



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Colorado Field Office  
P.O. Box 25486-DFC, MS 65412  
Denver, CO 80225



IN REPLY REFER TO  
ES/CO: ES/GJ-6-CO-14-001  
TAILS 06E24100-2014-F-0098

December 15, 2014

### Memorandum

To: Field Manager, Bureau of Land Management, Tres Rios Field Office, Dolores, Colorado

From: Colorado Supervisor, Fish and Wildlife Service, Ecological Services, Lakewood, Colorado *Drac Din*

Subject: Adoption of the Conference Opinion Number ES/GJ-6-CO-14-001 for the revision of the Land and Resource Management Plan affecting the Gunnison Sage-grouse as the Final Biological Opinion

We have received your memorandum of December 9, 2014, in which you request that we adopt our conference opinion of March 26, 2014, for the Revision of the lands and Resource Management plan for the Tres Rios Field Office affecting the Gunnison sage-grouse as our biological opinion. The Interagency Cooperation regulations (50 CFR § 402.10(d)) permit the Service, at the request of the Federal action agency, to adopt its conference opinion for a Federal action as its biological opinion, provided that; (a) no significant new information has developed; and (b) no significant changes to the Federal action were made that would alter the content of the opinion.

In your request, you assured us that no significant changes have occurred in the proposed action as described in the conference opinion and Tres Rios Resource Management Plan revision, and you are unaware of any significant changes in the information that was considered during the conference. We have reviewed the information on which the conference opinion was based.

The Service agrees that the required conditions for adoption of our conference opinion as our biological opinion have been substantively met. Therefore, by this memorandum the Service hereby adopts the March 26, 2014 conference opinion for the subject action as our biological opinion. The effective date of the Gunnison Sage-grouse listing is December 22, 2014. The provisions of the incidental take statement shall take effect on that date. We recommend that the Bureau of Land Management review the incidental take statement, specifically the reasonable and prudent measures and the accompanying terms and conditions.

Reinitiation of formal consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) If the amount or extent of taking specified in the incidental take statement is exceeded; (b) If new information reveals effects of the action that may affect listed species in a manner or to an extent not previously considered; (c) If the identified action is subsequently modified in a manner that causes an effect to listed species that was not considered in the BO; or (d) if a new species is listed or critical habitat designated that may be affected by the identified action.

We wish to thank you for your continued assistance in helping to conserve the Gunnison sage-grouse. We look forward to a continuing productive relationship. If you have any questions or needs concerning this memorandum, please contact our Kurt Broderdorp at (970) 628-7186, Creed Clayton at (970) 628-7187, or John Toolen at (970) 628-7185.

Pc: Grand Junction Ecological Services



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Ecological Services  
445 West Gunnison, Suite 240  
Grand Junction, Colorado 81501-5711

IN REPLY REFER TO:  
ES/GJ-6-CO-14-001  
TAILS 06E24100-2014-FC-0098

March 26, 2014

### Memorandum

To: Field Manager, Tres Rios Field Office, Bureau of Land Management, Dolores, Colorado

From:  Western Colorado Supervisor, Western Colorado Ecological Services Office, Grand Junction, Colorado 

Subject: Conference Opinion – Revision of the Land and Resource Management Plan for the Tres Rios Field Office affecting the Gunnison sage-grouse (*Centrocercus minimus*)

This responds to your November 1, 2013, memorandum to the US Fish and Wildlife Service (Service) requesting formal Section 7 consultation/conferencing on effects of the subject project to species and habitats listed under the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 et seq.; [Act]). The project described in your memorandum and the accompanying biological assessment (BA) occurs on the Tres Rios Field Office (TRFO) located in Dolores, Colorado. We received your request on November 7, 2013. In addition, we received supplemental information to the BA on February 19<sup>th</sup> and again on February 20, 2014, which updated the environmental baseline and effects analysis for the project area.

The TRFO determined there are 10 federally listed and three species proposed for listing affected by the proposed action.

Species	Status	Effects Determination
<b>Canada lynx</b> <i>Lynx canadensis</i>	Threatened	May affect, is not likely to adversely affect
<b>Southwestern willow flycatcher</b> <i>Empidonax trailii extimus</i>	Endangered	May affect, is not likely to adversely affect
<b>Mexican spotted owl</b> <i>Strix occidentalis lucida</i>	Threatened	May affect, is not likely to adversely affect
<b>Uncompahgre Fritillary Butterfly</b> <i>Boloria acrocneema</i>	Endangered	May affect, is not likely to adversely affect
<b>Bonytail Chub</b> <i>Gila elegans</i>	Endangered	May affect, is likely to adversely affect
<b>Humpback Chub</b> <i>Gila cypha</i>	Endangered	May affect, is likely to adversely affect

<b>Razorback Sucker</b> <i>Xyrauchen texanus</i>	Endangered	May affect, is likely to adversely affect
<b>Colorado Pikeminnow</b> <i>Ptychocheilus lucius</i>	Endangered	May affect, is likely to adversely affect
<b>Pagosa Skyrocket</b> <i>Ipomopsis polyantha</i>	Endangered	May affect, is not likely to adversely affect, not likely to adversely affect CH
<b>Greenback Cutthroat Trout/ Lineage GB</b> <i>Oncorhynchus clarki stomias</i>	Endangered	May affect, but is not likely to adversely affect
<b>North American Wolverine</b> <i>Gulo gulo luscus</i>	Proposed	is not likely to jeopardize the continued existence of the species
<b>Gunnison Sage-grouse</b> <i>Centrocercus minimus</i>	Proposed Proposed Critical Habitat	May affect, and is likely to adversely affect the species, and its CH
<b>New Mexico Meadow Jumping Mouse</b> <i>Zapus hudsonius luteus</i>	Proposed Proposed Critical Habitat	is not likely to jeopardize the continued existence of the species, no destruction or adverse modification of CH

Based on our review of the information provided for the proposed action, we concur with the TRFO determination that the proposed project may affect, but is not likely to adversely affect the Canada lynx, Mexican spotted owl, southwestern willow flycatcher, Uncompahgre fritillary butterfly, Pagosa skyrocket, Greenback cutthroat trout, and may affect, and is not likely to adversely affect critical habitat for the Pagosa skyrocket.

Section 7 (a) (4) of the Act requires conferencing with the Service when a proposed action is likely to jeopardize the continued existence of a proposed species or destroy or adversely modify proposed critical habitat. Because the BA concluded that the proposed action is not likely to jeopardize the continued existence of North American wolverine, New Mexico jumping mouse and the yellow billed cuckoo, and we did not propose critical habitat for wolverine or the yellow billed cuckoo, and the proposed action will not adversely modify critical habitat for the New Mexico jumping mouse, conferencing is not required.

The TRFO did not specifically request formal conferencing for the effects of the proposed action to Gunnison sage grouse (GUSG). However, the Bureau of Land Management (BLM) provided effects analysis and a determination that the effects of the proposed action may affect, and is likely to adversely affect GUSG. As stated in 50 CFR § 402.10 (a), “Each Federal agency shall confer with the Service on any action which is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse medication of proposed critical habitat. The conference is designed to assist the Federal agency and any applicant in identifying and resolving potential conflicts at an early stage in the planning process”.

Although a specific request was not made to conference consistent with 50 CFR § 402.10 (a), and BLM did not make a determination regarding jeopardy to the GUSG, or destruction/adverse modification to its critical habitat, the inclusion of an effects analysis within their BA clearly indicate a desire for a formal conference, followed by the Service’s issuance of a Conference Opinion.

## **CONSULTATION HISTORY**

The consultation history for the proposed action consists of informal discussions with the southwest Level One Team (for ESA), and discussion between the Service and the BLM.

The Service issued two programmatic section 7 consultations in western Colorado analyzing water depletions resulting from the BLM's fluid minerals program. The BLM retains discretionary authority over the fluid mineral program. Both biological opinions (BO) acknowledge that depletions resulting from fluid mineral drilling and completion of a well is a one-time event (i.e. depletions are not re-occurring). Reinitiation of section 7 consultation for the programmatic biological opinions (PBO) is required if the annual water depletions exceed and annual estimates documented in the respective BOs. BO number ES/GJ-6-CO-08-F006, addresses water depletions within the Upper Colorado River Basin in Colorado, and are estimated up to 4,046 acre-feet (AF)/year of water depletions within the Basin. BO number ES/GJ-6-CO-08-F002, analyzed water depletions within the San Juan River Basin in Colorado, and estimated up to 40 AF/year of water depletions within the Basin. Water depletions resulting from oil and gas exploration and development on the San Juan National Forest fall under the two respective BLM PBOs. Therefore, the section 7 consultation requirement is fulfilled.

This conference opinion is based on information contained in the BA, the GUSG Rangewide Conservation Plan (RCP) (Gunnison Sage-grouse Rangewide Steering Committee (GSRSC) 2005), our January 11, 2013 proposed rule of endangered status for the GUSG, our January 11, 2013 proposed rule to designate critical habitat, information contained in scientific literature, and other sources of information. A complete administrative record of this consultation is on file in the Service's Western Colorado Office, Grand Junction, Colorado.

## **CONFERENCE OPINION**

### **PROPOSED ACTION**

The proposed action consists of implementation of the revised Land and Resource Management Plan (LRMP) for the TRFO of the BLM. The LRMP provides strategic guidance for future management of BLM lands managed by the TRFO. The LRMP provides a decision-making framework, and guides resource management programs, practices, uses, and projects. The LRMP revision does not include specific project and activity decisions. Those decisions are made later, after more detailed analysis and further public involvement.

### Key Decisions

The proposed LRMP contains the following key components and decisions which comprise the TRFO's management system.

- The establishment of allowable uses, allocations, restrictions, and prohibitions.
- The establishment of desired outcomes, including multiple-use goals and objectives. Goals are expressed as desired condition in the form of aspirations for which our management area direction, objectives and standards and guidelines have been directed.

- The establishment of management requirements, including measures or criteria that would be applied in order to guide day-to-day activities. These are primarily expressed as standards and guidelines.
- The designation of lands managed for their Wilderness Characteristic and other special designations.
- The identification of river segments suitable for inclusion in the National Wild and Scenic Rivers System.
- The establishment of monitoring and evaluation requirements.

The following programs are implemented under the LRMP decision framework:

➤ Livestock Grazing and Projected Stocking

These two LRMP decisions (suitability and objectives) designate where livestock grazing will occur on the TRFO and the objectives for livestock grazing as defined by projected stocking levels. (Figure 1, Appendix A- suitable grazing lands; Table 2 suitable acres and stocking rates, see BA). Lands where grazing has been found unsuitable include areas with high soils hazard, low forage production potential, closed canopy spruce, and currently closed allotments, and others. Suitable lands are lands that have been determined to have adequate productivity that are not eliminated by the preceding factors.

➤ Timber Production and Management Objectives (Table 2 in BA)

Under the LRMP, the majority of timber harvesting will be used to meet desired vegetative conditions including improvements in age-class distribution, reduction of hazardous fuels, and improvements in stand structure or composition designed to return forest vegetation to desired conditions. The Forest may be managed in order to reduce the intensity and extent of disturbances (e.g., wildfire or insect epidemics) that otherwise might result in damage to ecosystem processes and functions. Management activities may also be used to maintain forested vegetation at a desired point within the historical range of variability (HRV) in order to avoid broad swings in various elements that have occurred naturally over time, but are undesired today. To best meet these goals, commercial and non-commercial timber harvest will be concentrated in the lower elevation forested vegetation types.

➤ Motorized Recreation

The LRMP designates motorized travel areas having existing developed road and/or motorized trail systems that, for the most part, serve current recreation and resource access needs for a particular area. The road and motorized trail system in motorized suitable areas will generally not be considered for expansion or substantial alteration of the transportation system. Importantly, the proposed action eliminates cross-country motorized use except in a limited area. Motorized travel areas consist of 73,823 acres closed to motorized use, 429,782 acres of limited motorized use, and 23 acres of open motorized use.

➤ Oil and Gas Availability Decision and Projected Development

Table 1, provides statistics for the amount of BLM lands available for oil and gas leasing as well as those available acres where stipulations or other restrictions may apply to future leases.

Table 1.

<b>BLM Tres Rios Field Office</b>	<b>Proposed Action</b>
Federal Mineral Acres	823,423
Acres Withdrawn from Leasing	0
Acres Administratively Not Available for Leasing	62,437
Acres Available for Leasing	760,987
No Surface Occupancy	221,261
Timing Limitation	504,741
Controlled Surface Use	250,787
Standard Lease Terms	130,577

Table 2 displays the cumulative number of wells, miles of well access roads and acres of projected development of existing and future leases. Northern San Jun Basin development at 80 acre spacing would involve expansion of existing well pads only.

The proposed action includes the projection of well pads and access road miles (future leases), and corresponding disturbance acres on the TRFO, 2013-2027. In addition, future development on existing leases is presumed to follow BLM Instruction Memorandum No. CO-2013-033, dated July 15, 2013, signed by the State Director.

Table 2

<b>Disturbance Type</b>	<b>Existing Leases</b>	<b>Future Leases</b>	<b>Total</b>
GSGP Wells	248	114	362 wells
Conventional Wells	103	75	178 wells
GSGP Pads*	180	80	260 pads
Conventional Pads	103	75	178 pads
Road Miles GSGP	89	40	129 miles road
Road Miles Conventional	50	38	88 miles road
Acres Disturbed GSGP	1370	608	1978 acres
Acres Disturbed Conventional	410	300	710 acres

<b>San Juan Basin and San Juan Sag</b>			
Northern San Juan Basin (CBM) – well pads	84	0	84 pads
Northern San Juan Basin (conventional) – well pads	10	0	10 pads
San Juan Sag – well pads	0	0	--
Northern San Juan Basin (CBM) – roads	14	0	14 miles
Northern San Juan Basin (conventional) – roads	0	0	--

San Juan Sag – roads	0	0	--
Northern San Juan Basin (CBM) – acres disturbed	165	0	165 acres
Northern San Juan Basin (conventional) – acres disturbed	5	0	5 acres
San Juan Sag – acres disturbed	0	0	--

\* Multiple Wells will be placed on each pad.

➤ Fire and Fuels Management

The TRFO proposes the use prescribed burns and mechanical treatments to achieve multiple objectives, including hazardous and natural fuels reduction, wildlife habitat improvement, ecosystem restoration, and range improvement. Hazardous fuels will be treated annually, primarily through prescribed burning. Mechanical treatments will constitute approximately 30-percent of the overall fuels program. Much of the focus on reducing fire risk is on the wildland-urban-interface areas where structures and other human development meet or intermingle with undeveloped wild land or vegetative fuels. The focus of the treatment program will be vegetative treatments in the lower elevation vegetation types. Management of naturally ignited (i.e. wildfire for resource benefit) will be the preferred management approach for the higher elevation forest types. Wildland fire will be used in order to maintain public land conditions within the HRV while, at the same time, recognizing that other resource and social values may determine the appropriate management responses. Use of managed fire, along with mechanical and other fuels management strategies, may create forest conditions that meet desired conditions for the natural vegetation types within the planning area.

➤ Habitat Improvement Objectives

The proposed action includes annual wildlife habitat improvement objectives for, fish habitat improvement and watershed restoration including erosion control, stream restoration, riparian/lake/fen treatments, and road decommissioning. In addition, the objectives for vegetation management, including timber harvest and the fire program objectives, both have direction for wildlife habitat improvement by creating conditions guided by HRV desired outcomes.

Table 3. Watershed, Riparian, & Aquatic & Terrestrial Habitat Improvement

Estimated Resource & Program Management Activities	Proposed Action
<b>Water &amp; Habitat Improvement Projects</b>	
Decade one (10 Years)	
BLM stream treatment	1 mile
BLM riparian treatment	50 acres
BLM lake/fen treatment	1 acre
BLM stream structure projects new or maintained	19 structures
FS or BLM Watershed Road Densities Reduced(e.g., road decommissioning)	3 miles
Fish Habitat Enhanced or Improved	6 miles
<b>Wildlife Habitat Improvement Projects</b>	
Gunnison sage-grouse habitat improvement and restoration	2500 acres

Nokomis fritillary butterfly habitat improvement and restoration	2 sites
Bat habitat restoration and protection via installation of structures associated with mine closures	All

➤ Special Uses

New authorizations will be subject to the requirements of the new LRMP. Existing authorizations are not subject to immediate retroactive application of LRMP requirements. However, upon expiration and application for reauthorization, they will be adjusted as appropriate to conform to LRMP requirements.

STATUS OF THE SPECIES

On January 11, 2013, the Service proposed to list the GUSG as an endangered species (78 FR 2486). Concurrently, the Service proposed to designate 1.7 million acres of critical habitat for the species (78 FR 2540). Following is a brief description of the current distribution of the species' rangewide population and trends. More detail on the species status is provided in 78 FR 2486. A detailed discussion of GUSG taxonomy, the species description, historical distribution, habitat, and life-history characteristics can be found in the Service's 12-month finding for GUSG, published September 28, 2010 (75 FR 59804).

GUSG currently occur in seven widely scattered and isolated populations in Colorado and Utah, occupying 3,795 square kilometers (km<sup>2</sup>) (1,511 square miles [mi<sup>2</sup>]) (GSRSC 2005; CDOW 2009a). The seven populations are Gunnison Basin, San Miguel Basin, Monticello–Dove Creek, Piñon Mesa, Crawford, Cerro Summit–Cimarron–Sims Mesa, and Poncha Pass (Figure 1). Population trends over the last 12 years indicate that six of the populations are in decline. The largest population, the Gunnison Basin population, while showing variation over the years, has been relatively stable through the period (CDOW 2010b; CPW 2012). Six of the populations are very small and fragmented (all with less than 40,500 hectares (ha) (100,000 acres [ac]) of habitat likely used by grouse and, with the exception of the San Miguel population, less than 50 males counted on leks (communal breeding areas)) (CDOW 2009d; CPW 2012). The San Miguel population is the second largest and comprises six fragmented subpopulations.

A detailed summary of GUSG taxonomy, the species description, historical distribution, habitat, and life-history characteristics can be found in the 12-month finding published September 28, 2010 (75 FR 59804). More recent scientific information relevant to the species and our evaluation of the species is included

Critical Habitat - The GUSG was proposed for listing as endangered on January 11, 2013. Proposed occupied and unoccupied critical habitat has been designated throughout the range of GUSG (Figure 1). In total, approximately 689,675 hectares (ha) (1,704,227 acres (ac)) are proposed as critical habitat in Chaffee, Delta, Dolores, Gunnison, Hinsdale, Mesa, Montrose, Ouray, Saguache, and San Miguel Counties in Colorado, and in Grand and San Juan Counties in Utah. We proposed seven units as critical habitat for GUSG. The critical habitat areas constitute our current best assessment of areas that meet the definition of critical habitat for GUSG. These seven units correspond to the seven GUSG populations, including: (1) Monticello-Dove Creek, (2) Piñon Mesa (3) San Miguel Basin, (4) Cerro Summit-Cimarron-Sims Mesa, (5) Crawford, (6)

Gunnison Basin, and (7) Poncha Pass. For the Cerro Summit-Cimarron-Sims Mesa, Crawford, and Poncha Pass Units, our designation includes all habitat available to the species. We consider approximately 55 percent of the area within the seven units as currently occupied and 45 percent as currently unoccupied. See Table 4 for a breakdown of the individual critical habitat units.

Figure 1.

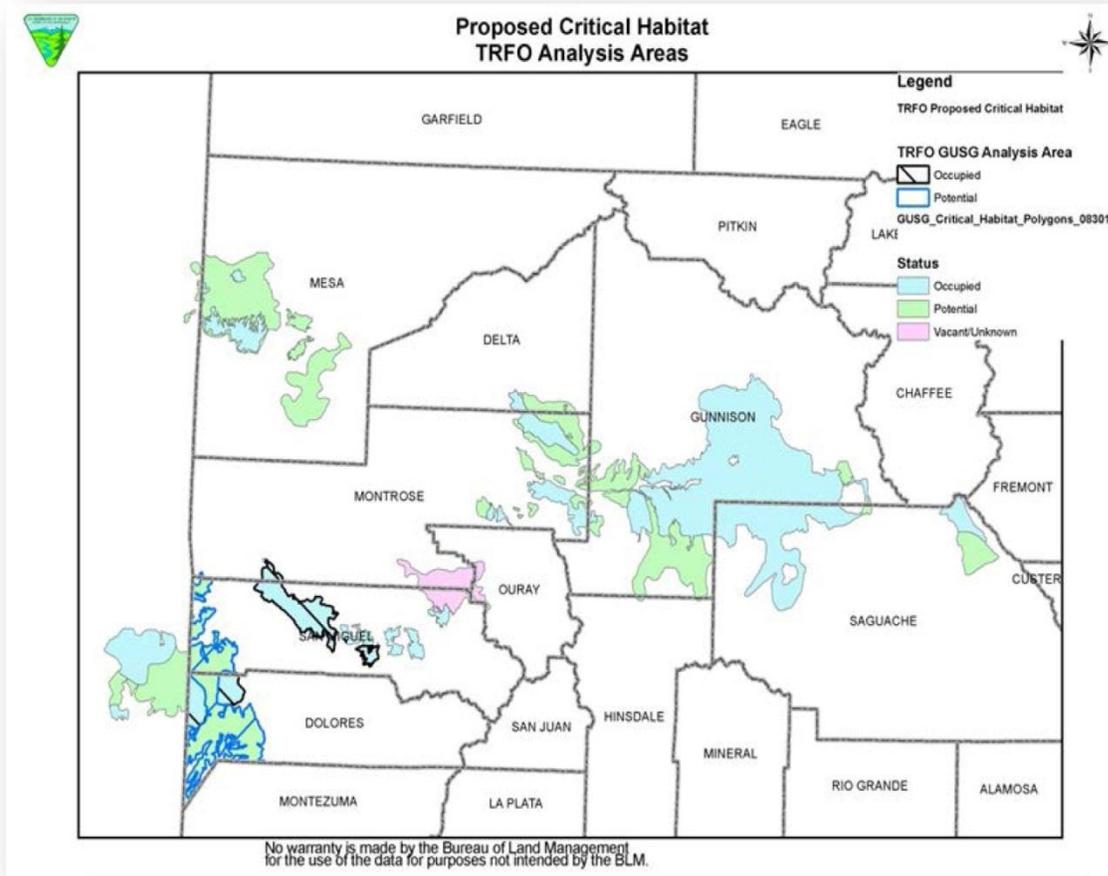


Table 4. Size and current occupancy status of GUSG proposed critical habitat units

Unit Name	Acres	Hectares	Percent of All Units	Occupied?	Acres	Hectares	Percent of Individual Unit	Percent of All Units
Monticello-Dove Creek	348,353	140,973	20.4	Yes	111,945	45,303	32.1	6.6
				No	236,408	95,671	67.9	13.9
Piñon Mesa	245,179	99,220	14.4	Yes	38,905	15,744	15.9	2.3
				No	206,274	83,476	84.1	12.1
San Miguel Basin	165,769	67,084	9.7	Yes	101,371	41,023	61.2	5.9
				No	64,398	26,061	38.8	3.8
Cerro Summit-Cimarron-Sims Mesa	62,708	25,377	3.7	Yes	37,161	15,038	59.3	2.2
				No	25,547	10,339	40.7	1.5
Crawford	97,123	39,304	5.7	Yes	35,015	14,170	36.1	2.1
				No	62,108	25,134	63.9	3.6
Gunnison Basin	736,802	298,173	43.2	Yes	592,952	239,959	80.5	34.8
				No	143,850	58,214	19.5	8.4
Poncha Pass	48,292	19,543	2.8	Yes	20,416	8,262	42.3	1.2
				No	27,877	11,281	57.7	1.6
Totals	1,704,227	689,675	100.0		1,704,227	689,675	100.0	100.0

### Landscape-scale Primary Constituent Element

Primary Constituent Element 1—Areas with vegetation composed primarily of sagebrush plant communities (at least 25 percent of primarily sagebrush land cover within a 1.5-km (0.9-mi) radius of any given location) (see Habitat Suitability), of sufficient size and configuration to encompass all seasonal habitats for a given population of GUSG, and facilitate movements within and among populations. We used these suitability criteria to evaluate critical habitat for GUSG, and all identified and mapped critical habitat in this final rule meets PCE 1. These areas also occur wholly within the potential historic range of GUSG (GSRSC 2005 as adapted from Schroeder et al. 2004) and typically occur within 18.5 km of occupied habitat or known populations of GUSG.

### Site-scale Primary Constituent Elements

Primary Constituent Element 2—Breeding habitat composed of sagebrush plant communities with structural characteristics within the ranges described in Table 5, below. Habitat structure values are average values over a project area. Breeding habitat includes lek, nesting, and early brood-rearing habitats used typically mid-March through late-June (GSRSC 2005).

Table 5. Breeding habitat structural guidelines for GUSG<sup>a</sup>.

Vegetation Variable	Amount of Occurrence in the Habitat
Sagebrush Canopy Cover	10–25 percent
Non-sagebrush Canopy Cover <sup>b</sup>	5–15 percent
Total Shrub Canopy Cover	15–40 percent
Sagebrush Height	25–50 cm
	(9.8–19.7 in)
Grass Cover	10–40 percent
Forb Cover	5–40 percent
Grass Height	10–15 cm
	(3.9–5.9 in)
Forb Height	5–15 cm
	(2.0–5.9 in)

<sup>a</sup> Derived from GSRSC 2005, which depicts structural values for both arid and mesic areas in GUSG habitat. Here we provide the full range of these structural values to account for this variation.

<sup>b</sup> Includes shrubs such as horsebrush (*Tetradymia* spp.), rabbitbrush (*Chrysothamnus* spp.), bitterbrush (*Purshia* spp.), snakeweed (*Gutierrezia sarothrae*), greasewood (*Sarcobatus* spp.), winterfat (*Eurotia lanata*), Gambel’s oak (*Quercus gambelii*), snowberry (*Symphoricarpos oreophilus*), serviceberry (*Amelanchier* spp.), and chokecherry (*Prunus virginiana*).

Primary Constituent Element 3—Summer-late fall habitat composed of sagebrush plant communities with structural characteristics within the ranges described in Table 2, below. Habitat structure values are average values over a project area. Summer-fall habitat includes sagebrush communities, agricultural fields, and wet meadow or riparian habitat types (GSRSC 2005). However, structural habitat guidelines for summer-late fall habitats did not include wet meadows and riparian habitats (GSRSC 2005); therefore, these habitats are included qualitatively under PCE 5 below.

Table 6. Summer-late fall habitat structural guidelines for Gunnison sage-grouse<sup>a,b</sup>.

Vegetation Variable	Amount of Occurrence in the Habitat
Sagebrush Canopy Cover	5–20 percent
Non-sagebrush Canopy Cover <sup>c</sup>	5–15 percent
Total Shrub Canopy Cover	10–35 percent
Sagebrush Height	25–50 cm
	(9.8–19.7 in)
Grass Cover	10–35 percent
Forb Cover	5–35 percent
Grass Height	10–15 cm
	(3.9–5.9 in)
Forb Height	3–10 cm
	(1.2–3.9 in)

<sup>a</sup> Structural habitat values provided in this table do not include wet meadow or riparian habitats. Therefore, we address these habitat types under Primary Constituent Element 5 below.

<sup>b</sup> Derived from GSRSC 2005, which depicts structural values for both arid and mesic areas in GUSG habitat. Here we provide the full range of these structural values to account for this variation.

<sup>c</sup> Includes shrubs such as horsebrush (*Tetradymia* spp.), rabbitbrush (*Chrysothamnus* spp.), bitterbrush (*Purshia* spp.), snakeweed (*Gutierrezia sarothrae*), greasewood (*Sarcobatus* spp.), winterfat (*Eurotia lanata*), Gambel’s oak (*Quercus gambelii*), snowberry (*Symphoricarpos oreophilus*), serviceberry (*Amelanchier* spp.), and chokecherry (*Prunus virginiana*).

Primary Constituent Element 4—Winter habitat composed of sagebrush plant communities with sagebrush canopy cover between 30 to 40 percent and sagebrush height of 40 to 55 cm (15.8 to 21.7 in). These habitat structure values are average values over a project area. Winter habitat includes sagebrush areas within currently occupied habitat that are available (i.e., not covered by snow) to GUSG during average winters (GSRSC 2005).

Primary Constituent Element 5—Alternative, mesic habitats used primarily in the summer-late fall season, such as riparian communities, springs, seeps, mesic meadows, or irrigated hay meadows and alfalfa fields near sagebrush communities (GSRSC 2005; Schroeder *et al.* 1999; Connelly *et al.* 2000a).

Factors having the potential for altering the primary constituent elements within each individual unit include, but are not limited to:

Monticello-Dove Creek Unit - Habitat loss, degradation, and fragmentation resulting from conversion to agriculture; drought-related effects; oil and gas production and associated infrastructure; the proliferation of predators of GUSG; the spread of invasive plant species and associated changes in sagebrush plant community structure and dynamics; past and present grazing management that degrades or eliminates vegetation structure; all of which can result in the loss, degradation, or fragmentation of sagebrush plant communities.

Piñon Mesa Unit - Residential and commercial development including associated land-clearing activities for the construction of access roads, utilities, and fences; increased recreational use of roads and trails; the proliferation of predators of GUSG; drought-related effects; the spread of invasive plant species and associated changes in sagebrush plant community structure and dynamics; past and present grazing management that degrades or eliminates vegetation structure; all of which can result in the loss, degradation, or fragmentation of sagebrush plant communities.

Miguel Basin Unit - Residential and commercial development including associated land-clearing activities for the construction of access roads, utilities, and fences; increased recreational use of roads and trails; the proliferation of predators of GUSG; drought-related effects; the spread of invasive plant species and associated changes in sagebrush plant community structure and dynamics; past and present grazing management that degrades or eliminates vegetation structure; and oil and gas development and associated infrastructure, all of which can result in the loss, degradation, or fragmentation of sagebrush plant communities.

Cerro Summit–Cimarron–Sims Mesa Unit - Residential and commercial development including associated land-clearing activities for the construction of access roads, utilities, and fences; increased recreational use of roads and trails; the proliferation of predators of GUSG; the spread of invasive plant species and associated changes in sagebrush plant community structure and dynamics; drought-related effects; past and present grazing management that degrades or eliminates vegetation structure; all of which can result in the loss, degradation, or fragmentation of sagebrush plant communities.

Crawford Unit - Residential and commercial development including associated land-clearing activities for the construction of access roads, utilities, and fences; increased recreational use of roads and trails; the proliferation of predators of GUSG; drought-related effects; the spread of invasive plant species and associated changes in sagebrush plant community structure and dynamics; past and present grazing management that degrades or eliminates vegetation structure; all of which can result in the loss, degradation, or fragmentation of sagebrush plant communities.

Gunnison Basin Unit - Residential and commercial development including associated land-clearing activities for the construction of access roads, utilities, and fences; increased recreational use of roads and trails; drought-related effects; the proliferation of predators of GUSG; the spread of invasive plant species and associated changes in sagebrush plant community structure and dynamics; past and present grazing management that degrades or eliminates vegetation structure; all of which can result in the loss, degradation, or fragmentation of sagebrush plant communities.

Poncha Pass Unit - Residential and commercial development including associated land-clearing activities for the construction of access roads, utilities, and fences; increased recreational use of roads and trails; the proliferation of predators of GUSG; the spread of invasive plant species and associated changes in sagebrush plant community structure and dynamics; past and present grazing management that degrades or eliminates vegetation structure; all of which can result in the loss, degradation, or fragmentation of sagebrush plant communities.

## Status and Distribution

Based on historical records, museum specimens, and potential sage-grouse habitat, Schroeder et al. (2004) concluded that GUSG historically occurred in southwestern Colorado, northwestern New Mexico, northeastern Arizona, and southeastern Utah. Accounts of GUSG in Kansas and Oklahoma, as suggested by Young et al. (2000), are not supported with museum specimens and Schroeder et al. (2004) did not consider those two States within the historic range of GUSG. The GUSG historical (presettlement) range is estimated to have been 55,350 square kilometers (km<sup>2</sup>) (21,370 square miles [mi<sup>2</sup>]) (GSRSC 2005).

The GUSG currently occur in seven widely scattered and isolated populations in Colorado and Utah, occupying 3,795 km<sup>2</sup> (1,511 mi<sup>2</sup>) (GSRSC 2005; CDOW 2009a) (Figure 1). The seven populations are Gunnison Basin, San Miguel Basin, Monticello-Dove Creek, Piñon Mesa, Crawford, Cerro Summit-Cimarron-Sims Mesa, and Poncha Pass. A summary of land ownership and recent population estimates among these seven populations is presented in Table 1, and Figures 2 and 3 in 78 FR 2486, respectively. The following information and Figures 2 and 3 (in 78 FR 2486) are based on lek count data and associated population estimates from Colorado Parks and Wildlife (CPW) and the Utah Division of Wildlife Resources (UDWR) for the period 1996 – 2013 (CDOW 2010a; CPW 2012; CPW 2013a).

Lek count data are the primary means of estimating and monitoring GUSG populations. However, sage-grouse populations can fluctuate widely annually, and there are concerns about the statistical reliability of population estimates based on lek counts (CDOW 2009b). Stiver et al. (2008) concluded that lek counts likely underestimate population size. Another study (Davis 2012) indicated that, based on demographic data, lek count indices overestimate population size. Although lek count data are available from as early as the 1950's for some populations, lek count protocols were first standardized and implemented in 1996 (GSRSC 2005). Prior to 1996, lek count data are highly variable and uncertain, and are not directly comparable to recent population data (Braun 1998; Davis 2012). Therefore, for the purposes of evaluating current population sizes and trends, the analysis in this rule is focused on lek count data from 1996 to 2013.

The Gunnison Basin is the largest population and while showing variation over the period of record has been relatively stable based on lek count estimates. The Gunnison Basin population is the primary influence on the rangewide population size of GUSG; thus, the significance of this population to the species' survival and persistence is evident. The Gunnison Basin population area includes approximately 239,953 ha (592,936 ac) of occupied habitat. In contrast, the remaining six populations, or satellite populations, are much smaller and have declined substantially from 1996 to 2013 (Figure 3 (in 78 FR 2486)), despite transplant efforts in most of these areas since 2000 (CPW 2014) and minor increases in some populations over the last several years (due in part to transplant efforts) (see Small Population Size and Structure). San Miguel and Piñon Mesa are currently the largest of the satellite populations, with 186 and 152 birds, respectively, in 2013. The Monticello-Dove Creek and Crawford populations currently have less than 130 birds. The current (2013) population estimates for the two smallest populations, Cerro Summit-Cimarron-Sims Mesa and Poncha Pass, are 44 and zero, respectively (CPW 2013a). A count of zero birds at Poncha Pass in 2013 suggests that extirpation of this population may have occurred, although 17 birds were transplanted there later that fall. The

satellite population areas are much smaller, all with less than 40,500 hectares (ha) (100,000 acres [ac]) of occupied habitat and, with the exception of the San Miguel population, less than 40 males counted on leks (communal breeding areas)) (CDOW 2009b; CPW 2012; CPW 2013a).

Lek count-based population estimates suggest some satellite populations have increased slightly over the last several years. However, lek count data spanning the last 18 years (1996 to 2013) as a whole indicate that the satellite populations are in substantial decline, with the possible exception of the Cerro Summit-Cimarron-Sims Mesa population which is relatively stable (Figure 3). Furthermore, some of the recent increases in population sizes can be attributed to transplant and survey efforts, rather than an actual increase in the population. For example, the 2013 estimated population for Piñon Mesa was 152 birds (CPW 2013a), much greater than the 2012 estimate of 54 birds. This increase was due largely to the transplanting of 49 birds to Piñon Mesa population between the fall of 2012 and spring of 2013 (CPW 2014) and two new leks found in 2012 (CPW 2012). In addition, other data analysis indicated that the Gunnison Basin population is declining slightly and may not be as stable as previously thought (Davis 2012).

Gunnison Basin Population—The Gunnison Basin is an intermontane (located between mountain ranges) basin that includes parts of Gunnison and Saguache Counties, Colorado. The current Gunnison Basin population is distributed across approximately 240,000 ha (593,000 ac), roughly centered on the City of Gunnison. This population comprises approximately 87 percent of the rangewide population and 63 percent of rangewide occupied habitat for the species. Elevations in the area occupied by GUSG range from 2,300 to 2,900 meters (m) (7,500 to 9,500 feet [ft]). Approximately 70 percent of the land area occupied by GUSG in this population is managed by Federal agencies (67 percent) and CPW (3 percent), and the remaining 30 percent is primarily private lands, including approximately 12,700 ac on Pinecrest Ranch owned by the Ute Mountain Ute Tribe under restricted fee status. Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*) and mountain big sagebrush (*A. t.* ssp. *vaseyana*) dominate the upland vegetation, with highly variable growth form depending on local site conditions.

In 1964, Gunnison County was one of five counties containing the majority of all sage-grouse in Colorado. This was likely the case before human settlement, around the turn of the century, as well (Rogers 1964). The 2013 population estimate for the Gunnison Basin was 4,160 birds (CPW 2013a). Population estimates from 1996 to 2013 meet or exceed the population target of 3,000 breeding birds (based on a 10-year average) for the Gunnison Basin, as set forth by the Gunnison sage-grouse Rangewide Conservation Plan (RCP) (CPW 2013a; GSRSC 2005). The RCP identified population targets as attainable population sizes sufficient to conserve GUSG in those areas (GSRSC 2005). Approximately 45 percent of leks in the Gunnison Basin occur on private land; and 55 percent on public land administered primarily by the BLM (GSRSC 2005). Five physiographic zones or divisions are recognized in the Gunnison Basin population area for the purposes of monitoring and management actions (CSGWG 1997).

San Miguel Basin Population— The San Miguel Basin population estimate in 2013 was 186 individuals (CPW 2013a). Population estimates from 1996 to 2013 are substantially below the population target of 450 breeding birds (based on a 10-year average) for the San Miguel Basin, as set forth by the RCP (CPW 2013a; GSRSC 2005). This population occurs in Montrose and San Miguel Counties in Colorado, and is comprised of six small subpopulations (Dry Creek

Basin, Hamilton Mesa, Miramonte Reservoir, Gurley Reservoir, Beaver Mesa, and Iron Springs) occupying approximately 41,000 ha (101,000 ac). GUSG use some of these areas year-round, while others are used seasonally. GUSG in the San Miguel Basin move widely between the six subpopulation areas (Apa 2004; Stiver and Gibson 2005). The area encompassed by this population is thought to have once served as critical migration corridors between populations to the north (Cerro Summit–Cimarron–Sims Mesa) and to the south (Monticello–Dove Creek) (Oyler-McCance et al. 2005; SMBGSWG 2009), but gene flow among these populations is currently very low (Oyler-McCance et al. 2005). Historically, GUSG occupied the majority of available big sagebrush (*Artemisia tridentata*) plant communities in San Miguel and Montrose Counties (Rogers 1964).

Habitat conditions vary among the six subpopulation areas of the San Miguel Basin population areas. The following discussion addresses conditions among the subpopulations beginning in the west and moving east. The majority of occupied acres in the San Miguel Basin population (approximately 25,130 ha (62,100 ac) or 62 percent of the total population area) occur in the Dry Creek Basin subpopulation (SMBGSWG 2009). However, the Dry Creek Basin contains some of the poorest habitat and the smallest individual grouse numbers in the San Miguel population (SMBGSWG 2009). Sagebrush habitat in the Dry Creek Basin area is patchily distributed. Where irrigation is possible, private lands in the southeastern portion of Dry Creek Basin are cultivated. Sagebrush habitat on private land has been heavily thinned or removed entirely (GSRSC 2005). Elevations in the Hamilton Mesa subpopulation are approximately 610 m (2,000 ft.) higher than in the Dry Creek Basin, resulting in more mesic (moist) conditions. Agriculture is very limited on Hamilton Mesa and the majority of the vegetation consists of oakbrush (*Quercus gambelii*) and sagebrush. GUSG use the Hamilton Mesa area (1,940 ha (4,800 ac)) in the summer, but use of Hamilton Mesa during other seasons is unknown.

GUSG occupy approximately 4,700 ha (11,600 ac) around Miramonte Reservoir (GSRSC 2005). Sagebrush stands there are generally contiguous with a mixed-grass and forb understory. Occupied habitat at the Gurley Reservoir area (3,305 ha (7,500 ac)) is negatively affected by human development. Farming attempts in the Gurley Reservoir area in the early 20th century led to the removal of much of the sagebrush, although agricultural activities are now restricted primarily to the seasonally irrigated crops (hay meadows), and sagebrush has reestablished in most of the failed pastures. However, grazing pressure and competition from introduced grasses have limited overall sagebrush representation (GSRSC 2005). Sagebrush stands in the Iron Springs and Beaver Mesa areas (2,590 ha and 3,560 ha (6,400 ac and 8,800 ac respectively)) are contiguous with a mixed-grass understory. The Beaver Mesa area has numerous scattered patches of oakbrush.

Monticello–Dove Creek Population—This population includes two separate subpopulations of GUSG, the Monticello and Dove Creek subpopulations. Genetic data suggest these two subpopulations could be considered one population (GSRSC 2005), though we are unaware of any current connectivity between the two. The larger subpopulation is near the town of Monticello in San Juan County, Utah. GUSG in this subpopulation inhabit a broad plateau on the northeastern side of the Abajo Mountains, with fragmented patches of sagebrush interspersed with large grass pastures and agricultural fields. In 1972, the estimated population size ranged from 583 to 1,050 individuals; by 2002, the population size had decreased substantially,

estimated at 178 to 308 individuals (UDWR 2011). The 2013 population estimate was 74 individuals (CPW 2013a). GUSG currently occupy an estimated 28,570 ha (70,600 ac) in the Monticello area (GSRSC 2005).

The Dove Creek subpopulation is located primarily in western Dolores County, Colorado, north and west of Dove Creek, although a small portion of occupied habitat extends north into San Miguel County. The majority of sagebrush plant communities in Dolores and Montezuma Counties within Colorado were historically used by GUSG (Rogers 1964). Habitat north of Dove Creek is characterized as mountain shrub habitat, dominated by oakbrush interspersed with sagebrush. The area west of Dove Creek is dominated by sagebrush, but the habitat is highly fragmented by agricultural fields. Lek counts in the Dove Creek area were more than 50 males in 1999, suggesting a population of about 245 birds, but declined to 2 males in 2009 (CDOW 2009b), suggesting a population of 10 birds at that time. Low sagebrush canopy cover, as well as low grass height, exacerbated by drought, may have led to nest failure and subsequent population declines (Connelly et al. 2000a; Apa 2004). The 2013 population estimate was 49 individuals (CPW 2013a).

Combined, the Monticello-Dove Creek estimated population size in 2013 was 123 individuals (CPW 2013a). Most population estimates from 1996 to 2013 are well below the population target of 500 breeding birds (based on a 10-year average) for the Monticello-Dove Creek population, as set forth by the RCP (CPW 2013a; GSRSC 2005). Likewise, most population estimates from 1996 to the present time are well below the population target of 250 birds for each subpopulation alone (CPW 2013a).

Piñon Mesa Population—The Piñon Mesa population occurs on the northwestern end of the Uncompahgre Plateau in Mesa County, about 35 km (22 mi) southwest of Grand Junction, Colorado. GUSG likely occurred historically in all suitable sagebrush habitat in the Piñon Mesa area, including the Dominguez Canyon area of the Uncompahgre Plateau, southeast of Piñon Mesa proper (Rogers 1964). Their current distribution is approximately 15,744 ha (38,904 ac) (GSRSC 2005) which, based on a comparison of potential presettlement distribution, is approximately six percent of presettlement habitat on the northern portion of the Uncompahgre Plateau in Mesa County, Colorado, and Grand County, Utah. The 2013 estimated population was 152 birds (CPW 2013a), much greater than the 2012 estimate of 54 birds. This increase is due largely to the transplanting of 49 birds to Piñon Mesa population between the fall of 2012 and spring of 2013 (CPW 2014) and two new leks found in 2012 (CPW 2012). Population estimates from 1996 to 2013 are below the population target of 200 breeding birds (based on a 10-year average) for the Piñon Mesa population, as set forth by the RCP (CPW 2013a; GSRSC 2005). Of 12 known leks, only 4 were active in 2012 (CPW 2012). The Piñon Mesa area may have other leks as well, but the high percentage of private land, a lack of roads, and heavy snow cover during spring make locating additional leks difficult (CDOW 2009b).

Crawford Population—The Crawford population of GUSG includes approximately 14,170 ha (35,015 ac) of occupied habitat in Montrose County, Colorado, about 13 km (8 mi) southwest of the town of Crawford and north of the Gunnison River. Basin big sagebrush (*A. t. ssp. tridentata*) and black sagebrush (*A. nova*) dominate the mid elevation uplands (GSRSC 2005). The 2013 estimated population was 108 individuals (CPW 2013a), much greater than the 2010

estimate of 20 birds, and 2011 estimate of 44 birds. This observed increase is due in part to the transplanting of 72 birds to the Crawford population from 2011 to the spring of 2013 (CPW 2014). Further, new lek count techniques for this population were implemented in 2012 (Gunnison County 2013), and increased survey effort may be partly responsible for observed increases in high male counts and population estimates (Figure 3 (in 78 FR 2486)). Population estimates from 1996 to 2013 are well below the population target of 275 breeding birds (based on a 10-year average) for the Crawford population, as set forth by the RCP (CPW 2013a; GSRSC 2005). Three leks are currently active in the Crawford population (CPW 2012), all on BLM lands near an 11-km (7-mi) stretch of road. This area represents the largest contiguous sagebrush plant community within the occupied area of the Crawford population (GSRSC 2005).

Cerro Summit–Cimarron–Sims Mesa Population—This population is divided into two geographically separate subpopulations, both in Montrose County, Colorado: the Cerro Summit-Cimarron and Sims Mesa subpopulations. It is unknown whether sage-grouse currently move between these subpopulations.

The Cerro Summit–Cimarron subpopulation is centered about 24 km (15 mi) east of the City of Montrose. Rogers (1964) noted a small population of sage-grouse in the Cimarron River drainage, but did not report population numbers. The same publication also reported that four individual birds were observed during lek counts at Cerro Summit in 1959. Habitat in this subpopulation area includes 15,039 ha (37,161 ac) of patchy sagebrush habitat fragmented by oakbrush and irrigated pastures. Four leks are currently known in the Cerro Summit-Cimarron group, although only two have been active in recent years (GSRSC 2005; CPW 2012).

The Sims Mesa area, about 11 km (7 mi) south of Montrose, consists of small patches of sagebrush fragmented by piñon-juniper, residential and recreational development, and agriculture (CDOW 2009b). Rogers (1964) recorded eight males from lek counts at Sims Mesa in 1960. In 2000, the CPW translocated six GUSG from the Gunnison Basin to Sims Mesa (Nehring and Apa 2000). There is only one currently known lek in the Sims Mesa and, since 2003; it has not been attended by GUSG. However, lek counts on Sims Mesa did not occur in 2011. A lek is designated historic when it is inactive for at least 10 consecutive years, according to CPW standards. Therefore, the current status of the Sims Mesa lek is unknown (CDOW 2009b; CPW 2012).

The Cerro Summit-Cimarron-Sims Mesa population estimate in 2013 was 44 individuals (CPW 2013a). Population estimates from 1996 to 2013 are well below the population target of 100 breeding birds (based on a 10-year average) for this population, as set forth by the RCP (CPW 2013a; GSRSC 2005).

Poncha Pass Population—The Poncha Pass GUSG population is located in Saguache County, approximately 16 km (10 mi) northwest of Villa Grove, Colorado. The known population distribution includes 8,262 ha (20,415 ac) of sagebrush habitat from the summit of Poncha Pass extending south for about 13 km (8 mi) on either side of U.S. Highway 285. Sagebrush in this area is generally intact with little fragmentation, and habitat quality throughout the area is adequate to support a population of the species (Nehring and Apa 2000). San Luis Creek runs through the area, providing a perennial water source and wet meadow riparian habitat for brood

rearing. Decker and Rock Creeks also provide water most of the year. However, water flows in the area have been much lower and less dependable in recent years due to drought conditions (Nehring 2013, pers comm.).

This reintroduced population occurs in potential historic habitat, a portion of the San Luis Valley where GUSG were thought to have been extirpated by the 1950's (Rogers 1964). Reestablishment of this population began with 30 birds transplanted from the Gunnison Basin in 1971 and 1972, (GSRSC 2005). In 1992, a CPW effort to simplify hunting restrictions inadvertently opened the Poncha Pass area to sage-grouse hunting, and at least 30 grouse were harvested from this population. Due to declining population numbers since the 1992 hunt, in the spring of 2000, CPW translocated 24 additional birds from the Gunnison Basin (Nehring and Apa 2000). In 2001 and 2002, an additional 20 and 7 birds, respectively, were moved to Poncha Pass by the CPW (GSRSC 2005). Translocated females have bred successfully (Apa 2004, pers. comm.), and male display activity resumed on the historic lek in the spring of 2001. The only known lek is located on BLM administered land (CPW 2011; CPW 2012). A high male count of 3 males occurred in 2012, resulting in an estimated population size of 15 for the Poncha Pass population. In 2013, no birds were counted at leks or surrounding habitat despite considerable survey efforts, suggesting a population estimate of zero birds. In the fall of 2013, a total of 17 birds were transplanted to the Poncha Pass population from the Gunnison Basin. As of January 2014, 10 of these birds were known to be surviving (Nehring 2014, pers. comm.). Poncha Pass current and past population estimates from 1996 to 2013 are well below the population target of 75 birds, as set forth by the RCP (CPW 2013a; GSRSC 2005).

## **ENVIRONMENTAL BASELINE**

### **Status of the Species within the Action Area**

The action area for the proposed LRMP encompasses lands within the TRFO including GUSG habitat defined as “occupied,” vacant/unknown,” and “potentially suitable” as stated in the proposed rule. Within the TRFO, GUSG occurrence is limited to the Dry Creek Basin and Miramonte subpopulations of the San Miguel population and the Dove Creek area of the Monticello-Dove Creek population. The majority of occupied acres in the San Miguel Basin population occur in the Dry Creek Basin subpopulation.

#### San Miguel Basin Population

The majority of occupied acres in the San Miguel Basin population (approximately 25,130 ha (62,100 ac) or 62 percent of the total population area) occur in the Dry Creek Basin subpopulation (SMBGSWG) 2009). However, the Dry Creek Basin contains some of the poorest habitat and the smallest individual grouse numbers in the San Miguel population (SMBGSWG) 2009). Sagebrush habitat in the Dry Creek Basin area is patchily distributed. Where irrigation is possible, private lands in the southeastern portion of Dry Creek Basin are cultivated. Sagebrush habitat on private land has been heavily thinned or removed entirely (GSRSC 2005). GUSG occupy approximately 4,700 ha (11,600 ac) around Miramonte Reservoir (GSRSC 2005). Sagebrush stands there are generally contiguous with a mixed-grass and forb understory. Currently, the population estimate for the San Miguel Basin population is

186 individuals (CPW 2013b). Population estimates from 1996 to 2013 are substantially below the population target of 450 breeding birds (based on a 10-year average) for the San Miguel Basin, as set forth by the RCP (CPW 2013a; GSRSC 2005).

There are four known leks in Dry Creek Basin, three of the leks are considered active and one is classified as inactive. Since 2003, attendance by males has been very low at all of these leks. Forty seven grouse have been reintroduced into Dry Creek Basin since 2006, but there has been no increase in sage-grouse numbers, and no indication of recruitment. The basin is well below the population levels required to maintain a viable population, based on the RCP.

**Table 7 -- Dry Creek Basin Lek Attendance (11 years) (high male counts)**

Lek Name	Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
New Desert	Active	0	0	0	--	2	4	2	0	0	0	0
Desert	Active	4	0	0	0	0	0	0	0	0	3	2
Triangle	Inactive	2	1	1	0	0	0	0	0	0	0	0
Nelson Creek	Active	1	1	1	0	0	1	0	0	0	0	0

Miramonte has one lek (Redd Ranches) that is within the boundaries of the TRFO. However, the Redd Ranches lek is located on private surface. The Redd Ranches lek has experienced a steady decline in birds since 2003. The Miramonte lek is not within the administrative boundary of the TRFO, but it within 2 miles of the Redd Ranches lek. Peak male attendance at the Miramonte lek is substantially higher than any lek in the TRFO but has experienced a level of decline over the last 10 years. Brood mixing may occur between the two leks and the status of the Redd Ranches lek may depend on the success of the Miramonte lek.

**Table 8 -- Miramonte Lek Attendance (11 years)**

Lek Name	Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Redd Ranches	Active	11	18	23	20	14	8	6	5	2	7	7
Miramonte	Active	16	19	29	42	36	21	18	14	11	16	17

### Monticello–Dove Creek Population

The Dove Creek subpopulation is located primarily in western Dolores County, Colorado, north and west of Dove Creek, although a small portion of occupied habitat extends north into San Miguel County. The majority of sagebrush plant communities in Dolores and Montezuma Counties within Colorado were historically used by GUSG (Rogers 1964). Habitat north of Dove Creek is characterized as mountain shrub habitat, dominated by oakbrush interspersed with sagebrush. The area west of Dove Creek is dominated by sagebrush, but the habitat is highly fragmented by agricultural fields. Lek counts in the Dove Creek area were more than 50 males in 1999, suggesting a population of about 245 birds, but declined to 2 males in 2009 (CDOW 2009b), suggesting a population of 10 birds at that time. Low sagebrush canopy cover, as well as low grass height, exacerbated by drought, may have led to nest failure and subsequent population declines (Connelly et al. 2000a; Apa 2004). The 2013 population estimate was 49 individuals (CPW 2013b).

Combined, the Monticello-Dove Creek estimated population size in 2013 was 123 individuals (CPW 2013a). Most population estimates from 1996 to 2013 are well below the population target of 500 breeding birds (based on a 10-year average) for the Monticello-Dove Creek population, as set forth by the RCP (CPW 2013b; GSRSC 2005). Likewise, most population estimates from 1996 to the present time are well below the population target of 250 birds for each subpopulation alone (CPW 2013b). The population estimate for the Dove Creek subpopulation in 2013 was 49 individuals (CPW 2013a).

The Dove Creek area is located primarily in western Dolores County, Colorado, north and west of Dove Creek, Colorado. The area is highly fragmented by agricultural fields. Lek counts for 2013 estimated population level to be 49 individuals, based on lek counts from two leks (Nathanial West, pers comm. Mar. 6, 2014). There are 10 known leks in the Dove Creek population that occur within the TRFO, including six active leks, two historic, and two inactive leks. Peak male attendance of any lek has not been above 10 birds in the last 10 years. The Wheatfield lek has had the most consistent attendance with peak male attendance at 10 in 2006. Population estimates based on male attendance at leks in the Dove Creek area are far below the number of individuals required to maintain a viable population, based on RCP.

Table 13 -- Dove Creek Lek Attendance (11 years) (high male counts)

Lek Name	Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Alfalfa	Historic	0	0	0	0	0	0	0	0	0	0	0
Sage	Active	3	2	--	--	0	0	1	--	---	---	--
Sage Southeast	Inactive	0	--	--	5	0	0	0	0	0	0	0
Beanfield	Active	0	0	0	0	0	0	0	--	--	--	--
Panoramic View	Active	3	0	--	0	0	0	0	8	6	0	0
Secret Canyon	Active	0	0	0	0	0	0	--	8	6	3	3
Section 18	Inactive	1	--	0	--	0	0	0	0	--	0	0
Phantom	Historic	0	0	0	0	0	0	0	0	0	--	--
Wheatfield North	Active	0	0	0	0	0	0	0	--	6	--	--
Wheatfield (doghouse)	Active	1	0	7	10	6	6	1	1	6	6	7

### Critical Habitat

Critical habitat has been proposed within the TRFO planning area. Proposed occupied and unoccupied critical habitat within the TRFO is located throughout Dolores, Montrose, and San Miguel Counties. The proposed listing rule included 270,417 acres in the TRFO. Critical habitat in the TRFO can be divided into proposed occupied and unoccupied critical habitat. There are 109,908 acres within the TRFO of occupied proposed critical habitat, of which 36 percent is BLM surface and 62 percent Federal mineral estate (table 4). Habitat management decisions in the plan would be applicable to BLM surface. Oil and gas related decisions (i.e. application for permit to drill) affecting Federal mineral estate, are subject to regulations found at 43 CFR 3160 (Solicitor Opinion BLM.ER.0317). In other words, the BLM has the authority to apply reasonable mitigation measures to APDs and ancillary facilities located on split-estate lands (Solicitor Opinion BLM.ER.0317). The Order states, the BLM will make the final determination

of appropriate surface use requirements, carefully considering the views of the surface owners and their respective uses before implementing mitigation measures. On split-estate lands, the BLM will offer the same level of surface protection normally offered on Federal surface, but is not to apply standards or conditions in excess of that normally be applied to Federal surface, even when requested by the surface owner (Gold Book, 2007 cited in Solicitor Opinion BLM.ER.0317).

Occupied habitat can be divided into 4 geographic areas: Dry Creek Basin, Miramonte, Dove Creek East and Dove Creek West. Impacts from implementing the LRMP on the TRFO may vary greatly among the geographic areas based on BLM surface and split estate in each area.

#### Dry Creek Basin (occupied)

Within the Dry Creek Basin area BLM surface comprises 57 percent of the area and the Federal mineral estate makes up 84 percent of the basin (see map 2 and 11 in BA). Past management in the Dry Creek Basin area includes: sagebrush removal through herbicide, mechanical and prescribed fire; pinyon-juniper removal using mechanical methods; natural gas development; saleable mineral mining; and livestock grazing. In Dry Creek Basin approximately 1,770 acres of sagebrush have been mowed and 3,157 acres of sagebrush have received herbicide treatments. Roughly 4,927 acres of sage-grouse habitat have been modified by the BLM. Whereas, 147 acres have received specific habitat treatments to benefit sage-grouse and 2,992 acres of pinyon-juniper have been removed to improve sage-grouse habitat. There are approximately 253 miles of dirt road which equals about 2.6 miles of dirt road per square mile. There are 69 well pads that have been constructed in the basin. Most road development in the basin has not been associated with oil and gas development. Using a 0.5 mile buffer to evaluate roads associated with, or used by oil and gas development, only 22 miles of road (8.6 percent of roads) in the basin appear to be associated with gas development. Oil and gas development in proposed occupied critical habitat covers approximately 4,904 acres or 4.5 percent of occupied habitat. Current development in Dry Creek Basin is approximately one well every 896 acres. Only Dry Creek Basin was used to calculate well densities because the only existing development is in Dry Creek Basin.

Historic livestock grazing practices, drought, and a shift from sheep to cattle appear to have contributed to the depletion of the understory vegetation in some parts of the basin. Livestock grazing in the Dry Creek basin has been modified in recent years to specifically address sage-grouse habitat needs. Rangeland monitoring in the basin show a trend to improving habitat conditions. In some areas altering the grazing may not improve habitat conditions. Sagebrush with degraded understories may not have sufficient seed sources to recover without some sort of management intervention. No transition state models have been developed for Dry Creek Basin. However, other transition state models in sagebrush habitats indicate that areas with degraded understories would require substantial intervention to restore the native grass/forb understory and the removing grazing from the system would have no change on the habitat. Efforts have been taken to improve rangeland health in the area. Livestock producers have voluntary cut numbers during drought. Pastures have been rested for up to 6 years to allow for recovery after habitat treatments for sage-grouse.

### Dove Creek (occupied)

Management in the Dove Creek proposed occupied critical habitat include: fuels reduction projects such as prescribed fire and mastication; oil and gas development, seismic operations; and livestock grazing. Dove Creek consists of two occupied habitat polygons, Dove Creek east and west. Dove Creek west is approximately 5 percent BLM surface (map 7 in BA) and 10 percent Federal minerals (map 8 in BA). Dove Creek east is 19 percent BLM surface (map 7 in BA) and 56 percent Federal minerals (map 8 in BA).

There are approximately 103 miles of dirt road which equals about 1.6 miles of dirt road per square mile. In Dove Creek there have been six well pads constructed, one in west Dove Creek and 5 in east Dove Creek. Past fuels treatments have focused on removal of ponderosa pine understory, mastication of pinyon-juniper, and thinning/removal of oakbrush. Fuels treatments in occupied habitat occur near the edge of the Dolores River Canyon and have been managed to maintain habitat for sage-grouse while meeting the needs for fuel reduction. There are no active allotments in the Dove Creek west area. In the Dove Creek east about half of BLM lands are managed for livestock grazing. The Dove Creek area has experienced high levels of agricultural development. Using Forest Service R2 Vegetation data to map agricultural development, 21,951 acres of forb and grass cover type dominate the landscape. These cover types correspond with agricultural development. Roughly 53 percent of the proposed occupied critical habitat in the Dove Creek Area has been converted for agricultural development (map 3 in BA).

### Unoccupied Critical Habitat on the TRFO

Proposed unoccupied critical habitat encompasses 160,509 acres within the TRFO and consists of approximately 19 percent BLM surface and 35 percent Federal mineral estate. Of the Federal minerals approximately 79 percent are held by existing oil and gas leases. There are approximately 503 miles of road which equals about 2 miles of road per square mile. Management actions in the area include mineral development and exploration, fuels treatments, habitat treatments, recreation, and livestock grazing. The majority of oil and gas development has occurred in the southwest corner of the proposed unoccupied critical habitat. However, scattered development has occurred throughout the proposed unoccupied critical habitat. There have been 149 wells drilled with 136 still producing. Within proposed unoccupied critical habitat 65 percent of the minerals are private minerals and 81 percent private surface.

The proposed unoccupied critical habitat area has experienced high levels of agricultural development. Using Forest Service R2 Vegetation data to map agricultural development, 90,087 acres of forb and grass cover type dominate the landscape. These cover types correspond with agricultural development. Roughly 56 percent of the proposed occupied critical habitat has been converted for agricultural development (map 4 in BA). Past herbicide treatments to remove sagebrush have removed approximately 1,847 acres of sagebrush on BLM surface within proposed unoccupied critical habitat.

**Table 9 -- TRFO Proposed Occupied and Unoccupied Critical Habitat**

Name	Acres	Acres BLM Surface	% BLM Surface	Acres Federal Minerals	% Federal Minerals	Acres Currently Leased	% of Total Area Currently Leased	% Federal Mineral Estate Currently Leased
<b>Proposed Occupied Critical Habitat</b>	109,908	39,799	36%	67,662	62%	18,105	16%	27%
<b>Dry Creek Basin</b>	61,823	34,990	57%	52,185	84%	7,330	12%	14%
<b>Miramonte</b>	6,782	80	1%	2,418	36%	58	1%	2%
<b>Dove Creek</b>	41,284	4,729	11%	13,019	32%	10,712	26%	82%
<b>Dove Creek East</b>	19,735	3,664	19%	10,957	56%	10,273	52%	94%
<b>Dove Creek West</b>	21,549	1,065	5%	2,062	10%	439	2%	21%
<b>Proposed Unoccupied Critical Habitat</b>	160,509	30,021	19%	55,596	35%	44,010	27%	79%

**Existing Leased Lands under Oil and Gas Program within Occupied GUSG Habitat.**

Federal minerals make up 84 percent (52,185 acres) of the 61,823 acres of occupied critical habitat in Dry Creek Basin (map 11, Appendix A in the BA). However, only 14 percent (7,330 acres) of the Federal mineral estate is currently leased. In the Miramonte area BLM surface makes up 1 percent of the area and Federal mineral estate approximately 36 percent (Table 9). However, of the Federal mineral estate in Miramonte only 2 percent (58 acres) is held by fluid mineral leases.

Within the Dove Creek area, BLM lands make up 19 percent and 5 percent of the surface ownership. Federal minerals make up 56 percent 10,957 acres in Dove Creek east and 10 percent 2,056 acres in Dove Creek west. Ninety four percent (10,273) acres of the Federal mineral estate has been leased within Dove Creek east and 21 percent (439 acres) leased within Dove Creek west.

Within the TRFO planning area 193,218 total acres are leased for oil and gas development. Of the total leased acres 18,105 acres or 9.3 percent of existing leases are in proposed occupied critical habitat and approximately 44,010 acres of unoccupied critical habitat, for a total of 62,115 acres of critical habitat under existing leases of Federal mineral estate. Direct and indirect effects of oil and gas development in proposed occupied critical habitat covers approximately 4,904 acres or 4.5 percent of occupied habitat. Current development in Dry Creek

Basin is approximately one well every 896 acres. Only Dry Creek Basin was used to calculate well densities because the only existing development is in Dry Creek Basin.

## **EFFECTS OF THE ACTION**

### **Factors to be Considered**

GUSG depend on sagebrush for their survival and persistence, and the historic and current distribution of the GUSG closely matches that of sagebrush (Patterson 1952; Braun 1987; Schroeder et al. 2004, and references therein). Habitat fragmentation resulting from human development patterns is especially detrimental to GUSG because of their dependence on large expanses of sagebrush (Patterson 1952; Connelly et al. 2004; Connelly et al. 2011) and more contiguous sagebrush habitats (Rogers 1964; Wisdom et al. 2011). In addition, female Gunnison and greater sage-grouse exhibit strong site fidelity to nesting locations (Connelly et al. 1988; Young 1994; Lyon 2000, Connelly et al. 2004, Holloran and Anderson 2005). Sage-grouse often will continue to return to altered breeding habitats (leks, nesting areas, and early brood-rearing areas), despite any past failures in nesting or productivity (Rogers 1964; Wiens and Rotenberry 1985; Young 1994; Lyon 2000, Connelly et al. 2004; Holloran and Anderson 2005). Consequently, there may be lags in the response of GUSG to development or habitat changes, similar to those observed in other sagebrush obligate birds (Wiens and Rotenberry 1985).

The distribution of sage-grouse habitat is naturally disconnected due to the presence of unsuitable habitats such as forests, deserts, and canyons across the landscape (Rogers 1964). However, the onset of Euro-American settlement in the 1800s resulted in significant human alterations to sagebrush ecosystems throughout North America, primarily as a result of urbanization, agricultural conversion, and irrigation projects (West and Young 2000; Miller et al. 2011). Areas in Colorado that supported basin big sagebrush were among the first sagebrush community types converted to agriculture because their soils and topography are well-suited for agriculture (Rogers 1964). Decreases in the abundance of sage-grouse paralleled the loss of range (Braun 1998), and a gradual but marked decrease in sage-grouse distribution and numbers in Colorado had begun around 1910 (Rogers 1964).

Sagebrush habitats within the range of GUSG are becoming increasingly fragmented as a result of various changes in land uses and the expansion in the density and distribution of invasive plant species (Oyler-McCance et al. 2001; Schroeder et al. 2004). Based on spatial modeling, a variety of human developments including roads, energy development, residential development, and other factors known to cause habitat decline were correlated with historical loss of range and extirpation of Gunnison and greater sage-grouse (Wisdom et al. 2011). The model indicated that no secure areas (areas where the risk of extirpation appears low) of occupied range are evident for GUSG (Wisdom et al. 2011). Landscapes containing large and contiguous sagebrush patches and sagebrush patches in close proximity had an increased likelihood of sage-grouse persistence (Wisdom et al. 2011).

The degree to which habitat fragmentation prevents a species' movement across the landscape depends, in part, on that species' ability to move large distances and thereby adjust to changes on the landscape. Sage-grouse are wide-ranging and capable of making large seasonal movements,

because they require a diversity of seasonal habitats (Connelly et al. 2000a, and references therein). Movements as great as 56 km (35 mi) have been documented in the Gunnison Basin (Phillips 2013). In contrast, the maximum recorded movement distance of GUSG in the Monticello population is 8.2 km (5.1 mi), associated with winter movement (Ward 2007). Prather (2010) noted that such behavior may be due to the presence of large areas of piñon - juniper (i.e., less suitable habitats) which bracket currently occupied habitat in the Monticello population area. Population dynamics of greater sage-grouse in northwestern Colorado functioned at much smaller scales than expected for a species capable of moving large distances (Thompson 2012), suggesting that large expanses of contiguous sagebrush habitat may not be necessary for sage-grouse survival. The majority of juvenile dispersal was intra-population movement (within one breeding population), with only one inter-population movement (between separate breeding populations) observed during the study (Thompson 2012). As a result, juvenile recruitment into home breeding ranges ranged between 98 and 100 percent (Thompson 2012). Based on observed bird dispersal in that study, gene flow and connectivity can likely be maintained for populations within 5 to 10 km (most dispersals were less than 10 km) and possibly as far as 20 km (the maximum dispersal distance of birds studied) in greater sage-grouse (Thompson 2012). Because bird movements likely vary by population and area, their susceptibility to habitat loss and degradation may also differ. We expect that where habitat is already more limited (quantity and quality) and isolated, such as in the six satellite populations, habitat loss and decline will have more serious consequences in terms of population fitness and survival. Where habitat is already severely limited or degraded, or where sage-grouse populations are small, any loss of habitat may impact those populations. In addition, habitat loss impacts are expected to be greater in important seasonal habitats, such as areas used during moderate to severe winters, or in lekking, nesting, or brood-rearing habitats (GSRSC 2005).

The decline or loss of lek and brood-rearing habitats can have serious consequences for sage-grouse population viability by reducing reproductive success and recruitment (survival of young to breeding age). Limitations in the quality and quantity of nesting and early brood-rearing habitats, in particular, are especially important because GUSG population dynamics are most sensitive during these life-history stages (GSRSC 2005). Juvenile recruitment is one of the most important demographic factors influencing or limiting sage-grouse population growth rates and viability (Connelly et al. 2004, GSRSC 2005).

### Roads

Impacts to GUSG from roads may include direct habitat loss, direct mortality, barriers to migration corridors or seasonal habitats, facilitation of predation and spread of invasive vegetative species, and other indirect influences such as noise (Forman and Alexander 1998).

Roads have been shown to fragment GUSG habitat, with road avoidance by birds presumably to limit exposure to human activity and predation (Oyler-McCance et al. 2001). The probability of GUSG habitat occupancy (presence based on pellet surveys or sage-grouse observation) was positively correlated with distance to roads and habitat patch size (Oyler-McCance et al. 1999).

GUSG may avoid road areas because of noise, visual disturbance, pollutants, and predators moving along roads, which further reduces the amount of available habitat. An unpublished study by Western State Colorado University and CPW in the Gunnison Basin found that anthropogenic noise was significantly higher at leks closer to roads and human activity centers than leks farther from those sources (Piquette et al. 2013). Leks with higher noise levels were associated with lower GUSG male counts and attendance (Piquette et al. 2013). The landscape-scale spatial model predicting GUSG nest site selection showed strong avoidance of areas with high road densities of roads classed 1 through 4 (primary paved highways through primitive roads with 2-wheel drive sedan clearance) within 6.4 km (4 mi) of nest sites (Aldridge et al. 2012). Nest sites also decreased with increased proximity to primary and secondary paved highways (roads classes 1 and 2) (Aldridge et al. 2012). Male greater sage-grouse lek attendance was shown to decline within 3 km (1.9 mi) of a deep seam natural gas well haul road where traffic volume exceeded one vehicle per day (Holloran 2005). If noise from roads interferes with mating displays, and thereby female attendance, younger males will not be drawn to the lek and eventually leks will become inactive (Amstrup and Phillips 1977; Braun 1986). However, other information (CPW 2013b) suggests GUSG in the Gunnison Basin may be fairly tolerant of roads, even the more heavily used highways and county routes, and the potential direct or indirect effects of those roads.

The presence of roads increases human access and resulting disturbance effects in remote areas (Forman and Alexander 1998; Forman 2000; Connelly et al. 2004). In addition, roads can provide corridors for predators to move into previously unoccupied areas. Some mammalian species known to prey on sage-grouse, such as red fox (*Vulpes vulpes*), raccoons (*Procyon lotor*), and striped skunks (*Mephitis mephitis*), have greatly increased their distribution by dispersing along roads (Forman and Alexander 1998; Forman 2000; Frey and Conover 2006). Corvids (Family Corvidae: crows, ravens, magpies, etc.) also use linear features such as primary and secondary roads as travel routes (Bui 2009), expanding their movements into previously unused regions (Knight and Kawashima 1993; Connelly et al. 2004). Corvids are significant sage-grouse nest predators and were responsible for more than 50 percent of nest predations in Nevada (Coates 2007).

The expansion of road networks also contributes to exotic plant invasions via introduced road fill, vehicle transport, and road maintenance activities (Forman and Alexander 1998; Forman 2000; Gelbard and Belnap 2003; Knick et al. 2003; Connelly et al. 2004). Invasive species are not limited to roadsides, but also encroach into surrounding habitats (Forman and Alexander 1998; Forman 2000; Gelbard and Belnap 2003). Upgrading unpaved four-wheel-drive roads to paved roads resulted in increased cover of exotic plant species within the interior of adjacent plant communities (Gelbard and Belnap 2003). This effect was associated with road construction and maintenance activities and vehicle traffic, and not with differences in site characteristics. The incursion of exotic plants into native sagebrush systems can negatively affect GUSG through habitat losses and conversions.

## Powerlines

Depending on the infrastructure design, size, location, and site-specific factors, powerlines can directly affect greater sage-grouse by posing a collision and electrocution hazard (Braun 1998; Connelly et al. 2000a) and can have indirect effects by decreasing lek recruitment (Braun et al. 2002, Walker et al. 2007), increasing predation (Connelly et al. 2004), fragmenting habitat (Braun 1998), and facilitating the invasion of exotic annual plants (Knick et al. 2003; Connelly et al. 2004).

In areas where vegetation is low and the terrain relatively flat, power poles provide an attractive hunting, roosting, and nesting perch for many species of raptors and corvids, known predators of GUSG (Steenhof et al. 1993; Connelly et al. 2000a; Manville 2002; Vander Haegen et al. 2002). Power poles increase a raptor's range of vision, allow for greater speed during attacks on prey, and serve as territorial markers (Steenhof et al. 1993; Manville 2002), thereby increasing the likelihood of predation where sage-grouse occur. Golden eagle (*Aquila chrysaetos*) predation on sage-grouse on leks increased from 26 to 73 percent of the total predation after completion of a transmission line within 200 meters (m) (220 yards (yd)) of an active sage-grouse lek in northeastern Utah (Ellis 1985). The lek was eventually abandoned, and Ellis (1985) concluded that the presence of the powerline resulted in changes in sage-grouse dispersal patterns and caused fragmentation of the habitat.

Powerlines may negatively impact sage-grouse habitats even if raptors are not present. The use of otherwise suitable habitat by sage-grouse near powerlines increased as distance from the powerline increased for up to 600 m (660 yd) (Braun 1998), indicating sage-grouse avoidance of powerlines. Based on those unpublished data, Braun (1998) reported that the presence of powerlines may limit Gunnison and greater sage-grouse use within 1 km (0.6 mi) in otherwise suitable habitat. Based on spatial modeling, sage-grouse extirpation appears to be correlated to the presence of powerlines (Wisdom et al. 2011).

## Oil and Gas Development

Oil and gas, or fluid mineral, development for energy resources on Federal (BLM and USFS) lands is regulated by the BLM, which may entail conservation measures for wildlife species. The BLM classified the area encompassing all GUSG habitat for its oil and gas potential. Two populations within the TRFO have areas with high potential (San Miguel Basin, Monticello-Dove Creek).

Energy development impacts sage-grouse and sagebrush habitats through direct habitat loss from well pad construction, seismic surveys, roads, powerlines, and pipeline corridors, and indirectly from noise, gaseous emissions, changes in water availability and quality, and human presence. The interaction and intensity of effects could cumulatively or individually lead to habitat degradation and fragmentation (Suter 1978; Aldridge 1998; Braun 1998; Aldridge and Brigham 2003; Knick et al. 2003; Lyon and Anderson 2003; Connelly et al. 2004; Holloran 2005; Holloran et al. 2007; Aldridge and Boyce 2007; Walker et al. 2007; Zou et al. 2006; Doherty et al. 2008; Leu and Hanser 2011). Increased human presence resulting from oil and gas development can also impact sage-grouse either through avoidance of suitable habitat, or

disruption of breeding activities (Braun et al. 2002; Aldridge and Brigham 2003; Aldridge and Boyce 2007; Doherty et al. 2008).

The development of oil and gas resources requires surveys for economically recoverable reserves, construction of well pads and access roads, subsequent drilling and extraction, and transport of oil and gas, typically through pipelines. Ancillary facilities can include compressor stations, pumping stations, electrical generators and powerlines (Connelly et al. 2004; BLM 2007). Surveys for recoverable resources occur primarily through noisy seismic exploration activities. These surveys can result in the crushing of vegetation. Well pads vary in size from 0.10 ha (0.25 ac) for coal-bed natural gas wells in areas of level topography to greater than seven ha (17.3 ac) for deep gas wells and multi-well pads (Connelly et al. 2004; BLM 2007). Pads for compressor stations require 5–7 ha (12.4–17.3 ac) (Connelly et al. 2004). Individually, impacts from well pads, infrastructure, and ancillary features may be small; however, the cumulative impact of such development can be significant.

The amount of direct habitat loss within an area of oil and gas development is ultimately determined by well densities and the associated loss from ancillary facilities. Roads associated with oil and gas development were suggested as the primary impact to greater sage-grouse due to their persistence and continued use even after drilling and production ceased (Lyon and Anderson 2003). Declines in male greater sage-grouse lek attendance were reported within 3 km (1.9 mi) of a well or haul road with a traffic volume exceeding one vehicle per day (Holloran 2005). Because of reasons discussed previously, the effects of oil and gas development to GUSG are expected to be similar to those observed in greater sage-grouse. Sage-grouse also may be at increased risk for collision with vehicles simply due to the increased traffic associated with oil and gas activities (Aldridge 1998; BLM 2003).

Habitat fragmentation resulting from oil and gas development infrastructure, including access roads, may have greater effects on sage-grouse than the associated direct habitat losses. Energy development and associated infrastructure works cumulatively with other human activity or development to decrease available habitat and increase fragmentation. Greater sage-grouse leks had the lowest probability of persisting (40–50 percent) in a landscape with less than 30 percent sagebrush within 6.4 km (4 mi) of the lek (Walker et al. 2007). These probabilities were even less in landscapes where energy development also was a factor.

### Livestock Grazing

Livestock management and domestic grazing have the potential to degrade GUSG habitat. Grazing can adversely impact nesting and brood-rearing habitat by decreasing vegetation available for concealment from predators. Grazing also has been shown to compact soils, decrease herbaceous abundance, increase erosion, and increase the probability of invasion of exotic plant species (GSRSC 2005). The impacts of livestock operations on GUSG depend upon stocking levels and season of use.

We know that grazing can have negative impacts to sagebrush and consequently to GUSG at local scales. Impacts to sagebrush plant communities as a result of grazing are occurring on a large portion of the range of the species. Given the widespread nature of grazing within the range of GUSG, the potential for population-level impacts exists.

Livestock grazing may also have positive effects on sage-grouse under some habitat conditions. Sage-grouse use grazed meadows significantly more during late summer than ungrazed meadows because grazing had stimulated the regrowth of forbs (Evans 1986). Greater sage-grouse sought out and used openings in meadows created by cattle grazing in northern Nevada (Klebenow 1981). Also, both sheep and goats have been used to control invasive weeds (Mosley 1996 in Connelly et al. 2004; Merritt et al. 2001; Olsen and Wallander 2001) and woody plant encroachment (Riggs and Urness 1989) in sage-grouse habitat.

### Fences

Effects of fencing on sage-grouse include direct mortality through collisions, creation of raptor and corvid perch sites, the potential creation of predator corridors along fences (particularly if a road is maintained next to the fence), incursion of exotic species along the fencing corridor, and habitat decline (Call and Maser 1985; Braun 1998; Connelly et al. 2000a; Beck et al. 2003; Knick et al. 2003; Connelly et al. 2004). However, fences can also benefit GUSG by facilitating the management of livestock forage use and distribution to achieve desired habitat objectives (GSRSC 2005).

Sage-grouse frequently fly low and fast across sagebrush flats, and fences can create a collision hazard resulting in direct mortality (Call and Maser 1985; Christiansen 2009). Not all fences present the same mortality risk to sage-grouse. Mortality risk appears to be dependent on a combination of factors including design of fencing, landscape topography, and spatial relationship with seasonal habitats (Christiansen 2009).

Although we expect the impacts of fences to GUSG are similar to those observed in greater sage-grouse, studies on fence strike-related mortality in GUSG are more limited. However, in 10 years of tracking and studying over 1,000 radio-collared sage-grouse in Colorado, CPW has documented only two strike-related mortalities in GUSG due to fences (one confirmed case in Poncha Pass attributed to bird release methods; and one unconfirmed case in the Gunnison Basin).

Fence posts create perching places for raptors and corvids, which may increase the ability of these birds to prey on sage-grouse (Braun 1998; Oyster-McCance et al. 2001; Connelly et al. 2004). This impact is potentially significant for sage-grouse reproduction because corvids were responsible for more than 50 percent of greater sage-grouse nest predations in Nevada (Coates 2007). Greater sage-grouse avoidance of habitat adjacent to fences, presumably to minimize the risk of predation, effectively results in habitat fragmentation even if the actual habitat is not removed (Braun 1998). Because of similarities in behavior and habitat use, the response of GUSG should be similar to that observed in greater sage-grouse.

## **Analyses for Effects of the Action**

The TRFO revised plan includes conservation measures to minimize effects to GUSG from implementation of the plan. These conservation measures are incorporated into the TRFO Management plan from the RCP (GSRSC 2005). We do not anticipate effects to GUSG caused by timber production and management on the TRFO.

### Livestock Grazing and Projected Stocking

The revised management plan incorporates the livestock grazing guidelines from the RCP (GSRSC 2005). Our conclusion regarding the effects of grazing Federal lands within the TRFO is that, in general, implementation of the grazing program may result in minimal effects to GUSG. We conclude that significant localized effects may occur from over-utilization of forage. However, we believe that on-going monitoring of range conditions will result in the appropriate modification of stocking rate, timing, duration and intensity of grazing in those areas over-utilized by livestock.

As stated above, trampling of nests, or nest abandonment may occur due to the presence of livestock. In addition, flushing of hens from active nests may result in predation of eggs. We believe there is potential for these events to occur on active allotments, but we do not have any means to meaningfully detect or measure these effects, primarily due to low sage-grouse population numbers within the TRFO. In addition, the mere presence of livestock in an area known to be occupied by GUSG may not necessarily result in exposure of the birds to these effects.

Grazing management improvement actions such as fences, corrals, windmills, and stock pond development may result in significant negative effects to GUSG. Fences may expose grouse to increased predation risk from avian predators and collisions. The RCP (GSRSC 2005) provides recommendations for placement and marking of newly constructed fences. Implementation of these recommendations will likely reduce the collision risk for GUSG, but is unlikely to eliminate fence collisions. However, the mere presence of a fence within occupied habitat does not necessarily means collisions will occur.

Water developments may alter existing habitat by congregating livestock use in previously unused upland habitat or by lowering water tables associated with riparian areas. Although water developments can be used to improve overall riparian habitat condition by drawing livestock and wild ungulates away from previously degraded areas, GUSG may be exposed to mosquitoes that may carry West Nile virus, which has been known to cause population declines in wild bird populations, including sage-grouse (GSRSC 2005). Although no mortality of GUSG has been detected to date, it is reasonable to assume that they are susceptible to West Nile virus based on infection and mortality in greater sage-grouse. The revised plan includes best management practices for minimizing the likelihood of providing breeding sites for mosquitoes that transmit West Nile virus. However, implementation of the best management practices reduces or eliminates the availability of the pond to livestock. Therefore, we conclude that in situations where ponds are developed to provide for livestock water, there is a risk for production of mosquitoes that transmit West Nile virus, resulting in the possible infection, and mortality to

GUSG associated with water development project within and near grouse habitat. To date, across GUSG occupied range, only San Miguel and Dolores, Counties in Colorado have not confirmed avian mortalities associated with West Nile virus, and the virus has not been reported in human or mosquito infection data in those counties. However, adjacent counties have confirmed West Nile virus presence, so the virus is potentially present in San Miguel and Dolores Counties as well. Rural areas with smaller human populations, such as the majority of lands within GUSG range (and in San Miguel and Dolores Counties), may have decreased detection and reporting rates of avian mortalities, thus potentially biasing the modeled distribution of West Nile virus (Ward et al. 2006).

### Motorized Recreation

The road and motorized trail system in motorized suitable areas will generally not be considered for expansion or substantial alteration of the transportation system. The proposed action eliminates cross-country motorized use, except in a limited area (approximately 23 acres not in grouse habitat). The decision to restrict motorized access to existing roads and trails is generally considered beneficial, because the risk of flushing nesting grouse and other behavioral impacts or destruction of a nest from cross-country travel will be effectively reduced or eliminated.

Recreation in Dry Creek Basin primarily consists of hunting and mountain biking. Recreation in the area is limited to existing roads and trails. In the winter a minimal number of small game hunters use the area. In late spring and summer, mountain biking occurs within the basin. Mountain biking use is not considered to be high, or to have any measurable influence on sage-grouse use in the area. Impacts from big game hunting primarily consist of temporary displacement of individuals flushed by hunters. Big game hunting is not considered a threat to GUSG. Off highway vehicles (OHV) are limited to existing roads and trails. However, roads created for oil and gas exploration and drilling could lead to increased recreational use of an area and associated human disturbances. Limited use by OHVs is expected to continue with the primary impact to grouse being disturbance. In the Miramonte area recreation is limited to areas with public access. There is one 40 acre parcel of BLM that has public access. Due to the lack of BLM surface and limited access to BLM lands in the Miramonte area there is very low likelihood for impacts from recreation related activities.

### Oil and Gas Availability

#### New Leases

Implementation of the revised LRMP includes a no surface occupancy (NSO) stipulation for occupied critical habitat on lands offered for lease. We recognize that it is possible for oil and gas development (i.e. roads and well pads) to occur within the critical habitat polygons, but these development features would be located in areas that do not contain the primary constituent elements. The controlled surface use (CSU) stipulation for occupied critical habitat provides restrictions for surface occupancy or use, to avoid direct or indirect loss, or reduce to acceptable levels the direct or indirect loss of important GUSG habitat necessary for sustainable local populations. We interpret direct or indirect loss to be the same as habitat decline, which we define as, any quantitative or qualitative degradation of habitat by area, structure, function, or

composition. These two stipulations provide a broad range of protections for GUSG and occupied critical habitat from oil and gas development. Use of the NSO and/or the CSU does not preclude all effects to grouse, and would only apply to future leases for oil and gas development. At this programmatic level, we do not have sufficient information about where, when, or to what extent, actions may occur that may affect GUSG or its occupied critical habitat.

The revised LRMP also contains controlled surface use restrictions within unoccupied GUSG proposed critical habitat when a new lek is identified. The restriction calls for no surface occupancy within 0.6 miles of the new lek, and a timing limitation (surface use or occupancy) from March 1 through June 30 within four miles of the lek if surface occupancy is allowed. This restriction provides for protection of individuals and habitats where new information regarding occupancy of an area previously considered unoccupied becomes apparent during site specific analysis.

An additional controlled surface use restriction limits new noise sources from March 1 through June 30, which applies to both occupied and unoccupied grouse habitat. This restriction will minimize or eliminate addition noise disturbances that negatively affect lekking behavior.

We recognize that the stipulations and controlled surface uses include exceptions, modifications, and waivers. For the purposes of this conference opinion, we assume that the BLM will not grant any exceptions, modifications, or waivers for any leases sold after implementation of the revised LRMP.

#### Existing Leases

Holders of existing leases, who submit applications for permits to drill within occupied and unoccupied GUSG habitat within the TRFO, are not subject to the new NSO stipulation or CSUs. However, potential impacts to GUSG habitat may be minimized by implementing conservation measures contained within BLM Instruction Memorandum No. CO-2013-033 (IMCO-13-33).

The Fluid Mineral Resources Handbook (H-1624-1, 2013, cited in the GUSG Instruction Memorandum No. CO-2013-033 (IMCO-13-33)), states, the Federal government retains certain rights when issuing an oil and gas lease. While the BLM may not unilaterally add a new stipulation to an existing lease that it has already issued, the BLM can subject development of existing leases to reasonable conditions, as necessary, through the application of conditions of approval at the time of permitting (to minimize effects caused by ground disturbing activities). The new constraints must be consistent with the applicable land use plan and not in conflict with rights granted to the holder under the lease. The Interior Board of Land Appeals (IBLA) has made it clear when making a decision regarding discrete surface-disturbing oil and gas development activities following site-specific environmental review, the BLM has the authority to impose reasonable protective measures not otherwise provided for in lease stipulations to minimize adverse impacts on other resource values. See 30 U.S.C. §226(g); 43 CFR 3101.1-2. See Yates Petroleum Corp., 176 IBLA 144 (2008); National Wildlife Federation, 169 IBLA 146, 164 (2006).

Based on the affirmation of IMCO-13-33 to minimize the effects of ground disturbing activities on the GUSG within occupied critical habitat, we assume, regarding oil and gas development on existing leased lands within the TRFO, the following avoidance measures will be followed:

- Implementation of a 0.6-mile no surface disturbance/ no occupancy buffer radius (RCP 2005 (GSRSC 2005)) around all active leks for project-level implementation such as, fences or sagebrush removal activities. Any sagebrush removal or treatment should be prohibited or limited within this buffer, unless implemented to maintain or enhance the lek (RCP, Appendix I (GSRSC 2005)).
- Per RCP (RCP Appendix I (GSRSC 2005)), all sagebrush habitat within a four-mile radius of a lek will be managed as GUSG breeding habitat (lekking, nesting, early brood rearing). Breeding habitat will be managed to minimize disturbance to GUSG during critical seasonal time periods and minimize the footprint of any project, habitat fragmentation across the landscape, and cumulative effects on the associated population (see RCP, Appendix L (GSRSC 2005)). The following specific disturbance guidelines (see RCP, Appendix I (GSRSC 2005)) should be analyzed and applied to all ongoing program authorizations where appropriate:
  - Prohibit surface disturbing activities and disruptive activities within four miles of active leks from March 1 through June 30 (GSRSC 2005).
  - Avoid surface disturbance within mapped winter habitat for GUSG (if not mapped, within four miles of active leks); if surface disturbance cannot be avoided, prohibit said activity from December 1 through March 15 (GSRSC 2005).

We further assume that some detrimental effects to GUSG and their occupied critical habitat will occur, but effects within 0.6 of a mile of a lek will be drastically minimized based on the avoidance measures contained within IMCO-13-33. We assume that some negative direct and indirect effects may occur to GUSG and occupied critical habitat (other than active leks) outside of the timeframes detailed above. However, at this time, we are unable to predict where, when, and to what extent these impacts may occur. Therefore, we are unable to reasonably estimate the direct and indirect effects caused by these activities. We conclude that adverse effects are likely to occur to both individuals of the species, and their proposed critical habitat. However, we have no evidence that these adverse effects will result in significant declines in population numbers, or significant reductions in proposed occupied critical habitat.

Instruction Memorandum No. CO-2013-033 does not contain measures to minimize negative effects to unoccupied critical habitat on existing leases. There is a high probability that negative effects will occur within unoccupied critical habitat on existing leases. Seventy nine percent (44,010 acres) of the Federal minerals within unoccupied habitat is currently under existing leases. The BLM reported a total of 35 wells drilled within unoccupied critical habitat within the last ten years with associated habitat loss of approximately 5.42 acres per well pad (3 acres per pad and 2.42 acres of road disturbance per pad), or a total of 189.7 acres. The BLM anticipates that an additional 35 wells may be drilled on existing leases within unoccupied critical habitat during the next ten years. We assume that the 189.7 acres will become non-functional habitat

over the life of the plan (i.e. 10 years) and therefore unavailable to GUSG. The 189.7 acres of potential development within unoccupied critical habitat represents .02 percent of the total amount of proposed unoccupied critical habitat. In our proposed rule to designate critical habitat, we included unoccupied habitats, because we determined that designating critical habitat based on the present range of GUSG would be inadequate to ensure the conservation of the species. However, as stated in our proposed rule some critical habitat areas may require “practical restoration” to become functional GUSG habitat. In addition, not all acreages within unoccupied critical habitat polygons are capable of supporting GUSG. It is possible that any future well pad development in these areas could be located in such a manner to completely avoid potential grouse habitat.

We know GUSG have used areas of mapped unoccupied habitat, and some areas are mapped incorrectly as unoccupied habitat (pers comm. Charlie Sharp March 26, 2014). We conclude that there is some low likelihood of GUSG presence within unoccupied habitats on the TRFO, and we cannot completely eliminate the potential for effects to individuals within mapped unoccupied habitat. However, we cannot effectively anticipate all possible situations where implementation of the LRMP may cause effects to GUSG, especially is these areas adjacent to occupied habitat where individual may or may not be present.

Future section 7 consultation may reveal site specific or cumulative effects that we cannot foresee at this time. Since the effects of an individual action (i.e. application for a permit to drill) will not be known until an application is received by BLM, the amount, extent, and magnitude of effects associated with implementation of that action cannot be reasonably anticipated.

### Mineral Development

Mineral development consists of potash exploration, uranium mining, and saleable mineral development, and is expected to occur within proposed occupied critical GUSG habitat. Potash exploration has the potential to further fragment GUSG habitat in the Dove Creek populations. Suspected potash formations are thought to extend into GUSG occupied habitat in Dove Creek, the extent of any overlap between potash formations and proposed occupied critical GUSG habitat is not known. Depending on results from potash exploration, development may or may not occur in GUSG occupied habitat. Stipulations that apply to fluid minerals also apply to solution mining of locatable minerals such as potash. This requires that any mineral exploration adhere to “No Surface Occupancy” stipulations, timing restrictions, and “Controlled Surface Use” requirements. These measures should significantly reduce the likelihood of significant declines in GUSG habitat and effects to the species.

### Fire and Fuels Management

The LRMP anticipates up to 1,000 acres per year of mechanical and prescribed fire, fuels reduction treatments within mixed shrubland vegetation types, including the potential for treatments within sagebrush. The plan contains numerous best management practices designed to protect and conserve GUSG habitat. It is logical to assume the some fuels reduction treatments or vegetation treatments, including fire suppression activities will impact some GUSG

habitat. However, we cannot predict how much habitat could be affected by these actions, but we expect these impacts to be small.

Fire management in occupied and unoccupied critical sage-grouse habitat will continue to focus on immediate suppression in sagebrush habitat, but may impact GUSG habitat in the suppression effort. We cannot predict where and when these impacts may occur, but wildlife suppression activities that impact GUSG habitats will occur under emergency consultation procedures.

### Habitat Improvement

Public land management agencies will continue to improve the quality of sagebrush communities on public land through grazing management, fencing, re-seeding, fuels management, and other treatment projects (GSRSC 2005). The LRMP anticipates 2,500 acres of GUSG habitat restoration and improvement, and projects will focus on removal of pinyon-juniper encroachment into sage grouse habitats and on restoration of degraded sage-grouse habitats. Some of the methods used during habitat restoration or improvement may cause short-term negative effects to GUSG. For example, use of fencing to keep livestock out of areas being rested from grazing pressure may provide perches for predators, potentially resulting in avoidance of the area by GUSG.

### Lands

Renewal of existing authorizations will incorporate sage-grouse conservation measures to the extent possible with the existing use. Some authorizations may necessitate the removal of GUSG habitat and may cause other indirect effects. There is no reasonable means available to predict the timing or location of rights-of-way requests, and we are unable to meaningfully predict an approximate habitat impact from such requests. However, we believe that the revised plan directs BLM to reduce the negative impacts of such requests, and is unlikely to result in significant losses of GUSG habitat within the planning area. For example, a plan guideline requires structures in sage-grouse habitat be constructed to limit risk of collision and predation. This allows the BLM to require retrofitting of existing power lines with raptor perch deterrents when reauthorizing ROW permits.

## **Species Response to Proposed Action**

The nature of such a broad reaching programmatic analysis makes evaluating the species response to the proposed action difficult if not impossible to predict. The revised LRMP contains direction to minimize impacts to the GUSG thus reducing the potential for adverse effects. Project level decisions may occur at locations across the 109,908 acres of occupied GUSG habitat within the TRFO, and may or may not occur where GUSG are actually present. Implementation of the revised LRMP is likely to result in low levels of adverse effects to GUSG, primarily as indirect effects from project level decisions. However, given the uncertainty of the timing, location, size, and extent of future actions it is not possible to meaningfully predict adverse effects caused by implementation of the revised LRMP at this programmatic scale. All subsequent actions that affect GUSG will be subject to future section 7 analysis and consultation requirements unless we find that the species is not warranted for listing.

## **CUMULATIVE EFFECTS**

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this conference opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Activities that are likely to affect GUSG or GUSG proposed critical habitat include but are not limited to oil and gas development (private), livestock grazing, lands converted for other uses (from sage brush), recreation, etc. However, the Colorado Oil and Gas Conservation Commission GIS Data do not document any pending drilling applications within the action area that do not fall under Federal jurisdiction. The other actions are likely ongoing and are part of the environmental baseline. Therefore, we are not aware of any non-Federal actions within the action area that are reasonably certain to occur that will negatively affect GUSG.

## **CONCLUSION**

### **Gunnison Sage Grouse**

After reviewing the current status of the GUSG, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's conference opinion that implementation of the LRMP, as proposed, is not likely to jeopardize the continued existence of the GUSG. The Service's Rationale is presented below.

Implementation of the revised LRMP, including the conservation measures and use stipulations, will reduce multiple threats to the GUSG and could restore the species to formerly occupied range through proposed habitat improvement projects. Specifically, conservation measures under the oil and gas availability decision will provide GUSG habitat protections from direct and indirect effects. However, we do anticipate some low level of adverse effects to GUSG, but the majority of these effects would be widely distributed across GUSG habitat in the TRFO and likely be of low intensity and severity. Any subsequent action implemented under the revised

plan that may affect the GUSG or proposed critical habitat must go through separate section 7 consultation.

### **Proposed Critical Habitat**

After reviewing the current status of the proposed critical habitat for the GUSG, the environmental baseline for the action area, the effects of the proposed action, and any cumulative effects, it is the Service's conference opinion that the BLM's proposed action to revise the Land and Resource Management Plan in Colorado is not likely to result in destruction or adverse modification of proposed critical habitat for GUSG. The Service's Rationale is presented below.

It is possible that up to approximately 190 acres of unoccupied proposed critical habitat for GUSG could be impacted by the development of oil or gas well pads. It is also possible that that these impacts could be completely avoided at the project level. The 190 acres represents 0.02 percent of the 766,462 acres of unoccupied proposed critical habitat across the range of GUSG. Assuming that all 190 acres were converted to well pads, roads, etc., these conversions represent 0.1 percent of the 160,509 acres of unoccupied proposed critical habitat within the TRFO, and are likely to be scattered throughout a large geographic area.

We conclude that proposed critical habitat will likely maintain its functionality to serve the intended conservation role for GUSG. The proposed action will not appreciably diminish the value of proposed critical habitat for both the survival and recovery of GUSG.

### **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

#### **A. Amount or Extent of Take Anticipated**

The "Effects of the Action" section above includes findings that implementation of the proposed action has the potential to cause biological effects to the GUSG that conform to the regulatory definition of take. However, the mere potential for take is not a legitimate basis for a take exemption. The Service must provide a reasoned basis for a likelihood of take in order to anticipate and exempt it. At this broad programmatic level, the best information available is not sufficient to determine any specific level of anticipated take. However, project specific section 7 consultation analyses, subsequent to the proposed action, will reexamine this issue. Since the

best information available does not permit us to determine a specific level of take, we are not exempting any take associated with implementation of the proposed action. Therefore, no reasonable and prudent measures and terms and conditions are provided below. If take is anticipated during authorization of a project level action, we will exempt such take at the project level as appropriate.

## **B. Effect of the Take**

Not applicable

## **C. Reasonable and Prudent Measures and Terms and Conditions**

Because there are no take exemptions provided under section 7(o) of the Act in the Opinion, the Service is not providing Reasonable and Prudent Measures or Terms and Conditions

## **F. Conservation Recommendations**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The TRFO should consider full implementation of the conservation strategy presented in the GUSG Rangewide Plan. The purpose of the RCP is to identify measures and strategies to achieve the goal of protecting, enhancing, and conserving GUSG and their habitats.

Range-wide Conservation planning strategies, include, but are not limited to, the following:

- (1) Protect occupied habitats from permanent loss. If permanent habitat loss from development (primarily) or conversion is not addressed, successful implementation of all the other conservation strategies is not likely to be successful in conserving GUSG. An equally important strategy is preventing significant degradation, whatever the cause, of existing habitat that is seasonally important to grouse.
- (2) Coordinate with CPW in their effort to stabilize existing populations demographically and genetically through augmentation, and establish new populations in historically occupied habitats which are evaluated and deemed suitable.
- 3) Improve habitat within currently occupied and adjacent potential habitats.
- 4) Protect from permanent loss historically used habitats that are not currently occupied by grouse.

Additional recommendations are as follows:

- Any activity that results in the permanent loss of proposed critical habitat should include mitigation of offset such losses.
- Recreation - Only allow special recreation permits that have neutral or beneficial affects to occupied habitat areas.
- Lands/Realty – Retain public ownership of proposed critical habitat. Subject to valid, existing rights, co-locate new rights-of-way within existing ROWs
- Range Management - Within proposed critical habitat, incorporate GUSG habitat objectives and management considerations into all BLM grazing allotments through allotment management plans or permit renewals. Work cooperatively on integrated ranch planning within GUSG habitat so operations with deeded/BLM allotments can be planned as single units. Design any new structural range improvements and location of supplements (i.e. salt or protein blocks) to conserve, enhance, or restore GUSG habitat through an improved grazing management system relative to GUSG objectives. When developing or modifying water developments, use best management practices to mitigate potential impacts from West Nile virus.
- Fluid Minerals - When permitting APDs on existing leases that are not yet developed, consider the development of disturbance caps to limit impacts to GUSG proposed critical habitat at local scales (e.g. within habitat units), unless compensatory mitigation demonstrates an offset of resulting habitat loss. Consider full implementation of the suggested management practices listed in RCP, Appendix L for all APD decisions.

Instruction Memorandum No. CO-2013-033 provides a surface disturbance avoidance buffer for unmapped winter habitat within 4-miles of a lek. Consistent with the RCP, we recommend a 6-mile avoidance area around a lek for unmapped winter habitat.

### **G. Reinitiation-Closing Statement**

This concludes the conference for the potential effects of the implementation of the revised LRMP. The BLM may ask that this conference opinion be confirmed as a BO issued through formal consultation if the GUSG is listed. The request must be in writing. During review of the proposed action if the Service finds that there have been no significant changes in the proposed action or in the information used during the conference, the Service may confirm the conference opinion as the BO.

After listing the GUSG, should that occur, and any subsequent adoption of this conference opinion, reinitiation of consultation will occur if--(1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action (50 CFR §402.16). In instances where the amount or extent of incidental take is exceeded, project activities may continue during this reinitiation period,

The incidental take statement provided in this conference opinion does not become effective until/if the species is listed and the conference opinion is adopted as the BO issued through formal consultation. At that time, the project will be reviewed to determine whether any take of GUSG has occurred. Modifications of the opinion and incidental take statement may be appropriate to reflect that take. No take of GUSG may occur between the listing of GUSG, should that occur, and the adoption of the conference opinion through formal consultation, or the completion of a subsequent formal consultation.

Should you have any questions regarding this conference opinion, please contact Kurt Broderdorp at (970) 628-7186.

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