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Comments: [ATTACHMENT COPIED BELOW. NOTE PDF CONVERSION MAY RESULT IN ERRORS. REFERENCES HAVE BEEN EMBEDDED IN BODY OF TEXT FOR CODING PURPOSES.]

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November 26, 2021

ER 21/0336

Chad Stewart, Forest Supervisor

Grand Mesa, Uncompahgre, and Gunnison National Forests 2250 South Main Street

Delta, Colorado 81416

Comments on the August 13, 2021, Draft Forest Plan and Draft Environmental Impact Statement for the Grand Mesa, Uncompahgre, and Gunnison (GMUG) Forest Plan Revision, covering Garfield, Gunnison, Hinsdale, Mesa, Montrose, Ouray, Saguache, San Miguel counties, Colorado.

Dear Mr. Stewart:

The US Fish and Wildlife Service (USFWS) has reviewed the Draft Forest Plan (Draft Plan) and Draft Environmental Impact Statement (EIS) for the Grand Mesa, Uncompahgre, and Gunnison Forests and provides the following comments.

Gunnison sage-grouse (GUSG: Centrocercus minimus) is a federally listed threatened species which occupies habitat within the GMUG (USFWS 2014) [MISSING CITATION USFWS 2014]. Gunnison sage-grouse occupies approximately one tenth of its historic range and can only be found in eight populations in southwestern Colorado and southeastern Utah (USFWS 2019; Rice et al. 2017; Schroeder 2004) [U.S. Fish and Wildlife Service. 2019. Species status assessment report for Gunnison sage-grouse (Centrocercus minimus). Version: April 20, 2019.

Lakewood, Colorado; Rice M.B., Apa A.D., and L.A. Wiechman. 2017. The importance of seasonal resource selection when managing a threatened species: targeting conservation actions within critical habitat designations for the Gunnison sage-grouse. Wildlife Research 44(5), 407-417; Schroeder, M.A., C.L. Aldridge, A.D. Apa, J.R. Bohne, C.E. Braun, S.D. Bunnell, J.W. Connelly, P.A. Deibert, S.C. Gardner, M.A. Hilliard, G.D. Kobriger, S.M. McAdam, C.W. McCarthy, J.J. McCarthy, D.L. Mitchell, E.V. Rickerson, and S.J. Stiver. 2004. Distribution of sage-grouse in North America. Condor 106:363-376.] Habitat loss, degradation and fragmentation of sagebrush landscapes have contributed to the decline in GUSG population (Rice et al. 2017; GSRSC 2005; Oyler-McCance et al. 2001; Bukowski and Baker 2013) [Rice M.B., Apa A.D., and L.A. Wiechman. 2017. The importance of seasonal resource selection when managing a threatened species: targeting conservation actions within critical habitat designations for the Gunnison sage-grouse. Wildlife Research 44(5), 407-417; Gunnison sage-grouse Rangewide Steering Committee (GSRSC). Gunnison Sage-Grouse Range- wide Conservation Plan. Colorado Division of Wildlife, Denver, Colorado, 2005; Oyler-McCance, S.J., Burnham, K.P., and C.E. Braun. 2001. Influence of changes in sagebrush on Gunnison sage grouse in southwestern Colorado. The Southwestern Naturalist 46, 323[ndash]331; Bukowski, B.E. and W.L. Baker. 2013. Historical fire in sagebrush landscapes of Gunnison sage- grouse range from land survey records. Journal of Arid Environments 98, 1[ndash]9.].

The Draft Plan will make important decisions that overlap with the habitat of four of the eight remaining GUSG populations: Gunnison Basin, Pinon Mesa, San Miguel, and Crawford. The GMUG overlaps with 108,499 acres of Critical Habitat in the Gunnison Basin population, 46,967 acres in Pinon Mesa, 15,475 acres in the San Miguel Basin, and 2,976 acres in Crawford for a total of 175,800 acres of designated Critical Habitat. The Gunnison Basin holds the largest population of GUSG with the highest genetic diversity, containing the most intact sagebrush habitat and best overall habitat quality (USFWS 2019) [U.S. Fish and Wildlife Service. 2019. Species status assessment report for Gunnison sage-grouse (Centrocercus minimus). Version: April 20, 2019. Lakewood, Colorado.].

Gunnison Basin comprises 85%[ndash]90% of GUSG range making it an essential area to preserve to ensure the survival of the species (Gerber et al. 2019) [Gerber B.D., Hooten M.B., Peck C.P., Rice B.R., Gammonley J.H., Apa A.D., and A.J. Davis. 2019. Extreme site fidelity as an optimal strategy in an unpredictable and homogeneous environment. Functional Ecology 33: 1695[ndash] 1707.]. The Draft Plan covers 94,914 acres of occupied Critical Habitat in Gunnison Basin. There are fifteen known leks within GMUG, all part of the Gunnison Basin population (Draft Plan). Of the approximate total 1,429,551 acres of Critical Habitat, GMUG holds over 12% of all GUSG Critical Habitat (USFWS 2014) [MISSING CITATION USFWS 2014].

In the Draft EIS, under all alternatives, the Forest Service commits to following the Gunnison sage-grouse Recovery Plan (RP: USFWS 2020a) [U.S. Fish and Wildlife Service. 2020a. Final recovery plan for Gunnison sage-grouse (Centrocercus minimus). October 2020. U.S. Fish and Wildlife Service, Upper Colorado River Region, Lakewood, Colorado. 32 pages.] and to implement applicable actions from the Recovery Implementation Strategy (RIS: USFWS 2020b) [U.S. Fish and Wildlife Service. 2020b. Recovery implementation strategy for Gunnison sage- grouse (Centrocercus minimus). September 2020. U.S. Fish and Wildlife Service, Upper Colorado Basin Region, Lakewood, Colorado. 75 pages.]. The RIS calls for additions to be made to the GMUG Forest Plan that identify demographic and habitat condition targets, prevent disturbance of GUSG and their habitat, and specify restoration schedules through incorporation of best available science for GUSG (USFWS 2020b) [U.S. Fish and Wildlife Service. 2020b. Recovery implementation strategy for Gunnison sage- grouse

(Centrocercus minimus). September 2020. U.S. Fish and Wildlife Service, Upper Colorado Basin Region, Lakewood, Colorado. 75 pages.]. We would like to provide a few recommendations for you to consider when developing the final Draft of the Plan to consider stronger conservation of GUSG to more effectively meet your commitment to prevent disturbance to GUSG and their habitat.

Currently, the Draft Plan includes measures to minimize disturbance to GUSG during winter and breeding periods for construction (FW-GDL-SPEC-48) and recreation (FW-GDL-SPEC-52) related activities but does not account for the sensitive brood-rearing life stage of GUSG. Young GUSG require protection through brooding by a hen, typically up to 60 days of age, and juvenile GUSG tend to remain in flocks with their hen and siblings into the fall (Davis et al. 2015; Swanson 2009) [Davis A.J., Phillips M.L., and P.F. Jr Doherty. 2015. Nest Success of Gunnison Sage-Grouse in Colorado, USA. PLOS ONE 10(8): e0136310.; Swanson, C. C. 2009. Ecology of Greater Sage-Grouse in the Dakotas. Ph.D. dissertation, South Dakota State University, Brookings, SD, USA.]. Research has found that the period of highest mortality for yearling and adult females occurs during nesting and brood-rearing and occurs during the first few weeks after hatch for juveniles (GSRSC 2005; Patterson 1952; Schroeder et al. 1999; Schroeder and Baydack 2001) [Gunnison sage-grouse Rangewide Steering Committee (GSRSC). Gunnison Sage-Grouse Range- wide Conservation Plan. Colorado Division of Wildlife, Denver, Colorado, 2005.; Patterson, R. L. 1952. The sage grouse in Wyoming. Sage Books, Denver, Colorado, USA.; Schroeder, M.A., C.L. Aldridge, A.D. Apa, J.R. Bohne, C.E. Braun, S.D. Bunnell, J.W. Connelly, P.A. Deibert, S.C. Gardner, M.A. Hilliard, G.D. Kobriger, S.M. McAdam, C.W. McCarthy, J.J. McCarthy, D.L. Mitchell, E.V. Rickerson, and S.J. Stiver. 2004. Distribution of sage-grouse in North America. Condor 106:363-376; [MISSING CITATION Schroeder and Baydack 2001]]. Juvenile GUSG survival has been found to be lower during summer months than fall and winter (Davis et al. 2015) [Davis A.J., Phillips M.L., and P.F. Jr Doherty. 2015. Nest Success of Gunnison Sage-Grouse in Colorado, USA. PLOS ONE 10(8): e0136310.]. Specific to Gunnison Basin, strong evidence of a decline in juvenile survival rate estimates were found between 2005-2010 (Davis et al. 2015) [Davis A.J., Phillips M.L., and P.F. Jr Doherty. 2015. Nest Success of Gunnison Sage-Grouse in Colorado, USA. PLOS ONE 10(8): e0136310.]. Juvenile recruitment declines may be contributing to population declines (Davis 2012) [Davis, A.J. 2012. Gunnison Sage-Grouse demography and conservation. Ph.D. dissertation, Colorado State University. Fort Collins, CO, USA.]. Recruitment has been proposed to be the most limiting demographic parameter for population growth of GUSG, making survival within sensitive life stages especially important for GUSG population viability (Connelly et al. 2004; GSRSC 2005; Gregg and Crawford 2009) [[MISSING CITATION Connelly et al. 2004]; Gunnison sage-grouse Rangewide Steering Committee (GSRSC). Gunnison Sage-Grouse Range- wide Conservation Plan. Colorado Division of Wildlife, Denver, Colorado, 2005.; Gregg, M.A. and Crawford, J.A. 2009. Survival of Greater Sage-Grouse chicks and broods in the northern Great Basin. Journal of Wildlife Management 73: 904[ndash]913.]. Studies of greater sage-grouse have found that broods select heterogeneous high-productivity habitats with sagebrush while avoiding human developments, cultivated cropland, and high densities of oil wells (Aldridge 2007) [Aldridge C.L. and Boyce M.S. 2007. Linking occurrence and fitness to persistence: Habitat- based approach for endangered greater sage-grouse. Ecol Appl 17: 508[ndash]526.]. The RP has identified that habitat restoration projects that improve chick survival and recruitment are essential for successful augmentation of the species (USFWS 2020b) [U.S. Fish and Wildlife Service. 2020b. Recovery implementation strategy for Gunnison sage- grouse (Centrocercus minimus). September 2020. U.S. Fish and Wildlife Service, Upper Colorado Basin Region, Lakewood, Colorado. 75 pages.]. Successful habitat restoration, especially in critical brood-rearing locations, necessitates a lack of disturbance by human activities once the habitat improvement activities are completed. Studies have found that survival likelihood increases with the age of a chick (Davis 2012, p. 35) [Davis, A.J. 2012. Gunnison Sage-Grouse demography and conservation. Ph.D. dissertation, Colorado State University. Fort Collins, CO, USA.].

Monthly juvenile survival rates from 31 days of age to the start of the first breeding season (April 1) were variable

around 0.75 to 0.80 until September and remained at 1.00 from September to April (Davis 2012, p. 47; USFWS 2020b) [Davis, A.J. 2012. Gunnison Sage-Grouse demography and conservation. Ph.D. dissertation, Colorado State University. Fort Collins, CO, USA; U.S. Fish and Wildlife Service. 2020b. Recovery implementation strategy for Gunnison sage- grouse (Centrocercus minimus). September 2020. U.S. Fish and Wildlife Service, Upper Colorado Basin Region, Lakewood, Colorado. 75 pages.].

To account for the sensitive brood- rearing life stage of GUSG, we ask that closures in occupied Critical Habitat be applied from March 1 to July 15 for all activities within four miles of a lek with exceptions for permittees, access to private property, emergency maintenance, law enforcement, and administrative use. Travel associated with excepted uses should occur after 9 a.m. unless an emergency or other specific reason necessitate earlier access. This would extend the current closure period to July 15, instead of ending May 15, to better protect GUSG from disturbance during the sensitive brood-rearing period.

The Flattop Mountain Wildlife Management Area in the Gunnison Ranger District is proposed to be seasonally closed from December 1 to June 15 (FW-GDL-SPEC-50). Flattop Mountain is located within the Gunnison Basin north of Gunnison and south of Crested Butte and serves as a critical wildlife area for sagebrush obligate species. It has also become an increasingly popular recreation area over the past few years. The area overlaps with the largest area of contiguous GUSG habitat in the GMUG, containing the only known area of National Forest System lands with GUSG breeding sites (Draft EIS pg. 185). We ask that the Forest Service extend the seasonal closure of this area to July 15 to accommodate brood-rearing sensitivity of the species (with the same exceptions applied to the other Critical Habitat). Further, we strongly encourage that the Forest Service maintain the Wildlife Management Area designation for the Flattop Mountain area to prioritize its essential use by GUSG and other sagebrush obligate species. The wildlife management area status must be maintained to continue to repair erosion damage and other habitat degradation in the area from previous overuse and to allow habitat restoration projects to continue to restore habitat for sagebrush obligate species use. We support the standard to ensure that no new routes (roads or trails) are established in the area (MA-STND-WLDF-02).

Additionally, we ask for consideration of greater buffer distances for lek disturbing activities. The Draft Plan currently proposes to prioritize the reduction of route density within two miles of leks within ten years of plan approval (FW-GDL-SPEC-38). The Service asks that the Plan consider analyzing all routes (road or trail) within four miles of leks to be removed where practicable. We ask that, unless the route is going to be preserved for administrative access, such routes are permanently removed and rehabilitated to allow habitat restoration and recovery.

Reduction of fragmentation and minimization of disturbance activities can increase nesting success and promote connectivity of habitat for GUSG and other species including migratory birds and sagebrush obligates (USFWS 2020b) [U.S. Fish and Wildlife Service. 2020b. Recovery implementation strategy for Gunnison sage- grouse (Centrocercus minimus). September 2020. U.S. Fish and Wildlife Service, Upper Colorado Basin Region, Lakewood, Colorado. 75 pages.]. Road traffic and traffic noise has been associated with reduced nest initiation rates, larger lek-to-nest movements, declining male lek attendance, and possibly lek abandonment (Fedy 2015; Lyon 2003; Blickley 2012; Braun 2002) [Fedy, B.C., Kirol C.P., Sutphin, A.L., and T.L. Maechtle. 2015. The Influence of Mitigation on Sage-Grouse Habitat Selection within an Energy Development Field. PLOS ONE 10(4): e0121603; Lyon, A.G. and Anderson, S.H. 2003. Potential gas development impacts on sage grouse nest initiation and movement. Wildlife Society Bulletin 31: 486[ndash]491; Blickley, J.L., Blackwood, D., and G.L. Patricelli. 2012. Experimental evidence for the effects of chronic anthropogenic noise on abundance of greater

sage-grouse at leks. Conservation Biology 26: 461[ndash]471; Braun, C.E., Oedekoven, O.O., and C.L. Aldridge. 2002. Oil and gas development in western North America: effects on sagebrush steppe avifauna with particular emphasis on sage grouse. Trans North Am Wildl Nat Resour Conf 67: 337[ndash]349.].

Ensuring route density reduction and prohibiting the construction of new routes that would exceed the 0.79 miles per square mile recommendation are essential to GUSG recovery (USFWS 2020b) [U.S. Fish and Wildlife Service. 2020b. Recovery implementation strategy for Gunnison sage- grouse (Centrocercus minimus). September 2020. U.S. Fish and Wildlife Service, Upper Colorado Basin Region, Lakewood, Colorado. 75 pages.]. Existing redundant, unauthorized, or illegal routes should be prioritized to be removed and undergo habitat restoration. The most significant gains in habitat improvement and increasing habitat effectiveness will be from eliminating these routes on the landscape particularly within 4 miles of a lek regardless of its activity status. We ask that these closures and removals become a higher priority and are conducted within three years of plan approval instead of ten years.

We also ask that some of the Guidelines provided in the Draft Plan be elevated to Standards to provide greater assurances to GUSG and its recovery. We appreciate the inclusion of educational signage to request leashing of animals near GUSG Critical Habitat (FW-OBJ-SPEC-39) but ask that it is elevated from an Objective to a Standard to increase the likelihood of compliance. We ask that FW-OBJ-SPEC-40 is upgraded from an Objective to a Standard to make fence removal, relocation, and marking assessment and action a priority to ensure that unnecessary fence collisions are reduced within five years of Plan approval. We ask that FW-GDL-SPEC-43 is elevated from a Guideline to a Standard so that there are greater assurances that surface disturbing activities do not occur within one mile of any leks regardless of their recent activity unless the surface disturbing action is directly tied to the maintenance or enhancement of habitat for GUSG. We ask that FW-GDL-SPEC-46 is also upgraded from a Guideline to a Standard so that perch deterrents are a commitment to reduce the threat of avian predation on GUSG. We ask that FW-GDL-SPEC-48 is upgraded from a Guideline to a Standard (with the above recommendations for time extension also included) to ensure minimization of disturbances to GUSG. We ask that FW-GDL-SPEC-49 is upgraded from a Guideline to a Standard and the language from the RP and RIS are adopted to keep or reduce noise disturbance to no more than 10 decibels above ambient noise level within 0.6 miles (0.97 kilometers) of leks (USFWS 2020b; GSRSC 2005) [U.S. Fish and Wildlife Service. 2020b. Recovery implementation strategy for Gunnison sage- grouse (Centrocercus minimus). September 2020. U.S. Fish and Wildlife Service, Upper Colorado Basin Region, Lakewood, Colorado. 75 pages.; Gunnison sage-grouse Rangewide Steering Committee (GSRSC). Gunnison Sage-Grouse Range- wide Conservation Plan. Colorado Division of Wildlife, Denver, Colorado, 2005.] at any time between March 1 and July 15.

We ask that desired conditions (FW-DC-SPEC) outlined in the Draft Plan also acknowledge the need for healthy, sustainable aspen stands within and along the fringes of sagebrush-steppe to provide mesic resources (insects/forbs) for Gunnison sage-grouse food. This can be promoted by including a new objective (FW-OBJ-SPEC) to promote aspen treatments at a landscape-scale to allow adequate regeneration and release of sprouts with widespread landscape dispersed so that all released sprouts cannot be browsed. Treatment areas should include lower elevation deteriorating aspen stands that are within designated Critical Habitat for GUSG.

We ask that an Objective is created (or incorporated into FW-OBJ-SPEC-39) for interpretational signage to be developed and placed to inform forest users about common noxious weeds and how to identify and where to

report in order to reduce spreading of weeds and to enhance early detection and treatment response. The commitment to controlling the spread of invasive plants in the GMUG can be furthered by incorporating measures to train all USFS staff to identify noxious and invasive weeds to promote early detection and prevention actions.

We would like to request that the Forest Service consider designating more of the GUSG Critical Habitat (occupied or unoccupied) as Wildlife Management Areas (WMAs). The blended alternative (B) currently designates 50,069 acres of Critical Habitat as WMAs. Excluding the 63 acres of Designated Wilderness, 3,613 acres of Fossil Ridge Special Recreation and Wildlife Management Area, and 19,522 acres of Non-National Forest System Land, this leaves 102,527 acres of Critical Habitat to designations that do not prioritize wildlife to the degree that WMA designation would. Notably, 1,524 acres are designated as High-Use Recreation Areas and 86,535 acres are designated as General Forest. Designations like these and those that include Colorado Roadless Areas are weak in their language to prioritize Critical Habitat and its use and restoration for GUSG. Colorado Roadless Areas still permit high density recreational route development that may not be conducive to suitable GUSG habitat, whereas WMA designation provides the technical language to identify and protect those habitat needs and efforts. While just over 55% of Critical Habitat within GMUG is unoccupied, the designations in the Draft Plan that impact these areas will be important to allow the restoration and potential expansion of occupied habitat to help achieve recovery of the species. The WMA status will not prohibit the essential multiple use function of Forest Service land but will provide a priority lens for GUSG and other sagebrush obligate species and their conservation within the multiple use framework. The WMA status will allow activities like timber harvesting and recreation to be considered consciously with GUSG as a focal issue: such activities can be considered and applied in ways that can benefit both the species and multiple use authority of the land.

Priority areas that should be considered for WMA status include:

1. Signal Peak
2. Almont Triangle
3. Dawson Gulch including adjacent Tomichi Dome and Black Sage Pass/Park
4. Cochetopa Canyon corridor
5. Carbon Creek and Red Mountain
6. Soap Creek
7. Cochetopa Hills/North Pass corridor

These are important areas for GUSG will become even more critical for conservation as GUSG may require higher elevation habitat in the coming years. Further, the Norwood Ranger District contains occupied Critical Habitat used by the San Miguel population. Colorado Parks and Wildlife has provided a map containing areas that should also be considered for WMA status to conserve GUSG; USFWS supports including these areas as WMAs (Figure 1).

Achieving WMA status will be critical to allow ongoing restoration to prioritize the remaining GUSG populations and their recovery. To support the WMA status, stronger language in the WMA Standards section can further GUSG conservation. We suggest that the language in MA- STND-WLDF-02 be updated to ensure that new system routes within or [EMPHASIS ADDED adjacent to] WMAs shall not cause the route density in a proposed project[rsquo]s zone of influence to exceed 1 linear mile per square mile [EMPHASIS ADDED within the WMA]. Acknowledging the areas adjacent to WMAs and their significance to overall habitat suitability will assure that fragmentation and general degradation from higher route density do not reduce the quality of the periphery areas of WMAs. We recommend that a new objective (MA-OBJ-WLDF) be included that calls for the evaluation 25% of WMAs exceeding 1 linear mile per square mile every 3 years to be considered for route (road or trail) density reduction. This will allow for greater plan actionability to ensure that action is taken to reduce existing habitat fragmentation that reduces habitat suitability for GUSG and other species. We suggest that a Guideline (MA-GDL-WLDF) is added to ensure that vegetation treatments and commercial timber harvest in WMAs are designed to improve wildlife habitat, that habitat improvement is the primary objective and that metrics include quantitative targets to meet specific habitat goals. We recommend an additional Standard (MA-STND-WLDF) be included to ensure that within 6 months of completion of timber management or habitat improvement operations, administrative routes created for vegetation treatment purposes will be closed through on-ground actions to physically obstruct public access to those routes and from bypassing the closure points.

The Final Plan will make important decisions for GUSG and its habitat and has the opportunity to provide increased support to the species by considering habitat restoration and disturbance avoidance measures as a priority.

Thank you for your consideration of threatened and endangered species. If you have any questions, please contact Whit Blair at 970-628-7191, or at alec_blair@fws.gov.

Sincerely,

Ann Timberman

Western Colorado Supervisor

[EXCERPTED: Figure 1: Colorado Parks and Wildlife Map of suggested areas to receive WMA designation for GUSG conservation.]

Table 1: Recommendations to improve existing measures for GMUG Final Plan:

FW-GDL-SPEC-38: Conduct within three years; Assess four-mile radius; Route density less than 0.79 miles per square mile

FW-OBJ-SPEC-39: Upgrade to STND; Include signage about invasive plant detection

FW-OBJ-SPEC-40: Upgrade to STND

FW-GDL-SPEC-43: Upgrade to STND

FW-GDL-SPEC-46: Upgrade to STND

FW-GDL-SPEC-48: Upgrade to STND; Extend to July 15

FW-GDL-SPEC-49: Upgrade to STND; Reduce noise disturbance to no more than 10 decibels above ambient within 0.6 miles of lek

FW-GDL-SPEC-50: Extend to July 15; maintain WMA status

FW-GDL-SPEC-52: Extend to July 15

MA-STND-WLDF-02: New system routes within or [EMPHASIS ADDED adjacent to] WMAs shall not cause the route density in a proposed project[rsquo]s zone of influence to exceed 1 linear mile per square mile [EMPHASIS ADDED within WMA].

Table 2: New measures to include in GMUG Final Plan:

[RECOMMENDED NEW:] FW-DC-SPEC: Support sustainable aspen stands

[RECOMMENDED NEW:] FW-OBJ-SPEC: Promote aspen treatments at landscape-scale

[RECOMMENDED NEW:] FW-OBJ-SPEC: Train USFS staff to identify noxious and invasive weeds to promote early detection and prevention actions

[RECOMMENDED NEW:] MA-OBJ-WLDF: Evaluate 25% of WMAs exceeding 1 linear mile per square mile every 3 years to be considered for route density reduction

[RECOMMENDED NEW:] MA-OBJ-WLDF: Vegetation treatments and commercial timber harvest in WMAs are designed to improve wildlife habitat, that habitat improvement is the primary objective and that metrics include quantitative targets to meet specific habitat goals.

[RECOMMENDED NEW:] MA-STND-WLDF: Within 6 months of completion of timber management or habitat improvement operations, administrative routes created for vegetation treatment purposes will be closed through on-ground actions to physically obstruct public access to those routes and from bypassing the closure points.

[RECOMMENDED NEW:] WMA Status: Give WMA status to all GUSG Critical Habitat with emphasis given to Signal Peak, Almont Triangle, Dawson Gulch including adjacent Tomichi Dome and Black Sage Pass/Park, Cochetopa Canyon corridor, Carbon Creek and Red Mountain, Soap Creek, and Cochetopa Hills/North Pass corridor.

Citations

Aldridge C.L. and Boyce M.S. 2007. Linking occurrence and fitness to persistence: Habitat- based approach for endangered greater sage-grouse. Ecol Appl 17: 508[ndash]526.

Braun, C.E., Oedekoven, O.O., and C.L. Aldridge. 2002. Oil and gas development in western North America: effects on sagebrush steppe avifauna with particular emphasis on sage grouse. Trans North Am Wildl Nat Resour Conf 67: 337[ndash]349.

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Davis A.J., Phillips M.L., and P.F. Jr Doherty. 2015. Nest Success of Gunnison Sage-Grouse in Colorado, USA. PLOS ONE 10(8): e0136310.

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Schroeder, M.A., C.L. Aldridge, A.D. Apa, J.R. Bohne, C.E. Braun, S.D. Bunnell, J.W. Connelly, P.A. Deibert, S.C. Gardner, M.A. Hilliard, G.D. Kobriger, S.M. McAdam,

C.W. McCarthy, J.J. McCarthy, D.L. Mitchell, E.V. Rickerson, and S.J. Stiver. 2004. Distribution of sage-grouse in North America. Condor 106:363-376.

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U.S. Fish and Wildlife Service. 2020b. Recovery implementation strategy for Gunnison sage- grouse (Centrocercus minimus). September 2020. U.S. Fish and Wildlife Service, Upper Colorado Basin Region, Lakewood, Colorado. 75 pages.