



December 14, 2015

Collen Sievers
Project Manager
BLM Carson City District
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Via email to blm_nv_ccdowebmail@blm.gov

Dear Project Manager Sievers:

WildEarth Guardians provides these additional comments to inform the planning process for the Carson City and Tonopah Field Offices, pursuant to its participation in the Bi-State Distinct Population Segment RMP Amendment for the Humboldt-Toiyabe National Forest and Final Environmental Impact Statement ("FEIS"). Please note contact information on this letterhead. These comments supplement WildEarth Guardians' comments on the original Draft EIS for this plan amendment, filed December 27, 2013, and comments on the Revised Draft EIS filed by WildEarth Guardians on October 9, 2014. These comments focus on disturbance caps, buffer limits, connectivity, and conservation issues directly related thereto, per the BLM announcement of a supplemental comment period. We believe that the issues raised in these comments can readily be addressed simply by adopting direction contained in other alternatives, in the absence of major shifts in policy from the proposed plan amendment.

At minimum, the BLM should adopt the improvements to the proposed Record of Decision that have been adopted by the U.S. Forest Service in the context of the same plan amendment process. The Forest Service has committed to implementing the following measures:

- Add new guideline to Table ROD-1 as follows: "In bi-state DPS habitat, consider the closure of grazing allotments, pastures, or portions of pastures or managing the allotment as a forage reserve consistent with maintaining sage-grouse habitat based on desired conditions as opportunities arise under applicable regulations, where removal of livestock would enhance the ability to achieve desired habitat conditions (Amendment Table 1)."
- Adopt B-Weed-G-01 worded as follows: "Grazing may be used to target removal of cheatgrass or other vegetation hindering bi-state DPS objectives where monocultures occur to move toward desired habitat conditions. Sheep, goats, or cattle may be used as long as the animals are intensely managed and removed when incidental utilization of desirable species reaches 25%."

- Adopt B-AR-S-03 with changed wording as follows: “Between March 1 and June 30, off-highway vehicle events that pass within 4 miles of an active or pending lek shall not be authorized.”
- Adopt B-Min-S-03 with changed wording as follows: “Applying timing restrictions between March 1 and June 30 within 4 miles of active or pending leks to avoid construction, drilling, completion, geophysical explorations, and reclamation activities, including those of exploratory wildcat wells.”
- Clarify in ROD: “The habitat used in the FEIS has been identified through modeling, telemetry, and field surveys/verification. Recognizing that all bi-state DPS habitat is of very high value and needs to be managed accordingly, the standards and guidelines in the proposed action/selected alternative apply to all areas mapped as habitat, including connectivity habitat.”
- Add a section in the ROD which clearly shows what S & G’s apply to connectivity habitat.
- Adopt B-Min-G-05, in Fluid Minerals. Change wording of B-Min-G-05 as follows: “Limit disturbances to an average of one site per 640 acres on average, with no more than 3% total anthropogenic surface disturbances. The intent of this guideline is to minimize disturbance foot print wherever possible.”
- Add the following definition of Anthropogenic Disturbances to the Glossary: “Anthropogenic Disturbance: Human-created features within 4.7 miles of leks that include but are not limited to paved highways, graded gravel roads, transmission lines, substations, oil and gas wells, geothermal wells and associated facilities, pipelines, landfills, agricultural conversion, homes, and mines.”
- Pursuant to C-Min-S-06: Upon expiration or termination of existing leases in bi-state DPS habitat, do not consent to leasing if inquired by the BLM. *(Note: This applies to all bi-state habitat whether or not it is located within the 4-mile lek buffer).*
- Adopt B-Wild-S-06 with changed wording as follows: “Subject to all valid existing rights, require buffers, timing limitations, or offsite habitat restoration for new or renewed disturbance actions to mitigate potential long term impacts.
- Combine B-Min-S-07 and B-Min-S-09 with changed wording as follows: “Between November 1 and June 30, seismic and geophysical exploration within 4 miles of an active or pending lek shall not be authorized. During other times apply the least invasive seismic and geophysical methods in habitat.”
- Adopt C-LUSU-S-05 with changed wording as follows: “Do not authorize outfitter-guide activities in bi-state habitat that occur within 4 miles of active leks from March 1 to June 30.”
- Adopt C-Wild S-04 and move to the All Resources Section, with changed wording as follows: “Total anthropogenic disturbances shall affect no more than 3% of the bi-state DPS habitat within 4.7 miles of leks in the Bodie/Mount Grant, Desert Creek/Fales, and White Mountains population management unit boundaries. See definition of Anthropogenic Disturbance in Glossary.”
- Adopt Pine Nuts PMU standard (C-Wild-S-05) and move to All Resources section of Table ROD-1, with changed wording as follows: “Total anthropogenic disturbances shall affect no more than 1.5% of the bi-state DPS habitat within 4.7 miles of leks in the Pine Nut Mountains Population Management Unit boundaries.”

- Adopt B-Fire-G-06, with changed wording as follows: “Do not use prescribed fire, except for pile burning, in 12-inch or less precipitation zones, in areas where there is threat of cheatgrass invasion, or areas where the sagebrush cover would be reduced to less than 15% unless necessary to facilitate site preparation for restoration of Bi-State DPS habitat consistent with desired conditions.”
- Adopt C-Fire-G-01, with changed wording as follows: “Vegetation treatments should include fuel breaks to provide anchor points for wildland fire suppression to protect areas meeting or moving toward desired conditions.”
- Remove C-Fire-G-02 from the selected alternative.
- Adopt B-Fire-G-05 in the selected alternative.

These adjustments in the Forest Service final plan amendment should serve as a minimum baseline of protection for habitats used by the Bi-State sage grouse DPS.

The Bi-State Distinct Population Segment (“DPS”) of greater sage grouse is currently a Candidate for listing under the Endangered Species Act, with a listing decision expected as early as April 2015. Aldridge and Boyce (2007) pointed out that 500 to 5,000 sage grouse may be needed to provide a sufficient effective population number to maintain population persistence. Recent science indicates that based on current trends there is a significant chance of extirpation for both the Mono Lake and South Mono populations at the 30 year (7.7% and 7.9% probability, respectively) and 100 year (21.5% and 21.3% probability, respectively) timescales (Garton et al. 2015). The stated goal of this plan amendment is to address the ‘inadequacy of regulatory mechanisms’ highlighted by the U.S. Fish and Wildlife Service (“Service”) in its proposed listing rule. Populations in the Bi-State DPS are small and isolated from each other, and in danger of extirpation. Bi-State Biological Assessment/Biological Evaluation (“BA/BE”) at 62-63. Attachment 1. Strong measures will therefore be needed to demonstrate that the threats noted by the Service have been adequately addressed.

The Draft Record of Decision (“DROD”) identifies the selected measures in Table ROD-1 as its final amendment to the LRMP in question. However, measures in Appendix 1, described as the proposed plan, are not in all cases consistent with those selected in Table ROD-1. We assume that Table ROD-1 constitutes the agency’s proposed RMP amendment, and our Objection will therefore focus on this package of planning guidance; we will note inconsistencies with Appendix 1.

A number of measures included in the selected plan will benefit sage grouse, are in accord with the best available science, and have certainty of implementation. These fully meet the criteria as adequate regulatory mechanisms, and we particularly applaud the agencies’ proposed adoption of the following:

C-Min-S-01 Requires maintaining vegetation characteristics suitable to bi-state DPS in connective area.

C-Min-S-06 Do not consent to new fluid mineral leasing upon expiration or termination of current leases.

B-AR-S-01 Mandating a “white arrow” travel management policy preventing vehicle use off designated roads

B-AR-S-04 Protection of winter habitats from special recreation permit events

C-AR-S-04 Protecting sage grouse habitats from new recreation facilities

C-LUSU-S-01 Making sage grouse habitats exclusion areas for new rights-of-way and co-locating new ROWs for valid existing rights with existing ROWs

C-LUSU-S-02 Sage grouse habitats are exclusion areas for utility-scale wind farms

C-LUSU-S-03 Sage grouse habitats are exclusion areas for utility-scale solar projects

C-LUSU-S-04 Prohibiting tall structures within 4 miles of lcks

B-LUSU-S-03 Retain lands in federal ownership unless disposal is a net benefit to grouse

B-LUSU-S-05 Prioritize private inholdings in key habitats for federal acquisition

B-LUSU-S-06 Reclaim ROWs/remove structures when ROWs are relinquished.

C-LUSU-S-09 No new communication sites in sage grouse habitat

B-Wild-S-01 Any vegetation treatment must maintain, improve, or restore grouse habitat

B-RI-S-01 Remove fences that are negative impacting grouse and their habitats

B-RI-S-02 Any new structural range improvement shall not retard conservation, enhancement, or resoration of bi-state habitats.

B-Weed-S-02 No use of herbicides/pesticides during critical disturbance periods; use lowest-toxicity alternative

C-Min-S-09 Do not authorize new high-power transmission line corridors outside existing corridors.

C-Min-S-12 – No new solid minerals leasing (including coal).

B-Min-S-14 Require removal of transmission lines and roads that become unnecessary

B-Min-S-15 Close grouse habitat to new mineral material pits

B-Fire-G-06 Do not use prescribed fire in areas with < 12” annual precipitation

We appreciate these examples of providing legally binding, science-based sage grouse protection measures. Other measures proposed for adoption by the agencies miss the mark. The which merit improved guidance include:

1. Failure to respond to public comments as required by the National Environmental Policy Act.
2. The proposed plan results in undue degradation to greater sage grouse (a BLM Sensitive Species) and their habitats, in violation of the Federal Lands Policy and Management Act (“FLPMA”) and BLM Sensitive Species Manual.
3. The proposed plan fails to meet the Purpose and Need for the EIS, which is to establish adequate regulatory mechanisms to protect sage grouse and obviate the need for listing the species under the Endangered Species Act.
4. The proposed plan in some respects fails to meet National Environmental Policy Act (“NEPA”) scientific integrity standards. Significant portions of the proposed plan are not in accord with the best available science on sage grouse conservation as delineated by the agency’s own experts, rendering the decision arbitrary and capricious and an abuse of discretion under the Administrative Procedures Act (“APA”).
5. For several parts of the plan amendment EIS, the agencies have failed to meet NEPA’s baseline information and hard look requirements.

We incorporate by reference all attachments to the comments of WildEarth Guardians on the original Draft EIS (“DEIS comments”) and the Revised Draft EIS (“RDEIS comments”) as well as the comments themselves. It is apparent that some relatively minor adjustments (see ‘relief requested’ sections) to the proposed plan amendment would bring these jurisdictions into alignment with the best available science and achieve certainty of implementation, thereby providing legally adequate and scientifically defensible sage grouse protections for the portion of the Bi-State DPS of greater sage grouse covered by these plans.

Statement of Interest: WildEarth Guardians is a nonprofit conservation organization that works to protect wildlife, wild places, wild rivers, and the health of the American West. Our members, numbering 66,300 nationwide, are deeply concerned with the dire state of Bi-State sage grouse populations, and use its habitats for recreation, wildlife viewing, and nature study. Our organization has a vested interest in sound, sustainable ecosystem management that provides the greater sage grouse, as well as hundreds of other species of native plants and wildlife, the habitat needed for survival.

Failure of Proposed RMP Amendment to meet the Purpose and Need for this EIS

The Purpose and Need for this Revised Draft EIS is as follows:

The USFWS concluded that existing regulatory mechanisms to protect sage grouse and their habitats in the bi-state area “...afford sufficient discretion to the decision makers as to render them inadequate to ameliorate the threats to the Bi-state Distinct Population Segment.” The major threats identified by the USFWS in regards to actions authorized on NFS lands and BLM public lands is habitat modification, including modification from infrastructure (fences, powerlines, and roads), recreation, mining, energy development, grazing, fire, invasive species, noxious weeds, pinyon-juniper encroachment, and climate change. As described

below in the “Purpose and Need for Action” section, the Forest Service and BLM proposed action is to address the USFWS finding about their regulatory mechanisms.

FEIS at 1. This is clarified as follows:

The purpose of the proposed amendment is to conserve, enhance, and/or restore sagebrush and associated habitats to provide for the long-term viability of the bi-state DPS. This action is needed to address the now “proposed threatened” Endangered Species Act listing, and to support bi-state DPS population management objectives within the states of Nevada and California.

FEIS at 9. The agencies further clarify the need of the EIS as follows:

The need of this action has been to conserve the bi-state DPS and its habitat through the adoption of goals, objectives, and standards and guidelines, to address the U.S. Fish and Wildlife Service (USFWS) March 2010 finding that the existing regulatory mechanisms to protect sage grouse and their habitats “afford sufficient discretion to the decision makers as to render them (existing regulatory mechanism) inadequate to ameliorate the threats to the bi-state DPS”

Draft ROD at 3. In order to address the “inadequacy of regulatory mechanisms” highlighted in the Bi-State DPS Proposed Rule, the federal agencies must apply sage grouse protections that in every respect satisfy the certainty of implementation and science-based effectiveness requirements employed by the U.S. Fish and Wildlife Service to judge regulatory mechanisms under that agency’s Policy on Effective Conservation Efforts (“PECE”). The Service has declined to list the Bi-State DPS as threatened or endangered under the Endangered Species Act, but due to the likelihood of legal review of this decision, we encourage the BLM to rigorously meet all legal and policy requirements pursuant to the ESA in order to avoid contributing to further legal deficiencies.

Pursuant to NEPA, any alternative selected for implementation must meet the Purpose and Need for the EIS. As discussed in detail in the sections that follow, many of the regulatory mechanisms proposed for implementation still do not meet the legal standards to satisfy U.S. Fish and Wildlife Service legal obligations under the Endangered Species Act.

The agencies make the following assertion regarding the cumulative effect of adopting Alternative B or C:

There would be beneficial effects to bi-state DPS as a result of implementing either alternative B or C. Therefore, the Bi-state Sage-grouse Forest Plan Amendment may affect individuals, but is not likely to contribute to the need for Federal listing or result in loss of viability for the bi-state DPS in the planning area.

FEIS at 97. This statement indicates a failure to take the legally required “hard look” at impacts of permitted activities under these alternatives on greater sage grouse. The specific, science-based deficiencies of proposed management prescriptions are outlined below. Each time the

agency approves a conservation measure that is insufficient to prevent significant impacts to sage grouse based on the best available science, the agency creates certainty that when the type of activity in question is approved under the RMP amendment prescriptions, significant negative impacts to sage grouse lek populations (not just individuals) is likely to occur.

The Purpose and Need of this EIS ties directly to the BLM's Sensitive Species policy (as outlined below), which likewise calls for the prevention of listing the species. Specific individual inconsistencies between measures in the proposed plan and the Purpose and Need are outlined below.

Caution Against Excessive Reliance on 'No Net Loss of habitat'

The 'no net loss of habitat' standard proposed for inclusion in the LRPM amendment is described as follows:

The "no net loss of habitat due to project disturbance" standard (C-Wild-S-03) would assure that the conservation and protection of habitat is foremost during the NEPA analysis and decision making process for both discretionary and non-discretionary site-specific projects and activities. No net loss of habitat across the range or within individual population management units will be achieved through the ongoing active habitat restoration and improvement programs and through project specific mitigations designed to avoid, minimize, rectify, reduce, or compensate for potential effects to bi-state DPS habitat by future projects.

DROD at 3. We are concerned that this standard, while admirable in intent, will be very difficult to implement from a practical standpoint given that there is no evidence to date that off-site mitigation efforts, whether habitat improvement projects or purchase of conservation easements, can increase the numbers of sage grouse using these lands and therefore compensate for important habitat that is lost. We do not challenge the inclusion of this standard in the final plan amendment, but instead caution that it cannot substitute for adequate regulatory mechanisms that protect sage grouse and their habitats against the threats that face them and incorporate science-based effectiveness and certainty of implementation.

Failure to apply BLM Sensitive Species policy

The greater sage grouse is listed as a Sensitive Species by the BLM. The Sensitive Species Program is supposed to be a proactive approach to conserving species to prevent a trend toward listing under the ESA and assist in providing for a diversity of plant and animal communities as part of the multiple use mandate.

Garton (2015) raises substantial concerns that the viability of both the Mono Lake and South Mono populations (comprising the Bi-State Distinct Population Segment or "DPS") are under threat, and that there is a significant probability of extirpation for both populations at the 30 and 100 year timescales based on current population trends. It is therefore imperative that the LRMP Amendment incorporate all measures necessary to prevent further population declines based on activities or projects permitted under the Forest Plan amendment. Certain of the specific

standards and guidelines regulating permitted activities on the BLM lands managed by the Carson City Field Office are insufficient to prevent significant impacts to sage grouse populations and habitats, as outlined specifically in the sections that follow. This results directly in significant population declines of sage grouse on public lands, threatening the viability of sage grouse subpopulations as well as the Bi-State DPS as a whole, in contravention of BLM Sensitive Species requirements.

Certain plan provisions permit “unnecessary” or “undue” degradation to sage grouse habitat

Pursuant to FLPMA, must manage public lands in a manner that does not cause either “undue” or “unnecessary” degradation. 43 U.S.C. § 1732(b). FLPMA applies to this LRMP amendment to the extent that it provides standards for the development of federal minerals, which is permitted through BLM. In this case, degradation that leads to a need to list the Bi-State DPS under the ESA is inconsistent with the Purpose and Need and violates the agency’s Sensitive Species policy, and therefore would be considered “undue.” To the extent that such degradation would have been avoided given the availability of other reasonable alternatives that would prevent this degradation, it also would be considered “unnecessary.” The RMP amendment leads to a violation of FLPMA if permitted actions result in degradation that is either “unnecessary” or “undue.”

BLM’s Unnecessary or Undue Degradation (“UUD”) responsibilities are intertwined with the agency’s NEPA duties. Under NEPA, BLM must identify impacts a proposed action will have to the environment; married to this obligation are the duties imposed by FLPMA to identify the thresholds of acceptable impact and then determine whether the impacts are unnecessary or undue. If the impacts are determined to be necessary and unavoidable, BLM must then analyze whether the impacts are undue. NEPA then reasserts itself in the process by mandating that alternatives be considered to ensure that unnecessary or undue actions are not undertaken and to ensure that methodologies used to prevent UUD are supported and verified. *Ecology Center, Inc. v. Austin*, 430 F.3d 1057, 1065 (9th Cir. 2005).

In the context of hard-rock mining, “[a] reasonable interpretation of the word ‘unnecessary’ is that which is not necessary for mining. ‘Undue’ is that which is excessive, improper, immoderate, or unwarranted.” *Utah v. Andrus*, 486 F.Supp.995, 1005 n.13 (Dist. Utah 1979). FLPMA requires that,

the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; . . . that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use;

43 U.S.C. § 1701(a)(8). At the same time, FLPMA directs that these uses be balanced with mineral extraction by requiring that,

the public lands be managed in a manner which recognizes the Nation's need for domestic sources of minerals . . . from the public lands including implementation of the Mining and Minerals Policy Act of 1970 . . .

43 U.S.C. § 1701(a)(12). The key here is for BLM to balance these opposing needs.

According to the original mining regulations, “Unnecessary or undue degradation means impacts greater than those that would normally be expected from an activity being accomplished in compliance with current standards and regulations and based on sound practices, *including use of the best reasonably available technology.*” 43 C.F.R. § 3802.0-5(l) (emphasis added). In the Bi-State Plan Amendment EIS, to the extent that BLM has failed to apply in its proposed plan the recommended sage grouse protections presented to it by its own experts (the BLM National Technical Team), and development approved under the resulting plan will result in unnecessary and/or undue degradation of sage grouse habitats and result in sage grouse population declines in these areas, it undermines the effectiveness of the RMP amendment as an adequate regulatory mechanism in the context of the decision.

Specific conservation measures that fail to prevent significant impacts to sage grouse and their habitats (and thereby result in unnecessary and/or undue degradation pursuant to FLPMA) are outlined in detail in the sections of this Objection that follow.

Failure to meet NEPA scientific integrity requirements

Agencies must evaluate the effectiveness of the conservation measures used to minimize adverse impacts to wildlife and sensitive species with the best available science. “The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.” 40 C.F.R. § 1500.1(b) (2009). “For this reason, agencies are under an affirmative mandate to ‘insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements[,] identify any methodologies used and . . . make explicit reference by footnote to the scientific and other sources relied upon for conclusions[.]’” *Envtl. Def. v. U.S. Army Corps of Eng’rs*, 515 F. Supp. 2d 69, 78 (D.D.C. 2007) (citing 40 C.F.R. § 1502.24 (2009)).

The BLM’s National Technical Team (2011) was convened to review the best available science and make recommendations that fully address the inadequacy of regulatory mechanisms for greater sage grouse:

To ensure BLM management actions are effective and based on the best available science, the National Policy Team created a National Technical Team (NTT) in August of 2011. The BLM’s objective for chartering this planning strategy effort was to develop new or revised regulatory mechanisms, through Resource Management Plans (RMPs), to conserve and restore the greater sage-grouse and its habitat on BLM-administered lands on a range-wide basis over the long term.

NTT (2011) at 4. Accordingly, “This document provides the latest science and best biological judgment to assist in making management decisions.” NTT (2011) at 5. Members of the National Technical Team include not only BLM but also state agencies, U.S. Fish and Wildlife Service, USGS, and USDA NRCS. This document represents the federal government’s expert opinion, and although policy documents state that the agency is not bound to adopt these measures in its RMP amendments, in cases where the agency offers divergent conservation measures, it must supply a scientifically supported justification for choosing a different path, which is arbitrary and capricious and an abuse of discretion under the Administrative Procedures Act (“APA”). According to the agencies,

The management direction developed and analyzed in this EIS is based on recommendations from the Conservation Objectives Team report as well as the National Technical Team report. The management direction was crafted to specifically address the threats to bi-state DPS identified by the USFWS.

FEIS at 268. In many cases, the agency has elected to substitute alternative conservation measures to the NTT recommendations without providing sufficient science-based justification. The result is twofold: A failure to uphold NEPA’s scientific integrity requirements, and plan amendments that contain inadequate regulatory mechanisms.

Specific measures proposed for implementation in the proposed RMP amendment that are in conflict with the best available science and/or the National Technical Team report are described in detail in the sections that follow.

Failure to meet NEPA hard look requirements

Section 102(2)(C) of NEPA requires that the responsible federal agency prepare a detailed statement on the environmental impacts of the proposed action and any adverse environmental effects which cannot be avoided should the proposal be implemented. The regulations implementing NEPA provide that “[t]o determine the scope of environmental impact statements, agencies shall consider . . . (1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. . . . (2) Cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement. . . . [and] (3) Similar actions, which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography.” 40 C.F.R. § 1508.25.

NEPA’s mandate is that all federal agencies analyze the likely effects of their actions, as well as address the potential alternatives. “Agencies are to perform this hard look *before* committing themselves irretrievably to a given course of action so that the action can be shaped to account for environmental values. NEPA § 102(2)(c) requires the agency to consider numerous factors [including] irreversible commitments of resources called for by the proposal.” *Sierra Club v. Hodel*, 848 F.2d 1068 (10th Cir. 1988) (rev’d on other grounds)(emphasis added). NEPA provides procedural protections for resources at risk by requiring analysis of impacts *before* substantial decisions are made that set development in motion. *See Conservation Law*

Foundation v. Watt, 560 F. Supp. 561, 581 (D. Mass. 1983), *aff'd by Massachusetts v. Watt*, 716 F. 2d 946 (1st Cir. 1983).

In several cases, the agencies' analysis of impacts to greater sage grouse or their habitats resulting from proposed RMP amendment provisions fails to meet the 'hard look' standards of NEPA as outlined above. These examples are specifically described in the sections of this Objection that follow.

SPECIFIC PROBLEMS WITH THE PROPOSED RMP AMENDMENT

Implementation of Grass Height and Other Grazing Management Prescriptions

In our Draft EIS comments, Guardians provided a literature review supporting requirements to maintain a 7-inch residual grass height in breeding, nesting, and brood-rearing habitats. DEIS comments at unnumbered 11, RDEIS comments at 14. The agencies themselves note, "Abundant cover of tall perennial grasses and other residual vegetation cover, in conjunction with big sagebrush, are critical for high nesting success by sage grouse (Gregg et al. 1994; Sveum et al. 1998)." FEIS at 106. The agencies further note, "Researchers studying bi-state DPS (Table 2-1) recommend a grass/forb height of 7 inches to adequately provide protection and concealment during the nesting and brood-rearing period." FEIS at 210. This finding is buttressed by the agencies' analysis, to wit:

management direction prescribes maintaining residual cover of herbaceous vegetation at no less than 7 inch stubble height during breeding/nesting season (March 1-June 30) within 3 miles of active lek sites. Grass/forb height of 7 inches is consistent with nesting habitat condition described by USFWS (USDI Fish and Wildlife Service 2013c); however, USFWS also identifies that these condition apply to brood-rearing habitat as well.

BA/BE at 83.

Table 2-1 identifies "desired habitat conditions" for the RMP revision. FEIS at 15. In Nesting (Breeding) Habitat, perennial grass height "provides overhead and lateral concealment from predators (Connelly et al. 2000; Stiver et al. [in press]; Hagen et al. 2007)." *Id.* For Brood-Rearing/Summer Habitat, the goal is "Grass/forb height is greater than 7 inches." FEIS at 16. Importantly, both Connelly et al. (2000) and Hagen et al. (2007) specify a 7-inch residual grass height to provide hiding cover across all of these habitat types. The 7-inch grass/forb height standard is measurable and explicit, providing an adequate regulatory mechanism if rigorously applied. For breeding/nesting habitats, the desired condition objective implies a 7-inch grass height standard by referring to scientific studies that explicitly call for this standard, but needs to spell out the 7-inch grass height explicitly in order to satisfy adequate regulatory mechanism standards and ensure population viability. Importantly, while Coates et al. (2013) found no link between grass height and nest success for the Bi-State DPS, this study was limited to the foothills of the Sierra Madre where rabbitbrush provides abundant cover between the sagebrush.

This condition does not occur across most BLM lands of the Carson City Field office, where sagebrush habitats lack a substantial rabbitbrush component and thus grasses of at least 7 inches in height provide a critically important component of hiding cover for sage grouse.

It is important to note that the agencies' proposed adoption of B-RU-S-02 would appear to require that vegetation communities maintain or move toward the conditions in Table 2-5 [2-6 in FEIS]. DROD at 11. We are virtually certain that the agencies intended to reference Table 2-5 based on context, but the agency should clarify this point. Table 2-6 applies a 4-6 inch stubble height standard (FEIS at 46), which has zero basis in science, instead of the 7-inch standard which is based in science and directs desired conditions presented in Table 2-1. The agencies provide absolutely no scientific support for the precept that 4 to 6 inches of residual grass height is adequate to provide hiding cover for sage grouse (a NEPA hard look and scientific integrity issue), and it is intuitively obvious that 4-inch high grass would provide cover only to the spindly legs of a bird the size of a grouse. The adoption of B-RU-S-01 also limits this implementation to within 3 miles of leks and between March 1 and June 30. FEIS at 30. That leaves nesting habitats between 3 and 4 miles from the lek exposed to excessive grazing.

Finally, under B-Weed G-01, the proposed plan would allow livestock grazing to control cheatgrass and other weeds. DROD at 13. However, the agencies themselves state that for cheatgrass, grazing cannot be used to address weed infestations according to the best available science:

Recent research suggests that cattle grazing, even at the highest intensities, does not reduce cheatgrass cover. Increasing intensity of cattle grazing results in a decrease in the remnant native perennial grasses and biological soil crusts which promotes an increase in the magnitude of cheatgrass dominance (Reisner 2010; Reisner et al. 2013).

FEIS at 110. The approval of a guideline that is directly contradictory to what the best available science recognizes as effective is arbitrary and capricious, and is likely to add additional grazing impacts (and even weed spread) to already degraded areas resulting in resource damage.

Relief requested: Standard B-RU-S-01 should be adjusted so that it requires achievement of (not merely movement toward) the Desired Future Conditions for vegetation contained in Table 2-1 (rather than Table 2-5). This is critical to meet the effectiveness prong of the PECE policy. Eliminate B-Weed-G-01.

New Roads

Roads pose an important threat to sage grouse population viability by fragmenting their habitat and displacing them from adjacent areas. RDEIS comments at 22. Wisdom et al. (2011) found that extirpated range of sage grouse was closer to highways (mean = 3.1 miles) than occupied range for sage grouse, and Holloran (2005) found that main haul roads (defined as gravel roads accessing 5 or more natural gas wells) had a significant negative effect up to 1.9 miles from the road on sage grouse lek attendance compared to unaffected leks (regardless of whether the road was visible from the lek or not), and that increased traffic led to increased impact. Braun (1986)

also found a significant negative effect of mining haul roads on sage grouse leks within 1.9 miles of the road. At minimum, all roads need to be sited at least 0.8 miles from lekking and nesting habitat, and main haul roads should be sited at least 2 miles away. Braun (1986) and Holloran (2005) demonstrated that main haul roads sited within 2 miles of sage grouse leks resulted in significant declines of breeding populations at the leks. In addition, Knick et al. (2013) found that the vast majority of active sage grouse leks were within habitats characterized by less than 3% cumulative surface disturbance (including, in significant measure, roads). Holloran (2005) also found that road densities in excess of 0.7 linear mile per square mile contribute significantly to sage grouse population declines.

The agencies' proposal calls for "same as B-AR-G-02" in regard to authorizing new roads "only when necessary for public safety" and other considerations. DROD at 5. This is a discretionary guideline ("G" rather than a mandatory standard "S"). The "S" (standard approach) creates regulatory certainty, while the "G" (guideline approach) undermines the 'certainty of implementation' of this management prescription. It is likewise critical that the BLM preclude the construction of roads that contribute to an exceedence of the cumulative 3% surface disturbance threshold, which leads to lek abandonment, as in C-AR-S-01.

Relief requested: Please clarify that plan applies this prescription as a mandatory action rather than a best management practice in the RMP amendment. Specific direction is needed to limit road construction below 3% cumulative surface disturbance per square mile. Both of these concerns are remedied by adopting C-AR-S-01, which is both a mandatory standard (showing certainty of implementation) and recognizes the need to stay below the 3% disturbance cap.

Inappropriate Off-Highway Vehicle Management Prescriptions

The impacts of vehicle use both on- and off-road is discussed in Guardians comments. DEIS comments at unnumbered 25, RDEIS comments at 24. Elsewhere, a federal agency has concluded that off-road vehicles are noisy, and typically exceed the background noise levels by more than 10 dBA (BLM Northwest Colorado RMP Amendment DEIS at 399), the threshold at which a myriad of significant negative impacts occurs to sage grouse (*see* the Objection section on Noise). According to the agencies' assessment of the best available science, human activity associated with recreation is a significant concern:

Disruption of sage-grouse during vulnerable periods at leks, or during nesting or early brood rearing, could affect reproduction and survival (Baydack and Hein 1987). Baydack and Hein (1987) reported displacement of male sharp-tailed grouse at leks from human presence resulting in loss of reproductive opportunity during the disturbance period; female sharp-tailed grouse were only observed at undisturbed leks. Disturbance of incubating female sage-grouse could cause displacement from nests, increased predator risk, and loss of nests (USDI Fish and Wildlife Service 2013b).

BA/BE at 69, *and see* 102. The agencies' analysis of the best available science highlights the likelihood of significant impacts and threats to population viability from motorized recreation:

Existing studies on effects of recreation or other human interactions in the vicinity of active leks indicate that daily human disturbances on sage grouse leks could cause reduction in mating, and some reduction in total production. If flushed, grouse usually fly from the strutting ground and do not return again that day. Organized motorcycle or four-wheel drive races across sage grouse nesting habitat, could cause substantial loss of production from direct destruction of nests, from abandonment of nests during egg-laying, from destruction of young chicks, or from all three.¹⁴ Findings indicated that males from the affected lek may not reproduce.¹⁵ Additional studies have shown that widespread motorized access for recreation subsidized predators adapted to humans and facilitated the spread of invasive plants. Any high-frequency human activity along established corridors can affect wildlife through habitat loss and fragmentation.¹⁶

Greater Sage Grouse BPS Amendment Recreation and Lands Resource Report at 16.¹ Somehow, this analysis of the science was omitted from the FEIS.

Standard B-AR-S-03 would allow off-road vehicle events that pass within 3 miles of sage grouse leks during daylight hours after 10 am. DROD at 5. This direction represents an inadequate regulatory mechanism in two ways:

1. By using 3-mile buffer around sage grouse leks instead of a 4-mile buffer for this standard, the BLM allows off-road vehicle events between 3 and 4 miles of a lek, an area that represents prime nesting habitat for sage grouse.
2. The plan direction as proposed allows off-road vehicle events and outfitter activities in immediate proximity to leks (even atop them) during the breeding season, which is likely to disturb, stress, and displace male and female birds loafing in the vicinity of leks and lead to lek abandonment. There is no basis in science supporting this intense level of disturbance during this sensitive period, which therefore violates the science-based effectiveness prong of the adequate regulatory mechanisms test.

As we noted in our DEIS comments, according to the best available science, two-track jeep trails are the biggest vector of invasive weed spread (Manier et al. 2011). We documented numerous studies showing that sage grouse loaf within 0.6 miles of leks during off-hours (Rothenmaier 1979, Autenreith 1981, Emmons and Braun 1984) and that sensitive nesting habitat for the Bi-State population occurs within 4.66 mile of the lek (Coates et al. 2013). *See* RDEIS comments at 24.

¹ Citing to following studies: Call et al. 1985. Wildlife Habitats in Managed Rangelands- The Great Basin of Southeastern Oregon General Technical Report PNW187. Baydack, R.K. & Hein, D.A. 1987: Tolerance of sharp-tailed grouse to lek disturbance. - Wildlife Society Bulletin 15: 535-539. Knick et al. (in press) Greater Sage Grouse: Ecology and Conservation of a Landscape Species and its habitats. Knick et al, University of California Press, 2011. Page 203.

The agency's current management of off-highway vehicles will result in "absence of sage grouse or degradation of habitat" based on the agency's own analysis. RDEIS at 49-50, FEIS at 59. The agencies themselves concede of the proposal to allow OHV events in key sage grouse habitats after 10 am, "While this would reduce potential disturbance to breeding at lek sites, it would continue to allow disturbance where birds are likely residing during the day after departing the breeding site and may negatively impact lek attendance if the disturbance is pronounced." FEIS at 95. This is a clear indicator of inadequate regulatory mechanisms. The failure to prevent off-highway vehicle impacts to sage grouse in their most sensitive habitats during the most sensitive periods of the year is particularly problematic given the high density of existing (and likely to be designated) vehicle routes in the planning area, and that closures of designated routes within 4 miles of sage grouse leks is not part of plan direction. Indeed, the agencies note that "a total of 503.6 miles of travel routes pass through the 5-kilometer buffer around active leks..." FEIS at 60. In our comments, we pointed out that according to an unpublished USFWS study,

Our analysis of the best available data in the Bi-State area documents that all known leks are within 3 km (1.8 mi.) or less of an existing road and between 35 and 45 percent of annually-occupied leks are within 5 km (3.1 miles) of highways.

DEIS comments at unnumbered 26. More specifically, "Increases in the amount of cross-country riding and trail development in areas such as Hungary Valley, Pine Nut Mountains, Wilson Canyon and Fairview Peak by motorcycle and 4WD clubs has increased over the last several years." Greater Sage Grouse BPS Amendment Recreation and Lands Resource Report at 5. Thus, the threat is real and immediate.

The agencies themselves concede, "While this would reduce potential disturbance to breeding at lek sites, it would continue to allow disturbance where birds are likely residing during the day after departing the breeding site and may negatively impact lek attendance if the disturbance is pronounced." FEIS at 95. For all of these reasons, it is imperative that off-road vehicle events be prohibited entirely throughout the breeding, nesting, and early brood-rearing periods (March 1 through June 30), at all times of day.

Relief requested: The unambiguous direction in B-AR-S-04 (DROD at 6) regarding winter habitat prevents special use permits authorizing off-road vehicle events at all times of day in sensitive wintering habitats during their season of use by grouse. This same level of protection must be applied to nesting and brood-rearing habitats during their season of use, March 1 through June 30. ("The critical disturbance period for sage grouse is typically March 1 to June 30." Bi-State Sage Grouse Forest Plan Amendment Domestic Livestock Grazing Report at 2). This would be an intermediate level of protection between B-AR-S-03 and C-AR-S-03; if the agency feels legally constrained to adopt one of the two alternative prescriptions proposed, then C-AR-S-03 is the only one that provides science-based effectiveness. This prevents off-road vehicles from running over brood of flightless sage grouse chicks.

Outfitter and Guide Activities

WildEarth Guardians raised in our comments the issue of insufficient protections in the context of outfitting and guiding permits, and recommended a 4-mile buffer for these activities. RDEIS comments at 27. In proposing to adopt B-LUSU-S-04, the BLM proposes to allow outfitter and guide activities as close as 0.25 mile from a lek between March 1 and May 15, and imposes no restrictions at all between May 15 and June 30. DROD at 7. This is a biologically inadequate level of protection for two reasons:

1. The 0.25-mile lek buffer is woefully inadequate to protect breeding activities at the lek itself, and affords the vast majority of nesting and brood-rearing habitat no protection at all from outfitter and guide activities. A 4.66-mile buffer is required pursuant to Coates et al. (2013).
2. The season of use restriction provides no protection at all during much of the nesting season and all of the early brood-rearing season, when sage grouse are equally vulnerable to disturbance.

In conflicting direction, Standard LUSU-S-07 in Appendix 1 prohibits outfitter and guide activities within 3 miles of leks from March 1 to May 15. DROD at 43. Which standard applies? A 0.25-mile buffer or a 3-mile buffer? Based on the introduction of the DROD, the guidance indicates that the proposed decision is in Table ROD-1 rather than Appendix 1. Either way, the minimum buffer should be 4 miles to preclude such activities within 4 miles of leks and ensure that activities that potentially threaten population viability by causing lek abandonment don't occur.

Relief requested: Implement C-LUSU-S-05, and expand its season of applicability to March 1 to June 30 to encompass the season of greatest sensitivity for sage grouse.

Failure to impose science-based disturbance limits

Guardians raised the importance of a 3% limit on cumulative disturbance in sage grouse habitats throughout the NEPA process. DEIS comments at unnumbered 9, 19; RDEIS comments at 4. Federal experts (NTT 2011) recommended that a maximum of 3% cumulative surface disturbance be allowed per square-mile section in key sage grouse habitats. Fluid minerals development has caused loss of population viability in multiple instances. In studies attached to our comments, we called the agencies' attention to the findings of Kirol et al. (2012) finding that disturbance greater than or equal to 4% had a negative impact on brood-rearing habitat, Copeland et al. (2013) projecting that even when implementing a 5% disturbance cap, continued population declines would be expected, and Knick et al. (2013) finding that 99% of active sage grouse leks were surrounded by lands with less than 3% surface disturbance. These studies demonstrate the compelling need to limit cumulative surface disturbances below 3% of the landscape. The agencies have failed to provide any scientific support for allowing more than 3% surface disturbance. In failing to adopt RDEIS B-Min-S-05, C-AR-S-01, and C-Wild-S-04, the BLM has parted ways with the best available science without justification. We remain concerned that by adopting C-Min-S-04 (which applies only to future leases) as an alternative management prescription, the Forest Service inadvertently fails to manage development on current existing leases to prevent serious impacts to sage grouse populations and habitats. Some 143,300 acres of

the project area are already under lease for geothermal production. FEIS at 119. Protections are needed to prevent extreme levels of impact on these valid existing leases as well, through Conditions of Approval that legally can be applied at the project approval stage even if no corresponding lease stipulation requires them.

Guardians also raised the importance of limiting the density of industrial sites (such as fluid mineral extraction sites) to one site per square mile. DEIS comments at unnumbered 16, RDEIS comments at 5. The NTT (2011) recommended adoption of this surface density limit based on agency review of the best available science. We attached studies by Holloran (2005) Doherty (2008), Walker et al. (2007), Taylor et al. (2012), and Copeland et al. (2013) to our Draft EIS comments on this plan amendment; each of these studies validates the need for a maximum density of one site per square mile to prevent major impacts to sage grouse. In the Revised DEIS, the agencies proposed to adopt this standard under Alternative B (Modified), under RDEIS B-Min-S-05. RDEIS at 31. This was modified to a guideline, B-Min-G-05, in the FEIS, which was not selected for implementation. It is critically important to apply disturbance and site density standards in the context of valid existing leases, which will not be covered under NSO provisions that are limited to newly issued leases.

Requested relief: Implement RDEIS B-Min-S-05 to require a maximum 3% surface disturbance and one industrial site per square mile. C-Wild-S-04 should also apply across all programs and permitted activities, to clarify that the 3% maximum cumulative disturbance standard applies across all programs. Include in the plan amendment a finding that development in excess of 3% surface disturbance per square mile constitutes undue degradation pursuant to FLPMA.

Inappropriate Lek Buffers

In our comments, Guardians pointed out that federal experts recommended No Surface Occupancy lek buffers of 4 miles (NTT 2011), and local scientists in the Bi-State area recommended lek buffers of 4.66 miles (Coates et al. 2013). DEIS comments at unnumbered 16, RDEIS comments at 3-4. Other reports and studies (Apa et al. 2008, Aldridge and Boyce 2007) buttress these recommendations. *Id.* Yet at several points throughout the FEIS, the agencies apply smaller lek buffers in the absence of any supporting science that these buffers will prevent significant impacts (i.e., cause both unnecessary and undue degradation and/or loss of lek population viability) to sage grouse populations and their habitats. This is also a legal problem in the context of Purpose and Need, because smaller lek buffers fail the science-based effectiveness prong of the PECE policy.

Measures that would buffer leks by only 0.25 mile include outfitter and guide activities. DROD at 7. Measures that would buffer leks by only two miles include B-RI-S-08 (location of livestock watering and handling facilities and sheep bedgrounds, DROD at 13), and B-RI-S-09 (livestock salting or supplemental feeding stations, DROD at 13). There is a guideline proposed that would limit new fence construction, but only within 1.2 miles of sage grouse leks under B-RI-G-01. DROD at 12. Residual herbaceous cover would be maintained only within 3 miles of leks under B-RU-S-01. DROD at 11. Based on Coates et al. (2013), it is clear that if adequate protection is to occur in nesting and early brood-rearing areas as well, a 4.66-mile exclusion area around the

lek would be more appropriate. For recreation special use permits, the lek buffer is set at 3 miles under B-AR-S-03.

Stevens et al. (2013) found that fence collisions are an important source of grouse mortality, and fences on flat areas near leks were a particularly high risk for causing sage grouse fatalities. Christiansen (2009) also documented an alarmingly high level of fence mortality in Wyoming, and found that marking fences reduced collisions by only 61%, such that 39% of the collision rate on unmarked fences still occurred for marked fence sections. This fence mortality is an issue in all important sage grouse habitats during their season of use. Eliminating fences has the effect of reducing collisions to zero (an adequate regulatory mechanism). For livestock facilities and bedgrounds, the agencies themselves note, “concentrated livestock use in areas near water sources, range improvements, and bed grounds would constitute discrete disturbances (Manier et al. 2013).” FEIS at 52. In addition, “Livestock concentration can represent a discrete impact, but the impact may be long term or short term depending on timing and location.” FEIS at 53. This statement implicates salt stations, bedgrounds, watering facilities, and feeding facilities. The impacts of motorized recreation on sage grouse are discussed in full elsewhere in this Objection.

Several of these lek buffer measures do not fall within the interpreted range of appropriate lek buffers to protect sage grouse based on the best available science (Manier et al. 2014). Apa et al. (2008) provide probability of lek persistence under lek buffers of varying sizes. It is arbitrary and capricious and an abuse of discretion for the BLM to apply a mixture of lek buffers for different permitted activities known to impact sage grouse and their habitats, in the absence of science that specifically supports the variance from the scientifically recommended buffer of 4.66 miles for the Bi-State population (Coates et al. 2013).

Relief Sought: Adjust lek buffers limiting all surface-disturbing activities and activities that cause stress or displacement to sage grouse to lands beyond 4.66 miles from active leks. Include in the plan amendment a finding that development within 4.66 miles of an active lek constitutes undue degradation pursuant to FLPMA.

Insufficient Direction for Fluid Mineral Development

Guardians commented at length on the threats posed by fluid minerals development, and the appropriate science-based protections that must be applied at the leasing and post-leasing stages. *See, e.g.*, DEIS comments at unnumbered 16; RDEIS comments at 3. There is commercial interest in developing geothermal resources in the project area, and the potential for future oil and gas exploration and development as extraction technology renders previously unrecognized commercial deposits attractive for development.

In comments, Guardians pointed out that the National Technical Team recommended closing sage grouse Priority Habitats to future mineral leasing, and for valid existing leases, prescribed strict conditions of approval. DEIS comments at unnumbered 16, *and see* NTT (2011: 22).

The agencies propose to adopt internally conflicting direction for future fluid mineral leasing. By adopting C-Min-S-06 (DROD at 17), the agencies essentially close habitats to future leasing in

areas where leases presently exist (but not in currently unleased areas). Under C-Min-S-04, future oil and gas leasing would occur with a No Surface Occupancy stipulation with no opportunity for modification or waiver. DROD at 16. We are concerned that an NSO stipulation could still result in heavy impacts to sage grouse habitats, as leaseholders would presumably employ directional drilling and site surface facilities along the edge of sage grouse habitats, and given the resulting impacts that radiate out from the surface footprint of drilling and production sites (to a distance of 1.9 to 3 miles into surrounding habitats, Holloran 2005), much of the habitat inside sage grouse habitats would be disturbed or abandoned by grouse as a result of activity on the drilling and production sites. The agency should apply C-Min-S-06 regardless of whether leases presently exist or not, and this would solve the problem.

The proposed management direction has no binding effect on existing fluid mineral leases, which also have development potential that could wreak catastrophic impacts on sage grouse habitats and populations. Some 143,300 acres of the project area is currently under lease for geothermal production. FEIS at 119. Development on these leases poses a significant threat to sage grouse and their habitats, and the BLM has the authority (indeed, the obligation) to protect sage grouse on these existing fluid mineral leases through conditions of approval set in this plan amendment. See Attachment 1. The National Technical Team (2011: 23) made very specific recommendations for protections that would apply to existing fluid mineral leases as Conditions of Approval:

Do not allow new surface occupancy on federal leases within priority habitats, this includes winter concentration areas (Doherty et al. 2008, Carpenter et al. 2010) during any time of the year.

Consider an exception:

° If the lease is entirely within priority habitats, apply a 4-mile NSO around the lek, and limit permitted disturbances to 1 per section with no more than 3% surface disturbance in that section.

° If the entire lease is within the 4-mile lek perimeter, limit permitted disturbances to 1 per section with no more than 3% surface disturbance in that section. Require any development to be placed at the most distal part of the lease from the lek, or, depending on topography and other habitat aspects, in an area that is less demonstrably harmful to sage-grouse.

The agencies propose to apply timing restrictions (B-Min-S-03), perhaps place development in the area least harmful to sage grouse (this is discretionary; B-Min-G-08), and require closed-loop drilling (C-Min-S-07) for existing leases. However, these standards and guidelines fail to prevent site densities greater than one per square mile and cumulatively exceeding 3% of the habitat.

Guardians raised the importance of limiting fluid mineral surface occupancy to a maximum density of one wellpad per section in our comments. DEIS comments at unnumbered 10, 19; RDEIS comments at 5. Scientific studies that support this threshold (and were attached to Guardians' DEIS and RDEIS comments) include Holloran (2005), Doherty (2008), Taylor et al. (2012), Walker et al. (2007), Apa et al. (2008), Tack (2009), and Copeland et al. (2013). The

agencies' own experts reviewed the best available science and likewise concluded that industrial surface disturbance should be limited to one site per square-mile section (NTT 2011).

In *Yates Petroleum* (176 IBLA 144), the judge ruled that the federal government has broad discretion to apply additional protections as conditions of approval, far beyond the original stipulations attached to fluid minerals leases when they are issued. This authority would also extend to BLM project permitting for federal minerals on Forest Service-managed surface. In this ruling, the judge cited the Code of Federal Regulations implementing the Mineral Leasing Act, as follows:

Departmental regulations at 43 C.F.R. § 3101.1-2, which describe a lessee's surface use rights to drill for and remove oil and gas in a leasehold, also describe BLM's specific authority to impose post-lease, site-specific surface use controls. A lessee's right to use the leased lands is subject to

such reasonable measures as may be required by the authorized officer to minimize adverse impacts to other resource values, land uses or users not addressed in the lease stipulations at the time operations are proposed. To the extent consistent with lease rights granted, such reasonable measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. At a minimum, measures shall be deemed consistent with lease rights granted provided that they do not: require relocation of proposed operations by more than 200 meters; require that operations be sited off the leasehold; or prohibit new surface disturbing operations for a period in excess of 60 days in any lease year.

176 IBLA 155. This decision affirmed 3-mile NSO buffers not prescribed as lease stipulations. The National Technical Team, cognizant that for existing leases some provision must be made under the Mineral Leasing Act for at least one site on the leasehold to explore for and develop fluid minerals, provides an exception to allow one wellsite at the point on the leasehold most distal from the lek (NTT 2011). *See also* Attachment 1.

Relief requested: The BLM should close sage grouse habitats to future fluid mineral leasing, per the science-based recommendations of its own experts, by implementing C-Min-S-06 not just for presently held leases but for unleased lands as well. In addition, the agency should implement B-Min-G-05 for existing leases (as a standard rather than a guideline as in the RDEIS and on a per-square-mile-section basis), and also 4-mile NSO buffers around leks, a maximum of one site per square-mile section, and other measures recommended for valid existing fluid mineral leases by the National Technical Team.

Geophysical Exploration Restrictions must also Apply to Breeding, Nesting, and Brood-Rearing Habitats

In comments, WildEarth Guardians called upon the agencies to apply timing limitations to geophysical activity similar to those in the North Dakota Greater Sage-grouse RMP Amendment. RDEIS comments at 31. Geophysical exploration could cause abandonment of key habitats (like leks or nesting areas) contributing to loss of population viability. The requirements proposed in the BLM North Dakota plan amendment specify that geophysical exploration will not be allowed in breeding and nesting habitat during their seasons of use. The National Technical Team (2011: 22) recommended the following:

Allow geophysical exploration within priority sage-grouse habitat areas to obtain exploratory information for areas outside of and adjacent to priority sage-grouse habitat areas. Allow geophysical operations only by helicopter-portable drilling methods and in accordance with seasonal timing restrictions and/or other restrictions that may apply.

In adopting B-Min-S-07, the agencies commit to preventing geophysical exploration seasonally in identified winter habitats during their season of use by grouse. DROD at 16. This is a good measure to protect wintering habitat. However, the current plan amendment does nothing to prevent geophysical operations from being conducted inside breeding, nesting, and/or brood-rearing habitats during their critical seasons of use.

The agencies elected not to implement B-Min-S-09, which would have required less-invasive geophysical methods, under rationale that it is unnecessary (Rationale 6). DROD at 17. This outcome would potentially allow the use of vibroseis off-road vehicle use as part of geophysical projects, further exacerbating the impact of geophysical exploration in key sage grouse habitats, and potentially resulting in long-term crushing of sagebrush that results in the creation of linear travel corridors used by terrestrial predators. This measure is needed to minimize impacts to sage grouse because lower-impact methods, such as using heliportable shot-hole methods with hand-laying of geophone lines, would have much less impact on sage grouse and habitats. These methods are commonly required for geophysical exploration in sensitive areas throughout the nation.

Geophysical activities, even using heliportable drills and hand-laying of geophone lines supported by ATVs, can cause significant disturbance to sage grouse during sensitive periods of their life cycle such as displaying/breeding, nesting, and brood-rearing. The agencies have failed to analyze the impact of allowing geophysical activities in sensitive breeding, nesting, and brood-rearing habitats during their season of use, a NEPA hard look violation. *See* FEIS at 128. By applying seasonal restrictions to geophysical activities to exclude them from these sensitive habitats during their period of use by grouse, the BLM can remedy this hard-look deficiency.

Requested relief: The agency has identified March 1 through June 30 as the critical period to protect spring habitats, and the geophysical exploration timing limitation should apply throughout this period in identified breeding, nesting, and brood-rearing habitats. In addition, adopt B-Min-S-09 to require the least invasive geophysical methods feasible in sage grouse habitats.

Failure to Apply Adequate Protections from Mining

Guardians has pointed out the large number of currently existing mining claims and the need for adequate regulatory mechanisms to address the potentially severe impacts of mining on sage grouse and their habitats. DEIS comments at unnumbered 26, RDEIS comments at 8. Braun (1986) and Remington and Braun (1991) documented significant impacts from mine-related activities on sage grouse populations. Current mining is having a negative impact on several Bi-State grouse populations, and new mining operations are also expected to have a significant impact on the bird and its habitats. BA/BE at 64. The agencies also document a number of mines where development is occurring or imminent. FEIS at 122. In our Draft EIS comments, Guardians highlighted mining claims in the Bi-State area and pointed out that the National Technical Team (2011) recommended withdrawal of sage grouse Priority Habitats from mineral entry following a comprehensive review of the best available science. DEIS comments at unnumbered 15 and Attachment 16 to DEIS comments, *and see* NTT (2011: 24) for coal, locatable minerals, non-energy leasable minerals, and mineral materials sales.

The agencies are treating locatable minerals as “nondiscretionary,” and strong limitations on project design as prescribed by the National Technical Team (2011) will not apparently be applied. FEIS at 53. This constitutes a tacit assertion that adequate regulatory mechanisms will not be applied for hard-rock mining in the planning area. If the agencies assert that they will exert little control over locatable minerals projects, then withdrawal of sage grouse habitats from future mining claim availability becomes the BLM’s primary management tool. However, FLPMA directs the BLM to prevent unnecessary or undue degradation to the lands (including sage grouse habitats on both BLM and Forest Service lands), and the Forest Service must additionally provide for the viability of sage grouse throughout the planning area. These directives empower federal agencies to apply strong direction regarding how mineral development may proceed on existing hard-rock claims. The agencies must exercise their authority to prevent such unnecessary and undue degradation and to emplace adequate regulatory mechanisms to neutralize this threat to sage grouse.

Requested relief: The BLM must apply adequate regulatory mechanisms on hard-rock mining projects that prevent unnecessary or undue degradation to sage grouse populations and their habitats in order to satisfy FLPMA, and in order to meet the Purpose and Need for this EIS. To remedy the current deficiency, BLM should propose withdrawal of sage grouse habitats from future locatable mineral entry (applying C-Min-S-12), and on existing claims provide that surface facilities and disturbance be sited outside occupied habitat, and where this is not possible, limit surface disturbance to more than one site per square-mile section and no more than 3% cumulative surface disturbance (in effect, a more explicit and non-discretionary implementation of B-Min-G-13), and comply with other limitations on transmission lines, noise, and other impacts. Specify that development in excess of one surface location per square mile, 3% surface disturbance per square mile, or within 4.66 miles of an active lek constitutes undue degradation pursuant to FLPMA.

More specific noise restrictions are needed

Noise can have a major negative impact on sage grouse, causing disturbance and displacement of birds from preferred habitat and drowning out the mating calls of males during the lekking season, as we pointed out in our comments. DEIS comments at unnumbered 25; RDEIS comments at 6. Blickley and Patricelli (2012) found that low-frequency noise from oil and gas development can interfere with the audibility of male sage grouse vocalizations:

We found that noise produced by natural gas infrastructure was dominated by low frequencies, with substantial overlap in frequency with Greater Sage-Grouse acoustic displays. Such overlap predicted substantial masking, reducing the active space of detection and discrimination of all vocalization components, and particularly affecting low-frequency and low-amplitude notes.

Such masking could increase the difficulty of mate assessment for lekking Greater Sage-Grouse. These researchers went on to state, “Ultimately, increased difficulty in finding leks or assessing males on the leks may lead to lower female attendance on noisy leks compared with quieter locations. Males may also avoid leks with high levels of noise if they perceive that their vocalizations are masked.” Noise also causes stress to sage grouse. According to Blickley et al. (2012b: 1),

We found strong support for an impact of noise playback on stress levels, with 16.7% higher mean FCM [fecal corticoids, an index of stress] levels in samples from noise leks compared with samples from paired control leks. Taken together with results from a previous study finding declines in male lek attendance in response to noise playbacks, these results suggest that chronic noise pollution can cause greater sage-grouse to avoid otherwise suitable habitat, and can cause elevated stress levels in the birds who remain in noisy areas.

According to Blickley and Patricelli (2010), “The cumulative impacts of noise on individuals can manifest at the population level in various ways that can potentially range from population declines up to regional extinction. If species already threatened or endangered due to habitat loss avoid noisy areas and abandon otherwise suitable habitat because of a particular sensitivity to noise, population viability could be lost, and their status becomes even more critical.

Blickley et al. (2012a) played back recorded continuous and intermittent anthropogenic sounds associated with natural gas drilling and roads at leks. For 3 breeding seasons, they monitored sage grouse abundance at leks with and without noise. Peak male attendance (i.e., abundance) at leks experimentally treated with noise from natural gas drilling and roads decreased 29% and 73%, respectively, relative to paired controls. Decreases in abundance at leks treated with noise occurred in the first year of the study and continued throughout the experiment. Intermittent noise had a greater effect than continuous noise. Female attendance averaged a decrease of 48%; male attendance averaged a decrease of 51%. Road noise leks decreased by 73% versus control leks; drilling noise leks decreased 29% versus control leks. There were residual effects of noise after the treatment ceased. These researchers concluded that sage grouse do not habituate to noise impacts over time. Piquette et al (2014) found that intermittent noise suppressed breeding activity on Gunnison sage grouse leks in Colorado.

Noise impacts are a concern far beyond the lek itself

We are also concerned that noise may have an adverse effect on sage grouse during nesting, brood-rearing, and wintering periods. Holloran and Anderson (2005) found that sage grouse nest within 5.3 miles of the lek site (although some studies have documented nesting beyond this point). All nesting habitats are important from the standpoint of noise reduction, and noise abatement standards should apply equally to all habitats important to the life cycle of sage grouse.

It is reasonable to suppose that if noise that mimics oil and gas truck traffic causes elevated levels of stress-related metabolites in grouse on the lek (Blickley et al. 2012b), that this physiological response would be substantially similar during other parts of this bird's life cycle. Indeed, these researchers stated, "Noise at energy development sites is less seasonal and more widespread and may thus affect birds at all life stages, with a potentially greater impact on stress levels." Patricelli et al. (2012) recognized this explicitly:

"Second, and much more importantly, if noise levels drop down to stipulated levels at the edge of the lek, then much of the area surrounding the lek will be exposed to higher noise levels (see Figures 3 & 4). This management strategy therefore protects only a fraction of sage-grouse activities during the breeding season—mate assessment and copulation on the lek—leaving unprotected other critical activities in areas around the lek, such as foraging, roosting, nesting and brood rearing."

This failing has been incorporated by the agencies in their plan amendment by specifying that noise limits will be measured at the periphery of the lek instead of at the periphery of occupied seasonal habitat. In the Wyoming Basins Ecoregional Assessment, the authors pointed out, "Any drilling <6.5 km [approximately 4 miles] from a sage-grouse lek could have indirect (noise disturbance) or direct (mortality) negative effects on sage-grouse populations." WBEA at 131.

The scientific research conducted in Wyoming evaluates the impacts of development-related noise on sage grouse (Patricelli et al. 2012). Patricelli also recommends that noise be limited to 10 A-weighted decibels above the ambient noise level, but points out that 39 decibels is not the appropriate ambient noise level for their Lander Field Office study site (and generally), but instead that 20 to 22 decibels is the actual background noise level measured at sage grouse leks. To achieve these levels, these researchers recommend: "Therefore to avoid disruptive activity in areas crucial to mating, nesting and brood-rearing activities, we recommend that roads should be sited (or traffic should be seasonally limited) within 0.7-0.8 miles from the edge of these areas." *Id.*

Failure to set an appropriate level for noise restrictions

The agencies propose to adopt the proper allowable noise increase – 10 dBA above ambient – but fail to set the ambient noise level. This opens up a can of worms. After testing the impact of road or drilling noise on sage grouse, Patricelli et al. (2012) reached the following conclusions:

“...we recommend that interim management strategies focus not on limiting traffic noise levels, but rather on the siting of roads or the limitation of traffic volumes during crucial times of the day (6 pm to 9 am) and/or season (i.e. breeding season). We estimate that noise levels will typically drop to 30 dBA at 1.3 km (0.8 mi) and to 32 dBA at 1.1 km (0.7 mi) from the road (these levels represent 10 dB over ambient using 20 or 22 dBA ambient respectively). Therefore to avoid disruptive activity in areas crucial to mating, nesting and brood-rearing activities, we recommend that roads should be sited (or traffic should be seasonally limited) within 0.7-0.8 miles from the edge of these areas. We emphasize that we are not recommending the siting of roads 0.7-0.8 miles from the edge of the lek perimeter, but rather 0.7-0.8 miles from the edge of crucial lekking, nesting and early brood-rearing areas.”

Yet in the Pinedale BLM Field Office of western Wyoming, the federal agency erroneously assumed a background noise level of 39 dBA and recommending limit of 49 dBA that is too high to prevent major impacts on sage grouse based on the science. Patricelli et al. (2013) traced the 39 dBA ambient noise level (and resulting 49 dBA noise limit employed by BLM in Wyoming) to a single day's measurements in a farm in Camarillo, California, and this 39 dBA noise level included noise from aircraft, a highway, barking dogs, and an orchard pruning machine. There is little tree trimming going on in the sage grouse habitats in the Bi-State area, and likewise few barking dogs and limited airplane noise. The human-caused noise impacts rolled into the Camarillo, CA field testing are not natural and indeed include some of the very noise impacts (e.g., traffic noise) that Patricelli and her colleagues have found to have significant negative impacts on sage grouse. Setting ambient noise levels accurately, and without including existing human noise that may already be negatively affecting sage grouse, is critical to avoid the mistakes of the Wyoming BLM, which has set noise levels that allow noise that exceeds sage grouse tolerance thresholds (*see* Ambrose et al. 2014).

It is critically important that the ambient noise baseline be set at a natural noise level, absent human-caused noise pollution, if 10 dBA of noise above this threshold is to be allowed. Relying on ambient noise levels established at the lek site could count already-existing human noise sources (which may be contributing to population declines and stressing birds) into the ambient level. Another problem we have seen is consultants employing noise detection equipment with a range of sensitivity that renders them unable to detect noise below about 30 dBA.

Ambrose and Florian (2014) empirically found the baseline noise level in western Wyoming to be 15 dBA, and this was confirmed by Ambrose et al. (2014). This finding has also been corroborated elsewhere. Piquette et al. (2014) found that the average ambient noise at Gunnison sage grouse leks in Colorado was 17.2 dBA. One would expect natural noise conditions in Nevada and eastern California to be at least as quiet as (if not quieter than) the Ambrose and Florian data, the appropriate standard should limit noise to no more than 25 dBA at the edge of breeding, nesting, brood-rearing, and wintering habitats during their season of use by grouse. At most, the 32 dBA maximum limit represents the absolute maximum noise level that should be allowed, and should likewise apply to all key grouse habitats.

Guardians raised the issue of noise impacts to greater sage grouse, and the need to apply standards that appropriately set baseline ambient noise levels and allowable noise above these levels to prevent serious impacts to sage grouse. Impacts that we documented in attached studies include displacement from habitat (Blickley and Patricelli 2010, Blickley et al. 2012a), masking of breeding vocalizations (Blickley and Patricelli 2012), elevated stress levels (Blickley et al. 2012b), and population declines (Blickley and Patricelli 2010). RDEIS comments at 6. The agencies propose to adopt B-Min-S-01 to regulate noise levels in sage grouse habitat, but only from 2 hours before sunset to 2 hours after sunrise. DROD at 15. The 10 dBA above ambient level is correct, but the ambient level needs to be rigorously defined in order to prevent exceedences of thresholds that cause significant impacts to sage grouse populations and/or significant stress and displacement of individual birds. Proposed guidance fails to explicitly set ambient noise levels, a critical omission that could lead to major impacts to sage grouse through inappropriately high noise levels allowed under the plan amendment.

In addition, failure to provide noise protection round-the-clock and throughout the nesting and early brood-rearing season (March 1 through June 30, recognized by the agencies as the most sensitive season for sage grouse as noted elsewhere in this objection) leaves open the likelihood that major noise impacts could occur during lekking season during the day and during the nesting and brood-rearing seasons around the clock. This results in unacceptable levels of disturbance and sage grouse using the most sensitive habitats during the most sensitive times of year.

Relief requested: Ambient noise levels should be explicitly defined as 15 dBA under B-Min-S-01, after Ambrose and Florian (2014) in the significantly windier habitats of western Wyoming. This would place an upper limit of 25 dBA on noise levels in occupied sage grouse habitats. In addition, noise thresholds should be measured at the edge of occupied habitat rather than at the edge of the lek, and these noise limitations should apply around the clock, not just from 2 hours before sunset to 2 hours after sunrise.

Fire and Fuels Treatments

The threat of fire and of inappropriate vegetation treatments to sage grouse is discussed extensively in Guardians' comments. *See, e.g.*, RDEIS comments at 18. The agencies propose to adopt C-Fire-G-01 and C-Fire-G-02, which direct the agency to use fuel breaks and green strips to protect remaining sage grouse habitat. DROD at 20-21. According to Vollmer (2005), fuel breaks that are left untended can become hazards in their own right:

By the spring of 2003, annual weedy species (cheatgrass, mustards, filaree) dominated [the] fuel break resulting in shrub fuel being replaced by a highly flammable, continues [sic] fuel. Stands or mats of cheatgrass act as a hazardous fuel that can carry very hot fires, quickly. When cheatgrass dominates a fuel break, it acts as a wick, able to bring fire in to the subdivision or take fire from the subdivision to the wildland. In addition, fire fighter safety is jeopardized due to the fast fire spread and difficulty of getting in front of the fire because blowing embers quickly spread the fire to new areas.

Meanwhile, the negative impacts of “green strips” on sage grouse are well-understood, as they fragment habitat, create edge environments where increased predation rates occur, and result in direct loss of valuable sagebrush stands that are key to grouse survival and population viability in terms of providing food and cover. While the agencies assert that the creation of “green strips” will lower potential for fire, they cite absolutely no science to support this assertion. *See* FEIS at 87, 145. This indicates NEPA ‘hard look’ and scientific integrity failures.

The agencies also fail to analyze the negative impacts of habitat loss and fragmentation due to the construction of “green strips” (FEIS at 145), another NEPA ‘hard look’ violation. In response to comments on this very issue, the agencies declined to address the failure to cite scientific support that “green strips” have any potential at all to slow, reduce, or constrain fire. FEIS at 206. This constitutes an additional failure to respond to public comments under NEPA.

In addition, B-Fire-G-06 (proposed for adoption) applies the correct management, but is framed as a discretionary guideline rather than a compulsory standard. This undermines this measure’s certainty of implementation.

Requested relief: Implement instead B-Fire-S-01 and B-Fire-G-06, which focus on protecting grouse habitat without the fragmentation and associated disturbance of “greenstripping.” Instead of implementing B-Fire-G-01 and B-Fire-G-06 as guidelines, implement them as standards (i.e., for B-Fire-G-06, implement B-Fire-S-09) to assure certainty of implementation.

Insufficient Direction for Connectivity Habitat

WildEarth Guardians has raised the importance of maintaining connectivity areas in suitable habitat to provide for the viability of the Bi-State DPS in comments. RDEIS comments at 27. The issue of improving connectivity is critical to assuring the viability of individual populations in the Bi-State area (particularly the isolated Pine Nut and White Mountains populations) and is recognized as a pivotal issue by the Service in the context of an ESA listing decision. BA/BE at 62. The agencies themselves recognized the need to provide connectivity habitat in the RMP amendment:

Given the fragmented nature of the bi-state landscape and the level of apparent isolation of subpopulations, additional management direction for connective area may be necessary to facilitate sage grouse movement, reduce isolation, and increase genetic interchange between subpopulations.

FEIS at 91. This is delineated in FEIS Figure 3-1, yet protections for sage grouse habitat do not appear to apply to connectivity habitat. As a result, the recognized threats which continue to degrade and fragment sage grouse habitat will, over time, negatively impact the identified connectivity areas and their ability to facilitate sage grouse dispersal among populations will get poorer rather than improving over time.

Relief requested: Connectivity Habitat as delineated in FEIS Figure 3-1 should be treated as Sage Grouse Habitat for the purposes of all conservation measures adopted under the RMP

amendment, and protections that apply in identified habitat should apply in connectivity areas as well.

Failure to adequately consider voluntary grazing permit retirement

In comments, Guardians called for a provision to allow voluntary retirement of grazing permits to be included in the Bi-State plan amendment. RDEIS comments at 12, 13, 33. However, both EISs fail to consider implementing direction that allows the voluntary retirement of grazing permits. In its response to comments, the agencies state,

This is a programmatic EIS addressing the need to provide regulatory mechanisms. Site-specific decisions to close vacant allotments or reduce the number of AUMs (animal unit months) across the planning area without the site-specific baseline data is outside the scope of the analysis. These decisions can be made in the future when site-specific NEPA analysis is completed for the individual allotments.

FEIS at 223. Including permit retirement enabling language is a reasonable alternative to address significant threats posed by livestock grazing to greater sage grouse. Permit retirement is a provision that has already been included in the proposed alternatives of a number of BLM sage grouse RMP amendment and/or revision EISs, including South Dakota, Billings – Pompey’s Pillar, Bighorn Basin, and Miles City. These RMP amendments have an essentially similar purpose and need and “scope of the analysis” as the Bi-State plan amendment. For the agencies to willfully ignore this reasonable alternative is arbitrary and capricious and an abuse of discretion, and represents a NEPA failure to adequately consider a range of reasonable alternatives.

CONCLUSIONS

While the Bi-State RMP amendment currently proposed for adoption by the agencies presently contain a number of inadequate regulatory mechanisms, and as a result violates a number of federal laws and regulations, these deficiencies can be remedied by making adjustments that are in most cases relatively minor from a resource commodity perspective but of compelling importance from a sage grouse conservation standpoint.

It is notable that many of the shortcomings in the current Executive Orders were also raised by independent scientists in a letter to the Departments of Interior and Agriculture. *See Attachment 48.* This letter points out the need for NSO lek buffers of 4.0 miles, grass height standards in the context of livestock grazing that follow the best available science, and limiting the disturbance footprint to 3% on a per-section basis. The scientists also recommend closing Core Areas entirely to future mineral leasing and location, which would be an important way to prevent future conflict between resource extraction and sage grouse conservation. This latest letter from scientists is indicative of the ongoing disparity between federal sage grouse conservation policy and the best available science.

WildEarth Guardians is open to discussing these issues with you directly with an interest to getting these issues resolved successfully prior to the issuance of a Record of Decision. While the small population size and isolated and fragmented nature of the Bi-State population's range will make it difficult to avoid a listing under the Endangered Species Act, a commitment to adequate regulatory mechanisms by BLM and other agencies will put this species on the path to recovery and ensure that ESA protections are necessary for the least possible period of time.

Thank you for your agency's work on this planning effort. As the BLM and Forest Service jointly manage many of the habitats used by the Bi-State DPS of sage grouse, it will be important for the BLM to implement complementary habitat protections, equal to if not greater than those planned for implementation by the Forest Service. Please contact me directly at your soonest convenience to initiate a dialog.

Respectfully yours,



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List of Attachments

1. Michael Saul analysis of the scope of valid existing fluid mineral rights.

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