From:	Linner, Susan
To:	Noreen Walsh
Cc:	Patty Gelatt; Nicole Alt; Michael Thabault; Matt Kales
Bcc:	Terry_Ireland@fws.gov
Subject:	Re: GRSG needs attention on Monday
Date:	Monday, November 25, 2013 3:57:40 PM
Attachments:	GRSG DEIS Summary clean 11-25-13 .doc Comments on GRSG Public Draft EIS clean 11-25-13.doc DEIS BP 11-25-13 clean.docx FWS GSG RMP Review Matrix Public DEIS Colorado 11-25-13.xls

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Here are all of the documents: the revised cover memo, comment letter, and Matrix, along with a Briefing Paper for internal use. We will send the BLM State office and local BLM and FS offices the documents minus the BP.

Susan

On Mon, Nov 25, 2013 at 10:07 AM, Noreen Walsh <noreen_walsh@fws.gov> wrote:

> Please also supply your draft memo to BLM today.
>
> Thanks,
>
> Noreen
>
> Noreen Walsh
>
> Regional Director
>
> Mountain-Prairie Region
>
> U. S. Fish and Wildlife Service
>
> 303 236 7920
>
> ***The Mountain-Prairie Region of the U. S. Fish and Wildlife Service:*** *We provide conservation stewardship of some of America's most scenic lands, to ensure healthy fish and wildlife for the enjoyment and benefit of all people.*
>
> ---
>
> **From:** Susan Linner [mailto:susan_linner@fws.gov]
> **Sent:** Monday, November 25, 2013 9:27 AM
> **To:** noreen_walsh@fws.gov; Patty_Gelatt@fws.gov; Nicole_Alt@fws.gov; michael_thabault@fws.gov
> **Cc:** matt_kales@fws.gov

Subject: Re: GRSG needs attention on Monday

Noreen,
This is what we plan on briefing you about tomorrow at 1:00. We are in the process of updating the documents and developing a BP, which will be provided to you and Mike today.

Susan

From: Noreen Walsh [mailto:noreen_walsh@fws.gov]
Sent: Friday, November 22, 2013 04:39 PM
To: Susan Linner <susan_linner@fws.gov>; patty_gelatt@fws.gov <patty_gelatt@fws.gov>; nicole_alt@fws.gov <nicole_alt@fws.gov>; Michael Thabault <michael_thabault@fws.gov>
Cc: Matt Kales <matt_kales@fws.gov>
Subject: GRSG needs attention on Monday

Hello all,

I hope your week of Gunnison hearings is going well – I am interested to hear.

I would like on Monday to understand the resolution to the questions I posed during our meeting earlier this week about Greater sage-grouse federal plan: the 5% cap and the 5% cap including non-anthropogenic disturbances and the ability for broad exceptions to be granted. I am concerned that our positions as you explained them are not consistent with our position in other parts of the range but I am open to knowing if I have a misunderstanding. We must sort this out on Monday though because our deadline is fast approaching.

Thank you and have a great weekend

Noreen

Noreen Walsh

Regional Director

Mountain-Prairie Region

U. S. Fish and Wildlife Service

303 236 7920

The Mountain-Prairie Region of the U. S. Fish and Wildlife Service: *We provide conservation stewardship of some of America's most scenic lands, to ensure healthy fish and wildlife for the enjoyment and benefit of all people.*

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Susan Linner, Field Supervisor
Colorado Ecological Services Office
134 Union Blvd., Suite 670
PO Box 25486 DFC
Denver, CO 80225
phone: 303-236-4774
fax: 303-236-4005

To: Northwest Colorado District Manager, BLM, Grand Junction,

From: Colorado Field Supervisor

Subject: Fish and Wildlife Service Comments on August 2013 Northwest Colorado Greater Sage-grouse Public Draft Land Use Plan Amendment and Environmental Impact Statement

The Colorado Ecological Services Field Office has reviewed the subject Draft Land Use Plan Amendment and Environmental Impact Statement (DEIS). Specific comments to the DEIS are attached with larger comments outlined below. Additionally, a matrix comparing conservation measures in the DEIS to Conservation Objective Team (COT) Report conservation objectives, measures, and options is attached. Our comments have been arranged in the order of categories in the Final COT Report (February 2013) and as such may be directed at more than one BLM/USFS Program area. Although many conservation objectives, measures, and options have been addressed in the DEIS, we recommend that the Final EIS incorporate our comments and additional objectives, measures, and options following the Final COT Report.

In Colorado, habitat fragmentation (primarily as a result of infrastructure related to energy development and urbanization), fluid mineral development, and lack of adequate regulatory mechanisms are the primary threats to the greater sage-grouse (*Centrocercus urophasianus*) (GRSG) recognized by the Service. Our comments address these primary threats, as well as other threats, and provide more comprehensive conservation of the sage-grouse by suggesting changes to conservation measures under the various BLM/USFS Programs. Changes to the measures in the DEIS include wording changes to Alternative D, or insertion of conservation measures from Alternatives B and C into Alternative D. Therefore, we expect that the proposed alternative in the FEIS will be a combination of Alternative B, C, and D.

Larger comments or issues include:

1. We are requesting a justification in the FEIS for the 5% anthropogenic disturbance cap under Alternative D. If a 5% cap is not biologically justified (considering conservation measures) the Colorado Field Office recommends that no higher than a 3% anthropogenic disturbance cap be used. The 3% disturbance cap was recommended in the NTT Report and is part of Alternative B, which follows NTT Report recommendations. Although we are not precluding use of a biologically justified 5% disturbance cap, support of a 3% cap is provided in our attached comments.

2. The Colorado Field Office thinks that a conservation measure under Alternative D to retain in sagebrush at least 70% of ecological sites in each Colorado management zone and adding a 30% disturbance cap to include all causes (anthropogenic, wildfire, plowed field agriculture, and vegetation treatments, mappable stands of cheatgrass and pinyon-juniper, but <u>not</u> irrigated meadows) is a misuse of the NTT standard. The 30% was not meant as disturbance criteria, rather as an indication that on a landscape scale, there are areas within sagebrush habitat that do not necessarily meet the criteria of habitat, and to

limit those areas to 30%. We request that use of this conservation measure as a disturbance cap be justified in the FEIS including a description of supporting information. Furthermore, if the conservation measure remains in the FEIS there needs to be a clarifying statement added to it that no new anthropogenic disturbance will be authorized if the 30% cap is reached (even if fire, for example, is the primary reason the cap is reached).

3. Year-round protection within 0.6 miles for all leks in any habitat type in all designated habitat (ADH, which includes preliminary priority habitat (PPH), preliminary general habitat (PGH), and linkage corridors (C)). This would apply to fluid minerals, rights-of-way, mining, and other significant surface disturbing actions. This does not preclude additional protections of PPH, PGH, or linkage corridors through other conservation measures.

4. Disturbance cap application (3 or 5%) to all habitats used by GRSG, not just the sagebrush habitat types identified in the EIS. The disturbance cap would then be applied to specific grasslands, meadows, and shrub types used by GRSG.

5. Recognition that it may be difficult to entirely exclude or avoid projects in GRSG habitat but concern about maintaining an acceptable level of anthropogenic disturbance given the number of potential exemptions under Alternative D. Inclusion of a caveat under conservation measures in Alternative D, paraphrased here, states that the DEIS will: 'consider GRSG habitat requirements in conjunction with all resource values managed by BLM/USFS, and give preference to GRSG habitat unless site-specific circumstances warrant an exemption'. Furthermore, other conservation measures under Alternative D have disturbance exception criteria that state: "Where data-based documentation is available to warrant a conclusion that CO GRSG populations are healthy and stable at objective levels or increasing and that the development will not adversely affect GRSG populations due to habitat loss or disruptive activities the authorized officer may authorize disturbance in excess of the 5% disturbance cap without requiring additional mitigation. In many cases this exception will require project proponents to fund studies necessary to secure the "data-based documentation" requirement."

   Both of these caveats for exemptions/exceptions may be reasonable and requiring data-based documentation before granting an exception is reasonable. However, currently there are no criteria for what a "healthy and stable population at objective levels or increasing" is and there is likely a time lag between when projects go through if exceptions are granted and a population response. Therefore, with current state of knowledge on impacts of some activities a project or a few projects may appear to not affect GRSG populations but it may not be until several years later when populations in the affected areas decline that it is realized that the disturbance level, now over the 3 or 5% disturbance cap, is too great for that population.

6. Even though additional, effective mitigation is planned if the 3 or 5% disturbance cap limit is reached, mitigation may take many years to become functional GRSG habitat.

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Therefore, mitigation should not be counted and mitigation acreage be allowed to be removed from the disturbance cap calculations before functional habitat is restored.

7. Providing criteria for ensuring that monitoring is adequate to measure the disturbance.

8. Identify exemptions/exceptions, or give the range of potential exemptions, or at least list examples of exemptions in the FEIS. Furthermore, the FEIS needs to state that reporting of exemptions or exceptions will be done.

9. An average density of no more than 1 disturbance per 640 acres for fluid mineral development (e.g. one pad or one compressor station or one centralized water facility, etc.) is a level of disturbance that can be compatible with a sustainable GRSG population.

10. Establishment of a minimum threshold of reclamation success based on GRSG habitat structure in the FEIS in order to clarify when the reclaimed disturbance could be taken out of the total disturbance for monitoring of the disturbance cap.

11. Completion and inclusion into the FEIS of habitat monitoring, adaptive management, fire and invasive management, and mitigation frameworks currently under development.

12. Insertion of conservation measures to limit road density in GRSG habitat and set minimum road distance from leks as explained further in the attached comments.

Thank you for discussions regarding issues on the DEIS and for consideration of our comments. If the Service can be of further assistance please contact me or Patty Gelatt or Terry Ireland in our Western Colorado office.

cc: Western Colorado Ecological Services Office
Region 6 Regional Director

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Fish and Wildlife Service Comments on August 2013 Northwest Colorado Greater Sage-grouse Public Draft Land Use Plan Amendment and Environmental Impact Statement

GENERAL COMMENTS

We have reviewed the Draft Environmental Impact Statement (DEIS) considering the objectives identified in the 2013 Conservation Objectives Team report (COT report), which details the necessary actions for the conservation of greater sage-grouse (*Centrocercus urophasianus*) (GRSG). We believe that measures outlined in Alternative D, along with our additions and modifications as described below, meet most of the objectives identified in the COT report.

1. We recommend inclusion into the Final EIS (FEIS) habitat monitoring, adaptive management, fire and invasive management, and mitigation frameworks currently under development.

2. Table 2.4: The Colorado Field Office thinks that a conservation measure under Alternative D to retain in sagebrush at least 70% of ecological sites in each Colorado management zone and adding a 30% disturbance cap to include all causes (anthropogenic, wildfire, plowed field agriculture, and vegetation treatments, mappable stands of cheatgrass and pinyon-juniper, but not irrigated meadows) is a misuse of the NTT standard. The 30% was not meant as disturbance criteria, rather as an indication that on a landscape scale, there are areas within sagebrush habitat that do not necessarily meet the criteria of habitat, and to limit those areas to 30%. We request that use of this conservation measure as a disturbance cap be justified in the FEIS including a description of supporting information. Furthermore, if the conservation measure remains in the FEIS there needs to be a clarifying statement added to it that no new anthropogenic disturbance will be authorized if the 30% cap is reached (even if fire, for example, is the primary reason the cap is reached).

3. Table 2.4: We recognize that it may be difficult to entirely exclude or avoid projects in GRSG habitat but we are concerned about maintaining an acceptable level of anthropogenic disturbance given the number of potential exemptions under Alternative D. Inclusion of a caveat under conservation measures in Alternative D, paraphrased here, states that the DEIS will: 'consider GRSG habitat requirements in conjunction with all resource values managed by BLM/USFS, and give preference to GRSG habitat unless site-specific circumstances warrant an exemption'. Furthermore, other conservation measures under Alternative D have disturbance exception criteria that state: "Where data-based documentation is available to warrant a conclusion that CO GRSG populations are healthy and stable at objective levels or increasing and that the development will not adversely affect GRSG populations due to habitat loss or disruptive activities the authorized officer may authorize disturbance in excess of the 5% disturbance cap without requiring additional mitigation. In many cases this exception will require project proponents to fund studies necessary to secure the "data-based documentation" requirement."

Both of these caveats for exemptions/exceptions may be reasonable and requiring data-based documentation before granting an exception is reasonable. However, currently there are no criteria for what a "healthy and stable population at objective levels or increasing" is and there is likely a time lag between when projects go through if exceptions are granted and a population response. Therefore, with current state of knowledge on impacts of some activities a project or a few projects may appear to not affect GRSG populations but it may not be until several years later when populations in the affected areas decline that it is realized that the disturbance level, now over the 3 or 5% disturbance cap, is too great for that population. Please identify exemptions, or give the range of potential exemptions, or at least list examples of exemptions in the FEIS. Furthermore, the FEIS needs to state that reporting of exemptions or exceptions will be done.

4. Appendix B, Fig. 2-1, p. B-7 (and Appendix F, Disturbance Cap Management): Many lek sites and surrounding habitats occur outside of the GIS SWReGap vegetation classes that identify ecological sites supporting sagebrush (Figure 2-1). By our calculations, approximately 10% of the leks (and vegetation within 200 m) in Colorado occur in three other vegetation classes: Inter-mountain Basins Semi-Desert Grassland, Rocky Mountain Lower Montane-foothill Shrubland, and Southern Rocky Mountain Montane-Subalpine Grassland. These vegetation classes should be included in the habitats subject to the disturbance cap because these mapped areas are important to GRSG in Colorado. Therefore, the disturbance cap should apply to all "sage-grouse habitats" rather than "ecological sites supporting sagebrush." This would allow for limited disturbance on all habitats used by sage-grouse, not just sagebrush types, including grassland, mesic meadow, and mountain shrub vegetation types. We realize that a site-specific disturbance cap analysis will need to be done when permitting individual projects, and that leks would likely be included in the cap analysis and calculations, independent of ecological site maps (p. F-3). For the purposes of NEPA analysis, and because maps used for planning purposes are often extended beyond their original intent, the three additional vegetation layers should be included in Fig. 2-1.

5. We recommend that a 0.6 mile buffer be applied year-round in ADH in all habitat types to all actions under all BLM/USFS Programs. This does not preclude additional protections of PPH, PGH, or linkage corridors through other conservation measures. For example, the exception criteria (p. E-11 for Right-of-Ways) could state something to this effect: "Except in rare cases, exceptions to ROW avoidance will not be granted within 0.6 mile of any GRSG lek." We believe that year-round protection of leks from other sources of significant surface disturbance, such as mining, should also be precluded. Additionally, we understand that more recent CPW data may indicate that a year-round buffer larger than 0.6 mile may be warranted, such as a 1-mile buffer, which would include the preponderance of GRSG nests surrounding a lek in most cases.

6. Appendix F: Habitat suitability index data in Knick et al. (2013) suggest that areas within 5 km of leks should contain no more than 1% anthropogenic disturbance. If one standard deviation is allowed from Knick et al.'s (2013) average habitat suitability index no more

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than 3% anthropogenic disturbance should be allowed. Copeland et al. (2013) indicate that even with $250 million targeted conservation easements and a long-term build-out scenario (full build-out with no time scale) the Wyoming Core Strategy, which allows 5% anthropogenic disturbance, could still result in a 9% decline of sage-grouse within core areas and short-term losses (15-20 years) with predicted development could still result in 7% decline of sage-grouse in core areas. Therefore, the Copeland et al. (2013) information suggests that given conservation measures in the Wyoming Core Strategy a 5% anthropogenic disturbance may still lead to a 7-9% decline of GRSG in the core areas. Although land ownership, land use patterns, and conservation measures maybe slightly different in Wyoming and in the Wyoming Core Strategy than in Colorado and in the Northwest Colorado DEIS, considering information in the referenced publications, the Service recommends that no higher than a 3% anthropogenic disturbance cap be allowed in PPH in Colorado. Managing for less than 3% anthropogenic disturbance is recommended in the Sage-grouse National Technical Team (NTT) Report (2011). Should BLM/USFS intend to proceed with a 5% disturbance cap as proposed under Alternative D please provide a justification for allowing 5% disturbance in PPH. Also please provide how the cap will be applied given the number of potential exemptions (primarily for fluid mineral development) and provide explanation of how monitoring will be adequate to measure the disturbance. Furthermore, in paragraph 2 of this Appendix, it should state: "Alternative D limits anthropogenic disturbance in PPH to 5 percent of ecological sites capable of supporting…"

7. P. F-3, lines 20-34: The disturbance cap would apply to ecological sites supporting sagebrush and areas specially identified by CPW as contributing to the health of GRSG populations, independent of ecological site maps. The disturbance cap should be applied to all habitats within 0.6 mile of known leks. Disturbance from human activity in close proximity to active leks, nesting, and brood rearing habitat disturbs sage-grouse regardless of the habitat type in which the disturbance occurs. Applying this consistent buffer would also simplify necessary habitat mapping efforts, reduce the likelihood of habitat mapping errors, eliminate habitat assessment discrepancies near leks, and help to protect non-sagebrush habitats that can also be important to GRSG (e.g., grassland in proximity to sagebrush).

8. Appendix G: The Surface Reclamation Plan developed by the White River Field Office was included as the model to follow for reclamation of surface impacts. However, on P. 168, Table 2.4, Fluid Minerals, NTT #60 it states that bonds would be secured to ensure that reclamation "…would result in full restoration of the lands to the condition it was found prior to disturbance." Please describe the discrepancy between this standard and the standard in Appendix G. Also Appendix G states that "Reclamation success criteria on sage-grouse habitats would generally be contingent, where prescribed, on evidence of successful establishment of desired forbs and sagebrush. Reclaimed acreage would be expected to progress without further intervention to a state that meets sage-grouse cover and forage needs based on site capability and seasonal habitat use as per Appendix A, "Structural Habitat Guidelines" from the *Colorado Greater Sage-grouse Conservation Plan*." The Service recommends that a minimum threshold of reclamation success based on functional GRSG habitat following the Colorado Greater Sage-grouse Conservation

Plan habitat structure guidelines be identified in the Final EIS to clearly define reclamation successful for GRSG.

FIRE
(BLM Programs: Fuels Management, Fire Operations, Emergency Stabilization and Restoration, Habitat Restoration):

1. The BLM should minimally follow BLM Instruction Memorandum (IM) No. 2013-128, or as appropriate more recent IM's, for fuels management and fire operations direction.

2. P. 177, Table 2.4, Fuels Management, NTT Item 75, Alternative D: The conservation measure to not reduce canopy cover to less than 15% should be applied to All Designated Habitat (ADH).

3. P. 178, Table 2.4, Fuels Management, NTT Item 76, Alternative D: The conservation measure to apply appropriate seasonal restrictions for vegetation management should be applied to ADH.

4. P. 179, Table 2.4, Fuels Management, NTT Item 78, Alternative D: The text under this item mentions conditions to consider when using prescribed fire. We recommend BLM include a risk analysis, including parameters such as tolerable level of cheatgrass allowed for a prescribed burn/natural ignition fire, in the Final EIS.

5. P. 183, Table 2.4, Emergency Stabilization and Restoration, NTT #89: Alternative B language should be selected as a conservation measure to consider climate change when proposing restoration seedings and to consider seed from warmer regions of the subject plant's range.

6. P. 185, Table 2.4, Habitat Restoration, NTT #94: Alternative B language should be selected as a conservation measure to consider climate change when proposing restoration seedings and to consider seed from warmer regions of the subject plant's range.

NON-NATIVE, INVASIVE PLANT SPECIES
(BLM Programs: Nearly all)

1. Non-native, invasive plant control and monitoring measures are scattered throughout the DEIS by BLM/USFS Programs. Provide a list of Programs where the measures are addressed so they are more easily found and provide references to sections in individual BLM RMP's and the USFS Routt National Forest Land Use Plan where non-native, invasive plant control and monitoring measures will continue to be used under the Plans.

2. Insert COT report conservation measure #3 to monitor and control invasive plants for at least 3 years post-wildfire under Fuels Management, Emergency Stabilization and Restoration, and Habitat Restoration sections.

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3. BMPs to reduce the spread of non-native invasive plants such as washing equipment, etc. should be included in the FEIS or sections of individual RMP's or Land Use Plans referred to if BMPs in them are going to be continued to be implemented.

ENERGY DEVELOPMENT (BLM Programs: Fluid Minerals, Wind, Solar)

1. In regards to determining if an exception can apply for proposed energy projects if the 3% or 5% anthropogenic disturbance cap is reached, criteria should be developed for determining a healthy and stable or increasing GRSG population and the process should be described in the FEIS. Furthermore, inclusion of a detailed description of criteria for determining what constitutes habitat loss and disruptive activities to GRSG is recommended, such that it is clear the 3% or 5% disturbance cap can be accurately measured.

2. P. 163, Table 2.4, Fluid Minerals, NTT #49: On existing leases, alternative B would impose a limit of one permitted disturbance per section (640 acres) in PPH. We assume this means no more than one pad or one compressor station or one centralized water facility etc., per section. We recommend that this Condition of Approval be included in the proposed plan, although calculated as an *average* of 1 disturbance per 640 acres over all PPH within a given Colorado Management Zone. This would allow for the clustering of such disturbances, thereby minimizing fragmentation of habitats, and allows for greater flexibility in development design and planning at the master development plan scale while limiting development to a level compatible with existing GRSG populations. If certain Colorado Management Zones are already above this disturbance density (e.g., MZ 16, 17), and not all leases are held by production yet, we recommend granting lease extensions until older disturbances that are no longer in use are reclaimed allowing for new disturbances to be permitted once again.

3. P. E-8. GRSG PPH COA-47-51d. For existing oil and gas leases within PPH, it appears that the preferred alternative (D) under COA-47-51d could allow numerous drilling pads and access roads to be constructed within 0.6 miles of GRSG leks outside of the lekking to early brood-rearing season. Producing pads also create vehicle traffic and human activity which is disruptive to sage-grouse breeding and nesting activities. Standard BLM lease terms would allow BLM to require a pad to be moved up to 200 meters from a lek, but this distance does not protect sage-grouse habitat.

   The 5% disturbance cap under the preferred alternative would limit the loss of sagebrush habitat, but would not constrain the construction of roads and pads in other habitats. In GRSG populations with mixed habitats, such as the Parachute-Piceance-Roan (PPR) population, these activities could result in numerous pads being strategically located within non-sagebrush habitats but in close proximity to GRSG leks. We have tested the possibility in a GIS exercise in the PPR population in MZ 17 on BLM land and in most cases new pads could be constructed near leks (within 200m to 1000m) in non-sagebrush habitats (including, but not limited to aspen stands, gambel oak, grassland, etc.) without being constrained by the disturbance cap. This scenario provides little

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protection to GRSG as the close proximity of producing pads to leks and nearby sagebrush habitat will disturb lekking, nesting, and brood-rearing sage-grouse, even if direct sagebrush impacts are avoided.

To prevent or minimize this risk, this COA should be revised (or a new COA applied), to keep new pad locations on existing leases outside the 0.6 mile from leks regardless of habitat type (not just a timing restriction on pad construction/drilling, but a year-round restriction on new pad siting/construction). Where the authority exists, the BLM should also apply such a COA to existing leases; it would still be far less restrictive than COA-47-51b/c, (which would preclude new pads anywhere within PPH on existing leases, or at least would maximize the distance between new pads and leks within a lease). We recommend that this COA apply to all leks as well, including those in PGH. Nearly one fourth of the area within 0.6 mile of a GRSG lek is already leased in Colorado according to GIS analyses conducted by our office.

4. P. 167, Table 2.4, Fluid Minerals, NTT #59: We recommend language in Alternative B be used for identification of areas for acquisition of mineral rights or use of conservation easements that would benefit GRSG.

5. P. I-6. Table I.1, #38. Regarding anti-perching devices, we recommend that only those anti-perching devices be used that would not facilitate raptor or corvid nest construction. Additionally, for large transmission towers, if anti-perching devices alone would be inadequate to prevent raptor or corvid nesting, we recommend requiring that H-frame or other non-lattice towers be required in addition to anti-perching devices.

6. P.I-4. Add a Required/Preferred Design Feature to Appendix I to minimize effects from geophysical exploration projects in GRSG habitats, including, but not limited to minimizing vegetation loss from shot-hole drilling, crushing by off-road vehicle travel and vibroseis trucks, clearing for staging areas, etc.

7. P. I-2 #2: The parenthetical “>60” looks as though it’s defining ‘shallow’ as greater than 60 cm. The specific measure should be stated or the wording restructured to make the sentence clearer.

8. P. I-4 #9: Specify conservation measure addressing “important areas and habitats” is for all seasonal habitats.

9. P. I-4 #12: Identify the speed (or range of appropriate speeds) limit here.

10. P. I-6 #39: Clarify what’s included in “GRSG-safe fences” such as “lay-down” fencing (which would be best), or simply fence marking, which would likely only be done in ‘high-risk’ areas, or other measures.

11. P. I-7 #50: Add a measure to provided enforcement here and in all similar measures.

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GRAZING
(BLM Programs: Range)

1. Please describe how habitat assessments will be conducted (such as using standard land health assessments) and what habitat structure guidelines will be used (such as the Habitat Assessment Framework). If the HAF is not used, reference Connelly et al. (2000) or Hagen et al. (2007) for the habitat guidelines.

2. We recommend addressing drought in habitat objectives and applying BLM IM No. 2013-094, and similar USFS guidance on FS lands.

3. In areas where wild ungulates are negatively impacting sage-grouse habitats the BLM/USFS should work with Colorado Parks and Wildlife, and other agencies as appropriate, to design and conduct habitat work that redistributes wild ungulates. In problematic areas where domestic ungulate grazing overlaps problems exacerbated by wild ungulate overuse, modifications to livestock grazing management should be implemented until greater sage-grouse habitat conditions are improved.

4. Insert a conservation measure under Range Management to evaluate, modify as necessary, and time range improvement projects to limit impacts to GRSG.

5. P. 150, Table 2.4, NTT #21: We recommend description of a rotational timeline in which land health assessments will be completed, minimally in less than 10 years.

6. P. 152, Table 2.4, NTT #25, Alternative D: Add to this conservation measure that avoidance of GRSG impacts from livestock trailing will also be addressed to assure GRSG habitat guidelines are being met.

7. P. 151, Table 2.4, Range Management, NTT #24: Use language in Alternative B for vegetation and composition structure to emphasize GRSG habitat objectives.

8. P. 152, Table 2.4, Range Management, NTT #25: We recommend using Alternative D language but change the first sentence to read: (ADH) Include terms and conditions on grazing permits and leases that assure plant growth meets seasonal sage-grouse habitat requirements and residual forage remains at least at minimum recommended height for hiding cover.

9. P. 153, Table 2.4, Range Management, NTT #28: We recommend the use of Alternative B language but add to it that stubble height must be consistent with summer-fall habitat structure guidance in the 2008 Colorado GRSG Conservation Plan or the newest guidance.

10. P. 153, Table 2.4 Range Management, NTT #29: Alternative D language is acceptable but include that stubble height must be consistent with summer-fall habitat structure guidance in the 2008 Colorado GRSG Conservation Plan or the newest guidance.

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11. P. 154, Table 2.4, Range Management, NTT #31: Use Alternative D language but apply to ADH.

12. P. 156, Table 2.4, Range Management, NTT #33, second part: Specific language about monitoring of grazing should be included in the monitoring appendix (J) or the Range Management section of the FEIS. Monitoring of GRSG habitat conditions before and after a habitat treatment should be conducted. Discussion in appendix J or the FEIS should describe if exclosures, transects, utilization level, etc. are going to be used to monitor habitat treatments.

13. P. 157, Table 2.4, Range Management, NTT #35: Preferred and required design features to avoid or minimize potential for spread of West Nile virus should be applied to ADH.

14. P. 158, Table 2.4, Range Management, NTT #36: Changes to structural range improvements and placement of mineral and salt supplements to enhance GRSG habitat and populations should be applied to ADH.

15. P. 159, Table 2.4, Range Management, NTT #39: We recommend Alternative D language with the modification of inserting that at least minimum habitat requirements for sage-grouse should be maintained if used as a grass bank. Discussion should be included of when grass banks will be used (i.e. during drought, etc.) and how monitoring of GRSG habitat to meet minimum habitat requirements will be conducted in grass banks (e.g. exclosures, transects, utilization level).

<u>RANGE MANAGEMENT STRUCTURES</u>
(BLM Programs: Range)

1. To be consistent with the COT report objective for range management structures, we recommend insertion of the following conservation measures: a. New range management structures are to be placed to be neutral or beneficial to GRSG; b. Existing structures that are impacting GRSG should be removed or modified.

<u>FREE-ROAMING EQUID MANAGEMENT</u>
(BLM Programs: Wild Horse Management)

1. We recommend linking the Colorado monitoring framework to the rangewide monitoring framework (HAF) currently under development and/or to Connelly et al. (2000) or Hagen et al. (2007).

2. Appropriate Management Levels need to be established for drought conditions.

<u>PINYON-JUNIPER EXPANSION</u>
(BLM Programs: Fuels Management, Habitat Restoration)

1. A conservation measure should be added to the Habitat Restoration Program that commits to a 0% PJ incursion within 1000 m of leks (Baruch-Mordo et al. 2013). A

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caveat to the conservation measure may be included that if the lek is within 1000m of an old growth PJ stand (established in 1880 or earlier) that the PJ within the old growth area does not need to be removed.

2. A conservation measure should be added stating there will be no net increase in PJ (in phase 1 and 2 state of incursion) in other seasonal habitats with a target of removing all PJ incursion.

3. PJ removal in limited seasonal habitats (in CO or a CO management zone) should be given high priority.

4. Mechanical removal of PJ should be prioritized as the preferred method.

5. As stated on P. 186, line 96, please reiterate that PJ removal projects that allow for re-establishment of sage and desirable understory herbaceous vegetation will be an objective. This may be accomplished naturally (solely from act of PJ removal) or through seedings as appropriate, given existing condition of sage and herbaceous vegetation.

AGRICULTURAL CONVERSION
(BLM Programs: Range, Fuels Management)

1. Explain reasons in the FEIS why irrigated meadow and cropland are identified as occurring on BLM and USFS land.

<u>MINING</u>
(BLM Programs: Solid Minerals – Coal (SMC), Locatable Minerals (LM), Non-energy Leasable Minerals (NELM), Salable Minerals (SM), Split Estate Minerals (MSE))

1. Provide measures that ensure that for any proposed or existing mine (under any mining category) reclamation is conducted to meet GRSG habitat objectives.

2. Insert a statement/conservation measure under each of the mining categories that reclamation of an existing mine does not replace off-site compensatory mitigation for mine disturbance.

3. P. 170, Table 2.4, Solid Minerals – Coal, NTT #64: Alternative D says measure applies to ADH but the associated text says only priority habitat. Please correct this anomaly.to ADH.

4. P. 174, Table 2.4, Locatable Minerals, NTT #65: We recommend using language in Alternative B but with slight modification that withdrawal of mineral leasing be conducted where there is a clear threat to persistence of the GRSG in the CO management zone.

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5. P. 177, Table 2.4, Mineral Split Estate, NTT #73: Apply conservation measures to lessees of mineral estate to ADH.

RECREATION
(BLM Programs: Travel, Recreation)

1. The following parameters should be included under a new conservation measure or under Alternative D conservation measure NTT #5 (P. 144): Limit roads to less than 0.09 kilometers/kilometer^2 (and place roads farther than 400 meters from leks (Wisdom et al. 2011). This density should apply to new and existing roads and if existing road density is above the recommended limits the existing roads should be closed or rerouted to the extent possible. Our previous recommendation in the General Comments sections to exclude all anthropogenic disturbances within 0.6 miles of a lek applies to new roads and, to the extent that they can be moved, existing roads. If existing roads cannot be closed or rerouted within 0.6 miles then, to the extent possible, reroute existing roads farther than 400 meters from leks.

2. P. 143, Table 2.4, Travel, NTT #2: Alternative D language needs to be modified to include the provision to evaluate permanent road closures in addition to seasonal closures.

3. P. 145, Table 2.4, Recreation, NTT #9: Define how "adversely affect" in the Alternative D conservation measure will be measured (e.g. any habitat loss, any potential disruption to individual GRSG, downward population trend in a GRSG population or CO mgmt. zone, etc.).

EX-URBAN DEVELOPMENT
(BLM Programs: Lands and Realty)

1. P. 148, Table 2.4, Lands and Realty - Land Tenure Adjustment, Alternative B, first row: States, "Retain public ownership of GRSG PPH." Alternative D states, "Same as Alternative B." However, on p. 585 the EIS states, "Compared to the other action alternatives, Alternative D allows the most flexibility in acres available for acquisition, disposal, or exchange because there is no management action proposed to retain public ownership of PPH." This is an apparent discrepancy. We recommend that the proposed plan include direction to retain PPH as stated in Table 2.4 for Alternative D.

2. P. 149, Table 2.4, Land Tenure Adjustment, NTT #16: Modify language in Alternative D by inserting language from Alternative C so that the conservation measure states: "(ADH) The BLM/USFS will identify and strive to acquire non-federal lands important for GRSG." Also include the rest of the language under Alternative D that starts with "For example:..."

INFRASTRUCTURE
(BLM Programs: Nearly all)

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1. P. 146, Table 2.4, Lands and Realty, NTT #10: We recommend that all PPH be an avoidance area for any kind of infrastructure. If infrastructure projects cannot be avoided then project impacts must be neutral or beneficial to GRSG. The neutral or beneficial determination must be approved and/or demonstrated by the land management agency prior to construction. For example, fences maybe placed in PPH if impacts to GRSG habitat from construction and placement will be neutral or if benefits to GRSG habitat will be gained by the fence for management of livestock or wild ungulates.

2. P. 587, Section 4.5.4, Summary of Impacts on Lands and Realty: States, "Alternative D would limit development and surface disturbance in areas capable of supporting sagebrush from identifying ROW avoidance areas on approximately 53 percent of GRSG habitat." However, Table 2.4 (p.146, NTT Item 10) states that all PPH would be classified as a ROW avoidance area, not just ecological sites capable of supporting sagebrush. Please resolve this apparent inconsistency. We recommend that the proposed plan designate all PPH as an avoidance area, as in Table 2.4 for Alternative D.

<u>FENCES</u>
<u>(BLM Programs: Range Management)</u>

1. Follow the COT objective to minimize impact of fences on GRSG.

2. Insert a conservation measure in Range Program to place new fences no closer than 1 km from leks.

3. P. 158, Table 2.4, Range, NTT #37: We recommend choosing Alternative C language for ADH. Alternative C language is the most flexible and allows for the possibility of any of the three options; removal, modification, or marking of fences, as feasible or warranted without prioritizing which option should be conducted first.

4. Add to or replace the Stevens (2011) citation for fence collision information to Stevens et al. 2012 (Journal of Wildlife Managment article).

Literature Cited

Baruch-Mordo, S., Evans, J.S., Severson, J.P., Naugle, D.E., Maestas, J.D., Kiesecker, J.M. Falkowski, M.J., Hagen, C.A., and Reese, K.P. 2013. Saving sage-grouse from the trees: A proactive solution to reducing a key threat to a candidate species. Biological Conservation 167:233-241.

Connelly, John W., Schroeder, Michael A., Sands, Alan R., and Braun, Clait E. 2000. Guidelines to manage sage grouse populations and their habitats. Wildlife Society Bulletin, 28:967-985.

Copeland H.E., Pocewicz, A., Naugle, D.E., Griffiths, T., and Keinath D., et al. ,(2013). Measuring the Effectiveness of Conservation: A Novel Framework to Quantify the

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Benefits of Sage-Grouse Conservation Policy and Easements in Wyoming. PLoS ONE 8(6): e67261. doi:10.1371/journal.pone.0067261

Hagen, C.A., Connelly, J.W. & Schroeder, M.A. 2007: A meta-analysis of greater sage-grouse Centrocercus urophasianus nesting and brood-rearing habitats. - Wildl. Biol. 13 (Suppl. 1): 42-50.

Knick, S.T., Hanser, S.E., and Preston, K.L. 2013. Modeling ecological minimum requirements for distribution of greater sage-grouse leks: implications for population connectivity across their western range, U.S.A. Ecology and Evolution Pp. 1-13. Stevens, Bryan S., Connelly, John W., and Reese, Kerry P. 2012. Multi-scale assessment of greater sage-grouse fence collision as a function of site and broad scale factors. The Journal of Wildlife Management 76:1370-1380.

Wisdom, M.J., Meinke, C.W., Knick, S.T., and Schroeder, M.A. 2011. Factors associated with extirpation of sage-grouse. Pp. 451-472 *in* S.T. Knick and J.W. Connelly (editors). Greater sage-grouse: ecology and conservation of a landscape species and its habitats. Studies in Avian Biology (vol. 38) University of California Press, Berkeley, CA.

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November 25, 2013

INFORMATION MEMORANDUM FOR THE REGIONAL DIRECTOR

FROM: Colorado Field Supervisor, Ecological Services

SUBJECT: Comments on Northwest Colorado Greater Sage-grouse Draft EIS

I. BACKGROUND

As part of the range-wide BLM and USFS effort to amend or revise their land use plans for greater sage-grouse conservation the Northwest Colorado Greater Sage-grouse Public Draft Land Use Plan Amendment and Environmental Impact Statement (DEIS) was issued in August 2013. The Fish and Wildlife Service is a cooperating agency in the process and is providing comments. We met with CPW to discuss our preliminary comments on November 7, 2013 and with BLM on November 18, 2013.

II. POTENTIAL ISSUES

The largest threats to greater sage-grouse in Colorado are habitat fragmentation from numerous activities, fluid mineral development, and lack of regulatory mechanisms. The Colorado Ecological Services office has drafted comments to the DEIS and provided a summary of more important issues in our draft cover letter. BLM/USFS identified Alternative D as the preferred alternative in the DEIS. Despite issues outlined below, the Colorado Ecological Services Office finds most of the conservation measures under Alternative D are acceptable with our modifications and with additions from Alternative B or C.

Two specific issues were raised in our discussion with BLM as being potentially in conflict with the NTT and with other BLM EIS efforts. These issues are the 3% (NTT standard) vs. 5% disturbance cap, and mischaracterization of an NTT conservation measure requiring that 70% of land cover provide adequate habitat for the species' needs. We will recommend that BLM use the 3% cap standard, unless they can provide adequate justification for 5%, and that they provide more detailed justification for using the 30% non-habitat criteria as a disturbance cap. CPW is strongly in favor of a 3% disturbance cap.

III. DISCUSSION

1. We are requesting a justification in the FEIS for the 5% anthropogenic disturbance cap under Alternative D. If a 5% cap is not biologically justified the Colorado Field Office recommends that no higher than a 3% anthropogenic disturbance cap be used. The 3% disturbance cap was recommended in the NTT Report and is part of Alternative B, which follows NTT Report recommendations.

2. The Colorado Field Office thinks that a conservation measure under Alternative D to retain sagebrush in at least 70% of ecological sites in each Colorado management zone and adding a 30% disturbance cap to include all causes (anthropogenic, wildfire, plowed field agriculture, and vegetation treatments, mappable stands of cheatgrass and pinyon-juniper, but <u>not</u> irrigated meadows) is a misuse of the NTT standard. The 30% was not

meant as disturbance criteria, rather as an indication that on a landscape scale, there are areas within sagebrush habitat that do not necessarily meet the criteria of habitat, and to limit those areas to 30%. We request that use of this conservation measure as a disturbance cap be justified in the FEIS including a description of supporting information. Furthermore, if the conservation measure remains in the FEIS there needs to be a clarifying statement added to it that no new anthropogenic disturbance will be authorized if the 30% cap is reached (even if fire, for example, is the primary reason the cap is reached).

3. It may be difficult to entirely exclude or avoid projects in GRSG habitat. We are concerned about maintaining an acceptable level of anthropogenic disturbance given the number of potential exemptions under conservation measures in Alternative D.

4. Even though additional, effective mitigation is planned under conservation measures in Alternative D, if the 3 or 5% disturbance cap limit is reached, mitigation may take many years to become functional GRSG habitat. Therefore, mitigation acreage should not be allowed to be removed from the disturbance cap calculations before functional GRSG habitat is restored. Also, we recommend that BLM/USFS define functional GRSG habitat.

5. We are recommending an average density of no more than 1 disturbance per 640 acres for fluid mineral development (e.g. one pad or one compressor station or one centralized water facility, etc.).

6. We are recommending establishment of a minimum threshold of reclamation success based on GRSG habitat structure in the FEIS in order to clarify when the reclaimed disturbance could be taken out of the total disturbance for monitoring of the disturbance cap.

7. We recommend BLM include insertion of conservation measures to limit road density in GRSG habitat and set minimum road distance from leks.

8. A key recommendation is to provide year-round protection within 0.6 miles for all leks in any habitat type in all designated habitat (ADH, which includes preliminary priority habitat (PPH), preliminary general habitat (PGH), and linkage corridors (C)). This would apply to fluid minerals, rights-of-way, mining, and other significant surface disturbing actions. This does not preclude additional protections of PPH, PGH, or linkage corridors through other conservation measures.

USFWS BLM RMP Alternative Review Matrix (DRAFT)

BLM RMP Amendment EIS for BLM Northwest Colorado District (includes Little Snake, Kremmling, White River, Colorado River Valley, and Grand Junction FO's) and USFS Routt NF.

Note: The Laramie River population in WY and CO is mentioned in the COT report but few birds, no active leks, and little information for it exists in CO so it is not listed as a population below. However, it is contained within the Kremmling FO boundary so is incorporated into the Plan analysis area.

	GRSG Populations in Colorado.								Preliminary Assessment of BLM Proposed Action Consistency with COT Report[2] (Y = yes; N = no; U = unknown)					
Issue[1]	**Northern Eagle/Southern Routt**	**Middle Park**	**North Park**	**Northwest Colorado**	**Parachute-Piceance-Roan**	**Meeker-White River**	**Conservation Objective**	**Conservation Measures / Options**	**Alternative A (No Action)**	**Alternative B (NTT)**	**Alternative C (Conservation)**	**Alternative D (Preferred Alternative)**	**Do relevant BLM Programs as a group meet the Conservation Objective? (Only evaluated for Alternative D).**	**Issue[1]**
PACs (BLM Programs: All)							Retain sage-grouse habitats within PACs	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	All PAC-related measures are difficult to assess due to broad statements. Since PAC's, PPH, PGH were created after existing RMP's there's virtually no measures that are GRSG-specific. Consequently, even though some measures were conducted irregardless of GRSG, lack of prioritization for GRSG could allow color ranking to be	All PAC-related measures are difficult to assess due to broad statements, however, Alt B has many measures that appear to adequately retain habitat in PACs (all PPH in Colorado).	All PAC-related measures are difficult to assess due to broad statements, however, Alt C has many measures that appear to adequately retain habitat in PACs (all PPH in Colorado).	T: Y- Also mentions completion of activity level travel plans within five years of the record of decision, no interim measures specified. Rec: U. RM: Y - Under several actions. WHM: Y - Will manage herds to maintain/enhance habitat. SMC: Existing Leases - N, is voluntary; New Surface Lease - Y but up to 5% disturbance cap; New Underground Lease - Y but up to 5% disturbance cap; other categories - Y but up to 5% disturbance cap . LM: N - With a couple exceptions, almost all measures or design features are not legally enforceable so are primarily voluntary/cooperative. NELM: U - Allows for consideration of expansion for existing operations but for new activities only considers up to 5% disturbanc cap. SMM: U - Allows for consideration of expansion for existing operations but for new activities only considers up to 5% disturbanc cap. MSE: U - Objective to provide protection to extent of law. FFM: Y - Largely consistent with Alternative B measures. FO: Y - But only because it's stated that GRSG habitat will be given preference over other resource values. Exceptions are allowed. ES&R: Y - Despite possible exceptions. HR: Y - Despite possible exceptions. ACEC: N - There are no ACEC's proposed, only analysis of Alternative C ACEC proposal which was rejected.	U - Several Yes's but enough U's or N's to make it unknown.	**PACs (BLM Programs: All)**
							If PACs are lost to catastrophic events, implement appropriate restoration efforts	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	Fire, and perhaps subsequent non-native, invasive plant encroachment, is the most likely	Specific wording on restoration/rehabilitation following catastrophic events is not included in	Specific wording on restoration/rehabilitation following catastrophic events is not included	Specific wording on restoration/rehabilitation following catastrophic events is not included in any alternative in the DEIS but conservation measures to restore and maintain habitat in suitable GRSG habitat after wildfire is included.	Y - It appears that the strategies will adequately restore habitat.	
							Restore and rehabilitate degraded sage-grouse habitat within PACS.	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	Restoration/rehabilitiation measures in existing plans but most not sage-grouse specific.	U - Difficult to say that measures are any better than Alt D. Perhaps B, C, and D could be green.	U - Difficult to say that measures are any better than Alt D. Perhaps B, C, and D could be green.	T: Y - Can restore/close roads. REC: N. RM: U - Unsure of timelines involved for land health assessments and corrective actions. WHM: U - Minor issue in Colorado but would assume could rehab impacts of horses if needed. SMC:Y - Reclamation through adoption of SMCRA mining plan. LM: U - It appears there's flexibility to do rehab but not sure to what extent laws allow. NELM: Y. FFM: Y. HR: Y - (restoration in PH is prioritized for GSG, but unclear if PH restoration projects receive priority over other projects).	Y? - If they do manage for GRSG habitat objectives they should be able to restore and rehabilitate GRSG habitat.	
							Identify areas and habitats outside of PACs which may be necessary to maintain viability of sage-grouse. If development or vegetation manipulation activities outside of PACs are proposed, the project proponent should work with federal, state or local agencies and interested stakeholders to ensure consistency with sage-grouse habitat needs.	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	Since PAC's were created after existing RMP's there is no focus on areas outside of PAC's (preliminary general habitat and linkage corridors in CO). However, there are State-wide and local population-level plans that may have guided some sage-grouse conservation in these areas.	Only one measure under Range that says to identify where measure would be beneficial to GRSG and this is for ADH not just PGH (so includes PACs's). Are several measures in different sections that say to prioritize seasonal habitats for measures but applies to ADH not just PGH. Consequently, there are measures to protect PGH (or linkages) but no measures that specifically state to identify areas outside of PAC's that may be necessary to maintain viability of GRSG.	Only one measure under Range that says to identify where measure would be beneficial to GRSG and this is for ADH not just PGH (so includes PACs's). Are several measures in different sections that say to prioritize seasonal habitats for measures but applies to ADH not just PGH. Consequently, there are measures to protect PGH (or linkages) but no measures that specifically state to identify areas outside of PAC's that may be necessary to maintain viability of GRSG.	In Colorado PACs include priority habitat (PPH). However, many conservation measures are prescribed for all designated habitat (ADH), which includes linkage corridors, and in one or two instances conservation measures are targeted only for General habitat and/or linkage corridors (C). Consequently, the following assessment of adequacy focuses on whether some or all of the conservation measures under the BLM programs apply to General Habitat (PGH) and linkage corridors. FWS has not found discussion in the CO EIS about identification and maintenance of sagebrush habitat outside of PAC's and linkage corridors that may be necessary to maintain viability of GRSG. T: U - One measure, seasonal or permanent road closures, were applied to ADH (recommended to BLM that other measures apply to ADH not just PH). REC: N. RM: Y - Most are in ADH or have recommended they be applied to ADH. WHM: Y - Adequate, WHM not a big issue in Colorado. SMC: Y - most in ADH. LM: N - All PH, no measures directed at general or linkage corridors. Alternative D has some protective language but it is unknown how much protection is really able to be afforded due to constraints under 1872 Mining Law. NELM: N - Only applies to PH but recommended to apply to ADH. SMM: Y, partially - One of two measure says apply to ADH. MSE: N - Recommended application to ADH. FFM: Y - Not all but most are applied to ADH. FO: Partial - but fine. ES&R: Y - Recommended adoption of Alternative B language for one conservation measure. HR: Y - Most but not all applied to ADH. ACEC: N - There are some existing ACEC's that might provide protection to GRSG in GH and linkage corridors; however, they almost certainly did not include GRSG objectives in their protective language and no new ACEC's are proposed under Alternative D.	U - Currently unknown how much important GRSG habitat outside of PAC's (which is the same as PPH in CO).	
							Re-evaluate the status of PACs and adjacent sage-grouse habitat at least once every 5-years, or when important new information becomes available.	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	Not addressed at all because PAC's not in existence when existing RMP's were developed.	Mention of reevaluation in Monitoring Appendix (G) but could not find mention of reevaluation in NTT conservation measures in DEIS nor a time frame.	Mention of reevaluation in Monitoring Appendix (G) but could not find mention of reevaluation in NTT conservation measures in DEIS nor a time frame.	Timeframe for remapping habitat boundaries not specified but evaluation of status of PAC's is planned.	U - See comments.	
							Actively pursue opportunities to increase occupancy and connectivity between PACs.	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	Since PAC's were created after existing RMP's there is no focus on areas outside of PAC's	No specific measures could be found that address this but several measures to minimize impacts in PGH could apply.	Only one measure under Lands and Realty that says to strive to acquire private land but this is for ACEC's	Linkage corridors are identified in the DEIS and many measures in different BLM programs are applied to ADH, which includes linkage corridors. However, the DEIS does not discuss active pursuit of opportunities to increase occupancy and connectivity between PACs.		
							Maintain or improve existing habitat conditions in areas adjacent to (currently) burned habitat.	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	If there are measures in existing RMP's similar to this they certainly don't address GRSG	N - Measure not stated.	N - Measure not stated.	N - Measure not stated.	U - Not specifically addressed.	
Fire (BLM Programs: FFM, FO, ES&R, HR)	**L**	**Y**	**Y**	**Y**	**Y**	**Y**	Retain and restore healthy native SB communities within GSG range	Restrict or contain fire within the normal range of fire activity (assuming a healthy native perennial sagebrush community), including size and frequency, as defined by the best available science.	No prioritization for suppression in GRSG habitat except possibly WRFO. Fire/invasive weeds not a huge threat in CO so perhaps all reds could be yellow.	Measures stated for minimizing fire use or using to benefit GRSG but undefined what normal range of fire activity is and therefore unclear whether measures would restrict/contain fire within normal range of fire activity.	Measures stated for minimizing fire use or using to benefit GRSG but undefined what normal range of fire activity is and therefore unclear whether measures would restrict/contain fire within normal range of fire activity.	U - Not specifically addressed if measures will be within normal range of fire activity. Will prioritize GRSG habitat with other resource values unless other circumstances come into play. Will maintain at least 70% of ecological sites in a Colorado Management Zone in sagebrush habitat where ecological sites can support at least 12% canopy cover of Wyoming big sage or 15% canopy of mountain big sage.	U - Although there are Yes's it is not clear that fuel and fire management strategies in all programs will retain and restore healthy SB communities.	**Fire (BLM Programs: FFM, FO, ES&R, HR)**
								Eliminate intentional fires in sagebrush habitats, including prescribed burning of breeding and winter habitats.	Considered on case by case basis, not prioritized for GRSG.	Wording not quite as strict as COT measure to eliminate all fires in breeding or wintering but is very close.	Wording not quite as strict as COT measure to eliminate all fires in breeding or wintering but is very	N - But will only be used for fire prevention/fuel reduction to benefit GRSG. Will not burn in less than 12" precip zone but if do will be for fuel break or enhancement of land where cheatgrass is a very minor component.		
								Design and implement restoration of burned sagebrush habitats to allow for natural succession to healthy native sagebrush plant communities.	For many of the ES&R and Habitat Restoration actions most FO's and the Routt NF do not have existing conservation	Y - mentions use of native seeds for restoration as well as deferment/modifications to grazing and other actions.	Y - mentions use of native seeds for restoration as well as deferment/modifications to grazing and other actions.	Y - Have conservation measures for restoration.		
								Implement monitoring programs for restoration activities. To ensure success, monitoring must continue until restoration is complete, with sufficient commitments to make adequate corrections to management efforts if needed.	Minimal evidence of monitoring.	A couple monitoring measures included.	A couple monitoring measures included.	N - DEIS mentions monitoring framework but needs to be completed.		
								Immediately suppress fire in all sagebrush habitats.	No prioritization for suppression in GRSG habitat except possibly	Does prioritize suppression in both PPH and PGH.	Does prioritize suppression but not in PGH.	U - Does prioritize suppression but considers other resource values and specific circumstances.		
								Which (if any) of Options 1a - d were applied?	1.a and b. probably occur	1.a, b, and c	1.a, b, and c	1a: Y - Use of native community and native seed is prescribed in a few BLM programs so perennial grasses would probably be included. 1b. Y. 1c. Y. 1d. N.		

								Which (if any) of Options 2a - j were applied?	Few if any options occur.	Few if any options occur.	Few if any options occur.	2b, 2c and 2d: Y - These options partially mentioned, other options under #2 not mentioned.		
								Which (if any) of Options 3a - e were applied?	3, b, c, d likely occur	3, b, c, d, and e are directly mentioned or inferred.	3, b, c, d, and e are directly mentioned or inferred.	3b, c, d, and e		
								Was Option 4 applied?	Unclear.	N - No mention in DEIS but IM updated	N - No mention in DEIS but IM	N - No mention in DEIS but IM updated at national level (IM No. 2013-128).		
								Were locally derived measures developed?	COT defers to State plans where effective measures applied. Colorado Conservation Plan has 6 pages of conservation strategies for fire but not known if effective, is voluntary plan.	COT defers to State plans where effective measures applied. Colorado Conservation Plan has 6 pages of conservation strategies for fire but not known if effective, is voluntary plan.	COT defers to State plans where effective measures applied. Colorado Conservation Plan has 6 pages of conservation strategies for fire but not known if effective, is	COT defers to State plans where effective measures applied. Colorado Conservation Plan has 6 pages of conservation strategies for fire but not known if effective, is voluntary plan. DEIS mentions many but not all of these strategies.		
Non-native, Invasive Plant Species - Weeds/Annual Grasses (BLM Programs: Nearly all have some prevention/control/monitoring conservation measures)	Y	Y	Y	Y	L	L	Maintain and restore healthy, native SB communities	Retain all remaining large intact sagebrush patches, particularly at low elevations.	No prioritization for sagebrush or sage-grouse habitat but some weed control conducted. Non-native, invasive plants not considered a top threat in CO.	Many non-native invasive measures mentioned in various Programs but difficult to ascertain if efforts will retain remaining large intact habitat.	Many non-native invasive measures mentioned in various Programs but difficult to ascertain if efforts will retain remaining large intact habitat.	Table 2.4 does mention will monitor and control invasives following any ground disturbance. Although there are many conservation measures under the different BLM Programs that address avoiding or minimizing impacts to priority, general, or all designated habitat none of them explicitly state that they are aimed at retaining remaining large intact sagebrush patches, whether low or high elevation.	U - Although there are Yes's it is not clear that non-native invasive plant control strategies in all programs will maintain and restore healthy SB communities.	**Non-native, Invasive Plant Species - Weeds/Annual Grasses (BLM Programs: Nearly all have some prevention/control/monitoring conservation measures)**
								Reduce or eliminate disturbances that promote the spread of these invasive species.	No prioritization for sagebrush or sage-grouse habitat but some weed control conducted.	Many measures mentioned in various Programs to reduce or eliminate disturbances but unsure if they are adequate to reduce spread of weeds.	Many measures mentioned in various Programs to reduce or eliminate disturbances but unsure if they are adequate to reduce spread of weeds.	U - There are measures to develop a plan to monitor and control weeds following ground disturbance in several programs and reclamation through adoption of SMCRA reclamation plan should prevent weed invasion but not certain. Suggested Design Feature for fluid minerals is to control weeds but don't know how many operators will comply nor how complete the control effort will be. Washing vehicles is mentioned but not sure how inclusive in different programs. Federal mineral and Federal surface management may differ. Measures in existing ACEC's to control invasive species may vary.		
								Monitor and control invasive vegetation post-wildfire for at least three years.	Control, and by default monitoring, of invasives may	Indirect statements thru maintenance of desirable habitat but no mention of	Indirect statements thru maintenance of desirable habitat	N - DEIS mentions to monitor and control but no explicit language to monitor and control for at least 3 years post-burn.		
								Require best management practices for construction projects in and adjacent to sagebrush habitats to prevent invasion.	Unclear. BMPs not necessarily mentioned but actions under Programs such as Travel and Lands and Realty do mention restriction of number and size of roads or ROW's so indirectly addresses practices to prevent	No specific mention of BMPs to prevent invasion but there is language in different programs to address weeds.	No specific mention of BMPs to prevent invasion but there is language in different programs to address weeds.	T: U - mentions restoration of roads and use of native plants. RM: Y - one measure does state to develop a plan to monitor and control weeds following ground disturbance. WHM: U - Perhaps indirectly through evaluation of habitat composition and herd management measures. SMC: U - Again, adoption of SMCRA Plan may limit weeds but unsure. LM: N - No mention of monitoring and control. NELM: N - follows solid (locatable) mineral and fluid mineral design features which inlcude reclamation and prevention of weed dispersal through washing vehicles but no mention of BMP's to prevent invasion. SMM: N. MSE: Federal mineral - N, probably. Federal surface - N, probably.		
								Restore altered ecosystems such that non-native invasive plants are reduced to levels that do not put the area at risk of conversion if a catastrophic event were to occur.	Indirectly addressed but no language specific to this measure.	Some measures for restoring ecosystems to limit weeds though no discussion of catastrophic event.	More measures for restoring ecosystems to limit weeds but no mention of catastrophic event.	HR: U - measures for restoration and for maintenance of at least 70% of ecological sites in an area capable of supporting GRSG habitat to suitable native habitat (standard measure). May be adequate but unsure.		
Energy Development (BLM Programs: T, FM, Wind, Solar, LAR, MSE)	Y	Y	Y	Y	Y	N	Energy development should be designed to insure that it will not impinge upon stable or increasing GSG population trends	Avoid energy development in PACs. Identify areas where **leasing** is not acceptable, or not acceptable without stipulations for surface occupancy that maintains sage-grouse habitats.	**Older RMPS = no. New RMPs are better, but still might allow for too much development--standard 0.6 mi NSO and 60 day TL. But WRFO has a disturbance cap (2% probably). Heading towards yellow due to future incorporation of protective measures.**	Y: PPH closed to new leasing.	Y: ADH closed to new leasing.	Adequate? = Yes for new leasing. NSO on new leases for all PPH, with exceptions, and within 0.6 mi of all active leks. NSO exceptions require concurrence from CPW and can only be made where data document a healthy GRSG population at objective levels. Probably no mitigation required for an exception other than demonstrating GRSG pop. is healthy, unless needed to remain within 5% anthropogenic disturbance cap within sagebrush. 5% Disturbance cap can be exceeded if GRSG populations known to be healthy and won't be adversely impacted.	Note: Although Alternative D is not fully consistent with COT, due to pre-existing mineral rights, BLM does not have authority to fully preclude all lease development in all PPH. Alternatives B and C may	**Energy Development (BLM Programs: T, FM, Wind, Solar, LAR, MSE)**
					PPR has a higher threat from Energy Development than all other populations. Threats are primarily from natural gas (existing leases), but also to some extent from oil shale.			If avoidance is not possible in PACs due to **pre-existing valid rights**, adjacent development, or split estate issues, development should only occur in non-habitat areas, including all appurtenant structures, with an adequate buffer that is sufficient to preclude impacts to sage-grouse habitat from noise, and other human activities.	No. Existing leases typically have no GRSG protections. Standard BLM lease terms (200 m, 60 d) inadequate to protect GRSG.	Y: PPH protected, especially < 4 miles from lek, with 3% cap and disturbance density cap (1/640). However, This may not be upheld if challenged by lease holder in court.	Same as B.	Adequate? Probably not in high gas occurrence potential areas, but perhaps not much more BLM can do without violating existing lease rights. [We are requesting a 0.6-mi no-disturbance-in-any-habitat COA rather than just a timing restriction.] Disturbance in sagebrush habitats is capped at 5% in PPH. If GRSG population is documented to be healthy and project would not adversely affect the GRSG population, 5% may be exceeded. Leks would also be buffered by 4 miles during the lekking and early brood rearing seasons. There is no clear directive to minimize sagebrush habitat loss below 5%. Standard lease terms should allow concientious BLM NRS/biologists to move project outside of best habitat up to 200 m if not constrained by terrain or other resources. Standard BLM 60-d TL can be used as a bargaining tool in negotiating other protections in Master Development Plans. This scenario often occurs in the PPR GRSG population. Heading towards yellow due to future incorporation of protective measures.		
fluid Minerals: Oil, gas, & oil shale (including all on-lease development: pipelines, access roads, pits, compressors, etc.)								If development must occur in sage-grouse habitats due to **existing rights and lack of reasonable alternative avoidance measures**, the development should occur in the least suitable habitat for sage-grouse and be designed to ensure at a minimum that there are no detectable declines in sage-grouse population trends (see row below and COT report for measures to facilitate this).	No. Existing leases typically have no GRSG protections. Standard BLM lease terms (200 m, 60 d) inadequate to protect GRSG.	Y: PPH protected, especially < 4 miles from lek, with 3% cap and disturbance density cap (1/640). Distance between development and leks maximized. However, This may not be upheld if challenged by lease holder in court. Additionally, no adaptive management proposed if GRSG population exhibits a population decline.	Same as B.	See above. 5% sagebrush disturbance cap, AND any loss of GRSG habitat would need to be offset by effective mitigation. [We are requesting that the cap apply to all important GRSG habitats, not just sagebrush.]There is no COA to ensure measurement of population trends. If population declines are detected, there is no adaptive measure defined for reducing impacts or increasing mitigation.		fluid Minerals: Oil, gas, & oil shale (including all on-lease development: pipelines, access roads, pits, compressors, etc.)
								Which (if any) of Measure 3a - 3e were applied?	a = No. b. = no. c = sometimes. D = ??. E = no.	a = disturbance cap at 3%, which may or may not be restrictive enough for the grouse. Disturbance density also limited to 1/640 acres. Measures b, c, & d = same as Alt. D.	Same as B.	a. Reduce density of energy structures: would depend on lease rights/operator plans and would be voluntary; no density limit in Alt D. [We are requesting density limit of 1/640.] b. Keep development out of PACs: Same as the 3 rows above. Subject to negotiation and plans of lease holder. Accomplishment of "b" is difficult with existing leases, and probably won't be fully achievable. c. Structure consolidation--is typically strived for by BLM NRSs. Cannot understand "d," although reclamation for GRSG habitat is often a challenge. e. Tall or noisy structures: noise not directly addressed in EIS; addressed rather as a timing restriction BMP around leks. Generally addressed at the project level (APD). Tall structures associated with wind energy addressed under infrastructure/ROWs. Noise for compressors would likely be adequately addressed by Infrastructure/ROW.		
								Were locally derived measures applied that addressed objective?	Partially.	BMPs, mostly in the form of Required Design Features, minimize effects to GRSG habits. Examples: make fences GRSG friendly, use pitless drilling, net pits, reclaim site with GRSG in mind, maximize interim reclamation, etc.		BMPs, mostly in the form of Preferred Design Features, minimize effects to GRSG habits. Examples: make fences GRSG friendly, use pitless drilling, net pits, reclaim site with GRSG in mind, maximize interim reclamation, etc.		
Sagebrush Removal / Elimination (BLM Programs: RM, FFM)	L	Y	Y	L	L	Y	Avoid SB removal or manipulation in GSG breeding or wintering habitats	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	No measures that specify in wintering habitat and minimal measures in other/all seasons.	Doesn't say avoid, but is essentially the same by only allowing treatments that conserve, enhance, restore GRSG habitat.	Doesn't say avoid, but is essentially the same by only allowing treatments that benefit GRSG habitat.	Y? - DEIS has measures for managing for GRSG habitat and standard measure of maintaining 70% of areas in ecological site conditions suitable for GRSG, which includes breeding and winter habitat.	Y? - If they do manage for GRSG habitat objectives they should be able to avoid SB removal and manipulation in breeding and winter habitat to the extent that at least 70% of an area (mgmt zone) is suitable for GRSG.	**Sagebrush Removal / Elimination (BLM Programs: RM, FFM)**

Grazing (BLM Programs: RM)	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	Conduct grazing management for all ungulates in a manner consistent with local ecological conditions that maintains of restores healthy SB shrub and native perennial grass and forb communities and conserves the essential habitat components for GSG (shrub and nesting cover). Areas which do not currently meet this standard should be managed to restore these components. Adequate monitoring of grazing strategies and their results, with necessary changes in strategies, is essential to ensuring that desired ecological conditions and GSG response are achieved. Livestock and wild ungulate numbers must be managed at levels that allow native sagebrush vegetative communities to minimally achieve Proper Functioning Conditions (PFC; for riparian areas) or Rangeland Health Standards (RHS; uplands).	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	Do conduct with intent to meet ecological conditions and PFC and do LHA monitoring but little specific to GRSG needs.	Y	Y	Y? - See option statements/questions. Wild ungulates not addressed.	Y - If they implement all the strategies described in Alternative D of the DEIS they should meet habitat objectives and proper functioning condition.	**Grazing (BLM Programs: RM)**
								Which (if any) of Options 1 - 5 were applied?	1 - partially, unclear if the perennial grass community is consistent with the ecological sites. 2 - maybe. 3 - N. 4 - conduct habitat assessments but not necessarily for GRSG. 5 - N.	1: U - Updated ESD's not available in all areas, no specific statement about perennial grass community; 2: not directly stated; 3: intent to incorporate GRSG habitat needs into RMP's and AMP's but not sure when will have measures incorporated, especially in AMP's; 4: intent to monitor habitat through LHA's but don't know how often this done and what existing coverage is; 5. Y	1: U - Updated ESD's not available in all areas, no specific statement about perennial grass community; 2: not directly stated; 3: intent to incorporate GRSG habitat needs into RMP's and AMP's but not sure when will have measures incorporated, especially in AMP's; 4: intent to monitor habitat through LHA's but don't know how often this done and what existing coverage is; 5. Y	Same as B and C.		
Range Management Structures (not ranked in COT report table)(BLM Programs: RM)							Avoid or reduce the impact of RMS on GSG	Range management structures should be designed and placed to be neutral or beneficial to sage-grouse.	Very little in any existing plan dealing with range structures and none that say should be neutral or beneficial.	Y? - DEIS doesn't state that RMS's will be designed and placed to be neutral or beneficial but does state that RMS's will be utilized to enhance livestock distribution and to control timing and intensity of utilization.	Y? - DEIS doesn't state that RMS's will be designed and placed to be neutral or beneficial but does state that RMS's will be utilized to enhance livestock distribution and to control timing and intensity of utilization.	Y? - DEIS doesn't state that RMS's will be designed and placed to be neutral or beneficial but does state that RMS's will be utilized to enhance livestock distribution and to control timing and intensity of utilization. However, bottom of page 702 states that range improvements can be used (under Alt. D) as long as they do not adversely affect GRSG.	U - With exception of fences and spring developoment pipes there are no strategies that actually state that RMS's will be designed and placed to be neutral or beneficial to GRSG or will be removed or modified, just that they will be used to enhance livestock management that should benefit GRSG.	**Range Management Structures (not ranked in COT report table)(BLM Programs: RM)**
								Structures that are currently contributing to negative impacts to either sage-grouse or their habitats should be removed or modified to remove the threat.	N	Y	Y	Y - DEIS does talk about them being removed or modified (Table 2.4 line 36).		
								Were locally derived measures applied that addressed objective?	N	N	N	N - but I'd say NWCO District-wide measures in the DEIS are adequate.		
Free-Roaming Equid Management (BLM Programs: WHM)	**N**	**N**	**N**	**L**	**Y**	**N**	Protect sage-grouse from the negative influences of grazing by free roaming equids.	Develop, implement, and enforce adequate regulatory mechanisms to protect sage-grouse habitat from negative influences of grazing by free-roaming equids.	Y - but w/o consideration of GRSG habitat requirements	Y - Monitoring and management of herd size appears adequate.	Y - Monitoring and management of herd size appears adequate.	Y - Monitoring and management of herd size appears adequate.	Y - It appears that the strategies will adequately manage wild horses/free roaming equids. Not a big issue in CO.	**Free-Roaming Equid Management (BLM Programs: WHM)**
								Manage free-roaming equids at levels that allow native sagebrush vegetative communities to minimally achieve PFC (for riparian areas) or RHS (for uplands).	U - but do have monitoring and gathers	U - Monitoring and management of herd size appears adequate but no mention of achieving PFC (riparian) or RHS (uplands).	U - Monitoring and management of herd size appears adequate but no mention of achieving PFC (riparian) or RHS (uplands).	U - Monitoring and management of herd size appears adequate but no mention of achieving PFC (riparian) or RHS (uplands).		
								Which (if any) of Options 1-4 were applied?	2 and 3 partially, 4	All or parts of all	All or parts of all	For option 1 AML's established but unknown if monitoring has been conducted on maintenance of suitable GRSG habitat parameters specifically; habitat monitoring in general done to justify horse gathers. No additional research has been conducted to determine wild horse impacts on GRSG habitat parameters; Option 2: Y - Have herd objectives; however, don't adjust for drought conditions just have long-term herd objectives; Options 3 and 4: Are currently being worked on in conjunction with USGS.		
								Locally derived measures applied that achieve objective?	Y	Y	Y	Y - Pg. 346 CCP strategy 6.2.2.2 states encouragement of consideration of GRSG habitat objectives when revising Wild Horse mgmt plans. Monitoring of habitat in addition to herd size management should achieve GRSG objectives in relation to WHM (free roaming equid) impacts.		
Pinyon-juniper Expansion / Conifers (BLM Programs: HR)	**L**	**N**	**N**	**L**	**Y**	**N**	Remove pinyon-juniper from areas of SB that are most likely to support GSG (post-removal) at a rate at least equal to the rate of p-j incursion	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	N	U - Veg treatments prioritized to restore to GRSG habitat but no mention of removing at rate of incursion	U - Veg treatments prioritized to restore to GRSG habitat but no mention of removing at rate of incursion	U - Measure for restoration and for maintenance of at least 70% of ecological sites in an area capable of supporting GRSG habitat to suitable native habitat (standard measure). Also, measure to put restoration of sagebrush and understory as highest priority but considering other resource values and unless site-specific circumstances warrant exemption. Should be adequate for PJ	U - There's the standard measure of managing for at 70% of an area to be in suitable GRSG habitat so PJ management could take place to achieve that but no	**Pinyon-juniper Expansion / Conifers (BLM Programs: HR)**
								Which (if any) of Options 1 - 4 were applied?	None	None explicitly but 2, 3, 4 indirectly.	None explicitly but 2, 3, 4 indirectly.	None explicitly but 2, 3, 4 indirectly.		
Agricultural Conversion (BLM Programs: LAR)	**Y**	**Y**	**Y**	**Y**		**Y**	Avoid further loss of sagebrush habitat for agricultural activities (both animal and plant production) and prioritize restoration. In areas where taking agricultural lands out of production has benefited GSG, the programs supporting these actions should be targeted and continued (e.g., CRP/SAFE). Threat amelioration activities should, at a minimum, be prioritized within PACS, but should be considered in all GSG habitats.	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	Lands identified for disposal for management consolidation but without regard for GRSG habitat.	Most Ag conversion and programs are directed at private land. Table 4.2 which is a comparison by Alternatives of alleviated threats identified in the COT states (for Ag and urbanization) that GRSG habitat would not be identified for disposal unless consolidation of ownership would benefit GRSG or its habitat. Also will consider GRSG values in acquisition of land in ADH. DEIS refers to the 2008 Colorado Cons. Plan for actions addressing ag conversion and urbanization. Table 4.2 says DEIS addresses COT by limiting urban/ex-	Most Ag conversion and programs are directed at private land. Table 4.2 which is a comparison by Alternatives of alleviated threats identified in the COT states (for Ag and urbanization) that GRSG habitat would not be identified for disposal unless consolidation of ownership would benefit GRSG or its habitat. Also will consider GRSG values in acquisition of land in ADH. DEIS refers to the 2008 Colorado Cons. Plan for actions addressing ag conversion and urbanization. Table	Most Ag conversion and programs are directed at private land. Table 4.2 which is a comparison by Alternatives of alleviated threats identified in the COT states (for Ag and urbanization) that GRSG habitat would not be identified for disposal unless consolidation of ownership would benefit GRSG or its habitat. Also will consider GRSG values in acquisition of land in ADH. DEIS refers to the 2008 Colorado Cons. Plan for actions addressing ag conversion and urbanization. Table 4.2 says DEIS addresses COT by limiting urban/ex-urban development and maintaining intact sage communities as well as acquiring and managing GRSG habitat.	U - Ag conversion to crops or hayfields would only occur on private or other non-federal land. The only tie-in to Federal land may be lands swapped and subsequently converted by non-federal landowners to crops/hay. This threat is addressed through BLM Land and Realty Program measures.	**Agricultural Conversion (BLM Programs: LAR)**

					N			Which (if any) of Options 1 - 4 were applied?	None, but ag conversion directed at private land and 1 and 4 are NRCS not BLM/USFS programs.	None, but Ag conversion and programs are directed at private land.	None, but Ag conversion and programs are directed at private land.	None, but Ag conversion and programs are directed at private land.		
Mining (BLM Programs: T, LAR, SMC, LM, NELM, SMM, MSE, HR)	**N**	**Y**	**Y**	**Y**	**Y**	**Y**	Maintain stable to increasing GSG populations and no net loss of GSG habitats in areas affected by mining	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	Protective language for GRSG not in existing RMP's but various areas found unsuitable for coal mining, or in mineral withdrawal areas that may have some overlap with GRSG habitat.	Coal mining would be found unsuitable and NSO for facilities. Mineral withdrawals or closure to hardrock mining and material sales.	Coal mining would be found unsuitable and NSO for facilities. Mineral withdrawals or closure to hardrock mining and material sales.	SMC: U - Existing surface leases have voluntary PDF's; new surface leases may find unsuitable but may allow up to 5% cap; underground leases and lease renewals will place facilities outside of PPH to max extent possible but exceptions may apply; exploration won't occur if affects GRSG unless impact fully mitigated; will provide additional effective mitigation above 5%; reclamation plan prescribed by SMCRA is adopted by BLM. LM: N - Can't withdraw areas from mineral development based on GRSG concerns, may be able to require mitigation and timing limitations, all design features are suggested so don't have to be followed. NELM: Y? - No new mines?? Consideration for allowing expansion of existing mines up to 5%, if over 5% consider allowing but with additional effective mitigation, have many preferred or suggested design features. SMM: Y? - No new mines?? Consideration for expansion of existing mines and allowance up to 5% disturbance cap with additional effective mitigation if over 5%. MSE: Federal mineral/non-federal surface - U - apply conservation measures as allowable. Federal surface/non-federal mineral - U - apply appropriate PDFs to surface.	U - Several mining strategies that appear to be beneficial but several with unknown effects to conservation of GRSG.	**Mining (BLM Programs: T, LAR, SMC, LM, NELM, SMM, MSE, HR)**
								Which (if any) of Options 1 - 4 were applied?	1 and 3 partially addressed but not specific to GRSG	1, 2, 3, and maybe 4 but not explicitly stated.	1, 2, 3, and maybe 4 but not explicitly stated.	1 - Y?, will possibly avoid new mining activities but up to 5% cap; 2? - Not explicit to avoid leasing until other habitats restored; 3? - Reclamation required for mine plans but unclear if not sure if they would go so far to document GRSG use; 4 - N, no measures included for reclamation of abandoned mines.		
Recreation (BLM Programs: T, REC)	**L**	**Y**	**Y**	**Y**	**N**	**N**	In areas subjected to recreational activities, maintain healthy native SB communities based on local ecological conditions and with consideration of drought conditions, and manage direct and indirect human disturbance (including noise) to avoid interruption of normal GSG behavior.	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	GRSG and GRSG habitat not addressed	U - do have travel management measures	Y - travel management and recreational restrictions	U - Allows Special Recreation Permits on BLM and SUA's on USFS that will not adversely affect GRSG due to habitat loss or disruptive activities. Alt D. for Casual Use category provides for potential to seasonally close camping and and non-motorized recreation w/in 4 miles of a lek in ADH. Alt D. least restrictive for const of new roads, realignments, and upgrading. All PPH limited to designated routes, no cross-country travel for Alt B, C, and D. Travel management plans scheduled to be completed in 5 years. Largely passive restoration through closure of trails, etc. Limits disruption to species. Allows for consideration of transplanted sage-brush but does not require it as in Alt C. 5% disturbance cap applied to new roads, alignments, upgrades.	U - Difficult to say what impacts of recreation currently are to GRSG in CO.	**Recreation (BLM Programs: T, REC)**
								Which (if any) of Options 1 - 2 were applied?	GRSG and GRSG habitat not addressed	tion 1: There is potential to close ORV use. Option 2: Road and trail construction can be avoided, no	tion 1: There is potential to close ORV use. Option 2: Road and trail construction can be avoided, no	Option 1: There is potential to close ORV use. Option 2: Road and trail construction can be avoided, no mention of other restrictions on facilities in recreation and travel sections.		
Ex-Urban Development / Urbanization (BLM Programs: T, LAR)	**Y**	**Y**	**Y**	**L**	**N**	**Y**	Limit urban and exurban development in GSG habitats and maintain intact native SB communities	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	Parcels identified for disposal for consolidation of management but without regard to GRSG. Various areas managed as ROW avoidance areas but without	preferred method for disposal. Public land consolidation is intended. Will consider GRSG habitat values in acquisitions.	preferred method for disposal. Public land consolidation is intended. Will consider GRSG habitat values in acquisitions.	Y - DEIS states (Table 2.4) that will retain public ownership (except for 1800 acres of isolated parcels (not necessarily GRSG habitat) identified for disposal). Land exchanges are preferred method for disposal. Public land consolidation is intended. Will consider GRSG habitat values in acquisitions.		**Ex-Urban Development / Urbanization (BLM Programs: T, LAR)**
								Which (if any) of Options 1 - 5 would be applied?	3 and 4 likely. 1, 2, and 5 no or unlikely.	All	All	1.a. HCPs not relevant. 1.b. easements mentioned as tool; 1.c. Land exchanges mentioned as tool; 2. acquisition mentioned as tool; 3. Consolidation of infrastructure mentioned via ROW consolidation for pipelines, transmission lines, etc; 4. Landfill exclusion not mentioned but landfills are never (?) permitted on BLM land, or if they were in GRSG habitat, they would be subject to a) no adverse effect on GRSG pops (at least in PPH), and b) 5% cap in PPH; 5. Relinquishment of land for urban development not intended (Table 2-4), with reasonable exceptions.		
Infrastructure (BLM Programs: T, LAR, Wind, Solar, RM, FM, SMC, LM, NELM, SMM)	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	Avoid development of infrastructure within PACs	No new development of infrastructure within PACs. Designated, but not yet developed infrastructure corridors should be re-located outside of PACs unless it can be demonstrated that these corridors will have no impacts on the maintenance of neutral or positive sage-grouse population trends or habitats. New infrastructure should be avoided where individual state plans have identified key connectivity corridors outside of PACs.	No.	Yes, PPH = Exclusion area.	Yes, ADH = Exclusion Area.	ADH managed as avoidance area but ROW's may be allowed if they don't adversely affect GRSG. Transmission lines > 230 kV excluded from most PPH, except a corridor where TWE & EGS are planned (ROW avoidance there). If no adverse effects to GRSG pops, still limits development and surface disturbance to 5% in sagebrush (extra mitigation could allow for > 5%). Submitting to BLM clarification request/comment on "53% of GRSG habitat [would be limited by ROW avoidance]"--recommending that ADH be ROW avoidance regardless of habitat type; Wind: ROW avoidance in ADH, threat low; Solar: ROW avoidance in ADH, threat low. Large scale commercial solar precluded by BLM Solar PEIS in NWCO.	Alt D = Probably. New ROW would only be authorized if GRSG neutral (including mitigation) and subject to a 5% disturbance cap in sagebrush habitats (recommending cap apply in all GRSG habitats). BLM decides what constitutes GRSG neutral.	**Infrastructure (BLM Programs: T, LAR, Wind, Solar, RM, FM, SMC, LM, NELM, SMM)**
Permitted through ROWs = electric lines, com. sites, railroads, pipelines (off-lease), ROW-authorized roads, wind, solar, …)								Where state sage-grouse management plans provide an effective strategy for infrastructure those strategies should be implemented. In all other situations the conservation options in the COT report should be considered.	A =B = C =D.	A =B = C =D.	A =B = C =D.	The Colorado GRSG Conservation Plan does have strategies to avoid, minimize, and mitigate impacts of infrastructure including roads and there is some overlap with conservation options in the COT report. However, implementation and effectiveness of the strategies is currently not well known.		Permitted through ROWs = electric lines, com. sites, railroads, pipelines (off-lease), ROW-authorized roads, wind, solar, …)
								Which (if any) of Options 1 - 10 would be applied?	A few likely applied but mostly not with GRSG in mind.	PACs = Exclusion areas.	PACs = Exclusion areas.	CM1 = Y, see above. CM2 i.collocation required where possible, but not resricted to 200m max width, ii. lost habitat would need to be mitigated to make project GRSG neutral. CM3 = general practice. CM4 Y intent shown in TM (enforcement assumed in EIS). CM5 = ? would occur over time. CM6 = RDF. CM7 = would only be permitted if GRSG neutral, also subject to 5% cap. CM8 = general practice, CM9 = Y if adverse effects to GRSG pops or over cap. CM10 Y, TM plan calls for evaluation of seasonal road closures and restoration of roads not designated. Note: Wind & Solar not specifically prohibited in Alt. D, but net adverse effects would be.		
Fences (not ranked in COT Report table)(BLM Programs: RM)							Minimize the impact of fences on GSG populations	No conservation measures specified. Is conservation objective addressed applying locally-derived measures?	Only WRFO RMP minimally addresses fences.	Y	Y	Y - Prescribes marking, modification, or removal of fences. We will recommend use of Alternative C language in Table 2.4 line 37, as it's more flexible rather than Alternative D which suggests marking as a first step, then modification, then removal in that order.	Y - Strategies seem adequate even though details like fence density and distance from leks not included.	**Fences (not ranked in COT Report table)(BLM Programs: RM)**
								Which (if any) of Options 1 - 3 were applied?	Only WRFO RMP may partially address 1 and 3.	1, 2, and 3 but without some of the distance specificity	1, 2, and 3 but without some of the distance specificity	1 -Y, although no description of terrain or density of fences; 2 - Y; 3 - Y, but no distance from leks mentioned. Stevens 2012, which specifies fence densities and distances, and Christiansen 2009 are listed as references however. Livestock management facilities besides fences (corrals, loading facilities, water tanks, windmills) will be addressed under the "Range Management Structures" or "Wild Horse Management" issues.		

[1]Threat Ratings from COT Report

Y: Pres. and Widespread

L: Pres. and Localized

N: Not Known to be Pres.

[2]Subjective Consistency (with COT Report) Rating Continuum

High Concern &/or Measure Not Applied

↑

Lower Concern &/or Measure Applied

Programs

T = Travel
REC = Recreation
LAR = Lands and Realty
Wind = Wind Energy Management
Solar = Industrial Solar
RM = Range Management
WHM = Wild Horse Management/Free Roaming Equids
FM = Fluid Minerals
SMC = Solid Minerals - Coal
LM = Locatable Minerals
NELM = Non-Energy Leasable Minerals
SMM = Salable Mineral Materials
MSE = Mineral Split Estate
FFM = Fire and Fuels Management

FO = Fire Operations
ES&R = Emergency Stabilization and Restoration
HR = Habitat Restoration
ACEC = Area of Critical Environmental Concern