Candidate Conservation Agreement

For the Gunnison sage-grouse, *Centrocercus minimus*
Gunnison Basin Population

Developed cooperatively between:
Colorado Parks & Wildlife
Gunnison County
Saguache County
U.S. Bureau of Land Management
U.S. Fish and Wildlife Service
U.S. Forest Service
U.S. National Park Service
U.S. Natural Resources Conservation Service

EXECUTIVE SUMMARY

Beginning in January 2010, federal land management agencies and the Gunnison Basin Sage-Grouse Strategic Committee developed the following Candidate Conservation Agreement (CCA) to promote conservation of the Gunnison Basin population of Gunnison sage-grouse. The CCA addresses three categories of threats to sage-grouse habitat on federal public lands in the Gunnison Basin, as identified in the 2010 FWS status review: development, recreation, and grazing. The CCA will apply to such actions on the approximately 395,000 federal acres of occupied habitat, or roughly two-thirds of the total 590,000 acres of occupied Gunnison sage-grouse habitat in the Basin. As noted in the USFWS 2010 status review, the Gunnison Basin population constitutes 87% of the overall population of Gunnison sage-grouse.

Federal signatories will seek a conference opinion from the U.S. Fish and Wildlife Service (USFWS) in accordance with section 7 of the Endangered Species Act (ESA) regarding the CCA and its covered actions, and this process is expected to be completed by mid – 2013. With the conference opinion, so long as the federal agencies design and manage these specified activities to meet the conservation criteria outlined in the CCA, the federal agencies will have met their ESA conference requirements for those activities. If the Gunnison sage-grouse is subsequently listed under the ESA, the federal signatories will request that the USFWS confirm the conference opinion as the biological opinion, such that the federal agencies will have met their ESA consultation requirements for those covered activities.

Because the nonfederal signatories manage activities and uses on and through federal lands, such as road maintenance and big game, they too serve a role in implementing the CCA. Fortunately, the Gunnison Basin has a long history of government-to-government cooperation to conserve the species and habitat. Nonfederal actions or actions without a federal nexus are not intended to be included in the conference opinion, however.

Although the CCA delineates overarching habitat conservation objectives on federal lands, conservation measures in the CCA are not intended to address all threats to the species and habitat. Rather, the CCA and associated conference opinion covers a wide range of activities on federal lands including development, recreation, and grazing.

Further, neither the CCA nor the conference opinion is a land-use plan, nor is it intended to supersede federal or nonfederal land use planning authority. Section 7 coverage does not absolve federal agencies of NEPA obligations, nor does it absolve nonfederal permittees of compliance with permit terms and conditions. For federal agencies, the CCA is a tool to screen activities on federal lands for coverage under the streamlined, programmatic conference opinion. For nonfederal signatories, this document is intended to be a statement by the federal agencies that, so long as the nonfederal signatories implement the identified conservation measures for an action with a federal nexus , then no further consultation is necessary, and such covered actions are “screened out” of any further consultation requirements. For nonfederal nonsignatories who obtain permits and authorizations for activities on federal lands, including such broad stakeholder groups as right-of way/easement permit holders, recreationists, and Stockgrowers, so long as the federal agency administering such permits implements the identified, associated conservation measures, then no further consultation on the permit is necessary.

The Strategic Committee is the Gunnison and Saguache County-appointed local working group comprised of agency officials, elected officials, commercial stakeholders, conservation organizations and members of the public. The CCA effort was facilitated by the Bureau of Land Management (BLM), coordinated with the USFWS, and included approximately 35 individuals representing federal and state agencies, two counties, and stakeholder groups.

Signatories include *(See Section 12, Responsibilities of Signatories)*:

- USDA Forest Service: Gunnison Ranger District of the Grand Mesa, Uncompahgre and Gunnison National Forest
- USDI National Park Service: Black Canyon of the Gunnison National Park and Curecanti National Recreation Area
- USDI Bureau of Land Management: Gunnison Field Office
- USDI Fish & Wildlife Service: Western Colorado Field Office
- USDA Natural Resources Conservation Service, Colorado
- State of Colorado – Department of Natural Resources, Colorado Parks & Wildlife: Gunnison Service Center.
- Board of County Commissioners of Gunnison County
- Board of County Commissioners of Saguache County

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ACKNOWLEDGMENTS

The Gunnison Basin Gunnison sage-grouse Candidate Conservation Agreement is the result of the collective effort of many, many agency staff and public partners and the persistent dedication of a few. Although singular signatures may represent partners' commitment to implement the CCA, success depends upon a host of staff and public partners to fulfill and evolve the agreement in the years to come. Many thanks to those past and future contributors.

1 INTRODUCTION & FRAMEWORK

1.1 Background

For almost two decades, Gunnison sage-grouse conservation in the Gunnison Basin has been driven by local stakeholders, local government, and state and federal Authorized Officers and staff located in the Gunnison Basin, periodically spurred by U.S. Fish & Wildlife Service (USFWS) decisions regarding the species' status. The Gunnison Basin sage-grouse working group completed the first local conservation plan for Gunnison sage-grouse in June 1997, and Basin-wide sage-grouse conservation continues in large part via the Gunnison County and Saguache County-appointed Gunnison Basin Sage-grouse Strategic Committee. Formed in 2005, the Strategic Committee is comprised of agency officials, elected officials, commercial stakeholders, conservation organizations and members of the public. Meanwhile, the USFWS first designated the grouse as a candidate species in 2000, identifying it as warranted for listing as endangered or threatened under the Endangered Species Act (ESA). The candidate designation means that immediate proposed listing of the species is precluded by higher priority listing actions; the species was again designated as warranted but precluded in 2010. Most recently, in September 2011 the U.S. District Court for the District of Columbia, in *WildEarth Guardians v. Salazar*, approved a settlement agreement between USFWS and Wild Earth Guardians addressing the status of candidate species, including the Gunnison sage-grouse. Under this agreement and a subsequently court-revised timeline,, the USFWS proposed the species as endangered in December 2012, and simultaneously proposed critical habitat.

Because of long-standing local commitment to the identification and implementation of sage-grouse conservation measures, and in anticipation of eventual listing under the ESA, agencies and stakeholders began to seek more formalized recognition of their efforts. Colorado Parks & Wildlife (CPW; then Colorado Division of Wildlife) completed a Candidate Conservation Agreement with Assurances (CCAA) with USFWS in 2006. Via voluntary participation in the CCAA, private landowners throughout the range of the Gunnison sage-grouse (GUSG) have enrolled their properties and obtained assurances that no further conservation measures would be required in the event that the sage-grouse is listed, provided they carry out the conservation measures and land management activities as identified in their Certificates of Inclusion.

Given the popularity of the CCAAs and the emerging regional awareness of these types of voluntary but formalized conservation mechanisms, in 2010 the Gunnison Basin Sage-grouse Strategic Committee took on the task of preparing a Candidate Conservation Agreement (CCA) with the USFWS to both a) address threats to sage-grouse from activities on federal lands, and b) participate in laying the foundation for how such activities could continue subsequent to a listing decision for the grouse.

1.2 CCAs: Policy, Practice

By policy, a Candidate Conservation Agreement is "an agreement signed by [the USFWS] and other Federal or State agencies, local governments, Tribes, businesses, organizations, or non-federal citizens,

that identifies specific conservation measures that the participants will voluntarily undertake to conserve the covered species" (64 FR 32705 1999). Although the USFWS issued a final policy for Candidate Conservation Agreements with Assurances in 1999, no comparable policy exists for CCAs. USFWS issued an informal memo to describe how a CCA/CCAAs could be jointly applied, and the memo detailed recommended components to include in such joint agreements (USFWSa). Yet for stand-alone CCAs, "the degree of detail …can vary widely, and there are no specific permits or assurances associated with them" (USFWS 2011).

By practice, most stand-alone CCAs to-date generally describe the known and anticipated threats to the species and its habitat, coupled with the specific conservation measures that signatories will implement to address the identified threats. For the Gunnison sage-grouse, just such a plan was developed in 2005 via an extensive, multi-agency effort that produced the Gunnison sage-grouse Rangewide Conservation Plan (RCP; GSRSC 2005). The RCP was the first up-to-date and rigorous assessment of rangewide population and habitat data for Gunnison sage-grouse, and still serves as a blueprint for GUSG management across the range. Nonetheless, five years subsequent to varying levels of implementation of the conservation strategies outlined in the Rangewide Conservation Plan, the 2010 status review confirmed that the present and future threats to the species were such that the species continues to be warranted for listing, with an increased priority ranking.

1.3 Goals & Objectives of this CCA

With a wide degree of latitude to develop a CCA, and the impetus to define the next step in management post-Rangewide Conservation Plan, the GUSG CCA participants outlined overarching process- and outcome-oriented goals:

- ***Engage key stakeholders in the Gunnison Basin community in a collaborative planning and review process to support sage-grouse conservation***

  Building on the trajectory of collaborative, bottom-up grouse management by the Strategic Committee and larger Gunnison Basin community, the CCA process was designed such that public partners worked alongside Authorized Officers to build the key components and conservation measures.

- ***Ease the transition to living and working with a species that may be federally listed in the near future***

  By outlining clear design criteria in the CCA for any proposed or renewed activities on federal lands in grouse habitat, signatories and partners plan ahead to identify and implement necessary conservation measures.

  By then conducting a formal, programmatic conference with USFWS for those activities prior to a final listing determination, federal agencies frontload compliance with their ESA Section 7 obligations in the event of listing. In sum, the GUSG CCA was designed to primarily function as a project screening tool to streamline future consultation with USFWS under Section 7.[1] This regulatory framework is further elaborated in Section 2.

- ***Build upon the Rangewide Conservation Plan to make conservation measures actionable***

  Participating federal agencies and public partners have a clear and direct incentive to incorporate delineated conservation measures as design criteria for project proposals and renewed activities in grouse habitat due to a) efficiency gains from streamlined consultation under ESA Section 7 and b) greater upfront certainty over the conservation measures required.

  The GUSG CCA advances several of the conservation objectives outlined in the RCP by breaking objectives into specific, implementable steps that can reasonably be achieved by the implementing agencies.

- ***Stratify occupied habitat to prioritize conservation measures***

  With approximately 395,000 acres of federally managed occupied Gunnison sage-grouse habitat in the Gunnison Basin, land managers and planners sought a way to stratify the landscape and prioritize conservation measures.[2] The development of the Habitat Prioritization Tool, and the subsequent delineation of tiered habitat, is outlined in Section 3.3 and Appendix F.

  Tier 1 Habitat: Roughly 60% of occupied grouse habitat is proposed to be managed as Tier 1 habitat. These areas are identified by the Habitat Prioritization Tool, and they are generally characterized by two or more overlapping seasonal habitats and minimal existing permanent development.

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[1] For comparable example, see *Programmatic Consultation Agreement between Bureau of Land Management and US Fish and Wildlife Service for Canada Lynx in Colorado*. USFWS & BLM. 2010.

[2] The Habitat Prioritization Tool was developed for the entirety of occupied habitat in the Gunnison Basin, irrespective of land ownership. The CCA applies the stratification to federal acres only.

Tier 2 Habitat: Roughly 40% of occupied grouse habitat is proposed to be managed as Tier 2 habitat. These areas are identified by the Habitat Prioritization Tool, and they generally represent the more fragmented areas on the landscape.

Account for cumulative impacts of habitat fragmentation

Fragmentation as used throughout the CCA is defined as the reduction of continuity and/or quality of habitat, including both direct habitat conversion and indirect/functional impacts.[3] A fundamental goal of the CCA is to account for the cumulative impacts of habitat fragmentation, which is identified as the overriding threat to the species. As such, two habitat objectives frame the conservation measures to address both existing impacts and impacts from future, additional development and activities in occupied habitat on federal lands:

Tier 1 habitat objective: Reduce existing net fragmentation.

Section 5, Conservation Measures to Address Existing Development & Activities, outlines measures the agencies and their partners will take to reduce the scope and extent of existing fragmentation over the lifetime of the CCA. For example, Tier 1 habitat will be prioritized for route reclamation.

Section 4, Conservation Measures to Address Future Development & Activities, sets up a framework to reduce net fragmentation – while enabling participating agencies to fulfill mission-priority work and uses – via the use of offsite mitigation[4] for specified types of future infrastructure. For example, new trails can be constructed, but they will have to be offset by a *greater* amount of reclaimed trails. To the extent possible, offsite mitigation should lead to an increase in the size of intact, unfragmented Tier 1 habitat patches.

Tier 2 habitat objective: Avoid additional net fragmentation.

Section 4, Conservation Measures to Address Future Development & Activities, sets up a framework to avoid additional net fragmentation – while enabling participating agencies to fulfill mission-priority work and uses — via the use of offsite mitigation for specified types of future infrastructure. For example, new trails that meet the design criteria to minimize impacts to sage-grouse habitat may be constructed, but they will have to be offset at a minimum by an *equal* amount of reclaimed roads and trails.

Disturbance Caps

In the future, new research, agency policy, or signatories to the CCA may identify caps or thresholds of allowable disturbance in occupied grouse habitat in the Basin. At that time, parties

[3] The use of the term fragmentation throughout the CCA is not intended to imply that sage-grouse within the Gunnison Basin population are genetically isolated as a result of habitat fragmentation, and no data exist to indicate genetic isolation is occurring within the Basin.

[4] Offsite mitigation consists of compensating for resource impacts by replacing or providing substitute resources or habitat at a different location than the project area.

to this CCA would consider modifying Tier 1 and Tier 2 habitat objectives to be consistent with identified disturbance caps, thereby ensuring the GUSG CCA remains a viable and relevant instrument *(See Section 9).*

1.4 Scope

From the onset, CCA participants focused the scope of the agreement on three threats in the Gunnison Basin that contributed to the candidate status of the species: development, grazing, and recreation. While other threats to the species exist, the CCA is a targeted conservation agreement that covers development, recreation, and grazing actions that are:

- discretionary actions occurring on and through federal lands that are likely to have insignificant or discountable effects to the species or habitat
- discretionary actions occurring on and through federal lands that can be closely managed to avoid, minimize, and/or mitigate negative effects to the species or habitat

Actions covered by this CCA are further defined as:

- ***Development***: New roads, power lines, phone lines, communication sites and meteorological towers, pipelines, fences, culverts, gates, cattle guards, exclosures, rights-of-way and easements that result in small-scale development projects on federal lands. The maintenance and reconstruction of such existing infrastructure is also covered in the CCA, as is the access and maintenance to existing water developments.

- ***Recreation***: New recreation roads and trails, modification and reclamation of existing recreation roads and trails, recreation infrastructure (signs, kiosks, vault toilets, vehicle barriers, concentrated parking areas), seasonal restrictions, and special recreation permits, including events and outfitters on federal lands.

- ***Grazing:*** With respect to grazing, the CCA primarily concerns livestock grazing permits on federal lands. Yet because of the landscape scale of grazing and grouse habitat, additional grazing conservation measures are identified in this CCA to share the conservation responsibility amongst key partners. These measures – including coordinated allotment management planning across private, state, and federal boundaries, upkeep of data analysis unit plans for big game—will not be addressed in the conference opinion, but are necessary components of a range management system that ensures sage-grouse conservation. Other activities relative to livestock management, such as fences, small-scale water developments, are included in the development category.

Certain activities on federal lands have impacts of such a scale, magnitude, and project-specific nature as to warrant additional consideration and may thus require additional consultation with USFWS under ESA Section 7, outside of what will occur in connection with the CCA. Such activities and actions on federal lands within the Gunnison Basin are **not** covered by the CCA, including but not limited to:

- Energy and minerals development
- ROWs and easements > 5 acres permitted area
- Utility ROWs and easements > 25 feet permitted area width
- ROWs and easements >.5 mile aboveground infrastructure (not including buried utilities, buried pipelines) OR
- Agency-implemented actions > 1 acre permanent ground disturbance

2 REGULATORY FRAMEWORK

2.1. CCA Relationship to Section 7 of the ESA

Other species-specific CCAs have been developed and implemented with sufficient time for the USFWS to evaluate their effectiveness at reducing or eliminating threats to candidate species, with the result that some CCAs have contributed to making listing unnecessary for the covered species. Due to the anticipated proposed listing determination by December 31, 2012, beneficial effects of this CCA on the GUSG and GUSG habitat will postdate any such proposal.

Federal Signatories
Any federal agency has the option of conducting an ESA Section 7(a)(4) conference for candidate species and species proposed for listing to ensure that the actions they authorize, fund, permit, or carry out are not likely to jeopardize the existence of those species. Because the GUSG CCA is intended in part to serve as a programmatic agreement to streamline the ESA Section 7 consultation process, the participating federal agencies will prepare a Programmatic Biological Assessment of the effects of the CCA's covered actions and their associated conservation measures. Subsequently, the federal agencies will request that USFWS conduct a Section 7 conference, resulting in a conference opinion, pursuant to section 7(a)(4) of the ESA and 50 C.F.R. § 402.10(d).

Should the USFWS list the GUSG as threatened or endangered, the federal agencies will request, pursuant to 50 C.F.R. § 402.10(d), that the USFWS review the CCA conference opinion and adopt it as a biological opinion issued through formal consultation for the actions covered by the CCA that are in compliance with its conservation measures. If the USFWS determines as a result of this review that there have been no significant changes in the information used during the conference or in the CCA, the USFWS would confirm the original Conference Opinion as the Biological Opinion and no further section 7 consultation will be necessary with respect to these actions. Ultimately, this CCA and accompanying Biological Assessment are intended to demonstrate that adequate conservation measures, sufficient adaptive management, and monitoring obligations to allow the conference opinion to be converted into a biological opinion on the effective date of any decision to list GUSG.

Nonfederal Signatories
The Section 7 process does not apply to non-federal actions or actions that are not authorized, funded, or carried out, in whole or in part, by a federal agency in the United States. Therefore, for non-federal

signatories – such as Colorado Parks & Wildlife and Gunnison and Saguache counties – the Biological Assessment and subsequent conference opinion will only address actions with a federal nexus.

Comment [SSJ1]: The conference opinion covers interrelated/interdependent (I&I) activities on private land, so long as the conservation measures in CCA are applied. But as with all other CCA actions, it is not a requirement of the County or non-federal entity to incorporate the CCA conservation measures, ONLY insofar as the nonfederal applicant wants coverage under streamlined Section 7. This is a good tool for County to retain, and does not limit the option to forgo the CCA conservation measures and do separate consultation on the I&I activity.

2.2. CCA Relationship to CCAAs

Many private landowners in the Gunnison Basin are enrolled in or have made application to be included in a Candidate Conservation Agreement with Assurances (CCAA) between the USFWS and CPW. Unanticipated conflicts may arise during the course of implementing both agreements. For example, one of the strategies in this CCA encourages cross-boundary flexibility for livestock management. Adjusted grazing prescriptions on the federal portion of an allotment may result in adjusted grazing on the private portion of an allotment, which could conflict with a private landowner's Certificate of Inclusion under his existing CCAA. Any unforeseen conflict between the GUSG CCA and any Certificate of Inclusion issued pursuant to the CCAA will be addressed by the participating agencies and enrolled landowners with close coordination to maximize benefit to grouse habitat. Ultimately, however, nothing in the CCA will alter, impair or negate any obligation or benefit provided to a private landowner under his Certificate of Inclusion in the GUSG CCAA.

2.3. CCA Relationship to Land-Use Plans

Federal Signatories

- The GUSG CCA is consistent with the 1992 BLM Gunnison Field Office Resource Management Plan; USFS Land and Resource Management Plan for the Grand Mesa, Uncompahgre and Gunnison National Forests; and 1997 General Management Plan, Black Canyon of the Gunnison National Monument and Curecanti National Recreation Area (s*ee Section 11, Authorities).*
- The GUSG CCA is not a decision document, and as such, does not replace any need for site-specific NEPA analysis for new and ongoing land-use authorizations.

Nonfederal Signatories

- Nothing in the CCA shall, or shall be construed to, limit applicable local government land-use or environmental regulatory authority.

3 SPECIES BACKGROUND, HABITAT & THREATS

3.1 Species Background

Currently there are 7 separate populations of Gunnison sage-grouse located in Colorado and Utah with the vast majority of the birds being in the Gunnison Basin. Loss of sagebrush habitat along with fragmentation has altered much of the historic range of the species. With limited population size and existing threats to the bird, there are currently no strongholds for population persistence, including the

Gunnison Basin (Wisdom et al. 2011). The Gunnison population has remained relatively stable over the last decade, and the RCP Population Viability Analysis indicated that the population has less than 1% chance of extinction next 50 years, modeled on a population target of 3000 individuals (GSRSC 2005). The 2012 population estimate is 3,327, and the three-year average is 3,119 (CPW 2012). However, several primary threats still exist, including landscape fragmentation, habitat loss, and the potential for increased habitat disturbance in the future.

As noted in Section 1.1, the USFWS first determined Gunnison sage-grouse to be a candidate species under the ESA in 2000. On April 11, 2006, USFWS determined that listing under the ESA was not warranted. In late 2006, a lawsuit was filed alleging the 12-month finding of "not warranted" violated the ESA. A settlement agreement was reached in 2009 for the USFWS to reissue a 12-month finding. On September 28, 2010, the USFWS published the 12-month finding which determined that listing under the ESA was warranted, but precluded by higher priority actions. Most recently, in the fall of 2011 the USFWS and Wild Earth Guardians reached a settlement agreement addressing the status of many candidate species, including the Gunnison sage-grouse. Under that court-approved settlement agreement as recently amended, the USFWS is required to issue a proposed rule to list the species, or a not-warranted determination, no later than December 30, 2012. If the USFWS proposes to list the species, the settlement agreement requires FWS to finalize its listing determination on or before September 30, 2013.

3.2 Habitat

There are approximately 593,000 total acres of occupied sage-grouse habitat in the Gunnison Basin. Elevation within occupied habitat ranges from 7,500 to over 9,500 feet. Precipitation levels range from 7 to 16 inches depending on geographic area and elevation. The majority of sage-grouse habitat within the Basin receives less than 12 inches of precipitation a year. Typical sagebrush types include mountain big sagebrush, Wyoming big sagebrush, and black sage. Mountain big sagebrush occurs at higher elevations and at lower elevations containing moist sites. Wyoming big sagebrush is typically found at lower elevations and on drier sites. There is a hybrid of Wyoming and mountain in transition areas between the two. Black sage is also found on the dry gravel soils in lower elevations. Aspect is also an important factor influencing soil moisture content and the distribution of big sagebrush, with mountain big sagebrush often occurring on more northerly slopes and Wyoming big sagebrush occurring on more southerly slopes. There are many perennial and ephemeral streams within the sagebrush-steppe habitat that provide important brood rearing habitat throughout the Basin. Many of these streams have sagebrush encroachment as a result of downcutting and entrenchment of the stream channel, leading to contraction of the riparian zone.

3.2.1 *Habitat Stratification*

As noted in Section 1.3, a fundamental purpose of the CCA is to stratify the approximately 395,000 federal acres of grouse habitat in the Gunnison Basin and to prioritize conservation measures accordingly. Via a year-long, collaborative, multi-agency process, members of the Strategic Committee developed a Habitat Prioritization Tool *(HPT; See Appendix F)*. In January 2012, the Strategic Committee completed the Habitat Prioritization Tool, and the Committee defined the threshold for what

constitutes high-priority grouse management areas for the purposes of the CCA. For now and throughout this document, the highest-value habitat is referred to as Tier 1 habitat, and the remainder of occupied grouse habitat is referred to as Tier 2 habitat. *(See Figure 1)*

Adaptive Element:

The Strategic Committee will continue to refine and update the HPT, including but not limited to annual CPW updates regarding the status and high male counts of leks. The HPT will be updated when new, spatially explicit sage-grouse habitat models are created and validated for the Gunnison Basin.

Although thorough review of data inputs to the HPT was conducted, the accuracy of inputs is no doubt limited, with the effect that some existing permanent infrastructure may have been omitted in the current HPT and HPT-derived maps of Tier 1 and Tier 2 habitat. In the course of CCA implementation, future land use authorizations will be ground-truthed to determine presence/absence of existing permanent infrastructure. Subsequent design criteria and conservation measures should be consistent with the actual habitat status as Tier 1 or Tier 2.

3.2.2 *Affected Area*

The CCA applies to approximately 395,000 acres, the entirety of occupied sage-grouse habitat on federal lands in the Gunnison Basin. Table 1 details acreage breakdown per agency.

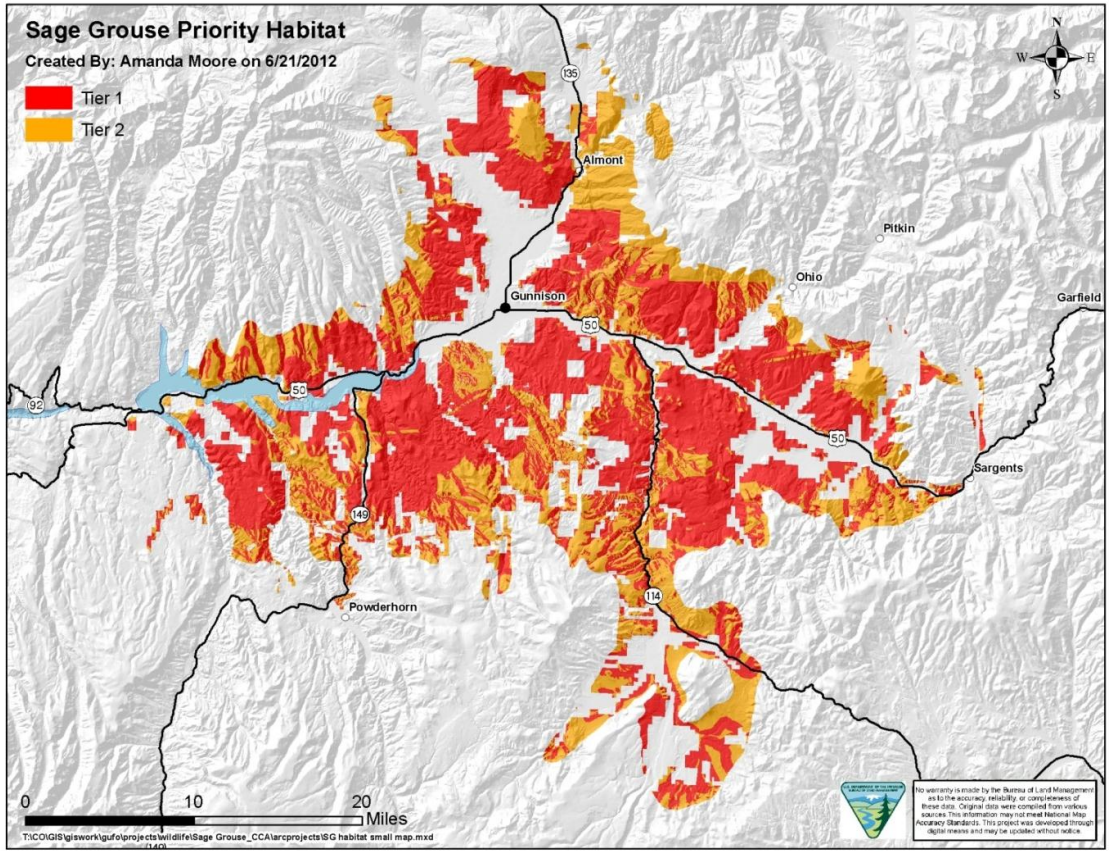


Figure 1. Tier 1 & Tier 2 habitat on federal lands.

Table 1. Federal Gunnison sage-grouse occupied habitat acreage.

	Tier 1	*Tier 2*	*Tier 1 & Tier 2*
BLM	212,554	89,300	301,854
USFS	33,033	50,993	84,026
NPS	4,959	4,619	9,578
Totals (acres)	250,546	144,912	395,458

3.3 Threats

Section 4 of the Endangered Species Act sets forth procedures for adding species to the Threatened or Endangered list based on information for five listing factors. The five listing factors are:

A. The present or threatened destruction, modification, or curtailment of the species' habitat or range;
B. Overutilization for commercial, recreational, scientific, or educational purposes
C. Disease or predation
D. Inadequacy of existing regulatory mechanisms
E. Other natural or man-made factors affecting the species' continued existence

The USFWS looks at not only the species' exposure to each of these factors, but also to whether the species may respond to a factor in a way that causes actual, negative impacts to the species. If there is exposure to a factor and resulting negative effects, then the factor may be a threat to the species. If the threat drives or contributes to the risk of extinction of the species, leading to the need for protection under the ESA, the USFWS considers the threat to be significant.

In the 2010 Status Review and 12-month Finding, 75 Fed. Reg. 59,804 (Sept. 28, 2010), USFWS identified several threats to the grouse within the Gunnison Basin. As identified in Section 1.4, the CCA focuses on the threats to federal occupied habitat in the following categories: development, recreation, and grazing. The following is a summary of USFWS 2010 findings relating to these threats:

3.3.1 *Factor A: The present or threatened destruction, modification, or curtailment of its habitat or range*

- ***Historic Modification of Habitat***

  Current occupied habitat in the Gunnison Basin totals 593,000 acres (GSRSC, 2005). Although USFWS notes that approximately 7% of the species potential historic range is currently occupied throughout the range of the species, they cite Boyle and Reeder to note that the rate of loss of sagebrush in the Basin was lower than other areas of sagebrush distribution in Colorado (75 FR 187, 59813). It appears that 60-70% of potential historic habitat remains occupied in the Gunnison Basin, considerably more the USFWS' estimated 7% of potential historic habitat currently occupied rangewide (59813).

- ***Roads***

  Currently there are 1,274 miles of roads within 4 miles of grouse leks in the Gunnison Basin. One USFWS analysis finds that all occupied habitat in the basin is indirectly affected by roads, with the conclusion that "increased road use and increased road construction associated with residential development will continue at least through 2050, and likely longer. The resulting habitat loss, degradation, and fragmentation from roads are a significant threat to Gunnison sage-grouse now and in the foreseeable future" (75 FR 187, 59817-8).

  Overall threat: High

- ***Powerlines***

  USFWS analysis indicates that "68 percent of the Gunnison Basin population area is within 4.3 miles of an electrical transmission line and is potentially influenced by avian predators utilizing the additional perches…These results suggest that potential increased predation resulting from transmission lines have the potential to affect a substantial portion of the Gunnison Basin population" (75 FR 187, p. 59819). Citing current demographic and economic trends, USFWS expects that impacts from existing powerlines and distribution of new powerlines associated with residential development will continue at least through 2050, and likely longer (59819).

  Overall threat: Moderate +

- ***Invasive Plants***

  USFWS anticipates cheatgrass and other noxious/invasive weeds will increase in the Gunnison Basin in the future because of potential exacerbation from climate change and the limited success of broad-scale control efforts. Impacts will likely be in the form of habitat degradation via loss of native plants and an altered fire regime (75 FR 187, 59821-2).

  Overall threat: Moderate +

- ***Fences***

  Approximately 960 miles of fence are located on BLM lands alone within the Gunnison Basin, and are thus widely distributed throughout GUSG habitat. Fence posts create perches for avian predators; USFWS anticipates the effect on sage-grouse populations by such facilitated predation is comparable to the effect of powerlines (75 FR 187, 59816-7). Although fences pose a collision hazard that has resulted in a notable level of direct strike mortality rates in the Greater sage-grouse population, mortality risk is dependent in part upon topography. In more rugged terrain, researchers have documented a markedly lesser risk, hypothesized to be a product of consequent higher flying patterns by the grouse

(Stevens 2011). The varied terrain of the Gunnison Basin, and anecdotally reported higher-flying patterns of Gunnison sage-grouse, may limit population-level effects of any direct collisions.

Overall threat: Moderate +

- ***Domestic Grazing & Wild Ungulate Herbivory***

Domestic livestock grazing occurs throughout most of the occupied habitat in the Gunnison Basin and is expected to continue in the future. USFWS acknowledges that not all livestock grazing results in habitat degradation, and noted that "no studies have documented (positively or negatively) the actual impacts of grazing at the population level" (75 FR 187, 59823). They conclude that "habitat degradation that can result from improper grazing is a significant threat to GUSG now and in the foreseeable future" (59827).

Overall threat: Moderate (when considered with Wild Ungulate Herbivory)

- ***Wild Ungulate Herbivory***

Any negative effects of livestock grazing are furthermore "likely being exacerbated by intense browsing of woody species by wild ungulates in portions of the Gunnison Basin" (75 FR 187, 59826-7).

Overall threat: Moderate (when considered with Wild Ungulate Herbivory)

3.3.2 *Factor E: Other natural or manmade factors affecting its continued existence*

- ***Recreation***

USFWS notes that recreational activities, a significant use on federal lands, can result in direct and indirect effects on sage-grouse and habitat. Citing the RCP, the USFWS notes that direct disturbance during critical biological periods, including lekking, nesting, and early brood-rearing grouse, "can result in abandonment of lekking activities and nest sites, energy expenditure reducing survival, and greater exposure to predators" (75 FR 187, 59846). Early studies of the indirect effects of widespread motorized recreational access on wildlife habitat indicates that high-frequency human activity along established corridors can affect wildlife through habitat loss and fragmentation, including facilitating the spread of predators and invasive plants (Knick et al 2011). Furthermore, domestic dogs on recreation trails are anticipated to be an additional stressor when within vicinity of sage-grouse, although dogs alone are not currently identified as a population-level threat. In general, USFWS notes that recreational activities do not pose a singular threat

to GUSG now or in the foreseeable future, although localized impacts may occur (59846-7).

Overall threat: Low

4 NEW CONSERVATION MEASURES: FUTURE DEVELOPMENT & ACTIVITIES

4.1 Goal, Scope & Function

GOAL:

In order to reduce existing net fragmentation in Tier 1 habitat and avoid additional net fragmentation in Tier 2 habitat, impacts from specified new human infrastructure are avoided, minimized, and mitigated via off-site mitigation.

SCOPE:

New roads, routes, trails, power lines, phone lines, communication sites and meteorological towers, pipelines, fences, culverts, gates, cattle guards, exclosures, recreation infrastructure, and rights-of-way and easements that result in such types of small-scale development projects on federal lands.

Certain activities on federal lands have impacts of such a scale, magnitude, and project-specific nature as to warrant additional consideration and may thus require additional consultation with USFWS under ESA Section 7, outside of what will occur in connection with the CCA. Such activities and actions on federal lands within the Gunnison Basin are not covered by the CCA, including but not limited to:

- Energy and minerals development
- ROWs and easements > 5 acres permitted area
- Utility ROWs and easements > 25 feet permitted area width
- ROWs and easements >.5 mile aboveground infrastructure (not including buried utilities, buried pipelines) OR
- Agency-implemented actions > 1 acre permanent ground disturbance

FUNCTION:

Sections 4 & 5 are designed to function as a screening tool. Identified conservation measures are included as design criteria for projects to be covered under the conference opinion from USFWS. In the event that a project cannot be managed or designed to meet these criteria, additional consultation with USFWS—outside that provided by the conference opinion and any subsequent

adoption of the conference opinion as the biological opinion— may be required if the project may affect the species or its critical habitat.

As noted in Section 2.3, the GUSG CCA is not a decision document, and as such, does not replace any need for site-specific NEPA analysis for new and ongoing land-use authorizations.

4.2 Standard/General Minimization Measures

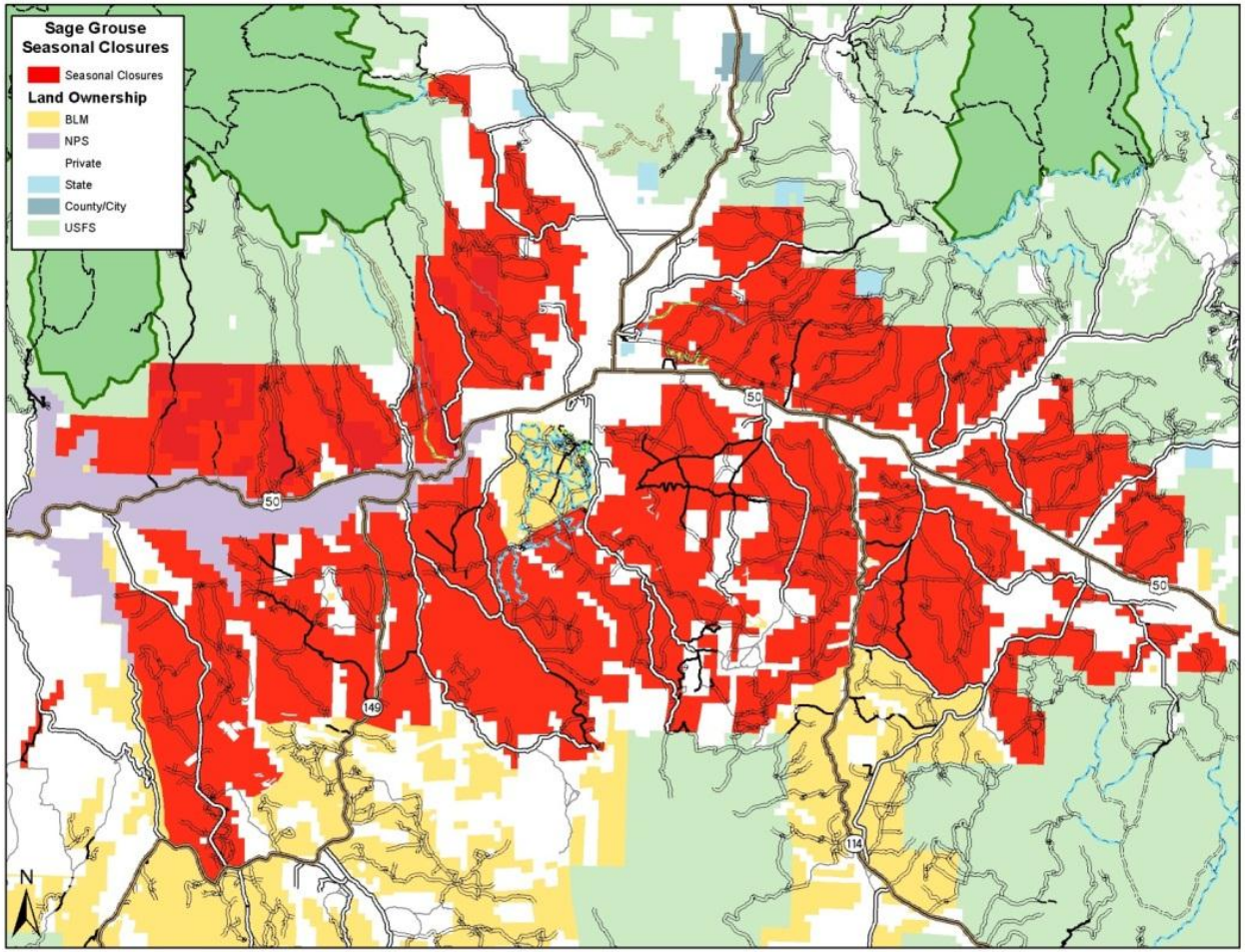
*Note: **Each** of the bulleted measures below applies, unless otherwise indicated.*

4.2.1 *Timing Restrictions & Seasonal Closures*

- Seasonal restrictions on construction, maintenance, and access in seasonal grouse habitat (excepting emergency maintenance), including public access (*See Figure 2*.)
  - Currently implemented: Lekking period, currently observed from approximately March 15 – May 15[5]
    - Closed to motorized travel, with the following exceptions. Excepted travel is encouraged after 9am where possible.
      - Permittees
      - Access to private property
      - Hartman Rocks Recreation Area, north of powerline
      - Emergency maintenance
  - If research indicates additional restrictions are necessary to sustain the sage-grouse population, seasonal restrictions in identified seasonal grouse habitat may be applied to minimize disturbance during the following critical biological periods: nesting, brood-rearing, or winter periods of use by grouse.

[5] Spring closures to minimize disturbance to lekking grouse may be adjusted by the implementing agencies to accommodate changing environmental conditions, i.e., trend toward earlier lekking periods, etc.

Figure 2. BLM & Gunnison County road and area closures, March 15-May 15



4.2.2 *Siting & Construction*

- Co-locate new construction or infrastructure within existing development footprints to the maximum extent feasible, unless implementing agency biologists have identified such existing infrastructure as detrimental to grouse; and
- Siting options analyzed with habitat prioritization tool (HPT) to determine least-fragmenting general location; and
  - For infrastructure that requires temporary or permanent access routes (i.e., utility lines, communication sites), siting options should be considered in conjunction with proposed access routes to determine least-fragmenting general location; and
- Consistent with the 1992 BLM RMP, locate any new construction outside of the lek boundary; and
- Field-verify all HPT designations to ground-truth final siting decisions[6]; and
- Site using topography to conceal or minimize noise and visual[7] impacts to sage-grouse; and
- Site and construct new infrastructure to minimize hydrological modification and riparian disturbance;[8] and
- Integrated weed prevention practices used for all construction and maintenance activity (*See Appendix A*); and
- Close coordination between right-of-way/easement-permitting agency and the respective county for new and amended ROW grants, easements and permits in grouse habitat on federal lands at the earliest possible stage of development.

4.2.3 *Follow-up/Reclamation Standards*

- Habitat reclamation employed for any ground disturbance, in order to minimize establishment of invasive weeds and to accelerate restoration of habitat function. (*See Appendix A*).

Adaptive element:

- Although these measures are intended to be thorough and sufficient to minimize impacts to sage-grouse and sage-grouse habitat from new human infrastructure, additional or more stringent minimization measures may be developed and recommended by the

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[6] Standards for Tier 1 Habitat and Tier 2 Habitat will be applied based upon the most current version of the Habitat Prioritization Tool base maps. Nonetheless, within contiguous blocks of Tier 1 or Tier 2 Habitat, habitat quality is likely to vary. A site visit is critical to locate new ground disturbance in the location with the least impact to grouse habitat.

[7] Visual concealment of vertical infrastructure can minimize the documented behavioral avoidance of such structures by sage-grouse and other grouse species, avoidance likely due to the association between vertical features and predator perches (Braun 1998, Pruett et al 2009).

[8] The BLM will site and construct new infrastructure such that PFC condition is maintained or improved.

Strategic Committee, RCP Steering Committee, agency policy, and/or full agreement by the implementing agencies for inclusion as Standard Minimization Measures. At a minimum, meetings between the implementing agencies and the USFWS will be used to update the CCA *(See Sections 9 & 10).*

- New or updated science will be incorporated into management direction via these committees, the policy of the implementing agency, and/or by full agreement by the implementing agencies.

- In order to accommodate this adaptive element, the permitting agency will reserve the right to require additional modifications to all permitted structures, should they be necessary to minimize impacts to Gunnison sage-grouse.
  - Such modifications may be developed and recommended by the Strategic Committee, RCP Steering Committee, agency policy, and/or full agreement by the implementing agencies.
  - At such time that modifications are required, the permit holder may elect to develop a phased implementation schedule in cooperation with the permitting agency.

4.3 Travel Management & Access

With respect to recreational and/or public access, new roads and trails will be considered in the context of comprehensive travel management and/or land-use plans. A trail or road proposal may meet sage-grouse standards set forth in the CCA, and therefore be covered under the USFWS conference opinion, but a trail or road proposal will also need to meet other established, specified objectives and standards not specific to sage-grouse. The same planning principles would apply to new recreation infrastructure/facilities.

The following standards generally apply to new routes proposed for recreation in occupied habitat, but a separate minimum set of grouse conservation measures are proposed for three geographic areas identified as Highly Managed, Urban Interface Recreation Areas to meet current and future recreation needs: *(See Appendix B).* For the purposes of the CCA, ”new” routes are those for which construction begins on or after the date that the CCA is signed; therefore, areas and routes identified in the 2010 USFS/BLM Travel Management Plan for possible construction would not be considered as the baseline habitat condition, but *additional* to the baseline.

4.3.1 *Motorized Roads & Trails*

A. Tier 1 Habitat:

- Realignments for agency purposes that require new road or motorized trail construction and/or reopenings will be covered by the CCA if:

  - Realignment or reopening conserves or enhances sage-grouse habitat[9]; and
  - Decommissioned road/trail segments that result from realignment or reopening will be reclaimed[10]; and
  - Standard minimization measures are applied (*Section 4.2*).

- ROW/easement access for private applicants that requires road construction and/or reopenings will be covered by the CCA if :
  - Demonstration that the proposed access route is the only reasonable, feasible option, and no sufficient alternative access is available; and
  - Accompanied by offsite/compensatory mitigation at a ratio >1 acre reclaimed: 1 acre disturbed; and
  - Standard minimization measures are applied (*Section 4.2*).

B. Tier 2 Habitat:

- New roads and motorized trails and reopenings will be covered by the CCA if:
  - Accompanied by offsite mitigation at ratio of 1 acre reclaimed: 1 acre disturbed; and
  - Standard minimization measures are applied (*Section 4.2*).

4.3.2 *Nonmotorized Trails*

A. Tier 1 Habitat:

- Realignments will be covered by the CCA if:
  - Realignment conserves or enhances sage-grouse habitat or other important natural resource (riparian areas); and
  - Decommissioned trail segments that result from realignments will be reclaimed; and
  - Standard minimization measures are applied (*Section 4.2*).

- New routes will be covered by the CCA if:
  - These routes would consolidate existing designated and user-created routes[11]; and

[9] An example of a realignment that may conserve or enhance sage-grouse habitat is the realignment of existing routes out of brood-rearing habitat into other seasonal habitat types, given the relative scarcity of brood-rearing habitat in the Basin. Such net benefit to grouse habitat should be documented in the NEPA planning process and reported to USFWS in the annual CCA reports.

[10] The reclamation standard will be determined and documented in site-specific NEPA. Detailed further in Section 6.3.

[11] For USFS and BLM, existing designated/system routes and user-created/nonsystem routes are defined by the 2010 Travel Management Plan (TMP) and subsequent Travel Management Implementation NEPA documents. For NPS, these are defined in the Curecanti National Recreation Area Motorized Vehicle Access Plan/Environmental Assessment, the NPS asset management system, and in the NPS GIS database.

- "Consolidation" is accomplished via decommissioning and reclaiming the replaced routes at a ratio > 1 acre reclaimed: 1 acre disturbed; and
- Signs are installed to ensure pets are leashed on the route during identified critical biological periods, with the exception of permitted outfitting activities; and
- Standard minimization measures are applied (*Section 4.2*).

B. Tier 2 Habitat:

- New routes will be covered by the CCA if:
  - Accompanied by offsite mitigation at ratio of 1 acre reclaimed: 1 acre disturbed; and
  - Standard minimization measures are applied (*Section 4.2*).

4.4 Miscellaneous Infrastructure

4.4.1 *Utility Lines & Pipelines*

Note: Includes amendments on existing ROWs/easements for construction ***beyond*** *the footprint of the original ROW authorization/easement permit. Routine maintenance and reconstruction within the footprint of the original ROW authorization/easement permit are covered in Section 5.4.*

If proposal is for a major project, such as major transmission line construction, then it would fall outside the scope of the CCA and not be covered under the USFWS conference opinion. A major project would entail one or more of the following:

- > 5 acres permitted area OR
- > 25 feet utility ROW permitted area OR
- >.5 mile aboveground infrastructure (not including buried utilities, buried pipelines).

A. Tier 1 Habitat:

1. *For a line proposed through Tier 1 only or Tier 1 <u>and</u> Tier 2 habitat, each of the following standards apply in order to be covered under the CCA:*
   - Avoid Tier 1 to the maximum extent feasible, and demonstrate full consideration of this alternative.

   2. If unable to avoid,
   - Co-locate new utility line on existing overhead lines, to the maximum extent feasible; and
   - Apply standard minimization measures (*Section 4.2*).

   3. If unable to co-locate on existing overhead lines,
     - Bury line (vertical structure avoided); and

- Co-locate buried line within existing comparable development footprints (roads, other pipelines) to the maximum extent feasible;[12] and
- Apply standard minimization measures (*Section 4.2*).

B. Tier 2 Habitat:

1. For a line proposed <u>only</u> in Tier 2 habitat, each of the following standards applies in order to be covered under the CCA:

- Co-locate new utility line on existing overhead lines, to the maximum extent feasible; and
- Apply standard minimization measures (*Section 4.2*).

2. If unable to co-locate,

- Bury line (vertical structure avoided) to the maximum extent feasible, and demonstrate full consideration of this alternative; and
- Co-locate buried line within existing comparable development footprints (roads, other pipelines) to the maximum extent feasible; and
- Apply standard minimization measures (*Section 4.2*).

3. If unable to bury,

- Offsite/compensatory mitigation required at a ratio of 1:1, mitigated area: impacted area; and
- Install the most effective perch deterrents available on all power poles for the proposed segment; and
- Apply standard minimization measures (*Section 4.2*).

4.4.2 *Communication Sites, MET Towers[13], & Comparable Infrastructure*

A. Tier 1 Habitat:

For communication sites, MET towers, and comparable infrastructure, each of the following standards apply in order to be covered under the CCA:

- Co-locate new equipment on existing communication tower, other comparable structure, and/or visually conceal[14] structure in a forested area; and

[12] Design criteria largely consistent with BLM WO IM 2010 – 071, which advises that proposed transmission lines be routed outside of priority sage-grouse habitat. Enabling the transmission line to be buried in Tier 1 habitat provides some flexibility to achieve the desired conservation outcome: avoiding additional vertical infrastructure in Tier 1 sage-grouse habitat.

[13] Meteorological towers. BLM IM 2010-22 advises that the siting of new temporary MET towers be avoided within 2 miles of active sage-grouse leks, unless they are located out of the direct line of sight of the active lek. The design criteria detailed above should achieve a comparable and higher standard by requiring co-location of MET towers and comparable equipment with existing infrastructure in all occupied habitat.

- Apply standard minimization measures (*Section 4.2*).

For associated access routes:

- Use impacted areas to the maximum extent feasible: utilize system roads and nonsystem roads; and
- Apply standard minimization measures (*Section 4.2*).

If there is no existing access,

  - Demonstrate that the proposed access route is the only reasonable, feasible option, and no sufficient alternative access is available; and
  - Apply offsite mitigation standards for new access routes, consistent with *Section 4.3.1, Motorized Roads;* and
  - Apply standard minimization measures (*Section 4.2*).

B. Tier 2 Habitat:

For communication sites, MET towers, and comparable infrastructure, each of the following standards apply in order to be covered under the CCA:

- Co-locate new equipment on existing communication tower or other comparable structure, to the maximum extent feasible;
- Apply standard minimization measures (*Section 4.2*).

If unable to co-locate on comparable structures,

  - Co-locate within existing comparable development footprints (proximal to other vertical infrastructure) and/or forested areas**;** and
  - Incorporate each of the mitigation measures in the USFWS Interim Guidelines on the Siting, Construction, Operation and Decommissioning of Communication Towers *(See Appendix C)*; and
  - Apply standard minimization measures (*Section 4.2*).

For associated access routes:

- Use impacted areas to the maximum extent feasible: utilize system roads and nonsystem roads; and
- Apply standard minimization measures (*Section 4.2*).

If there is no existing access,

  - Demonstrate that the proposed access route is the only reasonable, feasible option, and no sufficient alternative access is available; and

[14] Visual concealment of vertical infrastructure can minimize the documented behavioral avoidance of such structures by sage-grouse, avoidance likely due to the association between vertical features and predator perches (Braun 1998, Pruett et al 2009).

- Apply offsite mitigation standards for new access routes, consistent with *Section 4.3, Motorized Roads*; and
- Apply standard minimization measures (*Section 4.2*).

4.4.3 *Fences*

A. Tier 1 and 2 Habitat:

New fences will be covered by the CCA if:

- Fence is necessary to improve habitat conditions for sage-grouse; and
- Built to general wildlife standards, as recommended by CPW (Hanophy 2009):
  - Posts at minimum 16' intervals; and
  - Gates, drop-downs, removable fence sections or other passages where animals concentrate and cross; and
  - If area is identified as high-risk for grouse collision based upon topography, use flagging to mark the fence[15];
    - Otherwise, use a high-visibility wire, flagging or other visual markers for the top; and
  - Fencing wire placed on the side of the fence posts where the domestic animals are located; and
  - Smooth wire on the bottom; and
  - Height of top rail or wire should be 42" or less; and
  - At least 12" between the top two wires; and
  - At least 16" between the bottom wire or rail and the ground; and
- Standard minimization measures are applied (*Section 4.2*).

4.4.4 *Additional Small-Scale Infrastructure*

Examples: signs, kiosks, vault toilets, vehicle barriers, concentrated parking areas, culverts, gates, cattle guards, exclosures, and water developments not otherwise detailed above. Does not include ground disturbance and infrastructure associated with minerals and energy development; such projects are not within the scope of this CCA and any associated Section 7 conference or consultation.

A. Tier 1 Habitat:

- New infrastructure will be covered under the CCA if:
  - Total acres of new ground disturbance is < ¼ acre; and
  - Infrastructure is sited at least .6 miles from active leks, with the exception of signs and culverts along existing development footprints; and

[15] Consistent with: BLM IM 2010-22, Managing Structures for the Safety of sage-grouse, Sharp-tailed grouse, and Lesser Prairie-chicken, or as updated; USFS R2 SUPPLEMENT 2600-2004-1 2011, Section 2631.1, sage-grouse and Sagebrush Habitats.

- Standard minimization measures are applied (*Section 4.2*).

B. Tier 2 Habitat:

- New infrastructure will be covered under the CCA if:
  - Total acres of new ground disturbance is < 1 acre; and
  - Standard minimization measures are applied (*Section 4.2*).

5 NEW CONSERVATION MEASURES: EXISTING DEVELOPMENT & ACTIVITIES

5.1 Goal, Scope & Function

GOAL:

In order to reduce existing net fragmentation in Tier 1 habitat and avoid additional net fragmentation in Tier 2 habitat:

- Specified impacts from existing human infrastructure and activities are avoided and minimized.
- Livestock grazing is managed to maintain and improve habitat conditions for sage-grouse.

SCOPE:

- Existing roads, trails, utility lines, including the maintenance and reconstruction of such infrastructure, access to and maintenance of existing water developments.
- Special recreation permits, including events and outfitters on federal lands. Seasonal closures to dispersed recreation are included, as such closures effect the management and permitting of events and outfitters.
- Grazing permits. Because of the landscape scale of grazing and grouse habitat, additional grazing conservation measures are identified to share the conservation responsibility amongst key partners. These measures – including coordinated allotment management planning across private, state, and federal boundaries, upkeep of data analysis unit plans for big game—will not be addressed in the Biological Assessment or conference opinion, but are necessary components of a range management system that ensures sage-grouse conservation.

FUNCTION:

Sections 4 & 5 are designed to function as a screening tool. Because Section 5 concerns existing land-use authorizations, such as ROW and easement reauthorizations and grazing and recreation permits, implementation of the identified conservation measures will ensure that continued

authorizations receive coverage under the USFWS conference opinion. In the event that an authorization cannot meet these criteria, additional consultation with USFWS—outside that provided by the conference opinion and any subsequent adoption of the conference opinion as the biological opinion— may be required if the authorized activity may affect the species or its critical habitat.

As noted in Section 2.3, the GUSG CCA is not a decision document, and as such, does not replace any need for site-specific NEPA analysis for new and ongoing land-use authorizations.

5.2 Travel Management

5.2.1 *Closure Implementation*

When implementing route closures under the 2010 Travel Management Plan (TMP) and the NPS Motorized Vehicle Access Plan (MVAP):

- Tier 1 habitat will be prioritized for reclamation work, to the extent feasible.[16]
- Using the Habitat Prioritization Tool and/or a route density map, reclamation options will be compared to optimize the size of intact, unfragmented Tier 1 habitat patches.[17]

5.2.2 *Seasonal Closures*

Tier 1 & Tier 2 Habitat

A. Lek Season

- **Motorized** travel is restricted during the lek season each year, and signatories to this CCA agree to continue implementing such closures (BLM, USFS, NPS, and Gunnison County. *See Figure 2*). Currently observed from approximately March 15 – May 15.[18] The closures apply uniformly to construction, maintenance, and access, including motorized public access, with the following exceptions:
    - Permittees
    - Access to private property

[16] sage-grouse habitat improvement is one of multiple resource concerns that will be taken into account to plan and prioritize closure implementation. When closed routes travel through Tier 1 and Tier 2 habitat, reclamation of Tier 1 segments alone may not be practical or desired from a management or habitat perspective. In such instances, reclamation of the entire closed segment may be preferred and implemented.

[17] See Section 6, Offsite Mitigation. Routes reclaimed after the date of the signed CCA and accompanying conference opinion may be "banked" as credits for future offsite mitigation, so long as monitoring demonstrates such reclamation to be successful.

[18] Spring closures to minimize disturbance to lekking grouse may be adjusted by the implementing agencies to accommodate changing environmental conditions, i.e., trend toward earlier lekking periods, etc.

  - Hartman Rocks Recreation Area, north of powerline
  - Emergency maintenance
- Define approximate geographic boundary.

- CCA signatories will install signs at major shooting areas within Tier 1 habitat or within .6 miles of active leks to encourage shooting only after 9am during the lek season, March 15-May 15.

B. Severe Winters

The agencies recognize that winter is a critical biological period for sage-grouse, and that even moderate-frequency travel through grouse concentration areas during severe winters would result in physiological stress that likely reduce the overall fitness of individuals and flocks (Hupp and Braun 1989; GSRSC 2005).

<u>Management Trigger:</u>

- Severe winters would trigger a collaborative, interagency management decision to implement area closures to protect identified grouse concentration areas. Closure decisions will be made in the context of managing for multiple resources, including big-game concentrations, public recreation, range condition, etc.
- Severe winters would be identified via a collaborative, interagency management discussion using the following criteria:
  - Snow depth
  - Temperature
  - Snow condition/consistency
  - Prior year's range condition
- Though frequency of severe winters cannot be predicted, on average, severe winters occur every 10 years.
- All other winter conditions:
  - Unless research indicates further consideration, no additional winter timing restrictions would be implemented during non-severe winters.
  - General messaging to recreation community will encourage cross-country winter travel in Urban Interface Recreation Areas, higher elevations and forested areas.

<u>Management Tools:</u>

- Over-snow travel:
  - Agency may implement area closures through all or a portion of identified grouse concentration areas, restricting travel to existing roads.
  - Agency would implement closures to motorized cross-country travel at a minimum, and to all human use at a maximum.

        - If open roads lead to cross-country travel in closed areas, agency will consider closing specified roads as well.

- Timeframe:
    - In identified severe winters, closures would occur anytime between approximately December 1 and March 31.

- Emergency Closures:
    - The above grouse management tools are not intended to substitute for existing agency guidelines/policies regarding emergency seasonal closures. Emergency seasonal closures are implemented to protect a variety of natural resources.
    - Existing management tools for emergency seasonal closures:
        - CPW can implement temporary, emergency area closures during hunting seasons (Colorado Wildlife Commission Regulation 020-E-6).
        - The BLM, NPS, and USFS can implement temporary, emergency seasonal closures to identified federal lands pursuant to their regulatory authorities.

C. Additional Seasonal Closures:

- If research indicates additional restrictions are necessary to sustain the sage-grouse population, seasonal restrictions in identified seasonal grouse habitat may be applied to minimize disturbance during the following critical biological periods: nesting, brood-rearing, or winter.
- If and when additional seasonal restrictions are implemented, restrictions will be uniformly applied to construction, maintenance, and access, with the standard exceptions.

5.2.3 *Recreation Events and Outfitters*

Tier 1 & Tier 2 Habitat

- *Special use permits for recreation events, guides, and outfitters will be covered by the CCA if:*

    - Applicants comply with any existing public seasonal closures; and
    - Events and guides utilize designated open routes (vs. cross-country travel) as identified in the TMP (BLM, USFS) or MVAP (NPS); and
    - Recreation permits, including those for outfitters, are modified at renewal and issuance to allow for management flexibility in event of a severe winter;
        - I.e., *"When severe winter conditions are identified by permitting agency, in order to preserve natural resources, including sensitive species, the permitting agency reserves the right to restrict permittee' s travel from*

identified areas and/or routes, consistent with restrictions that would be placed on general public access….approx. December 1 to March 31 ….; and

- The permitting agency demonstrates reasonable attempt to focus events and outfitters on/through areas outside of sage-grouse habitat, or to identified high-use, urban interface recreation areas. Nonetheless, certain activities require a specific resource, and implementing agencies recognize that not all activities can be located outside of sagebrush habitat.

5.3 Miscellaneous Existing Infrastructure

5.3.1 *Overhead Utility Lines*

Tier 1 & Tier 2 Habitat

- *Prior to ROW/easement renewal/amendment:*

  Routine maintenance and reconstruction that does not require ROW/easement amendments are covered under the terms and conditions of the original ROW/easement authorization. Nonetheless, participating permit holders may adopt the following voluntary measures:

  - During the course of routine maintenance within the footprint of the existing ROW/easement, install the most effective perch deterrents available on all power poles for that segment.
    - Agency biologists will identify recommended perch deterrents and cooperate with utilities to ensure such mechanisms meet any applicable code requirements.
  - Apply standard minimization measures, (*Section 4.2*), including:
    - Limit access and construction during the lek season, consistent with spring seasonal closures for general public. Emergency maintenance excepted from this provision.
    - Use integrated weed prevention practices for all construction and maintenance activity *(See Appendix A)*.

- *At ROW/easement permit renewal/amendment:*

  Construction within the footprint of the original authorization[19] will be covered by the CCA if:

[19] See *Section 4.4* for construction *beyond* the footprint of the original ROW/easement authorization.

- As a condition of renewal or amendment approval, during the course of routine maintenance and upgrades that include pole/line replacement within the footprint of the existing right-of-way/easement, permit holders will install the most effective perch deterrents available on all power poles for that segment; and
- The permitting agency reserves the right to require additional modifications to all powerline structures placed on rights-of-way/easements, should they be necessary to minimize impacts to Gunnison sage-grouse, consistent with *Section 4.2, Standard Minimization Measures*; and
- Standard minimization measures are applied as terms and conditions of the permit (*Section 4.2*), including:
  - Timing restrictions for access and construction, consistent with spring seasonal closures for general public. Emergency maintenance excepted from this provision; and
  - Integrated weed prevention practices used for all construction and maintenance activity *(See Appendix A)*.

5.3.2 *Water Developments*

Tier 1 & Tier 2 Habitat

- *Right-of-way/easement authorizations and renewals through occupied habitat on federal lands to access and maintain existing water developments will be covered by the CCA if:*
  - Standard minimization measures are applied as terms and conditions of the permit (*Section 4.2*), including:
    - Timing restrictions for access and construction, consistent with spring seasonal closures for general public. Emergency maintenance excepted from this provision; and
    - Integrated weed prevention practices are used for all construction and maintenance activity *(See Appendix A)*.

5.4 Livestock Grazing

Parties to this agreement recognize the following:

- Continuation of working ranches in the Gunnison Basin is important to sage-grouse conservation.
- Public land grazing allotments are critical to continuation of these ranches.
- All Gunnison sage-grouse habitat is important, irrespective of land ownership.
- Both wild ungulate and domestic livestock grazing occur on the landscape, and management of one must recognize the impacts of the other.

Tier 1 & Tier 2 Habitat

Grazing permit renewals in occupied habitat on federal lands will be covered under the CCA if each of the following five measures is implemented:

1. RCP/CCA grazing management guidelines[20] *(See Appendix D)* continue to be incorporated into all permits and any associated allotment management plans and/or coordinated management plans in occupied sage-grouse habitat (BLM, USFS, NRCS, NPS). *RCP Grazing Objective 1-1, p. 211*

Allotments and/or pastures containing occupied habitat will be managed for both breeding and summer/fall herbaceous heights RCP habitat guidelines.

2. At permit renewal or in annual operating instructions for each grazing permit containing occupied sage-grouse habitat, if not earlier, an agency IDT, in cooperation with the permittee, will use the Habitat Condition Assessment (*See Section 7.2*) to incorporate habitat guidelines for herbaceous heights as a term and condition of the permit.[21]

a. For riparian areas, Gunnison Basin GUSG Conservation Plan guidelines for herbaceous heights will be incorporated as a term and condition of the permit.
b. For non-riparian habitat, RCP guidelines for herbaceous heights will be incorporated as a term and condition of the permit.
c. Short-term/annual monitoring points will be selected by an IDT, including permittees, to monitor compliance with herbaceous height standards. (*See Section 7.2., which prescribes indicators and monitoring methodology.)*
d. For permittees participating in cooperative monitoring, implementing agencies will conduct on-the-ground review of the monitoring protocol.

3. At permit renewal or in annual operating instructions for each grazing permit containing occupied sage-grouse habitat, incorporate into all applicable permits, allotment management plans, and coordinated management plans the following framework of actions that will take effect if herbaceous heights are not met by the following timelines:

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[20] RCP **grazing management** guidelines—a list of Best Management Practices (pgs. 212-213 of RCP) are distinct/different from the RCP (**structural) habitat** guidelines – on-the-ground vegetation parameters necessary for maintenance of sage-grouse habitat (Appendix H of RCP).

[21] For the purposes of the CCA, herbaceous heights will only become a "standard" if and when they are incorporated into a grazing permit through this process. Otherwise, the habitat indicators will be used as long-term objectives to move toward via management of relevant factors.

a. If monitoring shows that herbaceous heights are not meeting the terms and conditions of the permit and changes in grazing are needed, changes will be coordinated with a team approach that involves the permittee.[22]
b. If the sagebrush habitat structure is a limiting factor to achieving the guidelines, habitat treatments will be considered as funding and opportunities become available.[23]
c. If permitted or dispersed recreation is identified as a causal factor for the failure to meet the guidelines, agencies will address as practicable.
d. If other land use authorizations and factors are limiting factors to achieving the guidelines, address as appropriate.

After year 1:

If the Authorized Officer determines via compliance monitoring that an allotment is not meeting habitat guidelines for herbaceous heights and due in part or whole to current livestock grazing:

- Adjust intensity, timing, distribution and/or duration of livestock grazing for year 2. Employ grazing BMPs *(See Appendix D)*.
- Address any other contributing factors, as appropriate.

If the Authorized Officer determines via compliance monitoring that an allotment is not meeting habitat guidelines for herbaceous heights and not due to current livestock grazing:

- Record adequate monitoring data to determine cause.
- Address any other contributing factors, as appropriate.

If the Authorized Officer determines via compliance monitoring that an allotment is not meeting habitat guidelines for herbaceous heights and the cause is unclear:

- Conduct more monitoring in year 2, including key areas of livestock use and important habitat areas for grouse, pre-season, and during the grazing season as needed to determine the cause.
- Adjust intensity, timing, distribution and/or duration of livestock grazing for year 2. Employ grazing BMPs *(See Appendix D)*.

[22] Consistent with grazing regulation 4130.3-3, which requires the authorized officer to provide affected permittees "an opportunity to review, comment and give input during the preparation of reports that evaluate monitoring and other data that are used as a basis for making decisions to increase or decrease grazing use, or to change the terms and conditions of a permit or lease."
[23] Habitat treatments are not covered by the CCA and associated conference opinion; they may require separate conference or consultation with USFWS.

After year 2:

If the Authorized Officer determines via compliance monitoring that an allotment is not meeting habitat guidelines for herbaceous heights for 2nd consecutive year due in part or whole to current livestock grazing:

- Adjust intensity, timing, distribution, and/or duration of livestock grazing for year 3. Employ grazing BMPs *(See Appendix D)*.
- Address any other contributing factors, as appropriate.

If the Authorized Officer determines via compliance monitoring that an allotment is not meeting habitat guidelines for herbaceous heights for 2nd consecutive year and not due to current livestock grazing:

- Record adequate monitoring data to determine cause.
- Address any contributing factors, as appropriate.

If the Authorized Officer determines via compliance monitoring that an allotment is not meeting habitat guidelines for herbaceous heights for 2nd consecutive year and the cause is unclear:

- Employ additional adjustments to livestock grazing and to other contributing factors for year 3.
- Continue additional monitoring in year 3, key areas of livestock use and important habitat areas for grouse, etc.

After years 3-5:

If the Authorized Officer determines via compliance monitoring that an allotment is not meeting habitat guidelines for herbaceous heights for 3rd-5th consecutive year due in part or whole to current livestock grazing:

- Employ longer-term adjustments to grazing, including changing grazing system, reducing stocking/season of use, rest, etc.
- If appropriate, treat/restore structural habitat[24].
- Address any other contributing factors, as appropriate.

[24]Habitat treatments may require additional conference or consultation with USFWS.

If the Authorized Officer determines via compliance monitoring that an allotment is not meeting habitat guidelines for herbaceous heights for 3rd-5th consecutive year and not due to current livestock grazing:

- Continue to manage other factors and monitor progress.

For undetermined causes, continue to implement applicable BMPs to move towards sage-grouse habitat guidelines. Continue to monitor progress towards meeting relevant guidelines.

4. Conduct adequate monitoring of herbaceous heights on active grazing allotments in occupied sage-grouse habitat in accordance with the monitoring protocols outlined in the CCA (BLM, USFS). *RCP Grazing Objective 2-1, p. 212. (See Section 7.2).*

a. Short-term monitoring[25] will be conducted during season of grouse use (nesting, brood-rearing, etc.) for early-season grazing, and following livestock use for late-season grazing (*See Section 7.2).*

b. Prioritize limited funding to ensure adequate monitoring is accomplished in Tier 1 habitat.

5. Manage grazing in riparian areas, swales, and wet meadows to improve habitat conditions.

Note: These are included in Appendix D, Grazing Management Guidelines, but are also included here to emphasize the importance of maintaining and improving riparian and other brood-rearing habitat.

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a. Encourage continued use of irrigation water rights for existing hay meadows, particularly those that maintain riparian areas on allotments in sage-grouse habitat. *CCA Team*

b. Manage grazing in riparian areas to maintain or move towards the desired riparian vegetation condition. *CCA Team*

c. New spring developments and spring reconstructions will be designed to minimize changes to the natural flow of the water. *CO GrSG Conservation Plan – Grazing Management Options, p E-3*

- Develop any new alternative livestock water sources outside of naturally occurring riparian areas (develop wells, install pipelines, etc.). *CCA Team; RCP Grazing Management Guidelines for GUSG, #9, p.213*
- Where possible (when sufficient water is present to support riparian habitat and supply livestock water), redesign existing water developments that are in naturally occurring riparian areas to protect riparian habitat and pipe a portion of the water to

[25] Minimum short-term monitoring information will include grass and forb stubble height along transects, in addition to photo points (See Section 7.2 and Appendix E).

troughs that are well away from naturally occurring riparian habitat. *CCA Team; RCP Grazing Management Guidelines for GUSG, #9, p.213*

d. Salt at least 1/4 mile away from riparian areas, to the extent feasible within existing pasture boundaries.
e. Move 95% of all livestock from one pasture to the next within 3 days of scheduled move, with 100% moved within one week from scheduled move.
f. Maintain at least 4" of stubble height (residual material) on hydrophytic plant species (wide-leaved sedges such as beaked sedge, water sedge, rushes, tufted hairgrass, and spikerush) in riparian areas throughout the growing season.[26] *Gunnison Basin GUSG Conservation Plan*

Furthermore, the following grazing conservation measures are identified to share the conservation responsibility amongst key partners:

1. Seek opportunities to achieve greater flexibility in the distribution of current AUMs across the landscape in order to improve GUSG habitat.[27]

a. Inventory inactive grazing allotments on state and federal lands. Identify vacant allotments that may enable short and long-term flexibility in the grazing system. *(Initial inventory complete.)*
b. If climate events delay the turnout date on federal lands, short-term options for flexibility include, subject to NEPA adequacy requirements:
   - The agencies will work with the permittees to limit the length of delay and allow the days delayed to be added to extend the season, as long as grouse standards can be met.
   - BLM and Forest grazing seasons may be changed to aid important grouse habitat on private land from being grazed beyond the standards.
   - If the permittee is able to find alternative grazing capacity at the start of the season, then an equivalent amount of time may be added to the end of the grazing season on federal lands.
c. Long-term options for flexibility:
   - As opportunities arise, create coordinated Allotment Management Plans to improve GUSG habitat across private and federal lands (NRCS, BLM, USFS, NPS, CPW, private landowners/stockgrowers).

[26] This will help these deep-rooted plants hold onto sediment, sustain streambanks, and support water table levels (Clary & Leininger 2000, Wyamn et al 2006).

[27] Because of the landscape scale of grazing and grouse habitat, additional grazing conservation measures are identified to share the conservation responsibility amongst key partners. These measures – including coordinated allotment management planning across private, state, and federal boundaries, upkeep of data analysis unit plans for big game—will not be addressed in the Biological Assessment or conference opinion, but are necessary components of a range management system that ensures sage-grouse conservation.

5.5 Wild Ungulate Grazing

The following RCP strategies, pertinent to big game management, are continued in the GUSG CCA:

- Participate in reevaluation of Data Analysis Unit (DAU) plans for managing specific populations of big game, particularly for maintaining elk populations at management objectives (CPW, BLM, USFS, and private landowners). DAU reevaluation will occur consistent with state laws and regulations and consistent with established protocols, including Wildlife Commission review.
- Develop wild ungulate winter habitat objectives to meet seasonal GUSG requirements (CPW, BLM, USFS, and private landowners).
- Develop strategies to draw ungulates away from treatment areas to allow proper recovery (CPW, BLM, USFS, and private landowners).

Furthermore,

- Implementing agencies commit to share and use pertinent short and long-term sage-grouse habitat monitoring data to inform DAU planning (CPW, BLM, and USFS).
- Implementing agencies recognize that both wild ungulate and domestic livestock grazing occur on the landscape, and management of one must recognize the impacts of the other.

5.6 Integrated Weed Management

Tier 1 & Tier 2 Habitat

Ground disturbance associated with the CCA actions and general road maintenance:

In order for signatories to receive coverage under the CCA and programmatic conference opinion for ground disturbance associated with the CCA action plan general road maintenance on federal lands, signatories will:

- Implement integrated weed prevention BMPs for road maintenance and ground disturbance operations, consistent with *Appendix A, Section I*.
- Incorporate integrated weed prevention terms and conditions for road maintenance and ground disturbance operations, consistent with *Appendix A, Section II*. These terms and conditions shall apply to the signatory as well as any signatory-contracted operators that maintain and construct infrastructure within Gunnison sage-grouse habitat on federal lands.

6 OFFSITE MITIGATION

In the fields of land management and conservation biology, the mitigation hierarchy typically includes three steps prior to offsite mitigation: avoid, minimize, restore. Although the CCA applies such steps for new infrastructure in sage-grouse habitat, the CCA also takes a precautionary and conservation-oriented approach to include off-site mitigation as a design criterion for specific infrastructure projects. Whereas biodiversity offsets are frequently used in situations where development is sought despite detrimental environmental impacts (McKenney 2005Gibbons and Lindenmayer 2007), such as during the development of interstate transmission lines and oilfields, it is less commonly employed for small-scale projects such as those covered in the CCA. Generally, on-site mitigation and minimization measures are applied during the environmental review and permitting processes for small-scale projects such that off-site mitigation is not required. Yet such a project-by-project approach does not account for the cumulative impacts of even small-scale development.

Triggers for offsite mitigation in the GUSG CCA include[28]:

1. *Project impacts cannot be mitigated to an acceptable level onsite.*

   In the GUSG CCA, design criteria have been developed such that the maximum feasible level of on-site mitigation is applied. Yet with respect to the concrete objectives—avoid net Tier 2 habitat loss and achieve a net gain in Tier 1 habitat—permitting certain permanent land-use authorizations in sage-grouse habitat cannot be fully mitigated on-site. These actions, as identified above, include:

   - New road construction and reopenings
   - New motorized trail construction and reopenings
   - New nonmotorized trail construction and reopenings
   - Aboveground utility lines

2. *It is expected that the proposed land use authorization as submitted would not be in compliance with important resource objectives.*

   To accomplish the CCA's habitat objectives, yet to allow continued, unavoidable, and viable land-use authorizations in the affected area that are consistent with the mission of the authorizing agency, offsite mitigation is included as a design criterion in order for specified new, ground-disturbing infrastructure to be covered under the CCA.

[28] Offsite mitigation in the GUSG CCA is consistent with BLM WO IM 2008-204.

6.1 Geographic Parameters

At a maximum, the service area for offsite mitigation implementation is limited to the defined affected area of the CCA: federal lands in occupied sage-grouse habitat in the Gunnison Basin. At a minimum, distance between the action area and the offset area is a project-specific discretionary determination, and should be made during project planning and authorization processes. By definition, offsite mitigation consists of compensating for resource impacts by replacing or providing substitute resources or habitat at a different location than the project area. For the purposes of the CCA, the offset action should not be located within the action's direct impact area, i.e., permitted area. Further, the functional value of the offset may be overshadowed if located within the action's functional impact area. Ultimately, the offset should be located to maximize the net benefit to GUSG habitat in the Gunnison Basin.

6.2 Accounting

While replacement ratios are specified in the CCA to account for the relative habitat value of Tier 1 versus Tier 2 habitat, there are admittedly more complex accounting systems to determine the size of offsets based upon on-the-ground assessments of habitat quality and function. Habitat assessments of impact and offset sites can provide thorough information to compare their relative values, but such efforts are time-consuming and costly, and are generally inefficient for small-scale projects. Another recent method involves identifying a biologically-based offset currency, based upon anticipated population declines from the project impact (Doherty e al 2010), but existing sage-grouse science limits applicability to development with established density-dependent effects on lek counts and bird distribution, such as oilfield development; paved, high-frequency roads; residential development (Aldridge et al 2011). No such impacts are covered in the CCA.

Instead, the CCA relies on the landscape-level delineation of relative habitat value in the Habitat Prioritization Tool to arrive at more simple, acre-for-acre replacement ratios to meet the stated habitat objectives: >1:1 in Tier 1 habitat; 1:1 in Tier 2 habitat.

If the impact occurs in Tier 1, yet the replacement or offset action is identified in Tier 2, then the standard >1:1 ratio would apply, on the condition that the offset action is calculated to bump the offset area from Tier 2 to Tier 1 classification.[29] If the offset action would not result in reclassifying the offset area as Tier 1 habitat, then a 3:1 replacement ratio would be necessary.

Yet while many offset policies identify replacement ratios and calculate acreage accordingly, i.e., a 2:1 replacement ratio for a 10-acre project would simply require 20 offset acres, critics of such an approach argue that time lags and success probability hinder their reliability in achieving no net loss objectives (Kiesecker et al 2010). Although preservation actions deliver value from the

[29] The effect of an offset action on the categorization of that area can be assessed with the Habitat Prioritization Tool.

outset, restoration actions may take years to reach expected potential and provide full conservation benefit, thus rendering a time lag component that is not accounted for in simple replacement ratios. With respect to success probability, or the likelihood of a particular type of restoration to reach full conservation potential, a simple replacement ratio assumes that all restoration approaches are guaranteed equal results, irrespective of ecological site characteristics and methods. Although most restoration actions completed as offsite mitigation in the CCA will likely be road and trail decommissioning, other restoration actions may surface as viable currency. Methods may vary, as well as the potential of a site to be successfully reclaimed. A high-medium-low probability of success can be estimated case-by-case from experience and professional judgment.

By accounting for both factors (See Table 6.1), offsite mitigation accounting in the CCA will include a back-calculation of the total offset acreage required in order to meet the identified habitat objectives and corresponding replacement ratios.

Time lags

- The time to maturity of a restoration action can be estimated to apply a discount rate.
- Over time, the accounting sheet for offset actions will be adjusted to reflect actual time lag, pending conservation maturity.
    - *Example:* .5 mile trail is reclaimed, estimated to take 5 years to reach maturity, which starts out at .49 miles of credit. Yet monitoring data may indicate restored habitat function within 3 years; in this case, the credits would be adjusted to ~.5 miles. "Credits" may increase or decrease, depending upon the actual time lag to conservation maturity.
- In the event that an offset action constitutes fee title acquisition or assurances via a conservation easement on private land in grouse habitat, time lag is estimated at 0 years (Kiesecker et al 2010).

Success probability

- The probability of the conservation action's success can be roughly estimated, based upon past restoration actions in the same vegetation communities/ecological types.
- Over time, the accounting sheet for offset actions will be adjusted to reflect actual performance, pending conservation maturity.
    - *Example:* .5 mile trail is reclaimed, estimated to be 90% successful, based upon past success with the chosen methods and in the particular ecological types, which equals .45 miles of credit. Yet after the expected number of years to reach maturity, only 25% of the segment appears in a trend toward meeting the sage-grouse habitat guidelines, the credits would be adjusted to .125 miles... At that point, the implementing agency may decide to reinvest effort on this site to make up the difference, or it may make up the missing credits elsewhere on the landscape. "Credits" may increase or decrease, depending upon the actual performance of the offset action.

- In the event that an offset action constitutes fee title acquisition or assurances via a conservation easement on private land in grouse habitat, success likelihood is estimated at 100% (Kiesecker et al 2010).

Table 2. Calculating total conservation benefit from different offset actions.

Impact Size multiplied by replacement ratio = Offset Goal		
1/2 acre of Tier 1 habitat impacted; 2:1 replacement ratio requires minimum 1 acre restored		
Offset portfolio	***Site A, Tier 1***	***Site B, Tier 1***
Acres at offset site suitable for conservation	1/2 acre restoration	1/3 acre restoration
Proposed conservation action	Decommissioning a closed road	Redesigning a water source to relocate livestock out of riparian
Probability of success of conservation action	90%	100%
Time lag to conservation maturity	5 yrs	0 yrs
Effective discount rate	0.5%	0%
Offset credits	.44 acres	.33 acres
Minimum offset credits required	1 acre	1 acre
Implicit ratio,	*(may be >2:1)*	
Total offset acres: impact acres	2:5	1:3
Minimum replacement ratio,		
Offset credit acres: impact acres	2:1	2:1
Additional acres needed to meet ratio?	.56 acres	.67 acres
Cost/acre for offset	$500/acre	n/a
Total cost	$250	$1000 fixed cost
Cost/offset acre credit delivered	$568/acre	$3030/acre

(Table modified from Kiesecker et al 2010, p. 178)

6.3 Currency: Offset Actions

6.3.1 *Roads & Trails*

For public and recreational road and trail construction and reopenings, offsets actions will include:

- Decommissioning old routes to Level 3 or higher and monitoring to ensure public compliance with the route closure. While Level 3 or higher is generally preferred, there may be circumstances in which ground disturbance of a portion of a route should be minimized due to a) use of site openness for lekking grouse, and/or b) risk of spread of invasives. Such exceptions will be documented on a case-by-case basis in the annual reports submitted by the agency biologists.

A. Level of Decommissioning done by hand, passenger vehicle, or ATV/UTV[30]

Level 1 – Allow the closed road to naturally revegetate.
Level 2 – Install sign with a hand crew
Level 3 –These activities will be done by a hand crew.

a) Install/Remove worm fence/barricade, buck and pole fence/barricade, rock barriers, or gate.
b) Place slash on the road surface, drop trees, dead plant vegetation, plant live vegetation, transplant live vegetation from nearby areas, and install erosion products such as coir logs (i.e. wattles) , mulch, and erosion control blankets.
c) Install and remove cross ditches/drains; check dams; and water bars.
d) Hand crews rototill or scarify the ground.

B. Levels of Decommissioning done with heavy equipment (excavator, dozer, track hoe).

Level 4 – Physical Barricades. Install gates, rock blockades or trees with mechanized equipment, such as a tracked excavator or dozer.
Level 5 – With mechanized equipment, rip the road; sub-soil the road; or construct water bars or ditches within and outside of the road prism.
Level 6 – With mechanized equipment, re-contour the road prism by pulling back all cut and fill slopes in addition to inboard ditches.
Level 7 –With mechanized equipment, remove all drainage structures including cross drains (culverts, rolling dips, and water bars); stream crossings structures (culverts); and unstable fills.

For private ROW access that necessitates road construction or reopenings, offset actions will include:

- An in-lieu fee that will be calculated and charged to the project applicant, based upon the average cost of decommissioning and reclaiming a comparable area of road to Level 3 or higher. Timeline for completion of the on-the-ground offset action by the authorizing agency will be identified in any NEPA planning documents and the annual reports to USFWS; or
- Additional offset actions may be identified by the project applicant. The suitability of the action to meet net habitat objectives will be determined on a case-by-case basis by the implementing agency biologists, in cooperation with USFWS.

6.3.2 *Utility Lines*

Offset actions may include:

- Additional buried utility lines on public lands;[31] or

[30] BLM terms and framework.
[31] Action is additional vs. redundant, i.e., the action is not otherwise required.

- An in-lieu fee will be calculated and charged to the project applicant, based upon the average cost of reclaiming an area of habitat comparable to the permitted area of impact. Timeline for completion of the on-the-ground offset action by the authorizing agency will be identified in any NEPA planning documents and the annual reports to USFWS; or
- Additional offset actions may be identified by the project applicant. The suitability of the action to meet net habitat objectives will be determined on a case-by-case basis by the implementing agency biologists, in cooperation with USFWS.

6.4 Banking

- Subsequent to the date of the signed CCA and conference opinion, utility companies may "bank" miles of utility lines they bury on public lands to serve as future credit toward mitigation requirements, so long as the action is not otherwise required.
- Subsequent to the date of the signed CCA and conference opinion, agencies and their recreation partners may "bank" acres of routes they reclaim in sage-grouse habitat to serve as future credit toward mitigation requirements.

6.5 Timeline

Required timelines for completing offset actions will be identified in the NEPA planning documents and/or reported to USFWS in the annual reports. If a "banked" credit is used to meet the offset requirements of a particular project, that will likewise be identified in the annual reports to USFWS.

- In the case of a) realignments and b) recreation trails that will consolidate existing dispersed recreation, new open routes may be necessary in order to effectively close the old segments or routes.
- Otherwise, offset actions should be completed concurrent with or prior to new construction activities.

7 MONITORING PLAN

"The vegetation structure guidelines we present… should be interpreted as minimum standards, and managers should strive to meet the full potential of any given site. These habitat guidelines should be considered adaptive, and interim in nature. The guidelines were developed from actual grouse use sites, but should be considered as guidance until further and more specific and quantified data are available from grouse research, or until the development of a rigorous mapping protocol. These guidelines are intended to represent a variety of landscape situations.

Landscapes are diverse; some areas on the landscape will not meet these guidelines, some areas will meet the guidelines, and some areas will exceed the guidelines. As new information is collected, these guidelines, as well as the plan are meant to be adaptable."

RCP App H: GUSG Structural Habitat Guidelines, H-5.

To this end, grouse habitat monitoring will be used to:

- characterize the variability across the landscape with "further and more specific and quantified data";
- better enable managers "to meet the full potential of any given site" to provide sage-grouse habitat via livestock management and habitat reclamation, as outlined in the CCA;
- track the habitat quality and conservation maturity of offsite mitigation in the form of restoration.

7.1 Habitat Condition Assessment & Long-term Habitat Monitoring

**NOTE: This section is not specific to grazing, but is a component of an integrated vegetation monitoring plan that is relevant to multiple program areas and uses.*

Objective:

- Monitor and assess sage-grouse habitat conditions relative to RCP sage-grouse Structural Habitat Guidelines for nesting and brood-rearing sagebrush habitat at the landscape scale.
- Use RCP/GUSG Rangewide Steering Committee 2007 habitat monitoring protocol
- Habitat data will be used ***in conjunction with*** other monitoring data (grouse and non-grouse) to inform Land Health Assessments and Determinations (BLM) and relevant long-term management actions.
    - Participants recognize in order to describe grouse habitat conditions at the ***allotment*** level, additional information may be necessary, including annual stubble height measurements and additional transects read with the RCP habitat monitoring protocol.

1. Compile and analyze existing baseline data.

a. Agencies will examine existing data that can be compared to the Rangewide Conservation Plan, Appendix H, GUSG Structural Habitat Guidelines. Potential data sets include the Habitat Partnership Program inventory, CPW baseline data[32], trend studies, and sagebrush treatment monitoring transects.

b. Using existing quantitative transect data, agencies may describe ecological site potential of vegetation communities as meeting or not meeting any or all of the GUSG structural habitat guidelines.

[32] Williams 2012. *Characteristics of Gunnison sage-grouse Habitat in Dry Mountain Loam and Mountain Loam Ecological Sites of the Gunnison Basin.* CPW.

2. Select transect locations.

a. An agency ID team, in coordination with CPW, livestock permittees, and other interested entities, would select a subset of existing transect locations to maintain permanent, long-term monitoring. This subset should include vegetation communities/ecological sites capable of meeting any/all habitat indicators.
b. Additionally, new transects may be established to ensure coverage of all pertinent vegetation communities/ecological sites.
c. Selected transects will be comprised of a random sample across federal lands in occupied habitat in the Basin.
d. Agencies will monitor transects with the methods outlined in the RCP vegetation monitoring protocol (see Appendix E.II).

3. Collect Data.

At a minimum, participating agencies will complete the following:

a. *For areas that are meeting most/all of the structural habitat guidelines:*
   - Re-read transects every 8-9 years, and/or when short-term monitoring indicates habitat conditions have changed. Read more frequently if a significant change occurs in management or vegetation condition (fire, large-scale weed invasion, die-off event, multiple-year drought, etc.)
b. *For areas that are not meeting the minimum value of most/all of the structural habitat guidelines:*
   - Collect monitoring data at established study transect sites every 3-5 years.

4. *Land Health Measures (BLM)*

a. Incorporate GUSG RCP structural habitat guidelines into Land Health Standards Determinations[33] on BLM, Gunnison Field Office-administered lands. *RCP Grazing Objective 1-2, p. 211*
   - Assessment will include data collected with the RCP monitoring protocol (long-term transects) and with the modified stubble height protocol (short-term, see Appendix E).

b. Complete Land Health Determinations (revised, including RCP structural habitat guidelines) on all occupied sage-grouse habitat.
   - Priorities may include: grazing allotments in Tier 1 GUSG habitat, areas previously determined *Not Meeting - Moving towards*, etc.
   - Encourage interested parties to work with the BLM to complete Land Health Assessments.

[33] Land Health assessments and determinations are utilized by the BLM to inform management. Decisions specific to recreation, grazing, and development may follow from Land Health determinations.

7.2 Short-term Monitoring for Grazing Management

Objective:

- Monitor herbaceous heights in occupied sage-grouse habitat in order to inform grazing management and management of other contributing factors in the short-term.
- Integrate grouse habitat monitoring for grazing-relevant RCP habitat guidelines with range monitoring.

1. Select monitoring locations.

a. An ID team, including participating permittees and range and wildlife Authorized Officer, will choose a subset of the baseline CCA plots for short-term monitoring locations that best represent the habitat conditions AND livestock/big game use in the pasture/use area. To the extent possible, short-term monitoring locations will include the long-term fixed point monitoring locations, but more locations may be necessary.
b. Locations should be established in areas that can support GUSG habitat objectives *(use information from Section 7.2, sage-grouse Habitat Condition Assessment, to locate appropriate ecological sites/vegetation communities.)*
c. The ID team will aim to establish fixed monitoring points for efficiency and consistency, but changing conditions may warrant that the ID team add locations over time to best represent grouse habitat and livestock use. Need at least one per pasture.

2. Collect & Interpret Data.

At a minimum, implementing agencies will complete the following:

Determine whether an allotment is meeting/not meeting the minimum value of the RCP habitat guidelines for herbaceous heights:

a. **"Meeting" RCP Guidelines:** In a given year, if 70 % of the grass height measurements within a given allotment—in plant communities that have site potential to meet the RCP grass height guidelines in normal precipitation years—have met the RCP guidelines, the allotment will be determined to be "meeting".
b. **"Not meeting" RCP Guidelines:** In a given year, if more than 30% of the grass height measurements within a given allotment –in plant communities that have site potential to meet the RCP grass height guidelines in normal precipitation years—the allotment will be determined to be "not meeting".
c. Consideration of site potential is warranted in the process of determining "meeting" vs "not meeting", because as the RCP notes, "landscapes are diverse; some areas on the landscape will not meet these guidelines, some areas will meet the guidelines, and some areas will exceed the guidelines" (GSRSC 2005, App. H).

When data indicate an area is meeting/exceeding the minimum value of the RCP habitat guidelines for herbaceous heights:

a. Collect herbaceous heights and photo points once every *three years* – prior to livestock, immediately following livestock use, and at the end of the growing season.

When data indicate an area is not meeting the minimum value of the RCP habitat guidelines for herbaceous heights, consistent with Section 5.5, Livestock Grazing:

a. Conduct trigger monitoring:
   - Conduct utilization monitoring (Grazing Response Index, Key Forage Plant, Pellet Counts, etc.) as soon as practical.
   - Using the same sampling and monitoring methods, monitor herbaceous heights in exclosures/rested pastures with comparable ecological sites, in order to establish control data.
   - All causes for not meeting RCP herbaceous heights guidelines will be documented.
   - If *livestock* grazing is found to be a significant contributing cause to not meet the heights guidelines, conduct utilization monitoring the following year during the grazing season.
   - Use utilization data to assess stocking rates and to trigger pasture/allotment moves, within the terms and conditions of the current permit.

b. Collect herbaceous heights and photo points *annually*, immediately following livestock use. Every third year, collect this information prior to livestock use and at the end of the growing season.

3. Cooperative Monitoring

a. To provide a more complete short-term monitoring record in allotments containing sage-grouse habitat, permittees will be encouraged to enter into cooperative monitoring programs with the respective agency/ies to collect short-term monitoring information on the two years that the agency does not (including prior to livestock, immediately following livestock use, and at the end of the growing season).

b. For participating permittees who manage allotments where annual short-term monitoring indicates RCP herbaceous height guidelines are consistently being met, these permittees would receive more consideration for increased flexibility in their grazing management systems.

c. If a coordinated monitoring program is in place or a new one is developed for reasons outside of the CCA, participating agencies will work to incorporate these sampling methods into the monitoring program.

7.3 Monitoring Offsite Mitigation Actions: Reclaimed Routes

Objective:

- Monitor reclaimed routes in occupied sage-grouse habitat that are accounted for in the off-site mitigation accounting system, in order to:
  - Track the habitat quality and conservation maturity of this form of off-site mitigation, including:
    - Revegetation over time; and
    - Public compliance with closures.
  - Adjust reclamation methods used in order to speed and enhance revegetation.

1. Select monitoring locations and collect data.

A random set of reclaimed routes in the off-site mitigation accounting system will be monitored by the implementing agency at periodic intervals (one year after reclamation

activity, three – five years, etc.). At minimum, a photo point will be taken from the entrance/start of the route; modified vegetation transects may be appropriate in some cases.

8 REPORTING

8.1 Annual Meeting

At the end of one full year of implementation, dated from the signed CCA and conference opinion, CCA participants and the USFWS will meet to review progress toward CCA habitat objectives, identify problems encountered, and make updates to the CCA, as needed. Meeting would include review of each implementing agency's annual report. At that time, signatories will cooperatively establish subsequent meeting review periods, i.e., five year-intervals, to perform basic maintenance on the CCA. Yet consistent with the principles of adaptive management, changing conditions may warrant more frequent dialogue and adjustment to the CCA.

8.2 Annual Report Components

8.2.1 *Ground-disturbing Development (not including trail/road closure implementation)*

New, amended*, and reauthorized* right of ways/easements and other activities involving short term or permanent habitat fragmentation will be reported, including the following information: *(*Include only reauthorizations and amendments for ground-disturbing activity beyond footprint of original authorization)*

1. Map/shapefile clearly identifying amount, if any, of new ground disturbance, construction, and new activity in Tier 1 and Tier 2 Habitat, in the following categories:
   a. Buried pipeline or utility line
   b. Aboveground pipeline
   c. Overhead utility line
   d. Reopened nonsystem[34] roads and trails
   e. Roads, including realignments
   f. Motorized trails, including realignments
   g. Nonmotorized trails, including realignments
   h. Fences
   i. Communication sites

[34] A nonsystem road or trail is one that is not formally approved; in this case, formerly officially closed roads and trails that are officially reopened should be reported.

j. Miscellaneous infrastructure

2. Associated spreadsheet, including the following information for each category:
   a. Individual action/project
   b. Mileage/acres of each ground disturbance/infrastructure
   c. Location in Tier 1 or Tier 2 habitat
   d. CCA process used vs. individual/additional consultation process (yes/no)
      i. If no, why
   e. Accompanied by offsite mitigation (N/A/yes/no)
   f. Accompanied by additional conservation measures not outlined in the CCA (yes/no)
      i. If yes, what
   g. Accompanied by monitoring?
   h. Weed management and revegetation on ROWs- Compliance inspection
   i. Fences – Compliance with marking, wildlife-friendly fencing standards

8.2.2 *Reauthorized and Amended Rights-of-way/Easements*

Unless amendment of existing right-of-way/easement involves ground disturbance or additions to the permitted area *beyond the original permitted area*, include amendments and reauthorizations in a spreadsheet detailing the following:

1. Individual reauthorization/amendment
2. Type of associated infrastructure
3. Relevant minimization measures incorporated into permit language (yes/no)
   a. If no, why
4. Accompanied by additional conservation measures not outlined in the CCA (yes/no)
   a. If yes, what
5. Accompanied by monitoring?/Compliance inspection?

8.2.3 *Travel Management: Trail/Road Closures (not including seasonal closures)*

1. Map/shapefile clearly identifying amount, if any, of trail/road closures and realignments in Tier 1 and Tier 2 Habitat, in the following categories:
   a. Designated open/system or closed/nonsystem in 2010 TMP (USFS, BLM) and MVAP (NPS)
   b. Class
   c. Closures accompanied by a realignment (new ground disturbance)

2. Associated attribute table, including the following information:
   a. Individual road/trail section
   b. Designated open/system or closed/nonsystem in 2010 TMP (USFS, BLM) and MVAP (NPS)
   c. Closures accompanied by a realignment (new ground disturbance) (yes/no)
      i. If yes, Length/class of open realignment (or ID corresponding segment in G.1.a)

d. Class[35]
e. Length of each section
f. Level of closure
g. Location in Tier 1 or Tier 2 habitat
h. Any monitoring? Closure compliance?

8.2.4 *Offsite Mitigation*

For the first year of implementation, the agencies/partners will develop an accounting system to illustrate how offsite mitigation is used by agency recreation planners to develop and implement new roads and trails. Until otherwise agreed, report the following minimum information:

1. Baseline habitat map/shapefile, including all permanent infrastructure and linear features, including fences, closed roads and trails
2. Tier 1/Tier 2 habitat map:
   a. new roads/trails, if any, and associated mitigation actions
3. Spreadsheet detailing:
   a. Triggering action: new road/trail
      - Type
      - Size
      - Location in Tier 1 or Tier 2 habitat
   b. Corresponding mitigation action
      - Type
      - Size
      - Location in Tier 1 or Tier 2 habitat
      - Photo point/any other monitoring information

8.2.5 *Grazing*

The following information will be reported:

1. Number of permits renewed.
   a. For each permit, an assessment of the habitat condition relative to RCP standards, using existing data.

2. Short-term monitoring:
   a. Location of monitoring (transect number/approximate location)
      - Herbaceous height data
      - Photo point data
      - Any additional environmental data

[35] See Section 14, Glossary.

- For permits that have been modified to incorporate sage-grouse habitat guidelines or standards, identify whether or not area is meeting incorporated standard for grass/forb height (yes/no)
    - 2.a..1. If no, corresponding action and assessment (additional monitoring)
- Year recorded
- Next anticipated (staff) monitoring season/year

8.2.6 *Overall Progress*

1. Quantify overall progress toward CCA habitat objectives in Tier 1 (net reduction of fragmentation) and Tier 2 habitat (no net increase in fragmentation).

2. Long-term monitoring:

3. Location of monitoring (transect number/approximate location)

4. Data for RCP habitat guidelines/vegetation variables
    - **a.** Photo point data, if any
    - **b.** Any additional environmental data
    - **c.** Meeting RCP Habitat Guidelines
        - Sagebrush Canopy (%) (yes/no). If no, corresponding action/assessment
        - Non–sagebrush Canopy (%) (yes/no). If no, corresponding action/assessment
        - Total Shrub Canopy (yes/no). If no, corresponding action/assessment
        - Sagebrush Height (yes/no). If no, corresponding action/assessment
        - Grass Cover (%) (yes/no). If no, corresponding action/assessment
        - Forb Cover (%) (yes/no). If no, corresponding action/assessment
        - Grass Height (yes/no). If no, corresponding action/assessment
        - Forb Height (yes/no). If no, corresponding action/assessment
        - Overall habitat condition for grouse (unsuitable/marginal/suitable)
        - Year recorded
        - Next anticipated monitoring season/year.

4. Report trends in habitat quality.

9 ADAPTIVE MANAGEMENT

Signatories to the GUSG CCA agree that implementing conservation measures is most effective when accomplished within an adaptive management framework. Adaptive management involves the scientific method of hypothesizing how conservation measures will affect a population or other conservation target, monitoring results, comparing them to pre-defined expectations, and modifying actions to better achieve stated goals and objectives (Walters and Holling 1990; Lyons et al 2008).

Accurate and credible monitoring is a necessary component of adaptive management to ensure that conservation measures described herein are successfully implemented and objectives met. However, it is not sufficient to simply monitor a population without having pre-defined population targets and thresholds that trigger additional actions.

As noted in the RCP, "if a series of population estimates for a given population continually declines toward a threshold, managers should increase efforts to evaluate the decline and potential conservation actions before the population passes the threshold" (GSRSC 2005, p. 198). The RCP identified a conservative threshold of 30% below the RCP population target of 3000 as such a trigger[36]. Therefore, during the lifetime of the CCA, if the 3-year moving average of the Gunnison Basin population declines toward a population estimate of 2000 a) over two consecutive years or b) over a 5-year period, CCA signatories will revisit the conservation measures and management actions outlined in the CCA.

As with most land management decisions, signatories to the CCA must rely on the best available scientific information as to the efficacy of the included conservation measures, especially when such information is not locally available or readily ascertained through monitoring. If the signatories were to commit to monitoring the efficacy of weed BMPs or perch deterrents, and to correlate such measures to population-level effects, we would quickly consume all available biology staff time with such endeavors.

Nonetheless, the federal land management agencies are charged with managing the habitat, and therefore the overarching objectives of the CCA are to reduce net fragmentation (Tier 1 habitat) and avoid further net fragmentation (Tier 2 habitat), described in Section 1.3. Compliance monitoring to account for these objectives will be conducted and submitted in the annual report, as detailed in Section 8. As referenced in Section 1.3, future research or agency policy may identify cumulative levels of disturbance that Gunnison sage-grouse can tolerate. At that time, parties to this CCA would consider modifying Tier 1 and Tier 2 habitat objectives to be consistent with identified disturbance caps, thereby ensuring the GUSG CCA remains a viable and relevant instrument.

Annual compliance monitoring for livestock grazing is required, as is long-term habitat monitoring to document effectiveness of management actions and conservation measures in maintaining and improving sage-grouse habitat quality (*see Section* ***Error! Reference source not found.***).

Furthermore, as the off-site mitigation plan is developed and implemented, effectiveness monitoring will be necessary to ensure that if functional habitat is disturbed, functional habitat is created or improved. With respect to trail decommissioning, randomized sampling of the

[36]Future updates to the Gunnison Basin population targets via new population viability analyses will be incorporated to the CCA via a revised trigger threshold, i.e., a continual decline toward 70% of the revised population target would necessitate revisiting the conservation measures and management actions outlined in the CCA.

vegetative condition will serve to both a) document compliance with overall habitat objectives in the CCA, and b) enable managers to improve habitat reclamation methods *(See Section 7.3)*.

Additionally, adaptive management to ensure maintenance and improvement of land health (BLM) and compliance with Forest Plan standards (USFS) is an integral part of federal land management and is well-integrated into livestock grazing management programs. For the GUSG CCA, prescribed short-term monitoring results will be used in conjunction with additional data to ensure maintenance and improvement of habitat conditions for Gunnison sage-grouse *(See Section 5.5 and Appendix E)*.

10 DURATION of AGREEMENT

Any party may withdraw from the agreement by providing the other parties with a written notice of intent to withdraw no later than 90 days prior to the proposed termination date. If a signatory other than USFWS withdraws, the agreement would be maintained between remaining signatories. The terminating party shall also include a written explanation of the reasons for withdrawal.

All parties will meet at least one year subsequent to the plan execution to review the CCA, its effectiveness, and to determine whether revision is necessary; at such time, signatories will determine subsequent minimum meeting intervals, i.e., every five years, to review annual reports and perform basic maintenance on the CCA. Any signatory may propose changes to this agreement between review meetings, as referenced in Section 9. Such changes will be in the form of an amendment and may be considered at any time after a 30-day notice to all parties. No amendment shall be valid unless approved by all parties to this agreement, and some amendments may trigger the need for additional biological assessment and conferencing with USFWS.

11 AUTHORITIES

USDI - United States Fish and Wildlife Service

Sections 2 and 7 of the ESA allow the USFWS to enter into this CCA with other cooperating partners. Section 2 of the ESA states that encouraging interested parties, through Federal financial assistance and a system of incentives, to develop and maintain conservation programs is a key to safeguarding the Nation's heritage in fish, wildlife, and plants. Section 7 of the ESA requires the USFWS to review programs it administers and utilize such programs in furtherance of the purposes of the ESA. By entering into this CCA, the USFWS is utilizing its authority to enter into this type of agreement to further the conservation of the Nation's fish and wildlife resources.

USDI - Bureau of Land Management

The United States Department of Interior (USDI) BLM has authority for conservation of GUSG through: (1) the Federal Land Policy Management Act (FLPMA) of 1976 FLPMA, (Section 307, 43 USC 1737; 90 stat. 2743; PL 94-579); (2) the Sikes Act, Title II (16 U.S.C. 670 et seq.), as amended; and (3) the BLM Manual 6840, Special Status Species Management. Specifically, the FLPMA guidance on sensitive species authorizes that "the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air, and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals…"(43 USC 1701 Sec. 102 (a) (8)).

The BLM's 2004 National Sage-Grouse Habitat Conservation Strategy states "Approximately half of the remaining sage-grouse habitat is under BLM jurisdiction and management; therefore, BLM land plays a significant role in the consideration of sage-grouse and other sagebrush-dependent wildlife species." Specific strategies pertaining to this CCA include *Strategy 3.1: Maintain, develop, and expand partnerships to promote cooperation and support for all activities associated with sage-grouse and sagebrush conservation; and Action 3.1.3: Maintain and expand state and local partnerships to implement the task outlined in the cooperatively developed state-level strategies and/or plans.*

Finally, the BLM's "Guide to Agreements" notes that "Cooperative Management Agreements" are typically long-term agreements with other parties interested in joint management of wildlife habitats or other areas.

Section 06 (C) of the 6840 Manual gives the following guidance on candidate species: "Consistent with existing laws, the BLM shall implement management plans that conserve candidate species and their habitats and shall ensure that actions authorized, funded, or carried out by the BLM do not contribute to the need for the species to become listed." Specific BLM guidance is outlined in the 6840 Manual. Section .12 of the 6840 Manual states: "Actions authorized by BLM shall further the conservation of federally listed and other special status species and shall not contribute to the need to list any special status species under provisions of the ESA, or designate additional sensitive species under provisions of this policy." The Department of Interior Fish and Wildlife Policy: State-Federal Relationships (43CFR Part 24.4 (c)) states in part that "…the Secretary of Interior is charged with the responsibility to manage non-wilderness BLM lands for multiple uses, including fish and wildlife conservation.

BLM Colorado's Instruction Memorandum No. 2005-038, Statement of Interim Policy, Implementation of the Gunnison sage-grouse Rangewide Conservation Plan, instructs BLM Colorado "to utilize the RCP as the basis for managing the multiple uses of the public lands in identified GSUG habitat. Effective immediately, RCP guidance and strategies will be applied through site-specific analysis, consistent with the National Environmental Policy Act (NEPA), to all proposed projects or actions in identified GUSG habitat; " the CCA formalizes specific standards and implementation practices founded in the RCP.

USDI - National Park Service

The USDI NPS has authority for conservation of the GUSG through the 1916 NPS Organic Act (16 USC 1) which charges the NPS with management of parks to "... conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." Additional authorities that guide the NPS are found in the General Authorities Act of 1970 (16 USC 1c(a)) and the Redwood Act of 1978 (16 USC 1a-1). Furthermore, the Presidential Proclamation establishing Black Canyon of the Gunnison National Monument (Proclamation No. 2033; March 2, 1933; 17 Stat. 2558), and the Memorandum of Agreement between the NPS and Bureau of Reclamation dated February 11, 1965, provide authorities for protection of the GUSG at Black Canyon of the Gunnison National Park and Curecanti National Recreation Area.

NPS Management Policies and the NPS-77 Natural Resources Management Guideline state that the NPS will seek to perpetuate the native animal life as part of the natural ecosystem of parks. They further define Species of Concern as all native animal species within a park that face an immediate danger of losing their natural role in an ecosystem because of human-induced change, which would include the GUSG. Regarding Species of Concern, NPS-77 states that the NPS should also look for opportunities to enter into cooperative and interagency agreements and memoranda of understanding with other federal and state agencies on research, monitoring, and management of the Species of Concern, and, where appropriate, promulgate regulations. The NPS must strive to protect the natural conditions and processes and the ecosystem integrity to the greatest extent possible for Species of Concern.

NPS-77 further states, "Management of Candidate species should, to the greatest extent possible, parallel the management of federally listed species." The NPS Management Policies identifies the management of threatened or endangered plants and animals as follows: "The Service will survey for, protect, and strive to recover all species native to national park system units that are listed under the ESA because of human-caused change." This could include the Gunnison sage-grouse. "The Service will fully meet its obligations under the NPS Organic Act and the ESA to both proactively conserve listed species and prevent detrimental effects on these species."

USDA - United States Forest Service

The United States Department of Agriculture (USDA) Forest Service (USFS) has authority for conservation of the GUSG through: 1) the Multiple Use-Sustained Yield Act (MUSY) of 1960 (P.L. 86-517, 74 Stat. 215, 16 U.S.C 528(note), 528-531); 2) the Sikes Act of 1960 (P.L. 86-797, 74 Stat. 1052, 16 U.S.C. 670 et seq., as amended); 3) the Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 (P.L. 93-378, 88 Stat. 476, as amended; 16 U.S.C. 1600(note), 1600-1614); 4) the National Forest Management Act (NFMA) of 1976 (P.L. 94-588, 90 Stat. 2949, 16 U.S.C. 472 et seq.) and its implementing regulations (36 CFR 219); 5) Public Rangelands Improvement Act of 1978 (P.L. 95-514, 92 Stat. 1806, 43 U.S.C. 1901-1908); and 6) USDA Regulation 9500-4 and the Forest Service Manual (FSM) Chapter 2600. MUSY directs

the USFS to administer the National Forests for outdoor recreation (including wilderness), range, timber, watershed, and wildlife and fish purposes, in cooperation with interested State and local governmental agencies and others. "Multiple use" means the harmonious and coordinated management of the various surface renewable resources so that they are utilized in the combination that will best meet the needs of the American people. The Sikes Act provides authority for cooperative planning, habitat improvement, and providing adequate protection for threatened or endangered species under the Endangered Species Act of 1973 or species considered to be threatened, rare, or endangered by the State agency. RPA and NFMA provide for comprehensive, integrated planning that will provide for the diversity of plant and animal communities to meet overall multiple-use objectives. USDA Regulation 9500-4 directs the USFS to manage "habitats for all existing native and desired nonnative plants, fish and wildlife species in order to maintain at least viable populations of such species." USFS policy states: "To preclude trends toward endangerment that would result in the need for federal listing, units must develop conservation strategies for those sensitive species whose continued existence may be negatively affected by the forest plan or a proposed project." (FSM 2621.2)

Furthermore, the USFS Manual Update for Region 2, supplement number 2600-2011-2, dated September 30, 2011, "encourages [the Forest] to develop a Candidate Conservation Agreement for sage-grouse with the U.S. Fish and Wildlife Service"; "collaborate with the State, BLM, and other agencies and landowners to promote consistent management of sagebrush and sage-grouse habitats on adjoining lands"; and "support and participate in State-wide and local sage-grouse working groups for the conservation of sage-grouse and sagebrush habitats."

USDA - Natural Resources Conservation Service

The USDA NRCS has authority for conservation of GUSG through: (1) the Soil Conservation and Domestic Allotment Act of 1936, as amended (PL 74-46; (2) the Department of Agriculture Reorganization Act of 1994 (PL 103-354; 7 U.S.C. 6962); and (3) the Farm Security and Rural Investment Act (Farm Bill) of 2002 (PL 107-171).

State of Colorado – Department of Natural Resources, Colorado Parks & Wildlife

The CPW, a branch of the Colorado Department of Natural Resources, has responsibility for the management and conservation of wildlife resources within state borders, including the conservation and management of threatened and endangered species, as defined and directed by state laws (i.e. Colorado Revised Statutes, Title 33 Article 1). Title 33 Article 1-101, Legislative Declaration states: "It is the policy of the State of Colorado that the wildlife and their environment are to be protected, preserved, enhanced and managed for the use, benefit, and enjoyment of the people of this state and its visitors. It is further declared to be the policy of this state that there shall be provided a comprehensive program designed to offer the greatest possible variety of wildlife-related recreational opportunity to the people of this state and its visitors and that, to carry out such program and policy, there shall be a continuous operation of planning, acquisition, and development of wildlife habitats and facilities for wildlife-related opportunities."

In addition, the 10-year Strategic Plan for CPW, adopted by the Colorado Wildlife Commission in 2010, emphasizes the importance of wildlife conservation. The plan lists 10 management principles that guide the agency in fulfilling its mission; these beliefs underscore the importance of wildlife conservation and maintenance of healthy, diverse and abundant wildlife. Principles applicable to this CCA include "... A primary consideration in wildlife management decisions is to maintain healthy, diverse and abundant wildlife…The quality, quantity and conservation of wildlife habitat are essential to maintaining the state's diverse wildlife populations and wildlife-related uses…Partnerships and the involvement of private property owners, other agencies, local governments, public and private groups, citizens and volunteers are critical to the protection and management of Colorado's wildlife and wildlife habitat…"

The Strategic Plan's Fish, Wildlife, and Habitat Program Area include the following desired outcome, objectives, and actions:

Desired Outcome: Colorado's fish and wildlife is managed such that the need for federal listings under the Endangered Species Act are minimized, and the state retains primary management authority.

- *Objective:* Protect, restore and enhance habitat for fish and wildlife.
    - Provide analysis and recommendations to improve fish and wildlife habitats and reduce impacts from threats to those habitats (including, but not limited to, those impacts associated with energy development, climate change, urban and exurban development and invasive species)
- *Objective:* Ensure the long-term viability of native fish and wildlife and strive to maintain the broadest representation of the diversity of native wildlife in suitable habitats across the state.
    - Collaborate with interested and affected parties to develop and implement plans to recover threatened and endangered species and conserve native fish and wildlife
    - Assist public and private landowners in the conservation, restoration and enhancement of native fish and wildlife

Gunnison County

Gunnison County is a Colorado statutory county with the authority to protect and promote the health, welfare and safety of the people of Gunnison County, and the authority to regulate land use planning and quality and protection of the environment in Gunnison County.
Gunnison County has duly adopted regulations to exercise such authorities including the review, approval or denial of proposed activities and uses of land and natural resources.

Saguache County

Saguache County is a Colorado statutory county with the authority to protect and promote the health, welfare and safety of the people of Saguache County, and the authority to regulate land use planning and quality and protection of the environment in Saguache County. Saguache

County has duly adopted regulations to exercise such authorities including the review, approval or denial of proposed activities and uses of land and natural resources.

12 RESPONSIBILITIES OF SIGNATORIES

BLM, NPS, USFS

- In order to be covered under the programmatic conference opinion for the CCA, the federal agencies will design, authorize, implement, and manage the specified land-use authorizations to be consistent with the conservation measures outlined in the CCA, at a minimum. Agencies may go above and beyond the minimum standards as conditions warrant and/or new federal land use plans and policies are developed.
- The agencies will notify and coordinate with USFWS on land-use authorizations that fall outside the scope of those covered in the CCA and/or fail to meet the established design criteria, consistent with ESA Section 7 requirements.
- As identified in the Reporting Section, submit annual compliance reports to USFWS.
    - Maintain the CCA by providing ongoing technical assistance and feedback to the implementing agencies via formal and informal channels, including continued and active participation in the Gunnison Basin Gunnison sage-grouse Strategic Committee and Technical Subcommittee.

USFWS

- Provide ongoing technical assistance and feedback to the signatory agencies regarding implementation of the CCA via formal and informal channels, including continued and active participation in the Gunnison Basin Gunnison sage-grouse Strategic Committee and Technical Subcommittee.

Colorado Parks & Wildlife

Colorado Parks & Wildlife commits to the following CCA objectives and conservation strategies so long as they are consistent with state law, regulation and budget authority.

- Support general objectives of GUSG CCA.
    - Provide ongoing technical assistance and feedback to the signatory agencies regarding implementation of the CCA via formal and informal channels, including continued and active participation in the Gunnison Basin Gunnison sage-grouse Strategic Committee and Technical Subcommittee.
    - Commit to Grazing measure 5, p. 24: *Seek opportunities to achieve greater flexibility in the distribution of current AUMs across the landscape in order to improve GUSG habitat.*

    - *Inventory inactive grazing allotments on state and federal lands. Identify vacant allotments that may enable short and long-term flexibility in the grazing system.*
    - *Seek opportunities to create coordinated Allotment Management Plans to improve GUSG habitat across private, state, and federal lands.*
- During severe winters, coordinate with the federal agencies to identify grouse concentration areas and need for area closures, as well as cooperate to communicate closures to public and hunters, consistent with Section 5.2.B.
- Commit to Section 5.6, Strategies to Manage Wild Ungulate Grazing.
    - *DAU reevaluation will occur consistent with established protocols, including Wildlife Commission review.*

Gunnison County

- Support general objectives of GUSG CCA.
- Provide ongoing technical assistance and feedback to the signatory agencies regarding implementation of the CCA via formal and informal channels, including continued and active participation in the Gunnison Basin Gunnison sage-grouse Strategic Committee and Technical Subcommittee.
- In order for Gunnison County to receive coverage under the CCA and programmatic conference opinion for the following specified land-use authorizations, Gunnison County will:
    - In partnership with the implementing agencies, and subject to relevant County policies and procedures, continue to coordinate the annual spring season road closures to motorized use, until such time the CCA signatories may determine the closures are no longer warranted.
    - Implement integrated weed prevention BMPs for road maintenance and ground disturbance operations through Gunnison sage-grouse habitat on federal lands, consistent with Appendix A, Section I.
    - Incorporate integrated weed prevention terms and conditions for road maintenance and ground disturbance operations in Gunnison sage-grouse habitat on federal lands, consistent with Appendix A, Section II. These terms and conditions shall apply to Gunnison County as well as any County-contracted operators that maintain and construct infrastructure within Gunnison sage-grouse habitat on federal lands.
    - As identified in the Reporting Section, contribute to annual compliance reports submitted to USFWS regarding use of integrated weed prevention practices within Gunnison sage-grouse habitat on federal lands.

Saguache County

- Support general objectives of GUSG CCA.
- Provide ongoing technical assistance and feedback to the signatory agencies regarding implementation of the CCA via formal and informal channels, including continued and active participation in the Gunnison Basin Gunnison sage-grouse Strategic Committee and Technical Subcommittee.

- In order for Saguache County to receive coverage under the CCA and programmatic conference opinion for the following specified land-use authorizations, Saguache County[37] will:
    - Implement integrated weed prevention BMPs for road maintenance and ground disturbance operations through Gunnison sage-grouse habitat on federal lands, consistent with Appendix A, Section I.
    - Incorporate integrated weed prevention terms and conditions for road maintenance and ground disturbance operations in Gunnison sage-grouse habitat on federal lands, consistent with Appendix A, Section II. These terms and conditions shall apply to Saguache County as well as any County-contracted operators that maintain and construct infrastructure within Gunnison sage-grouse habitat on federal lands.
    - As identified in the Reporting Section, contribute to annual compliance reports submitted to USFWS regarding use of integrated weed prevention practices within Gunnison sage-grouse habitat on federal lands.

Natural Resources Conservation Service

- Support general objectives of GUSG CCA.
- Provide ongoing technical assistance and feedback to the signatory agencies regarding implementation of the CCA via formal and informal channels, including continued and active participation in the Gunnison Basin Gunnison sage-grouse Strategic Committee and Technical Subcommittee.
- Commit to Grazing measure 5, p. 24: *Seek opportunities to create coordinated Allotment Management Plans to improve GUSG habitat across private, state, and federal lands.*

[37] Saguache County has proposed a 5-year phase-in of the integrated weed prevention measures for road maintenance and ground disturbance operations in Gunnison sage-grouse habitat on federal lands, consistent with Appendix A, Section II. Until such time that these measures are incorporated, Saguache County road maintenance and ground disturbance operations in Gunnison sage-grouse habitat on federal lands will not receive coverage under the programmatic conference opinion.

13 SIGNATURES

8/1/2013

Patty Gelatt
Regional Director/Western Colorado Supervisor
U.S. Fish and Wildlife Service, Rocky Mountain Region

Brian St. George
Field Manager
U.S. Bureau of Land Management, Gunnison Field Office

Sherry Hazelhurst
Acting Forest Supervisor
Grand Mesa, Uncompahgre and Gunnison National Forests

Connie Rudd
Superintendent
National Park Service, Black Canyon of the Gunnison National Park and Curecanti National Recreation Area

Gunnison County Commissioners

Saguache County Commissioners

Anthony L. Gurzick
Acting Southwest Regional Manager
Colorado Parks & Wildlife

Phyllis A. Phillips
State Conservationist
Natural Resources Conservation Service

14 GLOSSARY

Authorized officer: Any employee of the federal agency with delegated authority to perform the describe duties.

Consolidate: Multiple system and nonsystem routes in one area are replaced by one system trail or trails that better meets user needs and resource objectives.

Decommission: Install physical barriers to harden a trail or road closure.

Fragmentation: Fragmentation as used throughout the CCA is defined as the reduction of continuity and/or quality of habitat, including both direct habitat conversion and indirect/functional impacts. It is not intended to imply that sage-grouse within the Gunnison Basin population are genetically isolated as a result of habitat fragmentation, and no data exist to indicate genetic isolation is occurring within the Basin.

Ground disturbance: The development footprint; area of direct habitat conversion and impacts.

Nonsystem roads and trails: All roads, primitive roads, and trails that are not formally recognized, designated, or approved by the respective land management agency. User-created or officially closed roads and trails.

Offsite mitigation: Offsite mitigation consists of compensating for resource impacts by replacing or providing substitute resources or habitat at a different location than the project area. Per BLM policy[38], offsite mitigation may include, as appropriate:

A. In-kind: Replacement or substitution of resources that are of the same type and kind as those being impacted.

Example: For every acre of new, long-term surface disturbance in important sage-grouse nesting/early brood-rearing habitat in Area (A), (X) acres of unsuitable habitat in Area (B) is reclaimed, treated, or planted to create new or suitable nesting/early brood-rearing sage-grouse habitat.

B. Out-of-kind: Replacement or substitute resources that, while related, are of equal or greater overall value to public lands.

Example: For every acre of new, long-term surface disturbance in important sage-grouse nesting/early brood-rearing habitat in Area (A), the project proponent agrees to bury (Y) miles of existing power lines and remove the power poles used as hunting perches by raptors in Area (B).

[38] BLM WO 2008 –204.

C. In-lieu-fee: Payment of funds to the BLM or a natural resource management agency, foundation, or other appropriate organization for performance of mitigation that addresses impacts of a project.

Example: The applicant may make payment to the BLM or a conservation group based on the amount of acres that will be disturbed in exchange for commitment from the recipient to apply the funds toward local sage-grouse core habitat protection/restoration projects.

Reclaim: Minimize visibility and improve the habitat function of closed routes via a variety of techniques. For the purposes of the CCA, "reclaimed" routes will generally be treated to Level 3 (BLM definition) or higher. Levels detailed here:

C. Level of Decommissioning done by hand, passenger vehicle, or ATV/UTV (*BLM terms and framework)*

Level 1 – Allow the closed road to naturally revegetate.
Level 2 – Install sign with a hand crew
Level 3 –These activities will be done by a hand crew.

e) Install/Remove worm fence/barricade, buck and pole fence/barricade, rock barriers, or gate.
f) Place slash on the road surface, drop trees, dead plant vegetation, plant live vegetation, transplant live vegetation from nearby areas, and install erosion products such as coir logs (i.e. wattles) , mulch, and erosion control blankets.
g) Install and remove cross ditches/drains; check dams; and water bars.
h) Hand crews rototill or scarify the ground.

D. Levels of Decommissioning done with heavy equipment (excavator, dozer, track hoe).

Level 4 – Physical Barricades. Install gates, rock blockades or trees with mechanized equipment, such as a tracked excavator or dozer.
Level 5 – With mechanized equipment, rip the road; sub-soil the road; or construct water bars or ditches within and outside of the road prism.
Level 6 – With mechanized equipment, re-contour the road prism by pulling back all cut and fill slopes in addition to inboard ditches.
Level 7 –With mechanized equipment, remove all drainage structures including cross drains (culverts, rolling dips, and water bars); stream crossings structures (culverts); and unstable fills.

Realignment: Rerouting sections of existing roads, trails to avoid sensitive resource areas, i.e., rerouting a trail out of riparian zone.

Riparian: an area of land directly influenced by perennial water (streams, rivers, lakes and wetlands). A riparian area is distinctly different vegetation and soils with characteristics that are strongly influenced by free or unbound water in the soil. Swales, washes, and ephemeral drainages without perennial water and a dominant water-loving (hydrophytic) plant community

are not included. During drought years, riparian areas would still be considered riparian, even though water tables would have dropped and perennial water was deep below the soil surface.

System roads and trails: All linear features (roads, primitive roads, and trails) formally recognized, designated, and approved by the respective land management agency.

Tier 1 Habitat: Roughly 60% of occupied grouse habitat is proposed to be managed as Tier 1 habitat. These areas are identified by the Habitat Prioritization Tool, and are generally characterized by two or more overlapping seasonal habitats and minimal existing development (roads and homes).

Tier 2 Habitat: Roughly 40% of occupied grouse habitat is proposed to be managed as Tier 2 habitat. These areas are identified by the Habitat Prioritization Tool, and generally represent the more fragmented areas on the landscape. The standards for grouse conservation in Tier 2 habitat should be consistent with the Range-wide Conservation Plan, to the extent practicable. The RCP is a baseline for grouse management in the Basin.

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APPENDIX A. Integrated Weed Management: Preventing the Spread of Invasive Plants

A. Background

Weeds are identified as a "moderate+" threat to GUSG by the USFWS, with the likelihood of "indefinite increases due to increased human presence and climate change." And much research indicates that ground disturbance caused by construction and maintenance activities, as well as unclean equipment, contributes heavily to the spread of invasives.
Recognizing that many weed prevention and management efforts are underway in the region, and many BMPs are already incorporated into standard operating procedures, nonetheless, the participants to early discussion – listed above – identified room for improvement across the agencies and counties.
Participants recognize that integrated weed prevention and management measures not only contribute to grouse habitat conservation, but contribute to better resource management in general.

B. Best Management Practices: Road Maintenance & Ground Disturbance Operations

In order for a signatory to receive coverage under the CCA and conference opinion, the signatory will apply these best management practices to the extent feasible for work within Gunnison sage-grouse habitat on and through federal lands, including signatories' contractors and right-of-way, easement, and permit holders.

Including but not limited to crown or slope reconstruction; clearing ditches, culverts and catchments; replacement of road surface, roadside mowing operations, and dust abatement.

SCHEDULE & TIMING

1. Plan work from non-infested areas to infested areas, as practicable. Plan work with Basin Weed Coordinator or Agency Weed Specialist, using existing weed inventories along planned route.
2. If heavily infested areas are known along planned routes for grading or mowing, work with Basin Weed Coordinator/Agency Weed Specialist to identify sections where it may be appropriate and practical to lift grader's blade or mower deck.
3. Minimize operations of equipment during conditions when mud can accumulate on equipment. Generally, these types of conditions exist when damage to the road resource can occur.
4. When scheduling allows, schedule activity when seeds or propagules are least likely to be viable and to be spread or when grading/blading/mowing could reduce the vigor of the weed infestation.

- Contact Basin Weed Coordinator or Agency Weed Specialist and refer to Gunnison Basin Weed Inventory GIS database (to be developed).
- Generally grade roads early in the spring before grasses develop seed heads or late in the season after grasses have set seed and become dormant.

MOBILIZING EQUIPMENT: EQUIPMENT CLEANING

1. Clean all heavy equipment and mobilizing equipment[39] before entering Gunnison County and West Saguache County.
2. Power-washing is the most effective method of cleaning.
3. Equipment shall be considered free of soil, seeds, vegetation, and other such debris when a visual inspection by operator or staff does not disclose such material on the undercarriage, cross members, frame, skid plates, belly pans, wheels, treads, tracks, suspension, bumpers, wheel wells, radiator grills, and the ledges on the inside of rear and front bumpers. *Disassembly of equipment components or specialized inspection tools is not required.*

BETWEEN-SITE OPERATIONS: EQUIPMENT CLEANING

1. Clean all heavy equipment <u>before entering each project</u> area if:
   - Equipment is covered with mud, plants, or other foreign materials and/or
   - Previous operation site was infested with invasive plant species.
2. Power-washing is the most effective method of cleaning, when available. Mechanical removal via "brooming" may be appropriate when in the field.
   - *Ideally, equipment should be washed between each route within Gunnison sage-grouse habitat and/or in between infested areas and non-infested areas.*
   - *Yet the infrastructure – portable power-washing stations—is not yet available in the region.*
   - *Cleaning equipment arriving from outside of the Basin is a good step but not sufficient.*
   - *A practical compromise is that equipment should be cleaned via following methods:*
     - *Commercially washed whenever movement between sites takes operators through towns with commercial facilities;*
     - *Hose-washing in staging area/area with drain may suffice;*
     - *In the field: mechanical removal may be appropriate in the field.*

3. Equipment shall be considered free of soil, seeds, vegetation, and other such debris when a visual inspection by operator or staff does not disclose such material on the undercarriage, cross members, frame, skid plates, belly pans, wheels, treads, tracks, suspension, bumpers, wheel wells, radiator grills, and the ledges on the inside of rear and

[39] earth-moving equipment; does not include pickup trucks and personal vehicles.

front bumpers. *Disassembly of equipment components or specialized inspection tools is not required.*

ON-SITE OPERATIONS & OPERATOR EDUCATION

1. Locate and use weed-free project staging areas.
2. Avoid acquiring water for road dust abatement where access to the water is through weed-infested sites.
3. Only use gravel, chip seal, soil, sand or other types of imported road/fill materials from sites that have no weed infestations.
    - For agency/County work, these sites should be identified or inspected by the Gunnison Basin Weed Coordinator or Agency Weed Specialist prior to mobilization.
    - For contracted work, a list of agency or County-recommended sources will be provided and recommended to contractor.
    - In the future, should a state or local weed-free certification program for road/fill materials be initiated, participating entities in the CCA will adopt the certification standards and require use of certified weed-free road/fill materials for their own and contracted work.
4. Only grade the road or mow the shoulder when necessary for resource protection, safety, or function.
5. As practicable, keep the grader's blade 1 to 2 inches above the road surface when the primary goal is to remove rocks that have fallen onto the road.
6. Annually, train operations and maintenance staff in the identification of invasive plant species and relevant weed BMPs.

RESEEDING & RECLAMATION

1. During the same growing season that the ground disturbance takes place/within 30 days following completion of construction, revegetated the newly disturbed sites with approved seed mixes.
    - Identify party responsible for revegetation work if work is contracted.
    - If ground disturbance occurs after late August/average date of first frost, generally delay reseeding until October 1/average date of consistent frost to ensure seedlings remain dormant and viable until following growing season (NRCS guidance, Scott pers comm). *Date may vary depending upon elevation.*
    - Consult Agency Weed Specialist, Botanist, or Ecologist for approved seed mixes. The agencies and/or the Weed Commission will work together to provide suitable seed mixes.
    - For surfaces that are annually graded and cleaned, including the road prism[40] and water bars, revegetation would not be appropriate.

[40] Road prism is area from the top of the cut to the bottom of the fill.

- Culvert installation and lead-out ditch construction should be revegetated.
- Seeding shall be repeated if a satisfactory stand is not obtained as determined by the agency representative upon evaluation after the second growing season.

2. Use only weed-free (certified when available) erosion control devices, such as coir logs, erosion control blankets, straw, topsoil, and soil amendments. Wattles, jute mats, and rice straw are examples of weed- free products.

3. Following ground-disturbing activities, treat infested areas with herbicides, hand pulling, or biological controls as deemed necessary by Basin Weed Coordinator or Agency Weed Specialist.
   - Unless otherwise agreed, surfaces that are annually graded and cleaned, including the road prism and water bars, do not require treatments.
   - Culvert installation and lead-out ditch construction areas should be treated.

INVENTORY & MONITOR

1. Agencies and Counties should inventory areas for invasive plants prior to their own/contracted road maintenance activities and ground-disturbing construction and flag these areas for avoidance or post-project treatment *(see Treatments section, above*). Inventories should include the following information:
   - Road number and mile markers
   - UTM's
   - Infestation type, i.e. existing infestations
   - Infestation size
   - Cover class
   - Type(s) of species observed
2. Update Gunnison Basin Weed Inventory GIS database at minimum once a year.
   - Gunnison Basin Weed Coordinator will annually coordinate with agencies to collect, compile, and make available most updated weed inventory information.
3. Monitor sites between two and three years following all treatments, as practicable. Prioritize monitoring in priority grouse habitat.
   - Unless the Weed Commission can absorb the work load, the agency will be responsible for monitoring.

C. Terms and Conditions for Contractors, Rights-of-Way & Easement Holders

In order for a federal signatory to receive coverage under the CCA and conference opinion, federal signatories will incorporate these terms and conditions into new and renewed individual right-of-way authorizations, easements and permits on federal lands within GUSG habitat.
In order for non-federal and federal signatories to receive coverage under the CCA and conference opinion, signatories will apply these terms and conditions to both internal and

contracted work to maintain and construct infrastructure within Gunnison sage-grouse habitat on federal lands.
Unless otherwise agreed, to prevent the introduction of the seeds of noxious and invasive weeds onto lands within occupied Gunnison sage-grouse habitat on federal lands:

CLEANING

Contractor, utility, or individual operator shall ensure all heavy equipment moved onto lands is free of soil, seeds, vegetative matter, or other debris that could contain or hold seeds.

1. Equipment shall be considered free of soil, seeds, vegetation, and other such debris when a visual inspection by operator or staff does not disclose any such material on the undercarriage, cross members, frame, skid plates, belly pans, wheels, treads, tracks, suspension, bumpers, wheel wells, radiator grills, and the ledges on the inside of rear and front bumpers.
2. For equipment arriving from outside Gunnison County and West Saguache County, operator shall clean all heavy equipment and mobilizing equipment[41] before entering Gunnison County and West Saguache County.
3. Although power-washing is the most effective method, prior to moving between sites *in the field*, operator shall employ **whatever cleaning methods necessary** to ensure compliance with the terms of this provision.
4. Movement between field sites that *requires travel through or return to Gunnison/urban center* shall be accompanied by power-washing at a commercial washing station, **if one is available**.
5. Disassembly of equipment components or specialized inspection tools is not required.

NOTIFICATION

Contractor, utility, or individual operator shall notify agency representative prior to moving each piece of heavy equipment onto such agency-administered lands, unless otherwise agreed.

1. If the agency representative requests an inspection, arrangements will be made to inspect equipment prior to it being moved onto agency lands.
2. Use of contractors by individual private ROW/easement holder would require agency notification, with the following exceptions:
    - Private land access ROWs/easement holders operating own equipment are excepted from this measure, unless otherwise agreed.
    - Does not apply to snow removal equipment.

[41] earth-moving equipment; does not include pickup trucks and personal vehicles.

SOURCING/STAGING

When the agency/County specifically provides the necessary information, contractor/utility/individual operator shall:

1. Use identified/mapped weed-free project staging areas.
2. Use identified/mapped access routes and water sources for road dust abatement.
3. Use only gravel, chip seal, soil, or other types of imported road materials from agency-approved or inspected sources.
4. Use identified/mapped turn-around locations.

APPLICABLE ONLY TO RIGHT-OF-WAY/EASEMENT HOLDERS

1. The holder shall be responsible for weed control within the limits of the right-of-way. The holder shall be responsible for consultation with the appropriate agency representative for acceptable weed control methods.

1. The holder shall revegetate all disturbed areas using a seed mixture specified by the agency representative within 30 days following completion of any construction.

- If ground disturbance occurs after late August/average date of first frost, generally delay reseeding until October 1/average date of consistent frost to ensure seedlings remain dormant and viable until following growing season (NRCS guidance, Scott pers comm). Reseeding shall be completed prior to the following growing season.
- Consult Agency Weed Specialist, Botanist, or Ecologist for approved seed mixes.
- Seed shall be **certified** weed-free seed; exceptions to this requirement must be approved in writing by the agency representative.
- The seed mixture container shall be tagged in accordance with State law(s) and the tag(s) submitted for inspection by the agency representative at least 14 days before the date of proposed seeding.
- The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)/acre.
- For surfaces that are annually graded and cleaned, including the road prism[42] and water bars, revegetation would not be appropriate.
- Culvert installation and lead-out ditch construction areas shall be revegetated.
- Seeding shall be repeated if a satisfactory stand is not obtained, as determined by the agency representative upon evaluation after the second growing season.

[42] Road prism is area from the top of the cut to the bottom of the fill.

APPENDIX B. Urban Interface Recreation Areas

The intent of this section is to outline the preferred locations for current, concentrated recreation at the urban interface, and to outline long-term planning for recreation expansion to balance the needs of a growing population and the need to maintain sage-grouse habitat. A guiding strategy of the CCA Recreation Team has been to balance sage-grouse and recreation via the concentration of use in preferred areas. The following three areas are generally in close proximity to Gunnison[43] and especially in the case of Hartman Rocks, capture the vast majority of recreationists in grouse habitat in the Basin. Although sage-grouse conservation measures should still be observed in each of these areas, such as seasonal closures to minimize disturbance to leks the off-site mitigation standards outlined in sections 4.3, 4.4, 5.2, and 5.3 of the CCA would not be required in these areas to compensate for new route and facility development. For efficiency, route reclamation efforts will be best- suited to areas at a greater distance from the urban interface. For each of the following areas, a minimum set of grouse conservation measures is proposed below.

Comment [SSJ3]:

Change from original signed document.

Included by mistake.

A. Hartman Rocks

Current Condition:
Hartman Rocks Recreation Area is a popular urban interface recreation area about 2 to 6 miles southwest of Gunnison (*Se Figure 3 & Figure 4*). Its proximity to Gunnison makes it easy for local residents to access for a quick recreation experience. It is becoming a destination location for mountain biking, rock climbing and single track motorized enthusiasts. It is estimated that it receives approximately 40,000 visits each year. Visitors practice a variety of recreation activities including mountain biking, motorcycling, ATV riding, 4 wheeling, rock climbing, bouldering, camping, trail running, horseback riding, cross country skiing, snowmobiling, dog sledding, hill parties, target shooting, hunting and more.

Long-Term Planning – Future Need and Development:
The use of Hartman Rocks will continue to grow as population increases in Gunnison and the region, as accounted in the Hartman Rocks Area Management Plan (2012). In compliance with the Management Plan, facility development would be allowed in the Front Country (1814 acres) and Middle Country Zones (4205 acres.) Facility development could include but is not limited to trails, restrooms, a motorcycle track, open play areas, or shooting ranges.

Total Acreage: Tier 1 habitat = 2617; Tier 2 habitat = 3402.

Proposed sage-grouse Conservation Measures in this Recreation Area:

[43] These areas also capture recreation use in sage-grouse habitat from the outlying subdivisions, including Tomichi Heights, Cranor Hill, Upper and Lower Castle Mountain, Antelope Hills, and outlying neighborhoods adjacent to Hartman Rocks.

- Open north of the Power Line Road March 15 – May 15, when a large number of roads are closed to motorized travel. *Note: This is not a conservation measure for sage-grouse* ***in*** *Hartman Rocks, but the open area does concentrate recreation use here and limit noncompliance with closures elsewhere in the Basin.*
- Human uses discouraged prior to 9 AM. March 15 to May 15.
    - Human uses in future facilities, i.e. shooting ranges, motorcycle tracks, would be discouraged prior to 9 AM during this time period.
- Closed south of the Power Line Road to motorized and mechanized use from March 15 to May 15.
- Any facility development in the Back Country Zone would follow the planning process and design criteria outlined in the relevant sections of the CCA. If the proposed facility development were to fall outside the scope of the CCA, then the default conference or consultation process would begin with USFWS.

Figure 3. Hartman Rocks Recreation Area

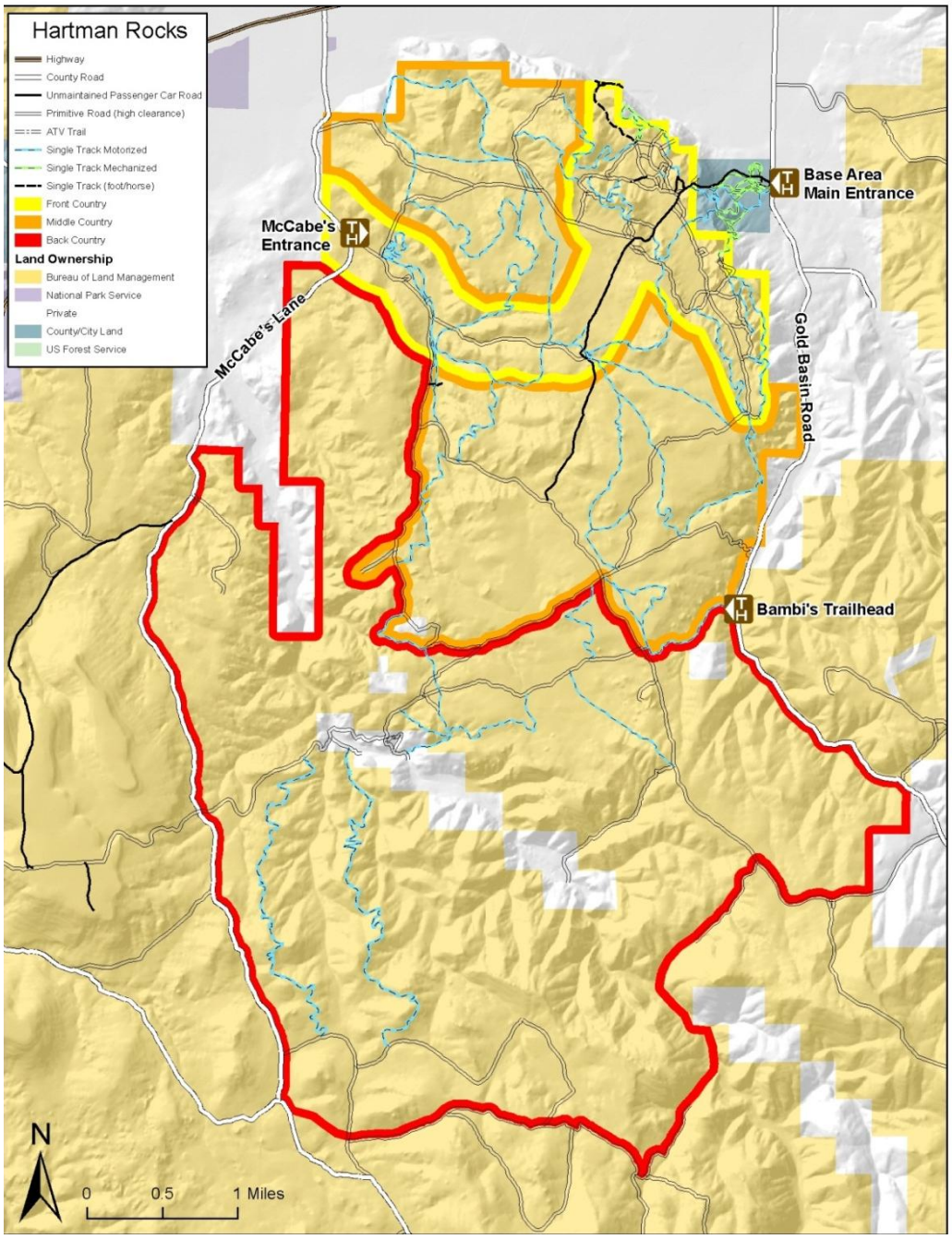
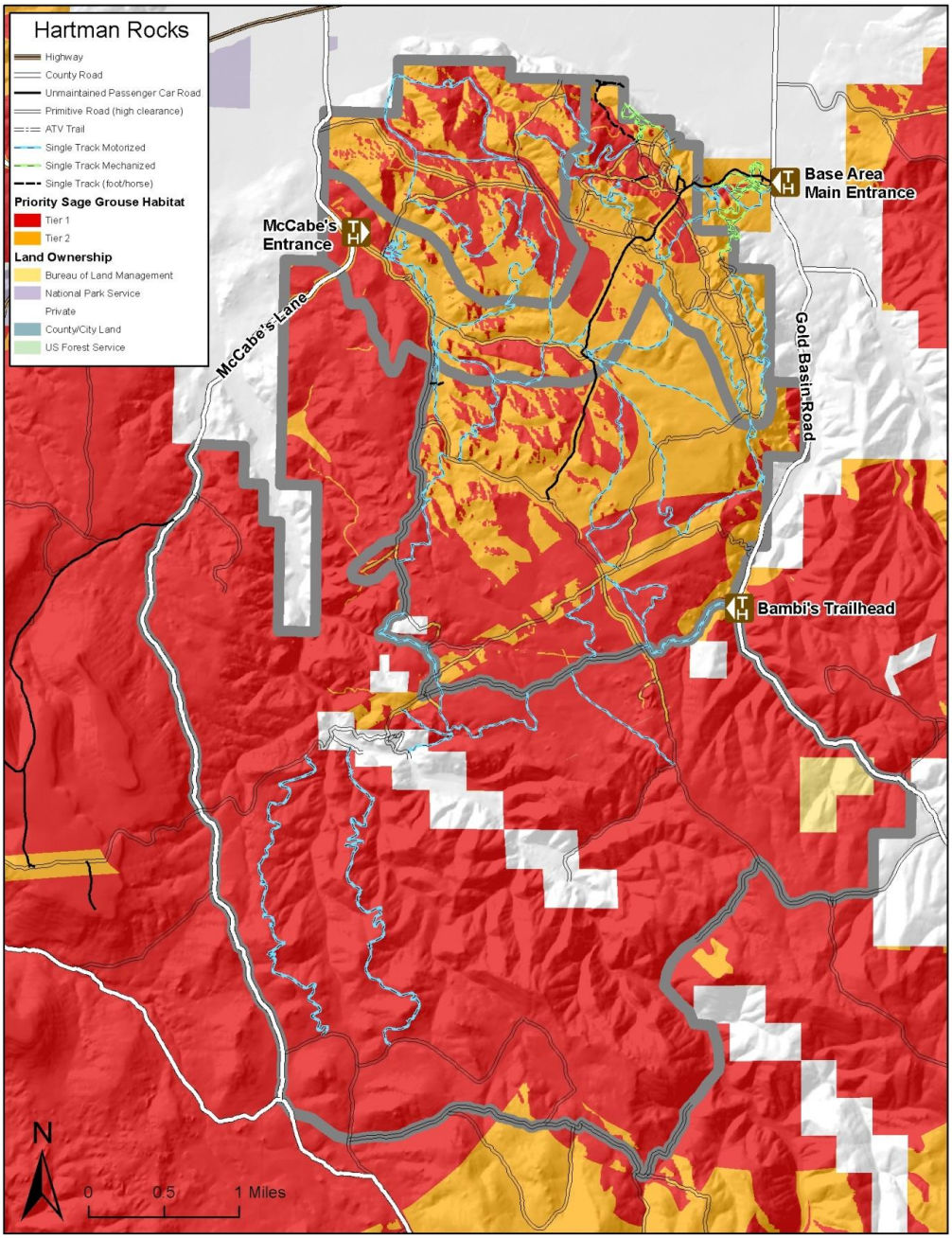


Figure 4. Hartman Rocks Recreation Area with Tier 1, Tier 2 GUSG habitat



B. Signal Peak

Current Condition:
The Signal Peak Trail System is just outside and northeast of the city of Gunnison, east of Western State College (*See Figure 5 &*

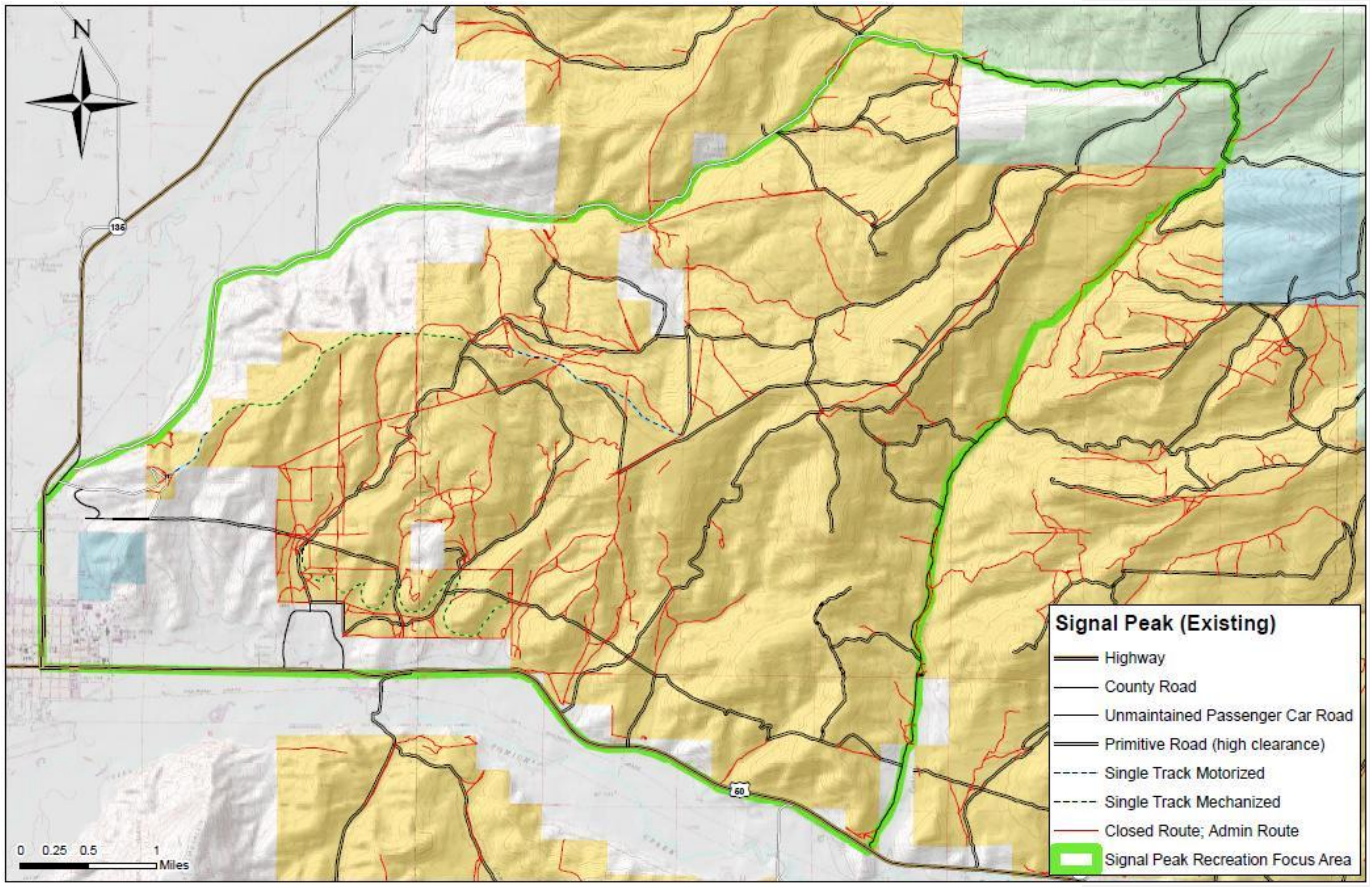


Figure 6). Visitor use in this area is high due to its proximity to the college and Gunnison. Some routes that were closed in the 2010 TMP are still being used by runners and cyclists because they are looking for loop options. Running, riding and walking with dogs is popular in this area. Many people stay close to the college but others venture out on the Contour and Ridgeline Trail. Other major access points enter this area from subdivisions. Shooting and motorized use is popular from subdivision access points.

Long-Term Planning – Future Need and Development:

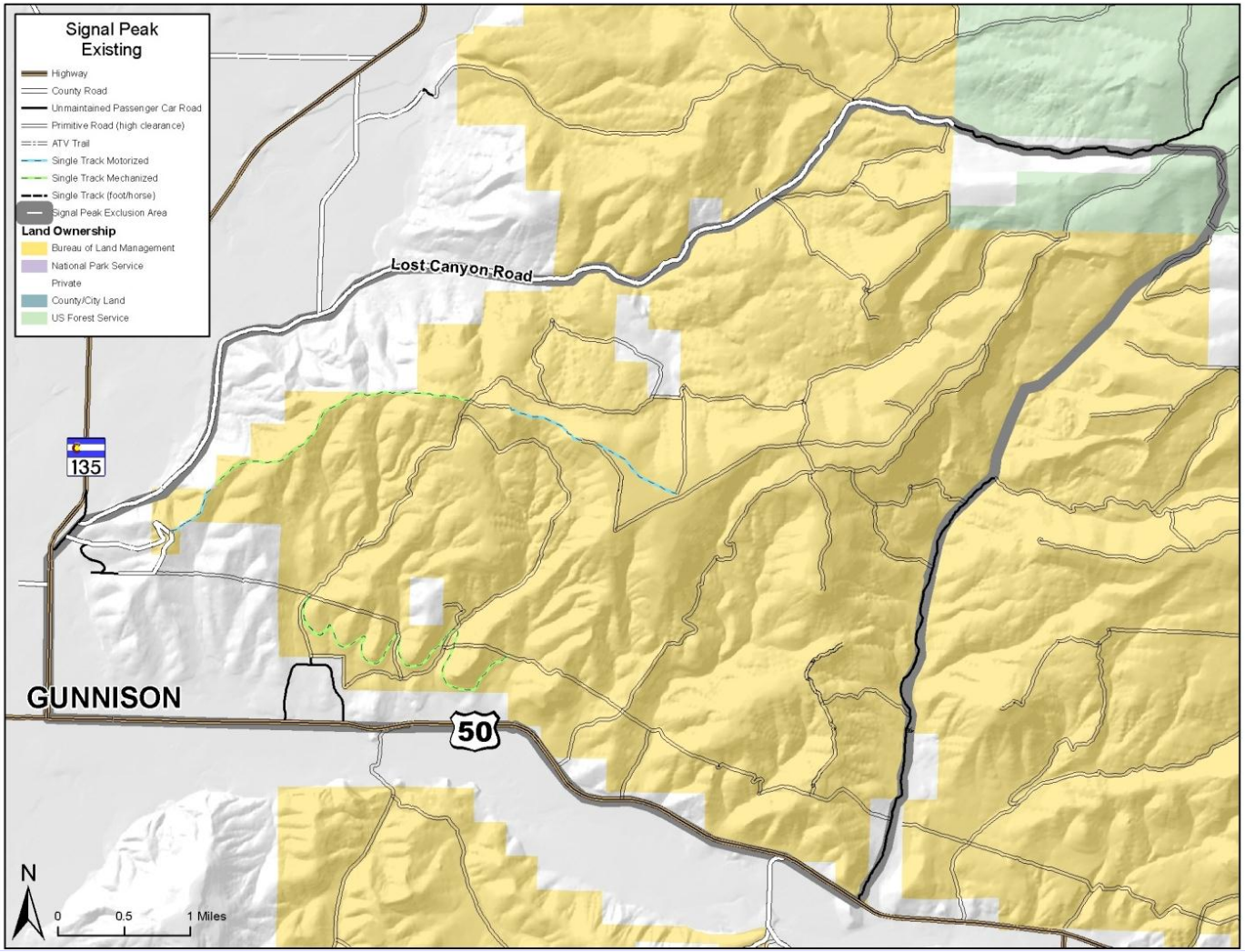
Managing recreation use in an area like Signal Peak is very difficult, and offering people structured recreation is a practical compromise to balance wildlife and recreation needs. Developing a stacked loop trail system would keep people on designated trails and allow the BLM to successfully close routes—and gain public compliance with the closures— in areas where human presence is undesirable from a wildlife perspective. This may require trail construction or designation in Tier 1 habitat. While the proposed condition includes a greater number of open route miles, increased compliance with closures are expected via well-defined loop systems *(See Figure 7).*

The Numbers:
Current condition: 93 miles existing (open) and 140 miles (closed) = 233 miles of disturbance
Proposed condition: 121 miles of open routes, including up to approximately 28 miles of new construction. Decommission the remainder; target routes for reclamation in Tier 1 areas (140 miles).
Total Acreage: Tier 1 = 8856. Tier 2 = 4915.

Proposed sage-grouse Conservation Measures in this Area:

- No human uses before 9:00 a.m. between March 15 and May 15.
- No motorized travel between March 15 and May 15.
- Dogs on leash from March 15 to August 15. *Note: In the long-term, as Van Tuyl is developed and popularized for dog walkers originating in the city dog park, it may be appropriate and feasible to close areas of Signal Peak to dogs during critical grouse periods.*

Figure 5. Signal Peak.



Comment [SSJ4]: This was the wrong map originally included, which didn't illustrate the existing closed routes within Signal Peak. See below for correct insertion.

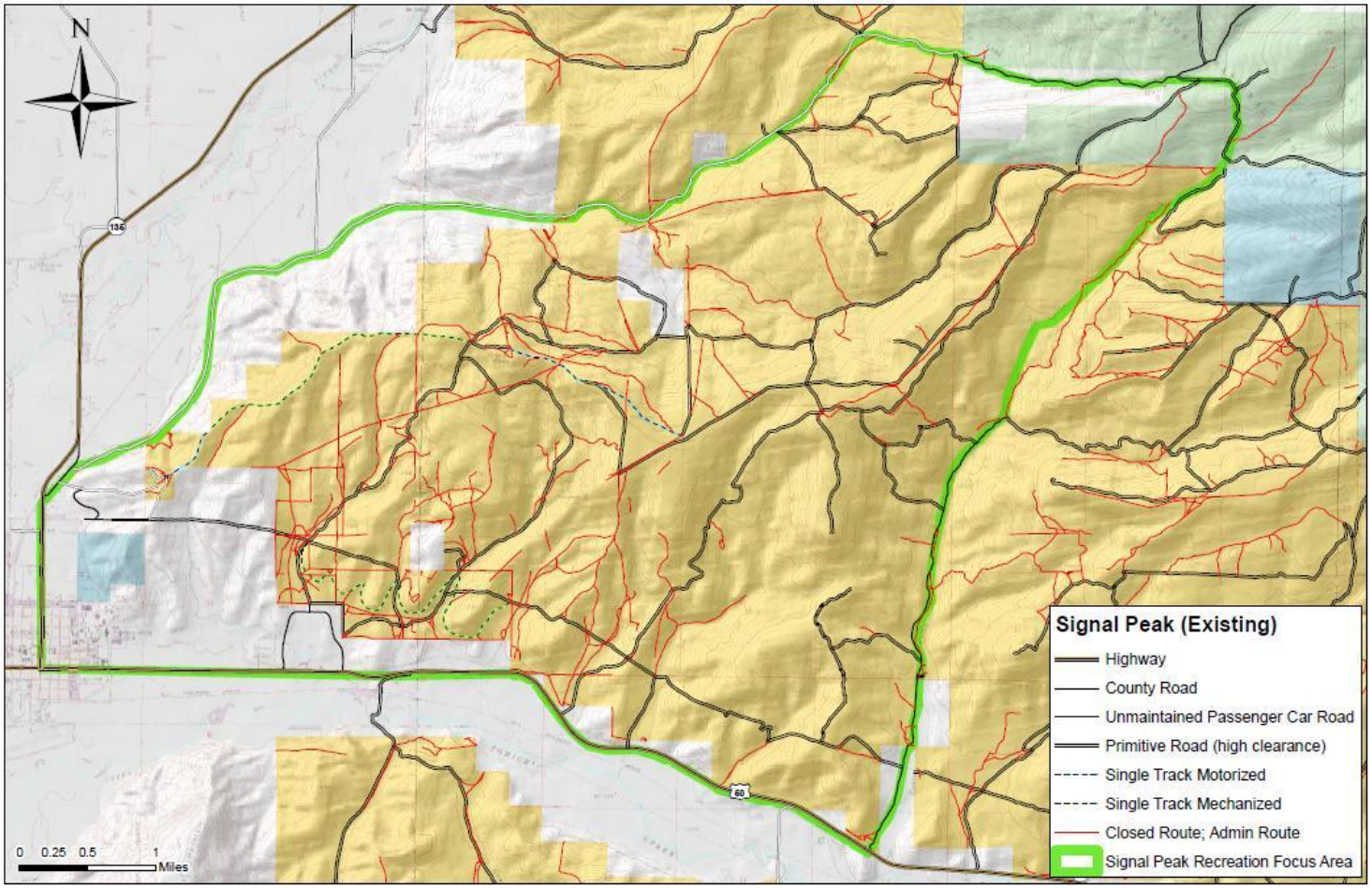


Figure 6. Signal Peak with Tier 1, Tier 2 GUSG habitat.

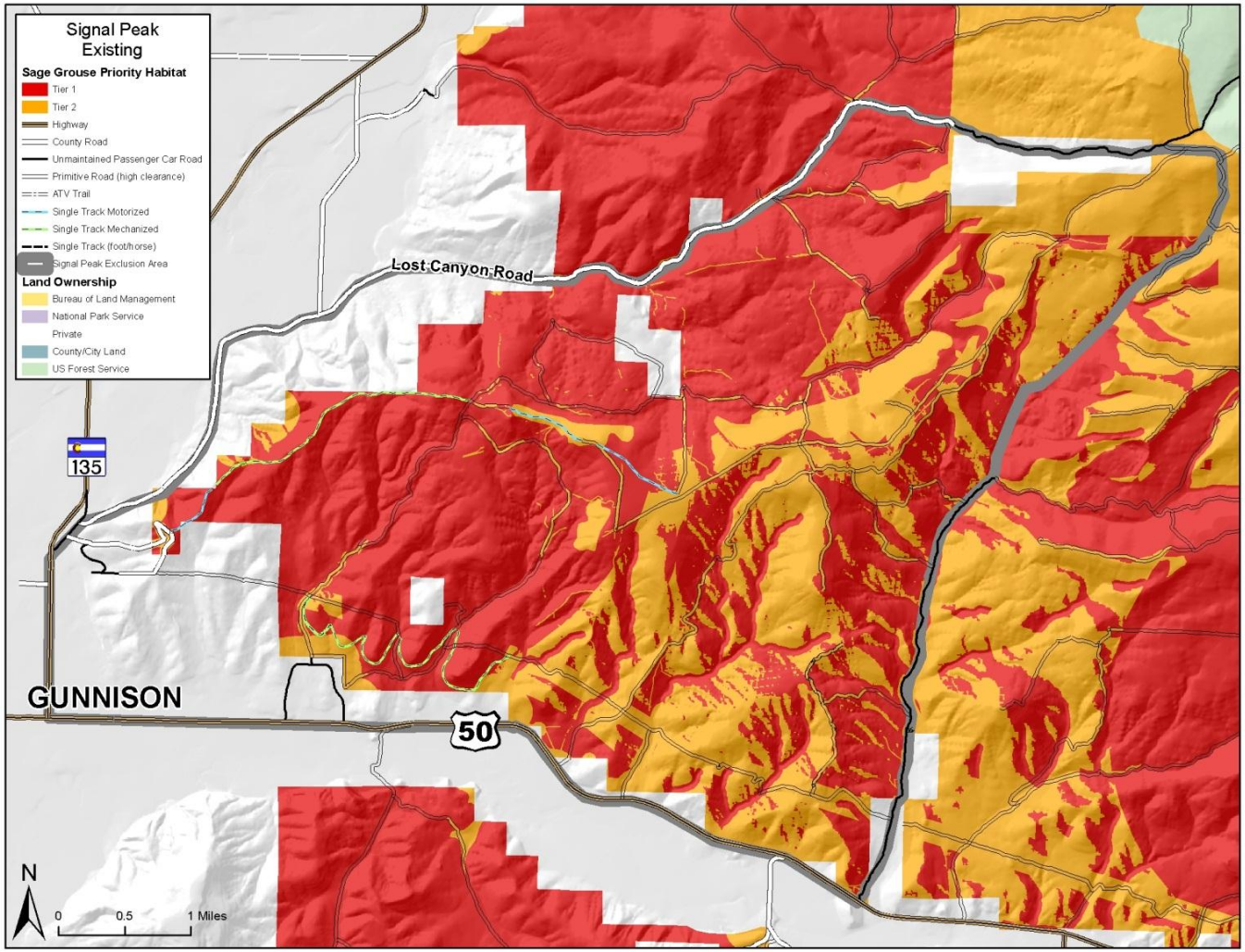
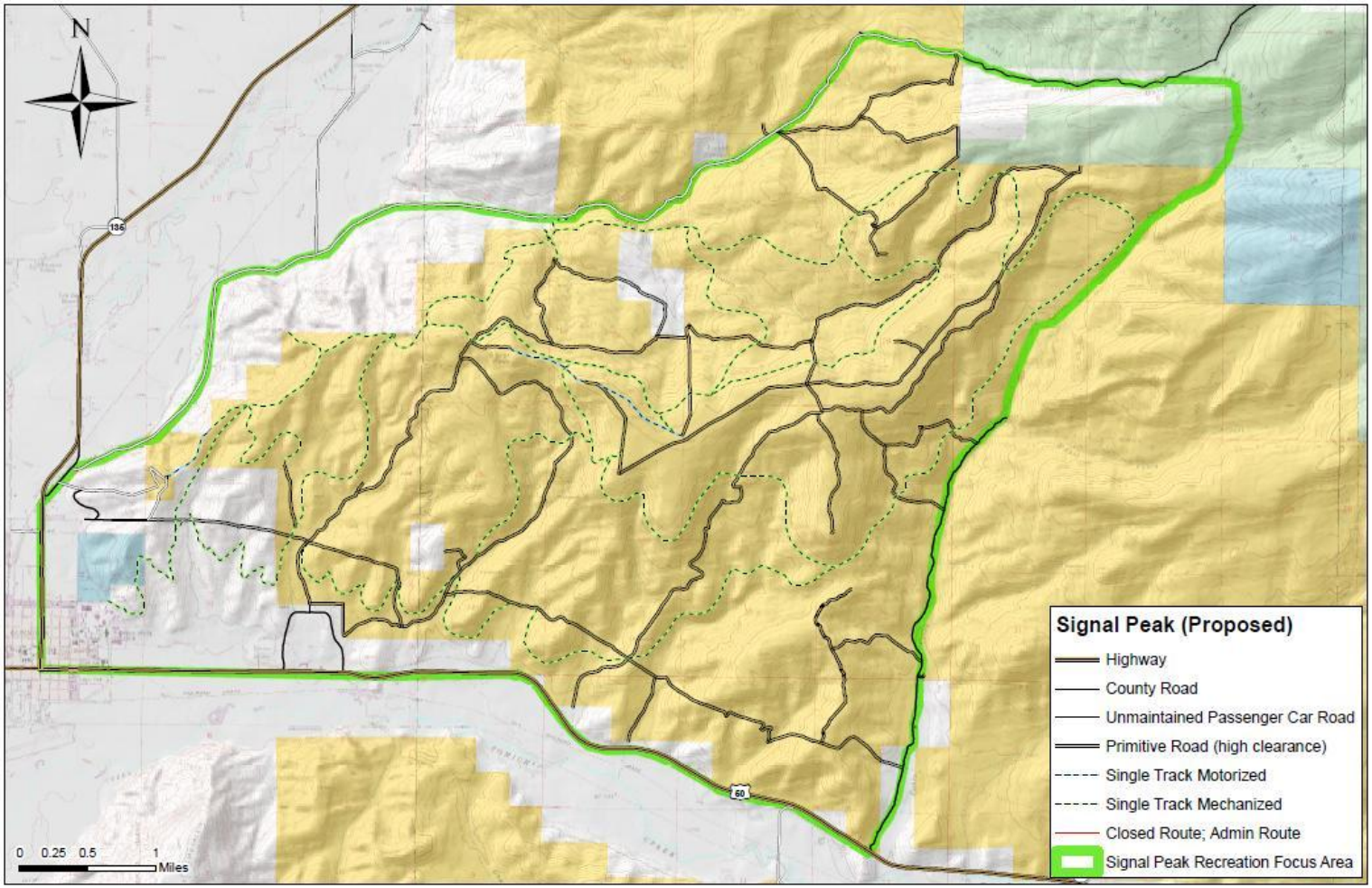

Signal Peak
Existing
Sage Grouse Priority Habitat
Tier 1
Tier 2
Highway
County Road
Unmaintained Passenger Car Road
Primitive Road (high clearance)
ATV Trail
Single Track Motorized
Single Track Mechanized
Single Track (foot/horse)
Signal Peak Exclusion Area
Land Ownership
Bureau of Land Management
National Park Service
Private
County/City Land
US Forest Service
Lost Canyon Road
135
GUNNISON
50
N
0
0.5
1 Miles

Figure 7. Proposed future condition of Signal Peak.



C. Van Tuyl Ranch

Current Condition:
The Van Tuyl Ranch is owned by the city of Gunnison and includes a system of trails on the east side of the Gunnison River, on the northwest side of Gunnison (*See Figure 8 & Figure 9*). The trails are open to hiking and biking.

Long-Term Planning – Future Need and Development:
In order to provide for increased recreation opportunities for a growing population and to focus dog use away from Signal Peak, nonmotorized user groups envision future development in the area. In order to develop and maintain a limited trail system on the west side of the Gunnison River, a bridge may be constructed. Trails would be developed on BLM lands in a bench below the ridge line of the palisade. Use on this trail system would be hiking and biking.

The Numbers:
Total Acreage: Tier 1 = 51; Tier 2 = 8.

Proposed sage-grouse Conservation Measures in this Area:

- No motorized travel.
- Possible closure from March 15 to May 15, or no human uses before 9:00 a.m. during that time period.
- Dogs on leashes in areas outside of the city-maintained/owned Ranch, which includes a dog park.

Figure 8. Van Tuyl.

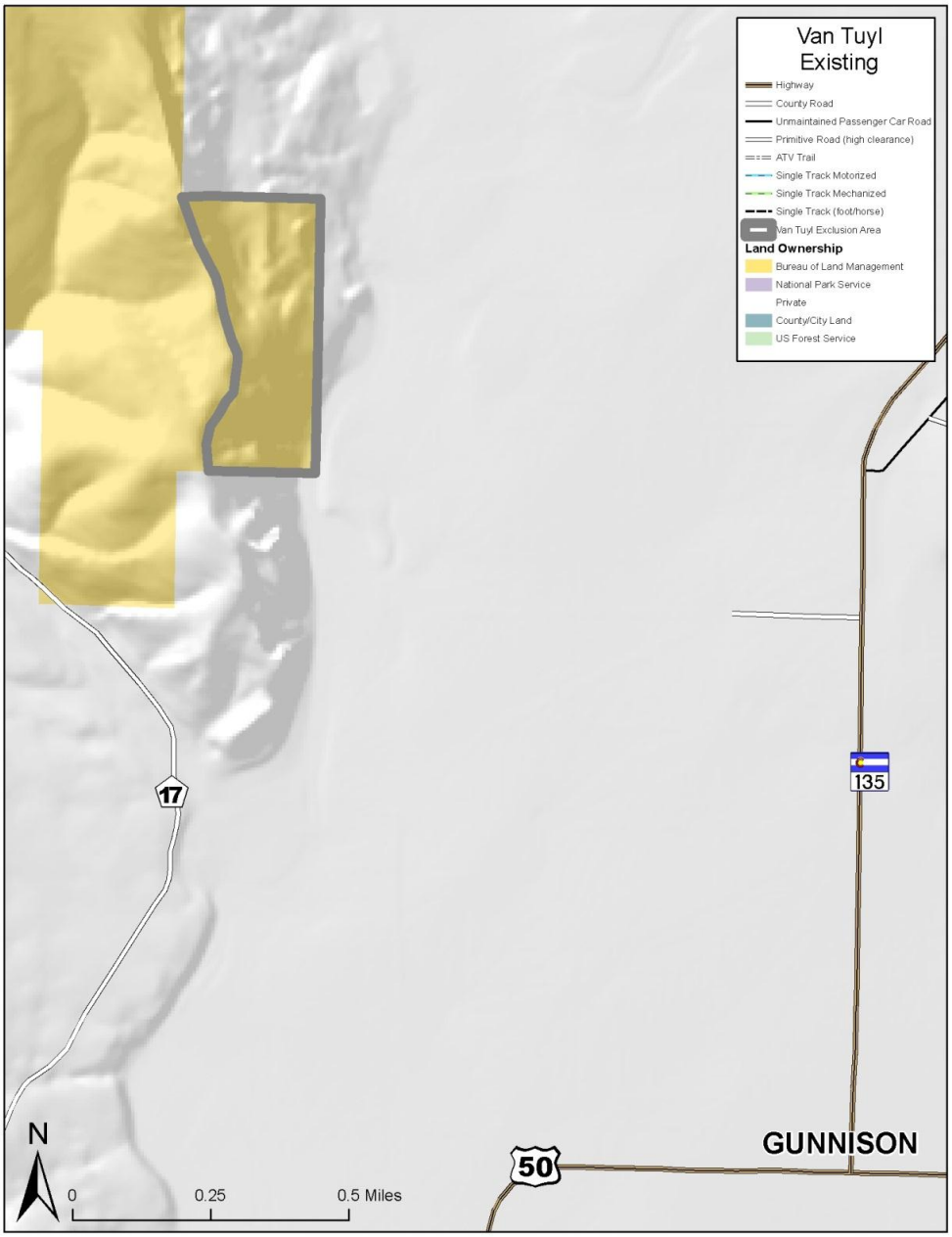
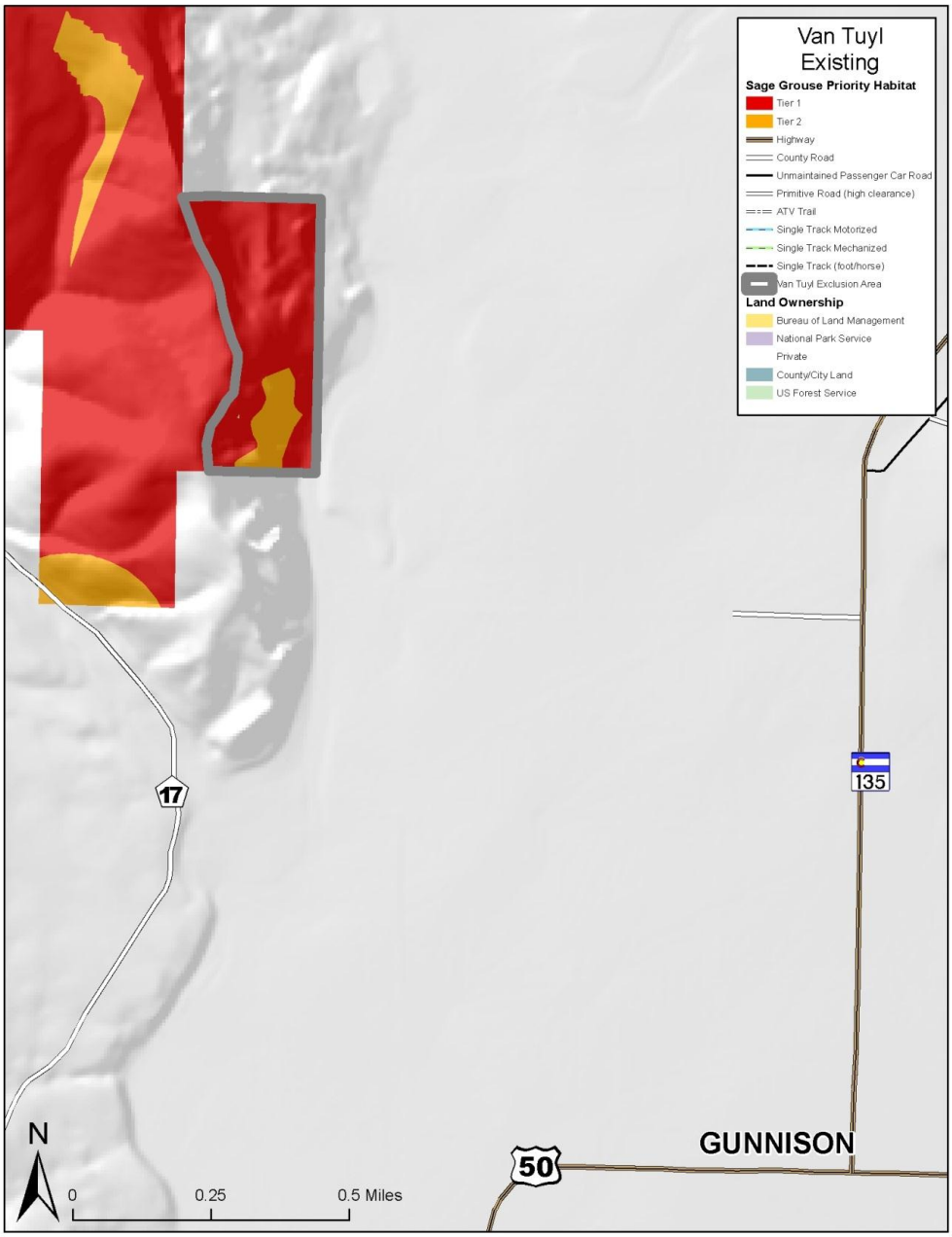


Figure 9. Van Tuyl with Tier 1, Tier 2 GUSG habitat.



APPENDIX C. Communication Towers Standards

From *Service Interim Guidelines for Recommendations On Communications Tower Siting, Construction, Operation, and Decommissioning*, US Fish And Wildlife Service Migratory Bird Program, 2000.

1. Any company/applicant/licensee proposing to construct a new communications tower should be strongly encouraged to co-locate the communications equipment on an existing communication tower or other structure (*e.g.*, billboard, water tower, or building mount). Depending on tower load factors, from 6 to 10 providers may collocate on an existing tower.

2. If collocation is not feasible and a new tower or towers are to be constructed, communications service providers should be strongly encouraged to construct towers no more than 199 feet above ground level (AGL), using construction techniques which do not require guy wires (*e.g.*, use a lattice structure, monopole, etc.). Such towers should be unlighted if Federal Aviation Administration regulations permit.

3. If constructing multiple towers, providers should consider the cumulative impacts of all of those towers to migratory birds and threatened and endangered species as well as the impacts of each individual tower.

4. If at all possible, new towers should be sited within existing "antenna farms" (clusters of towers). Towers should not be sited in or near wetlands, other known bird concentration areas (*e.g.*, state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species[44]. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.

5. N/A If taller (>199 feet AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used. Unless otherwise required by the FAA, only white (preferable) or red strobe lights should be used at night, and these should be the minimum number, minimum intensity, and minimum number of flashes per minute (longest duration between flashes) allowable by the FAA. The use of solid red or pulsating red warning lights at night should be avoided. Current research indicates that solid or pulsating (beacon) red lights attract night-migrating birds at a much higher rate than white strobe lights. Red strobe lights have not yet been studied.

6. Tower designs using guy wires for support which are proposed to be located in known raptor or waterbird concentration areas or daily movement routes, or in major diurnal migratory bird movement routes or stopover sites, should have daytime visual markers on the wires to prevent collisions by these diurnally moving species. (For guidance on markers, see *Avian Power Line Interaction Committee (APLIC). 1994. Mitigating Bird Collisions with Power Lines: The State of*

[44] With respect to the recommendation that towers not be sited in habitat of threatened or endangered species, the CCA and programmatic conference opinion would cover siting within Gunnison sage-grouse habitat, although such siting would be minimized via a minimum standard of co-locating the new towers with comparable development and/or locating it in a forested area.

the Art in 1994. Edison Electric Institute, Washington, D.C., 78 pp., and *Avian Power Line Interaction Committee (APLIC). 1996. Suggested Practices for Raptor Protection on Power Lines. Edison Electric Institute/Raptor Research Foundation, Washington, D.C., 128 pp.* Copies can be obtained via the Internet at http://www.eei.org/resources/pubcat/enviro/, or by calling 1-800/334-5453).

7. Towers and appendant facilities should be sited, designed and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint". However, a larger tower footprint is preferable to the use of guy wires in construction. Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight.

8. If significant numbers of breeding, feeding, or roosting birds are known to habitually use the proposed tower construction area, relocation to an alternate site should be recommended. If this is not an option, seasonal restrictions on construction may be advisable in order to avoid disturbance during periods of high bird activity.

9. In order to reduce the number of towers needed in the future, providers should be encouraged to design new towers structurally and electrically to accommodate the applicant/licensee's antennas and comparable antennas for at least two additional users (minimum of three users for each tower structure), unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.

10. Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.

11. If a tower is constructed or proposed for construction, Service personnel or researchers from the Communication Tower Working Group [or respective federal land management Authorized Officer] should be allowed access to the site to evaluate bird use, conduct dead-bird searches, to place net catchments below the towers but above the ground, and to place radar, Global Positioning System, infrared, thermal imagery, and acoustical monitoring equipment as necessary to assess and verify bird movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems.

12. Towers no longer in use or determined to be obsolete should be removed within 12 months of cessation of use.

APPENDIX D. Grazing Management Guidelines for GUSG

From pages 212 – 213 in the Rangewide Conservation Plan; modified December 2011 by Gunnison area participants in the CCA Grazing Team.

The grazing management guidelines below represent a partial list of grazing management practices that may be compatible with achieving GUSG habitat objectives. Site-specific grazing prescriptions should specify timing, intensity, duration, and frequency of grazing that together provide a recovery period for plant health and maintenance and fit the specific circumstances (both biotic and abiotic factors) unique to that area, including other resource or operational considerations. This site specificity also maximizes potential flexibility or opportunities for each situation including incorporating private, state, and/or federal lands to reach habitat objectives.

A. Overall Guiding Principle & Objectives

Applicable to all livestock grazing in occupied sage-grouse habitat:

1. To maintain and improve grouse sage-grouse seasonal habitat:

- **a.** Control the distribution of livestock, duration of use, and the time of year that livestock graze a particular location by using grazing systems such as rest-rotation, deferred rotation, or low intensity/longer duration.
- **b.** Allow for growth and/or re-growth in each pasture during the spring growing season to provide quality vegetation and vegetation height requirements during periods of sage-grouse seasonal use (refer to "GUSG Structural Habitat Guidelines", Appendix H).
  - Specifically, retain adequate cover for nesting habitat during current season *and* residual cover for nesting habitat the subsequent year.

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2. Furthermore, in order to improve riparian, swales, and wet meadow habitat for grouse/other species:

- **a.** Encourage continued use of irrigation water rights for existing hay meadows, particularly those that maintain riparian areas on allotments in sage-grouse habitat. *CCA team suggestion*
- **b.** New spring developments and spring reconstructions should be designed to minimize changes to the natural flow of the water. *CO GrSG Conservation Plan – Grazing Management Options, p E-3*
  - When possible, develop alternative livestock water sources outside of naturally occurring riparian areas (dig wells, install pipelines, etc.). *CCA team suggestion; RCP Grazing Management Guidelines for GUSG, #9, p.213*
  - Where possible (when sufficient water is present to support riparian habitat and supply livestock water), redesign existing water developments that are in naturally occurring riparian areas to protect riparian habitat and pipe a portion of the water to troughs that

are well away from naturally occurring riparian habitat. *CCA team suggestion; RCP Grazing Management Guidelines for GUSG, #9, p.213*

c. Place salt, minerals, and supplements at least 1/4 mile away from riparian areas, to the extent feasible within existing pasture boundaries.

d. Move 95% of all livestock from one pasture to the next within 3 days of scheduled move, with 100% moved within one week from scheduled move.

B. Best Management Practices

If monitoring data indicate that an allotment is not meeting RCP habitat guidelines, then apply the following strategies, as appropriate:

1. Where possible, do not graze the same pasture at the same time of year for consecutive years. If not possible, develop smaller grazing units within large pastures using salting, supplements, water, herding, or fencing to facilitate improved grazing practices.

2. Consider rotating the type of livestock (age, species), if possible.

3. If needed, to avoid overuse of riparian areas, water sources, and other known livestock concentration areas, use management actions such as the placement of salt/supplements, herding, and/or fencing to achieve improved livestock grazing distribution.

4. If needed, manage grazing in riparian areas to maintain or move towards the desired riparian vegetation condition.

5. If needed, modify the livestock use in pastures or allotments when abnormal environmental events occur (e.g., drought, heavy snow fall, flooding) and stress vegetation.

6. If the need arises and as determined by, and with prior approval from the managing agency, periodically use livestock grazing as a vegetation treatment to improve the openness of lek sites. *Note:* temporary fencing, herding, or increased stocking rate may be used, but grazing needs to be limited to specific lek site, so as to not overgraze surrounding area. Consistent with #6, strategic grazing of lek sites should occur outside of the grouse breeding season.

7. Avoid placing salt, minerals or supplements within ½ mile of leks.

8. Avoid livestock concentrations in lek areas during the breeding season, approximately March 15 – May 15. Depending on seasonal conditions, this date may fluctuate.

9. For areas failing to meet RCP habitat guidelines, develop a range vegetation improvement plan in consultation with the affected permittee, which could include but is not limited to:

If monitoring data indicate forb density and height do not meet the RCP habitat guidelines or is declining:

- **a.** Periodically defer spring grazing.
- **b.** Plant native forb seed in rangelands that have enough moisture and the soil characteristics to establish and support forbs.

If sagebrush stands don't meet the RCP habitat guidelines::

- **a.** Use grazing treatments that will rejuvenate new sagebrush growth, improve sagebrush quality and age diversity, and improve the understory.

If an allotment or area is not meeting sage-grouse habitat guidelines due in part/all to weeds:

- **a.** Strategically graze to control noxious and invasive weeds.

10. Restrict grazing in vegetation treatment areas for 2 full growing seasons after treatment, unless grazing is needed for seedbed preparation or desired understory and overstory are established.

APPENDIX E. Monitoring Protocol

A. Short-Term: Modified Stubble Height Method

Excerpts consistent with the Colorado Rangeland Monitoring Guide (2011) for stubble height measurements; incorporates elements from the Interagency Technical Reference for Utilization Studies and Residual Measurements (1996) and the Gunnison sage-grouse Rangewide Conservation Plan (2005).

Grass and forb (plants other than grasses & shrubs) plant cover is important to Gunnison sage-grouse for hiding cover for chicks, food, nesting, and insects. Retaining an adequate amount of standing herbaceous cover (stubble) in sagebrush plant communities, swales, wet meadows, and riparian areas is critical for maintaining sage-grouse habitat and long-term forage for livestock production.

This adapted Stubble Height method is simple to use and will help provide consistency in short-term monitoring of livestock and big game use in occupied sage-grouse habitat across all land ownerships. "Stubble height monitoring typically occurs on predetermined key plant species in key areas. Depending on the objectives and resource concerns, key areas may be along the streamside or in wet or dry meadow sites within the riparian area or in upland areas. In some instances, monitoring is based on species groups, such as sod-forming species with similar growth form and response to grazing" (Colorado Rangeland Monitoring Guide 2011).

For pastures that are grazed by livestock or big game before or during grouse nesting and/or early brood-rearing, monitoring should ideally be conducted within the season of use by grouse, approximately late March through mid-August (Phillips, pers. comm.). For pastures that are grazed during late brood-rearing (late summer/fall), short-term monitoring should be conducted following livestock use to determine if adequate residual cover remains to provide nesting and hiding cover the following spring (RCP 2005).

Procedure

- Measurements need to be made in designated key areas, within riparian areas (but possibly on uplands), and on predetermined key plant species. Alternatively, heights may be determined for a group of similar species, such as wet-site, wide-leaved sedges or rushes or dry-site, narrow-leaved grasses or sedges. The key is that this group of species be used by, and react similarly, to grazing effects [by livestock or big game]. *On BLM and Forest Service lands, permittees and other affected interests (CPW, USFWS, WSC students, etc.) are encouraged to assist in the establishment of transects and the measurement of stubble heights* (BLM 1996).

- For riparian areas, sampling should be done on both sides of a stream segment [or wetland] along the Greenline, when feasible. For upland or meadow sites, measurements should be taken along a predetermined transect or course.

- Once the riparian segment or transect site has been selected, take a photograph looking down the stream segment or transect. Include a relocatable, prominent feature in the photo background,

such as a rocky point or distinctive horizon. Determine the distance between observation points (this is the sample interval). This will vary depending on the size and shape of the site selected. Record the sample interval in the Sample Interval blank at the top of the form.

- Determine how many paces (2 steps per pace is typical) will give the selected sample interval, and begin pacing along the Greenline or the predetermined transect course. Stop at each sample interval and do the following:

    - Locate the individual plant nearest the toe of your boot for the identified key species. The nearest plant may not be immediately at your toe.

    - *Instead of recording the average stubble height (average leaf length) of the nearest key species (CRMI 2011), record the droop height using Gunnison sage-grouse Rangewide Conservation Plan (GSRSC 2007) guidelines attached below. This alteration in the CRMI method follows RCP guidelines and more closely measures hiding cover for sage-grouse. Measure height (leaf or flower) at the tallest vertical point (droop height – do not straighten up the plant) where the bulk of a plant's mass occurs. If the flower of the plant does not provide visual obstruction, measure where the bulk of the mass occurs in the leafy portion of the plant at the tallest leaf height (see Figure1 below). If the flower provides a bulk of the mass, then the tallest portion of the flower is measured (Figure 2 below)(GSRSC 2007).*

    - Where it is difficult to tell where one plant starts and another stops, visualize a three-inch circle and sample the key species within that circle. Estimate and record the average [droop] height within the three-inch circle.

    - If you are sampling for more than one key species, or grouping of similar species, record [droop] height for each key species. There will be a minimum of 30 [droop] height measurements for each species. Additional readings can be taken if variability on the site warrants. *This procedure does not provide guidelines for every species of plant. The individual conducting the sampling will have to make a judgment call for each measurement and each species along the transect. Consistency in following this protocol is key, as well as collecting an adequate number of measurements (BLM 1996).*

    - *The same protocol should be followed for forbs (Figure 3 below – the bulk of the mass of the plant occurs in the leafy portion where the tallest leaf height is measured). In Figure 4 below, the flower provides the bulk of the mass where the tallest portion of the flower is measured (GSRSC 2007).*

    - After a minimum of 30 samples have been recorded, total the measurements for each column, and divide by the number of plant samples for each species to calculate the average [droop] height.

From the *Minimum Structural Vegetation Collection Guidelines for the Gunnison sage-grouse,* Rangewide Steering Committee (March 2007)

Examples of where grass and forb heights should be taken.

Figure 1.

Figure 2.

Figure 3 [forb].

Figure 4 [forb].

B. Long-Term: Structural Vegetation Collection Guidelines

MINIMUM STRUCTURAL VEGETATION COLLECTION GUIDELINES
FOR THE GUNNISON SAGE-GROUSE
Rangewide Steering Committee
March 2007

The following protocol was designed to assess suitability of vegetation conditions for the Gunnison sage-grouse as outlined in the Gunnison sage-grouse Rangewide Conservation Plan (RCP) (Appendix H [Gunnison sage-grouse Structural Habitat Guidelines]).

- This protocol is intended to provide a consistent method for measuring the minimum vegetation characteristics to evaluate site-specific suitability for Gunnison sage-grouse as described in the RCP Structural Habitat Guidelines (Appendix H). If additional vegetation data is needed, consult the BLM Technical Reference 1734-4 or other agency technical manuals.
- This protocol can be used to evaluate current suitability of site-specific conditions, monitor changes in the suitability of site-conditions over time (other techniques will be needed for specific monitoring projects) and evaluate impacts of habitat and restoration treatments on Gunnison sage-grouse site-suitability.
- Vegetation data must be collected during the season of use by Gunnison sage-grouse. For breeding habitat, measurements should start around the middle to the end of May or after the first nests begin to hatch and continue through June to encompass both nesting and early-brood-rearing habitat. Summer habitat measurements should start around mid-June (after the chicks are about 4 weeks old) and continue through mid-August to encompass late-brood-rearing habitat. Winter structural habitat variables (sagebrush canopy cover and sagebrush height) may be collected at any time of the year as these variables do not change substantially on a seasonal basis.
- To ensure repeatability in data collection, all methodology should be established before beginning field work and documented for future reference. To maintain consistency in data collection, use of this protocol is recommended. If an alternate methodology is used to evaluate site suitability with regards to the RCP Structural Habitat Guidelines (Appendix H), techniques must be reported.

General Guidance

- To measure sagebrush and other shrub canopy cover, the line intercept method developed by Canfield (1941) should be used. For other canopy cover estimates use Daubenmire (1959) plots.
- Take a minimum of 1 photo per vegetation transect preferably at the starting point of the transect line. Attempt to take the photo at a height and angle that will provide a good representation of the general condition of the site.
- Frequency, density, and composition are additional types of information that could be collected but are not required by this protocol to assess Gunnison sage-grouse with regards to the RCP Structural Habitat Guidelines (Appendix H). If this type of data is needed consult the Technical Reference 1734-4 (http://www.blm.gov/nstc/library/pdf/samplveg.pdf).

Specific Measurements

Transect Lines

- Line transects should be 30 m in length.
- Placement of transects should be done using any statistically valid design.
- Collect a UTM coordinate with a GPS unit at the start pointing of the transect line and record on the field form so that transects can be located in the future.
- Transects placement could be stratified by community types and soils.

Shrub Canopy Cover

- Measure all shrubs and trees that intersect the line transect. The sagebrush species (if it can be identified) that intersects the line should be documented; all others non-sagebrush shrubs can be lumped into one category.
- Measure the amount of live shrub canopy cover that intersects the transect line. Large spaces in the foliage cover (>5 cm) should be excluded from the canopy cover measurement so that only live shrub cover is recorded.
- Do not measure overlap of canopy of species—i.e., if two sagebrush plants overlap along the transect, the length of the transect covered from a vertical vantage point is the percent canopy cover regardless of how may individual plants makeup that coverage. Canopy cover should never exceed 100%.

. General Guidelines for Application of Daubenmire (1959)

- See Daubenmire (1959) or USDI-BLM (1996) for additional details.
- Five other vegetation variables will be collected along line transects within a Daubenmire frame:
    - o Sagebrush Height
    - o Grass Height
    - o Forb Height
    - o Grass Cover
    - o Forb Cover
- Collect data in 10 Daubenmire frames along each 30 m transect.
- Select a consistent and statistically valid method for placement of the Daubenmire frame along each transect. Record your method on the field form so future transects can be completed in the same way.

Sagebrush Height

- Take one height measurement per sampling point (Daubenmire frame) by selecting the sagebrush closest to the lower left corner of the Daubenmire frame, based on its canopy and not its root. The closest sagebrush could be within the frame, in front of the frame, behind the frame, and on either side of the transect. Choose the sagebrush closest to the lower left corner of the frame regardless of its direction from that corner.
- Note on the data sheet whether the shrub measured is a seedling (no woody base) or a very young plant.
- Exclude seed heads (inflorescences) from height measurement of sagebrush.

- Do not re-measure the same shrub even if it is the closest sagebrush for a subsequent plot. Instead select the next nearest sagebrush within 10 meters of the plot. If there is no other sagebrush within 10 meters, do not take a height measurement for that plot.

Understory Cover

To the extent possible, plants should be identified to the species level, but training and time limitations may prevent this. The important habitat variables to be collected include:

- Grasses: break out perennial versus annual at a minimum. Identify dominant species to the extent possible in comments section of form. Identify cheat grass (e.g. *Bromus tectorum*) and other non-native species to the extent possible.
- Sedges are included in the grass category.
- Forbs: At a minimum list the number of different forb species per plot, even if you cannot identify the species. Identify species to the extent possible.
- Measure the live and residual foliar cover of grasses and forbs.

Understory Height

Height measurements are conducted to characterize the vertical and horizontal structure of the understory. Gunnison sage-grouse select habitat based on vertical (how tall it is) and horizontal (how thick it is) structure. Both aspects contribute to a diversity of structure and provide a sense of security for birds. These aspects contribute to nest, chick and adult concealment from predation events. That is why these measurements are relatively, but not absolutely consistent.

- Measure 1 grass and 1 forb in each Daubenmire frame. The plants must be rooted in the frame, and if there are no grasses or forbs in the frame, record as not present.
- Measure height of the nearest grass and forb from the bottom left corner of the Daubenmire frame.
- Grass height only includes the current year's growth. There are no criteria or guidelines for previous year's growth (e.g. residual grass height).
- Grass height can include annual or perennial grass. It should be documented on the datasheet if annual grass (cheat grass, e.g. *Bromus tectorum*) is measured. It is preferable to measure perennial grasses.
- Additional grass heights can be measured, but at a minimum grass height should be measured in the following manner:
    - Measure grass height (leaf or inflorescence) at the tallest vertical point (do not straighten up the plant, i.e. droop height) where the bulk of a plant's mass occurs. If the inflorescence of the plant does not provide visual obstruction, measure where the bulk of the mass occurs in the leafy portion of the plant at the tallest leaf height (Fig. 1). If the inflorescence provides a bulk of the mass, then the tallest portion of the inflorescence is measured (see Fig. 2 above).
    - This protocol does not provide guidelines for every species of grass. The individual conducting the sampling will have to make a judgment for each plot and each species along a plot. Consistency by following this protocol is key, as well as collecting an adequate number of measurements.
- The same protocol should be followed for forbs (see Fig. 3, above - the bulk of the mass of the plant occurs in the leafy portion and the tallest leaf height is measured; see Fig. 4, above - the inflorescence provides the bulk of the mass the tallest portion of the inflorescence is measured)

All cover estimates should be placed in the categories noted in Table 1. The standard Daubenmire method uses six cover classes, but the specific ranges lump too much in the 5-25% class for Gunnison sage-grouse vegetation variables. Therefore, this category was split into 2 cover classes below.

Table 3. Cover classes for Gunnison sage-grouse habitat variable estimation.

Cover Class	Range of Coverage	Midpoint of Range
1	0-5%	2.5
2	5-15%	10
3	15-25%	20
4	25-50%	38
5	50-75%	63
6	75-100%	88

APPENDIX F. Habitat Prioritization Tool

The below listed information was incorporated into a spatial model to evaluate habitat within the Gunnison Basin for Gunnison sage-grouse. The spatial model in itself can only be used on a broad scale for planning and rough habitat assessment. Projects and development will still need to be evaluated with an onsite assessment on a project-by-project basis. This model has been developed through collaborative efforts of Gunnison County, US Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), US Forest Service (USFS), Colorado Parks and Wildlife (CPW), National Park Service (NPS), Natural Resources Conservation Service (NRCS), and interested stakeholders. This Tool/Model incorporates the most recent information as provided by agency input from those working on the ground through numerous meetings and hours of discussion about data layers that provide the best representation of current on the ground conditions in the Gunnison Basin.

High priority habitat consists of all habitat layers and all uncontrollable threat layers. Controllable and other impacts can be changed or adjusted to decrease the impact on grouse habitat.

A. Habitat

1. **Lek 0.6 mile buffer and average high male count for active leks:** The official lek status and high male count are defined and reported from lekking data collected and published by CPW in their annual Gunnison Basin Lek Count Summary and Population Estimate. The Official Status of a lek is given as a cumulative status and designated as Active, Historic, Inactive, or Unknown. To be Officially Active, a lek only needs to be designated as Active in the current year. A lek is not considered Officially Inactive unless it has been seasonally Inactive for five consecutive years. Thus, a lek might not have any birds for a given season, but its official status may be Unknown because the lek had not been Inactive all of the past five years. Historical lek status is not given until a lek has been Inactive for 10 consecutive years. (Jackson and Seward, 2011)

- **Geospatial Data:** This layer is the CPW lek polygon layer and includes a 0.6 mile buffer from the outside edge of the lek polygon with spatial boundaries from the 2011 update as well as the Official Status from 2011. Buffering the lek polygons by 0.6 miles matches up with the disturbance guidelines in the Rangewide Conservation Plan. This 0.6 mile buffer serves as a measure of protection to insure that the entire lek polygon is captured within the buffer polygon and that potential direct or indirect impacts directly adjacent to a lek that could influence lekking behavior are evaluated.

- **Evaluation class breaks (weight) justification:** Leks are considered the most important habitat for the grouse. Habitat alteration on or near a lek has the potential to have the greatest impact to the population. There is a need to conserve all leks, regardless of the number of birds displaying on the lek. (Aldridge, 2011b; Phillips, 2011)
    - <u>Officially Active</u> (15) *Active leks are those of greatest value to the grouse population. Birds are displaying regularly on an annual basis.*

- Officially Unknown (10) *These leks could have and Official Status of unknown for many reasons, including missing count data. Leks can fall into this category in a one year time frame.*
- Officially Inactive (8) *These leks should not be completely discounted. There is potential for the grouse to comeback and begin using these areas on a regular basis if numbers increase or surrounding habitat improves. It takes 5 years for a lek to move into this category.*
- Officially Historic (1) *The majority of these leks are close to high build-out densities and will probably never be able to recover to active status regularly.*

- **Data for support:**
  - 2011 Gunnison Basin Gunnison sage-grouse Lek Count Summary and Population Estimate Final Report (Jackson and Seward 2011).
  - 2011. Seward, Nate. Lek Status Definitions.
  - 2011b. Aldridge, Cam. Public meeting information, December 1, 2011. Meeting to validate the priority tool model called by the Technical Subcommittee for the Gunnison Basin Strategic Committee for the Gunnison sage-grouse.
  - 2011. Phillips, Mike. Public meeting information, December 1, 2011. Meeting to validate the priority tool model called by the Technical Subcommittee for the Gunnison Basin Strategic Committee for the Gunnison sage-grouse.

- **Area for improvement:**
  - The Local Annual Report definitions do not align with the RCP or current statewide definitions for Official Status as defined by Colorado Parks and Wildlife. Local CPW staff has maintained consistency in local definitions and is working to align them with the RCP and Statewide definitions.

- **Updated:** This layer will be updated on a yearly basis.

2. **Brood-rearing habitat:** Brood rearing habitat is defined in the RCP. It includes mesic areas (swales, meadows, sagebrush near irrigation ditches and irrigated meadows) with lush vegetation. This layer is intended to capture priority habitat as defined in the RCP.

- **Geospatial Data:** Four spatial layers were combined to create this layer—NRCS mapped alluvial soils minus irrigated meadows, CPW streams, and wet meadow/sagebrush interface areas. A 50m buffer was placed around the streams and the wet meadow/sagebrush interface layer (RCP 2005). Areas were not double-counted where overlap occurred and areas where mesic sites were greater than 50m from the sagebrush.

- **Evaluation class breaks (weight) justification:**
  - Present (13)

- **Data for support:**
  - RCP

- **Area for improvement:**

- Updated NRCS soils mapping and range site mapping for alluvial and riparian sites. *(Not possible in current timeframe, but progress has begun on this endeavor.)*
- Removal of any brood rearing habitat from forested areas.
- There is a need to add other features including springs and seeps that are not captured in the current data layers.

- **Updated:** This layer will be updated if new and better data becomes available.

3. **Nesting/summer/late fall habitat:** These habitats are defined in the RCP. It includes sagebrush dominated areas. This layer is trying to capture priority habitat as defined in the RCP.

- **Geospatial Data:** This data layer was compiled from NRCS soils data and includes all sagebrush dominated range sites (mountain loam, subalpine loam, mountain outwash, and deep clay loam). Soils included from the Gunnison Soil Survey (CO662) are: CeC, CoE, CuE, DeB, DoE, GeB, GeE, JeE, KvE, LeE, MoE, MrE, PwE, RcE, SuE, YgE, YlE, YpE, EvD and the NE (331 to 149 degrees) aspects of CrE, DrE, DsE, KcE, LhF, PhF, PmF, and MrE. Soils included from the Grand Mesa-West Elk Soil Survey (CO660) are: 107, 138, 139, 142, 165, 172, 191 and the NE aspects of 153. Soils included from the Cochetopa Area Soil Survey (CO663) are: 103, 104, 108, 111, 119, 121, 122, 131, 132, 133, 134, 141, 142 and the NE aspects of 110.

- **Evaluation class breaks (weight) justification:** As we looked at the map we decided to differentiate nesting habitats. We thought it would provide important additional information to give nesting habitat closer to the brood rearing habitat a higher score. sage-grouse hens have to be able to move their broods from the nests to brood rearing habitat by walking. All nesting habitat is of value, but nesting habitat closer to brood rearing habitat has potential to be of higher benefit. Disjunction of brood rearing habitat from nesting habitat results in habitat fragmentation and possibly the loss of usability. It is recognized that In order to capture most of the nesting locations, one would have to have to account for all nesting habitat within 4 miles of a lek (Connelly et al 2000, Aldridge 2011b) - which is all nesting habitat in the basin.
  - Present <1500 ft. from brood rearing habitat (15)
  - Present >1500 ft. from brood rearing habitat (10)

- **Data for support:**
  - RCP
  - NRCS Soil Survey
  - 2011b. Aldridge, Cam. Public meeting information, December 1, 2011. Meeting to validate the priority tool model called by the Technical Subcommittee for the Gunnison Basin Strategic Committee for the Gunnison sage-grouse.
  - Connelly et. al 2000

- **Area for improvement:**
  - Updated NRCS soils mapping and range site mapping. *(Not possible in current timeframe, but progress has begun on this endeavor.)*

- **Updated:** This layer will be updated if new and better data becomes available.

4. **Winter habitat:** This habitat is defined in the RCP. It includes sagebrush dominated areas with both thermal cover and exposed sagebrush for winter use. This layer is intended to capture priority habitat as defined in the RCP.

- **Geospatial Data:** Winter habitat was modeled using the dry mountain loam soils from NRCS Soil Survey mapping layers. Dry mountain loam sites are mapped on SE to NW (150-330 degrees) facing slopes. A 10m DEM was used in the slope analysis and boundaries were then smoothed to reduce the pixilation. Soils included from the Gunnison Soil Survey (CO662) are: CrE, DrE, DsE, KcE, LhF, PhF, PmF, and MrE. Soils included from the Grand Mesa-West Elk Soil Survey (CO660) are: 153. Soils included from the Cochetopa Area Soil Survey (CO663) are: 110, and 130.

- **Evaluation class breaks (weight) justification:** Winter habitat was considered to be of lesser importance than the other habitat types for the grouse. In general, winter mortality of the Gunnison sage-grouse is low (Phillips, 2011)
    - Present (10)

- **Data for support:**
    - RCP
    - NRCS Soil Survey/ Web Soil Survey
    - 2011. Phillips, Mike. Public meeting information, December 1, 2011. Meeting to validate the priority tool model called by the Technical Subcommittee for the Gunnison Basin Strategic Committee for the Gunnison sage-grouse.

- **Area for improvement:**
    - Updated NRCS soils mapping and range site mapping. *(Not possible in current timeframe, but progress has begun on this endeavor.)*

- **Updated:** This layer will be updated if new and better data becomes available.

5. **Habitat status:** The habitat status has been defined from the RCP and incorporates many researchers' and managers' expert knowledge of the current and historic distribution of the grouse. The occupied habitat layer will serve as this tool's boundary for grouse habitat evaluation. Potential and vacant/unknown habitats are not included in scoring because of lack of habitat and geospatial data. Vacant/Unknown habitat is apparent high quality habitat without birds. Potential habitat would require a significant amount of time, energy and resources to create to a habitat of sufficient quality that could be colonized by grouse, due to the large amount of forested acres. There are areas within the CPW mapped occupied habitat layer that are unusable to grouse and have been removed. These areas include within the landfill boundary, the UMTRA site, open water areas, and some gravel pits.

- **Geospatial Data:** The original occupied habitat with polygons delineated by the CPW/USFWS is defined in the RCP. The current occupied habitat boundary is an updated version from May 2011 by CPW staff based on field observations. The 2011 spatial layer was incorporated into the tool.

- **Evaluation class breaks (weight) justification:**
  - Occupied (0) *Occupied habitat was not actually scored. It was used as the outer boundary for the prioritization tool.*

- **Data for support:**
  - RCP (page 32-40)
  - Schroeder et al. 2004
  - CPW - Species Activity Mapping Data

- **Area for improvement:**
  - Potential and vacant/unknown habitats are not included in scoring because of lack of habitat and geospatial data.

- **Updated:** When revisions to the occupied habitat boundary occur, alterations and updates to this tool will be needed.

6. **Land near active leks:** Land near active leks is considered a higher priority for preservation. Leks are often in close proximity to quality nesting habitat. (Connelly et al. 2000; Aldridge et al. 2011) The Local Gunnison Sage Grouse Conservation Plan notes that these areas are priority areas used by nesting hens (1997).

- **Geospatial Data:** A two mile buffer was placed around the outer edge of the lek polygon layer. Both the area within the 2 mile buffer and the lek itself were included in this layer. The two mile buffer is from the Gunnison Sage Grouse Conservation Plan (1997).

- **Evaluation class breaks (weight) justification:**
  - Areas within active leks and <2 miles from the edge of the active leks (5)

- **Data for support:**
  - Connelly, J.W., M.A. Schroeder, A.R. Sands and C.E. Braun. 2000. Guidelines to manage sage-grouse populations and their habitat. Wildlife Society Bulletin 28:967-985.
  - Aldridge et al. 2011
  - Gunnison Sage Grouse Conservation Plan; Gunnison Basin- Colorado. 1997. Local species management plan.

- **Area for improvement:**

- **Updated**: This layer will be updated if new and better data becomes available.

7. **Irrigated lands:** Irrigated areas greater than 50m from the sagebrush interface and outside CPW lek polygons are not considered as suitable grouse habitat.

- **Geospatial Data:** This layer was created by the Division of Water Resources using Landsat TM imagery. It is a spatial layer of irrigated meadows.

- **Evaluation class break (weight) justification**:
  - Present (-8)

- **Data for support:**
  - RCP
  - Federal Register
  - 2011. Phillips, Mike. Public meeting information, December 1, 2011. Meeting to validate the priority tool model called by the Technical Subcommittee for the Gunnison Basin Strategic Committee for the Gunnison sage-grouse.

- **Area for improvement:**

- **Updated**: This layer will be updated if new and better data becomes available.

8. Non-Habitat:

- Areas of no habitat such as open water and gravel pits are overlaid on top of the scoring polygons to show that these areas are not habitat. More areas, such as building footprints, could be added to this layer in the future when available.

B. Uncontrollable Threats

1. High density subdivisions: A highly divided subdivision has a greater impact on grouse habitat than an individual home.

- **Geospatial Data:** Gunnison and Saguache County's parcel layers, as well as their 9-1-1 house point layers, have been combined to determine development potential/impact. Development was defined as home, barn, or any improvement valued at more than $30,000 on a parcel. At each house point, there was a 300 foot radius buffer added to the known structure. House points that where within 1000ft of another two house points location were then buffered by 1000ft due to the increased impact on the grouse. (Cochran, 2011) The 300ft buffered housing points buffer was clipped and removed from the 1000 ft. buffer so that points did not receive a negative score for both the buffers.

- **Evaluation class break (weight) justification:**
  - Areas within 300ft of a house point (-5) *Areas adjacent to houses are not suited for grouse habitation.*
  - Areas where a housing point is within 1000ft of another 2 house points (-20) *Areas where more house points are located closer together (subdivisions) will have an even greater negative impact on the grouse habitat.*
  - <70 acre parcels with development (-7) *Smaller developed parcels have a greater impact on both degradation and fragmentation of surrounding habitats than larger developed parcels, in most circumstances. They are given a negative score as a result of these negative impacts.*

- **Data for support:**
  - Cochran, Jim. 2011. Personal communication.
  - Phillips, Mike. 2011. Personal communication.

- **Area for improvement:**

- **Updated**: This layer will be updated on a yearly basis to track changes in development and subdivision.

2. **Roads/Trails:** All roads and improved trails were evaluated for their impact to the habitat from fragmentation and predator corridors. ***Use and recreation impacts from disturbance are considered under the recreation layer, not in this layer. This is a habitat impact evaluation of the roads themselves.*** Improved roads are considered all roads bigger than all season, 2-wheel drive roads. Improved roads are defined as passenger car roads, highways, and improved county roads. Double track roads are considered unimproved roads and include: admin routes, jeep trails, primitive roads, high clearance roads, private roads, and ATV routes. Single track routes are considered trails (mechanized and motorized are included). Closed routes are routes that are permanently closed (not seasonally) that have not been reclaimed.

- **Geospatial Data:** Road data from the county, CPW, BLM and USFS were used to create this layer.

- **Evaluation class break (weight) justification:**
  - <150ft from the centerline of an improved road (-4) *These roads are defined as passenger car roads, highways, and county roads.*
  - <50ft from centerline of a double track(-3) *These roads are defined as roads with vegetation growing between the tracks and include admin routes, jeep trails, primitive roads, private roads (driveways), unmaintained roads, and ATV routes.*
  - <25ft from that center line of a single track *(-2) These are defined as smaller disturbances that include trails, including both mechanized and motorized uses.*
  - <25ft from that center line of a closed route *(-1) These are defined as routes that are permanently closed (not seasonally) that have not been reclaimed.*
  - <1000ft from a recreational use point (0) *This includes known access points, shooting areas, and more.*
  - <100ft from trails in Curecanti National Recreation Area (0)
  - Curecanti National Recreation Area recreation polygons (0)

- **Data for support:**
  - Aldridge et al. 2010- Aldridge does not agree with the 150ft buffer. He feels that improved roads can impact nesting habitat up to 8km away. Double track roads can have an impact to over 6 km away. He feels that there is not a non-linear response as you move away from the road and that a regression model needs to be used to depict this.
  - *Gunnison Basin USFS and BLM Federal Travel Management Plan*

- **Area for improvement:**

- **Updated:** This layer will be updated on a yearly basis, if possible.

3. **Power lines:** Power lines pose a potential risk for habitat degradation due to predation and fragmentation. There is a significant distinction between WAPA lines and the GCEA lines. WAPA lines do have large structures, high lines, and improved roads associated with them. GCEA lines are smaller primary and secondary lines that usually do not have roads associated with them.

- **Geospatial Data:** There is a data layer available with large, above ground, WAPA transmission lines mapped.

- **Evaluation class break (weight) justification:**
    - <u>≤450 feet from a WAPA above ground power line</u> (-3)

- **Data for support:**
    - 2011. Phillips, Mike. Public meeting information, December 1, 2011. Meeting to validate the priority tool model called by the Technical Subcommittee for the Gunnison Basin Strategic Committee for the Gunnison sage-grouse. Mike feels that an impact from power lines is for direct mortality (2 birds within the scope of his study).
    - 2011b. Aldridge, Cam. Public meeting information, December 1, 2011. Meeting to validate the priority tool model called by the Technical Subcommittee for the Gunnison Basin Strategic Committee for the Gunnison sage-grouse.

- **Area for improvement:**
    - Small power lines are not available and may need to be incorporated. GCEA will not make this information publicly available through this mapping tool for safety/protection reasons.
    - Exponential decay out to about 2.5 km is more probably the direct influence of the power lines. This would reflect the impact of predation on the grouse from perching predators. (Aldridge 2011b.)

- **Updated:** This layer will be updated when needed.

C. Controllable Threats – (No Weights Applied)

Attempts to combine controllable threats with the habitat map (which includes uncontrollable threats) were not successful. In order to allow future work on this issue, controllable threats were included in the scoring query but were assigned a zero (0) weight. Currently, it appears that the best way to approach the scoring issues associated with controllable threats is to overlay a "controllable threat layer" of interest over the habitat map for visual analysis.

1. **Development potential**: Areas that are currently developed pose risks to habitat degradation and fragmentation for the sage-grouse. The hope would be to update this layer on a yearly basis.

- **Geospatial Data**: Gunnison and Saguache County's' parcel layers were used to assess parcel size and development status. Seventy acres was chosen as a break point for this analysis because of the

state law that allows for minimal restriction for subdivision of parcels as long as the final parcels are greater than 35 acres. Development was defined as home, barn, anything >$30,000 worth of improvements on a parcel.

- **Evaluation class break (weight) justification**:
  - >70 acre parcels (0) *Parcels greater than 70 acres, even undeveloped, can represent a large risk for subdivision and development. Colorado State law allows the subdivision of private property into parcels equal to or greater than 35 acres with minimal restriction or regulation by local government. This poses a significant risk to habitat degradation and fragmentation and therefore receives a high score for needed habitat protection.*
  - <70 acre parcels without development (0) *Undeveloped parcels of this size have to go through a county review process to be further subdivided, in which a species conservation planner is consulted for risk to sage-grouse and mitigation opportunities to decrease the developmental impact. The risk for habitat degradation is decreased with this consultation and although there is a potential for fragmentation there is a lower, but still positive, score given for needed habitat protection. This also means that this property has a conservation potential.*

- **Data for support:**

- **Area for improvement:**
  - There is a need for more support data for acreages and impact area sizes used in the model. Is there good development impact data available that could inform this process?
  - There is a need for future analysis to be able to relate development densities to the RCP. It would be beneficial to complete this exercise using the acres from Appendix F in the RCP.

- **Updated:** This layer will be updated on a yearly basis to track changes in development and subdivision.

2. **Invasive Species:** Invasive species alter and degrade sage-grouse habitat. Different plant species have different potentials to impact the habitat.

- **Geospatial Data:** Data from the BLM, USFS, NPS and Gunnison County are utilized in this layer.

- **Evaluation class break (weight) justification:**
  - Cheatgrass (0)
  - Other weed species (0)

- **Data for support:**
  - Cheatgrass research

- **Area for improvement:**
  - There are no comprehensive records for private land.
  - The data collected is sometimes incomplete and species at each point/line/polygon is not documented.

- **Updated:** This layer will be updated on a yearly basis to track changes in infestations. This layer should be a cumulative layer where previous year's data is incorporated with each year's new data.

3. **Recreation:** All recreational uses of the landscape have potential to impact the sage-grouse through habitat fragmentation, habitat degradation, and direct threat to individuals' survival.

- **Geospatial Data:** Large recreational area polygons have been drawn across the basin and have been rated with a seasonality and level of use. The BLM and recreational stakeholders have worked together to create this very broad layer which reflects the diffuse use that may occur in these areas. Impacts are not directly tied to specific routes, trails and points of interest.

- **Evaluation class break (weight) justification:**
    - Spring Use
        - Low (0)
        - Medium/Low (0)
        - Medium (0)
        - Medium/High (0)
        - High (0)
    - Summer Use
        - Low (0)
        - Medium/Low (0)
        - Medium (0)
        - Medium/High (0)
        - High (0)
    - Fall Use
        - Low (0)
        - Medium/Low (0)
        - Medium (0)
        - Medium/High (0)
        - High (0)
    - Winter Use
        - Low (0)
        - Medium/Low (0)
        - Medium (0)
        - Medium/High (0)
        - High (0)

- **Data for support:**

- **Area for improvement:**
    - This layer should be further refined.
    - Spatial data layers will need to be collected for all recreational trails, fishing areas, parking areas, camp grounds, and boat launch areas from the BLM, USFS, CDOW, NPS, Gunnison

County, and Saguache County. These are available, but not currently incorporated into the Tool.

- **Updated**: This layer will be updated on a yearly basis to track changes in development and subdivision.

4. **Landfill:** The Gunnison County landfill serves as a feeding/harboring location for sage-grouse predators. The landfill's influence on the surrounding area is considered controllable because active measures can be taken to reduce the sage-grouse predator populations.

- **Geospatial Data:** This is a simple spatial layer that delineates a polygon around the landfill area as seen through ortho-imagery.

- **Evaluation class break (weight) justification:**
  - Areas within ½ mile of the landfill (0)
  - Area >½ mile and <1 mile of the landfill (0)

- **Data for support:**

- **Area for improvement:**
  - Data to supporting the evaluation classes and impact from predators will need to be documented.

- **Updated**: This layer will be updated as needed or when better information becomes available.

D. Other Impacts – (No Weights Applied)

1. **Landownership - Protections:** Areas that are currently developed pose risks to habitat degradation and fragmentation for the sage-grouse. Areas with easements specifically for sage-grouse habitat protection or with non-development agreements are considered beneficial to the grouse.

- **Geospatial Data:** Gunnison County has a database and a spatial layer with all qualified conservation easements. The CPW has also provided a layer of participating CCAA parcels (signed Certificate of Inclusion) which has been included in this layer. Public land boundaries are also available and can be incorporated.

- **Evaluation class break (weight) justification:**
  - Conservation Easements (0) - *These are voluntary agreements that protects the land in perpetuity. All of these easements have grouse mentioned in the documentation, whether management actually occurs to benefit the grouse is a different issue.*
  - CCAA (0) - *These are voluntary agreements that all have an endpoint of 2026 which can be renewed. These agreements can be terminated with 30-60 days' notice.*
  - Public lands (0) - *These are mostly undevelopable.*

- **Area for improvement:**
    - This layer has not been totally fleshed out at this point. Instead of being incorporated into the tool, it could be used as a layer for evaluation when looking at proximity to priority habitat.

- **Updated**: This layer will be updated on a yearly basis.