BLM Draft EIS Review – State Comments

The State of Oregon, through the Governor's office, has consulted with relevant state agencies and others in compiling the following comments. These comments are intended to ensure consistency between the BLM's management direction and that of Oregon's greater sage-grouse (GRSG) conservation plan regarding the various threats to the bird and social and economic vitality of human communities in sagebrush steppe habitats. Desire for ongoing conversations with BLM regarding the State's comments, BLM's planning direction, and working to ensure as much consistency as possible between the two.

This GRSG DEIS represents an enormous body of work and analysis, and the State of Oregon deeply appreciates the effort that BLM is devoting to this important subject, and it's openness to input in achieving the best possible means of conserving GRSG habitat while also integrating that effort into the economic and social fabric of Eastern Oregon. The responsiveness to stakeholder concerns and thoughtful consideration of the alternatives in the DEIS is extremely important because the Record of Decision (ROD) will have significant consequences for many Oregonians and a large part of Oregon for decades to come. The State is confident the BLM through the NEPA process will blend and select an appropriate alternative that balance the use of public lands by all Oregonians and the successful conservation of GRSG.

The State is not as confident that the BLM will have the resources and/or will have the capacity to fully implement the selected alternatives in the ROD. As evidence for this concern, Oregon BLM has not been able to fully implement all "required" policies and Best Management Practices (BMPs) identified in GRSG IMs (e.g. 2011-138, 2012-043, and 2013-128) and BLM has not been able to manage wild horses at Appropriate Management Levels (AML) in all Oregon Herd Management Areas (HMA). As a result, Oregon believes that the BLM should clearly identify necessary resources to implement the conservation measures it recommends.

General Comments on the Alternatives

Alternatives A-C

Greater sage-grouse are not thriving under current conditions in the Oregon sub-region. Given the long-term downward population trends for GRSG, and given the majority of habitat and about 82% of Oregon's GRSG population reside on land under the jurisdiction of the BLM, the State does not support the "no action" Alternative A. Alternative B is a range-wide alternative that is not the best way forward for the challenges unique to Oregon. Alternative C recommends measures, such as the elimination of grazing from all occupied GRSG habitat that the State cannot support. There is simply no justification for eliminating grazing from all GRSG habitat. The alternatives that focus on grazing reduction (e.g., Alternatives C and F) reduce emphasis on the primary threats of fire, invasive annual grasses, and

habitat fragmentation due to energy development, all of which will still be present whether livestock are present or absent.

Alternative E
Alternative E represents a science-based alternative for GRSG conservation. However, Alternative E is based on the ODFW GRSG assessment and conservation strategy, which preceded the current BLM RMP amendment effort, as well as more recent efforts in the SageCon Partnership. Consequently, Alternative E does not specifically address some issues identified during the BLM scoping process and SageCon effort, and it does not recommend conservation measures that fit neatly within the BLM management structure.

Alternative F
Alternative F is a range-wide alternative that is not the best fit for Oregon. For example, it calls for an across-the-board 25% reduction in the amount of area open to grazing. Instead of a mandatory across the board reductions in grazing, Oregon favors any adjustments to grazing be based on empirical evidence to maintain sustainable native sagebrush steppe habitat.

Alternative D
Generally, alternative D represents a reasonable compromise that balances the need for multiple use of the sagebrush steppe while at the same time emphasizing the conservation of GRSG. Alternative D gives priority to ameliorating threats representing the greatest risk to GRSG habitat such as reduction of wildfire threats, juniper encroachment, and invasive species infestations, which the State agrees represent the most significant threats to GRSG habitat. BLM's Alternative D incorporates many of the same conservation actions contained in the ODFW GRSG strategy, but in a framework that fits BLM's management structure and that reflects more recent discussions. The State is pleased to see BLM embrace many of the same conservation actions recommended in the ODFW Conservation Strategy, but believes that certain additions and deletions to the Alternative are warranted in BLM's final decision, as specified in more detail throughout this document. As written, the State cannot provide unconditional support of Alternative D, but the State believes that with modifications, it could support this Alternative. Please consider the following comments and suggested edits for improving Alternative D.

Threat Reduction

Vegetation Management

The State supports strategies and treatments to reduce the probability of adverse wildfire impacts, limit juniper encroachment, and control invasive plant species to benefit GRSG habitat. Our recommendation is to better establish clear strategies, goals, and standards that will allow for prioritization of funding and allocation of additional resources to treat more than the 3% of GRSG habitat proposed for annual vegetation management in the DEIS, as well as to increase Early Detection and Rapid Response (EDRR)

efforts, as these actions are the most effective ways known to address the primary threats to GRSG habitat (see pg. 2-44, Table 2-6, Vegetation—D-VG 1)**.**

There is a critical need for improved and ongoing EDRR of invasive annual grasses as well as noxious weeds, such as spotted knapweed, yellow star thistle, diffuse knapweed, and white top. These species—if found early in habitat areas critical to GRSG—can be treated before gaining a foothold and creating major impacts to sagebrush steppe habitats. After ground disturbing activities such as juniper removal, management plans need to be implemented to allow for necessary re-seeding of desirable plants, treatment of invasive plants, and ongoing monitoring. The State recommends the BLM consider that more than 3% of the GRSG habitat needs be treated annually in order to make meaningful headway in addressing these major vegetation-based threats to GRSG viability and habitat health. The following page and issue specific comments attempt to indicate how BLM can modify the current DEIS in order to better address these vegetation issues and achieve GRSG conservation outcomes.

Pg. 1-22 **-** The State supports the BLM's vegetation management objectives, however, these objectives should more explicitly include collaborating with adjacent landowners, especially private owners, Department of State Lands (DSL), and County Weed Management Areas. Such collaboration would increase the efficiency and effectiveness of vegetation management projects by sharing resources, leveraging additional resources, and promoting habitat improvements "across the fenceline". This concept is also mentioned in Action D-WFM 34 (pg. 2-76). As a neighboring landowner the State recommends an emphasis on communication and coordination regarding weed management.

Section 4.2.10 - The section indicates that the Oregon BLM Vegetation Management EIS has been completed and effective management of annual invasive grasses is able to occur on all districts. The State does not agree with this characterization. In fact, most districts have not completed their required vegetation management EA's and any treatment occurring only happens under project-specific EA's. At this time there is no vehicle to adequately respond to new infestations unless they happen to be found in a previously analyzed project. This issue should be recognized and priority given to get district vegetation management EA's completed, doing so in a manner consistent with GRSG objectives.

Crested Wheatgrass

Pg. 2-61, Table 2-6, Conservation Action D-VG 12 of the DEIS states as follows: "Priorities for sagebrush treatment are:

- Large, contiguous areas of Class 5 sagebrush in Cool-Moist Sagebrush or Class 4 sagebrush in Warm-Dry Sagebrush
- Crested/desert wheatgrass seedings "

It is not entirely clear what is meant by this proposed action, but the State believes sagebrush should not be removed in crested wheatgrass stands or other areas unless emergency conditions make it necessary (i.e., fire suppression). The BLM needs to provide justification for removing sagebrush in areas that contain and/or are returning to native plant composition, especially when sagebrush habitat

has already been reduced or compromised and nearly a million acres of sagebrush habitat can be lost in a single year to wildfires. As further discussed below, crested wheatgrass should be considered an interim management option to stabilize soils and reduce risks of non-native annual grasses while aiding in the longer-term restoration of native vegetation and health GRSG habitat conditions. Crested wheatgrass should not be a management objective in and of itself, and sagebrush should not be removed in order to protect or advance crested wheatgrass for forage or other purposes.

Pg. 2-74 - Use of native seed and restoration of native perennial vegetation should be the priority. However, with the current status and quantity of noxious weeds and invasive annual grasses in the planning area, it may be difficult to ensure native vegetation will successfully out-compete invasive, non-native competition. Crested wheatgrass is very effective at establishing and out competing weedy species, especially invasive annual grasses. The State recommends BLM allow increased amounts (up to 50%) of non-invasive, non-native bunchgrass and forb species to be used in seed mixtures for restoration and rehabilitation after wildfires in certain circumstances. This would be allowed where pre-disturbance conditions contained high levels of invasive annual grasses and/or other noxious weeds or other situations where the threat of invasive weed infestations is probable following a disturbance event. NTT guidance on the use of native plan material (as mentioned in Action B-VG 5) should be incorporated into decision-making where use of non-native plant material is being considered.

Action E-WFM 19 should be included in Alternative D in Action D-WFM 19 (pg. 2-74) as an available measure for site-specific situations where the probability of native plant restoration is low and exotic annual grass or noxious weed invasion is high. "If native plant and sagebrush seed is unavailable, crested wheatgrass can be planted in lieu of native species or as a mixture with native species, because it is readily available, can successfully compete with cheatgrass, and establishes itself more readily than natives. If crested wheatgrass is planted initially, specific efforts or plans are needed to interseed native grasses, forbs and shrubs in the rehabilitation area. This might include an initial seed-mix of 1 to 2 pounds per acre of crested wheatgrass mixed with natives. Use of crested wheatgrass is an intermediate step in rehabilitating disturbances to sagebrush habitats."

Invasive Annual Grasses

Invasive annual grasses, such as medusahead rye and cheatgrass, directly displace native vegetation food sources for GRSG (sagebrush, bunchgrass, tall forbs). They are also a primary fuel for wildfires that can devastate large areas of sagebrush and other native plants that take years to re-establish. These invasive annual grasses are a major cause of reductions in GRSG habitat. They alter the frequency and severity of fire cycles, and in turn favor establishment and growth of invasive annual grasses and other invasive noxious weeds over desired native sagebrush and associated native grasses and forbs.

BLM recognizes the extent and severity of the invasive annual grass and weed threat across the public land range of GRSG, noting on pg. 3-30: "Most notable is an annual grass complex made up of the state-listed noxious weed medusa head (*Taeniatherum caput-medusae*), the invasive species of concern

cheatgrass (*Bromus tectorum*), and North Africa grass (*Ventenato dubio*), which are estimated to occur on a million acres of BLM-administered lands in eastern Oregon (BLM 2010a)."

With a million acres infested with invasive annual grasses and noxious weeds, the State would like to see greater emphasis in the DEIS on weed treatment and native habitat restoration as a priority, including multi-landowner coordination and multi-tool treatments. Coordination of invasive weed treatments with adjacent owners—including State and private lands–will facilitate joint restoration projects for landscape level improvements and minimize re-infestations. Effective weed control depends on a multi-tool approach (i.e., herbicides along with grazing, mechanical treatments, and prescribed burns), recognizing that certain tools require significant care in their application and that new tools / techniques (e.g., the use of the strain of *Pseudomonas fluorescens* bacteria) are emerging through research and adaptive management. The State would like to continue to work with BLM on development of a coordinated multi-landowner and multi-tool approach as BLM works to refine this DEIS.

The DEIS recognizes the need for identifying priority areas for restoring and maintaining native sagebrush, grass, and forb communities important to GRSG. That said, Action D-VG 1 is broad and somewhat vague in describing considerations for selecting treatment and restoration sites and target levels of treatment in order to address the invasive plant threat. The State recommends and would like to work with BLM and other stakeholders on the development of a prioritization approach associated with Action D-VG 1, which could build upon existing elements in Alternative D and the additional suggestions below.

As noted earlier, Early Detection and Rapid Response (EDDR), which is the practice of actively conducting systematic detection surveys for these invasive plants, and if detected, aggressively treating and controlling them before they gain a foothold, is a critical strategy in habitat protection. Studies have shown a 34:1 cost-benefit for EDRR.

The State recommends additional emphasis on the EDDR in the final EIS and prioritization of additional resources for EDRR and associated invasive plant treatment efforts in the following prioritized order:

- new infestations,
- satellite populations,
- isolated populations,
- invasive species still subdominant,
- edges of large infestations,
- sites frequently used for temporary infrastructure such as incident base camps, spike camps, staging areas, and heli-spots.

When applying the GRSG lens to the above prioritization order, PPMA would be the primary focus (i.e., new infestations located within PPMA would rise to the top of the priority list). PGMA should not be ignored, but given the likelihood of limited resources, PPMA is the primary place to look when advancing treatments according the above order. Focusing EDDR-based invasive weed treatments and restoration

activities on infestations that are proximate or within areas of seasonally limiting habitats (brood-rearing, wintering, nesting) and connectivity corridors is also important, with the latter being especially relevant where smaller, more isolated populations or subpopulations exist. Finally, where significant disturbances exist within PPMA and PGMA from fire in areas of existing infestation, these areas should be immediate prioritized for EDDR-based attention and reseeding efforts as discussed later in these comments. This is particularly important in lower elevation, drier sagebrush habitats.

Focusing resources on prevention of weed infestations to protect habitats is critical. Examples of prevention include: cleaning equipment, using certified weed free seed and hay/straw for restoration, identification of pathways that move these weeds, etc. A secondary strategy for addressing established infestations is containment and working the edges of a weed infestation to keep it static and reduce the density of the infestation.

The State recommends modifying Alternative D to add monitoring and treatment of invasive species associated with existing range improvements to the goal of PPMAs (recommendation under Alternative B). BLM is in the process of conducting nine EAs for site-specific analysis under their Vegetation Management EIS that includes 17 herbicides. The use of the herbicide Imazapic currently does not have the site-specific analysis for multiple complex vegetation management situations on most BLM districts. Some districts, including; Burns, Prineville and Lakeview districts have completed EAs that allow for the use of Imazapic post-fire for control of weeds such as medusahead and cheatgrass that represent the greatest threat to GRSG habitat. Adding monitoring and treatment of invasive species to the goal of PPMAs allows resources to be prioritized for these efforts.

In addition, the State recommends including language in Alternative D that specifically mentions and discusses the potential benefits and use of the strain of *Pseudomonas fluorescens* bacteria in the treatment of invasive annual grasses and native habitat restoration efforts. While this bacterium is a tool that continues to move through the federal EPA registration process, we believe the underlying research and early testing results are encouraging and this could be a potentially useful tool in post-fire contexts as well as efforts to treat existing infestations. BLM should place effort at the Washington D.C. level to move this bacterium through the federal registration process as quickly as possible. Through the DEIS, the BLM should develop language that recognizes the emergence of this tool, includes it within the approach to invasives treatment, and ensures it will not have obstacles to application on BLM lands once registered and available.

Alternative D would be further improved with the following page and action-specific changes:

- Pg. 2-68. Action D-VG 41 - Apply weed treatments post burn on large acreages, not just spot spraying (i.e., aerial herbicide applications) when pre-wildfire conditions include noxious weeds, particularly when invasive annual grasses are present.

- Pg. 3-38 Line 8 under Invasive Plants - Delete “invasive plant species”

- Pg. 3-38 - Need to include discussion about how over-utilization by livestock can facilitate invasive plants (e.g., Reisner et al. 2013).

- Pg. 3-38 - Need to provide a reference for the statement that aroga moth infestation may assist invasive plant establishment.

- Action E-VG 9 - "Aggressively treat noxious weeds and other invasive plants where they threaten quality of GRSG habitat and apply BMPs to prevent infestations from occurring." This action should be added to Alternative D under Action D-VG 9.

- Make areas with invasive annual grasses / noxious weeds priority areas for Action D-VG 23 (pg. 2-64). Areas with minimal threat of being colonized by invasive species likely do not need restoration unless intense wildfire damages the soil seed bank. However, given that invasive annual grasses / noxious weeds are one of the top three threats to GRSG and rangeland health overall, it would be prudent to put additional effort into restoring areas invaded by these species.

- Action E-VG 31 - "Systematic and strategic detection surveys should be developed and conducted in a manner maximizing the likelihood of finding new patches before they expand. Once patches are located, seed production should be stopped and the weeds should be eradicated. The most effective tools for eradication of many weeds are herbicides and possibly bio-controls." This Action needs to be included in Alternative D to improve knowledge of the quantity, location, and species of noxious weeds occurring on BLM-administered lands.

- Action D-VG 38, Action D-VG 39, Action D-VG 40, Action D-VG 41 (pg. 2-67) - As a neighboring land owner, the State has concerns about fire suppression activities regarding the spread of noxious and/or invasive weeds. Washing equipment is a step in the right direction for reducing weed transfer, however, using wash stations in active gravel pits and storage sites where material is then spread over miles of roads increases weed problems in ROWs. Similarly, base camps should not be placed where noxious and/or invasive weeds are found. Where possible, fire lines (dozer and hand line) should avoid areas where noxious or invasive weeds are present. Understanding this cannot always be avoided, this will help to minimize the spread of weeds in post-burn restoration.

Juniper Encroachment

Juniper encroachment severely impacts GRSG habitat in Oregon. For example, current estimates suggest that approximately 2.4 million acres of GRSG habitat is affected by juniper encroachment in eastern Oregon (Hagen 2011). Further, a recent analysis conducted by NRCS-SGI (e.g., Falkowski and Evans 2012, Noone et al. In progress) found early phase conifer encroachment (<10% canopy cover) occurs across roughly 1,066,096 ac of Core and Low Density habitats. Juniper stands out-compete other

desirable native and non-native vegetation, reducing plant diversity and creating large expanses of bare soil.

In Oregon, juniper encroachment has been identified as one of the significant threats to GRSG habitat. In the Conservation Objectives Team (COT) Report (pg. 47), the corresponding conservation objective states: " Remove pinyon-juniper from areas of sagebrush that are most likely to support GRSG (post-removal) at a rate that is at least equal to the rate of pinyon-juniper incursion."

The DEIS does identify as a goal; "… juniper treatment based on ecological and management characteristics" (pg. 2-43, Table 2-4, Goal D-VG 1). From this goal, it is not clear what ecological and management characteristics will be used to prioritize treatments. Further, the DEIS goal does not state if improving habitat for GRSG will be one of the primary "ecological" considerations. If GRSG are to benefit from juniper treatments, the enhancement of GRSG habitat must be explicitly stated in the goal. The State recommends that BLM adopt the above COT report (pg. 47) goal explicitly, use it to replace the current DEIS pg.2-45 Goal D-VG 1, and then document treatment strategies around it, as articulated below.

Treating juniper encroachment should be prioritized in those areas where GRSG are most likely to benefit. In Oregon, Baruch-Mordo et al. (2013:239) evaluated conifer cover within 1 km of active and inactive leks and found that "…no leks remained active at conifer cover of >4%". Also in Oregon, Freese (2009:84) evaluated GRSG habitat use based on areas with <5% juniper cover and areas with >5% juniper cover and found "Preferred cover types during the breeding season were low sagebrush/mountain big sagebrush with less than 5% juniper cover and low sagebrush with less than 5% juniper cover". For GRSG in the Bi-state Population Casazza et al. 2011:163 found "Strong evidence indicated that brood-rearing sage grouse avoided areas of pinyon-juniper encroachment at larger spatial scales".

For these reasons, the State recommends Alternative D be improved by specifically prioritizing juniper treatment in areas of known GRSG use, particularly lekking areas that are at high risk of being abandoned in the near future due to increased conifer cover. The BLM final EIS should commit to advancing treatments that would reduce juniper canopy cover to less than 4% in these areas (preferably eliminated entirely), with old-growth (pre-settlement) trees left uncut if present. Further, based on working with the State to identify such areas, BLM should set a goal for the amount of area to receive treatment annually or over a specified time horizon. In order to reduce the availability of perch sites for avian predators, BLM should prioritize and establish as a goal the removal of all standing and encroaching trees within at least 100 m of occupied GRSG leks and other habitats with known occupation (e.g., nesting, brood-rearing, and wintering).

The BLM could indicate that achievement of these goals is contingent upon available funding, however, having these areas, standards, and targets identified would at least better allow the State and other partners to work with BLM in achieving these goals. Such an approach will likely have the greatest immediate benefit for GRSG and is similar to the approach taken by the NRCS while implementing

juniper treatments on private lands in Oregon under the Sage-grouse Initiative (please see: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/or/programs/?cid=nrcs142p2_044324)

The State supports Action D-VG 22 (pg. 2-64) and the prioritization given for the "phase" of juniper encroachment to be treated. Phase I and II juniper invasions within priority GRSG habitat should have highest priority for treatment. However, we recommend additional prioritization be applied first to areas within 3 miles of known leks, particularly in those areas where the canopy cover will likely result in local extirpation in the near future. Further, the State recommends adoption of the following goals in order to achieve consistency in goals across public, state, and private lands:

- Remove all Phase I and II conifer encroachment (<10% canopy cover) in GRSG PACs and important areas of connectivity (yet to be designated) in Oregon in 10 years.
- Strategically treat Phase II-III conifer encroachment (>10% canopy cover) in GRSG PACs and where the greatest opportunities exist to restore connectivity, reduce risk of catastrophic fire, and create future GRSG habitat.

The State also supports Actions D-VG 24 and D-VG 25, which specifically describes how downed juniper will be mechanically treated and jackpot burned. However, the State has concerns about the use of broadcast burning for juniper control (e.g., D- WFM-1, pg. 2-69) and instead recommends incorporating E-VG-26 into alternative D.

The State also has concerns about D-WFM-14 - the use of naturally started wildfires for juniper control. Instead mechanical treatment is the State's preferred method for addressing juniper encroachment because it offers the greatest probability for recovery of suitable habitat.

Fire

The DEIS does not provide a cohesive, strategic approach to organize actions designed to abate the threat fire poses to GRSG habitat. Although the DEIS identifies actions and conservation measures to deal with fire impacts to GRSG habitat, these tactics remain relatively disjunct. In addition, the tactics are not arranged in a cohesive manner to demonstrate prioritized efforts or build an effective approach needed to deal with the considerable challenge that fire poses. This is critically important in lower elevations where habitats are at greater risk of conversion to non-native species after repeated fires. Historically fire was a key ecological attribute in Oregon's desert environment, with a vital role in maintaining sage steppe habitats. Today, fire remains an driving force but its beneficial ecological role is compromised by invasive non-native species, habitat reduction, and fragmentation. The beneficial role of fire can be retained in some circumstances through the judicial use of prescribed fire and appropriate wildfire management tactics, but given current conditions of GRSG habitat, great caution and care needs to be applied before fire is used for fuel reduction, restoration, and wildfire management purposes. The State recommends proactive investments be made in targeted locations to reduce vulnerability of important GRSG habitat to fire, including a cautious approach to green-stripping and firebreak

construction. The State recommends that a broader collaborative strategy be incorporated into Alternative D, and the State would like to work directly with BLM on further developing this strategy between now and the FEIS / RMP decision date through conversations already ongoing through the SageCon process.

This strategy would include opportunities to better coordinate and leverage resources, including the role of Rangeland Fire Protection Associations (RFPAs). Rural community vitality is connected to the ability to the reduce the risk of wildfire to GRSG habitat. Ranches located in the remote areas comprising GRSG habitat are an extremely valuable resource for spotting and responding quickly to wildfires, thereby reducing habitat loss. According to the Oregon Department of Forestry, "there are approximately 520 volunteer firefighters in the 18 Rangeland Fire Protection Associations (RFPAs) and 174 pieces of water handling fire equipment that is listed with the Rangeland Fire Protection Associations." (Foster G., Oregon Department of Forestry: Status of Rangeland Fire Protection Associations, 2, (2014)).
Opportunities exist for building better pre-suppression / prevention and wildfire response partnerships around this local infrastructure. Alternative D provides more explicit guidance for fire suppression policies compared to other alternatives but lacks specific guidance for coordination with RFPAs. Although RFPAs provide protection on private and state lands, the RFPA's also provide rapid response to fires on BLM-administered lands. Alternative D should address the role and economic impacts of RFPAs and partner agencies on BLM-administered lands. The State recommends further development of working relationships, which would result in more coordination of efforts with RFPA's and other cooperating agencies, with the outcome of more efficient and effective wildfire management.

Finally, the State agrees with conservation actions identified in the Near Term Greater Sage-grouse Conservation Action Plan (2012), and encourages BLM to incorporate these actions into the preferred alternative. The State recognizes that BLM, USFWS, and USFS, in conjunction with state agency representatives, proposed some modifications to the following conservation actions in 2013, but these have yet to be finalized. Please refer to the text box below.

Conservation Actions**:**

U. Develop and implement a tactical fire suppression attack strategy (U*)

- Need to increase wildfire suppression capacity in Oregon to facilitate a more robust response, because additional suppression resources would help limit the size and extent of wildfires.
- The plan will identify the most critical sagebrush habitats that must be protected.
- The plan will model fire path behavior so suppression responders can rapidly assess fire starts and locations for effective suppression.
- The plan will provide managers with maps that will model fire paths that may be used to create effective fire lines.
- Increase aircraft resources to be able to successfully fight wildfire.
- Restrictions to transportation or travel management should not limit access for wildfire suppression resources or cause response delays, since such restrictions would result in larger fires.

V. Strategically station high capacity, rapid response aerial assets to the theater (U)

- Launch the aircraft during red flag conditions and monitor fire starts. The aircraft should make preemptive strikes on fire starts.

W. Proactively establish defensible fire lines. (U)

- Establish green-stripping, brown stripping or other techniques, at the interface of monotypic cheatgrass landscapes and relatively intact sagebrush communities, which will provide firefighters with geographical, topographical, vegetation, or other features to increase success to reduce fire size and protect sagebrush habitats.

X. Pre-deploy fire fighting resources for rapid and increased suppression efforts. (M)

Y. Increase resource availability to conduct restoration activities that have improved potential for success.(M)

- Increase seed availability and improve storage capabilities;
- Provide support for on-going research for precision restoration and seed coating technologies, such as that being conducted by ARS-EOARC and TNC, in order to improve seeding success rates post-fire.

*Likelihood of action producing desired outcomes based upon best professional judgment and available science. H = High, M = Moderate, L = Low, U = Unknown.

As part of better developing the above mentioned strategic approach, Alternative D would be improved with the following page-specific changes:

- Pg. 2-22 (Alternative D) -"Restoration opportunity areas provide special consideration during fire suppression to help sustain productive GRSG habitat." As noted above, State Trust Lands are included in the areas defined as "restoration opportunity areas". If these areas are prioritized for fire suppression, this implies that fire suppression will be prioritized on State Trust Lands. The State requests that BLM clarify the implications of such prioritization on the fire suppression agreement between BLM and the State, e.g., DSL.

- Pg. 2-29 (Alternative E) -"Recognizing the need to capture all GRSG habitat in its PPH and PGH map..." The 2012 wildfires (especially the 2012 Long Draw and Holloway wildfires) need to be captured in the habitat mapping process. Keeping these overall maps up-to-date will allow restoration efforts to be prioritized based on recent conditions.

- Pg. 2-58 - Include complete restoration in areas less than 100 acres in size if wildfire did not leave remnant vegetation patches available for seed source and regeneration of native vegetation.

- Pg. 2-69 to 2-79, Wildland Fire Management, Objective D-WFM 2 - The State supports the use of a full range of fire management options proposed to protect GRSG habitat under Alternative D and requests that properly managed grazing be added as an acknowledged option. Wildfire is named as one of the major causes of GRSG habitat loss and fragmentation. Wildfire can devastate hundreds to thousands of square miles of sagebrush that may take decades to re-establish. Properly managed grazing can play a positive role in in the reduction of fuel loading (e.g., Freese et al. 2013). Grazing can also help suppress invasive annual grasses if areas are grazed at the proper time and intensity. Current research by Sheley (2014) finds that "grazing is becoming increasingly considered in restoration of degraded ecosystems throughout the world." The timing, intensity, and careful management of targeted grazing is critical to success since annual grasses such as medusahead and cheatgrass have high concentrations of silica, and as they mature the palatability to livestock decreases. Research is ongoing related to the role of grazing in reducing wildfire risk and invasive species, and while Oregon is not advocating for generalized application of this tool to achieve those outcomes, the State believes BLM should continue to monitor this research and be flexible enough to avail itself of potential opportunities.

- Pg. 2-69 - Alternative D advocates "treating GRSG habitat to reduce the probability of large homogeneous burn patterns and unacceptable wildfire effects, to limit juniper encroachment, and to control invasive species". How will this be done? What ensures the remaining habitat will be valuable to GRSG? BLM can likely be very effective at reducing the probability of catastrophic fires through habitat treatments, but will the remaining habitat be valuable to GRSG?

- Pg. 3-70 - Table 3-19 states it includes fire acreage for the period 2000-2012. However, based on the acreages listed, it does not appear to include the catastrophic fires from the summer of 2012. Should update table, or include a footnote indicating table does not go through 2012 fire season.

- Pg. 4-11 - For sagebrush steppe habitats the BLM should provide a reference for statement "…and growing evidence suggests that fire suppression may be promoting larger and more

severe fires by increasing fuel buildup." The State recommends increasing the pace and scale of fuels reduction, mitigation, and prevention projects, to minimize fire size and intensity on the landscape.

- Pg. 4-20 "The intention of prescribed burning is to improve wildlife habitat and vegetation production." This should be clarified as it seems contrary to the management objective since improving vegetation production could increase fuel loads. If the improved vegetative production for livestock forage the DEIS should state this.

- Pg. 4-54 Alternative E makes no distinction between fire suppression in low density habitat versus GRSG habitat outside of low density habitat. Consequently, the following statement is misleading "…Low Density habitat covers fewer acres than PGMA, thus providing protection to less GRSG habitat". In the same paragraph it is speculated that "Limits on use of fire, either planned or unplanned, in the Warm-Dry Sagebrush Group are likely to be counterproductive where large expanses of high sagebrush density exist, because homogeneous fuel beds typically produce highly damaging burn patterns and promote annual grass invasion." Need to provide references in support of this statement, because one could argue that maintaining Warm-Dry Sagebrush Group through fire suppression is more effective than trying to restore Warm-Dry Sagebrush Group post-fire which has been largely ineffective (whether planned ignition or not). See VDDT analysis on Pg 4-55 which found "Reducing the probability of fire by 50 percent in the Warm-Dry Sagebrush Group in Alternatives B, D, E, and F to account for fuel breaks had no effect on habitat trends." See also statements on pg. 4-70 "The distribution of suitable sagebrush habitats is limited and the cost of habitat restoration is high." And on pg. 4-71 "Thus, preservation of sagebrush against wildfire and limiting use of prescribed burning is important to preserving GRSG habitat over both the short and long terms."

- Pg. 5-23 - "However, wildfire is generally less of a threat in MZ V compared to MZ IV", possibly true since the 2012 Homestead Fire burned ~180,000 acres, while the 2012 Long Draw fire burned over 550,000 acres. However, the possibility of losing 180,000 acres of prime GRSG habitat in MZ V in just one fire should still be a considered a significant threat. Furthermore, a few pages later (pg. 5-27) there is the following statement about MZ V "Most of the management zone is considered at high risk of fire, and about 44 percent of lands are considered to be at high risk of cheatgrass."

Post-fire Stabilization and Rehabilitation

In Oregon, wildfire has been identified as one of the significant threats to GRSG habitat. The COT report specifically states "…fire and invasive weeds are the primary issue in the western portion of the species' range…(pg. 11)". Regarding fire, the COT offers the following Conservation Objective: "Retain and restore healthy native sagebrush plant communities within the range of GRSG.(pg 40)". The COT also offers several conservation measures regarding fire, one of which is particularly relevant to

post-fire stabilization and rehabilitation: “Design and implement restoration of burned sagebrush habitats to allow for natural succession to healthy native sagebrush plant communities. This will necessitate an intensive and well-funded monitoring system for this long-term endeavor. To be considered successful, restoration must also result in returning or increasing GRSG populations within burned areas.”

Fire suppression and management practices performed in the last century have resulted in fuel buildup, trees encroaching into shrublands, and invasive annual grasses becoming more dominant. These factors have contributed to changes in fire regimes throughout the western USA (Miller et al. 2013). Eastern Oregon is no exception. Wildfires are part of these ecosystems. Properly functioning ecosystems should have adequate resilience to recover after fires and resistance to invasive species; however, the degree of resilience and resistance is not the same for all ecosystems and tends to be higher on more productive lands with cooler and moister soils that are often found in higher elevations, on northern slopes, and in more northeastern latitudes (Chambers et al. 2013). BLM should amend Alternative D and add specific conservation actions to improve post-fire stabilization and rehabilitation practices in Oregon by incorporating the principles of ecosystem resistance and resilience when deciding appropriate actions, including no actions. Effectiveness of rehabilitation could be improved over time if actions in Alternative D included consistent monitoring, common methods, and cross-project comparisons of outcomes (GAO 2003, Wirth & Pyke 2007). These principals should be added to the vegetation section of Table 2-6 and to the Wildland Fire Management particular actions such as D-WFM 17 on pg. 2-73.

Recent studies and reviews of the scientific literature clearly demonstrate that post-fire stabilization and rehabilitation projects can have improved success through the implementation of the concepts associated with ecosystem resistance and resilience. Within the Intermountain West, a gradient exists from sites with low to high resistance and resilience. This gradient is defined using soil temperature and moisture regimes that can be mapped using USDA-NRCS soils data (Chambers et al. 2013, In press, Miller et al. In press). Post-fire rehabilitation through seeding plants has been most effective on locations with high resilience and resistance (e.g., cooler and moister soils) (Hardegree et al. 2011, Pyke et al. 2013, Arkle et al. In press, Knutson et al. In review). These concepts of resilience and resistance are being combined with landscape cover of sagebrush to provide a decision matrix for GRSG habitat restoration. BLM’s preferred Alternative D should be improved by adding a clear method for prioritization of sites for rehabilitation that considers site resilience and resistance.

Landscape cover of sagebrush dominance has been shown to closely track successful GRSG leks (Aldridge et al. 2008, Wisdom et al. 2011, Knick et al. 2013). Locations where sagebrush cover is greater than 65% landscape cover have high probabilities of supporting successful leks. Locations with landscape cover less than 25% are unlikely to support leks and those in between these two values have increasing likelihood of successful leks as landscape cover increases. The Western Association of Fish and Wildlife Agencies (WAFWA) workgroup on fire and invasive species management has recommended this matrix (e.g., Chambers et al. In review) as a basis for prioritizing lands for conservation of existing habitat, prevention of fire and invasive species encroachment in at-risk habitat, and restoration of disturbed or degraded habitat. Therefore, the State requests that the BLM incorporate the WAFWA GRSG habitat

resistance and resilience matrix into the conservation actions of the final EIS and incorporate the concept/tool into the appropriate pre- and post-fire habitat management and restoration actions, such as those identified in the Vegetation and Wildland Fire Management sections of Table 2-6 of the DEIS.

The State believes the BLM needs to include recommended methods for restoration in the conservation actions such as D-VG 9 of the DEIS (pg. 2-60). Rehabilitation projects involving big sagebrush revegetation are important for re-establishing GRSG habitat, but aerial seeding of big sagebrush without any soil disturbance (e.g., imprinting, harrows or chaining) has been clearly unsuccessful (Pyke et al. In review). Although more expensive than seedings, the cost-to-benefit ratio of transplanting big sagebrush provides justification for using this approach more in the future (Davies et al. 2013, Dettweiler-Robinson et al. 2013, McAdoo et al. 2013). Hence, the State recommends that the BLM address this reality and modify existing rehabilitation programs to incorporate these more ecologically effective approaches to the establishment of big sagebrush.

Rehabilitation projects that were instituted to control invasives species only did so in about half of the cases (Peppin et al. 2010, Pyke et al. 2013). Those that were successful tended to use introduced forage plants in the seed mixture, but also tended to reduce native plants on these same sites (Peppin et al. 2010, Knutson et al. In review). Locations threatened by invasive species that also have existing native plants might benefit more through using only native species in the rehabilitation project (Peppin et al. 2010, Knutson et al. In review). Thus, the State requests that the BLM re-evaluate their current habitat rehabilitation programs to incorporate this finding into conservations actions such as D-VG 6 (pg. 2-59) and D -VG 23 (pg. 2-64) and include more native species.

BLM's preferred alternative does not explicitly address soil stabilization as a goal of post-fire rehabilitation. Soils prone to water erosion on hillslopes are better protected in the short-term by ground covers (e.g., mulches) than by barriers or seeding vegetation (Robichaud et al. 2010, Peppin et al. 2010). Post-fire areas prone to wind erosion can be harmed by equipment that is used to seed vegetation or disturbs the soil and accelerates wind erosion. Erosion fences can be used to stabilize small areas, but a better approach to control wind erosion on large areas may be to delay revegetation until soils stabilize through natural means even if this involves undesirable plants (Miller et al. 2012). The State therefore requests that the BLM evaluate their soil stabilization program following fire and incorporate appropriate conservation actions to conserve soil into at least the Wildland Fire Management section of the preferred alternative (e.g., Table 2-6).

Wild Horses and Burros

The impact of wild / feral horses on GRSG habitat is a localized but real concern in certain areas of the public domain, as further addressed below. This is a concern not only to GRSG but other species and wildlife habitat concerns, as well as to local community and economic interests. The State supports efforts at the State, local, and national levels to address growing concerns over wild / feral horse management. Oregon offers the following page-specific comments as improvements to Alternative D on this issue:

- Pg. 2-46, Table 2-4, Objective-WHB 1 - Wild (feral) horses and burros are required by law to be managed by the BLM so that populations remain within appropriate AMLs. Specific herds within PPMA and PGMA are well over AMLs. AMLs should be reduced by 25% in PPMA and PGMA. Feral horses and burros forage by clipping grasses very close to the ground; this causes a decrease in fine herbaceous litter standing and on the ground. It is also detrimental to, the life cycle of native perennial grasses by not leaving enough grass above the crown to regenerate leaf growth.

- Pg. 3-66 - First sentence of first paragraph states that wild horse herds are managed within AMLs. This is not true. See comment below for pg. 3-68.

- Pg. 3-68 - Section 3.5.2 does not adequately address the regulatory mechanisms that will be put in place to manage feral horses at AMLs. Horse numbers consistently over AML degrades habitat and the lack of funding to address those numbers adds to regulatory uncertainty. Without scientifically-based methods to estimate feral horse populations it is difficult to reliably assess the status of feral horse populations within the planning area. While Alternative D provides guidance for prioritizing land health evaluations, which would improve the efficiency and response time to improve GRSG habitat conditions, it does not address the impacts of herd numbers. Benefits to GRSG habitat suitability require additional population control measures, particularly for HMAs over AML (e.g., Cold Springs, South Steens, Ligget Table, Palomino Butte, and Beatys Butte HMAs). Trend data warrants a change in population management and we suggest amending Alternative D to include additional population control measures and adjusting permitted AMLs to ameliorate negative impacts to GRSG habitats.

- Pg. 3-68, Third paragraph – The State believes it is misleading to pool HMAs and report that they are 15% above AML. Beatys Butte HMA is 300+% above AML per BLM in Feb. 2013. Beatys Butte is an important area for GRSG. BLM must consider each HMA and bring each into compliance of AML if quality sagebrush-steppe habitat is to be maintained for GRSG and other sagebrush obligates. As the State understands it, there are ongoing conversations happening between a variety of stakeholders, including BLM staff, related to a potential pilot project effort associated with the Beatys Butte HMA. At the time of these comments, conversations are ongoing around a creative, locally grown solution to this HMA, with potential relevance to other HMA's of concern in Oregon and beyond. We request that the BLM stay engaged with the State and relevant stakeholders on this effort and ensure that options relative to this potential pilot effort are enhanced rather than foreclosed in the RMP EIS process.

Livestock Grazing

The State supports grazing and ranching operations which manage for ecologically sustainable native rangelands. Aggressively pursuing a reduction in grazing may be contradictory to previous statements

that the BLM will address what measures would be put in place to protect and improve GRSG habitat, while maintaining grazing privileges. If existing IMs and CFRs were fully implemented and followed at the district level, most Oregonians would have little reason for concern over the impacts of grazing on our sagebrush steppe resources. Given that this implementation and compliance may not always be the case, the State is not opposed to restrictions on livestock grazing where site-specific evidence supports that approach. But generalized approaches raise concern, and the State believes further analysis is warranted in evaluating whether retiring permits would positively impact GRSG and what the social and economic impacts of closures and restrictions would be. We encourage the BLM to work cooperatively with the Oregon Cattlemen's Association, Burns Agricultural Research Station, and those engaged with the development of the "Rural County Alternative" on approaches to achieving GRSG habitat objectives.

Alternative D states that "a slight reduction in areas open to livestock grazing would occur because some RNAs in PPMA would be closed to livestock grazing (pg. 2-117). In developing grazing alternatives, the BLM needs to explicitly state which RNAs will be closed to grazing, list the criteria closures will be based on, and identify where additional reductions to livestock grazing will occur within the planning area. For example, the DEIS states that 59 ACECs (17 ACEC + 42 RNA) will be revised to add GRSG management considerations. Of the 42 RNAs, 22 RNAs are priority RNAs for long term monitoring and grazing will be removed from these 22 RNAs within 5 years. The remaining 20 RNAs will be managed for GRSG and if standards are not met, grazing will be removed. However, the State heard at the Prineville meeting (Bob Hopper) and Burns meeting (Joan Suther) removal of grazing from the RNAs within 5 years is an error and will not be in the final EIS. Alternatively, the draft EIS also states the RNAs with 20% PPMA or 50% PGMA would be closed to grazing voluntarily or by termination (pg. 4-266). The final EIS should provide clarification on where reductions to livestock grazing would occur and the site-specific evidence or basis for that decision.

Where the DEIS speaks to addressing livestock grazing, the State recommends that BLM put additional effort into discussing the existence and ongoing development of Candidate Conservation Agreements (CAA) and CCA with Assurances (CCAA) in Oregon, which we believe will bring improvements to GRSG and their habitat. This CCA and CCAA effort are strengths for Oregon and for BLM in demonstrating that livestock-based impacts to GRSG habitat have been addressed through a mechanism of value to the USFW's ESA listing review. For example, on pg. 1-22, Section 1.7, the State recommends BLM acknowledge that this DEIS is not the only effort being made to protect GRSG habitat. Many agencies and organizations are involved in the effort to provide sufficient certainty for conservation of this species to avoid its listing under the ESA, and the examples of CCA and CCAA's with Harney County SWCD, Oregon Department of State Lands, and on the BLM lands with the engagement of Oregon Cattlemen's Association are worth highlighting. The CCA on BLM lands is especially relevant to the discussion of and decisions related to public land livestock grazing in this EIS.

The following page-specific state comments are intended to further address the livestock grazing issue and improve Alternative D:

- Pg. 2-21 (Alternative D) - The State recommends BLM include coordination with other landowners to maximize the effectiveness of adjustments to livestock grazing. Changes to allowed grazing can have far reaching ecological and economic impacts, not only to BLM-administered lands, but to private lands and State Trust Lands. When the BLM reduces Animal Unit Months (AUMs) on an allotment, changes season of use, or suspends grazing use altogether, the livestock may spend more time on private lands and/or State Trust Lands. This in turn degrades the overall rangeland health and condition of these private and State Trust lands. Thus the BLM has passively asserted control, increased pressure, and forced management decisions on non-BLM administered lands that are also important to appropriate landscape management and GRSG conservation. If private and State Trust Lands are negatively affected, the overall landscape health is reduced and GRSG habitat suffers increasing fragmentation and decreased connectivity. While reductions in grazing are sometimes necessary to restore healthy functioning ecosystems, reductions require coordination and communication with permittees, DSL, and ODFW. Such coordination would increase overall landscape and rangeland health, promote healthy functioning ecosystems and provide benefits to GRSG habitat overall. The State recommends BLM include language addressing this holistic landscape management approach for addressing the affects of livestock grazing on GRSG.

  The State believes allowing permittees more flexibility and eliminating the concept of "fixed" season of use would allow for better management outcomes overall. It would provide operators the ability to graze areas in deferred rest rotation schedules when permittees are also lessees on State Trust Lands and/or using private ownership. This would allow operators to have the flexibility to manage grazing lands in a sustainable manner that incorporates all lands, either leased or deeded.

- Pg. 2-48 - Objective D-LG/RM 1 states the BLM will "continue to make GRSG PPMA and PGMA available for livestock grazing. This would total 9,748,500 ac of BLM lands." In Chapter 4 the numbers of acres open to livestock grazing are reported by both planning area and BLM-administered lands and there are a number of discrepancies in the number of acres that are reported as open to grazing under Alternative D. For example under impacts from livestock grazing:
  - Page 2-131 states under Alternative D that 9,931,400 acres of PPMA and PGMA would be open to livestock grazing
  - Page 4-109 states 12,022,428 ac are open to livestock grazing
  - Page 4-122 states 9,876,578 ac are open to grazing
  - Page 4-138 states approximately 9.8 million acres are open to grazing
  - Page 4-157 states 9,897,743 ac are open to grazing
  - Pages 4-238 and 4-253 states 12,022,000 ac or 95% of the planning area are open to grazing
  - Page 4-261 states 9,987,700 ac are open to grazing

  The BLM should provide consistency in how acreage is reported throughout the document and the planning area and BLM-administered lands should not be used interchangeably.

- Pg. 2-48, Table 2-4 Livestock Grazing/Range Management, Objective D-LG/RM 1 and 2—The State recommends that properly managed grazing be allowed to continue as currently authorized on all BLM allotments where grazing has not been assessed as a causal factor in GRSG habitat loss. Forage available on public lands through grazing permits and leases provides an essential resource for the viability of the agricultural industry, particularly in Eastern Oregon.

- Pg. 2-49,50 Special Designations, Objective D-SD 1— The State recommends that properly managed grazing be allowed to continue as currently authorized in RNAs and ACECs where grazing has not been assessed as a causal factor in GRSG habitat loss. The State applauds ongoing and proposed expanded research into land management that supports maintenance and re-establishment of GRSG habitat and considers factors of decline such as climate change.

  Similarly, Alternative D includes a recommendation to reduce, modify, or eliminate authorized livestock grazing by terminating leases and working with permit holders to reduce or relinquish grazing in ACECs (representing approximately 500,000 acres). Since properly managed grazing can be compatible with healthy GRSG habitat, the State recommends that current grazing permits and leases be allowed to continue except in localized areas where grazing has been determined to be causal factor harming GRSG habitat. The State requests clarification as to whether the BLM proposes to retire grazing permits in PPMAs upon expiration even if a renewal is requested (i.e., person not willing to voluntarily give up grazing privileges). The State is also interested in further conversations with BLM over the potential for developing grass banks.

- Pg. 2-81, 82, Action D-LG/RM 9 - Prior to making changes to grazing, the BLM should consider the impacts of these changes on adjacent ownerships and ownerships operated in conjunction with the BLM allotment. Coordination and communication with permittees and DSL where State Trust Lands are involved will help facilitate "across the fence" landscape management and increased sustainable grazing management.

- Pg. 2-84, Water developments (Actions D-LG/RM 16 & 20) - Alternative D directs the BLM to replace water sources that have GRSG population limiting implications. Location and movement of water sources can impact GRSG habitat, and the potential consequences to GRSG habitat from decisions to move water sources from one area to another should be fully considered. The State recommends clarification that, when moving water sources, the BLM receive confirmation from the permittee that the new water source is viable to their operation and that a new water source is located (i.e., if relying on a groundwater source, make sure that a well can be drilled and successfully produce water), and necessary improvements funded and in place, before the existing water source is eliminated.

- Pg. 2-86 - Action B-LG/RM 28 -Action D LG/RM 28 is the same as Alternative B. If grazing is not contributing to decreases in rangeland health, and the current permittee no longer wants to

graze, allow another operator the opportunity to graze the allotment and/or consider how the allotment can be used by other operators to better distribute livestock and reduce impacts in other areas, prior to full retirement of the grazing permit. There is a need for grass banks in the area given the nature and ongoing effects of fire and invasive weed work, and that should very much be taken into account in the BLM's decision-making prior to full retirement of a grazing permit or closure of an allotment.

- Pg. 2-133 and 2-134 -"Alternative D would result in an annual loss of up to $0.8 million in grazing-related output, $0.3 million in grazing-related earnings, and up to 9 grazing-related jobs in the primary study area." In this rural area with high unemployment, this would have a huge impact.

- Pg. 3-122 - The creation of additional areas (RNAs and ACECs) could increase pressure from anthropogenic uses and livestock grazing on private and State Trust Lands which are already affected by established ACECs and RNAs. As an example, DSL has previously been unable to access State Trust Lands for management, weed treatments, and monitoring due to motorized vehicle closures. In addition, weed treatments on State Trust Lands can be ineffective when adjacent to ACECs and RNAs since they are not treated. Removing livestock grazing from RNAs can increase grazing pressure on other areas which would be detrimental to the overall landscape and rangeland health as well as cause negative economic impacts to the affected communities.

- Pg. 4-42 – the DEIS states, "In addition, no-grazing areas on BLM-administered land could require additional miles of fencing to separate these areas from adjacent grazing lands. Additional fencing would increase the adverse effects of fencing on GRSG." Please clarify why there would be a net increase in fences under Alternative C if grazing were eliminated, since interior pasture fences, gather areas, etc. could be removed as they would no longer be needed. For example, Hart Mountain NAR has fewer total miles of fencing now than when grazing was allowed.

Introduction to Threats from Human-Caused Disturbance and Fragmentation: the Proposed BLM and Oregon Disturbance Framework

According to the COT Report, fire, invasive weeds (including juniper) and vegetation management are primary threats for GRSG in Oregon. For other forms of concentrated human disturbance to GRSG habitat, such as energy development, infrastructure, ex-urban development, mining, and concentrated recreation, the BLM proposes a disturbance framework and threshold that would limit the spatial extent of these activities in order to preserve GRSG habitat. Oregon supports this general approach, and is developing a corresponding framework for non-BLM lands. The most recent draft of the Oregon Framework is included as an attachment to these comments.

In many instances, Alternative D indicates an absolute prohibition or exclusion on certain activities in GRSG habitat. These aspects of Alternative D need to be realigned with a disturbance framework. For instance, rather than proposing an absolute exclusion or prohibition of aggregate operations needed for road maintenance in PPH, or similar limits on renewable energy development and transmission, Alternative D should be revised to reflect a disturbance framework that:

> (a) Requires concentrated human activities that disturb GRSG habitat (both direct and indirect impacts) to be located to avoid PPH or other agreed-upon spatial measures of key habitat (such as the groupings of core areas currently proposed in the state framework);
>
> (b) Requires such activities that must located in key habitat areas to minimize their direct and indirect impacts;
>
> (c) Requires mitigation for remaining direct and indirect impacts to both PPH and PGH, to achieve a net conservation benefit; and
>
> (d) Establishes an overall limit, or threshold, on the direct impacts in PPH (or other agreed upon units of key habitat).

Based upon present information, the State supports a disturbance approach with these elements. The State also supports a threshold for direct impacts in the range of three percent. However, the State is currently analyzing conditions in key habitat areas, and the final thresholds should be refined both to be protective of critical GRSG habitat, and to recognize the reality and need for some future disturbance to occur in these areas given their extensive spatial extent.

The State and the BLM are, and need to continue coordinating so that we have consistent approaches and metrics across BLM-administered and non-BLM lands. It is particularly important that we have consistent measures of both baseline and future direct and indirect disturbance for purposes of a threshold. We will also need strong intergovernmental coordination between BLM, the State, and Oregon counties, all of whom will have a role in planning, developing and administering such a system. The State recommends that an intergovernmental Memorandum of Agreement be developed over the next six months that lays out how the Disturbance Framework and Mitigation Framework (described below) will be coordinated between federal, state, tribal and local governments.

The DEIS addresses human disturbances in Appendix G. The draft lists broad categories of threats designed "to evaluate anthropogenic and natural disturbances (direct physical footprint) of GRSG habitat based on threats listed in factor A" (pg. G-6). The types of disturbance listed are only one-word categories such as agriculture, wildfire, and invasive species. Clear definitions of disturbance, including defined methods of calculating disturbance and cumulative measures are essential for guiding conservation investments and actions. The State recommends a definition of "disturbance" that expressly excludes normal ranching and farming practices, including infrastructure related to small-scale

ranch, home and farm businesses (e.g., fences, livestock water developments, range improvements, etc.). [Infrastructure definition from Idaho's proposed alternative that has received USFWS support per April 10, 2013 letter to Governor Otter]

The State recommends that baseline data be provided using 2010 (the Warranted but Precluded determination date) as a starting point. As noted above, the scale of analysis to establish baseline protections for priority and general habitat must be defined. In addition, the final EIS should cite and utilize current peer-reviewed literature to address disturbance and conservation as related to GRSG. For example,

- Knick et al. 2013. Modeling ecological minimum requirements for distribution of GSG leks: implications for population connectivity across the western range, USA. Ecology and Evolution 6:1539-1551.
- Arkle et al. In press. Quantifying restoration effectiveness using multi-scale habitat models: implications for sage-grouse in the Great Basin. Ecosphere 5:XXX-XXX.

Finally, Oregon is concerned that Alternative D does not provide sufficient for connectivity between PAC's. Knick et al. (2013) highlighted the need to maintain interconnected populations to reduce the risk of extirpation caused by local impacts and allow for recolonization. The State recognizes that data needed to accurately identify key connectivity corridors is limited. Therefore, the State recommends that the BLM work with ODFW, USFWS, INR, and others to evaluate available methodologies to identify important habitat corridors linking PAC's, followed by development of strategic approaches for prioritized restoration and protection of such corridors. One such approach that warrants further evaluation is highlighted by Knick et al. (2013) as they mapped Habitat Suitability Index scores and modeled pathways of potential sage-grouse movement among leks and populations using Circuitscape (McRae 2006).

The following page-specific comments provide further suggestions for improvement of Alternative D:

- Pg. 4-47 - The BLM and the State need to agree on what is included in baseline determinations of disturbance . As noted above, the state believes that only the direct footprint of concentrated land-disturbing activities should be included. Indirect impacts should be considered, but only in terms of avoidance, minimization and mitigation.

- Pg. 4-47 - "…from human disturbances not including fire" The State concurs that fire, including human-caused fire, should not be included in a disturbance regime. Fire may be a factor in mitigation, as noted further, below.

Mitigation Framework

The State is developing a GRSG mitigation framework that will complement the BLM and state disturbance framework described above. The mitigation framework is designed to ensure net

conservation benefits for both the quantity and quality of GRSG habitats. Importantly, it is also designed to be predictable, transparent, equitable, consistent and complimentary at local, state, and federal levels and across land ownership types.

To achieve this goal, the state and federal agencies must work together to build the mitigation framework in coordination, recognizing individual mandates and responsibilities. To ensure the high level of coordination needed, the State recommends developing, during the summer of 2014, a Memorandum of Agreement between the State, the USFWS, the BLM, affected tribes, and affected Oregon counties that outlines an integrated approach to sage grouse mitigation, and identifies the roles of each agency.

Described below are a number of mitigation-related issues in the DEIS that are not consistent with the current direction of the State mitigation framework, and that may hamper the State's ability to develop this coordinated approach in future. The State is currently working closely with our federal partners to develop shared solutions to these issues, and we strongly support BLM's continued active participation in those efforts.

1. **Net conservation benefit.** The Oregon BLM Resource Management Plan Amendments set a goal of no net loss with net benefit for PPH but requires only no net loss for PGH. Oregon supports the no net loss with net benefit goal for activities impacting either PPH or PGH.

   The amendments also should clarify the scale or scales at which a no net loss or net benefit requirement will be applied. The State's mitigation framework will identify service areas at a scale that is biologically relevant as defined by PACs, limited to within the state, within which net benefit should be demonstrated. The State program's unit of measure for impacts and benefits and for demonstrating net conservation benefit is anticipated to be a functional habitat acre.

2. **Clarification of the mitigation hierarchy.** BLM's definition of and approach to "on-site mitigation" in both the RMP amendments and the Regional Mitigation manual differ somewhat from common usage and the definitions used by the USFWS. The result is that the intended application of the mitigation hierarchy is unclear and appears to express a preference for compensatory mitigation projects to be at or near the site of development impact. BLM should clarify the use of the term.

   Rather than an automatic preference for onsite mitigation, the decision to conduct on or offsite mitigation should follow criteria tied to the ecological functions being impacted. In general, compensatory mitigation projects should be targeted to where the greatest habitat benefit can be provided. This is generally expected to be off-site, except where greater conservation benefits can be achieved adjacent to the site of impacts and activities there would not negatively impact the mitigation site.

The State is proposing a mitigation approach (including avoidance, minimization, and compensatory mitigation components) that would cover development actions which:

- Negatively impact GRSG habitat;
- Are identified as threats in the Conservation Objectives Team (COT) report;
- Create spatially discrete, measurable impacts; and
- Are implemented, funded, or permitted by federal, state, and local agencies.

These development activities include, but are not limited to:

- Energy Development
- Agricultural Conversion
- Mining
- Concentrated Recreation Facilities (e.g., OHV Parks, developed campsites)
- Ex-Urban Development
- Infrastructure (e.g., roads, pipelines, powerlines, and cellular towers)

Ranching/grazing and dispersed recreational uses are too diffuse, and are not proposed to be included in the State's mitigation framework.

The process for complying with the State's avoidance, minimization, and compensatory mitigation requirements will be applied to covered activities within all GRSG habitat. However, not every action will necessarily require compensatory mitigation.

The State requests that the BLM continue to coordinate with the State and other interests in aligning this mitigation hierarchy. Consistent application across all lands is necessary to create an equitable, predictable, and effective system for conserving GRSG habitat.

3. **Additionality and durability.** Compensatory mitigation projects on BLM-administered lands must consider additionality and durability. The DEIS should more clearly define the BLM's approach to: (a) defining baseline; (b) ensuring that credits are issued only for the portions of conservation projects that surpass that baseline; and (c) ensuring that the benefits of compensatory mitigation projects last at least as long as the negative impacts of the associated development actions.

   The State does not currently anticipate designating a preference between compensatory mitigation projects that occur on public or private lands, but believes that compensatory mitigation projects should be targeted to where the greatest habitat benefit can be provided. However, eligibility requirements and crediting rules (including rules related to additionality and durability) should be designed in a way that is equitable between public and private lands and does not create excessive incentives for projects to be directed toward public lands.

   Baseline is generally defined as the conditions present prior to implementation of a compensatory mitigation project. The baseline functional condition is used to determine the

amount of environmental benefits (or uplift) generated by subtracting the baseline function from the post-project function. The State's mitigation framework will describe a process for defining baseline conditions.

In general, for credits to be considered additional (i.e., beyond baseline) there must be assurances that credits are not generated through the adoption of practices that landowners would have implemented anyway, without the incentive provided by the mitigation program. Common types of additionality tests include:

- Regulatory baseline: Is this project additional to actions that are required by federal, state, or local law?
- Program baseline: Are the reductions achieved by the project additional to what the landowner "should have" been doing anyway as defined by the rules of the mitigation program?
- Project timing: Does this project constitute a "new" practice?
- Financial additionality: Would this project have gone forward anyway, without the mitigation program payment?
- Double counting: Have reductions already been sold or accrued elsewhere?

At a minimum, the definition of baseline for the GRSG mitigation framework will require that existing land uses (such as ranching) have sufficiently avoided or minimized negative impacts and can demonstrate a neutral or positive impact to GRSG or GRSG habitat for existing activities. Participation in a Candidate Conservation Agreement (CCA) or Candidate Conservation Agreement with Assurances (CCAA) is anticipated to be a primary way of demonstrating this, and it is participation in those agreements should be included in minimum eligibility requirements for crediting projects.

Permanence or durability requirements refer to the principle that the benefits of compensatory mitigation (crediting) projects should last at least as long as the negative impacts they are intended to offset. Specific assurances are needed to demonstrate financial sustainability and stewardship throughout the duration of the project. Because of the difficulties and uncertainties associated with restoration in GRSG habitat, most negative impacts are expected to be permanent. The mitigation framework will outline durability requirements for compensatory mitigation projects and will describe a process for meeting those requirements. A mitigation framework that allows crediting projects on public lands should clearly describe adequate mechanisms for demonstrating durability for those projects.

4. **More details on mitigation rules.** The BLM should continue to work closely with the to define several other elements of the mitigation program, including:
    - Definition of and rules around in-kind mitigation;

- What kinds of actions will trigger compensatory mitigation requirements;
- How BLM's mitigation approach will account for the low likelihood of success in restoring GRSG habitat; and
- What tools the mitigation program should use for managing various kinds of risk (e.g., reserve pools, trading ratios, financial assurances, etc.).

5. **In-lieu fee program.** The BLM's draft Regional Mitigation Manual, included by reference in the RMPA and DEIS, raises the possibility of BLM accepting monetary contributions to fund compensatory mitigation project. If this sort of in-lieu fee structure is visualized for GRSG mitigation in Oregon, either the manual or the RMPA should include clearer guidelines on collecting and using cost-recovery funds. For example, prior to any funds being collected, there should be plans for a maximum time funds can be held before they are spent, ways to track and account for the benefits generated by those funds, and guidelines for avoiding potential conflicts of interest between collecting funds, spending funds, and being responsible for performance of mitigation projects. If further guidance on these issues is not provided in the final manual, BLM's approach to this kind of program at the state level should be closely coordinated with the State's mitigation program to ensure that mitigation projects on public and private lands are treated equitably.

6. **Priority areas.** The State supports BLM's concept of identifying priority areas to help prioritize conservation efforts (including compensatory mitigation projects) at the landscape-scale. The State strongly recommends using Core (i.e., PACs) and Low Density designations, rather than "focal areas" for prioritization. Identification of priority areas on state and private lands is also important and should be developed and integrated with the federal lands component. The State is committed to working with BLM to identify and adaptively manage this prioritization system.

7. **Impacts across ownerships.** Mitigation of all impacts should be included as a condition for approval for all projects on federal, state and private lands. BLM authorization decisions should be based on assessment of the impacts, and appropriateness of mitigation across the entire project, regardless of land ownership type(s). As part of the approval, BLM should include and utilize its authority to suspend or revoke BLM land-use authorizations if the approved mitigation is not provided.

8. **Advanced crediting.** The State intends to encourage compensatory mitigation efforts to begin in advance of a 2015 listing decision, and is seeking guidance from the USFWS on how pre-listing efforts would be carried over and applied in the event of a GRSG listing. In light of the long time delays involved in implementing successful crediting projects in GRSG habitat, BLM, the State, and the USFWS should work closely and provide incentives for early action while meeting additionality requirements.

Infrastructure

Based on work with local governments and state agencies operating in Eastern Oregon, the State sees little potential for major new infrastructure development in the foreseeable future. Road and highway usage is stable or declining, and other public infrastructure needs are primarily related to maintenance and safety. Given the spatial extent of PPH and PGH, Alternative D should be clarified to provide that the proposed disturbance threshold, and the avoid, minimize, and mitigate hierarchy apply to these activities, rather than exclusions. One example is the suggestion in the DEIS that electrical transmission and distribution lines, including existing lines, be buried. Another example is the suggestion that aggregate operations needed for road maintenance be excluded. Rather than a blunt exclusion, the avoid, minimize, mitigate hierarchy should be used to steer these activities to the areas with least impact on GRSG habitat while maintaining technical and financial feasibility. The siting standards proposed in the attached draft state disturbance framework have been used successfully in Oregon in the energy siting context, and should be extended to include infrastructure.

At present, each alternative in the DEIS, other than the no-build alternative, calls for some level of closure of aggregate material source sites (though site specific application is unclear). Closure would cause a significant impact to road-maintenance and road-building work. Such actions should be required to avoid PPH where possible, but a complete exclusion is not workable. The highway system is considered critical infrastructure by the federal government and the state. ODOT needs access to aggregate material source sites located on BLM land to ensure a safe transportation system in Oregon. This includes the ability to access the source location via roads and also to mine/extract and stockpile material. Rock material is necessary for road building and the routine maintenance of the highway (including paving, shoulder building, and erosion repair), as well as capital improvements that may expand the highway footprint. These impacts should be addressed through the mitigation framework and with a disturbance threshold.

ODOT invests significant funds in the development of viable material sources. Such investments on BLM land will be wasted if existing source sites are closed. Local sources that provide quality rock typically are used until the source is depleted. More than 65% of ODOT material source sites located in south central and south eastern Oregon occur on BLM land and in areas that provide sage grouse habitat with varying degrees of quality. Deeming these material sites inaccessible will increase costs to the point that highway maintenance and improvements could become cost prohibitive, ultimately reducing the highway level of service. Rock sources are localized and limited. State highways require chip sealing (relatively low cost) on a 7-10 year cycle to prevent pavement deterioration to the point that a full structural pavement overlay (much higher cost) is required. Normally, pavement deterioration to the point that a full structural overlay is required takes only 15 years in the absence of chip sealing. In most of the area covered by this RMP, ODOT estimates the cost to haul rock at $0.25 per cubic yard, per mile. Typical pavement overlay projects require 50,000 cubic yards of rock. This equates to a haul cost of $12,500 per mile.

Based on these calculations, if material sources in a particular area were closed and new sources were allowed to open, ODOT will see very substantial project cost increases for one way haul / round trips as follows:

- 10 miles increase x $12,500 = $125,000 / $250,000 round trip
- 20 miles increase x $12,500 = $250,000 / $500,000 round trip
- 30 miles increase x $12,500 = $375,000 / $750,000 round trip
- 40 miles increase x $12,500 = $500,000 / $1,000,000 round trip

Substantially increasing haul costs for aggregate by restricting access to existing and/or new material sources on BLM land would be cost prohibitive for ODOT to continue to maintain and improve the existing highway infrastructure in the areas subject to this RPM. Alternate material sources on non-federal land frequently are not available within reasonable proximity of a highway project to minimize the financial impacts that will results from inaccessible BLM sources.

Pg. 4-107 - All alternatives would limit, to some degree, development of new material source sites in GRSG habitat. The State (ODOT) will require development of new material source sites in the future based on need. A process must be identified or a placeholder provided for the identification and allocation of new material source sites, including sites located in GRSG habitat. Material sources are becoming depleted due to years of extracting rock—many ODOT controlled sites are 50-plus years old and are nearing the point where extraction of remaining resources is not cost effective. Rock sources will always be needed as long as the highways are open and therefore new material source sites must be identified, secured, and used. A significant portion of the land and viable material source sites occur on BLM-administered land that contains varying degrees of quality GRSG habitat. If such land became off-limits for future production it would be cost prohibitive for ODOT to continue to maintain and improve the existing highway infrastructure.

Since the BLM is the primary landowner/manager in SE Oregon, it is critical that the BLM consider the need for development of new material sources. Quality rock is not evenly distributed through the planning area so the proposed closure of nearly 7 million acres of PPMA to mineral material development could be very limiting. The State proposes that PPMA lands in the draft BLM RMP/EIS be identified as avoidance areas verses “exclusion areas” for mineral material development. This would allow BLM the flexibility to consider the development of new material sites when ODOT would make such a request.

Pg. 4-169 Highway Operations: The State must be able to conduct activities necessary to ensure that existing highways and associated infrastructure are adequately maintained and meet safety standards; these actions include routine maintenance, operation, and capital improvements. Routine highway maintenance needs are well documented and include activities such as vegetation management (for fire control breaks, clear zones or recovery zones, site distance requirements, prevention of snow drifts, noxious weed control), shoulder building/blading, ditch cleaning, paving/patching, hazard tree removal,

and winter maintenance/snow removal. Capital improvements or highway betterments include infrastructure enhancements and safety improvements such as curve-straightening, shaping back cutbanks, providing pullouts and chain-up areas. Capital improvements may require additional right of way outside the current federally appropriated footprint. All DEIS alternatives appear to allow continued highway maintenance within the 'right of way.' It is critical that highway right of way be defined to include all property that is necessary to maintain, operate, and improve the highway system. It is also important that the term 'maintenance' include all activities necessary for the safe operation of the highway, for example sign installation, in addition to providing pullouts and chain-up areas, shaping cut banks, and straightening curves. All highway safety activities should be allowed without the need for further environmental review and without mitigation requirements associated with the GRSG.

Ownership: The state highway system is comprised of thousands of parcels of land, with the ownership interests ranging from fee to easement. These parcels came into state ownership and control at different times and under different circumstances depending on need. When these lands are bought, sold, leased, transferred or become developed, they go through an internal environmental review process by qualified and trained staff to identify and comply with appropriate state and federal regulations. Unavoidable impacts are mitigated, prioritizing onsite mitigation.

Mining/Minerals

Unlike many other western states, there is little or no potential for oil and gas development in GRSG habitat in Oregon. Mining resources are limited to certain hard rock minerals, uranium, and aggregate (which is addressed in connection with infrastructure).

A particular geographic area may have a large footprint identified as having potential for mineral resources, but the actual mineral resource footprint is usually small and is absolutely limited by the geology of the area. Thus, withdrawal of millions of acres of land to minerals resource exploration and extraction overly penalizes the much smaller cumulative effect of actual mineral extraction. Instead of withdrawal, the BLM should evaluate mining under the disturbance and mitigation frameworks described above. Due to the continued interest and need for renewable geothermal energy and mined materials, the withdrawal of large amounts of BLM lands to mineral development would cause increased activity and pressure on the remaining state and private lands. Opportunities for mitigation and reclamation of individual mine sites that will generally have a relatively small footprint should be considered as conditions on land use decisions relating to sage grouse habitat recovery measures.

Pg. ES-4 -This section points out the split mineral estate with the BLM and private lands, but does not reference the state split estate, where the State (e.g., DSL) owns a significant amount of mineral estate in the planning area. Recognition should be made of the DSL split mineral estates, and the legal constraints that might impose on some activities.

Pg. ES-12 - "Reasonably foreseeable development scenarios were not completed for mineral potentials and developments in Oregon". It appears that the economic and social impacts of restricting access or development of minerals on BLM-administrated GRSG habitat (something every alternative proposes to a greater or lesser degree) has not been fully evaluated. Reasonably foreseeable development scenarios, including updated mineral resource assessments, are necessary to properly evaluate the impacts to mining and socio/economic well being of Oregon. Mining is the #3 economic driver for the area.

Pg. 1-9 indicates that actions outlined in this plan will not have an impact on the split estates where the surface is owned by state agencies. However, on pg. 3-101 the DEIS states exclusively that "acreage refers to the federal mineral estate." The federal mineral estate includes BLM-administered minerals that occur beneath surface estate managed by the BLM, as well as beneath surface estate owned by state or private entities (also known as split-estate lands). The DEIS needs to clarify whether split estate approaches include both federal and state split estates.

In particular, the DEIS needs to describe the approach on a split estate where the State owns the mineral estate and the BLM retains surface ownership. Generally the mineral estate is the dominant estate, which would indicate that the State has the right to develop the minerals while showing due regard to the BLM's surface ownership. This should be explicitly stated. The State (DSL) needs clarification on the impacts on both the State Trust surface-owned split estate, and the State Trust sub-surface-owned split estate.

State surface ownership with BLM minerals - Currently BLM does not notify the state (particularly DSL) when there is an interest in BLM minerals underlying DSL surface ownership. This often leads to exploratory pits and dozer lines on state land (without the consent or knowledge of DSL) and are not restored to previous conditions. The State recommends the BLM commit to notifying responsible state agency when there is interest in federal minerals underlying State ownership to provide the opportunity to negotiate entrance and exploratory mining activity requirements in terms of compensation and restoration/mitigation for any surface disturbances.

Pg. 2-19, Mining. Appendix F clearly illustrates the current RMPs (Alternative A) apply a variety of measures that are intended to minimize impacts on GRSG during the breeding season, often with timing restrictions or NSO within 0.5 or 0.6 miles of a lek. However, GRSG research has demonstrated that 0.5 mile buffers are inadequate.

Pg. 2-103. Mineral Materials (Salables): Table 2-6, Comparison of Action Alternatives, Alternative D indicates: "Close PPMA to development of new mineral sites. Existing permitted sites would not be closed, but reclaimed upon exhaustion of resource." The term "permitted" requires clarification because BLM typically 'authorizes' use of but infrequently 'permits' a material source. This statement should be rewritten to read: **"Existing permitted, <u>appropriated or authorized</u> sites would not be closed ..."** The revised sentence would make it clear, that existing material sites authorized via Title 23 appropriations will be recognized and their continued use will be allowed.

Pg. 4-57 - The DEIS states, “The approach under Alternative E would be less effective because development of locatable minerals is a non-discretionary action; withdrawing lands from entry is the only way to achieve no development.” Alternative E would only be less effective if proposed withdrawals under other action alternatives are actually adopted in timely manner. Recommend that BLM includes in the action alternative the estimated probability the proposed withdrawals will actually take place. This will help the USFWS determine the likelihood the proposed action will be implemented.

4.11.7 Alternative D – Pg. 4-194 – 2nd Paragraph
The above referenced section related to fluid minerals development is the only location the State found that discusses buffers. If development located outside of exclusion area and avoidance area boundaries could impact habitat inside those boundaries, and that impact either precludes development or requires additional mitigation obligations, that needs to be made clear. If that is the case, buffer distances need to be established that correspond with different types of development.

Oregon Revised Statute 517.830 (4) directs the State to condition permits to”…be compatible with the requirements and conditions of the local government permit, unless more stringent requirements are necessary to comply with provisions of ORS 517.750 to 517.901”. The State views BLM Resource Management Plans similar to county comprehensive plans and denial of land use permission or placement of restrictions on exploration and development of mining activities would determine DOGAMI’s evaluation of an operating permit application in BLM-administrated areas.

Energy Generation and Transmission

The rapid pace of renewable energy development in Central and Eastern Oregon has slowed substantially, and current market and regulatory conditions make it unlikely that there will be substantial additional wind energy development in the next five to ten years. The attached analyses from the Oregon Department of Energy (ODOE), document these conditions. The decrease in near to mid-term potential for renewable energy development means that the threats from such actions are of longer-term concern. The state recommends that current conservation mechanisms focus on the limited near and mid-term, with triggers for review if the long-term potential for renewable energy development, and associated transmission, begins to re-emerge.

The development of larger-scale energy facilities on BLM-administered lands requires regulatory approval from the Oregon Energy Facility Siting Council (EFSC). To limit the duplication of effort required of an applicant undergoing a simultaneous EFSC and NEPA review, ORS 469.370(13) provides direction to Oregon staff to work in a coordinated manner with the federal agency undertaking the review.

Smaller electrical generation and transmission facilities typically require discretionary review by Oregon counties as part of the state’s land use program. These facilities, like the larger facilities, should be

reviewed under a consistent, predictable, disturbance framework that avoids incentives to engineer projects to avoid particular regulatory requirements.

Oregon is developing its disturbance framework in a cooperative manner with BLM. To the greatest extent possible the review standards and process for "energy facilities" for both plans should be consistent to ensure the most streamlined review process possible for applicants.

On June 7, 2013, the President issued a Memorandum directing Federal agencies to develop an integrated, interagency pre-application process for significant onshore electric transmission projects requiring Federal approval. Please take into consideration how the details of these plan amendments would be utilized in early collaboration with agencies (federal, state and local), project sponsors and affected stakeholders to ensure a more streamlined review process for transmission projects.

Alternative D would further limit energy generation and transmission development by increasing by 47 percent the acres managed as ROW avoidance areas (pg. 4-194 – 1st Paragraph). The use of avoidance areas can be made compatible with the BLM and state disturbance frameworks that are under development. However, additional clarification and coordination is needed to develop consistent tests for avoidance and minimization.

Ex-Urban Development

As documents in the attached report prepared by Eastern Oregon counties, there is virtually no threat of ex-urban development in GRSG habitat in Oregon. Existing regulatory mechanisms have been shown to be effective in controlling this threat in Oregon, along with associated infrastructure development that would be required to serve ex-urban development. There has been virtually no increase in ex=-urban development in GRSG habitat in Oregon since 1985.

Agricultural Conversion

There has been very limited conversion of rangeland to cultivated cropland in GRSG habitat. In most arid areas, conversion is effectively limited by water availability. Oregon is continuing to evaluate this issue, and will work with the BLM in that effort.

Concentrated Recreation

Concentrated recreation, such as developed OHV sites and campgrounds, should be addressed under a disturbance and mitigation framework, in the same manner as other forms of human disturbance. There has been relatively little of this form of development in most areas, but closer to population centers it should be addressed cooperatively by the BLM, local governments and the State.

Dispersed Recreation

Oregon is concerned over the impacts of dispersed recreation and routes (some planned and unplanned) to GRSG habitat. The DEIS indicates the planning area contains some 8,700 miles of roads on BLM lands. The majority of sage-grouse habitat is within 2.5 km of a mapped road (Knick *et al*. 2011). Oregon is interested in whether the above figure includes all actual routes that may have disturbance or other impacts upon GRSG and their habitat (e.g., unplanned, user-created routes)? Given the impacts routes and dispersed recreation can have as a disturbance vector (noise, soil, etc.) and in adding to fire, invasive weed invasion, and habitat fragmentation potential, Oregon recommends a conservative approach to this issue. The BLM appears to intend to address the issue later in time through a Travel Management Plan process separate from this DEIS. Oregon is not confident that this process will occur and conclude in a timely manner. Therefore, Oregon desires to work with BLM on an approach to managing this issue in a manner that reduces GRSG habitat impacts as a precautionary matter within areas important to GRSG. This would involve considerations of closures to cross country travel in GRSG habitat and closures of certain routes in specific proximity to occupied GRSG habitat during periods of critical importance to GRSG. Closures would not include use of routes for emergency purposes (e.g., fire) and for use related to authorized, non-recreational activities such as livestock operations.

Other Comments (by Chapter)

Executive Summary

Pg. ES-3 - Although not critical to the BLM decision Table ES- lists State Trust Lands as "0" however State Trust Lands in the planning area total approximately 611,790 acres of which 153,251 acres are PPH and 381,726 acres are PGH. Recommend including these acreages in Table ES-l as State Trust Lands.

Pg. ES-6 - It is important to note the "State Plan" provides guidance for private land use regulatory decisions in addition to public land management agencies.

Pg. ES-9 Predator Control - This is the only section in the document that addresses predators. While it may be true that the BLM has no control over the predatory species themselves, this is an issue that still needs to be addressed in more detail. The existence of the MOU between The BLM, USDA, APHIS and ODFW for predator control should at least be referenced and include an explanation of what is being done to control predators and how the MOU affects sage grouse populations. Predator control can also be non-lethal. Species like ravens have benefited from human subsidies of food (e.g., roadkill) or the addition of structures on the landscape which can be used for nesting or perching. BLM does have the ability to influence predator abundance through its land and habitat management so it must be addressed in greater detail in this DEIS.

Chapter 1

Pg. 1-22, Section 1.7 - In addition to the CCA and CCAA efforts touched upon earlier in these comments, the State recommends the DEIS acknowledge other examples (beyond the DEIS) of efforts being made to protect and restore GRSG habitat. Those worth highlighting include the SageCon effort as well as the NRCS Sage Grouse Initiative, which as advanced very positive habitat efforts working cooperatively with landowners in Oregon and across the range of the bird.

Pg. I-23, Section 1.7.2 State Plans - The State recommends including the Oregon Conservation Strategy (OCS) (2005). Greater sage-grouse are a conservation strategy species and sagebrush shrub-steppe is a strategy habitat in Oregon. The OCS identifies Conservation Opportunity Areas which include lands under the jurisdiction of BLM. BLM should consider COAs and recommended approaches and conservation measures in the OCS for those COAs, e.g., those found on pg. 209 of the OCS for the North Basin and Range Ecoregion.

Chapter 2

Pg. 2-6, Figure 2-1 - It is not clear from the figure that occupied habitat is also within PPH and PGH. The final EIS needs to clearly illustrate that PPH and PGH are considered occupied habitat as well. This figure could clarified in the text preceding the reference to Figure 2-1 on pg. 2-5.

Pg. 2-20 Figure 2-2 (Alternative D) – State (DSL) ownership is included in the polygons depicting "GRSG Focal Areas". The State is open to participate in restoration efforts that complement BLM restoration projects however coordination is essential for projects occurring on State ownership. It should be noted that including State Trust Lands in Figure 2-2 (while correct) conflicts with Table ES-1 in the Executive Summary on pg. ES-3 (which incorrectly notes that there are no State Trust Lands).

Pg. 2-64, Table 2-6 - Conservation Action D-VG 24: states “leave no stumps more than four feet above the ground or one foot above the general height of sagebrush”. Stumps should be cut as low to the ground as possible, and no more than 8 to 12 inches above the ground. Once the tree is felled, branches should be cut such that no branch extends more than 4 feet in height or more than 1 foot above the general height of sagebrush.

Pg. 2-89 - Under Alternative B "During activity level planning, where appropriate, manage routes in PPMA with current administrative/ agency purpose and need as administrative access only." Should this alternative be preferred, the State requests that the BLM clarify whether this would give State agencies access through BLM-administered land to access State lands.

The State recommends BLM clarify how they intend to implement and enforce Off Highway Vehicle (OHV) closures and if this will apply to all two-track roads and trails. Road closures, even seasonal closures, of access roads could have detrimental effects to the State's ability to access State Trust Lands

which would have a negative effect on management and monitoring activities. Road closures could require the State to force entry through "easement(s) of necessity". Such closures could also prevent lessees of State Trust Lands from accessing their leaseholds and potentially from accessing their own private lands. Even given the value of seasonal closures to GRSG during important periods of their lifecycle, the State recommends exceptions for State Trust Land management activities and private land access during any such closures.

Pg. 2-90, Travel/Access Restrictions (Actions D-LR 1, D-TM4) - The State requests clarification on what is considered a “feasible” alternate route (i.e., number of miles considered acceptable to re-route rural residents). Ranchers need continued access to areas that require infrastructure maintenance and repair (e.g., fences, cattle guards, corrals, troughs, pipelines, wells, reservoirs and access roads). Under the Lands and Realty Right of Way section, BLM states that if feasible, the landowner would be required to take an alternate route not through the PPMA, thus, a clarification on “feasible” with respect to alternate routes is needed.

The State recommends adding to Actions D-LR1 and D-TM4 an assessment of available wireless and other technology and the viability of a cost-share program for such technology that may be shared between private and public land managers. Wireless technology can be a valuable tool for tracking operations in remote areas—such as monitoring water levels in stock tanks—thereby reducing the need to travel through sensitive areas.

Pg. 2-90, Action D-LR 1 - Allow co-location of new projects within existing ROWs throughout PPMA and PGMA.

Pg. 2-91 - Please note that under Action D-LR 2, with respect to rural power lines, the State recommends that existing and new transmission and distribution lines be handled through the disturbance framework, and not through exclusions or through burial.

Pg. 2-101, 102Action D-MLS 8 - "Allow geophysical exploration within occupied GRSG habitat areas to obtain exploratory information. Geophysical exploration shall be subject to seasonal restrictions that preclude activities in breeding, nesting, brood rearing and winter habitats during their season of use by GRSG." This should also include stipulations to restore exploratory areas to the preferred vegetation type prior to surface disturbance, including weed treatments.

Chapter 3

Pg. 3-5 - The following sentence needs clarification: “However, other authors (Aldridge et al. 2008; Doherty et al. 2010; Wisdom et al. 2011) report a higher proportion of sagebrush cover (50 to 70 percent) within priority habitat is required for long-term sage-grouse persistence.” The papers cited actually provide support for the 70/30 goal, e.g., having 70% of the landscape dominated by sagebrush. Is “sagebrush cover” and the “proportion of the landscape dominated by sagebrush” being confused here?

Pg. 3-16 - ILAP current vegetation data for Southeastern Oregon was updated in 2013 to include the effects of fire since 2010. The previous ILAP current vegetation data is current to 2006.

Pg. 3-21, second paragraph - The data sources cited in the DEIS (SageMap, ReGAP, LANDFIRE, and ILAP) are useful for identifying areas where additional field work should be carried to assess the true acreage of the vegetation types of interest and to determine the ground cover of species within those vegetation types of interest. It may be useful to distinguish the extent to which each of the remote sensing-derived products could and should be used. For example, identifying that ILAP data are most useful for prioritizing within combinations of ownerships and watersheds may be help managers to understand at what spatial scale supplemental field data needs to be included in an analysis. This will also help BLM identify data sources for fine-scale monitoring efforts described in Appendix G.

Pg. 3-24, Table 3-4 - It would be useful if more explanation was provided about SageMap, ILAP, and BLM Corporate Weeds Database and NISIMS were used together to calculate the acreages shown in this table.

Pg. 3-26, Shallow Dry Sagebrush Steppe - The description provided implies that this vegetation association is somewhat limited in distribution and only marginally important for GRSG. It is one of the most important vegetation associations. Low sage vegetation as described in this section occurs extensively throughout the southern portions of Lakeview and Burns resource areas and is the single most important vegetation association for breeding and early brood-rearing habitat. Low sage vegetation associations with a southwest aspect provide important winter habitat because prevailing winds keep these areas swept free of snow.

Pgs. 3-27 to 3-30, Tables 3-5 to 3-7 - It would be useful if more explanation was provided about how acreages were determined and what data were used.

Pg. 3-37 -The aroga moth is only mentioned in relation to the catastrophic wildfires in 2012. However, it is a sagebrush defoliator with natural cyclic population swings. The State recommends the BLM include information on any proposals to control and monitor these moths that can play a role in increased fire risk.

Pg. 3-54 - Yoakum 2004 was cited several times. We suspect this is an error. Should this be O'Gara and Yoakum? Did not find either in References.

Pg. 3-56 - As suggested by the previous comment, the documentation of references and cited literature in this DEIS could be greatly improved. As an example, two of three references (Dobler et al. 1996; Wisdom et al. In press) in the first paragraph do not appear in Chapter 7 references. The incompleteness of the references makes it difficult for the reader to locate the reference for further reading, or to verify BLM's interpretation of the information.

Pg. 3-57, Table 3-13. Eared grebe and black swift in same cell of table? Should first reference on this page (in the center) to Table 3-14 actually be referencing Table 3-13?

Pg. 3-62 Robbins et al. 1986 is not in the references. In regards to Robbins et al. 1986, the statement "However, it only has data for the last 30 years…" This statement is perplexing since it has been another 27 years since that paper was published.

Pg. 3-71. There are two references to Table 3-20, and it appears the first reference should be for Table 3-19?

Pg. 3-96, O-10, Land Use Authorizations - Table 3-36, Active ROW Authorizations, does not appear to identify ROW appropriations/authorizations/easements for material sources. However, Table O-9, Acres of Mineral Material Disposal Sites within GRSG Habitat, identifies more than 88,000 acres of mineral material disposal sites on BLM-administered lands and another 1,000 acres under State Surface Management. Notwithstanding, neither of these tables appear to include many of the ODOT material sites authorized via the Title 23 appropriation process.

Pg. 3-119, Figure 3-9 - It would be preferable to see the Steens Mt. Wilderness (blue color) of Steens Coop Mgmt Area and its relationship to other designations such as PPH.

Pg. 3-126 - "Little or no formal monitoring of the values for ACECs or the plant community cells for RNAs has occurred within the planning area. It is assumed that for ACECs, BLM actions do not detract from the values that the ACECs were designated for,…". Since nearly 30% of the ACEC acreage is within PPH, the preferred alternative should include monitoring of ACECs to ensure they are protected for the values for which they were created, some of which were for GRSG. BLM should be able to demonstrate these values are being maintained under current management.

Pg. 3-131 - "…low available moisture in the top 10 inches (3.3 inches) and are…" Is it 10 inches or 3.3 inches? Please clarify.

Pg. 3-139 - The DEIS states that "Instream water rights are applied for by the BLM, the ODEQ, the Department of Parks and Recreation, and the Department of Fish and Wildlife." According to ORS 537.336, only ODEQ, OPRD, and ODFW can apply for a state instream natural flow water right, not BLM. While only these state agencies may apply for new instream water rights, BLM could apply to transfer or lease an existing surface water right to an instream water right pursuant to ORS 537.348.

Pg. 3-139 - The DEIS states that "the Oregon Water Resources Department has identified desired flow levels to protect recreation, fish and wildlife. These flow levels are not water rights; rather, the Oregon Water Resources Department uses them in its calculations of water availability." The State believes that instream water rights are mischaracterized in the above statements and would suggest the above sentences be replaced with the following "Instream water rights are enforceable water rights that receive a priority date and are regulated in accordance with the doctrine of prior appropriation. Like

other water rights, instream water rights are also accounted for when determining water availability for new permit applications to use water."

Pg. 3-139 - The DEIS discusses federal reserved water rights. The State recommends that the section regarding Federal reserved water rights include information about the process for determining federal reserved water rights. The State suggests adding the following language, "Federal reserved water rights are determined through a formal process called adjudication. During adjudication, claimed federal reserved water rights are quantified, documented, and eventually incorporated into the prior appropriation system."

Chapter 4

Since Alternative A largely represents "no action", and would likely result in GRSG being listed as either threatened or endangered under the Federal ESA, it seems appropriate to forecast the likely impacts of a GRSG listing on the human and natural environment. Especially since it is clearly stated in the Purpose and Need (pg. ES-6) that "This effort is needed to respond to the USFWS's March 2010 "warranted, but precluded" ESA listing petition decision." And "Because the BLM administers a large portion of GRSG habitat within the affected states, incorporating additional conservation measures into relevant BLM RMPs is anticipated to have a considerable beneficial impact on present and future GRSG populations **and could reduce the need to list the species under the ESA**. (pg. ES-6, text bolded for emphasis)"

This chapter could be improved by providing an in-depth evaluation of the consequences of implementing the various alternatives. There is a large amount of duplicated information in this chapter. It seems inefficient to evaluate each alternative against each issue, even when the issue is the same topic as the conservation measure. For example, Section 4.5 is about the issue of Wild Horses and Burros then examines the impacts of wild horse and burro management on each of the issues including wild horses and burros. This approach is repeated for each alternative. It may be more efficient to evaluate an alternative by comparing directly with other action alternatives for a particular topic/issue.

Pg. 4-5 - The DEIS states that short-term duration of effects is equivalent to the first 5 years but on pg. 4-9 short-term impacts = 10 years – is this a discrepancy? Please clarify.

Pg. 4-13 - Add "increase invasive plants" to list of conditions resulting from inappropriate grazing e.g., Reisner et al. 2013.

Pg. 4-15 - "A horse consumes 20 to 65 percent more forage than a cow of equivalent body mass, due to physiological differences (Connelly et al. 2004)." Should reference primary literature on topic. Connelly et al. (2004) did not study the physiological differences between equids and bovids.

Pg. 4-21 - Provide source for subpopulation designations e.g., 902, 903, 904, 906 and P04. These designations are not commonly known or recognized.

Pg. 4-22, Table 4-3 - To coincide with the Affected Environment assessments described in Chapter 3, it would be helpful to model the same land areas, such as the BLM districts over the population boundaries. The population boundaries were developed to group leks rather than to be used as a spatial unit of analysis (Schroeder et al. 2004).

Pg. 4-41 - "…repeated mowing adversely affects vigor of native bunchgrass populations." If repeated mowing affects vigor of bunchgrass, then the BLM needs to explain why repeated grazing does not. Could there be mowing heights or time of mowing that would reduce impacts on bunchgrasses, not unlike utilization levels and season of use can mitigate impacts from domestic livestock grazing?

Pg. 4-60 - "Low Density would cover fewer acres than PGMA and thus would provide less protection than Alternative B." This statement would only be true if less protective management actions were being proposed for GRSG habitat outside of Low Density areas, but this is not the case. All GRSG habitat outside of Core Areas (e.g., Low Density and any undesignated GRSG habitat) would be treated equally under Alterative E. This is acknowledged in other parts of the DEIS, e.g., pg 5-19.

Pg. 4-67 - Given Oregon's land use planning laws and existing state policies, the EIS should provide references the following statement and conclusion "Exclusion areas may be ineffective, because existing infrastructure corridors have been sited in locations that minimize impacts, and relocation could merely push ROW development onto adjacent private land with fewer land use restrictions. Thus, Alternative Ds flexible approach would be most effective in protecting GRSG habitat."

Pg. 4-111 - The DEIS states "Under Alternative E, vegetation management actions would recommend planting livestock forage (alfalfa) within expansive sagebrush areas but would recommend avoiding the conversion of GRSG habitat on public lands for increasing livestock forage." There is no recommendation within the state strategy to plant alfalfa in large expanses of sagebrush steppe.

The term collocation is used in reference to consolidating new infrastructure. With regards to transmission infrastructure this term has recently been confused with paralleling. Please clarify that collocation either means: a) to collocate on existing poles or b) to allow additional poles and lines within the existing ROW or disturbance corridor. See 4.10.1 Methods and Assumptions (pg. 4-173, 3rd bullet) and 4.10.2 Nature and Type of Effects (pg. 4-174, 3rd Paragraph)

Chapter 5.

A good portion of this chapter appears to be "excerpts" from the USFWS COT report, e.g., 5.1.3 starting on pg. 5-16, but specifically pgs. like 5-24. Chapter 5 doesn't appear to provide science based predictions about cumulative effects as expected. There is little new information about expected effects if various action alternatives were adopted.

The State requests that a socioeconomic impact analysis be required for all NEPA analyses performed with respect to evaluating the "no grazing" option proposed for grazing permit and lease renewals

within PPMA boundaries. There is limited socioeconomic analysis in the draft RMPA/EIS. We anticipate significant impacts, not only directly to farmers and ranchers, but also to the support and service industries in rural communities throughout eastern Oregon that could result from proposed management changes and other restrictions. The analysis should consider, at a minimum, the following socioeconomic issues/impacts: local availability and rental price of grazing lands, transportation costs to move livestock to grazing lands outside the area if none are available locally, availability and price of hay, foregone income if ranchers have to reduce animal numbers due to lack of grazing land, and rural utility costs where mitigation is required for transmission lines/pipelines.

Pg. 5-1 - Similar to the comment for Chapter 4; given that it is reasonably foreseeable that adoption of Alternative A would result in a federal ESA listing of GRSG, it would be appropriate to explore in this chapter the impacts on the human and natural environment of such a federal listing.

Pg. 5-4, Table 5-1 - This table represents a very comprehensive look at reasonably foreseeable actions, but doesn't this need to be taken further? What are the expected impacts on GRSG from these "foreseeable actions"?

Pg. 5-18 - In Oregon, the Harney County Soil and Water Conservation District (SWCD) is working with the USFWS to develop a CCAA for private landowners engaged in agricultural activities. This proposed agreement is under review and has not been implemented.

Pg. 5-19 - Numerous NRCS-SGI projects have been implemented in Oregon. The State recommends that the DEIS be updated to reflect conservation measures completed in Oregon.

Pg. 5-25 - The Tucker Hill perlite mine is within the Western Great Basin population of GRSG, not the Central Oregon population.

Pg. 5-30 - The DEIS states, "VDDT forecasting shows that overall trends toward habitat loss and fragmentation are likely to continue from the spread of invasive weeds, isolation, wildfire, and conifer encroachment." While the State concurs that VDDT modeling is a reasonable approach to examining the interactions of multiple drivers of change over mid-to broad-scales, the results of the analysis suggest a very gloomy future irrespective of the modeled alternative and diminish the value of simple, focused solutions. Given the similarity among the modeling outcomes, the State believes it would be helpful to provide supplemental modeled information to help the reader (and the manager) differentiate between the management actions used in each scenario and to better understand the potential benefits and costs of the actions. One way to accomplish this is to run scenarios focused on single threats and solutions or management actions specific to those individual threats. For example, the BLM could create one set of scenarios for each of the major threats and their treatments for Oregon: fire/fire treatments, conifer encroachment/conifer treatments, and invasive species/invasive treatments.
These runs would likely resemble sensitivity analyses. These focused scenarios would provide some points of comparison and contrast for the scenarios depicting the Alternatives A - F. To round out this effort, the State recommends the BLM also provide a run where no management is used. While this

process is time-consuming the results have the potential to increase confidence in the models and highlight simple solutions to individual threats.

Pg. 5-31, last paragraph – Specifically, "If allowing limited development within GRSG habitat on BLM-administered lands would alleviate development pressures on other lands with less stringent protections, management under Alternative D would have the greatest ability to reduce major threats to GRSG." Need to consider that most GRSG habitat in Oregon is on BLM-administered land and that ~82% of the population (and leks) is also located on BLM-administered land. This reduces the likelihood that alleviating development on private land by developing on BLM-administered land, will have any meaningful benefit for GRSG. In fact the possibility is just the opposite.

Pg. 5-35, Third Paragraph - "Under Alternative D, ROW avoidance areas would be established, but no ROW avoidance areas would be included." This statement makes no sense and appears to conflict within a single sentence.

Appendix C

Appendix C-2: The citation for Blickley et al. needs to be updated.

Appendix C-3, Design Features (RDF) 12 - We recommend that the final EIS cite the following peer-reviewed literature which provides important biologically-based guidance on GRSG management related to conifer encroachment. The BLM should incorporate the information and recommendations from these manuscripts wherever possible:

Commons, M.L., R.K. Bayback, and C.E. Braun. 1999. GRSG response to pinyon-juniper management. USDA Forest Service Proceedings RMRS-P-9. pages 238-239.

Baruch-Mordo et al. 2013. Saving GRSG from the trees: a proactive solution to reducing a key threat to a candidate species. Biological Conservation 167:233-241.

Appendix E

Pg. E-3, Item #5 - PACs and priority habitat areas are large areas and may not always represent the sites with highest potential for mitigation actions. Developing a repeatable and relatively transparent method for differentiating among and within PACs/priority habitat will be important for implementation of a mitigation strategy. Using field and remote monitoring methods (e.g., remote sensing-based products), may allow BLM to differentiate among and within PACs/priority habitat and thereby begin to prioritize potential sites and identify the best actions for those sites.

Appendix F

Table F-1, Alternative D - It is not clear how BLM will differentiate between nesting, brooding, breeding, and wintering habitats. LANDFIRE data is unlikely to provide useful or accurate results. We suggest that BLM examine newer ILAP-like products (INR 2013) for which habitat use type models are being developed.

It is also unclear how BLM will define connectivity. While ODFW provides one methodology for defining connectivity it results in a more broad land area than other methods such as those used by the Washington Wildlife Habitat Connectivity Working Group that incorporate circuit theory.

Under Alternative D, the BLM would apply a buffer system to manage fluid mineral development in and next to occupied habitat. Under this system leks would be surrounded by buffers of varying sizes in which NSO stipulations would apply (pg. 2-124). The State recommends that the BLM consider buffers which account for all seasonal use areas, including winter habitats. Surface use designations <4 miles are insufficient to protect GRSG populations because they fail to protect adequate habitat critical to fulfill the life history needs of GRSG, such as nesting, summer and fall, and winter habitats (e.g., Fedy et al. 2012, Coates et al. 2013).

Pg. F-11, Table F-1, Alternative D - Identify how the 5% disturbance limit was reached.

Appendix G

Pg. G-7 - If GRSG become listed under the federal ESA. Responsibility and management authority for GRSG would move from the State to the USFWS. Consequently, the State may not be collecting population information on GRSG after a federal listing.

Appendix I

I-5 - The citation for Stiver et al. (2011) should be corrected to Stiver et al. (2010).

Although not clearly stated it appears the purpose for removal of grazing (other text states "all human influence") in GRSG ACEC/RNA's is to provide a control area for comparison of habitat assessment data, and that the EIS team assumed that all of the ACEC/RNA's are currently fenced. There are several issues with this topic and request a more critical review of the concept:

- The text states that grazing will be removed from ACEC/RNA's when 20% of the area is in PPH or 50% in PGH, "if monitoring indicates the areas are not meeting vegetation standards". In Appendix I and J the statement is grazing will be removed within 5 years.
- Statements regarding travel management within the ACEC/RNA's also conflict. In the text there are statements that a.) Motorized travel would be restricted to designated roads and trails; b.) Motorized travel would be closed from 1 March through 30 June and restricted to designated roads/trails the rest of the year. In Appendix I the statement is motorized travel within PPH-PGH ACEC/RNA's will be closed. This is somewhat problematic because at least for the Lakeview

Resource Area, many of the roads going through these ACEC/RNA's are the only access roads available to get to other parts of the Resource Area. Depending on which travel management standards are applied there is potential for negative impacts to hunter/angler access.

- Most, if not all, of ACEC/RNA's in the Lakeview Resource Area are not fenced. If the intent is to fence these areas, BLM should present how much additional fence will be required in PPH and PGH and the expected impact to GRSG.
- Appear to adding restrictions on top of restrictions that have been, or with adoption will be implemented in PPH or PGH. The DEIS is set up to identify standards to ensure maintenance of habitat quality for GRSG and although not clearly stated some form of monitoring protocol to measure compliance. Is an additional level of restrictions in specific locations needed, and if so they need to explain why.
- As an aside, and not strictly related to the ACEC/RNA issue, at the Lakeview public meeting it was suggested that there is a 278,000 acre control area in Hart Mountain NAR. With the exception of low elevation (< 4,000 ft.) ARTRW vegetation, Hart Mountain has every native vegetation association that makes up GRSG habitat in Oregon.

Appendix M

It is unclear whether range standards will be measured using HAF (Stiver et al. 2010) or based on the standards for rangeland health and guidelines for livestock grazing outlined in Appendix M. Typically, Rangeland Health Assessments are completed to determine if the Standards for Rangeland Health (43 CFR 4180) are being met and if Standards are not met, to identify the causal factors. If livestock grazing is the causal factor changes to grazing management must be implemented prior to the next grazing season. This is part of the grazing permit renewal process and incorporated in AMPs. Priority is directed by allotment management class (M,I, C). Categories are explained in chapter 3 of RMPA , Vol. 1, p. 3-80.

Appropriate indicators from the HAF protocol would be included in Rangeland Health Assessment for allotments within PPMA which have been determined by current rangeland monitoring studies to not meet Rangeland Health Standards and livestock is the causal factor. Due to variability of some of the indicators in the HAF methodology (e.g., forb cover, stubble height), their application should be within the context of interannual trend (i.e., change over time) and site capacity as determined by ESDs
We recommend that range standards be adjusted to reflect the ecological site potential of an area and believe the proposed measures outlined in the draft EIS do little to provide guidance for the maintenance of, or transition to, a desired ecological state.

Additional General Comments:

Because GRSG is not the only wildlife species on the landscape, the State recommends the BLM focus on management decisions and improvement/restoration projects that promote, enhance, or maintain overall ecosystem health and properly functioning ecosystem processes, which benefit multiple species. Habitat assessments should focus on measuring (qualitatively and quantitatively) landscape indicators of

healthy functioning ecosystems. Intact and functioning ecosystem processes benefit all wildlife species. Livestock grazing can be a positive tool for enhancing ecosystem functions when used appropriately and should not be excluded from the landscape.

The decisions made on BLM lands directly affect BLM administered lands; however, the effects of such decisions also reach far beyond BLM ownership. BLM decisions directly and indirectly affect management of adjacent ownerships (private and State Trust Lands). Coordination and communication with adjacent land owners prior to implementing management decisions (i.e., during the planning process) is essential and should be explicitly included in this DEIS. Such coordination is the key to improving overall landscape and rangeland health. The State should be included where there are recommendations for adaptive management working groups to assist with responding to soft adaptive management triggers".

Numerous references were incomplete or misattributed which made it difficult to research and evaluate the various alternatives. BLM needs to cite original sources for information, not subsequent summary sources. For example, Connelly et al. 2004 was referenced for the physiological differences between horses and cows and Hagen 2011 was cited for acres dominated by invasive plants in Oregon (e.g., pg. 518) but these documents were not responsible for those conclusions.

All aspects of the DEIS must be supported by the most recent compilation of scientific information and management recommendations. The final EIS could be improved by citing current literature to substantiate statements and to add specificity. The DEIS does not adequately review the literature available and there are a number of new manuscripts in the peer-reviewed literature that address disturbance and conservation as related to GRSG that the DEIS does not incorporate.

PPMA/PPH and PGMA/PGH are used inter-changeably throughout the draft EIS. This was very confusing, especially to the unfamiliar. The BLM should provide clear definitions and consistency of terminology throughout the document. The maps showing proposed PGMA on Lakeview BLM appears to include a substantial amount of non-sagebrush habitat that were excluded from Low Density designation in the Oregon GRSG Plan. (The most obvious of these are the crested wheatgrass seedings associated with Coglan Buttes from Highway 31 to the west side of Lake Abert; and the Wildcat Fire from the south end of Diablo west to Highway 395.) PGMA maps would benefit from a local review for accuracy, such as by Local Implementation Teams.

The standards for rangeland health and guidelines for livestock grazing (Appendix M) and range ratings consistent with HAF (Stiver et al. 2010) do not adequately facilitate maintenance of, or transition to, a desired ecological state. Much of the knowledge base concerning vegetation composition and structure in GRSG habitats has traditionally been based on small (patch) scale measurements that reflect the immediate vicinity of the location of radio-marked birds. Large-scale monitoring efforts at the plant community scale (or larger) are more realistic because the current knowledge of successional change in the sagebrush-steppe is firmly based on relationships described at the plant community scale. We suggest any assessment of habitat and subsequent monitoring of the effectiveness of implemented

conservation measures should be conducted at a scale consistent with the identified threats and the conservation measures designed to address those threats. Range standards should be adjusted accordingly to reflect local climatic variation and be based on ecological site capability/descriptions.

Throughout the text and appendices there is conflicting statements about the methodology that would be used to assess habitat quality for GRSG. In the presentation on ACEC/RNA management BLM states that "annual statistically valid monitoring of vegetative condition" will be implemented, but there is no reference to the methodology to be used. In other parts of the text the Habitat Assessment Framework (HAF) (Stiver et al. 2010) is cited. In some text HAF will be the methodology used, in other text, HAF will be applied with "regionally adjusted values". Later in the text there is reference to the Standard for Rangeland Health (Appendix M) being the methodology used to assess habitat quality. At the Lakeview public meeting Bob Hopper (member DEIS development team) suggested the Standard for Rangeland Health would be the method used. It seems reasonable that any method selected would be applied with consideration of regional variations as well as the growth potential of specific vegetation associations being assessed. At this time it is unclear how habitat will be monitored.

Given that wildfire and invasive species are the greatest threats to GRSG habitat in Oregon, the BLM needs to clearly state how these threats will be addressed. It is not adequate to say that invasive species are a threat and that biological, chemical, mechanical, and prescribed fire control methods are allowed to be used. In the Current Conditions section of the DEIS, the BLM states that current mapping of invasive species is inadequate. Therefore, BLM should identify inventory and mapping of invasive species as a specific action to be completed under the proposed alternative. Priority should be given to mapping exotic annual grasses, since these play the largest role in accelerating the fire cycle and since fire and invasive species are the greatest threat to GRSG in Oregon. The inventory of invasive species (especially exotic annual grasses) mentioned above should be an integral piece of the BLM's fire management planning as proposed in Alternative D. When completing an interagency, landscape scale assessment to prioritize at-risk habitat and identify fuels management, preparedness, suppression, and restoration priorities, the location of annual grass infestations is an important consideration.

It is further recommended that BLM identify as a specific action item to identify the following areas in order to prioritize and guide management decisions:

- Prevention areas – where invasive species (particularly annual grasses) are not currently present and the management goal is to prevent infestation
- Eradication areas – small infestations that can feasibly be eradicated. The management goal is to eradicate the infestation immediately and restore desirable vegetation
- Control areas – infestations of invasive species which contain a significant component of residual perennial vegetation. The management goal is to control the infestation and provide opportunity for the residual perennial vegetation to increase, with or without supplemental seeding.
- Containment areas – large monocultures of invasive species. The management goal is to prevent the infestation from increasing in area.

In addition, the BLM needs to identify clearly and specifically how they will prevent the introduction or spread of invasive species, how invasives will be suppressed, how monitoring will occur, and what maintenance activities will occur to ensure treatment success. The following are specific recommendations related to these items.

Prevention

- Seed perennial bunchgrasses into plant communities that have less than three large perennial bunchgrass plants per square yard.
- Manage livestock grazing for moderate grazing levels with some years of rest and/or deferred use in order to promote healthy perennial grass plants and prevent excessive accumulation of fine fuels.
- Grazing rotations should ensure that livestock are not moved directly from infested pastures to non-infested pastures.
- Permanently or seasonally close roads that intersect infestations. In particular, consider road closures during seed set through seed shatter, and closing roads when clay soils are moist.
- Create weed control zones along roads that intersect infestations.

Suppression

- The step down EIS's for vegetation management and herbicide use must be completed as soon as possible. In fact, BLM should evaluate whether step down EIS's are actually necessary or if the national EIS is sufficient.
- BLM needs to establish regulatory mechanisms which will allow them to adopt new techniques and products for invasive species management quickly in the future.
- In containment areas, apply herbicide around the perimeter of an existing infestation to reduce the amount of seeds dispersing into adjacent, non-invaded plant communities.
- In containment areas, establish competitive bunchgrasses at the edge of an infestation. Davies et al. (2010) found that seeding a six-meter wide area with crested wheatgrass resulted in a 40-fold decrease in the establishment of medusahead rye in the non-invaded areas.

Monitoring

- Monitor the success of invasive species treatment efforts and continually scout for new infestations and update inventory maps.

Maintenance

- All invasive species treatment plans will contain a rehabilitation and maintenance plan that provides for:
    - Spot treatments to eradicate small infestations identified during post-treatment monitoring.
    - Seeding to establish perennial bunchgrasses at rates capable of limiting site availability for weeds, unless adequate residual perennial vegetation is present and capable of limiting site availability.

    - Grazing management that will promote healthy perennial grass plants and prevent excessive accumulation of fine fuels.
- In Wyoming big sagebrush communities, successful establishment of native species has been extremely limited. In these plant communities, nonnatives are currently the only viable option for establishing perennial vegetation capable of stabilizing a depleted site and preventing annual grass infestations.

The identification of Restoration Focal Areas is to be applauded, however, the BLM should provide some explanation of how and why these focal areas were selected in order to better understand types and level of improvements to GRSG habitat that can be expected from work in these areas. Additionally, the BLM should indicate how Focal Areas align with Core and Low Density designations. Likewise, the State supports the establishment of vegetation management goals based on a mix of sagebrush classes, as it defines what the desired future condition is. However, the description of existing conditions does not provide a clear picture of how much work is needed to achieve the desired future condition. Similarly, the BLM has set a goal of treating 30% of GRSG habitat over the next 10 years. But the goal is too general, because it lumps together fire management, juniper control, and invasive species control activities with no indication of how much of each of these activities will occur. Nor is sufficient information provided to determine how much treatment is needed or how significant the benefits of the proposed treatment would be to GRSG and their habitats.

The NRCS Sage Grouse Initiative Oregon Implementation Strategy (2013) has estimates of acres of early phase juniper encroachment and acres where annual grasses are dominant or subdominant, broken out by private and public lands and by ODFW GRSG Action Area. This may serve as a good resource for the BLM in further quantifying the extent of these threats and the impacts of proposed treatments.

Research is crucial to adjust habitat assessments to reflect regional condition. We recommend state, federal and private partners work together to identify and use peer-reviewed research to support regional conditions adjustments to habitat assessments. In order to most effectively target resources, habitat assessments need to accurately reflect site potential characteristics in the protection and restoration of GRSG habitat.

The State requests that the BLM estimate costs associated with proposed habitat conservation measures, identify proposed sources of funding, and include a BLM commitment to request adequate funding for the actions identified as BLM responsibilities. As expected, proposed habitat conservation measures will necessitate substantial resource commitments. Many recommended actions will require significant financial investments – such as removing or marking fences, re-locating water sources, riparian vegetation rehabilitation, and treatments to reduce wildfires, juniper encroachment and invasive plant species. The NRCS Sage Grouse Initiative provides the only current dedicated funding source—with estimated Oregon allocations of $1 million annually in project grants—therefore, additional resources will be required to carry out conservation measures. A clear division of responsibilities for action implementation and funding between federal, state and private entities will allow for prioritizing conservation investments.