
Appendix H

Guidelines for Implementation

TABLE OF CONTENTS

Chapter	Page
H. GUIDELINES FOR IMPLEMENTATION	H-1
H.1 Introduction	H-1
H.2 Screening Process	H-2
H.2.1 Step 1 – Determine Proposal Adequacy	H-2
H.2.2 Step 2 – Evaluate Proposal Consistency with LUPA.....	H-2
H.2.3 Step 3 – Determine if GRSG Habitat Can be Avoided	H-2
H.2.4 Step 4 – Determine Proposal Consistency with Density and Disturbance Limitations	H-2
H.2.5 Step 5 – Determine Projected Sage-Grouse Population and Habitat Impacts	H-5
H.2.6 Step 6 – Determine Minimization Measures	H-6
H.2.7 Step 7 – Apply Compensatory Mitigation or Reject / Defer Proposal	H-6
H.3 Restoration/Reclamation of Landscape-Scale Disturbances – Objectives for GRSG Habitat.....	H-6
H.4 References	H-8

TABLES

	Page
H.1 GRSG Seasonal Habitat Desired Conditions	H-6

This page intentionally left blank.

APPENDIX H

GUIDELINES FOR IMPLEMENTATION

H.1 INTRODUCTION

This appendix provides guidelines for the implementation of the Northwest Colorado Proposed LUPA. The goals and objectives of the Proposed LUPA address threats to GRSG and GRSG habitat and include management actions designed to maintain and enhance populations and distribution of GRSG. The specific management actions in Chapter 2 provide details by resource program. BLM programs include objectives designed to avoid direct disturbance of GRSG habitat or displacement of GRSG, and conditions under which it is necessary to minimize and mitigate the loss of habitat and habitat connectivity. To implement the Proposed LUPA, the BLM/Forest Service would assess all proposed land uses or activities in PHMA and GHMA that potentially could result in direct habitat disturbance.

The following steps identify the screening process by which the BLM/Forest Service will review proposed activities or projects in PHMA and GHMA. This process will provide a consistent approach and ensure that authorization of these projects, if granted, will appropriately mitigate impacts and be consistent with the Proposed LUPA goals and objectives for GRSG. The following steps provide for a sequential screening of proposals. However, Steps 2 through 6 can be done concurrently.

The screening process is meant to apply to externally generated projects that would cause discrete anthropogenic disturbances. See **Section H.3, Restoration/Reclamation of Landscape-Scale Disturbances – Objectives for GRSG Habitat**, for guidelines regarding landscape-scale disturbances such as wildfire and habitat restoration.

H.2 SCREENING PROCESS

H.2.1 Step 1 – Determine Proposal Adequacy

This screening process is initiated upon formal submittal of a proposal for authorization for use of BLM/Forest Service lands to the field office/ranger district. The actual documentation of the proposal would include, at a minimum, a description of the location, scale of the project, and timing of the disturbance. The acceptance of the proposal(s) for review would be consistent with existing protocol and procedures for each type of use. Upon a determination that the proposed project would affect GRSG or GRSG habitat, the District Sage-Grouse Coordinator would be notified.

H.2.2 Step 2 – Evaluate Proposal Consistency with LUPA

The District Sage-Grouse Coordinator and the field office interdisciplinary team would evaluate whether the proposal would be allowed as prescribed in the LUPA. For example, some activities or types of development are prohibited in PHMA or GHMA. Evaluation of projects will also include an assessment of the current state of the adaptive management hard and soft triggers (see **Chapter 2, Section 2.6.1, Adaptive Management**). If the proposal is for an activity that is specifically prohibited, the applicant should be informed that the application is being rejected since it would not be an allowable use, regardless of the design of the project.

H.2.3 Step 3 – Determine if GRSG Habitat Can be Avoided

If the project can be relocated so that it would not have an impact on GRSG and GRSG habitat and still achieve objectives of the proposal, relocate the proposed activity and proceed with the appropriate process for review, decision, and implementation (NEPA and decision record).

H.2.4 Step 4 – Determine Proposal Consistency with Density and Disturbance Limitations

If the proposed activity occurs within a PHMA, the District Sage-Grouse Coordinator would evaluate whether the disturbance from the activity exceeds 3 percent in the Colorado Management Zone using the Disturbance Analysis and Reclamation Tracking System database or a local disturbance database (see Disturbance Cap Guidance, below). If current disturbance within the activity area or the anticipated disturbance from the proposed activity exceeds this threshold (see **Chapter 2, Section 2.6.1, Adaptive Management, Disturbance Cap Trigger**), the project would be deferred until such time as the amount of disturbance within the area has been reduced below the threshold (see **Section H.3, Restoration/Reclamation of Landscape-Scale Disturbances – Objectives for GRSG Habitat**, for description of reclamation criteria), redesigned so as to not result in any additional surface disturbance (collocation), or redesigned to move it outside of PHMA.

The Northwest Colorado BLM has completed an inventory of all PHMA by Colorado Management Zone and would track actual disturbance using a local data management system and/or Disturbance Analysis and Reclamation Tracking System. The data management system would be used to inventory, prioritize, and track disturbance data within the decision area, including those projects that cross field office boundaries. The data would be used to determine the actual disturbance by Colorado Management Zone. Data from Colorado Parks and Wildlife, local working groups, and BLM/Forest Service would be used in conjunction with the disturbance inventory to determine future management actions.

Disturbance Cap Guidance

For a detailed description of calculating the disturbance cap, see **Appendix E** (Methodology for Calculating Disturbance Caps).

In Northwest Colorado, the disturbance cap would be defined as habitat loss and/or degradation measured as the 3 percent disturbance cap in PHMAs calculated by Colorado Management Zone. Additionally, density of development would be limited to 1 per 640 acres calculated by Colorado Management Zone. In Colorado, Management Zones were developed in cooperation with Colorado Parks and Wildlife, USFWS, and Forest Service and represent biologically significant units based on the six identified Colorado populations, lek complexes, and associated seasonal habitat use.

The Proposed LUPA disturbance cap would apply to anthropogenic disturbance in priority habitat management areas. Anthropogenic disturbance refers to physical removal of habitat, including, but not limited to, paved highways, graded gravel roads, transmission lines, substations, wind turbines, oil and gas wells, pipelines, and mines.

Percentages would be calculated for each Colorado GRSG Management Zone, subject to the criteria listed below that describes the types of projects that would count toward the disturbance cap. Only physical disturbance would be inventoried for the 3 percent disturbance cap. Disruptive impacts, such as wildfire, would be considered in the site-specific analysis when surface-disturbing proposals are being considered.

Types of anthropogenic disturbance that *would be* counted toward the disturbance cap under the Proposed LUPA include the following:

- Any anthropogenic disturbance on BLM/Forest Service surface lands
- Projects on private land in the public record because they entail a federal nexus due to funding or authorizations. Specifically included would be energy development, rights-of-way, or range projects approved by the BLM/Forest Service because they have components on both public and private land. Also included would be

anthropogenic disturbance on private surface attributable to the authorized recovery of federal minerals

- Industrial operations on any surface ownership with a readily apparent impact on GRSG habitat
- Any disturbance data volunteered by private land owners

Types of projects that *would not be* counted toward the disturbance cap under the Proposed LUPA include the following:

- Disturbance on individual sites such as stands of pinyon/juniper determined lacking in GRSG habitat potential
- Disturbance on private lands other than what has been described above. The BLM/Forest Service would not inventory or evaluate private property not linked to a specific project with a federal nexus. Private residences would not be inventoried or evaluated. Infrastructure on private land associated with family farm or ranch operations would not constitute “an industrial operation with a readily apparent impact on GRSG habitat.” Base property associated with grazing permits would not be considered a federal nexus in this context. Conservation easements would not trigger a federal nexus, and be cause for inventory of private lands. Conservation-oriented activities associated with US Department of Agriculture, Natural Resources Conservation Service would also not be counted.

The disturbance cap is an important component of the Proposed LUPA adaptive management plan. If the 3 percent cap is exceeded in a Colorado Management Zone, more restrictive measures would be in effect (see **Chapter 2, Section 2.6.1**, Adaptive Management, Disturbance Cap Trigger).

Reclamation Criteria for Anthropogenic Disturbances

In order for disturbance to be considered reclaimed and no longer counted against the Northwest Colorado disturbance cap, the following requirements would be insisted upon:

- Reclamation requirements would be consistent with the existing Northwest Colorado land use decisions and regulations.
- Reclamation success criteria in GRSG habitat would be contingent on evidence of successful establishment of desired forbs and sagebrush. Reclaimed acreage would be expected to progress without further intervention to a state that meets GRSG cover and forage needs (see **Table H.1**) based on site capability and seasonal habitat, as described in the Colorado Greater Sage Grouse Conservation Plan (Appendix A) (Colorado Greater Sage-grouse Steering Committee 2008).

- Depending on site condition, the BLM/Forest Service may require a specific seed component and/or sagebrush (i.e., material collected on site or seed propagated from “local” collections) where appropriate to accelerate the redevelopment of sagebrush.

H.2.5 Step 5 – Determine Projected Sage-Grouse Population and Habitat Impacts

If it is determined that the proposed project may move forward, based on Steps 1 through 3, above, then the BLM/Forest Service would analyze whether the project would have a direct or indirect impact on GRSG populations or habitat within PHMA or GHMA. The analysis would include an evaluation of the following:

- Review of GRSG Habitat delineation maps
- Use of the US Geological Survey report *Conservation Buffer Distance Estimates for Greater Sage-Grouse—A Review* (Manier et al. 2014) to assess potential project impacts based upon the distance to the nearest lek, using the most recent active lek (as defined by Colorado Parks and Wildlife; see Glossary) data available from the state wildlife agency. This assessment would be based upon the buffers identified below for the following types of projects:
 - Linear features within 3.1 miles of leks
 - Infrastructure related to energy development within 3.1 miles of leks
 - Tall structures (e.g., communication or transmission towers and transmission lines) within 2 miles of leks
 - Low structures (e.g., rangeland improvements) within 1.2 miles of leks
 - All other surface disturbance not associated with linear features, energy development, tall structures, or low structures within 3.1 miles of leks
 - Noise and related disruption activities (including those that do not result in habitat loss) at least 0.25-mile from leks
- Review and application of current science recommendations
- Reviewing the Baseline Environment Report (Manier et al. 2013), which identifies areas of direct and indirect effects for various anthropogenic activities
- Consultation with agency or state wildlife agency biologist
- Evaluating consistency with (at a minimum) state GRSG regulations
- Other methods needed to provide an accurate assessment of impacts

If the proposal will not have a direct or indirect impact on either the habitat or population, document the findings in the NEPA analysis and proceed with the appropriate process for review, decision, and implementation of the project.

H.2.6 Step 6 – Determine Minimization Measures

If impacts on GRSG or GRSG habitat cannot be avoided by relocating the project, then consider the tools above to apply appropriate minimization measures. Minimization measures could include timing limitations, noise restrictions, and design modifications.

H.2.7 Step 7 – Apply Compensatory Mitigation or Reject / Defer Proposal

If screening of the proposal (Steps 1 through 6) has determined that direct and indirect impacts cannot be eliminated through avoidance or minimization, evaluate the proposal to determine if compensatory mitigation can be used to offset the remaining adverse impacts and achieve GRSG goals and objectives (see **Appendix G**, Greater Sage-Grouse Mitigation Strategy). If the impacts cannot be effectively mitigated, the project would be rejected or deferred.

H.3 RESTORATION/RECLAMATION OF LANDSCAPE-SCALE DISTURBANCES – OBJECTIVES FOR GRSG HABITAT

For landscape-scale disturbances, including wildfire, livestock grazing, and habitat treatments, the objective is to maintain a minimum of 70 percent of lands capable of producing sagebrush with 10 to 30 percent sagebrush canopy cover in PHMA. See **Table H.1**.

Table H.1
GRSG Seasonal Habitat Desired Conditions

Attribute	Indicators	Desired Condition	
BREEDING AND NESTING ^{1,2,3} (Seasonal Use Period March 1-June 15) Apply 4 miles from active leks ⁴			
Lek Security	Proximity of trees ⁵	Trees or other tall structures are none 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 ¹⁶ cover ^{6,7,8}	15 to 25%	
	Sagebrush height ⁷	Arid sites ^{6,7,9}	12 to 32 inches
		Mesic sites ^{6,7,10}	16 to 32 inches
	Predominant sagebrush shape ⁶	>50% in spreading ¹¹	
	Perennial grass canopy ¹⁶ cover ^{6,7}	Arid sites ^{7,9}	≥10%
Mesic sites ^{7,10}		≥15%	
Perennial grass height ^{6,7,8}		Provide overhead and lateral concealment from predators ^{7, 15}	

Table H.1
GRSG Seasonal Habitat Desired Conditions

Attribute	Indicators	Desired Condition
	Perennial forb canopy ¹⁶ cover ^{6,7,8} Arid sites ⁹ Mesic sites ¹⁰	≥5% ^{6,7} ≥10% ^{6,7}
BROOD-REARING/SUMMER¹ (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 ¹⁶ cover ^{6,7,8}	10 to 25%
	Sagebrush height ^{7,8}	16 to 32 inches
	Perennial grass canopy ¹⁶ 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
WINTER¹ (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 ¹⁶ cover above snow ^{6,7,8}	>10%
	Sagebrush height above snow ^{6,7,8}	>10 inches ¹⁴

¹Seasonal 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 2008

³ Holloran and Anderson 2005

⁴ Buffer distance may be changed only if 3 out of 5 years of telemetry studies indicate the 4 miles is not appropriate

⁵ Baruch-Mordo et al. 2013

⁶ Stiver et al. In Press

⁷ Connelly et al. 2000a

⁸ Connelly et al. 2003

⁹ 10–12 inch precipitation zone; *Artemisia tridentata wyomingensis* is a common big sagebrush sub-species for this type site (Stiver et al. In Press)

¹⁰ ≥12 inch precipitation zone; *Artemisia tridentata vaseyana* is a common big sagebrush sub-species for this type site (Stiver et al. In Press)

¹¹ Sagebrush plants with a spreading shape provide more protective cover than sagebrush plants that are more tree or columnar shaped (Stiver et al. In Press)

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 GRSG habitat requirements

¹³ Preferred forbs are listed in Habitat Assessment Tool/Framework Table III-2 (Stiver et al. In Press). Overall total forb cover may be greater than that of preferred forb cover because 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

¹⁶ “Canopy” applies only to National Forest System lands, not BLM-administered lands

These habitat objectives in **Table H.1** summarize the characteristics that research has found represent the seasonal habitat needs for GRSG. The specific

seasonal components identified in the table were adjusted based on local science and monitoring data to define the range of characteristics used in this sub-region. Thus, the habitat objectives provide the broad vegetative conditions the BLM and Forest Service strive to obtain across the landscape that indicate the seasonal habitats used by GRSG. These habitat indicators are consistent with the rangeland health indicators used by the BLM.

The habitat objectives will be part of the GRSG habitat assessment to be used during land health evaluations (see **Appendix F**, Greater Sage-Grouse Monitoring Framework). These habitat objectives are not obtainable on every acre within the designated GRSG habitat management areas. Therefore, the determination of whether the objectives have been met will be based on the specific site's ecological ability to meet the desired condition identified in **Table H.1**.

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

H.4 REFERENCES

- 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. Reece. 2013. Saving sage-grouse from trees. *Biological Conservation*. Internet website: <http://www.sciencedirect.com/science/article/pii/S0006320713002917>.
- Colorado Greater Sage-grouse Steering Committee. 2008. Colorado Greater Sage-grouse Conservation Plan. Colorado Division of Wildlife, Denver, CO.
- Connelly, J. W., M. A. Schroeder, A. R. Sands, and C. E. Braun. 2000a. Guidelines to manage sage-grouse populations and their habitats. *Wildlife Society Bulletin* 28:1-19.
- Connelly, J. W., K. P. Reese, and M. A. Schroeder. 2003. Monitoring of greater sage-grouse habitats and populations. *Station Bulletin 80*. College of Natural Resources Experiment Station, Moscow, ID.
- Doherty, M. K. 2008. Sage-grouse and Energy Development: Integrating Science with Conservation Planning to Reduce Impacts. Thesis, Dissertations, Professional Papers. Paper 855.
- Holloran, M. J., and S. H. Anderson. 2005. Spatial Distribution of Greater Sage-grouse nests in relatively contiguous sagebrush habitats. *Condor* 107:742-752.

- Manier, D. J., D. J. A. Wood, Z. H. Bowen, R. Donovan, M. J. Holloran, L. M. Juliusson, K. S. Mayne, S. J. Oyler-McCance, F. R. Quamen, D. J. Saher, and A. J. Titolo. 2013. Summary of Science, Activities, Programs and Policies that Influence the Rangewide Conservation of Greater Sage-Grouse (*Centrocercus urophasianus*). US Geological Survey Open-File Report 2013-1098. Ft. Collins, CO.
- Manier, D. J., Z. H. Bowen, M. L. Brooks, M. L. Casazza, P. S. Coates, P. A. Deibert, S. E. Hanser, and D. H. Johnson. 2014. Conservation buffer distance estimates for Greater Sage-Grouse—A review. US Geological Survey Open-File Report 2014-1239. Internet website: <http://dx.doi.org/10.3133/ofr20141239>.
- Stiver, S. J., E. T. Rinkes, D. E. Naugle, P. D. Makela, D. A. Nance, and J. W. Karl. In Press. Sage-Grouse Habitat Assessment Framework: A Multi-scale Habitat Assessment Tool. BLM and Western Association of Fish and Wildlife Agencies Technical Reference 6710-1. US Department of the Interior, Bureau of Land Management, Denver, CO.

This page intentionally left blank.