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BOARD OF COUNTY COMMISSIONERS

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December 16, 2021

Grand Mesa, Uncompahgre, and Gunnison National Forests
2250 South Main St
Delta, Colorado 81416

Attn: **Responsible Official Frank Beum**, Regional Forester, USDA Forest Service Rocky Mountain Region (Region 2); **Responsible Official Chad Stewart**, GMUG Forest Supervisor; and GMUG Plan Revision Team

Via email to: frank.beum@usda.gov; chad.stewart@usda.gov; tamera.randall-parker@usda.gov; samantha.j.staley@usda.gov; jonathan.tucker@usda.gov and gmuforestplan@fs.fed.us

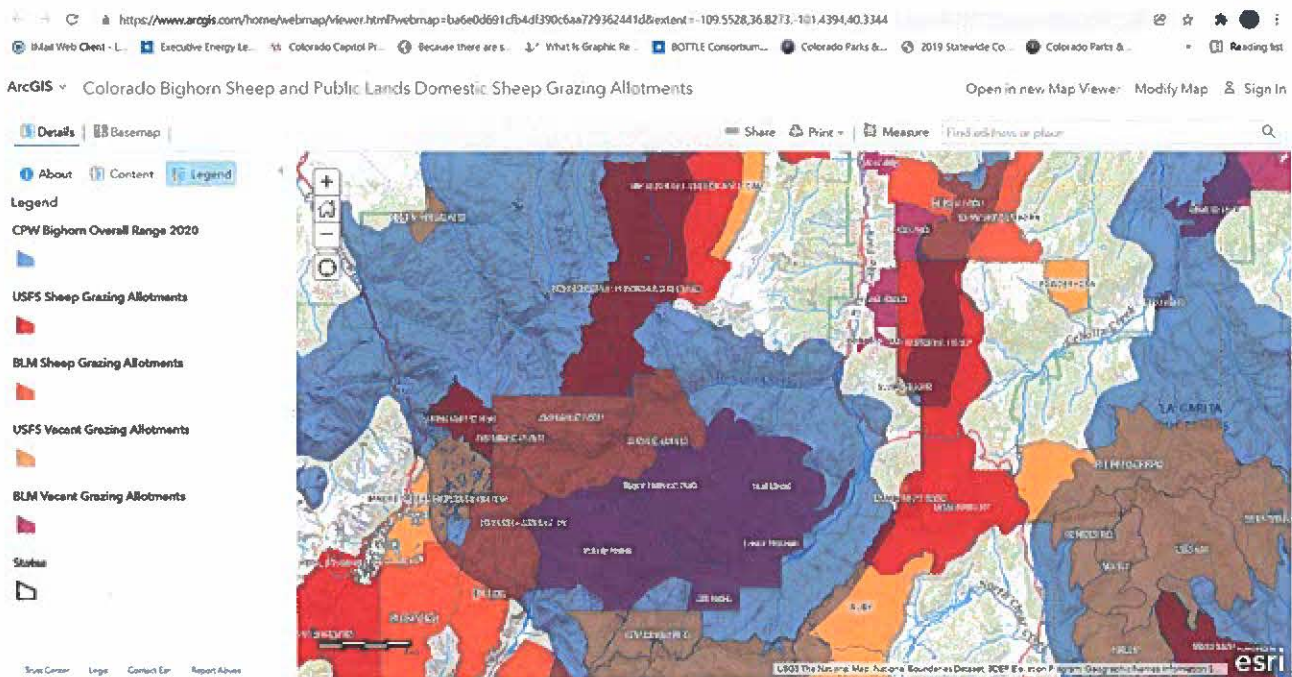
RE: Ouray County Cooperating Agency Comments on the August 2021 DRLMP and DEIS Public Documents – Grand Mesa, Uncompahgre, and Gunnison Forest Plan Revision #51806 – Rocky Mountain Bighorn Sheep within CPW Data Analysis Unit RBS-21, which contains the Game Management Units (GMU) S21 and S33.

Dear Responsible Official(s) and Grand Mesa, Uncompahgre, and Gunnison (GMUG) National Forests Planning Team,

On behalf of the Board of County Commissioners and citizens of Ouray County, thank you for the opportunity to provide Cooperating Agency comments regarding the GMUG Forest Plan Revision. Ouray County is one of the cooperating agencies for this GMUG Forest Plan Revision Process. We provided substantial comments on the GMUG Draft Revised Land Management Plan (DRLMP) and the Draft Environmental Impact Statement (DEIS) on November 26, 2021. We are providing additional information on the importance of Rocky Mountain Bighorn Sheep (RMBS) to Ouray County and our opposition to the Gunnison Field Office (GFO) of the Bureau of Land Management (BLM) regarding the GFO's Proposed Decision for Domestic Sheep Grazing Permit Renewals, 4160 (LLCOS06000): Domestic Sheep Grazing Permit Renewals, and the Final Environmental Impact Statement, #DOI-BLM-CO-S060-2014-0001-EIS (Attachment A).

The GMUG domestic sheep grazing allotments are adjacent to the BLM GFO domestic sheep grazing allotments within CPW Data Analysis Unit RBS-21. Please review our comments to the GFO BLM. GFO's American Flats #06509 06507 and American Lake #06509 Allotments intersect Ouray County. The GFO BLM Henson Creek Allotment #60504 is adjacent to the east Ouray County boundary. Similarly, the Ouray Ranger District of the GMUG manages the Bear Creek Allotment #00651 which intersects Ouray County. Ouray Ranger District's Uncompahgre Peak/North Henson Allotment #00662 is adjacent to the east Ouray County boundary. The Board of County Commissioners recognizes that these allotments may not be within Ouray County, but are included as they abut Ouray County, and bighorn sheep do not recognize political boundaries.

The overlap of the RMBS Overall Range and the BLM and GMUG domestic sheep allotments demonstrate the importance of both agencies ensuring that there is total separation between domestic sheep allotments and RMBS.



Map 1: Showing adjacency of GMUG and BLM domestic sheep allotments and RMBS overall range overlap. Source: Western Watersheds Project¹ interactive ArcGIS Online Map.²

Please review our communication to the GFO and the attached Colorado Parks and Wildlife letter (Attachment A-1) to the Gunnison Field Office dated August 8, 2019. This information should provide further evidence to compel GMUG to designate RMBS as a Species of Conservation Concern, as requested by Ouray County and several others during the DRLMP/DEIS public comment period. The potential risk of contact with domestic livestock is the most significant concern for RBS-21 because it is the primary factor limiting bighorn sheep populations in Colorado and RBS-21 specifically. According to CPW, RBS-21 has the highest degree of overlap between the number of bighorn herds and domestic sheep allotments found in the state of Colorado. CPW (and citizen science data compiled in iNaturalist by Mountain Studies Institute) provide information about documented contacts between RMBS and domestic sheep. CPW states that documented contacts required euthanasia of the RMBS to protect the remainder of their herd from a major disease die-off. CPW refers to the Wild Sheep Working Group Western Association of Fish and Wildlife Agencies (WAFWA 2012) report: *"RECOMMENDATIONS FOR Domestic Sheep and Goat Management in Wild Sheep Habitat."* This report clearly states, "The best protection for maintaining bighorn sheep herds is to maintain total spatial and temporal separation of domestic and bighorn sheep." **The position of Ouray County is that both GMUG and BLM should ensure that domestic sheep and goat authorizations and other uses result in in a high degree of confidence that there will be total separation between RMBS and domestic livestock.**

Respectfully submitted,


Ben Tisdel, Chair


Lynn M. Padgett, Vice-Chair


Jake Niece, Member

Cc. John Whitney, Western Slope Regional Director, U.S. Senator Michael F. Bennet; Helen Katich, Southwest Regional Representative, U.S. Senator John Hickenlooper; Sarah McCarthy, Western Colorado Regional Director, U.S. Senator John Hickenlooper

Attachments:

1. Attachment A. Ouray County Opposition to Proposed Decision for Domestic Sheep Grazing Permit Renewals, 4160 (LLCOS06000): Domestic Sheep Grazing Permit Renewals, and the Final Environmental Impact Statement, #DOI-BLM-CO-S060-2014-0001-EIS; Jon Kaminsky, BLM Gunnison Field Office Manager

¹ <https://www.westernwatersheds.org/issues/species/bighorn-sheep/>; accessed December 15, 2021.

² <https://www.arcgis.com/home/webmap/viewer.html?webmap=ba6e0d691cfb4df390c6aa729362441d&extent=-109.5528,36.8273,-101.4394,40.3344> (note: Vacant Allotments must be turned on manually); accessed December 15, 2021.

Attachment A: Ouray County Opposition to Proposed Decision for Domestic Sheep Grazing Permit Renewals, 4160 (LLCOS06000): Domestic Sheep Grazing Permit Renewals, and the Final Environmental Impact Statement, #DOI-BLM-CO-S060-2014-0001-EIS



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December 14, 2021

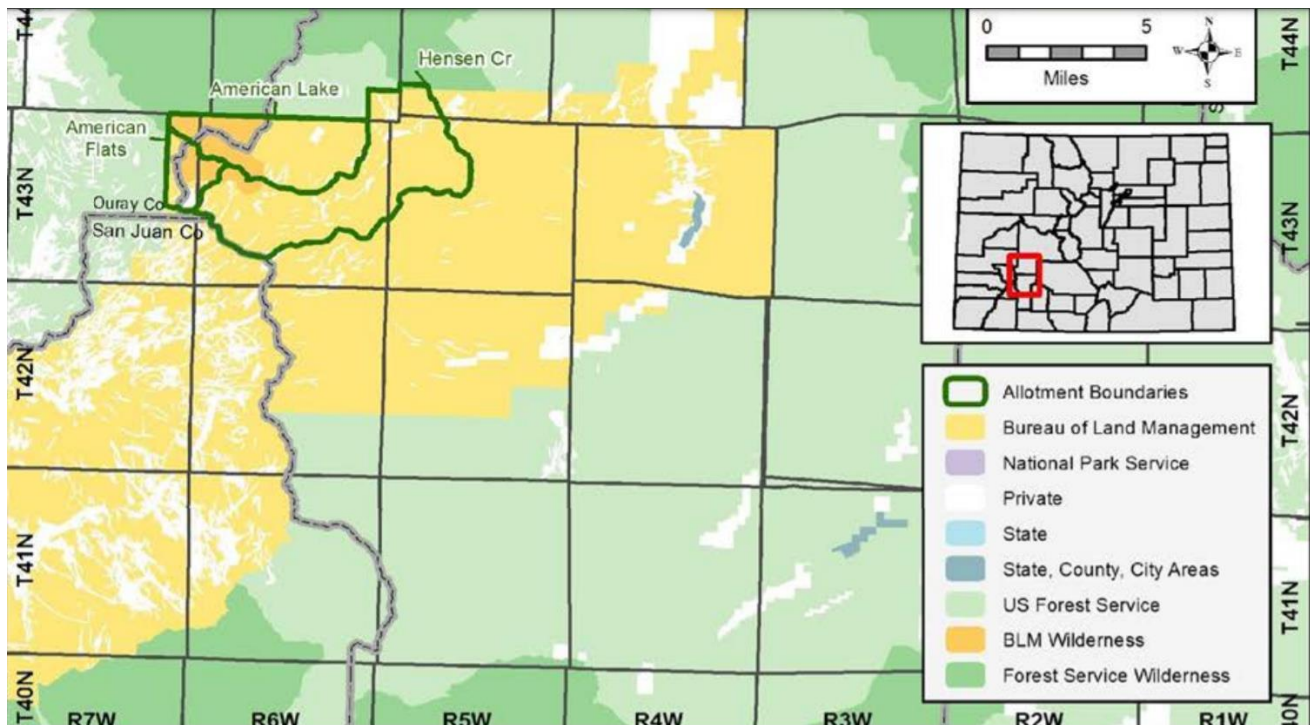
Jon Kaminsky, Field Manager
BLM Gunnison Field Office
210 West Spencer Ave. Suite A
Gunnison, CO 81230

RE: Opposition to Proposed Decision for Domestic Sheep Grazing Permit Renewals, 4160 (LLCOS06000): Domestic Sheep Grazing Permit Renewals, and the Final Environmental Impact Statement, #DOI-BLM-CO-S060-2014-0001-EIS

Ouray County Board of County Commissioners is extremely concerned that the Proposed Decision: Domestic Sheep Grazing Permit Renewals Environmental Impact Statement (EIS) appears to be in conflict with BLM Manual 1730 and comments and scientific information provided by the Colorado Department of Natural Resources Division of Colorado Parks and Wildlife (CPW) as a Cooperating Agency. It is in conflict with the report, "*RECOMMENDATIONS FOR Domestic Sheep and Goat Management in Wild Sheep Habitat*," cited by CPW in their August 8, 2019 letter (Attachment 1) to the Gunnison Field Office, which was prepared by the Wild Sheep Working Group Western Association of Fish and Wildlife Agencies (WAFWA) in 2012. This report clearly states, "**The best protection for maintaining bighorn sheep herds is to maintain total spatial and temporal separation of domestic and bighorn sheep.**"¹

Ouray County desires that our federal land agencies appropriately leverage the excellent expertise provided by our state natural resource agencies, which is CPW, with respect to the Rocky Mountain Bighorn Sheep (RMBS). The EIS analysis area is centered on the CPW Data Analysis Unit RBS-21, which contains the Game Management Units (GMU) S21 and S33. Ouray County is located in the middle of RBS-21 and within GMU S21. Outdoor recreation and tourism are significant sectors of Ouray County's economy. RMBS are iconic symbols of the unique San Juan Mountain landscape and ecosystem. Our citizens and visitors seek out watchable wildlife opportunities to view and photograph the RMBS as they traverse our dramatic rock outcrops and alpine meadows, commonly near Cutler and Dexter Creeks, and just south of Ouray between US 550, Jackass Flats, Bear Creek, and the network of high country 4x4 routes and wilderness trails. GFO's American Flats #06507 and American Lake #06509 Allotments intersects Ouray County. Henson Creek Allotment #60504 is adjacent to the east Ouray County boundary. The Board of County Commissioners recognizes that these allotments may not be within Ouray County, but are included as they abut Ouray County, and bighorn sheep do not recognize political boundaries.

¹ Wild Sheep Working Group Western Association of Fish and Wildlife Agencies. (2012). RECOMMENDATIONS FOR Domestic Sheep and Goat Management in Wild Sheep Habitat. WAFWA – Western Association of Fish and Wildlife Agencies. Retrieved December 10, 2021, from https://wafwa.org/wp-content/uploads/2020/07/Rec_For_DS_and_GT_Management_in_WS_Habitat.pdf.



Map 1. The geographic location of eastern Ouray County and BLM's American Flats, American Lake, and Henson Creek Allotments (outlined in green). Source: BLM 2021.²

The potential risk of contact with domestic livestock is the most significant concern for RBS-21 because it is the primary factor limiting bighorn sheep populations in Colorado and RBS-21 specifically. RMBS are susceptible to pathogens introduced by domestic livestock. Pneumonia epidemics in RMBS can cause all-age die-offs and reduced lamb survival and recruitment for multiple decades. CPW describes the Ouray-Cow Creek bighorn population within S21 as one of the “few remaining indigenous herds in the state.”³ RBS-21 is surrounded by at least four other RMBS units with Tier 1 or Tier 2 herds which could be mutually affected by the disease in one herd. Herds without CPW Tier designations can be just as vulnerable and genetically pure as Tier 1 herds. Our understanding is that herds without a specific management plan have not yet been assigned a Tier, but plans are being developed.

RMBS move between units and even travel through the non-traditional habitat. **According to CPW, RBS-21 has the highest degree of overlap between the number of bighorn herds and domestic sheep allotments found in the state of Colorado.**

² BLM GFO. (August 27, 2021). Project Map Allotment Boundaries. BLM. Retrieved December 14, 2021, from https://eplanning.blm.gov/public_projects/67519/200135471/20044732/250050920/Project%20Map%20-%20Allotments.pdf.

³ Diamond, B. and B. Banulis. (April 12, 2012). BIGHORN SHEEP MANAGEMENT PLAN Data Analysis Unit RBS-21 SAN JUANS WEST Game Management Units S-21 & S-33. Colorado Parks & Wildlife. Retrieved December 10, 2021, from https://cpw.state.co.us/Documents/Hunting/BigGame/DAU/BighornSheep/RBS21DAUplan_SanJuansWest.pdf. Page 10.

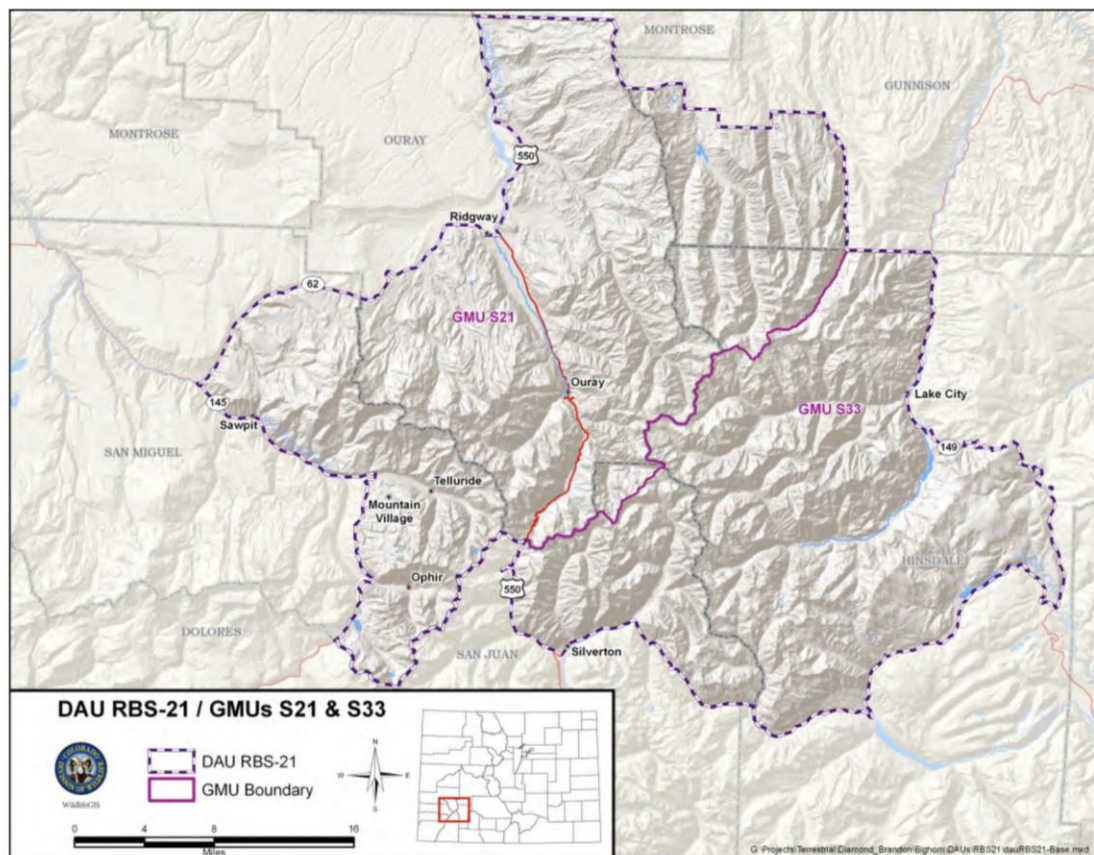


Figure 2. Geographic location of bighorn sheep Data Analysis Unit RBS-21 and Game Management Units S- 21 & S-33.

Map 2. The geographic location of bighorn sheep Data Analysis Unit RBS-21 and GMU S21 & S33. Source: CPW 2012.⁴

The Proposed Decision for the Inda⁵ and Poverty Mesa LLLP⁶ permits allotments relies on the EIS. The BLM’s selected Alternative C “would emphasize a reduction in the risk of contact between domestic sheep and RMBS” by simply not authorizing domestic sheep grazing in pastures that overlap with the RMBS summer range. This is different than the standard set by Manual 1730, “Domestic sheep and goat authorizations and other uses will be implemented to ensure that effective separation results in a high degree of confidence that there will be **low to no** risk of contact with wild sheep.” Manual 1730 might be satisfied by Alternative D, which would prohibit permitting domestic sheep grazing in allotments and pastures that overlap with the overall range of RMBS. However, Alternative E, the no grazing alternative, will best achieve “total spatial and temporal separation of domestic and bighorn sheep” recommended by WAFWA and CPW by reference in the 2019 letter to the GFO.

⁴ Diamond, B. and B. Banulis. (April 12, 2012). BIGHORN SHEEP MANAGEMENT PLAN Data Analysis Unit RBS-21 SAN JUANS WEST Game Management Units S-21 & S-33. Colorado Parks & Wildlife. Retrieved December 10, 2021, from https://cpw.state.co.us/Documents/Hunting/BigGame/DAU/BighornSheep/RBS21DAUplan_SanJuansWest.pdf.

⁵ Dawson, Elizabeth, Acting District Manager. (August 27, 2021). Notice of Proposed Decision: Domestic Sheep Grazing Permit Renewals – Inda. https://eplanning.blm.gov/public_projects/67519/200135471/20044739/250050927/2014-01%20EIS%20Domestic%20Sheep%20Grazing%20Permit%20Renewals%20Notice%20of%20Proposed%20Decision%20Inda%202021-0827.pdf. Retrieved December 10, 2021.

⁶ Dawson, Elizabeth, Acting District Manager. (August 27, 2021). Notice of Proposed Decision: Domestic Sheep Grazing Permit Renewals – Poverty Mesa. https://eplanning.blm.gov/public_projects/67519/200135471/20044741/250050929/2014-01%20EIS%20Domestic%20Sheep%20Grazing%20Permit%20Renewals%20Notice%20of%20Proposed%20Decision%20Poverty%20Mesa%202021-0827.pdf. Retrieved December 10, 2021.

CPW has designated RMBS as a Species of Greatest Conservation Need (SGCN) in Colorado's State Wildlife Action Plan (SWAP 2015). The RMBS is the only ungulate listed as an SGCN. The SWAP states that the highest priority threat to RMBS is pathogen transmission by livestock. The best protection is to maintain the total spatial and temporal separation of domestic sheep from RMBS. CPW says it has to manage RBS-21 for stable population size and distribution, forgoing management to increase the population or utilize significant portions of its suitable habitat due to risks of contact with domestic allotments.

The Proposed Decision ignores the information that CPW provides about documented contacts between RMBS and domestic sheep that required euthanasia of the RMBS to protect the remainder of their herd from a major disease die-off. CPW has documented respiratory disease susceptibility and risk through chronic or sporadic suppressed lamb recruitment, bighorn mortalities from respiratory disease after contact with domestic sheep, and all-age die-off events. CPW cautions that using Core Herd Home Range (CHHR) to delineate allotment boundaries potentially does not provide a valid spatial buffer between RMBS use areas and domestic sheep allotments on the ground. The bighorn foray events CPW documented within the RBS-21 demonstrates that RMBS foray outside of the mapped summer ranges. CPW maintains that all locations within the allotments have high foray probability not only because of bighorn foray but also because of the abundance of RMBS habitat overlapping the allotments. **The BLM's proposed alternative should guarantee total temporal and spatial separation.**

Ouray County is aware of the Colorado Bighorn Sheep Monitoring Project facilitated by Mountain Studies Institute⁷. Coloradans have documented many more contacts between RMBS and domestic sheep which are input into the iNaturalist database. For example, Ouray County citizen Jennifer Cram's November 2021 comments to GMUG National Forest on their DLRMP and DEIS describe overlaps between the Ruffner and Bear Creek domestic grazing allotment boundaries and CPW's summer bighorn sheep range. iNaturalist compiles citizen-scientist observations of bighorn and domestic sheep encounters. There are many on BLM and USFS land, including on the Bear Creek drainage in Ouray County. The latest Mountain Studies Institute annual report, which summarizes the iNaturalist sheep observations, includes a mention of an RMBS near domestic sheep on 7/20/2020 on the Ruffner allotment⁸. The Colorado Bighorn Sheep Monitoring Project Map⁹ should be examined.


The Agency's Proposed Alternative C provides a slight deviation from the current status quo and does not provide any certainties of effective separation between RMBS and domestic sheep. Yet, the EIS recognizes that the current management poses a very high risk to bighorn sheep.

Ouray County agrees with other concerned local governments, including the Town of Ridgway and San Juan County, that the BLM's decision ignores clear science and puts our RMBS herds in RBS-21 and adjacent units inappropriately at risk for short-term and long-term viability. We urge the BLM to reconsider this Proposed Decision and instead opt for Alternative E.

Respectfully,



Ben Tisdel, Chair



Lynn M. Padgett, Vice-Chair



Jake Niece, Member

Attachment: Draft Environmental Impact Statement (EIS) for Domestic Sheep Grazing Permit Renewals (DOI-BLM-CO-S060-2014-0001-EIS) letter from Cory Chick, SW Region Manager. – dated August 8, 2019

CC: John Whitney, Western Slope Regional Director, U.S. Senator Michael F. Bennet; Helen Katich, Southwest Regional Representative, U.S. Senator John Hickenlooper; Sarah McCarthy, Western Colorado Regional Director, U.S. Senator John Hickenlooper, and USFS Planning Team: Frank Beum, Chad Stewart, Tammy Randall-Parker, Samantha Staley, Jonathan Tucker, GMUG Forest Plan Comment Email, Dana Gardunio

⁷ Mountain Studies Institute. COLORADO BIGHORN SHEEP MONITORING [web page]. <http://www.mountainstudies.org/bighorn> ; accessed 12/10/2021.

⁸ Mountain Studies Institute. (March 3, 2021). 2020 Colorado Bighorn Sheep Monitoring Report [Report]. <https://static1.squarespace.com/static/53bc5871e4b095b6a42949b4/160409b5b4ed0cf0c581c69d7/1614846813445/Colorado+Bighorn+Sheep+Monitoring+Report+2020.pdf> ; accessed 11/21/2021.

⁹ Mountain Studies Institute. (March 3, 2021). 2021 Colorado Bighorn Sheep Project Map. <https://www.arcgis.com/home/webmap/viewer.html?webmap=a759f5243ea54d798ca50048bcd58d7c&extent=-111.571,36.8515,-100.8043,40.8454> ; accessed 12/10/2021.

Attachment 1: Colorado Parks and Wildlife Letter to BLM Gunnison Field Office dated August 8, 2019.



COLORADO

Parks and Wildlife

Department of Natural Resources

Southwest Region
415 Turner Drive
Denver, CO 81301
P 970.375.6702 | F 970.375.6705

August 8, 2019

Mr. Elijah Waters
Bureau of Land Management
Gunnison Field Office
210 West Spencer, Suite A
Gunnison, CO 81230
ewaters@blm.gov

RE: Draft Environmental Impact Statement (EIS) for Domestic Sheep Grazing Permit Renewals (DOI-BLM-CO-S060-2014-0001-EIS)

Dear Mr. Waters,

Thank you for the opportunity to comment on the draft Environmental Impact Statement (EIS) for Domestic Sheep Grazing Permit Renewals (DOI-BLM-CO-S060-2014-0001-EIS). Colorado Parks and Wildlife (CPW) participated as a cooperating agency on this document. CPW provided comments on the administrative drafts (April 2017 and June 18), and has participated in discussions with the BLM regarding Best Management Practices (BMPs) throughout the process.

CPW appreciates the working relationship and interactions with your staff in the Gunnison Field Office, and your efforts to consult with us as the document was developed. CPW's goal with our participation was to provide technical and scientific expertise during the development of the EIS. Overall, the EIS accurately reflects the best available science associated with disease transmission between domestic and bighorn sheep. CPW remains concerned with several aspects of the EIS described below that should be modified in the final EIS and Record of Decision (ROD).

Project Overview

The BLM is in the process of renewing permits for nine domestic sheep grazing allotments covering approximately 66,000 acres of public lands within Gunnison, Hinsdale, and Ouray counties. There are two existing active sheep permittees that utilize the allotments to graze approximately 5,100 domestic sheep annually. There are eighteen domestic sheep or goat grazing allotments that were not considered in the EIS as either part of the proposed action or within the alternatives for a variety of reasons (pg. 3). The BLM will decide on what terms and conditions may be applied to the grazing permits in the ROD.



Gunnison sage-grouse:

CPW is concerned with the potential impacts of domestic sheep grazing on Gunnison sage-grouse (GuSG). The Sapinero allotment has nearly 100% overlap with federally designated Critical Habitat for GuSG. Alternatives A, C, and D would allow for a 43% increase in AUMs on the Sapinero allotment. The EIS makes an effect determination that grazing “may affect, but is not likely to adversely affect” GuSG. Land Health Assessments conducted by the BLM in 2011 indicate that domestic sheep grazing is contributing to the spread of cheatgrass in the area. Federal managers have noted patches of cheatgrass near domestic sheep bedding areas and on shallow soil rock outcroppings. CPW is aware that the BLM has collected more monitoring vegetation data in these allotments since 2011. We recommend that the BLM include this information in the EIS, continue these monitoring efforts, and map existing cheatgrass patches to better understand how the current domestic sheep grazing regime is influencing the spread and distribution of cheatgrass and, consequently, impacting GuSG habitat.

CPW is also concerned that historic and current domestic sheep grazing has significantly reduced the diversity of mesic plants in wet meadow communities, increased soil erosion and altered hydrology in relation to vehicular travel routes and trailing by domestic sheep in the Sapinero and Goose Creek allotments. The current domestic grazing regime is contributing to the lack of flowering plant diversity in wet meadows as observed by the dominance of rocky mountain iris. These impacts have resulted in lower quality brood-rearing and summer-fall habitats for GuSG. CPW and our partners recently spent over \$40,000 to improve wet meadows within the Sapinero domestic sheep allotment. As mentioned in the EIS, these large riparian/wetland restoration projects are designed to restore and enhance the resilience of priority brood-rearing habitat. Success of restoration is dependent on precipitation and heavily influenced by livestock grazing intensity and duration. The best restoration results have occurred when AUMs are maintained or reduced which allows a greater portion of plants to mature and seed. The draft EIS (pg 54) mentions that wet meadow restoration efforts can “offset or mitigate rangeland degradation by domestic sheep.” CPW respectfully disagrees with this conclusion. These restoration efforts are directed at improving seasonally specific brood-rearing habitat, which CPW has identified as a critical bottleneck in conserving viable populations of GuSG (Davis 2012).

The improvement of brood-rearing habitat will have no impact on Gunnison sage grouse conservation efforts if cheatgrass is allowed to flourish and further degrade sagebrush uplands. The sagebrush uplands function as nesting habitat, another important component required before brood-rearing can occur. Therefore, mesic restoration efforts (brood rearing habitat) do not compensate for reduced or degraded upland habitat (nesting habitat) from cheatgrass expansion. We recommend that the EIS be modified to identify specific minimization and mitigation efforts that will be incorporated into the grazing permits to reduce cheatgrass expansion in the uplands and restore plant diversity in mesic habitats so that they continue to function for GuSG.

Rocky Mountain Bighorn Sheep Management

Bighorn sheep are the only ungulate listed as a species of greatest conservation need in CPW's State Wildlife Action Plan (SWAP)(CPW 2015). Specifically, the SWAP indicates that the highest priority threat is pathogen transmission by livestock (Chapter 5 - Table 7). The best protection for maintaining bighorn sheep herds is to **maintain total spatial and temporal separation** of domestic and bighorn sheep (WAFWA 2012).

The EIS analysis area is centered on RBS-21, which contains Game Management Units S21 and S33. RBS-21 is a Tier 1 bighorn priority population (*Tier 1: a larger herd with genetically native animals to the area*). The analysis also extends out to RBS-20 (also Tier 1) and Tier 2 populations like RBS-22, RBS-27, RBS-25 (*Tier 2: smaller herds comprised of native or transplanted individuals*). CPW has invested extensively in bighorn recovery efforts from the 1970's until the early 2000's, transplanting over 400 individuals to key locations within this analysis area, where bighorn had been extirpated a century earlier (George et al. 2009). The analysis area represents the highest degree of overlap between the number of bighorn herds and domestic sheep allotments in the state of Colorado (George et al. 2009: pg 64).

CPW's current management direction for RBS-21 as approved by the CPW commission is to manage for a stable population size and distribution (Diamond and Banulis 2012). The decision to manage for a stable population and distribution in RBS-21, rather than an increasing one, was to ensure that future risks of contact with domestic allotments were not elevated; a decision that came at the cost of not having bighorn sheep in a significant portion of suitable habitat. The management direction in RBS-22 and RBS-20, which are within the analysis area and foray distance to the allotments, are for an increasing population size and distribution (Diamond and Ferraro 2013, Weinmeister 2012).

Documented Disease Transmission

The susceptibility of bighorn sheep to pathogens originally introduced by domestic livestock is regarded as the primary factor limiting bighorn sheep populations in Colorado, through either all-age die offs, or long-term reductions in lamb recruitment leading to stagnant populations (George et al. 2009). As mentioned in the EIS, we agree that respiratory disease risk is the greatest concern for bighorn herd managers for this particular analysis area (Diamond and Banulis 2012, Weinmeister 2012, Diamond and Ferrero 2013). **This risk has been documented within the analysis area through chronic or sporadic suppressed lamb-recruitment (CPW unpublished data), bighorn mortalities from respiratory disease after contact with domestic sheep (Spicer 1999, Diamond and Ferrero 2013), and all-age die-off events (Spicer 1999, Diamond and Ferrero 2013).** In addition, **CPW has documented 25 stray domestic sheep occurrences, 34 bighorn foray events, and seven comingling events between bighorn sheep and domestic sheep within the analysis area.** Furthermore, high prevalence of *Mycoplasma ovipneumonia*, followed by a period of low lamb recruitment has been documented in the Tier 1 herd of S33 (CPW unpublished data), similar to that documented nearby in a recent CPW study (Grigg et al. 2017).

Risk of Contact Model and Foray Analysis

The risk-of-contact analysis methods implemented in this EIS exemplify the best available science using peer-reviewed research (O'Brien et al. 2014). The Core Herd Home Range (CHHR) used in the model is based on the bighorn summer range Species Activity Map (SAM) polygon (CPW data). A spatial polygon of CHHR is a required parameter in the ROC model (O'Brien et al. 2014). We offer a word of caution that the CHHR boundary is not a fixed and hard line given annual distributional changes of the bighorn herds and the course scale at which the CPW SAM maps were created. **Using CHHR to potentially delineate allotment boundaries does not result in an actual on the ground spatial buffer between bighorn use areas and domestic sheep allotments.**

The output from the ROC analysis is likely a conservative quantification of the true disease risk to bighorn. The ROC tool does not model the risk of stray domestic sheep outside the allotments or domestic sheep present during unauthorized periods, which may also pose a risk of disease transmission (pg 35). The EIS correctly identifies that "forays by bighorn sheep threatens to increase the risk of contact and disease transmission among bighorn sheep populations" (pg 26). Risk represented by domestic sheep going into areas directly overlapping summer home ranges is of concern, but the greater difficulty in managing risk is with bighorns foraying out of summer ranges. **Bighorn foray events documented within the analysis area support a 35 km buffered analysis area. Given the abundance of bighorn sheep habitat overlapping the allotments, there are no localities within the allotments that are outside the range of high foray probability.**

Predictions of the risk-of-contact model used in the EIS are bolstered by observed bighorn forays in the analysis area (CPW unpublished data). **Foray probability is the highest immediately adjacent to the CHHR. Prohibiting these foray movements with management actions (i.e. euthanization of bighorn outside bighorn core range) would ultimately decrease genetic connectivity between the populations. CPW supports the inter-herd movements of bighorn to take place naturally as manually augmenting these bighorn populations will not occur in the near future.** Overall, CPW's management direction is consistent with BLM's direction in this EIS (pg 26) that maintaining connectivity between bighorn sheep populations and herds is important to the long-term sustainability of bighorn. This direction is also consistent with other BLM guidance (Secretarial Order 3362, BLM 2016: Manual MS-1730, Management of Domestic Sheep and Goats to Sustain Wild Sheep, and BLM Manual 6840 pertaining to Special Status Species).

Grazing Best Management Practices:

The attraction between bighorn and domestic sheep is well documented, and should not be unexpected given the genetic similarities. We appreciate BLM considering management practices through implementing terms and conditions in domestic sheep permits, along with additional site-specific or new practices that help achieve effective separation and minimize the risk of contact, based on the best available science (BLM 2016). The EIS does acknowledge that these practices are unproven, that the efficacy on reducing contact is unknown, and that currently, physical separation of domestic sheep or goats from wild sheep is the only effective means to reduce the potential for pneumonia-type disease transmission (WAFWA 2012; BLM

2016). We agree that locating strays and monitoring bighorn movements is difficult in the remote/rugged terrain in the allotments and between allotments (EIS pg 29). In the analysis area, it is impossible to always know how many bighorns have had contact with domestic sheep (case example in CPW files). **Contact between domestic sheep and bighorn sheep has been documented multiple times within the analysis area (Wilson's Landing, Placer Gulch, Burns Gulch). Unreported and undetected contact events are highly probable, given the presence of stray domestic sheep, foraging bighorn behavior, and contact events within the analysis area, and the rugged and remote terrain.**

CPW has carried out bighorn euthanasia management actions in two cases where bighorn and domestic sheep comingled; there are five other documented cases where euthanasia could not be carried out. **The application of grazing BMPs complimented by CPW's intent to euthanize bighorn that have contacted domestic sheep does not ensure that the transmission of disease will not occur given the remote and rugged terrain and lack of contact detectability in the analysis area - an issue acknowledged in the EIS (pg 29). The EIS should be modified to acknowledge that these efforts alone do not definitively reduce the risk of contact and possible disease transmission to Rocky Mountain bighorn sheep." (pg 39, 41, 43).**

Economic Analysis:

We appreciate the economic analysis regarding bighorn sheep hunting. As noted (pg 60), the analysis area has the potential to influence the availability of -19% all bighorn sheep licenses in the state of Colorado. **Given the inter-herd dynamics documented in this analysis area by CPW, it is conceivable that a major disease die-off event could indeed influence the entire meta-population and severely impact hunting opportunity within the state.**

CPW is currently restricting the size of the S33 and S21 bighorn herds due to the risk of disease from domestic sheep (Diamond and Banulis 2012). Assuming that the bighorn sheep habitat within the allotments became inhabited, the winter habitat could sustain -100 more bighorn sheep based on current estimates of carrying capacity (Diamond and Banulis 2012). This estimated increase is likely conservative. A larger population size could sustain an increase in the number of bighorn sheep licenses available to the public.

Cumulative Impacts:

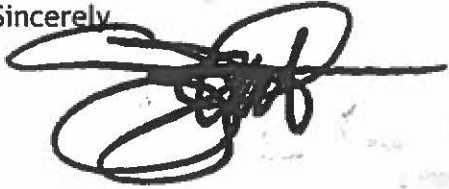
CPW recognizes that the analysis area is only one part of a larger landscape comprised of a patchwork of domestic sheep allotments and bighorn herds. We encourage the BLM to conduct NEPA analysis in adjacent BLM lands and in cooperation with NEPA analysis on adjacent USFS lands. In many cases, analyses of these adjacent allotments are impacting not only the same bighorn herds examined in this current analysis, but also the same set of permittees.

Conclusion:

CPW supports effective separation of bighorn and domestic sheep. **Please consider that this analysis area is unique and presents a unique set of circumstances making the implementation of BMPs for herders and CPW (i.e., bighorn euthanasia) difficult due to a vast rugged and remote landscape.** We understand that BLM has not yet selected a preferred alternative in the current

draft EIS. We look forward as a cooperating agency (MOU dated March 2016) to working with BLM to develop the Final EIS that will help guide the effective management and conservation of bighorn sheep and Gunnison sage-grouse in Southwestern Colorado. If you have any questions, or would like to discuss our recommendations, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'Cory Chick', written over a horizontal line.

Cory Chick, SW Region Manager

xc: J Wenum, Area 16 Wildlife Manager; Scott Wait, SW Senior Terrestrial Biologist; Reid DeWalt
Assistant Director of Wildlife and Natural Resources; Brian Magee, SW Land Use Coordinator

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