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January 29, 2014

Mrs. Amy Lueders, Nevada State Director
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1340 Financial Blvd.
Reno, Nevada 89502

Mr. William Dunkelberger, Forest Supervisor
Humboldt-Toiyabe National Forest
1200 Franklin Way
Sparks, NV 89431

RE: Sage-Grouse Draft Land Use Plan Amendment and Environmental Impact Statement

Dear Ms. Lueders and Mr. Dunkelberger:

The Nevada Department of Wildlife (NDOW) appreciates the opportunity to review and provide comment on the "Nevada and Northeastern California Sage-Grouse Draft Land Use Plan Amendment and Environmental Impact Statement" (DEIS). NDOW has spent considerable time and effort reviewing the DEIS and are hopeful that our suggestions assist your agencies in producing a stronger final document. To that end, we have attached our detailed comments in tabular format for your consideration and incorporation.

NDOW's comments have been targeted to bolster the agencies, preferred Alternative D with the belief that it will be easiest and most efficient to incorporate the best existing ideas and content from all alternatives versus reworking deficient pieces. Our comments are based upon the available DEIS document as published October, 2013. While we recognize that significant effort has been undertaken since the release of this DEIS regarding Alternative E, the State Alternative, we did not reference these changes as we understand the complications this would create for the agencies in correlating comments. Further, we realize review of amendments to Alternative E will be required before determining if those can be incorporated into the Final EIS, and we look forward to participating in that review process.

Overall, we are supportive of Alternative D, but also encourage the incorporation of some goals, objectives and actions identified in various other alternatives (most notably, Alternative E). This being said there were a few areas of note where we were supportive of Alternative B including Lands and Realty and Land Use Authorizations, Leased Federal Fluid Mineral Estate and Fluid Minerals. Our concerns in these areas are steeped in the best scientific information regarding the effects of anthropogenic disturbances to Greater sage-grouse (GRSG).

In addition, many of our comments reflect concern with livestock grazing management, particularly with respect to the fact that just 23% of the assessed acreage within allotments having GRSG habitat were meeting rangeland health standards. This, coupled with the fact that only 41% of the total acreage of public land allotments with GRSG habitat had an allotment evaluation performed was disconcerting and needs to be further addressed.

NDOW values the hard work that the Bureau of Land Management's (BLM), Forest Service, and all cooperating parties have put into the DEIS. We believe that the changes to land use plans and management activities across the range of the greater sage-grouse in Nevada that this planning document outlines have the potential to greatly strengthen conservation for sage-grouse and their habitats.

Thank you for the opportunity to be involved and provide comment on this very important wildlife conservation issue for Nevada and the West. We understand that in managing Nevada's wildlife, NDOW is reliant upon the federal land management agencies making well informed decisions regarding the care of our wildlife habitats on federal land. If you have questions or would like to further discuss this letter please do not hesitate to call.

Sincerely,

Shawn Espinosa
Wildlife Staff Specialist, Game Division

cc: Tony Wasley, Director

Review Comments to the Nevada and Northeastern California Sub-Area Sage-grouse LUP Amendment DEIS
Submitted by the Nevada Department of Wildlife (Habitat and Game Division Staff Specialists)

Comment Number	Chapter	Section, Action, Table or Figure No.	Page No. Printed DEIS	REVIEW COMMENT
1	ES	ES.6	xxviii	See attachment for more accurate narrative regarding sage-grouse hunting from Nevada Department of Wildlife perspective.
2	ES	ES.6	xxix	Some predator control actions may also be subject to federal laws and regulations, not just state laws. In the case of ravens, for example, a permit is required from the U.S. Fish and Wildlife Service due to the Migratory Bird Treaty Act.
3	ES	ES.8.4	xxxv	In terms of managing areas as PPMA or PGMAs, the first paragraph states that "mapped PPH within the isolated and highly fragmented Northwest Interior population would be managed as PGMA". We feel that this approach is not appropriate for the Sonoma, Battle Mountain and Fish Creek PMUs that are contained within this population. Viable populations of sage-grouse continue to inhabit all of these PMUs and remaining high priority habitats within these PMUs should be afforded greater conservation and protection efforts consistent with PPMA applications.
4	ES	ES.10.4	xxxix	Within the list of bullets at the top of the page under Alternative D, it states that wind and solar energy development would be excluded from PPMAs and ROW development would be avoided. We are supportive of the effort to remove the threat of these developments within PPMAs, but also are concerned with the potential for geothermal development and oil and gas development within PPMAs (see below regarding fluid minerals). Anthropogenic disturbances (e.g. transmission lines) have demonstrated negative effects to key demographic parameters such as nest success and adult survival, particularly female survival (Sedinger pers. comm.).
5	ES	ES.10.4	xxxix	Also within the list of bullets at the top of the page under Alternative D, it states that "no surface occupancy stipulations" would be applied to fluid mineral development in PPMAs. It is important to identify and be clear on what that NSO buffer distance will be. It appears that the current NSO distance is 0.6 miles, which is not based on the best available science (see Coates et al. 2013 which suggests a buffer distance of 5.0 kilometers).

Comment Number	Chapter	Section, Action, Table or Figure No.	Page No. Printed DEIS	REVIEW COMMENT
6	Intro	1.5.4	18	See attachment for more accurate narrative regarding sage-grouse hunting from Nevada Department of Wildlife perspective.
7	Intro	1.5.4	18	Some predator control actions may also be subject to federal laws and regulations, not just state laws. In the case of ravens, for example, a permit is required from the U.S. Fish and Wildlife Service due to the Migratory Bird Treaty Act.
8	Intro	1.6.	20	The last bullet on page 20 states that "Standards and guidelines for livestock grazing and other programs that have developed S&Gs will be applicable to all alternatives for BLM-administered lands". Although the Standards and Guidelines for Livestock Grazing may be an appropriate planning criteria, it seems that an elevated level of urgency is necessary to actually achieve those standards and guidelines, especially considering that only 23% of allotment acreages within the planning area with completed determinations are meeting rangeland health standards (see Table 3-31). It remains unclear how the BLM will develop the capacity to both completely evaluate allotment health, conduct the necessary monitoring annually of those allotments, and institute changes if necessary.
9	Ch. 2	2.4.4	45	Utility and transmission corridors and areas adjacent to existing or potential mine expansions are proposed to be considered as PGMA if they are currently delineated as PPH. These areas should still be considered PPMA until habitat mapping products and population trends warrant the reclassification of those habitats to PGMA. There is no biological basis for re-categorizing these and doing so might undercut future impacts assessments of potential land use activities.
10	Ch. 2	2.5.2	51	Reference to Habitat Assessment Framework in first paragraph requires a citation (Stiver et al. 2010).

Comment Number	Chapter	Section, Action, Table or Figure No.	Page No. Printed DEIS	REVIEW COMMENT
11	Ch. 2	2.5.2	51	In paragraph two, it states that "disturbance monitoring will measure and track changes in the amount of sagebrush in the landscape and the anthropogenic footprint…" It is important to provide some temporal perspective here. Will this type of monitoring commence in 2013, upon final EIS Record of Decision, RMP amendments? How long will monitoring last, etc.?
12	Ch. 2	2.5.3	52	Under Adaptive Management and Monitoring, the paragraph discusses the use of "hard and soft" triggers to guide adaptive management yet no real definition or structure is provided as to the difference between the two and what they actually mean.
13	Ch. 2	Table 2.4	75	Under Alternative E, although TMA-9 could be considered more of a management action rather than goal or object, we feel that it is worthwhile to include within the preferred alternative as this is a reasonable approach to raven control on behalf of sage-grouse.
14	Ch. 2	Table 2.4	80	Alternative D includes habitat losses from fire in its determination of "no net unmitigated loss of PPMA". We support this approach for defining "no net unmitigated loss" as it accurately incorporates the chief threat at current to sage-grouse habitats across much of the species range in Nevada.
15	Ch. 2	Table 2.4	82	Alternative B explicitly states that management actions should be tied to specific, quantifiable habitat and population objectives in a monitoring and adaptive management framework. We support making use of similar language in the final action to assure that management actions are based on a rigorous, scientific basis.
16	Ch. 2	Table 2.4	87	In the absence of stronger exclusionary language for anthropogenic disturbances, we support Alternative B's use of a disturbance threshold for anthropogenic disturbance to provide an objective measure to limit development activities in PPMAs. Current science supports such a threshold (Holloran 2005, Walker et al. 2007, Doherty et al. 2008, Doherty et al. 2011, Naugle et al. 2011, Knick et al. 2013).

Comment Number	Chapter	Section, Action, Table or Figure No.	Page No. Printed DEIS	REVIEW COMMENT
17	Ch. 2	Table 2.4	93	We support the Alternative B objective of treating areas of PGMA adjacent to PPMA areas where large-scale disturbance has occurred as PPMA. We believe the EIS needs to provide a method of determination for "large-scale disturbance" and what constitutes a qualifying area of PGMA adjacent to PPMA (i.e., is there a size threshold for such adjacent areas of PGMA?).
18	Ch. 2	Table 2.4	100	Alternative B D-VEG 2 proposes prioritization of habitat restoration at the sub-population and population scales. These scales are not adequately assessed for GRSG in Nevada and would require widespread genetic analyses, ongoing (Oyler-McCance and Knick, pers. comm.). In the absence of scientifically based population and sub-population metrics across the range of GRSG in Nevada, we suggest that this statement be modified or eliminated. Additionally, a larger scale of prioritization might assist maximizing return on investment for currently limited funds.
19	Ch. 2	Table 2.4	103	Relative to Habitat Restoration/Vegetation Management, we are supportive of the Objectives identified under Alternative D and also support the inclusion of Objective F-VEG-ISM 1 identified under Alternative F.
20	Ch 2	Table 2.4	104-105	Relative to Wild Horses and Burros, we are supportive of the Objectives identified under Alternative D and would encourage the BLM to add an objective that speaks to the determination of whether existing AMLs are appropriated to maintain rangeland health standards.
21	Ch. 2	Table 2.4	106-110	Relative to Fire and Fuels Management, we are generally supportive of the Goals and Objectives identified under Alternative D, but also suggest that certain goals under Alternative E including TMA-1.3, TMA-1.6, TMA-4.4, TMA-4.1, TMA-3.7, TMA-2.2, TMA-2.8, TMA-3-4, and TMA-3.8 as part of the preferred alternative.
22	Ch. 2	Table 2.4	109	Alternative D-FFM 3 is an objective we generally support, but believe it should clearly state that these restoration investments will be protected through temporary exclusions of land uses for a period of time determined by site objectives and subsequent monitoring.

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23	Ch. 2	Table 2.4	111-112	Relative to Livestock Grazing, more robust goals and objectives are necessary under Alternative D, especially considering the statistics provided in Table 3.13 relative to lotic/lentic riparian systems and Table 3.31 depicting the categorization of allotments and achievement of rangeland health standards. We also suggest that certain objectives under Alternative E, specifically TMA-12.1 and TMA-12.2, be included under the preferred Alternative.
24	Ch. 2	Table 2.4	111-112	Relative Livestock Grazing, Table 3.31 on page 472 illustrates that, in Nevada, there are 353 allotments comprised of 10,832,853 acres of GRSG habitat that have no determination as to whether standards are being met for rangeland health. It seems necessary to include an objective to reduce these allotments and acreages that have not been evaluated by some reasonable amount over the next 5-10 year period. Additionally, the above referenced table also points out that, of the 197 assessed allotments (comprising 7,637,942 acres of GRSG habitat) that have been assessed or evaluated, only 45 (or 23% of total assessed acreage) were found to be in Category 1 (standards being met). It also seems necessary to include a measurable objective to increase the number of allotments and acreages over the next 3-5 year period to actually meet Category 1 status.
25	Ch. 2	Table 2.4	113-114	Relative to Travel Management and Lands and Realty, we support the goals and objective outlined under Alternative D. We do suggest that transportation planning accounts for appropriate buffers during planning analysis to fully account for the direct and indirect impacts of these disturbances. Lyon and Anderson (2003) suggested that light traffic disturbance (1-12 vehicles/day) during the breeding season might reduce nest-initiation rates and increase distances moved from leks during nest-site selection. Also see acoustic impacts (Blickley and Patricelli 2012)

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26	Ch. 2	Table 2.4	115-116	Relative to Leasable Minerals – Fluid Mineral, we are generally supportive of the goals and objectives outlined under Alternative D; however, we recommend that a clear set of guidelines and policies for fluid minerals exploration and development be drafted for BLM lands in Nevada through a process that includes sage-grouse expertise in its formulation prior to leasing any activities in PPMA or PGMA. Currently Alternative D lacks specifics to provide adequate analysis of goals and objectives to assure priority for sage-grouse conservation.
27	Ch. 2	Table 2.5	123	Under Alternative D, Action D-SSS 2: the action should state: "Work cooperatively with State Wildlife Agencies to establish and maintain…"
28	Ch. 2	Table 2.5	125	We generally support Alternative D, Action D-SSS-AM 3, but believe BLM needs to identify further actions to guarantee that mitigation investments off-site will have durability (i.e., places where mitigation is invested on the ground should not be considered for multiple use activities that will undercut these investments).
29	Ch. 2	Table 2.5	153-182	Relative to Habitat Restoration/Vegetation Management, we support the actions identified under alternative D, but also suggest adding the following actions as part of the preferred alternative: F-VEG 2, F-VEG 3, B-VEG 5, E-VEG 5, B-VEG 7, B-VEG 8, B-VEG 9, B-VEG 10, B-VEG 11, E-VEG 30.
30	Ch. 2	Table 2.5	164	Under Alternative D, Action D-VEG-22: we discourage the emphasis of vegetation treatments in winter range where winter range has been found to be a limiting factor. This action seems somewhat counterintuitive unless it is aimed at reducing the invasive component in the understory that would threaten the long-term sustainability of the sagebrush community that serves as winter habitat.

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31	Ch. 2	Table 2.5	165	Under Alternative D, Action D-VEG 28: In PPMAs and PGMAs, where riparian extend is limited by shrub encroachment, consider fuels treatments including prescribed burning or other means to increase edge… We are not aware of any literature suggesting these methods would be successful in accomplishing this, especially with respect to sage-grouse habitat enhancement. Prescribed burning and mowing treatments that would reduce shrub cover, especially within Wyoming big sagebrush habitats, have actually been found to be detrimental in many cases (see Beck et al. 2009, Beck et al. 2012 and Davies et al. 2012).
32	Ch. 2	Table 2.5	167	Under Alternative D, Action D-VEG 29, 5th bullet. Fuel breaks should be created at the edge of intact and previously burned or cheatgrass invaded sites. Fuel break construction should be avoided within nesting habitat and within winter habitats when winter habitat has been determined to be a limiting factor.
33	Ch. 2	Table 2.5	168	Under Alternative D, Action D-VEG 30, we suggest clearly stating that pinyon-juniper (PJ) treatments should focus on Phase 1 & 2 areas, as defined by Tausch, that are adjacent to PPMA/PGMA and areas formerly serving as riparian habitat that have been lost from PJ encroachment.
34	Ch. 2	Table 2.5	170-171	Under Integrated Invasive Species Management, include Action E-VEG-ISCE 1, E-VEG-ISCE 5, E-VEG-ISCE 6, E-VEG-ISCE 7, E-VEG-ISCE 11, E-VEG-ISCE 12, and E-VEG-ISCE 14 within the preferred alternative.
35	Ch. 2	Table 2.5	173	Under Alternative D, Action D-VEG-ISCE 2. The action calls for "targeted early season grazing would be allowed to suppress cheatgrass…" Treatment trials have indicated the targeted fall grazing may be a more appropriate approach (Perryman, pers. comm.). Consideration of temporary non-renewable (TNR) permits might assist in targeting these actions, but use of these has to be clearly tied to sage-grouse conservation goals and objectives (Table 2.6).

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36	Ch. 2	Table 2.5	175	Alternative D, Action D-VEG-ISCE 8 specifies activities to be targeted in PJ Phase 3 areas. Our understanding of PJ communities (Tausch, personal comm.) is that efforts should be focused on Phases 1 & 2 to make the best use of limited restoration funding.
37	Ch. 2	Table 2.5	179	Alternative D, Action D-VEG-CC 3 prioritized Phase 2 PJ removal over Phase 1. We recommend reversing these or placing them on equal footing (Elsevier et al. 2013).
38	Ch. 2	Table 2.5	182-183	Relative to Wild Horse and Burro Management, we support the the inclusion of actions described under both Alternative B and D. We also recommend developing an action that further stresses the possible use of contraceptives in a more aggressive manner in order to control herd growth.
39	Ch. 2	Table 2.5	186-198	With respect to Fire Management, we support the actions described under Alternative D and also support the following objectives developed under Alternative E: E-FFM 3, E-FFM 4, E-FFM 8, E-FFM 10, TMA-3.11, TMA-3.13, TMA-1.5, E-FFM 11 (TMA-3.7), and E-FFM 15.
40	Ch. 2	Table 2.5	199	Relative to Hazardous Fuels Management, we support the Actions identified under Alternative B. We also support the following Actions described under Alternative E including E-FFM-HFM 14 and E-FFM-HFM 16. Actions identified under Alternative D, specifically Action D-FFM-HFM 3, the use of prescribed fire and mechanical treatment can have deleterious consequences as demonstrated in Beck et al (2009), Beck et al. (2012), Davies et al (2012).
41	Ch. 2	Table 2.5	232	Under Alternative D, Action D-LG 10, we suggest providing a reference for the term “proper functioning condition” if one exists. If not, this is ambiguous.
42	Ch. 2	Table 2.5	235	For Action D-LG 16, we recommend that resumption of grazing post-treatment explicitly state that monitoring will continue after grazing is allowed to resume and that grazing will be closed again if treatment objectives are being negatively impacted from resumed grazing.

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43	Ch. 2	Table 2.5	239	For Action D-LG 24, change "monitoring sites annually during the livestock grazing closure period" to "monitoring sites annually during the livestock grazing closure period and for at least 3 years after grazing resumes". This is needed to assure that the resumption of grazing does not negatively impact treatments.
44	Ch. 2	Table 2.5	253	With respect to Lands and Realty, Land Use Authorizations, we support the incorporation of the actions identified under Alternative B as those that would be most conducive to conserving sage-grouse over the long-term. Under Alternative D, the landscape of PPMA and PGMAs could become highly fragmented over time and would ultimately lead to smaller and smaller sage-grouse populations.
45	Ch. 2	Table 2.5	268	For Alternative D, Action D-LR-W, only allow these energy facilities if the project will include the stipulation for removal and rehabilitations of existing transmission infrastructure and associated right-of-ways and will result in an overall gain of sage-grouse habitats. A cautionary approach should be advocated here as this has the potential to further fragment/degrade existing sage-grouse habitats (both directly and indirectly).
46	Ch. 2	Table 2.5	277	With respect to Leased Federal Fluid Mineral Estate, we support the inclusion of actions indentified under Alternative B and recommend those be the preferred Alternative. These actions provide the greatest conservation benefit to sage-grouse over the long-term. There didn't seem to be robust enough conservation actions in Alternative D relative to Alternative B.
47	Ch. 2	Table 2.5	284	Relative to Fluid Minerals (in un-leased federal fluid mineral estate) we support the Actions identified under Alternative B. These actions provide the greatest conservation benefit to sage-grouse over the long-term. Additionally, we believe the allowance of waivers and exceptions in PGMA under Alternative D could provide too much discretion for decisions that are inconsistent with GRSG conservation objectives. Also, under Alternative D, an NSO stipulation (0.6 miles) would apply which is inadequate for the conservation of sage-grouse (Coates et al. 2013).

Comment Number	Chapter	Section, Action, Table or Figure No.	Page No. Printed DEIS	REVIEW COMMENT
48	Ch. 2	Table 2.5	286	With respect to locatable minerals, we support the actions identified under Alternative D, subject to valid existing rights; however, we would also suggest that high density, core sage-grouse habitats be withdrawn from mineral entry. These actions provide the greatest assurances for the long-term conservation of sage-grouse.
49	Ch. 2	Table 2.5	292	For Salable Minerals, we support the actions identified under Alternative D, subject to valid existing rights. These action provide the greatest assurances for the long-term conservation of sage-grouse.
50	Ch. 2	Table 2.5	294	Relative to Non-energy Leasable Minerals, we support the actions identified under Alternative D. These actions are the most appropriate for long-term conservation of sage-grouse habitat.
51	Ch. 3	3.2	410	Under the Sage-grouse Population section, there are lek status definitions. These are appropriate for Nevada; however, California Division of Fish and Wildlife may have a different categorization of lek status than Nevada.
52	Ch. 3	3.2	410	The most current breakdown of lek status in Nevada as of 2013 is as follows: 634 active, 323 inactive, 275 pending, 522 unknown and 93 historic leks.
53	Ch. 3	Figure 3-5	412	The first paragraph on page 412 discusses risk to cheatgrass invasion. The second sentence states "of note is the low risk for the Nevada portion of the Northeast California/Northwest Nevada, North Central, and Northeastern subpopulations…" This statement seems somewhat misleading as Figure 3-5 shows that the majority of the Northeast California/Northwest Nevada subpopulation as being at high risk to cheatgrass establishment. In some cases this has already manifested itself, e.g., the Buffalo/Skedaddle PMU.

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54	Ch. 3	3.2.3	416	The first sentence beginning the last paragraph on the page states that "current vegetation treatments are resulting in an improving trend." This statement should be cited if possible. Is this statement referring to vegetation trends towards increasing sagebrush cover or sage-grouse population trends? At this time, we are unaware of adequate research or monitoring to support this if the sentence is referring to sage-grouse population trends.
55	Ch. 3	3.2.3	419	Within the paragraph describing subpopulations within Management Zone IV, there is a statement suggesting that "current vegetation treatments are resulting in an improving trend". This statement should be cited if possible, or examples provided. Again, is the statement referring to vegetative trends, or sage-grouse population trends. This is a somewhat misleading statement either way because no other Management Zone in the Great Basin, or possibly the range of the species has exhibited as much sagebrush loss as Management Zone IV, primarily due to wildfire.
56	Ch. 3	3.2.3	419, 420	A statement at the bottom of page 419, continuing on to page 420 states that "the persistence of the Clear Lake population is dependent upon the implementation of large-scale juniper removal by the Modoc National Forest." To a degree, this population is also dependent upon translocation as well. "Since 2005, 133 Greater Sage-Grouse from Oregon and Nevada have been translocated, radio-marked, and monitored in the Devil's Garden PMU" (Lind and Richardson 2013).
57	Ch. 3	3.2.3	420	In the third paragraph it states, "as of 2012, 21 leks were active in the PMU (Buffalo/Skedaddle)". In NDOW's 2013 database, there are 24 leks identified as active within this PMU.

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58	Ch. 3	3.3.2	431	Fourth paragraph, first sentence states that "natural fire return intervals in Wyoming big sagebrush appear to range from 10 to 110 years or more". This seems too short for Wyoming big sagebrush communities and is more in line with mountain big sagebrush fire return intervals. Bukowski and Baker (2013) found that historic fire rotations in Wyoming big sagebrush communities were between 171-342 years.
59	Ch. 3	3.4	439	Table 3.13 identifies the percent of lotic and lentic riparian areas meeting riparian goals. Given that Nevada BLM Districts Elko, Winnemucca and Battle Mountain had just 60%, 55% and 47% of lotic areas meeting riparian goals and objectives, it would seem necessary to develop a goal or objective to address this issue over the next 5-10 year period. Even more discouraging were the statistics for lentic riparian areas. Within the Nevada BLM districts, no district had more than 38% of lentic riparian areas meeting riparian goals and objective. Likewise here, we would suggest developing an objective to address this over the next 5-10 year period. These areas can be critical to sage-grouse, serving as late brood rearing habitat, and in many instances, are the most limiting seasonal habitat type for grouse in Nevada. Additionally, it would be good to note what the primary factors are for not meeting riparian goals for each District, if those can be quantified or qualified.
60	Ch. 3	3.8	472	Table 3.31 identifies the number of allotments and acreages within those allotments considered sage-grouse habitats that are either Category 1, 2, 3, 4, or 5. Of the approximately 18.5 million acres of sage-grouse habitat in Nevada, only 7.6 million acres had been assessed. Again, it was concerning to learn that almost 11 million acres had no assessment as to whether or not those allotments were meeting rangeland health standards. Even more of an issue is that that just 23% of the allotments evaluated were considered Category 1 (indicates standards being met). It seems that an objective should be identified to increase both allotment evaluations and the number of allotments where standards are being met.

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61	Ch. 5	5.3.4	890	The document suggests that "Grazing" is a "Lesser Threat" within this Management Zone (V). However, the USFWS COT Report (pg. 84) identifies "improper livestock grazing practices and wild horse utilization causing severe habitat degradation in some instances, especially with respect to meadow, spring and riparian habitats" suggesting an elevated level of concern for Management Zone V.
62	Ch. 5	5.8	901, 902	In explanations of the effects of Alternative A, B, C, D and F, a paragraph is inserted that states: "Increased forage levels due to reduced levels of grazing would result in increased fuel loads and increased frequency of wildfire on the landscape." Is there literature that supports this? Although this might seem like a reasonable assumption, there is a key element here that is not discussed, i.e., the increased resiliency within a landscape due to an increase in perennial bunchgrass cover and diversity. We offer the following from Reisner et al. 2013: *"Grazing exacerbates* Bromus tectorum *dominance in one of North America's most endangered ecosystems by adversely impacting key mechanisms mediating resistance to invasion. If the goal is to conserve and restore resistance of these systems, managers should consider maintaining or restoring: (i) high bunchgrass cover and structure characterized by spatially dispersed bunchgrasses and small gaps between them; (ii) a diverse assemblage of bunchgrass species to maximize competitive interactions with* B. tectorum *in time and space; and (iii) biological soil crusts to limit* B. tectorum *establishment. Passive restoration by reducing cumulative cattle grazing may be one of the most effective means of achieving these three goals."* So, the question becomes, is it better to graze herbaceous material to bare ground so that it does not burn? Or, the alternative, which is to manage grazing to induce a net increase in perennial bunchgrass cover and diversity and reduce gap space so that, when a fire does occur, the chances that the area gets converted to invasive annual grass is minimal. We prefer the latter as it promotes both resiliency for the vegetation community and provides support for a broader spectrum of wildlife.

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Review Comments to the Nevada and Northeastern California Sub-Area Sage-grouse LUP Amendment DEIS

Submitted by the Nevada Department of Wildlife (Habitat and Game Division Staff Specialists)

Greater sage-grouse Hunting Language for Nevada/Northeastern California Sub-regional Draft EIS

With respect to hunting sage-grouse, it is important to note that contemporary hunting seasons in Nevada are generally very conservative due to their length (10-15 days) and bag limits (2 daily and 4 in possession). Where sage-grouse populations are considered rather small and/or isolated, hunting seasons have been closed. Five counties in Nevada and over 20 hunt units have been closed to sage-grouse hunting since 1997. The biological issue remains whether or not hunters killing birds is additive, and contributes to population declines, or compensatory with other sources of mortality (e.g. predation). Research conducted on the topic indicates that local circumstances, such as overall population size and connectedness, habitat condition and proximity to urban areas could play important roles as to whether mortality is additive or compensatory.

In an Idaho study that examined 19 study areas subjected to moderate, limited and no hunting over a seven year period found that populations in areas closed to hunting grew faster and that, in more xeric and lowland habitats, hunting slowed population growth, suggesting an additive effect of harvest (Connelly et al. 2003). Conversely, Sedinger et al. (2010) did not detect an additive effect of hunter harvest on survival in sage-grouse in Colorado. Supporting this, in a long-term study conducted in Eureka County, Nevada, Blomberg et al. (2013) found that human harvest accounted for 2% of fall mortality and did not adversely impact sage-grouse populations.

There are ancillary benefits to sage-grouse hunting. Even though few hunters purchase a hunting license specifically for sage-grouse hunting, hunting license dollars are used to match federal grants(Pittman-Robertson Act) to conduct monitoring work annually, conduct research projects and implement habitat enhancement and restoration projects. Additionally, wings from hunter harvested birds are analyzed annually to determine nest success, recruitment and overall population viability. Cessation of hunting would likely eliminate the usage of hunting license dollars as match for federal aid grants and greatly reduce annual monitoring efforts, research and habitat restoration projects that are currently funded through this mechanism.