebrush canopy cover above snow [6,7,8]	>10%.
	Sagebrush height above snow[6,7,8]	>10 inches.[14]

[1]Seasonal dates can be adjusted; that is, start and end dates may be shifted either earlier or later, but the local unit cannot shorten or lengthen the amount of days.

[2] Doherty, K. 2008. *Sage-grouse and Energy Development: Integrating Science with Conservation Planning to Reduce Impacts*. University of Montana. Missoula, MT.

[3] Holloran and Anderson. 2005. *Spatial Distribution of The greater sage-grouse nests in relatively contiguous sagebrush habitats*. Condor 107:742-752.

[4] Buffer distance may be changed only if 3 out of 5 years of peer-reviewed and published telemetry studies indicate the 4 miles is not appropriate.

[5] Baruch-Mordo, S., J.S. Evans, J.P. Severson, D.E. Naugle, J. D. Maestas, J.M. Kiesecker, M.J. Falkowski, C.A. Hagen, and K.P. Reese. 2013.

Saving sage-grouse from trees: A proactive solution to reducing a key threat to a candidate species. Biological Conservation 167: 233-241.

[6] 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. BLM and Western Association of Fish and Wildlife Agencies, Denver, Colorado.

[7] Connelly, J., M. A. Schroeder, A.R. Sands, and C.E. Braun. 2000. Guidelines to manage sage-grouse populations and its habitat. Wildlife Society Bulletin 28 (4): 967-985.

[8] Connelly, J., K. Reese, and M. Schroeder. 2003. *Monitoring of The greater sage-grouse habitats and populations*. Station Bulletin 80, Contribution 979. University of Idaho, College of Natural Resources Experiment Station. Moscow, ID.

[9] 10–12 inch precipitation zone; *Artemisia tridentata wyomingensis* is a common big sagebrush sub-species for this type site (Stiver et al. 2015).

[10] $\geq$12 inch precipitation zone; *Artemisia tridentata vaseyana* is a common big sagebrush sub-species for this type site (Stiver et al. 2015).

[11] Sagebrush plants with a spreading shape provide more protective cover than sagebrush plants that are more tree- or columnar shaped (Stiver et al. 2015).

[12] Existing LMP desired conditions for riparian areas/wet meadows (spring seeps) may be used in place of properly functioning conditions, if appropriate for meeting greater sage-grouse habitat requirements.

[13] Preferred forbs are listed in Table III-2 (Stiver et al. 2015). Overall total forb cover may be greater than that of preferred forb cover since not all forb species are listed as preferred in Table III-2.

[14] The height of sagebrush remaining above the snow depends upon snow depth in a particular year. Intent is to manage for tall, healthy sagebrush stands.

NORTHWEST COLORADO MITIGATION STRATEGY

General

The Forest Service will require mitigation that provides no net habitat loss to the greater sage- grouse (GRSG) when undertaking Forest Service management actions, and consistent with valid existing rights and applicable law, in authorizing third party actions that result in GRSG habitat loss and degradation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions. Mitigation will follow the regulations from the White House Council on Environmental Quality (CEQ) (40 CFR 1508.20) and the steps of avoid, minimize, and compensate, hereafter referred to as the mitigation hierarchy. If impacts from Forest Service management actions and authorized third party actions, which result in habitat loss and degradation, remain after applying avoidance and minimization measures (i.e., residual impacts), then compensatory mitigation will be used to provide no net habitat loss to the GRSG. Mitigation should account for any uncertainty associated with the effectiveness of such mitigation. Any compensatory mitigation will be durable, timely, and in addition to that which would have resulted without the compensatory mitigation.

The Forest Service will participate with the BLM to establish a Western Association of Fish and Wildlife Agencies (WAFWA) Management Zone Greater Sage-Grouse Conservation Team (Team) to develop a WAFWA Management Zone Regional Mitigation Strategy (Strategy). The Strategy will inform the National Environmental Policy Act (NEPA) decision making process, including application of the mitigation hierarchy for Forest Service management actions and third party actions that result in habitat loss and degradation. The application of a robust and transparent Strategy will contribute to GRSG habitat conservation by reducing, eliminating, or minimizing threats and compensating for residual impacts to the GRSG and its habitat.

The BLM Regional Mitigation Manual MS-1794 as well as the Forest Service mitigation policy and CEQ regulations will serve as a framework for developing and implementing the Strategy. In developing the Strategy, the Team should consider any state-level GRSG mitigation guidance that is consistent with the following framework. The Strategy should be developed in a transparent manner and must be based on the best science available and standardized metrics. The Strategy should be developed within 1 year of the issuance of the ROD.

Developing a WAFWA Management Zone Regional Mitigation Strategy

The following sections provide additional guidance specific to the development and implementation of the Strategy.

- **Avoidance includes the following:**
  - Avoidance areas (e.g., no surface occupancy areas) already included in right-of-way avoidance/exclusion areas, laws, regulations, policies, and/or land use plans (e.g., LMPs, state plans).
  - Any potential additional avoidance actions (e.g., additional avoidance best management practices) related to GRSG conservation.

- **Minimization includes the following:**
  - Minimization actions (e.g., required design features, best management practices) already included in laws, regulations, policies, LMPs, and special use authorizations.
  - Any potential additional minimization actions (e.g., additional minimization best management practices) related to GRSG conservation.
- **Compensation includes the following:**
  - Discussion of impact/project valuation, compensatory mitigation options, siting, compensatory project types and costs, monitoring, reporting, and administration. Each of these topics is discussed in detail below.
  - Residual Impact and Compensatory Mitigation Project Valuation Guidance
    - A common standardized method should be identified for estimating the value of the residual impacts and value of the compensatory mitigation projects, including accounting for any uncertainty associated with the effectiveness of the projects.
    - This method should consider the quality of habitat, scarcity of the habitat, and the size of the impact/project.
    - For compensatory mitigation projects, consideration of durability, timeliness, and the potential for failure (e.g., uncertainty associated with effectiveness) may require an upward adjustment of the valuation.
    - The resultant compensatory mitigation project will, after application of the above guidance, result in proactive conservation measures for GRSG
- **Compensatory Mitigation Options**
    - Options for implementing compensatory mitigation should be identified, such as:
      - Utilizing certified mitigation/conservation bank or credit exchanges.
      - Contributing to an existing mitigation/conservation fund.
      - Authorized-user conducted mitigation projects.
      - For any compensatory mitigation project, the investment must be additional.
- **Compensatory Mitigation Siting**
    - Sites should be in areas that have the potential to yield no net habitat loss to the GRSG, regardless of land ownership.
    - Sites should be durable.
    - Sites identified by existing plans and strategies (e.g., fire restoration plans, invasive species strategies, healthy land focal areas) should be considered if those sites have the potential to yield no net habitat loss to GRSG and are durable.

- **Compensatory Mitigation Project Types and Costs**
    - Project types should be identified that help reduce threats to GRSG (e.g., protection, conservation, and restoration projects).
    - Each project type should have a goal and measurable objectives.
    - Each project type should have associated monitoring and maintenance requirements for the duration of the impact.
    - To inform contributions to a mitigation/conservation fund, expected costs for these project types (and their monitoring and maintenance), within the WAFWA Management Zone, should be identified.
- **Compensatory Mitigation Compliance and Monitoring**
    - Mitigation projects should be inspected to ensure that they are implemented as designed and if not, there should be methods to enforce compliance.
    - Mitigation projects should be monitored to ensure that the goals and objectives are met and that the benefits are effective for the duration of the impact.
- **Compensatory Mitigation Reporting**
    - Standardized, transparent, scalable, and scientifically-defensible reporting requirements should be identified for mitigation projects.
    - Reports should be compiled, summarized, and reviewed in the WAFWA Management Zone to determine if GRSG conservation has been achieved and/or to support adaptive management recommendations.
- **Compensatory Mitigation Program Implementation Guidelines**
    - Guidelines for implementing a state-level compensatory mitigation program should include holding and applying compensatory mitigation funds, operating a transparent and credible accounting system, certifying mitigation credits, and managing reporting requirements.

Incorporating the Regional Mitigation Strategy into NEPA Analyses

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

Implementing a Compensatory Mitigation Program

The Forest Service must ensure that compensatory mitigation is strategically implemented to provide no net habitat loss to the GRSG, as identified in the Strategy. To align with any existing compensatory mitigation efforts, compensatory mitigation will be managed at a state-level (as opposed to a WAFWA

Management Zone, a field office, or a forest), in collaboration with Forest Service partners (e.g., federal, Tribal, and state agencies).

To ensure transparent and effective management of the compensatory mitigation funds, the Forest Service will work with the BLM to determine the best process (e.g., enter into a contract or agreement with a third-party) to help manage the state-level compensatory mitigation funds within 1 year of the issuance of the ROD. The Forest Service will be responsible for making decisions that affect National Forest System lands.

Glossary Terms

Additionality – The conservation benefits of compensatory mitigation are demonstrably new and would not have resulted without the compensatory mitigation project.

Avoidance mitigation – Avoiding the impact altogether by not taking a certain action or parts of an action. (40 CFR 1508.20(a)) (e.g., may also include avoiding the impact by moving the proposed action to a different time or location.)

Compensatory mitigation – Compensating for residual impact by replacing or providing substitute resources or environments. (40 CFR 1508.20)

Compensatory mitigation projects -The restoration, creation, enhancement, and/or preservation of impacted resources (adopted and modified from 33 CFR 332), such as on-the-ground actions to improve and/or protect habitats (e.g., chemical vegetation treatments, land acquisitions, and conservation easements).

Compensatory mitigation sites – The durable areas where compensatory mitigation projects will occur. Durability (protective and ecological): the maintenance of the effectiveness of a mitigation site and project for the duration of the associated impacts, which include resource, administrative/legal, and financial considerations.

Durable (protective and ecological) – The administrative, legal, and financial assurances that secure and protect the conservation status of a compensatory mitigation site and the ecological benefits of a compensatory mitigation project for at least as long as the associated impacts persist.

Minimization mitigation – Minimizing impacts by limiting the degree or magnitude of the action and its implementation. (40 CFR 1508.20 (b))

Net conservation gain – The actual benefit or gain above baseline conditions.

Residual impacts – Impacts that remain after applying avoidance and minimization mitigation; also referred to as unavoidable adverse impacts.

Timeliness – The lack of a time lag between impacts and the achievement of compensatory mitigation goals and objectives.

NORTHWEST COLORADO ADAPTIVE MANAGEMENT PLAN

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

In relation to the BLM/Forest Service's National Greater Sage-grouse Planning Strategy, adaptive management would help identify if GRSG conservation measures contain the needed level of certainty for effectiveness. Principles of adaptive management are incorporated into the conservation measures in the LMP amendments to ameliorate threats to a species, thereby increasing the likelihood that the conservation measure and LMP amendments would be effective in reducing threats to that species. The following provides the BLM/Forest Service's adaptive management strategy for the Northwest Colorado Greater Sage-Grouse LMP amendments. In making amendments to this LMP, the BLM and Forest Service will coordinate with USFWS as the BLM and Forest Service continue to meet their objective of conserving, enhancing, and restoring GRSG habitat by reducing, minimizing, or eliminating threats to that habitat.

Adaptive Management Triggers

Soft Triggers

Soft triggers represent an intermediate threshold indicating that management changes are needed at the project/implementation level to address habitat and population losses. If a soft trigger is identified, the Forest Service would apply more conservative or restrictive implementation conservation measures to mitigate for the specific causal factor in the decline of populations and/or habitats, with consideration of local knowledge and conditions. For example, monitoring data within an already federally authorized project area within a given GRSG population area indicates that there has been a slight decrease in GRSG numbers in this area.

Data also suggest the decline may be attributed to GRSG collisions with monitoring tower guy- wires from this federally authorized project. The FS then receives an application for a new tower within the same GRSG population area. The response would be to require the new authorization's tower guy-wires to be flagged. Monitoring data then show the decline is curtailed. The adaptive management soft trigger response is to require future applications to flag for guy-wires. These types of adjustments would be restrictive management prescriptions that would help ensure a greater degree of certainty of effectiveness in ameliorating a targeted threat so that there is less of a need to prescribe a detailed adaptive management decision strategy within the LMP amendment to demonstrate certainty of effectiveness. The Northwest Colorado LMP amendment includes conditions under which activities could be permitted in GRSG habitat and criteria for granting exceptions, modifications, or waivers for lease stipulations. Soft triggers for restrictive management actions would include evaluation of the effectiveness of the minimization, mitigation, and location of permitted activities in the context of the PAC.

Disturbance Cap Trigger

The disturbance cap trigger represents a threshold indicating that more restrictive action is necessary to prevent further degradation of GRSG habitat.

In Northwest Colorado, the disturbance cap trigger would be defined as habitat loss and/or degradation measured as the 3 percent disturbance cap in PHMA calculated by biologically significant unit (Colorado populations) and proposed project analysis area (Colorado MZ).

If the 3 percent anthropogenic disturbance cap is exceeded on lands (regardless of land ownership) within PHMA in any given biologically significant unit, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the General Mining Law of 1872 and valid existing rights) would be permitted by the FS within PHMA in any given biologically significant unit until the disturbance has been reduced to less than the cap.

If the 3 percent disturbance cap is exceeded on all lands (regardless of land ownership) within a proposed project analysis area in a PHMA, then no further anthropogenic disturbance would be permitted by the FS until disturbance in the proposed project analysis area has been reduced to maintain the area under the cap (subject to applicable laws and regulations, such as the General Mining Law of 1872 and valid existing rights).

Habitat disturbance would be monitored by the BLM/Forest Service and if the disturbance cap thresholds are exceeded in any PAC or Colorado MZ, more restrictive management would be implemented. The BLM/Forest Service would not grant modifications, exceptions, or waivers for existing lease stipulations if the intermediate trigger has been met. In addition, the FS would defer new leasing in the Colorado MZ/PAC until the habitat is reclaimed and back under the disturbance cap.

Hard Trigger

In the event that soft triggers and disturbance caps prove to be ineffective, the hard trigger represents a threshold indicating that immediate action is necessary to stop a severe deviation from GRSG conservation objectives. The hard trigger is intentionally set at or below the normal range of variation to provide a threshold of last resort should either chronic degradation or a catastrophic event occur. The hard trigger is not intended to be an on-again/off-again toggle that would be exceeded periodically throughout the life of the LMP amendment. Colorado GRSG occur in six distinct populations. Two of these populations (Northwest Colorado and North Park) account for about 88 percent of the males in Colorado. Northwest Colorado includes Colorado MZs 1 through 10. North Park includes Colorado MZ 11. The remaining four populations are smaller by an order of magnitude, and, even in the aggregate, do not provide the significant numbers of GRSG necessary to contribute meaningfully to the hard trigger, and, in some cases, lack the long-term population trend information necessary to support trigger implementation.

All six populations are important to GRSG conservation in Colorado; however, only the Northwest Colorado and North Park populations are large enough to reliably indicate the level of severe decline intended by this hard trigger. While the hard triggers focus on the two largest populations, all six populations should be rigorously managed via the soft triggers. If soft triggers work as intended, a hard trigger should never be breached.

Development of the Hard Trigger

The hard trigger is based on two metrics: GRSG lek (high male) counts and habitat loss.

Lek Counts. The lek count threshold is determined from the 25 percent quartile of the high male count in each of the Northwest Colorado and North Park populations over the period of years for which consistent lek counts are available: 17 years from 1998 to 2014 for Northwest Colorado and 41 years from 1974 to 2014 for North Park. The 25 percent quartiles were determined using the annual high male counts rather than the 3-year running average to ensure that normal variation in lek counts is above the threshold. The hard trigger for Northwest Colorado is 1,575 counted males, and for North Park is 670 counted males.

Habitat Loss. The habitat loss threshold is determined by 30 percent cumulative loss of PHMA, measured independently in Northwest Colorado and North Park. For the purpose of the hard trigger, habitat loss will be measured from the date of the ROD on this LMP amendment. Hard trigger habitat loss includes both anthropogenic (i.e., the disturbance cap) and non-anthropogenic forms of habitat loss (e.g., wildfire). The 30 percent habitat loss calculation is limited to loss of PHMA in each of Northwest Colorado and North Park populations; GHMA and any habitat loss in the other four populations are not included in the hard trigger. Restored or recovered habitat is not considered in this threshold, although it is tracked and summarized by the BLM/FS data management system.

Breaching the Hard Trigger

In order for the hard trigger to be breached, both the lek count (1,575 males in Northwest Colorado and 670 males in North Park) and habitat loss thresholds must be breached in both the Northwest Colorado and North Park populations simultaneously. In any other set of circumstances (e.g., when a threshold is violated in a single population), the management response will be as described in the *Soft Trigger* section, above.

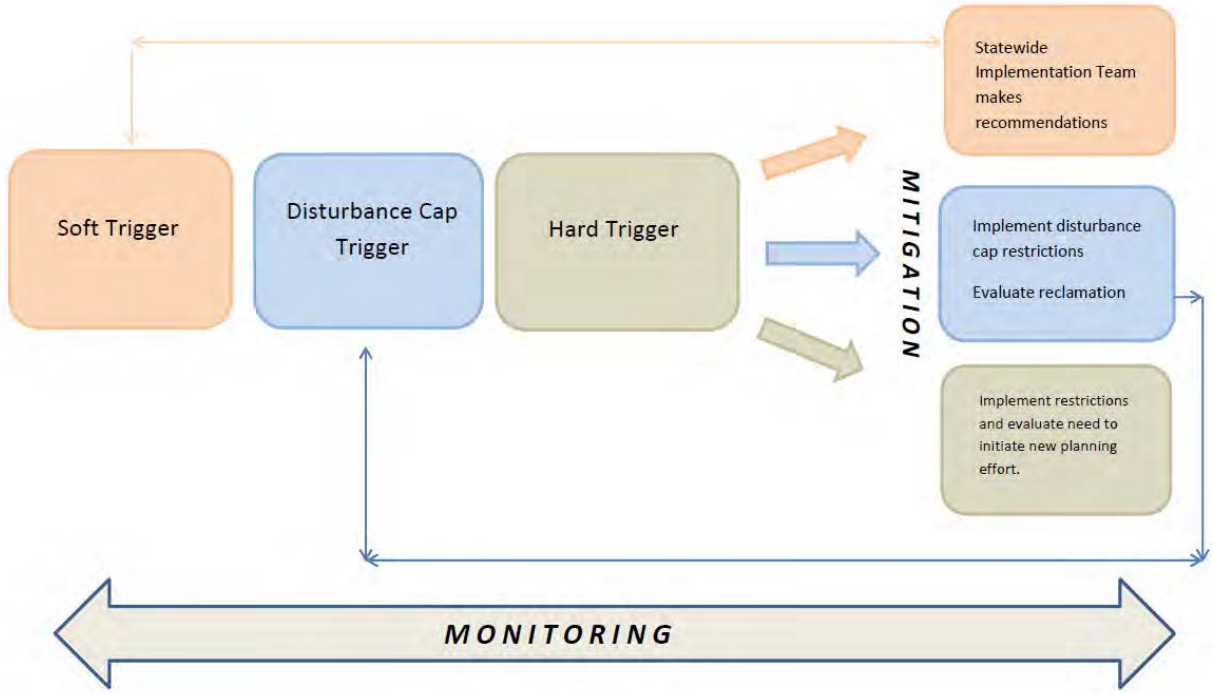
Lek Counts. The lek count threshold is compared to the 3-year running average of the high male count in Northwest Colorado and North Park, measured independently. The 3-year running average value is used because it is considered to be more indicative of the population trend than annual high male counts. The 3-year running average in Northwest Colorado and North Park must fall below the threshold concurrently for this portion of the hard trigger to be breached. The CPW will conduct lek counts and provide this information annually to the statewide implementation team as described in the *Soft Trigger* section, above.

Habitat Loss. The habitat loss threshold is measured by 30 percent cumulative loss of PHMA, beginning when the ROD on this LUPA is signed. The loss will be measured independently in Northwest Colorado and North Park. The BLM/FS will track anthropogenic and non-anthropogenic habitat loss. Summary information will be reviewed by the statewide implementation team as described in the *Soft Trigger* section, above.

Hard Trigger Response

Upon determination that a hard trigger has been tripped, the BLM and/or Forest Service will immediately defer issuance of discretionary authorizations for new actions for a period of 90 days. In addition, within

14 days of a determination that a hard trigger has been tripped, the Northwest Colorado Greater Sage-Grouse Statewide Implementation Team will convene to develop an interim response strategy and initiate an assessment to determine the causal factor or factors (hereafter the "causal factor assessment").



APPENDIX C - IDAHO

Table C-1. Idaho - Seasonal habitat desired conditions for greater sage-grouse.

ATTRIBUTE	INDICATORS	DESIRED CONDTION
BREEDING AND NESTING [1,2,3] (Seasonal Use Period March 1-June 15) **Apply 6.2 miles from active leks.** [4]		
Lek Security	Proximity of sagebrush to leks [6]	Adjacent protective sagebrush cover within 328 feet of lek [6]
Cover	Seasonal habitat extent [7] (Percent of seasonal habitat meeting desired conditions.)	>80% of the breeding and nesting habitat
	Sagebrush canopy cover [6,7,8]	15 to 25%
	Sagebrush height [7] Arid sites [6,7,9] Mesic sites [6,7,10]	 12 to 32 inches 16 to 32 inches
	Predominant sagebrush shape [6]	>50% in spreading [11]
	Perennial grass canopy cover [6,7] Arid sites [7,9] Mesic sites [7,10]	 ≥10% ≥15%
	Perennial grass height [6,7,8]	Provide overhead and lateral concealment from predators [7, 15]
	Perennial forb canopy cover [6,7,8] Arid sites [9] Mesic sites [10]	 ≥5% [6,7] ≥10%[6,7]
BROOD-REARING/SUMMER[1] (Seasonal Use Period June 16-October 31)		
Cover	Seasonal habitat extent [7] (Percent of seasonal habitat meeting desired conditions.)	>40% of the brood-rearing/summer habitat
	Sagebrush canopy cover [6,7,8]	10 to 25%
	Sagebrush height [7,8]	16 to 32 inches
	Perennial grass and forb canopy cover [7,8]	>15%
	Riparian areas/mesic meadows	Proper Functioning Condition [12]
	Upland and riparian perennial forb availability [6,7]	Preferred forbs are common with several preferred species present [13]
	Sagebrush cover adjacent to riparian areas/mesic meadows[6]	Within 328 feet (100 meters)
WINTER[1] (Seasonal Use Period November 1-February 28)		
Cover and Food	Seasonal habitat extent [6,7,8] (Percent of seasonal habitat meeting desired conditions.)	>80% of the winter habitat
	Sagebrush canopy cover above snow [6,7,8]	>10%
	Sagebrush height above snow [6,7,8]	>10 inches [14]

[1] Seasonal dates can be adjusted; that is, start and end dates may be shifted either earlier or later, but the amount of days cannot be shortened or lengthened by the local unit.

[2] Doherty, K. 2008. *Sage-grouse and Energy Development: Integrating Science with Conservation Planning to Reduce Impacts*. University of Montana. Missoula, MT.

[3] Holloran and Anderson. 2005. *Spatial Distribution of Greater Sage-grouse nests in relatively contiguous sagebrush habitats*. Condor 107:742-752.

[4] Buffer distance may be changed only if 3 out of 5 years of telemetry studies indicate the 6.2 miles is not appropriate.

[5] Baruch-Mordo, S. J.S. Evans, J.P Severson, D.E. Naugle, J. D. Maestas, J.M. Kiesecker, M.J. Falkowski. C.A. Hagen, and K.P. Reese. . 2013. *Saving sage-grouse from trees*: A proactive solution to reducing a key threat to a candidate species. Biological Conservation 167: 233-241.

[6] 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.

[7] Connelly, J. M. A. Schroeder, A.R. Sands, and C.E. Braun.2000. Guidelines to manage sage-grouse populations and their habitats. Wildlife Society Bulletin 28 (4): 967-985.

[8] Connelly, J. K. Reese, and M. Schroeder. 2003. *Monitoring of Greater sage-grouse habitats and populations*. Station Bulletin 80, Contribution 979. University of Idaho, College of Natural Resources Experiment Station. Moscow, ID.

[9] 10–12 inch precipitation zone; *Artemisia tridentata wyomingensis* is a common big sagebrush sub-species for this type site (Stiver et al, 2015).

[10] ≥12 inch precipitation zone; *Artemisia tridentata vaseyana* is a common big sagebrush sub-species for this type site (Stiver et al, 2015).

[11] Sagebrush plants with a spreading shape provide more protective cover than sagebrush plants that are more tree- or columnar shaped (Stiver et al. 2015).

[12] Existing land management plan desired conditions for riparian areas/wet meadows (spring seeps) may be used in place of properly functioning conditions, if appropriate for meeting greater sage-grouse habitat requirements.

[13] Preferred forbs are listed in Table III-2 (Stiver et al. 2015). Overall total forb cover may be greater than that of preferred forb cover since not all forb species are listed as preferred in Table III-2.

[14] The height of sagebrush remaining above the snow depends upon snow depth in a particular year. Intent is to manage for tall, healthy, sagebrush stands.

[15]Projects will be designed to provide overhead and lateral concealment of nests on a site specific basis.

Table C-2. Idaho - Treatment acres per decade.[1]

	ACRES		
FOREST/GRASSLAND	**MECHANICAL[2]**	**PRESCRIBED FIRE[3]**	**GRASS RESTORATION[4]**
Boise	1,000	2,000	0
Caribou-Targhee-Curlew	3,000	2,000	3,000
Salmon-Challis	5,000	1,000	0
Sawtooth	7,000	1,000	7,000

[1]These are estimates of treatments required to achieve and/or maintain desired habitat conditions over a period of 10 years. There are many dynamic and highly variable disturbances that may happen over that period of time that could have a significant effect on the amount, type, and timing of treatment needed. Those disturbances are factored into the 10-year simulation using stochastic, not deterministic, techniques. Probabilities of events such as large wildfires are used in the model to make the simulation as realistic as possible, given empirical data about such events in the past, but the results of the simulation cannot be used to predict the future occurrence of such events, including their timing, size, or location, which are essentially random.

[2]Removal of conifers that have invaded sagebrush including phase-one juniper that is 10% or less and reducing sagebrush cover in areas over 30% canopy cover.

[3]Acres are those that are greater than 30% sagebrush canopy cover and/or invaded by 10% or greater conifer.

[4]Acres presently dominated by annual grasses that could be improved by herbicide application and seeding of perennial vegetation.

IDAHO MITIGATION STRATEGY

General

The Forest Service will require mitigation that provides a no net loss to the greater sage- grouse (GRSG) when undertaking Forest Service management actions, and consistent with valid existing rights and applicable law, in authorizing third party actions that result in GRSG habitat loss and degradation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions. Mitigation will follow the regulations from the White House Council on Environmental Quality (CEQ) (40 CFR 1508.20) and the steps of avoid, minimize, and compensate, hereafter referred to as the mitigation hierarchy. If impacts from Forest Service management actions and authorized third party actions, which result in habitat loss and degradation, remain after applying avoidance and minimization measures (i.e., residual impacts), then compensatory mitigation will be used to provide a no net loss to the GRSG. Mitigation actions should account for any uncertainty associated with the effectiveness of such mitigation. Any compensatory mitigation will be durable, timely, and in addition to that which would have resulted without the compensatory mitigation.

The Forest Service will participate with the BLM and States to establish a State specific Mitigation Strategy. The Strategy will inform the National Environmental Policy Act (NEPA) decision making process, including application of the mitigation hierarchy for Forest Service management actions and third party actions that result in habitat loss and degradation. The application of a robust and transparent Strategy will contribute to GRSG habitat conservation by reducing, eliminating, or minimizing threats and compensating for residual impacts to the GRSG and its habitat.

Forest Service mitigation policy and CEQ regulations will serve as a framework for developing and implementing the Strategy. The Strategy should be developed in a transparent manner and must be based on the best science available and standardized metrics.

IDAHO ADAPTIVE MANAGEMENT PLAN

Introduction

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

The adaptive management strategy described in this appendix consists of the following elements:

1. Scale at which the Forest Service will monitor and apply adaptive management triggers in Idaho
2. Soft and hard triggers for habitat and population thresholds; and
3. Responses or actions to be taken if a trigger is met.

Adaptive management provides an additional framework for assessing the effectiveness of conservation measures. The conservation measures, along with adaptive management, are incorporated in the DEIS to ameliorate threats to greater sage-grouse, thereby increasing the likelihood that the conservation measures are effective in reducing threats to greater sage-grouse and its habitat.

The adaptive management strategy includes soft and hard triggers and responses. The triggers are not specific to any particular project, but identify habitat and population thresholds outside of natural fluctuations or variations. Triggers are based on the two key metrics that are being monitored; habitat loss and/or population declines. Adaptive management, with specific triggers, provide additional certainty that the regulatory mechanisms are robust and able to respond to a variety of conditions and circumstances quickly and effectively to conserve greater sage-grouse habitat. Tripping a soft or hard trigger will initiate a state-federal inter-agency dialogue to evaluate causal factors and recommend adjustments in management activities or additional potential implementation-level activities to reverse the trend. Any adjustment to management activities or new management activities proposed as a result of tripping a soft or hard trigger will be developed with the participation of agency leadership and science experts.

Adaptive Management Scale

A biologically significant unit (BSU) defines the geographic extent and scale in Idaho that will be considered when evaluating anthropogenic disturbance and the adaptive management habitat triggers. Disturbance and habitat triggers are calculated differently since anthropogenic disturbance and habitat loss affect GRSG differently. In Idaho, the BSU is the spatial extent of breeding and wintering habitat within priority habitat management areas (PHMA) and important habitat management areas (IHMA) within a Conservation Area in Idaho.

Triggers

Soft triggers are an intermediate threshold indicating that management changes are needed at the project/implementation level to address GRSG habitat and population losses. If a soft trigger is met, the Forest Service would apply additional mitigation measures to alleviate the known or probable causes in the decline of GRSG populations or its habitats with consideration of local knowledge and conditions. Soft triggers and responses, if the triggers are met, are described below.

Hard triggers are a threshold indicating that immediate action is necessary to stop a severe deviation from GRSG conservation goals and objectives, as set forth in the Forest Service plans. Hard triggers and responses, if the triggers are met, are described below.

Population Triggers

- ***Soft Population Triggers***
  Adaptive Regulatory Criteria for Population Soft Triggers are defined as:

  - A 10% decline in the current 3-year average of total maximum number of males counted compared to the 2011 maximum male baseline and a finite rate of change (λ) below 1.0 within PHMA within a Conservation Area over the same 3-year period; or
  - A 10% decline in the current 3-year average of total maximum number of males counted compared to the 2011 maximum male baseline and a finite rate of change (λ) below 1.0 within IHMA within a Conservation Area over the same 3-year period.

- ***Hard Population Triggers***
  Adaptive Regulatory Criteria for Population Hard Triggers are defined as:
  - A 20% decline in the current 3-year average of total maximum number of males counted compared to the 2011 maximum male baseline and a finite rate of change (λ) significantly below 1.0 within PHMA within a Conservation Area over the same 3-year period; or
  - A 20% decline in the current 3-year average of total maximum number of males counted compared to the 2011 maximum male baseline and a finite rate of change (λ) significantly below 1.0 within IHMA within a Conservation Area over the same 3-year period.
  - Significance is defined by the 90% confidence interval around the current 3-year finite rate of change. If the 90% confidence interval is less than, and does not include 1.0, then the finite rate of change considered significant. The finite rate of change and variance will be calculated following Garton et al. (2011).

Habitat Triggers

For purposes of evaluating the adaptive management triggers, effective habitat in Idaho is tracked using the Key Habitat Map, which is updated annually by BLM in coordination with Idaho Department of Fish and Game, the Forest Service, the USFWS, and local working groups, tracks the areas of generally intact sagebrush providing GRSG habitat during some portion of the year. Effective habitat equates to areas described as Key Habitat on the Key Habitat Map.

- ***Soft Habitat Triggers***
  Adaptive Regulatory Criteria for Habitat Soft Triggers are defined as:

  - A 10% loss of Key Habitat within the BSU of the PHMA of a Conservation Area when compared to the 2011 baseline; or
  - A 10% loss of Key Habitat within the BSU of the IHMA of a Conservation Area when compared to the 2011 baseline.

- ***Hard Habitat Triggers***
  Adaptive Regulatory Criteria for Habitat Hard Triggers are defined as:

  - A 20% loss of Key Habitat within the BSU of the PHMA of a Conservation Area when compared to the 2011 baseline, inclusive of all land ownerships or
  - A 20% loss of Key Habitat within the BSU of the IHMA of a Conservation Area when compared to the 2011 baseline.

The following state and federal agencies are expected to collaborate to implement Greater Sage-Grouse conservation in Idaho: Bureau of Land Management (BLM), Fish and Wildlife Service (USFWS), US Forest Service (USFS), Idaho Governor's Office of Species Conservation (OSC), Idaho Department of Fish and Game (IDFG), Idaho State Department of Agriculture (ISDA), Idaho Department of Lands (IDL), United States Geologic Survey (USGS), and Natural Resource Conservation Service (NRCS).

Idaho Technical Team: Technical experts from the above mentioned state and federal agencies comprise this team. This team's primary responsibilities are review triggers and causal factors.

Response to Triggers

- ***Soft Trigger Responses***

An interagency technical team would use monitoring information to assess when triggers have been met. When information indicates that the soft habitat or population trigger may have been met, an interagency technical team would assess the factor(s) leading to the decline and identify potential management actions. The Sage-Grouse Implementation Task Force may consider and recommend to the Forest Service and the BLM possible changes in management in the PHMA. In IHMA, the Sage-Grouse Implementation Task Force may review the causes for decline and identify potential management changes only to the extent those factors significantly impair the State's ability to meet the overall management objective. It is anticipated that Idaho Department of Fish and Game will collect data annually and will make

recommendations to the Implementation Team by August 31st for population triggers and January 15th for habitat triggers.

Only where monitoring information indicates that the cause(s) of the decline is not a primary threat would the Sage-Grouse Implementation Task Force analyze the secondary threats to the species and determine whether further management actions are needed.

When any of the adaptive regulatory criteria for soft triggers have been met would the Sage-grouse Implementation Task Force evaluate causal factors and recommend potential implementation-level activities to the appropriate agency line officer.

- ***Hard Trigger Responses***

When any of the adaptive regulatory criteria for hard triggers have been met, all PHMA management direction would be applied to IHMA within that Conservation Area and the Sage- grouse Implementation Task Force would evaluate causal factors and recommend additional potential implementation-level activities to the appropriate agency line officer.

APPENDIX D - NEVADA

Table D-1. Nevada - Seasonal use periods for greater sage-grouse, for use with specific plan components.

Seasonal Use Period*	Dates
Breeding and Nesting	March 1 – June 30
• Lekking	• March 1 – May 15
• Nesting	• April 1 – June 30
Brood-Rearing/Summer	May 15 – September 15
Fall	September 16 – October 31
Winter	November 1 – February 28

* Seasonal dates may be adjusted (i.e., start and end dates may be shifted earlier or later), but the amount of days cannot be shortened by the local unit.

Table D-2. Nevada - Treatment acres per decade.[1]

Forest	Mechanical Treatments[2]	Annual Invasive Grass Treatment [3]
Humboldt-Toiyabe NF Total	202,000 Acres	43,000 Acres

[1]These are estimates of treatments required to achieve and/or maintain desired habitat conditions over a period of 10 years.

[2]Removal of conifers that have invaded sagebrush including phase one pinyon and juniper and reducing sagebrush cover in areas over 30% canopy cover

[3]Acres presently dominated by annual grasses that could be improved by herbicide application and seeding of perennial vegetation.

NEVADA – SEASONAL HABITAT PREFERENCES

Tables D-3 and D-4 present sage-grouse local seasonal habitat preferences in Nevada. Because habitat preferences vary, for example among ecological sites and along latitudinal, topographic, or precipitation gradients, several tables are presented with values most closely associated with local conditions. These values are not desired conditions as defined at 36 CFR 219.7, but conditions for which sage-grouse select during seasonal use periods. Tables and values should be used as a basis for comparison when completing seasonal habitat assessments, as described in Stiver et al. 2015. Tables may be added and updated with administrative changes based on the best available scientific information.

Table D-3. Seasonal habitat preferences for greater sage-grouse.

(Generally applies in Ecoregion 342[1], although may be applied outside of Ecoregion 342[1] based on local ecological site conditions.)

ATTRIBUTE	INDICATORS	DESIRED VALUES
BREEDING AND NESTING [2,3,4] (Seasonal Use Period March 1 to June 30) (Within the Breeding and Nesting Period - Lekking Period: March 1 to May 15; Nesting Period: April 1 to June 30) Apply 4.0 miles from active leks.[5]		
Lek Security	Proximity of trees [6]	Trees or other tall structures are absent to uncommon within 3 miles (5 km) leks [7,8,16]
	Proximity of sagebrush to leks [7]	Adjacent protective sagebrush cover within 328 feet of lek [7]
	Seasonal habitat extent [8] (Percent of seasonal habitat meeting desired conditions.)	>80% of the breeding and nesting habitat
	Sagebrush canopy cover [7,8,9]	>15%
	Sagebrush height [8] Arid sites [7,8,10] Mesic sites [7,8,11]	 >12 inches >16 inches
	Predominant sagebrush shape [7]	>50% in spreading [12]
	Perennial grass cover [7,8] Arid sites [8,10] Mesic sites [8,11]	 >10% >15%
	Perennial grass height [7,8,9]	Provide overhead and lateral concealment from predators [8, 16]
	Perennial forb canopy cover [7,8,9] Arid sites [10] Mesic sites [11]	 >5% [7,8] >10% [7,8]
BROOD-REARING/SUMMER[2] (Seasonal Use Period May 15 to September 15)		
Cover	Seasonal habitat extent 8(Percent of seasonal habitat meeting desired conditions.)	>40% of the brood-rearing/summer habitat
	Sagebrush canopy cover [7,8,9]	10 to 25%
	Sagebrush height [8,9]	>16 inches

ATTRIBUTE	INDICATORS	DESIRED VALUES
	Perennial grass and forb canopy cover [7,8]	>15%
	Riparian areas/mesic meadows	Proper Functioning Condition [13]
	Upland and riparian perennial forb availability [6,7]	Preferred forbs are common with several preferred species present [14]
	Sagebrush cover adjacent to riparian areas/mesic meadows [7]	Within 328 feet (100 meters)
Security	Riparian Area/Meadow Interspersion with adjacent sagebrush	Has adjacent sagebrush cover [6, 7]
FALL/WINTER[2] (Seasonal Use Period September 16 to February 28) (Fall: September 16 to October 31; Winter: November 1 to February 28)		
Cover and Food	Seasonal habitat extent [7,8,9] (Percent of seasonal habitat meeting desired conditions.)	>80% of the winter habitat
	Sagebrush canopy cover above snow 7,8,9	>10%
	Sagebrush height above snow [7,8,9]	>10 inches [15]

[1]Bailey, R. G.; Avers, P. E.; King, T.; McNab, W. H., eds. 1994. Ecoregions and subregions of the United States (map). Washington, DC: USDA Forest Service. 1:7,500,000. With supplementary table of map unit descriptions, compiled and edited by W. H. McNab and R. G. Bailey.

[2]Seasonal dates can be adjusted; that is, start and end dates may be shifted either earlier or later, but the amount of days cannot be shortened by the local unit. Seasonal dates are based on dates used by Nevada Department of Wildlife (NDOW) to designate sage-grouse seasonal use. These dates overlap to allow for localized variation across the state.

[3] Doherty, K. 2008. *Sage-grouse and Energy Development: Integrating Science with Conservation Planning to Reduce Impacts*. University of Montana. Missoula, MT.

[4] Holloran and Anderson. 2005. *Spatial Distribution of Greater Sage-grouse nests in relatively contiguous sagebrush habitats*. Condor 107:742- 752.

[5] Buffer distance may be changed only if 3 out of 5 years if peer reviewed and published telemetry studies indicate the 4 miles is not appropriate.

[6] Baruch-Mordo, S. J.S. Evans, J.P Severson, D.E. Naugle, J. D. Maestas, J.M. Kiesecker, M.J. Falkowski. C.A. Hagen, and K.P. Reese. . 2013. *Saving sage-grouse from trees*: A proactive solution to reducing a key threat to a candidate species. Biological Conservation 167: 233-241.

[7] 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. BLM and Western Association of Fish and Wildlife Agencies, Denver, Colorado.

[8] Connelly, J. M. A. Schroeder, A.R. Sands, and C.E. Braun.2000. Guidelines to manage sage-grouse populations and their habitats. Wildlife Society Bulletin 28 (4): 967-985.

[9] Connelly, J. K. Reese, and M. Schroeder. 2003. *Monitoring of Greater sage-grouse habitats and populations*. Station Bulletin 80, Contribution 979. University of Idaho, College of Natural Resources Experiment Station. Moscow, ID.

[10] 10–12 inch precipitation zone; *Artemisia tridentata wyomingensis* is a common big sagebrush sub-species for this type site (HAF 2014).

[11] >12 inch precipitation zone; *Artemisia tridentata vaseyana* is a common big sagebrush sub-species for this type site (HAF 2014).

[12] Sagebrush plants with a spreading shape provide more protective cover than sagebrush plants that are more tree- or columnar shaped (HAF 2014).

[13] Existing LMP desired conditions for riparian areas/mesic meadows (spring seeps) may be used in place of properly functioning conditions, if appropriate for meeting greater sage-grouse habitat requirements.

[14] Preferred forbs are listed in HAF Table III-2 (HAF 2014). Overall total forb cover may be greater than that of preferred forb cover since not all forb species are listed as preferred in Table III-2.

[15] The height of sagebrush remaining above the snow depends upon snow depth in a particular year. Intent is to manage for tall, healthy, sagebrush stands.

[16] Coates, P. S., M. L. Casazza, E. J. Blomberg, S. C. Gardner, S. P. Espinosa, J. L. Yee, L. Wiechman, and B. J. Halstead. 2013. Evaluating greater sage-grouse seasonal space use relative to leks: implications for surface use designations in sagebrush ecosystems. Journal of Wildlife Management 77: 1598–1609.

Table D-4. Seasonal habitat preferences for greater sage-grouse. Seasonal Habitat Desired Conditions for Greater Sage-grouse.

(Generally applies in Ecoregion 341[1], although may be applied outside of Ecoregion 341 based on local ecological site conditions.)

	INDICATOR	DESIRED VALUES
GENERAL/LANDSCAPE-LEVEL		
Cover (Nesting)	Seasonal Habitat Needed	>65% of the landscape in sagebrush cover [2]
	Annual Grasses	<5% [3]
Security (Nesting)	Conifer encroachment	<3% phase I (>0% to <25% cover) No phase II (25 – 50% cover) No phase III (>50% cover)
Cover and Food (Winter)	Conifer encroachment	<5% phase I (>0% to <25% cover) No phase II (25 – 50% cover) No phase III (>50% cover)
	Sagebrush extent	>85% sagebrush land cover
BREEDING AND NESTING (Seasonal Use Period March 1-June 30) [4] (Within the Breeding and Nesting Period - Lekking Period: March 1 to May 15; Nesting Period: April 1 to June 30) Apply 4.0 miles from pending and active leks. [19]		
Security [6]	Tree cover	<3% landscape canopy cover within 1 km of leks [5]
	Proximity of tall structures (1 meter above shrub canopy, excluding fences)	None within 3 miles (5 kilometers)18
	Availability of sagebrush cover	Has adjacent sagebrush cover [9,17]
	Sagebrush canopy cover	>20% [13,14]
	Residual and live perennial grass cover	>10% if shrub cover <25% [5,7,8]
	Annual grass cover [7]	<5% [15]
	Perennial grass height	Provide overhead and lateral concealment from predators [9,20]
	Total shrub cover	>30% [7,13]

	INDICATOR	DESIRED VALUES
BROOD-REARING/SUMMER (Seasonal Use Period May 15 to September 15) [4]		
Cover	Sagebrush canopy cover	10%-25% [9]
	Perennial grass canopy cover and forbs	>15% combined perennial grass and forb canopy cover [9]
	Perennial Grass Height	Provide overhead and lateral concealment from predators [9,20]
Cover and Food	Perennial forb canopy cover	>5% arid (<10 inches precipitation) >15% mesic (> 10 inches precipitation or within meadow system) [6]
Food	Riparian Areas/Meadows	Proper Functioning Condition [17]
	Understory species richness (in the vicinity of riparian areas/meadows)	>5 preferred forb species present [5,6]
Security	Riparian Area/Meadow Interspersion with adjacent sagebrush	Has adjacent sagebrush cover [9,17]
FALL/WINTER (Seasonal Use Period September 16 to February 28) [4] (Fall: September 16 to October 31; Winter: November 1 to February 28)		
Cover and Food	Sagebrush canopy cover	>10% above snow depth [9]
	Sagebrush height	>10 inches (25 centimeters) above snow depth [9]

1 Bailey, R. G.; Avers, P. E.; King, T.; McNab, W. H., eds. 1994. Ecoregions and subregions of the United States (map). Washington, DC: USDA Forest Service. 1:7,500,000. With supplementary table of map unit descriptions, compiled and edited by W. H. McNab and R. G. Bailey.

2 Aldridge, C. L.; Boyce, M. S. 2007. Linking occurrence and fitness to persistence: Habitat-based approach for endangered Greater Sage-Grouse. Ecological Applications, 17: 508 – 526.

3 Blomberg, E.J., J.S. Sedinger, M.T. Atamian, and D.V. Nonne. 2012. Characteristics of climate and landscape disturbance influence the dynamics of greater sage-grouse populations. Ecosphere3(6):55.

4 Seasonal dates can be adjusted; that is, start and end dates may be shifted either earlier or later, but the amount of days cannot be shortened or lengthened by the local unit. Seasonal dates are based on dates used by Nevada Department of Wildlife (NDOW) to designate sage-grouse seasonal use. These dates overlap to allow for localized variation across the state.

5 Baruch-Mordo, S., J. S. Evans, J. P. Severson, D. E. Naugle, J. D. Maestas, J. M. Kiesecker, M. J. Falkowski, C. a. Hagen, and K. P. Reese. 2013. Saving sage-grouse from the trees: a proactive solution to reducing a key threat to

a candidate species. Biological Conservation 167:233–241.

[6]Casazza, M.L., P.S. Coates, C.T. Overton. 2011. Linking habitat selection to brood success in greater sage-grouse. In: Sandercock, MK, K Martin, G Segelbacher (eds.). Ecology, Conservation, and Management of Grouse. University of California Press. Pp. 151-167.

[7]Coates, P.S., and D.J. Delehanty. 2010. Nest predation of greater sage-grouse in relation to microhabitat factors and predators. Journal of Wildlife Management 74:240-248.

[8]Coates, P. S., M. L. Casazza, E. J. Blomberg, S. C. Gardner, S. P. Espinosa, J. L. Yee, L. Wiechman, and B. J. Halstead. 2013. Evaluating greater sage- grouse seasonal space use relative to leks: implications for surface use designations in sagebrush ecosystems. Journal of Wildlife Management 77: 1598–1609.

[9]Connelly, J.W., M.A. Schroeder, A.R. Sands, and C.E. Braun. 2000. Guidelines to manage sage-grouse populations and their habitats. Wildlife Society Bulletin 28:967-985.

[10]Connelly, J.W., Reese, K.P., M.A. Schroeder. 2003. Monitoring of Greater Sage-Grouse Habitats and Populations. Station Bulletin 80.

[11]Doherty, K.E., Naugle, D.E., Walker, B.L., and J.M. Graham. 2008. Greater Sage-Grouse Winter Habitat Selection and Energy Development. Journal of Wildlife Management: 72(1):187-195. 2008.

[12]Hagen, C.A., Connelly, J.W. & Schroeder, M.A. 2007: A meta-analysis of greater sage-grouse (Centrocercus urophasianus) nesting and brood- rearing habitats. - Wildlife Biology: 13 (Suppl. 1): 42- 50.

[13]Kolada, E.J., J.S. Sedinger, M.L. Casazza. 2009a. Nest site selection by greater sage-grouse in Mono County, California. Journal of Wildlife Management 73:1333-1340.

[14]Kolada, E.J., J.S Sedinger, M.L. Casazza. 2009b. Ecological factors influencing nest survival of greater sage-grouse in Mono County, California. Journal of Wildlife Management 73:1341-1347.

[15]Lockyer, Z., P.S. Coates, M.L. Casazza, S. Espinosa, D.L. Delehanty. In review. Linking nest site selection to nest survival in greater sage-grouse.

[16]Nevada Governor's Sage-grouse Conservation Team. 2010. Nevada energy and infrastructure development standards to conserve greater sage- grouse populations and their habitats. Pp 9-11.

[17]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. BLM and Western Association of Fish and Wildlife Agencies, Denver, Colorado.

18 Gibson, D., E. Blomberg, and J. Sedinger. 2013. Dynamics of Greater Sage-grouse (Centrocercus urophasianus) Populations in Response to Transmission Lines in Central Nevada. Progress Report: Final December 2013of Land Management, Idaho State Office, Boise, Idaho.

19 Buffer distance may be changed only if 3 out of 5 years of telemetry studies indicate the 4 miles is not appropriate.

20 Projects will be designed to provide overhead and lateral concealment of nests on a site specific basis

NEVADA MITIGATION STRATEGY

NOTE TO REVIEWERS: THIS APPENDIX HAS BEEN UPDATED IN ITS ENTIRETY. PLEASE SEE 2015 GREAT BASIN ROD FOR COMPARISON.

D.1 GENERAL

When authorizing discretionary, third-party actions within greater sage-grouse (GRSG) habitat management areas that would result in direct, indirect, or cumulative impacts on GRSG or their habitat in Nevada, the Forest Service would require and ensure mitigation, subject to valid existing rights and federal regulations governing the authorization, that provides a net conservation gain (net benefit) to the species. The Forest Service applies mitigation in a hierarchical manner: first seeking to avoid, then minimize, then use compensatory mitigation, if any is necessary, to address residual impacts from anthropogenic disturbances (CEQ; 40 CFR 1508.20). Application of the mitigation hierarchy and the development of compensatory mitigation would be done in close coordination with the project proponent, cooperating agencies (e.g., NDOW, State of Nevada Sagebrush Ecosystem Technical Team, and local governments) and interested stakeholders in a transparent manner, based on the best available science and standardized metrics.

D.2 MITIGATION PRINCIPLES AND GUIDANCE

The Forest Service would apply the following mitigation principles using the mitigation hierarchy when evaluating third-party actions that result in impacts on GRSG or their habitat. Efforts to avoid and minimize should be documented before moving forward with compensatory mitigation.

Avoidance

- Eliminate conflicts by relocating disturbances outside of greater sage-grouse habitat. Avoidance of GRSG habitat when initiating an activity that will cause disturbance is the preferred option. If impacts are not avoided in GHMA and PHMA, the adverse effects would need to be both minimized and compensated for with compensatory mitigation.

Minimization

- Impacts should be minimized by modifying proposed actions or incorporating measures that lessen the adverse effects on GRSG and its habitat.
    - Minimization would be accomplished through project-level, site-specific application of actions (e.g., design features and best management practices), such as reducing the disturbance footprint, seasonal use limitations, and collocation of structures.
    - Minimization would not preclude the need for compensatory mitigation, but could effectively reduce the severity of impacts and the degree to which compensatory mitigation was needed to offset those impacts.

Compensation (also referred to as compensatory mitigation)

- When impacts on GRSG and its habitat remain in PHMA or GHMA after avoidance and minimization, compensatory mitigation could be considered with the applicant subject to the federal regulations governing the authorization and valid existing rights.
- Compensatory mitigation actions would be developed and implemented commensurate with the impacts of the proposed project such that net conservation is achieved through replacement or enhancement of GRSG habitat quality and quantity, as measured using consistent metrics for impacts and mitigation actions, such as those described in the Habitat Quantification Tool (HQT). Any compensatory mitigation would be durable, timely, and in addition to that which would have resulted without the compensatory mitigation.

Impact and Compensatory Mitigation Project Valuation Guidance

- A common, standardized method, such as the State of Nevada's Habitat Quantification Tool should be used for quantifying the impacts of a proposed project and any pursuant compensatory mitigation projects.

Compensatory Mitigation Options

- Options for implementing compensatory mitigation may include:
    - Using the State of Nevada Conservation Credit System (CCS) or an established mitigation/conservation bank.
    - Contributing to an established mitigation/conservation fund that can demonstrate how funds would be used to achieve net conservation gain.
    - Authorized user- (proponent-) conducted mitigation projects that demonstrate net conservation gain.
- For any compensatory mitigation project, the investment must be additional (i.e., additionality means the conservation benefits of compensatory mitigation are demonstrably new and would not have resulted without the compensatory mitigation project).

ADAPTIVE MANAGEMENT PLAN FOR NEVADA

NOTE TO REVEIWERS: THIS APPENDIX HAS BEEN UPDATED IN ITS ENTIRETY.
PLEASE SEE 2015 GREAT BASIN ROD FOR COMPARISON.

INTRODUCTION

Adaptive management is a decision process that promotes flexible resource-management decision-making that can be adjusted as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps adjust resource management direction as part of an iterative learning process. Adaptive management recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a "trial and error" process, but rather emphasizes learning while doing. Inclusion of an adaptive management plan to complement the desired conditions, objectives, standards, guidelines, and management approaches in the proposed action is intended to increase the likelihood that conservation measures are effective in reducing threats to greater sage-grouse and its habitat and to lead to more effective decisions and enhanced benefits.

This adaptive management strategy consists of the following elements (figure 1):

1. Scale at which the Forest Service and partners will monitor and apply adaptive management in Nevada;
2. Population and habitat analyses with warnings, soft triggers, and hard triggers that represent thresholds for habitat and population decline; and
3. A process for interpreting, responding to, and monitoring population and habitat triggers.

ADAPTIVE MANAGEMENT ANALYSIS SCALES

Analysis of population and habitat warnings and triggers will occur at the lek, lek cluster, and biologically significant unit (BSU) scales (figure 2):

- Lek—Individual breeding display site where male and female GRSG congregate, with males performing courtship displays to gain mating opportunities with females. The Nevada Department of Wildlife maintains the official Nevada lek database.

- Lek cluster— A group of leks in the same vicinity, among which GRSG may interchange over time and representing a group of closely related individuals. A lek cluster boundary is defined by minimal GRSG movement between clusters, so demographic rates are influenced by birth/death rates rather than immigration/emigration. Lek clusters are defined by the USGS (Coates et al. 2017).

- BSU—Represents nested lek clusters with similar climate and vegetation conditions. A BSU boundary is defined by similar environmental conditions where GRSG population dynamics are likely driven by larger scale variations (e.g., climate). BSUs are defined by the USGS (Coates et al. 2017) and are also used for anthropogenic disturbance calculations.

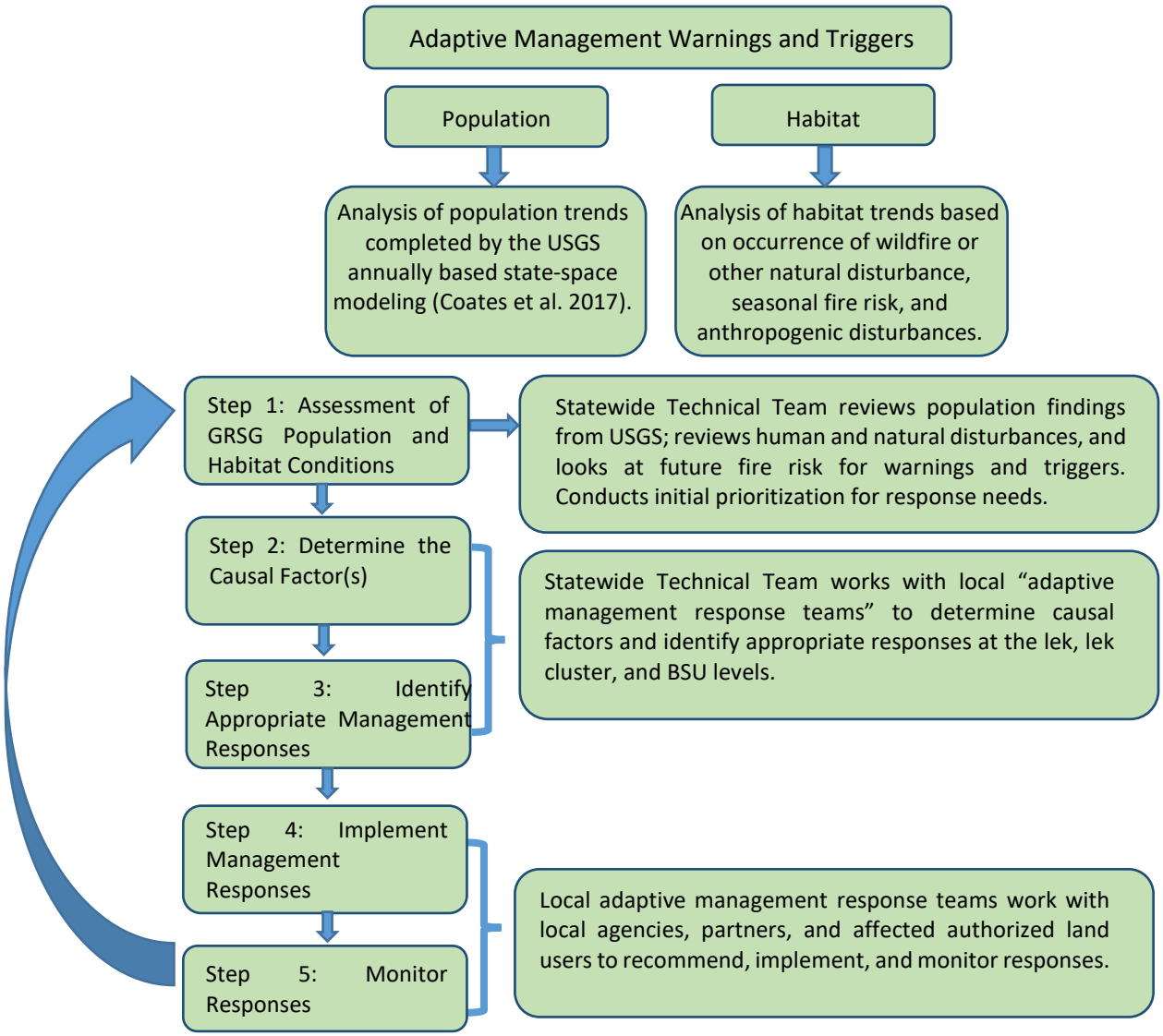


Figure D-1. Flowchart of the adaptive management process for Nevada.

The USGS will analyze population warnings and triggers at the individual lek, lek cluster, and biologically significant unit scales. The Statewide Technical Team will analyze habitat warnings and triggers only at the lek cluster scale.

The boundaries of BSUs and lek clusters may be adjusted over time, based on the understanding of local GRSG population interactions, genetic sampling, and climate variation. Population and habitat analyses used to identify warnings and triggers may be updated based on new science and advances in technology (e.g., integrated population models).

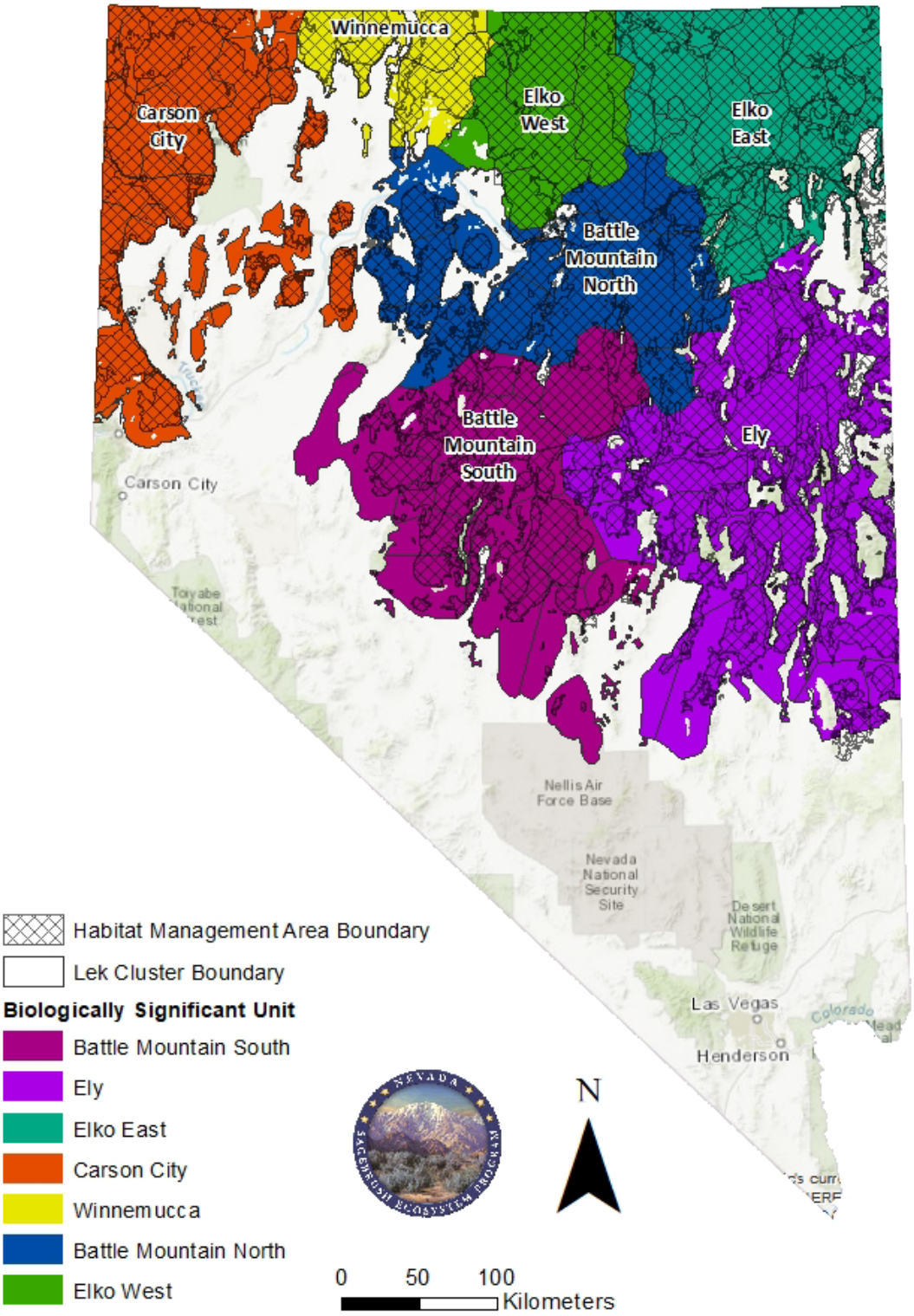


Figure D-2. Biologically significant units and lek clusters for GRSG in Nevada.

ADAPTIVE MANAGEMENT POPULATION ANALYSIS

Each year, the USGS GRSG state-space model (Coates et al. 2017[5]) will be used to estimate the rate of GRSG population change (lambda) at the individual lek, lek cluster, and BSU scales. The USGS State-Space model uses lek count data provided by NDOW to inform annual trends, accounts for potential variability in observations during lek counts and for natural variations in populations, and integrates information from the three scales to discern if population performance is likely due to localized events or connected to larger scale environmental or climatic conditions. A trigger is less likely to be reached at smaller spatial scales (e.g., lek, lek cluster) if regional environmental (e.g., BSU) conditions are influencing population decline (figure 3).

The rate at which a population trend destabilizes (population decline) and decouples from the trend at the associated higher-order scale will dictate whether or not a soft or hard trigger is reached. USGS will provide notice to the Statewide Technical Team of any population warnings, soft triggers, or hard triggers that are reached on an annual basis.

Population Warnings

Population warnings[6] represent precursors to triggers that are the result of cumulative factors that negatively affect population growth rate. A warning could be seen when population rate of change (lambda) within any of the three analyzed spatial scales is below an established threshold as defined in Coates et al. (2017). A population that is destabilized and decoupled is also considered a warning at that spatial scale. Multiple annual warnings are required to reach a soft or hard population trigger.

Population Soft Triggers

Soft triggers represent a threshold of population decline that indicates that management actions should be considered at the project or implementation level to address GRSG population declines. Specific thresholds for lambda values are included in Coates et al. 2017.

Population Hard Triggers

Hard triggers represent a threshold of population decline that indicates that immediate action needs to be considered to address significant deviation from GRSG population declines. Specific thresholds for lambda values are included in Coates et al. 2017.

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[5] The methods to determine triggers and the specific quantitative soft and hard triggers for the lek, lek cluster, and BSU spatial scales are identified in the USGS state-space model *Hierarchical population monitoring of greater sage-grouse (Centrocercus urophasianus) in Nevada and California—Identifying populations for management at the appropriate spatial scale*: U.S. Geological Survey Open-File Report 2017-1089.

[6] The USGS analysis uses the term "signals" which is synonymous with "triggers."

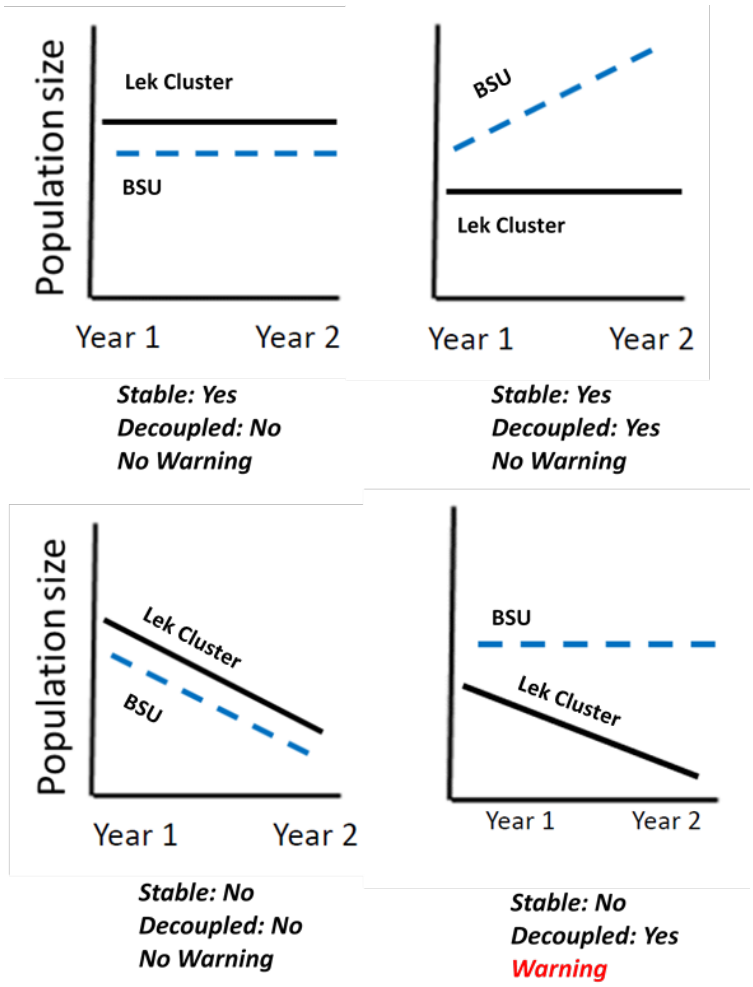

Figure D-3. Scenarios depicting population stability (trend) and decoupling from the higher-order spatial scales (Coates et al. 2017).

ADAPTIVE MANAGEMENT HABITAT ANALYSIS

The adaptive management habitat analysis will be led by a statewide technical team of specialists representing federal, state, and local agencies. This team will convene annually following completion of the population analysis, and may meet more frequently if needed.

Habitat Warnings

Habitat warnings include fire risk, the occurrence of wildfires larger than 1,000 acres, other natural disturbances, and new anthropogenic disturbance that results in direct and indirect effects as determined using the Habitat Quantification Tool (HQT). These warnings will be evaluated within HMAs at the scale of the lek cluster. Fire risk will be analyzed using various applicable data sources and support tools including but not limited to current vegetation composition and biomass, precipitation, fire regime condition class, fire risk or predictive models, and other applicable resources to identify areas that have the potential for high fine or woody fuel loads or have a high probability for re-burning. Natural disturbances evaluated as warnings will focus on wildfires and other natural disturbances that affect 1,000 acres or more in Nevada. The statewide technical team will generate the full list of habitat warnings for the year, complete a preliminary assessment of ecological impact and magnitude, and draft a priority list

of warnings that may warrant a management response. Generally, a management response will be warranted if an action could be taken that could effectively improve conditions for GRSG.

Habitat Triggers

Within a lek cluster, habitat warnings that warrant a significant GRSG focused management response will be considered triggers and prioritized based on best available science, site-specific conditions (context), and ecological criteria (e.g., ecological site description, current state, resistance and resilience, state and transition models, disturbance response group, cheatgrass dominance, etc.).

CAUSAL FACTOR ANALYSIS AND MANAGEMENT RESPONSE PROCESS

Step 1-Assessment of GRSG Population and Habitat Conditions: The statewide technical team will meet semi-annually to evaluate population data using the results of the USGS GRSG state-space model (Coates et al. 2017), habitat disturbance data from the land and resource management agencies, and fire risk data to identify warnings and triggers.

Step 2-Determine the Causal Factor(s): Following Step 1, the statewide technical team will work with other local agency representatives to form an adaptive management response team. This team will determine causal factors related to population and habitat triggers at each analysis scale:

- Lek (population only): Causal factors will be considered within GRSG seasonal habitats associated with the lek. At a minimum, seasonal habitats within four miles of the lek will be considered.
- Lek cluster: Causal factors will be considered within GRSG seasonal habitats associated with the lek cluster.
- BSU (population only): Causal factors will be considered within GRSG seasonal habitats associated with the BSU.

Causal factors may include natural or human caused disturbances, changes in human or animal use patterns, and climatic influences, among many other possibilities. Adaptive management response teams would consider all available information to examine potential causal factor(s) and will ask questions such as: What natural and human-caused events have occurred within the causal factor analysis area? What additional GRSG threats exist in the area? Did factors and events outside the triggered scale contribute to the population or habitat decline? Did the event or outcome arise from the interaction of more than one potential causal factor(s)? Adaptive management response teams will document their findings in a report to the Statewide Technical Team.

Step 3-Identify Appropriate Management Responses: The adaptive management response teams will identify appropriate management responses for each trigger and will document them in a report provided to the Statewide Technical Team. Both proactive and reactive management responses may be included to address existing or anticipated threats in areas where warnings or triggers have been reached. The adaptive management response teams may also identify an emergency/contingency plan that would outline immediate management actions that would take place, in the event the trigger is exacerbated. Such a plan should include goals, objectives, management actions and monitoring requirements developed specifically for the appropriate geographic area and/or population being affected.

In the case of proactive responses to fire risk, short term management may include season-specific fuels reduction, and long-term management may include prioritizing areas for fuel breaks and vegetation treatments. Reactive management responses may include emergency closures, re-prioritizing vegetation treatments for implementation, or repositioning fire resources. Many potential management responses may already be included as plan components in the proposed action and could be investigated to ensure they are being implemented or are working properly. Some potential management responses may be available for implementation immediately where National Environmental Policy Act (NEPA) analysis and decision-making are already complete. In many cases, a NEPA analysis will need to be initiated and completed before the action would occur.

Step 4-Implement Management Responses: Decision-makers from the appropriate land management agency may decide to implement the recommended management responses in coordination with the adaptive management response team within the affected response area or at the scale in which the trigger was reached. If a population hard trigger or a catastrophic habitat trigger is reached, a much more aggressive management response may be anticipated. The Federal land management agency local offices may implement the site specific actions outlined in the emergency/contingency response plan.

Step 5-Monitor Responses: The appropriate land management agency in coordination with the adaptive management response teams may continue to monitor the lek(s), lek cluster(s) and/or BSU(s) or affected area in which a recommended management response is being applied to determine if the responses are adequately addressing the reason for the population and/or habitat decline. This information would be used in Step 1 above, "Assessment of GRSG Population and Habitat Conditions" the following year.

MONITORING MANAGEMENT RESPONSES

The appropriate land management agency will work with the Statewide Technical Team to develop criteria that will be used to evaluate whether a lek (populations only), lek cluster, and/or BSU (populations only) that reached a trigger has recovered sufficiently or is trending in a positive direction. Longevity of a management response should be appropriate and apply to the type of management action being implemented.

The process for evaluating population and habitat management responses may include, but is not limited to: identification of upward population trends, based on an annual analysis of the GRSG state-spaced model; response of vegetation community and habitat following fire or other disturbance (including habitat trending towards desired conditions); and evaluation of habitat or population response based on an adaptive management process to determine what management actions are successful, what actions are unlikely to be successful and should be discontinued, what objectives should be modified to better reflect an achievable goal, and what actions should be changed to achieve the desired outcome. Habitat triggers that had insufficient funds and resources available to implement projects will remain on the habitat trigger list and could be re-prioritized in the next annual evaluation by the Statewide Technical Team. The Statewide Technical Team will also review the trigger list annually and determine whether a habitat trigger remains on the list or should be removed; if inadequate funding or other resources are continually not available to implement appropriate management responses for habitat triggers, the SEC will support efforts to request additional resources.

APPENDIX E - UTAH

Table E-1. Utah - Seasonal habitat desired conditions for greater sage-grouse at the landscape scale.

ATTRIBUTE	INDICATORS	DESIRED CONDITION
Breeding and Nesting[1,2,3,4] (March 1 to June 15) Apply 3 miles from active leks[16]		
Lek Security	Proximity to conifers	Conifers are absent or uncommon on shrub/grassland ecological sites within 1.8 miles (approx. 3 kilometers) of occupied leks. [6,7,8]
	Proximity of sagebrush to leks	Adjacent protective sagebrush cover within 328 feet of a lek.[6]
Cover	% of seasonal habitat meeting desired conditions[8]	>80% of the mapped breeding and nesting habitat meets the recommended vegetation characteristics.
	Sagebrush canopy cover[6,8,9]	Low elevation: ≥ 7% High elevation: ≥ 17%
	Total shrub cover[6,7,8,9]	Low elevation: ≥ 17% High elevation: ≥ 22%
	Sagebrush Composition[9]	Low elevation: ≥ 36% High elevation: ≥ 83%
	Shrub height[6,8,9]	Low elevation: ≥ 5.5 inches High elevation: ≥ 12 inches
	Predominant sagebrush shape[6]	>50% in spreading[11b]
	Perennial grass canopy cover[6, 8, 9]	Low elevation: ≥ 4% High elevation: ≥ 8%
	Perennial grass heigth[6,7,8,]	Provide overhead and lateral concealment from predators[8, 13] Defer to local data whenever possible to help determine proper height.
	Perennial forb canopy cover[6,8,9]	Low elevation: ≥ 2% High elevation: ≥ 4%
Brood-Rearing/Summer (June 16 to October 31)[1]		
Cover	% of Seasonal habitat meeting desired condition	>40% of the mapped brood-rearing/summer habitat meets recommended habitat characteristics where appropriate. (Relative to site potential, etc.).[8]
	Sagebrush canopy cover[6,8,9]	Low elevation: ≥ 4% High elevation: ≥ 17%
	Total shrub cover[6,8,9]	Low elevation: ≥ 10% High elevation: ≥ 19%
	Sagebrush Composition[9]	Low elevation: ≥ 7% High elevation: ≥ 77%
	Shrub height[6,8,9]	Low elevation: ≥ 5.5 inches High elevation: ≥ 12 inches

	Perennial grass cover[9]	Low elevation: ≥ 5% High elevation: ≥ 8%
	Perennial forb cover[9]	Low elevation: ≥ 2% High elevation: ≥ 6%
	Riparian areas/mesic meadows	Proper Functioning Condition[14]
	Upland and riparian perennial forb availability	Preferred forbs are common with several preferred species present[6, 12]
Winter (November 1 to February 28)[1]		
Cover and Food	% of seasonal habitat meeting desired conditions	>80% of the mapped wintering habitat meets winter habitat characteristics where appropriate (relative to site potential, etc.).[6,8,9]
	Sagebrush canopy cover above snow[6,8,14]	>10%
	Sagebrush height above snow[6, 7,8,]	Low elevation: ≥ 5.5 inches High elevation: ≥ 8.7 inches

Table E-1. Footnotes

[1] Seasonal can be adjusted; that is, start and end dates may be shifted either earlier or later, but the local unit cannot lengthen or shorten the number of days.
[2] Utah Greater Sage-Grouse Working Group 2013.
[3] Doherty, K. 2008. *Sage-grouse and Energy Development: Integrating Science with Conservation Planning to Reduce Impacts*. University of Montana. Missoula, MT.
[4] Doherty et al. 2010. Greater Sage-Grouse Nesting Habitat: The Importance of Managing at Multiple Scales. Journal of Wildlife Management 74:1544-155.
[5] Holloran and Anderson. 2005. *Spatial Distribution of Greater Sage-grouse nests in relatively contiguous sagebrush habitats*. Condor 107:742-752.
[6] S. J. Stiver et al. 2015. Sage-Grouse Habitat Assessment Framework: A Multiscale Assessment Tool. Technical Reference 6710-1. BLM and Western Association of Fish and Wildlife Agencies, Denver, Colorado.
[7] S. Baruch-Mordo et al. 2013. *Saving sage-grouse from trees*: A proactive solution to reducing a key threat to a candidate species. Biological Conservation 167: 233-241.
[8] J. Connelly et al. 2000. Guidelines to manage sage-grouse populations and its habitat. Wildlife Society Bulletin 28 (4): 967-985.
[9] D. Dahlgren et al. (In Review). An empirical approach to refining greater sage-grouse (Centrocercus urophasianus) breeding habitat guidelines. Ecosphere.
[11] S. J. Stiver et al. 2015[b] Sagebrush plants with a spreading shape provide more protective cover than sagebrush plants that are more tree or columnar shaped. Specific height requirements needed to meet the objective will be set at the time of watershed assessments.
[12] Preferred forbs are listed in table 3-2 (Stiver et al. 2015). Overall total forb cover may be greater than that of preferred forb cover since not all forb species are listed as preferred.
[13] Phenology largely explains taller grass at successful nests in greater sage-grouse. J.T. Smith et al. 2018
[14] The height of sagebrush remaining above the snow depends upon snow depth in a particular year. Intent is to manage for tall, healthy sagebrush stand.
[15] J. Connelly, J., K. Reese, and M. Schroeder. 2003. *Monitoring of Greater sage-grouse habitats and populations*. Station Bulletin 80, Contribution 979. University of Idaho, College of Natural Resources Experiment Station. Moscow, ID.

[16] Conservation Buffer Distance Estimates for Greater Sage-Grouse—A Review Daniel J. Manier et al. 2014 LIT addition
Joseph T. Smith, Jason D. Tack, Kevin E. Doherty, Brady W. Allred, Jeremy D. Maestas, Lorelle I. Berkeley, Seth J. Dettenmaier, Terry A. Messmer, David E. Naugle. (2018) Phenology largely explains taller grass at successful nests in greater sage-grouse. *Ecology and Evolution* **8**:1, 356-364. Online publication date: 28-Nov-2017.

Definition of Low elevation and High Elevation

Low elevation areas in the state, comprised primarily of Wyoming big sagebrush communities, with some basin big sagebrush included. (Previously the Arid precipitation zone)

High elevation covers mid to high elevation areas comprised primarily of basin (mid-elevation) and mountain big sagebrush (high-elevation), as well as other mesic and higher elevation vegetation communities. (Previously the Mesic precipitation zone)

Vegetation within the Parker Mountain area in south central Utah is dominated by black sagebrush communities. Parker Mountain was included in the ranges discussed above.

Table E-2. Utah - Treatment acres per decade.[1]

	ACRES		
FOREST	**MECHANICAL[2]**	**PRESCRIBED FIRE[3]**	**GRASS RESTORATION[4]**
Ashley	10,000	0	2,000
Dixie	13,000	1,000	7,000
Fishlake	7,000	0	1,000
Manti-La Sal	3,000	0	4,000
Uinta-Wasatch-Cache	9,000	0	0

1These are estimates of treatments required to achieve and/or maintain desired habitat conditions over a period of 10 years. There are many dynamic and highly variable disturbances that may happen over that period of time that could have a significant effect on the amount, type, and timing of treatment needed. Those disturbances are factored into the 10-year simulation using stochastic, not deterministic, techniques. Probabilities of events such as large wildfires are used in the model to make the simulation as realistic as possible, given empirical data about such events in the past, but the results of the simulation cannot be used to predict the future occurrence of such events, including their timing, size, or location, which are essentially random.

2Removal of conifers that have invaded sagebrush including phase 1 juniper that is 10% or less and reducing sagebrush cover in areas over 30% canopy cover

3Acres are those that are greater than 30% sagebrush canopy cover and/or invaded by 10% or greater conifer.

4Acres presently dominated by annual grasses that could be improved by herbicide application and seeding of perennial vegetation[4] acres presently dominated by annual grasses that could be improved by herbicide application and seeding of perennial vegetation.

UTAH MITIGATION STRATEGY

General

The Forest Service will require mitigation that provides a no net loss to the greater sage-grouse (GRSG) when undertaking Forest Service management actions, and consistent with valid existing rights and applicable law, in authorizing third party actions that result in GRSG habitat loss and degradation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions. Mitigation will follow the regulations from the White House Council on Environmental Quality (CEQ) (40 CFR 1508.20) and the steps of avoid, minimize, and compensate, hereafter referred to as the mitigation hierarchy. If impacts from Forest Service management actions and authorized third party actions, which result in habitat loss and degradation, remain after applying avoidance and minimization measures (i.e., residual impacts), then compensatory mitigation will be used to provide a no net loss to the GRSG. Mitigation actions should account for any uncertainty associated with the effectiveness of such mitigation. Any compensatory mitigation will be durable, timely, and in addition to that which would have resulted without the compensatory mitigation

The Forest Service will participate with the BLM and States to establish a State specific Mitigation Strategy. Within Utah, the Forest Service will use a third party, such as the Utah Compensatory Mitigation Program to evaluate compensatory mitigation debits and credits. The Strategy will inform the National Environmental Policy Act (NEPA) decision making process, including application of the mitigation hierarchy for Forest Service management actions and third party actions that result in habitat loss and degradation. The application of a robust and transparent Strategy will contribute to GRSG habitat conservation by reducing, eliminating, or minimizing threats and compensating for residual impacts to the GRSG and its habitat.

Forest Service mitigation policy and CEQ regulations will serve as a framework for developing and implementing the Strategy. The Strategy should be developed in a transparent manner and must be based on the best science available and standardized metrics.

UTAH ADAPTIVE MANAGEMENT

Introduction

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

In relation to the Bureau of Land Management (BLM) and US Forest Service (Forest Service) National Greater Sage-Grouse Planning Strategy, adaptive management provides additional certainty for effectiveness of conservation when implemented in concert with the Greater Sage-Grouse conservation measures presented in the plan amendments. This adaptive management strategy is incorporated along with the conservation measures in the plan to ameliorate threats to Greater Sage-Grouse, thereby increasing the likelihood that the combined conservation measures are effective in reducing threats to that species.

The Forest Service will adjust management actions through an adaptive management process defined in Forest Plan standards identified in the Utah LMP amendments. This appendix describes the management approach to implement these standards. The adaptive management strategy described in this appendix consists of the following elements: 1. Scale at which the Forest Service will monitor and apply adaptive management triggers in Utah; 2. Soft and hard triggers for habitat and population thresholds; and 3. Responses or actions to be taken if a trigger is met.

Adaptive management provides an additional framework for assessing the effectiveness of conservation measures implemented in the ROD. The conservation measures, along with adaptive management, are incorporated in the LMP amendment to ameliorate threats to GRSG, thereby increasing the likelihood that the conservation measures are effective in reducing threats to GRSG and its habitat.

The adaptive management strategy includes soft and hard triggers and responses. The triggers are not specific to any particular project, but identify habitat and population thresholds outside of natural fluctuations or variations. Triggers are based on the two key metrics that are being monitored; habitat loss and/or population declines. Adaptive management, with specific triggers, provide additional certainty that the regulatory mechanisms included in the LMP amendments are robust and able to respond to a variety of conditions and circumstances quickly and effectively to conserve GRSG habitat. Tripping a soft or hard trigger will initiate a state-federal inter-agency dialogue to evaluate causal factors and recommend adjustments in management activities or additional potential implementation-level activities to reverse the trend. Any adjustment to management activities or new management activities proposed as a result of tripping a soft or hard trigger will be developed with the participation of agency leadership and science experts.

Scale of Application and Monitoring

The overarching adaptive management includes identification of a two-tiered system of triggers (soft and hard) for both BSUs and their associated habitats. The BSU is a geographically/spatial area that contains the relevant habitats which are used by GRSG. In Utah, the BLM and FS have defined BSUs as the total PHMA area associated with a GRSG population area. These triggers are not specific to particular project areas, but rather to identified BSUs in the state. Triggers are based on the two key metrics that are typically monitored; population declines and habitat loss.

Triggers

This overarching adaptive management strategy includes the identification of a two-tiered system of triggers (soft and hard) for both Greater Sage-Grouse populations and habitat. These triggers are not specific to any particular project, but identify population and habitat thresholds which, if exceeded/tripped, would result in a change in how the Forest Service addresses management of Greater Sage-Grouse in that area. Triggers have been based on the two key metrics that are regularly monitored: population declines and habitat loss.

Soft triggers represent an intermediate threshold indicating that management changes are needed to address habitat or population losses before they become severe. They represent a "caution" signal that changes outside the normal range of variation may be occurring. If a soft-trigger is tripped, monitoring data would be evaluated and management would be implemented to stop further declines.

Hard triggers represent a threshold indicating that more direct and refined actions are quickly needed to stop a severe deviation from Greater Sage-Grouse conservation objectives set forth in the Forest Service plan. The intent of a soft-trigger is to identify changes in management at a point where further losses could be avoided; given this, there is no expectation of hitting a hard trigger. If unforeseen circumstances occur that trip either a population or habitat hard trigger, more restrictive management will be required.

The changes in management required after a trigger is tripped are included below in the "Management Response" section. The following sections present the adaptive management triggers, organized first by the metric being addressed (population or habitat) and then by the associated soft and hard triggers.

The Utah GRSG adaptive management strategy includes the identification of soft and hard triggers and a management approach for responding to those triggers. GRSG populations across the species' range may fluctuate cyclically. In Utah, the cycle appears to follow a 10-year pattern. The exact reasons for the cycle are not currently known. However, various aspects (i.e., vital rates) of the GRSGs life cycle have been linked by past research to changes in the environment, including habitat.

When evaluating population-based adaptive management triggers, this adaptive management strategy includes consideration of two aspects of population data to ensure that one set of data, if in error for any reason, would not unnecessarily trigger management changes. Population declines will be evaluated using the following two metrics:

- Population trends based on "trend leks," and
- Population growth as indicated by Lambda (λ) (as described below) from one year to the next for monitoring associated with all leks within a priority habitat management area (PHMA).

Trend leks are either leks that have been surveyed consistently in the last 20 years or leks that provide spatial representation within PHMA. Twenty years was chosen as the appropriate time period to identify trend leks with consideration of the cyclic nature of Greater Sage-Grouse populations, and to capture monitoring results during the period of time when lek counts were conducted more consistently, and when lek count protocol was more standardized. The Utah Greater Sage-Grouse lek counts appear to have been in a low oscillation in the mid-1990s and again in the last few years (2011). During this same time period, standard lek count protocol use was increasing. Criteria for the trend leks are below:

- Starting with 1996, a lek that had > 1 male counted within one of 5 years between 1994-1998,
- Lek counts have occurred on 80 percent of the years since 1994 (16 years), **AND**
- Lek counts on 50 percent of the years are > 1 (8 of 16), **OR**
- A lek provides spatial representation (in the case of small populations, all leks may be included).

Lambda (λ) is the population change from a given Year 1 to the following Year 2 by dividing the total PHMA males counted in Year 2 by the total males counted in Year 1. If the result equals one (1), there was no change in the population level. A lambda that exceeds one (> 1) means the population is growing. A lambda that is less than one (< 1) indicates a declining population. To generate a consistent and comparable number, lambda can only be calculated on leks that are counted in consecutive years. This is to ensure that the increase in number of leks does not skew population data. This way, lambda can only be calculated for a lek if it is counted in 2 consecutive years.

Multiple population triggers were established to account for different potential population trends for which management and monitoring should respond. This includes triggers to address rapid short-term declines in a population, as well as persistent long-term decreases of both trend leks or all monitored leks (using lambda - λ).

Population Triggers

Soft Population Triggers

A population soft trigger would be met in PHMA if any one of 1a, 1b, 1c, or 1d are met, AND number 2 is also met:

1a. 4 consecutive years of 10% or greater annual decline in average males per lek in each year, based on trend leks; OR

1b. 6 consecutive years of declining average males per lek in each year, based on trend leks; OR

1c. 40% or greater decline in average males per lek in any single year, based on trend leks; OR

1d. 50% or greater decline in average males per lek in a 4 consecutive years, based on trend leks; AND

2. Lambda of less than 1 in 4 consecutive years, based on all leks in the PHMA. Using criteria 1c, the 40% decline in a single year may occur at any point of the 4-year lambda monitoring window (year one, two, three, or four).

For PHMA in the Ibapah and Hamlin Valley population areas, if a GRSG population adaptive management trigger (hard or soft) from the Nevada LMP amendment is met on GRSG habitat in Nevada that is adjacent to the Ibapah or Hamlin Valley PHMA, a soft trigger would be met for the Utah areas, regardless of whether the above criteria have been met.

The management to be applied if the soft trigger criteria are met is identified below under the Management Response section. The intent of the population soft trigger is to identify changes to population trends and adjust management before a hard trigger is met.

Hard Population Triggers

A population hard trigger would be met in PHMA if any one of the following criteria (a-d) is identified through monitoring:

Short-term Decline

a. Four consecutive years of 20% or greater annual decline in average males per lek in each year, based on trend leks; OR

b. Average males per lek based on trend leks drops 75% below the 10-year rollingaverage males per lek in any single year (i.e., a decline under 75% of the 10-year rolling average); OR

Long-term Decline

a. Lambda of less than 1 in 6 consecutive years, based on all leks within the PHMA; OR

b. Lambda of less than 1 in 8 years of a 10-year window, based on all leks within the PHMA.

The management to be applied if the hard trigger criteria are met is identified below under the Management Response section. Any change in management would only apply to the PHMA where the trigger is met.

Habitat Triggers

The adaptive management approach also includes triggers based on Greater Sage-Grouse habitat. Habitat quality is addressed by adherence to the objectives contained in the plan amendment. The adaptive management triggers for habitat is based on the availability of habitat within PHMA, measured using a percent of habitat loss from a baseline of available Greater Sage-Grouse habitat at the signing of the final plan amendments.

Available habitat will be mapped within each PHMA using available information such as vegetation data from satellite imagery (e.g., reGAP, LANDFIRE), local monitoring, soils data, etc. As additional information is made available in the future it can be used to refine the baseline habitat areas that existed at the point the plan amendments are finalized (e.g., removing areas of high juniper density, cliffs, salt-desert scrublands). However, any such changes should reflect habitat as it occurred at the signing of the plan amendments and not reflect changes to habitat from that time. Changes from the baseline acreage could occur through either the addition of habitat (e.g., juniper reduction projects) or reduction of habitat (e.g., wildfire). In either case, the percentages identified in the triggers are generated by comparing the availability of habitat at a point in time to the acres of habitat available at the signing of the plan amendments.

For both soft and hard triggers, nesting areas will be delineated using lek buffers based on published peer-reviewed data, unless local nesting areas have been specifically mapped by BLM and Forest Service and UDWR biologists using telemetry or other methods with appropriate sampling across the population. Wintering areas will be identified using UDWR mapping, in coordination with BLM and Forest Service biologists.

Soft Habitat Triggers

The intent of the population soft trigger is to identify decreases in the availability of Greater Sage-Grouse habitat and adjust management before a hard trigger is met. A habitat soft trigger would be met in PHMA if one of the following criteria is identified through monitoring:

a. 10% loss of total GRSG habitat in PHMA; OR

b. 10% loss of habitat within nesting areas in PHMA; OR

c. 5% loss of habitat within Utah Division of Wildlife Resources mapped wintering areas in PHMA; OR

d. Any one fire burns 5% of total GRSG habitat in PHMA.

Hard Habitat Triggers

a. 20% loss of total GRSG habitat in PHMA; OR

b. 20% loss of habitat within nesting areas in PHMA; OR

c. 20% loss of habitat within Utah Division of Wildlife Resources mapped wintering areas in PHMA. Any Change in management would only apply to the PHMA where the trigger is tripped.

Responses to Triggers

Soft Trigger Responses

Upon an annual review of monitoring data, if it is apparent that soft trigger criteria have been met for an area (see Spatial Scale discussion below) the Forest Service and the BLM will determine if there is a specific cause or causes that are contributing to the decline. In completing this evaluation, the Forest Service and

the BLM will coordinate with GRSG biologists from multiple agencies including the USFWS, Natural Resources Conservation Service, and Utah Division of Wildlife Resources. Through this coordination, the BLM and the Forest Service will review available national, state-wide, and local data to determine if there is additional information that could identify the cause(s) of the declines. The Forest Service and the BLM will also coordinate with field office/district and state agency specialists and local GRSG working groups to identify additional information that could assist in identifying the cause/causes.

If it is determined that the decline is related to a natural population variation, no specific management actions would be required. However, if Forest Service and BLM management actions are determined to cause or contribute to the decline, the Forest Service and the BLM designated official would apply measures within their implementation-level discretion to mitigate the decline of populations and/or habitats to the area where the trigger has been met. These measures would apply more conservative or restrictive implementation conservation conditions, terms, or decisions within the agencies' discretion to mitigate the decline of populations and/or habitats. If identified, the management measures should address the specific causal factor(s) that resulted in the decline, with consideration of local knowledge and conditions.

Responses to soft triggers may require the adjustment of future project level/plan implementation activities in the short- or long-term, as consistent with the individual site- specific NEPA analyses. Soft trigger responses include terms, conditions, design features, BMPs, or site specific mitigation measures.

Hard Trigger Responses

Hard triggers represent a threshold indicating that immediate action is necessary to stop a severe deviation from GRSG conservation objectives as set forth in the Forest Service plans. As such, the Proposed LUPA/FEIS includes a hard-wired plan-level response; that is, it provides that, upon meeting a hard trigger, a more restrictive alternative or an appropriate component of a more restrictive alternative analyzed in the EIS will be implemented without further action by the Forest Service in the area where the trigger has been met.

The Forest Service will review available and pertinent data, in coordination with GRSG biologists from multiple agencies including UDWR, USFWS, and NRCS, to determine the causal factor(s) and implement a corrective strategy in the area where the trigger has been met. The corrective strategy could include the need to amend or revise the LMP to address the situation and modify management accordingly.

For BSUs that are directly connected to BSUs in adjacent states (i.e., Box Elder, Hamlin Valley, Uintah, and Rich), if a hard trigger is met on one of the connected BSUs outside the Utah sub-region, the applicable WAFWA Management Zone Greater Sage-Grouse Conservation Team will convene to determine the causal factor and propose project-level responses, as appropriate, and discuss further appropriate actions that could be applied. The team will also investigate the status of the hard triggers in other BSUs within the priority areas for conservation (i.e., key habitats identified by state sage-grouse conservation plans or through other sage-grouse conservation efforts) and will recommend the appropriate plan response. Adoption of any further actions at the plan level may require initiating a plan amendment process.

APPENDIX F - WYOMING

Table F-1. Seasonal habitat desired conditions for greater sage-grouse.

ATTRIBUTE	INDICATORS	DESIRED CONDITION
AREAS MANAGED FOR BREEDING AND NESTING[1,2,3] **(Seasonal Use Period from March 15 to June 30) Apply 5.3 miles from occupied leks.[4]**		
Lek Security	Proximity of trees[5]	Trees or other tall structures are absent to uncommon
	Proximity of sagebrush to leks[6]	Adjacent protective sagebrush cover within 328 feet of lek.[6]
Cover	Seasonal habitat extent[7] (Percent of seasonal habitat meeting desired conditions)	>80% of the breeding and nesting habitat.
	Sagebrush canopy cover[6,7,8]	15 to 25%.
	Sagebrush height[7] Arid sites[7,9] Mesic sites[7,10]	4 to 32 inches in black sage and 12 to 32 inches in all other areas. All Wyoming National Forests and National Grasslands: 16 to 32 inches.
	Predominant sagebrush shape[6]	>50% in spreading.[11]
	Perennial grass canopy cover[6, 7] Arid sites[6,7,9] Mesic sites[6,7,10]	 ≥10%. ≥15%.
	Perennial grass height[6,7,8]	Provide overhead and lateral concealment from predators.[6,15]
	Perennial forb canopy cover[6,7,8] Arid sites[9] Mesic sites[10]	 ≥5%.[6,7] ≥10%.[6,7]
AREAS MANAGED FOR BROOD-REARING/SUMMER[1] **(Seasonal Use Period from July 1-to November 30)**		
Cover	Seasonal habitat extent[7] (Percent of seasonal habitat meeting desired conditions)	>40% of the brood-rearing/summer habitat.
	Sagebrush canopy cover[6,7,8]	10 to 25%
	Sagebrush height[7,8]	4 to 32 inches in black sage and 12 to 32 inches in all other areas.
	Perennial grass canopy cover and forbs[7,8]	>15%
	Riparian areas/mesic meadows	Proper functioning condition.[12]
	Upland and riparian perennial forb availability[6,7]	Preferred forbs are common with several preferred species present.[13]
	Sagebrush cover adjacent to riparian areas/mesic meadows[6]	Within 328 feet

ATTRIBUTE	INDICATORS	DESIRED CONDITION
WINTER[1] (Seasonal Use Period from December 1 to March 14)		
Cover and Food	Seasonal habitat extent[6,7,8] (Percent of seasonal habitat meeting desired conditions)	>80% of the winter habitat.
	Sagebrush canopy cover above snow[6,7,8]	>10%.
	Sagebrush height above snow[6,7,8]	>10 inches.[14]

[1]Seasonal dates can be adjusted; that is, start and end dates may be shifted either earlier or later, but the local unit cannot shorten or lengthen the amount of days.

[2] Doherty, K. 2008. *Sage-grouse and Energy Development: Integrating Science with Conservation Planning to Reduce Impacts*. University of Montana. Missoula, MT.

[3] Holloran and Anderson. 2005. *Spatial Distribution of Greater Sage-grouse nests in relatively contiguous sagebrush habitats*. Condor 107:742-752.

[4] Buffer distance may be changed only if 3 out of 5 years if peer-reviewed and published telemetry studies indicate the 5.3 miles is not appropriate.

[5] Baruch-Mordo, S., J.S. Evans, J.P Severson, D.E. Naugle, J. D. Maestas, J.M. Kiesecker, M.J. Falkowski, C.A. Hagen, and K.P. Reese. 2013. *Saving sage-grouse from trees*: A proactive solution to reducing a key threat to a candidate species. Biological Conservation 167: 233- 241.

[6] 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. BLM and Western Association of Fish and Wildlife Agencies, Denver, Colorado.

[7] Connelly, J., M. A. Schroeder, A.R. Sands, and C.E. Braun. 2000. Guidelines to manage sage-grouse populations and their habitats. Wildlife Society Bulletin 28 (4): 967-985.

[8] Connelly, J., K. Reese, and M. Schroeder. 2003. *Monitoring of Greater sage-grouse habitats and populations*. Station Bulletin 80, Contribution 979. University of Idaho, College of Natural Resources Experiment Station. Moscow, ID.

[9] 10–12 inch precipitation zone; *Artemisia tridentata wyomingensis* is a common big sagebrush sub-species for this type site (Stiver et al. 2015).

[10] $\geq$12 inch precipitation zone; *Artemisia tridentata vaseyana* is a common big sagebrush sub-species for this type site (Stiver et al. 2015).

[11] Sagebrush plants with a spreading shape provide more protective cover than sagebrush plants that are more tree- or columnar shaped (Stiver et al. 2015).

[13] Existing LMP desired conditions for riparian areas/wet meadows (spring seeps) may be used in place of properly functioning conditions, if appropriate for meeting greater sage-grouse habitat requirements.

[13] Preferred forbs are listed in Table III-2 (Stiver et al. 2015). Overall total forb cover may be greater than that of preferred forb cover since not all forb species are listed as preferred in Table III-2.

[14] The height of sagebrush remaining above the snow depends upon snow depth in a particular year. Intent is to manage for tall, healthy sagebrush stands.

WYOMING MITIGATION STRATEGY

General

The Forest Service incorporates mitigation as an important element of greater sage-grouse plans. The approach follows the regulations from the White House Council on Environmental Quality (CEQ) (40 CFR 1508.20) and the steps of avoid, minimize, and compensate, known as the mitigation hierarchy.

In applicable management areas, if impacts from Forest Service management actions and authorized third party actions result in habitat degradation after applying avoidance and minimization measures (i.e., residual impacts), then compensatory mitigation will be used to provide no net habitat loss to greater sage-grouse habitat. When applying compensatory mitigation for activities that exceed timing, density, disturbance, distance or noise guidelines (GRSG-TDDD-MA-024-Management Approach), the agency shall consider the State of Wyoming Greater Sage-Grouse Compensatory Mitigation Framework (attached below) as the Management Approach to calculate credits and debits that adequately offset the effects of the proposed disturbance.

STATE OF WYOMING

REVISED GREATER SAGE-GROUSE – COMPENSATORY MITIGATION FRAMEWORK

SCOPE

Core Population Areas have been mapped to include additional habitat beyond that strictly necessary to prevent listing of Greater sage-grouse (GSG). The additional habitat included within the Core Population Area boundaries is adequate to accommodate continuation of existing land uses and landowner activities. Development consistent with the stipulations set forth in Executive Order 2015-4 GSG Core Area Protection (EO 2015-4), Attachment B shall be deemed sufficient to demonstrate that the activity will avoid negative long-term impacts to GSG. If a project complies with the stipulations contained in EO 2015-4 for Greater sage-grouse conservation (for example, in Non-Core Population Areas: 0.25 mile No Surface Occupancy, timing limitations; and, for example, in Core Population Areas: 0.6 mile No Surface Occupancy, 5% surface disturbance threshold), no compensatory mitigation is required by the State of Wyoming because impacts to the species have been mitigated through actions of the project proponent. Any project that will require credits and debits and has a federal nexus will be coordinated with the federal agency that is involved with the permitting effort pursuant to the specific sections in the Approved Resource Management Plan Amendments and the Buffalo, Cody and Worland Resource Management Plan Revisions, which state:

"In undertaking management actions, and, consistent with valid existing rights and applicable law, in authorizing third-party actions that result in habitat loss and degradation in [Priority Habitat Management Areas], the [Bureau of Land Management (BLM)] will require and ensure mitigation that provides a net conservation gain to the species including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by avoiding, minimizing and compensating for impacts by applying beneficial mitigation actions. In Wyoming, the [U.S. Fish and Wildlife Service] has found that 'the core area strategy, if implemented by all landowners via regulatory mechanism, would provide adequate protection for sage-grouse and their habitats in the state.' The BLM will implement actions to achieve the goal of net conservation gain consistent with the Wyoming Strategy (EO 2015-4) that includes 'compensatory mitigation as a strategy that should be used when avoidance and minimization are inadequate to protect Core Population Area Greater sage-grouse.'"

The BLM has agreed to use this Mitigation Framework as stated in the Memorandum of Understanding with the State of Wyoming.

BACKGROUND

GSG are a landscape species, meaning that they occupy and use a variety of seasonal habitats (including some which may be considered marginal or less than ideal) in an interconnected manner. The Wyoming GSG conservation strategy outlined in EO 2015-4 addresses tolerances of the species to disturbance, disruption and loss of habitat. Any activity that requires a state permit and fails to comply with the stipulations of EO 2015-4 may be denied. Those activities requiring a state permit, but fail to comply with the stipulations of EO 2015-4 and are not denied will be required to provide compensatory mitigation for

impacts to GSG. Consistent with EO 2015-4, including Attachment H, the preferred method of resolution of conflicts will be avoidance and minimization, where possible.

Unlike historic banking for wetlands and some other habitats, the GSG compensatory mitigation process is grounded in available credits being part of a complete functional landscape and the availability and assurance of all seasonal habitats within that area. The connection between seasonal habitat needs and reduced disturbance and disruption for GSG remains imperfect; for instance, areas with lower quality habitat may still be important within landscapes. These areas may help provide connectivity between GSG seasonal habitats, and are often integral to the complete landscape function.

Ultimately, the goal of the State of Wyoming is to maintain intact sagebrush landscapes that will adequately provide a variety of habitat needs for GSG and other sagebrush obligate species. This goal includes the efforts of federal agencies as demonstrated by close coordination with the Approved Resource Management Plan Amendments (ARMPA) and Revisions to create a comprehensive and consistent regulatory mechanism.

Compensatory mitigation may be accomplished in two primary manners. The first are "conservation credits," which maintain existing habitats in a landscape context, provide for long- term management consistent with the needs of the species, and remove potential threats to the species from human activities. The second are "restoration credits," which may be used to restore habitats that have been lost or severely impacted and did not meet the habitat needs of the species. Full suitability of lost or severely impacted sites may take decades. However, to provide incentives to restore habitats impacted by historic activities, restoration credits will be given to sites that have improved from lost or severely impacted to a stable and functional condition that demonstrates a positive trend toward suitability (over a period of 5 years), and is currently occupied by GSG. Restoration credits must demonstrate the stability, functionality and occupation before any credits are awarded

Conservation credits are created by removing or limiting a threat to GSG or their habitat for the full duration of the impact or in perpetuity. Restoration credits are created by converting disturbed or low quality habitat to suitable GSG habitat. In some cases, both may occur on the same landscape and should be accounted for accordingly.

CONSERVATION CREDITS

All credits offered as compensatory mitigation for GSG must be evaluated on a landscape scale, and not as an "acre of habitat-for-an acre of habitat trade." A credit, whether through a bank, exchange or other mechanism represents a unit of a functional and intact landscape, and must have relativity to all of the essential habitats required by the species. Inherent in this requirement is the assimilation of indirect credits to the species that are not readily measured, but contribute to the fully functional landscapes. Simply put, an acre of nesting habitat is of no value to the species if it does not have proximity to breeding areas, brood-rearing areas, and winter habitats. Conversely, an acre with little actual use by GSG, but still meets the ecological potential for the site, such as a rocky crag, is part of the functional landscape and should not be regarded as diminished value. These sites within the overall landscape remove potential threats and provide protection from the placement of disruptive activities.

In order for a land parcel to be considered for GSG "conservation credits," it must be demonstrated that the lands in question meet the following biological requirements:

1. The geographic area designated for credits must have active use by GSG.
2. The geographic area designated for credits must include the habitat attributes identified as essential for perpetuation of GSG, consistent with the ecological potential for the landscape in question.
3. The geographic area designated for credits must be able to support GSG, or have reliable access to all seasonal habitats for the species (breeding and nesting, early brood- rearing, late brood-rearing, winter).
4. The geographic area designated for credits must have active breeding areas (leks) within the landscape (Generally, the credits should be located within 5.3 miles of an active lek. However, there may be circumstances that may be considered which would allow credits in unique circumstances).
5. The area must meet the GSG habitat suitability definition in EO 2015-4, as supplemented by Executive Order 2017-1.

Further, in order for a landscape to be considered for GSG credits, it must meet the following disturbance tolerances for the species:

1. The area designated for credits must be consistent with the tolerances of EO 2015-4 (for example, surface disturbance < 5%, one oil and gas or mining activity per 640 acres on average for the modified Density/Disturbance (MDD) area, collector or arterial roads > 1.9 miles from the perimeter of a lek, no surface occupancy < 0.6 miles from the perimeter of a lek). MDD Areas that exceed 5%, but do not exceed 10% may be eligible for credits; however, the credit will be discounted by 10%. The discount may be removed from unused credit acreage if the disturbance is shown to fall below 5%.

Finally, in order for a landscape to be considered for GSG credits, it must be able to show that it can meet the following tests for durability and risk reduction:

1. The credits must persist for the duration of any offsetting impacts and associated activities or be permanent in nature. Credits that do not meet the durability requirements below will be discounted by 10%.
2. The credits must be adequately secured by reserve accounts additional acreage or by adequate financial assurances to replace any loss of the original credits.

Requirements for conservation credit eligibility are outlined in Table 1.

Table 1 - Requirements for conservation credit eligibility.

Category	Credit Condition	Credit Requirements
Occupancy	Mandatory	The credit is occupied by GSG.
Disturbance	Mandatory	Disturbance within the area to be considered for credits must be below 10% and 1 per 640 as measured by a modified Density Disturbance Calculation Tool (DDCT) process.
Disturbance	Potential Credit Adjustment	Disturbance within the area to be considered for credits is below 5% and 1 per 640 as measured by a modified Density Disturbance Calculation Tool (DDCT) process. • If disturbance is between 5.01% and 9.99% as measured by the DDCT Process, the credit will be discounted by 10%.
Durability	Mandatory	The credit exists for the life of the project impact.
Durability	Potential Credit Adjustment	The credit has permanent protection. For non-private lands, this would require a conservation credit lease term of not less than fifty (50) years, with a renewal option at the end of the term. • On private land, credits that do not have permanent protection, but are fifty (50) years or greater with a renewal option at the end of the term, will be discounted by 10% per acre.
Financial Assurances/ Replacement	Mandatory	Credits include the financial assurances or replacement credits, as appropriate, to guarantee the implementation and effectiveness of compensatory mitigation measures and to cover their administration, durability, monitoring, and reporting.
Habitat Suitability	Mandatory	Habitat suitability must be functional for GSG as verified by an ecological site potential assessment and habitat assessment through the Habitat Assessment Framework (HAF), EO 2015-4 suitability definition (as supplemented by EO 2017-1), or other suitable habitat analysis.
Habitat Suitability	Mandatory	Habitat suitability is greater than 5% sagebrush cover or other EO 2015-4 suitability definition (as supplemented by EO 2017-1).
Additionality	Mandatory	Credits will not be allowed where habitat conservation is otherwise required by law, regulation, permit, or other condition.

Category	Credit Condition	Credit Requirement
Landscape Support	Potential Credit Adjustment	The area proposed for credit must be within a landscape that provides access to all seasonal habitats where potential threats have been ameliorated or removed. Private lands that meet these criteria would receive a landscape context credit increase not to exceed 15%. Any areas not adequately conserved will be discounted from the total increase. Any landscape credit adjustment must be approved by the credit- certifying entity and should be figured in a manner that reflects specific habitat values (for example, the number of leks, the lek population, enhanced credit value based on credit location in relation to protecting a lek, quality of habitat, removal of multiple threats).
Risk Reduction	Mandatory	The credit includes a description of: a. The outcomes of compensatory mitigation measures and the performance standards to be met for the duration of the credit life. Credit descriptions should include the types and amounts of resources that will be restored, established, enhanced, and/or preserved, and how these outcomes will address species' conservation needs at the landscape scale. b. The baseline condition prior to disturbance and future disturbance threats affecting the compensatory mitigation credits (for example, are there 4 seasonal habitats located within 4 miles, what are the existing thresholds, what is the potential for future development?). c. The durability (for example, offset for life of disturbance) of the compensatory mitigation measures and how the credit sites will be maintained. d. The monitoring and reporting program that will be used to report credit conditions and trends of resources at all relevant scales, to assess the effectiveness of compensatory mitigation measures, and to identify any need for adaptive management. e. The triggers for adapting management, if necessary, in order to achieve the outcomes of the compensatory mitigation measures. f. The implementation plan for the enhancement, restoration or funding of compensatory mitigation measure(s) that includes: 1. Specifications for implementing the compensatory mitigation measures (for example, timing, method, source materials, specific geographic area). 2. The schedule and plan to maintain compensatory mitigation measures for the duration of the impacts. g. The accounting process for tracking measures/funds/credits.

RESTORATION CREDITS

Compensatory mitigation may be achieved through actions that improve or restore existing landscapes, or areas within landscapes, from a condition that does not currently support GSG, or does not meet the needs of species reflected through HAF assessments, or other defensible habitat assessments, which are consistent with the ecological potential for the site. Restoration credits would only be achieved when the proponent can show that site conditions have been changed from an "unsuitable" condition to a condition that is stable, functional, occupied and trending towards the normal range of variability of appropriate ESDs, as defined by EO 2015-4, Attachment F, and where GSG occupy the site. Credits will be awarded when a disturbed site conforms to the appropriate Ecological Site Description (ESD) and is maintained in a stable state and trend toward optimal GSG habitat for a period of five (5) years. A restoration credit must also meet all the Categories in Table 1 except for the Habitat Suitability category. Improvement will be measured as a functional change in the landscape, and generally will be in the form of credit generation as outlined above. Proponents will be required to annually submit data to show that the credit is not regressing. Restoration credits must adhere to the quality parameters outlined for conservation credits. Any action that is required by law, permitting and reclamation agreements, contracts, or other requirements is not eligible for conservation credits.

DEBITS FOR IMPACTS TO GREATER SAGE-GROUSE

The primary emphasis of the Wyoming GSG conservation strategy is to avoid and minimize impacts to the species first. Since the inception of Wyoming's strategy, those efforts have been employed across the state, and have been effective in avoiding and reducing impacts and threats to the species. However, there are cases when avoidance and minimization still do not meet the EO 2015-4 thresholds, primarily due to pre-existing disturbance. In those cases, where projects cannot be denied due to valid rights, and where avoidance and minimization does not adequately address impacts to GSG, compensatory mitigation may be an appropriate method to assure maintenance and enhancement of the species and its required habitats.

The Wyoming Mitigation Framework is based upon biological, legal and policy requirements for mitigation, including the debit and/or credit principles of replacement, landscape support and vulnerability, durability of mitigation measures, indirect effects from activities, additionality, and timeliness as described in many of the new federal and state mitigation policies. Table 1 contains an outline of the credit parameters. The concepts of replacement, indirect effects, habitat assurance and habitat vulnerability are considered in debit requirements for activities in Core Population Areas, as described below and shown in Table 2.

1. **Replacement**: Replacement is a physical and biological metric that will replace an impacted acre with an equal or greater amount of habitat where threats have been removed or abated. Replacement is calculated on an acre-to-acre basis (based on the footprint of the activity), and is a factor of one-to-one.

2. **Indirect Effects**: Indirect effects are those impacts arising out of an action that extend beyond the actual footprint of the action itself. This includes factors that may cause avoidance or abandonment of habitats not directly impacted. Indirect effects have been calculated through various means over time, and are generally greater in closer proximity to the activity, with a declining effect with distance. Based on the footprint of the activity,

indirect effects will be assigned a factor of two-to-one for all actions.

3. **Habitat Assurance:** Potential losses to habitat, populations, or both, must be adequately offset by a greater security of habitats and populations where threats have been removed or abated. Because GSG require large intact landscapes, show great fidelity to habitat, and do not respond well to blind transplants, it is necessary to assure that compensatory mitigation is robust and adequate to reliably remove threats to the species. Based upon the policy of the State of Wyoming, habitat assurance will be assigned (on an acre-to-acre basis) a factor of two-to-one for all actions.

4. **Habitat Vulnerability**: Actions that occur in highly vulnerable or limiting habitat types (for example, wet meadows, high-quality nesting habitat, lands that provide severe winter relief, and other vulnerable habitats identified and confirmed within the DDCT area) will likely be impossible to replace. These areas should be avoided. Where avoidance is not possible, additional debits would be assigned to these habitats on an acre-to-acre basis with a factor of five-to-one.

Other considerations relative to debits, including durability, additionality, timeliness and other factors are adequately addressed in the calculation of credits and should not be applied to both debits and credits. For instance, a credit must show durability for the life of the impact, and thus is reduced appropriately to meet that standard. Specific to the concern of additionality, that determination is not a calculation, but a requirement that the credit not be given for an action that would be otherwise required.

In order to assure the perpetuation of the species, any action that meets the need for compensatory mitigation in Core Population Areas debits will be assessed based upon the criteria and the threshold exceeded. Table 2 below identifies how the replacement, indirect effect, habitat assurance and habitat vulnerability debit factors are calculated for activities in Core Population Areas.

Table 2 - Debit requirements for activities in Core Population Areas.

Activity in Core Population Areas	Debits
New disturbance in compliance with EO 2015-4 thresholds	0 debits
New disturbance exceeding the 5% disturbance threshold and occurring more than 0.6 miles from an occupied lek	5 debits per acre
Any new disturbance within 0.6 miles from an occupied lek and new collector or arterial roads within 1.9 miles from an occupied lek	10 debits per acre
Greater than 1 activity per 640 acres	10 debits total per activity
Short-term impact (seasonal stipulation relief)	10 debits per activity, per year
Habitat vulnerability (discretionary)	Potential 5 debits per acre of vulnerable habitat

SHORT-TERM IMPACTS

Short-term impacts that require compensatory mitigation (for example, activities during seasonal stipulations or other actions that require less than one year occupancy) will be assessed by the event and not on a per-acre basis. Short-term impacts will be assessed ten (10) debits per activity, per year.[7]

[7] Project proponents should be aware that the BLM has an exception waiver modification criteria process that may be applied to projects on BLM land.

WYOMING COMPENSATORY MITIGATION IN NON-CORE POPULATION AREAS

For surface occupancy within (<) 0.25 miles from an occupied lek, compensatory mitigation will be calculated on an acre-to-acre basis (based on the footprint of the activity in suitable habitat within the 0.25 mile buffer) with a factor of 2:1.

The compensatory mitigation requirement for short-term impacts applies to Non-Core Population Areas. It is the policy of EO 2015-4 to incentivize developments of all types outside of Core Population Areas, including through stipulation waivers and other incentives.

Table 3 - Debit requirements for activities in Non-Core Population Areas.

Activity in Non-Core Population Areas	Debits
New disturbance in compliance with EO 2015-4 thresholds	0 debits
Within 0.25 miles from an occupied lek	2 debits per acre of suitable habitat
Short-term impact (seasonal stipulation relief)	10 debits per activity, per year

APPENDIX G - MANAGEMENT APPROACH FOR MINERALS: STIPULATIONS

MANAGEMENT APPROACH FOR MINERALS: STIPULATIONS

The stipulations developed for this appendix have been developed as management strategies for when standards and guidelines call for specific restrictions on minerals activities. They have been organized geographically and by plan component for ease of reference.

Summary of Forest Plan Component Reference and Applicable Stipulation

Multiple States

Stipulation	Component
A	GRSG-M-FMUL-ST-071 (CO)
B	GRSG-M-FMUL-ST-085 (NV)
C	GRSG-M-FMUL-ST-068 (UT)
D	GRSG-M-FMUL-ST-067 (ID)
E	GRSG-GEN-GL-008 (CO, ID); GRSG-GEN-GL-011 (NV); GRSG-GEN-GL-007 (UT)
F	GRSG-GEN-GL-013 (NV)
G	GRSG-GEN-GL-010 (NW CO); GRSG-GEN-GL-008 (UT)
H	GRSG-GEN-GL-009 (ID)
I	GRSG-GEN-ST-007 (NW CO, ID); GRSG-GEN-ST-010 (NV); GRSG-GEN-ST-006 (UT); GRSG-TDDD-GL-021 (WY)

Wyoming

Stipulation	Component
WY1	GRSG-TDDD-ST-014
WY2	GRSG-TDDD-GL-015
WY3	GRSG-TDDD-GL-016
WY4	GRSG-TDDD-GL-017
WY5	GRSG-TDDD-GL-018
WY6	GRSG-TDDD-GL-019
WY7	GRSG-TDDD-GL-020
WY8	GRSG-TDDD-GL-025

STIPULATION A: NO SURFACE OCCUPANCY STIPULATION

Greater Sage-Grouse in Priority Habitat Management Areas
GRSG-M-FMUL-ST-071 (CO)

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GRSG) habitat.

Exceptions: An exception could be granted by the authorized officer if:

- there would be no direct, indirect, or cumulative effects to the GRSG or its habitat; or
- granting the exception provides an alternative to a similar action occurring on a nearby parcel; and
- the exception provides not net loss to the GRSG; and
- When an exception is considered, all existing discrete anthropogenic disturbances must cover less than 3% of the total GRSG habitat within the applicable Biologically Significant Unit and the proposed project area, regardless of ownership, and the new use will not cause exceedance of the 3% cap; or where the disturbance would exceed 3% of the Biologically Significant Unit and proposed project area, and the disturbance is approved by the Forest Supervisor with concurrence from the Regional Forester after review of new or site-specific information that indicates the project would result in no net habitat loss at the Biologically Significant Unit and proposed project area scale;
- In NW CO only: when an exception is considered, the density of activities related to oil and gas development or mining activities are limited to no more than an average of one energy or mining facility per 640 acres in a proposed project area.

Modifications: None.

Waiver: None.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATION B: NO SURFACE OCCUPANCY STIPULATION
Greater Sage-Grouse in Priority Habitat Management Areas
GRSG-M-FMUL-ST-085 (NV)

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GRSG) habitat.

Exceptions: An exception could be granted by the authorized officer if one of the following applies:

- The location of the proposed authorization is determined to be unsuitable (by a qualified biologist with Greater Sage-Grouse experience); lacks the ecological potential to become marginal or suitable habitat; and would not result in direct, indirect, or cumulative impacts on greater sage-grouse and its habitat.
- Impacts from the proposed action could be offset through use of the mitigation hierarchy (avoid, minimize, mitigate) to achieve a net conservation gain and demonstrate that the individual and cumulative impacts of the project would not result in habitat fragmentation or other impacts that would cause greater sage-grouse populations to decline.

Modifications: None.

Waiver: None.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATION C: NO SURFACE OCCUPANCY STIPULATION
Greater Sage-Grouse in Priority Habitat Management Areas
GRSG-M-FMUL-ST-068 (UT)

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GRSG) habitat.

Exceptions: An exception could be granted by the authorized officer if:

- There would be no direct, indirect, or cumulative effects to the greater sage-grouse or its habitat; or
- Impacts could be fully offset through mitigation; and
- The exception will include appropriate controlled surface use and timing limitation stipulations

Modifications: None.

Waiver: None.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATION D: NO SURFACE OCCUPANCY STIPULATION

Greater Sage-Grouse in Priority & Important Habitat Management Areas

GRSG-M-FMUL-ST-067 (ID)

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GRSG) habitat.

Exceptions: An exception could be granted by the authorized officer if:

- The population trend for the Greater Sage-Grouse within the associated Conservation Area is stable or increasing over a three-year period and the population levels are not currently engaging the adaptive management triggers (this applies strictly to new authorizations; renewals and amendments of existing authorizations will not be subject to this criteria when it can be shown that long-term impacts from those renewals or amendments will be substantially the same as the existing development);
- The development with associated mitigation will not result in a net loss of Greater Sage-Grouse key habitat or of the respective PHMA;
- There would be no direct, indirect, or cumulative effects to the GRSG or its habitat;
- Impacts could be fully offset through mitigation; or
- Granting the exception provides an alternative to a similar action occurring on a nearby parcel; and
- The development cannot be reasonably accomplished outside of the PHMA; or can be either: 1) developed pursuant to a valid existing authorization; or 2) is co-located within the footprint of existing infrastructure (proposed actions will not increase the 211 authorized footprint and associated impacts more than 50 percent, depending on industry practice) and will include appropriate controlled surface use and timing limitation stipulations;
- The project will not exceed the disturbance cap;
- Will be reviewed by the Technical and Policy Teams.

Modifications: None.

Waiver: None.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATION E: TIMING LIMITATION STIPULATION
Greater Sage-Grouse Breeding & Nesting Habitats
GRSG-GEN-GL-008 (CO, ID); GRSG-GEN-GL-011 (NV); GRSG-GEN-GL-007 (UT)

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

March 1 to June 15 (NW CO, ID, UT)
Breeding and nesting seasonal use periods, generally March 1 to June 30 (NV)

On the lands described below:

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-grouse (GRSG) and its habitat from surface disturbing and disruptive activities during breeding and nesting.

Exceptions: The authorized officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, will not affect reproductive displays, nest attendance, egg or chick survival, or early brood-rearing success. Actions designed to enhance the long-term utility or availability of suitable GRSG habitat may be exempted from this timing limitation. The FS can and does grant exceptions to seasonal restrictions if the FS, in coordination with the state agency, determines that granting an exception would not adversely impact the population being protected.

Modifications: The authorized officer may modify the size and shape of the area or the criteria if an environmental record of review indicates the actual habitat suitability for seasonal GRSG activities is greater or less than the stipulated area, or it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for the seasonal habitat, life-history, or behavioral needs of the GRSG, including (but not limited to) reproductive display, daytime loafing/staging activities, and nesting.

Waiver: This stipulation may be waived over the entire lease if, in coordination with the state agency, it is determined that the GRSG lek has been classified as unoccupied as determined by the state agency.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATION F: CONTROLLED SURFACE USE STIPULATION
Tall Structures near Greater Sage-Grouse Active or Pending Leks
GRSG-GEN-GL-013 (NV)

Surface occupancy or use is subject to the following special operating constraints.

Development of tall structures within 3.0 miles from active or pending leks, as determined by local conditions (e.g., vegetation or topography), with the potential to disrupt breeding or nesting by creating new perching/nesting opportunities for avian predators or by decreasing the use of an area, should be restricted within nesting habitat.

On the lands described below:
Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GSRG) and its habitat by limiting (not prohibiting) the placement of structures that introduce new perching and/or nesting opportunities for avian predators or by decreasing the use of an area.

Exceptions: The authorized officer may approve actions that are within the applicable lek buffer distance identified above only if:

- it is not possible to relocate the project outside of the applicable lek buffer distance(s) identified above; and
- the FS determines that a lek buffer-distance other than the applicable distance identified above offers the same or a greater level of protection to GRSG and its habitat, including conservation of seasonal habitat outside of the analyzed buffer area, based on best available science, landscape features, and other existing protections, (e.g., land use allocations, state regulations); or
- the FS determines that impacts to GRSG and its habitat are minimized such that the project will cause minor or no new disturbance (ex. co-location with existing authorizations).

Justifiable departures to decrease or increase from these distances, based on local data, best available science, landscape features, and other existing protections (e.g., land use allocations and state regulations) may be appropriate for determining activity impacts. All variations in lek buffer distances will require appropriate analysis and disclosure as part of activity authorization.

Modifications: A modification may be granted if the authorized officer determines through coordination with the state agency, that new habitat studies demonstrate a portion of the lease area affected by this stipulation no longer contains nesting habitat.

Waiver: A waiver may be granted if the authorized officer determines through coordination with the state agency, that new habitat studies demonstrate the entire lease area affected by this stipulation no longer contains nesting habitat.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STPULATON G: CONTROLLED SURFACE USE STIPULATION
Tall Structures near Greater Sage-Grouse Occupied Leks
GRSG-GEN-GL-010 (CO); GRSG-GEN-GL-008 (UT)

Surface occupancy or use is subject to the following special operating constraints.

Development of tall structures within 2.0 miles from the perimeter of occupied leks, as determined by local conditions (e.g., vegetation or topography), with the potential to disrupt breeding or nesting by creating new perching/nesting opportunities for avian predators or by decreasing the use of an area, should be restricted within nesting habitat.

On the lands described below:

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GSRG) and its habitat by limiting (not prohibiting) the placement of structures that introduce new perching and/or nesting opportunities for avian predators or by decreasing the use of an area.

Exceptions: The authorized officer may approve actions that are within the applicable lek buffer distance identified above only if:

- it is not possible to relocate the project outside of the applicable lek buffer distance(s) identified above; and
- the FS determines that a lek buffer-distance other than the applicable distance identified above offers the same or a greater level of protection to GRSG and its habitat, including conservation of seasonal habitat outside of the analyzed buffer area, based on best available science, landscape features, and other existing protections, (e.g., land use allocations, state regulations); or
- the FS determines that impacts to GRSG and its habitat are minimized such that the project will cause minor or no new disturbance (ex. co-location with existing authorizations).

Justifiable departures to decrease or increase from these distances, based on local data, best available science, landscape features, and other existing protections (e.g., land use allocations and state regulations) may be appropriate for determining activity impacts. All variations in lek buffer distances will require appropriate analysis and disclosure as part of activity authorization.

Modifications: A modification may be granted if the authorized officer determines through coordination with the state agency, that new habitat studies demonstrate a portion of the lease area affected by this stipulation no longer contains nesting habitat.

Waiver: A waiver may be granted if the authorized officer determines through coordination with the state agency, that new habitat studies demonstrate the entire lease area affected by this stipulation no longer contains nesting habitat.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATON H: CONTROLLED SURFACE USE STIPULATION
Tall Structures near Greater Sage-Grouse Occupied Leks
GRSG-GEN-GL-009 (ID)

Surface occupancy or use is subject to the following special operating constraints.

Development of tall structures within 2 miles in priority habitat management areas; 2 miles (communication/metrological), 1.2 miles (transmission lines) and 0.6 miles (distribution lines) in important habitat management areas; and 0.6 miles in general habitat management areas from the perimeter of occupied leks, as determined by local conditions (e.g., vegetation or topography), with the potential to disrupt breeding or nesting by creating new perching/nesting opportunities for avian predators or by decreasing the use of an area, should be restricted within nesting habitat.

On the lands described below:

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GSRG) and its habitat by limiting (not prohibiting) the placement of structures that introduce new perching and/or nesting opportunities for avian predators or by decreasing the use of an area.

Exceptions: The authorized officer may approve actions that are within the applicable lek buffer distance identified above only if:

- it is not possible to relocate the project outside of the applicable lek buffer distance(s) identified above; and
- the FS determines that a lek buffer-distance other than the applicable distance identified above offers the same or a greater level of protection to GRSG and its habitat, including conservation of seasonal habitat outside of the analyzed buffer area, based on best available science, landscape features, and other existing protections, (e.g., land use allocations, state regulations); or
- the FS determines that impacts to GRSG and its habitat are minimized such that the project will cause minor or no new disturbance (ex. co-location with existing authorizations).

Justifiable departures to decrease or increase from these distances, based on local data, best available science, landscape features, and other existing protections (e.g., land use allocations and state regulations) may be appropriate for determining activity impacts. All variations in lek buffer distances will require appropriate analysis and disclosure as part of activity authorization.

Modifications: A modification may be granted if the authorized officer determines through coordination with the state agency, that new habitat studies demonstrate a portion of the lease area affected by this stipulation no longer contains nesting habitat.

Waiver: A waiver may be granted if the authorized officer determines through coordination with the state agency, that new habitat studies demonstrate the entire lease area affected by this stipulation no longer contains nesting habitat.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATION I: TIMING LIMITATION STIPULATION
Greater Sage-Grouse – Noise Limitation
GRSG-GEN-ST-007 (CO, ID); GRSG-GEN-ST-010 (NV); GRSG-GEN-ST-006 (UT); GRSG-TDDD-GL-021 (WY)

Surface occupancy or use is subject to the following special operating constraints.

New surface disturbing and disruptive activities that create noise at 10dB above ambient measured at the perimeter of an occupied lek (active or pending lek - NV only) during lekking will not be authorized from _____ to _____ from ___ p.m. to ___ a.m. (Do not include noise resulting from human activities that have been authorized and initiated within the past 10 years in the ambient baseline measurement.)

March 1 to April 30; 6 pm to 9 am (NW CO, ID, UT)
March 1 to May 15; 6 pm to 8 am (WY - applies only to leks in Priority Habitat Management Area)
March 1 to May 15; 6 pm to 9 am (NV)

On the lands described below:

Insert applicable legal land description here.

For the purpose of:

Limiting disturbances to Greater Sage-Grouse (GRSG) during lekking.

Exceptions: The authorized officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, would not impair the function or utility of the site for the current or subsequent seasonal habitat, life-history, or behavioral needs of GRSG. Actions designed to enhance the long-term utility or availability of suitable GRSG habitat may be exempted from this timing limitation. The FS can and does grant exceptions to seasonal restrictions if the FS, in coordination with the state agency, determines that granting an exception would not adversely impact the population being protected.

Modifications: The authorized officer may modify the size and shape of the area or the criteria if an environmental record of review finds that a portion of the area is non-habitat and disturbance there does not preclude effective sage-grouse use of adjacent habitats, or if it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for habitat, life-history, or behavioral needs of the GRSG, including (but not limited to) reproductive display, daytime loafing/staging activities, and nesting.

Waiver: This stipulation may be waived over the entire lease if, in coordination with the state wildlife agency, it is determined that the GRSG lek that would be disturbed by the noise has been classified as unoccupied (not active in the prior 10 years) as determined by the state wildlife agency.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.

STIPULATON WY1: NO SURFACE OCCUPANCY STIPULATION
Greater Sage-Grouse Priority and Connectivity Habitat Management Areas Where Density of Activities Exceeds One Pad per 640 Acres
GRSG-TDDD-ST-014

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

On lands located in priority habitat management areas or connectivity habitat management areas where oil and gas development exceed an average of one pad per 640 acres, using the current Density Disturbance Calculation Tool process or its replacement.

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GRSG) habitat.

Exceptions: The authorized officer may grant an exception if a review determines that the action, as proposed or conditioned, would not impair the function or utility of the site for the current or subsequent seasonal habitat, life-history, or behavior needs of the GRSG. The FS can and does grant exceptions if the FS, in coordination with the state agency, determines that granting an exception would not adversely impact the population being protected. The FS will coordinate with the State wildlife agency to consider the Wyoming Compensatory Mitigation Framework as the primary mechanism to calculate credits and debits that adequately offset the effects of the disturbance.

Modifications: The authorized officer may modify the area subject to the stipulation or the criteria if an environmental record of review finds that a portion of the area is non-habitat and disturbance there does not preclude effective sage-grouse use of adjacent habitats, or if it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for habitat.

Waiver: This stipulation may be waived over the entire lease if, in coordination with the State agency, it is determined that the described lands are incapable of serving the long-term requirements of GRSG habitat for which the stipulation applies.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATION WY2: NO SURFACE OCCUPANCY STIPULATION
Greater Sage-Grouse Priority and Connectivity Habitat Management Areas Where Anthropogenic Disturbance Exceeds 5%
GRSG-TDDD-GL-015 (WY)

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

On lands located in priority habitat management areas or connectivity habitat management areas where anthropogenic disturbance covers 5% or greater of the suitable habitat in the surrounding area using the current Density Disturbance Calculation Tool process or its replacement.

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GRSG) habitat.

Exceptions: The authorized officer may grant an exception if a review determines that the action, as proposed or conditioned, would not impair the function or utility of the site for the current or subsequent seasonal habitat, life-history, or behavior needs of the GRSG. The FS can and does grant exceptions if the FS, in coordination with the state agency, determines that granting an exception would not adversely impact the population being protected. The FS will coordinate with the State wildlife agency to consider the Wyoming Compensatory Mitigation Framework as the primary mechanism to calculate credits and debits that adequately offset the effects of the disturbance.

Modifications: The authorized officer may modify the area subject to the stipulation or the criteria if an environmental record of review finds that a portion of the area is non-habitat and disturbance there does not preclude effective sage-grouse use of adjacent habitats, or if it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for habitat.

Waiver: This stipulation may be waived over the entire lease if, in coordination with the state agency, it is determined that the described lands are incapable of serving the long-term requirements of GRSG habitat for which the stipulation applies.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATION WY3: NO SURFACE OCCUPANCY STIPULATION
Greater Sage-Grouse Occupied Leks in Priority and Connectivity Habitat Management Areas
GRSG-TDDD-GL-016

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

On or within a 0.6 mile radius of the perimeter of occupied leks that are located in priority habitat management areas or connectivity habitat management areas.

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GRSG) habitat.

Exceptions: The authorized officer may grant an exception if a review determines that the action, as proposed or conditioned, would not impair the function or utility of the site for the current or subsequent seasonal habitat, life-history, or behavior needs of the GRSG. The FS can and does grant exceptions, in coordination with the state agency, determines that granting an exception would not adversely impact the population being protected. The FS will coordinate with the State wildlife agency to consider the Wyoming Compensatory Mitigation Framework as the primary mechanism to calculate credits and debits that adequately offset the effects of the disturbance.

Modifications: The authorized officer may modify the area subject to the stipulation or the criteria if an environmental record of review finds that a portion of the area is non-habitat and disturbance there does not preclude effective sage-grouse use of adjacent habitats, or if it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for habitat.

Waiver: This stipulation may be waived over the entire lease if, in coordination with the State agency, it is determined that the described lands are incapable of serving the long-term requirements of GRSG seasonal habitat for which the stipulation applies.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATION WY4: NO SURFACE OCCUPANCY STIPULATION
Greater Sage-Grouse Occupied Leks in General Habitat Management Areas
GRSG-TDDD-GL-017 (WY)

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

On or within a 0.25 mile radius of the perimeter of occupied leks that are located in General Habitat Management Areas.

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GRSG) habitat.

Exceptions: The authorized officer may grant an exception if a review determines that the action, as proposed or conditioned, would not impair the function or utility of the site for the current or subsequent seasonal habitat, life-history, or behavior needs of the GRSG. The FS can and does grant exceptions if the FS, in coordination with the state agency, determines that granting an exception would not adversely impact the population being protected. The FS will coordinate with the State wildlife agency to consider the Wyoming Compensatory Mitigation Framework as the primary mechanism to calculate credits and debits that adequately offset the effects of the disturbance.

Modifications: The authorized officer may modify the area subject to the stipulation or the criteria if an environmental record of review finds that a portion of the area is non-habitat and disturbance there does not preclude effective sage-grouse use of adjacent habitats, or if it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for habitat.

Waiver: This stipulation may be waived over the entire lease if, in coordination with the state agency, it is determined that the described lands are incapable of serving the long-term requirements of GRSG breeding, nesting, or brood-rearing habitat for which the stipulation applies.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATION WY5: TIMING LIMITATION STIPULATION
Greater Sage-Grouse Priority Habitat Management Areas
GRSG-TDDD-GL-018 (WY)

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

No surface disturbing or disruptive activities from March 15 through June 30 in Greater Sage-Grouse Priority Habitat Management Areas.

On the lands described below:

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GRSG) Priority Habitat Management Areas (PHMA).

Exceptions: The authorized officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, will not affect PHMA. Actions designed to enhance the long-term utility or availability of suitable GRSG habitat may be exempted from this timing limitation. The FS can and does grant exceptions to seasonal restrictions if the FS, in coordination with the state agency, determines that granting an exception would not adversely impact the population being protected. The FS will coordinate with the State wildlife agency to consider the Wyoming Compensatory Mitigation Framework as the primary mechanism to calculate credits and debits that adequately offset the effects of the disturbance. Where credible data, based upon field analysis, support different timeframes that better protect the bird and its use of habitat, dates may be shifted by either 14 days before or after the above dates, but not both.

Modifications: The authorized officer may modify the area subject to the stipulation or the criteria if an environmental record of review finds that a portion of the area is non-habitat and disturbance there does not preclude effective sage-grouse use of adjacent habitats, or if it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for habitat.

Waiver: This stipulation may be waived over the entire lease if, in coordination with the State agency, it is determined that the described lands are no longer considered in the land use plan to be within a GRSG designated PHMA or are incapable of serving the long-term requirements of GRSG seasonal habitat, and that these ranges no longer warrant consideration as components of GRSG habitat.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPLUATION WY6: TIMING LIMITATION STIPULATION
Greater Sage-Grouse Leks within Connectivity Habitat Management Areas
GRSG-TDDD-GL-019 (WY)

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

No new surface disturbing or disruptive activities will be authorized from March 15 through June 30 within 4 miles of a lek perimeter within connectivity habitat management areas.

On the lands described below:

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GRSG) leks within connectivity habitat management areas.

Exceptions: The authorized officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, would not impair the function or utility of the site for the current or subsequent seasonal habitat, life-history, or behavioral needs of GRSG. Actions designed to enhance the long-term utility or availability of suitable GRSG habitat may be exempted. The FS can and does grant exceptions to seasonal restrictions if the FS, in coordination with the state agency, determines that granting an exception would not adversely impact the population being protected. The FS will coordinate with the State wildlife agency to consider the Wyoming Compensatory Mitigation Framework as the primary mechanism to calculate credits and debits that adequately offset the effects of the exception.

Where credible data, based upon field analysis, support different timeframes that better protect the bird and its use of habitat, dates may be shifted by either 14 days before or after the above dates, but not both.

Modifications: The authorized officer may modify the size and shape of the area or the criteria if an environmental record of review finds that a portion of the area is non-habitat and disturbance there does not preclude effective sage-grouse use of adjacent habitats, or if it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for habitat.

Waiver: This stipulation may be waived over the entire lease if, in coordination with the state agency, it is determined that the described lands are no longer considered capable of serving the long-term requirements of GRSG breeding habitat.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATON WY7: TIMING LIMITATION STIPULATION
Greater Sage-Grouse Occupied Lek or Lek Perimeter in General Habitat Management Areas
GRSG-TDDD-GL-020 (WY)

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

No new surface disturbing or disruptive activities will be authorized from March 15 to June 30 within 2.0 miles of the lek or lek perimeter of any occupied Greater Sage-Grouse (GRSG) lek in General Management Habitat Areas (GHMA).

On the lands described below:

Insert applicable legal land description here.

For the purpose of:

Protecting GRSG breeding and nesting habitat associated with occupied leks.

Exceptions: The authorized officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, would not impair the function or utility of the site for the current or subsequent seasonal habitat, life-history, or behavioral needs of GRSG. The FS can and does grant exceptions if the FS, in coordination with the state agency, determines that granting an exception would not adversely impact the population being protected. The FS will coordinate with the State wildlife agency to consider the Wyoming Compensatory Mitigation Framework as the primary mechanism to calculate credits and debits that adequately offset the effects of the disturbance. Where credible data, based upon field analysis, support different timeframes that better protect the bird and its' use of habitat, dates may be shifted by either 14 days before or after the above dates, but not both.

Modifications: The authorized officer may modify the area subject to the stipulation or the criteria if an environmental record of review finds that a portion of the area is non-habitat and disturbance there does not preclude effective sage-grouse use of adjacent habitats, or if it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for habitat.

Waiver: This stipulation may be waived over the entire lease if, in coordination with the state agency, it is determined that the described lands are incapable of serving the long-term requirements of GRSG breeding, nesting, or brood-rearing habitat.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

STIPULATON WY8: TIMING LIMITATION STIPULATION
Greater Sage-Grouse Winter Concentration Areas
GRSG-TDDD-GL-025

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

No new surface disturbing or disruptive activities from December 1 through March 14 within winter concentration areas specifically mapped and designated by the Wyoming Game and Fish Department.

On the lands described below:

Insert applicable legal land description here.

For the purpose of:

Protecting Greater Sage-Grouse (GRSG) populations that reside in Priority Habitat Management Areas, but migrate to unique specified winter habitat areas.

Exceptions: The authorized officer may grant an exception if an environmental record of review determines that the action, as proposed or conditioned, will not impair the function and suitability of the winter concentration area, or it is determined that the winter concentration area is not occupied by concentrated populations of GRSG during the period of concern. Actions designed to enhance the long-term utility or availability of suitable GRSG habitat may be exempted from this timing limitation. The FS can and does grant exceptions to seasonal restrictions if the FS, in coordination with the state agency, determines that granting an exception would not adversely impact the population being protected. The FS will coordinate with the State wildlife agency to consider the Wyoming Compensatory Mitigation Framework as the primary mechanism to calculate credits and debits that adequately offset the effects of the disturbance.

Modifications: The authorized officer may modify the area subject to the stipulation or the criteria if an environmental record of review finds that a portion of the area is non-habitat and disturbance there does not preclude effective sage-grouse use of adjacent habitats, or if it is identified through scientific research or monitoring that the existing criteria are inadequate or overly protective for maintaining the function or utility of the site for habitat.

Waiver: This stipulation may be waived over the entire lease if, in coordination with the state agency, it is determined that the described lands are incapable of serving the long-term requirements of GRSG winter concentration areas.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

APPENDIX H - REFERENCES

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