



Oregon Sub-Region Greater Sage-Grouse Draft Resource Management Plan Amendment and Environmental Impact Statement	
Sage-Grouse Conservation Issue	Oregon BLM Alternative (Preferred Alternative D)
<b>Priority Sage-Grouse Habitat</b>	
<p>Greater Sage-grouse are a landscape species (Connelly et al. 2011a). Migratory populations have large annual ranges that can encompass &gt;2,700 km<sup>2</sup> (1,042 mi<sup>2</sup>/667,184 ac) (Knick and Connelly 2011, <i>citing</i> Dalke et al. 1963; Schroeder et al. 1999; Leonard et al. 2000) (the species may use up to 2,500 mi<sup>2</sup> per population (Rich and Altman 2001)). Large-bodied birds are generally more strongly affected by habitat loss and fragmentation (Winter et al. 2006). Although conclusive data on minimum patch size is unavailable (Connelly et al. 2011a), conserving large expanses of sagebrush steppe is the highest priority to conserve sage-grouse (Aldridge et al. 2008; Connelly et al. 2011b; <i>see</i> Manier et al. 2013: 25-26).</p> <p>Sage-grouse conservation plans should designate and manage large areas of priority sage-grouse habitat to conserve the species. Priority habitat is generally defined as “having the highest conservation value to maintaining sustainable Greater Sage-grouse populations” (BLM Memo 2010-071) and should include all active sage-grouse leks, and brood-rearing, transitional and winter habitats. “Priority habitat will be areas of high quality habitat supporting important sage-grouse populations, including those populations that are vulnerable to localized extirpation but necessary to maintain range-wide connectivity and genetic diversity” (BLM Memo 2010-071).</p>	<p>The preferred alternative would designate 4,547,043 acres as preliminary priority habitat areas (priority habitat) and 5,662,632 acres as preliminary general management areas (general habitat) in the planning area (2-51, Table 2-5).<sup>1</sup> The priority and general habitat designated in the preferred alternative are the same as for the no action and the other action alternatives (2-7), except for Alternative E, which would designate 3,923,539 acres of “low density” habitat, less than the equivalent general habitat in the other alternatives (2-51, Table 2-5). The preferred alternative would also identify general habitat areas for potential to become priority habitat, and would prioritize those areas for enhancement and restoration (2-21; 2-42, Table 2-4, D-SSS 6).</p> <p>The preferred alternative would also establish three types of focal areas for sage-grouse management: “climate change consideration areas,” “high density breeding areas,” and “restoration opportunity areas” (ES-16). Focal areas cover a total of 5,450,866 acres (2-19, Table 2-3), with 3,778,694 acres in priority habitat and 1,391,178 acres in general habitat (ES-16; 1-7). Focal areas are primarily on federal lands, and may include specially/congressionally designated areas (ES-16). Focal areas may also include non-federal lands (ES-16; 2-23) and areas outside sage-grouse habitat. (2-19, Table 2-3). Changes to boundaries of focal area could be made every 10 years (high density breeding and restoration opportunity areas) or 20 years (climate change consideration areas) in accordance with the best available science (2-22).</p>
<p>Prohibit new surface disturbance in priority sage-grouse habitat. Where new disturbance cannot be avoided (e.g., due to valid existing rights), <b>(A)</b> minimize impacts by limiting preexisting and permitted disturbance to one instance per section of sage-grouse habitat regardless of ownership, <b>(B)</b> with less than three percent surface disturbance per section or priority area (SGNTT 2011: 8; Knick et al. 2013). Disturbances include but are not limited to highways, roads, transmission lines, substations, wind turbines, oil and gas wells, heavily grazed areas, range developments, pipelines, landfills, mines, and vegetation treatments that reduce sagebrush cover. <b>(C)</b> Where possible, buffer active sage-grouse leks against surface disturbance or occupancy by 4 miles<sup>2</sup> (SGNTT 2011: 23).</p>	<p>The preferred alternative would not prohibit new surface disturbance in priority habitat, nor does it adopt a general limitation of one site per section in sage-grouse habitat. It does adopt a 3 percent disturbance cap per priority management area, considering all land ownerships and including existing disturbance (2-14; 2-17; 2-41, Table 2-4, D-SSS 3; 2-58, Table 2-6, Action D-SSS 2) (although Appendix F would apparently allow up to 5 percent surface disturbance associated with fluid minerals development, F-11). The preferred alternative adopts a no net loss policy for priority habitat (2-24) and mitigation would be required for surface disturbing activities in priority habitat (Table 2-6, Action D-SSS 2). Once the disturbance cap is exceeded, no additional disturbance would be allowed until restoration reduce disturbance to below 3 percent again (Table 2-6, Action D-SSS 2).</p> <p>The preferred alternative does not adopt a generally applicable NSO buffer (e.g., 4 miles) for leks in priority habitat (except for stipulations associated with fluid mineral development).</p>

<sup>1</sup> Did BLM remove burned areas (2007-2010) from general habitat identified in Oregon DRMPA/EIS (2-29) and depicted on Figure ES-1 (ES-5) and Figure 1-2 (1-8) and Figure 2-1 (2-6)?

<sup>2</sup> Smaller sage-grouse lek buffers may be justified where research demonstrates that most sage-grouse nests (i.e., > 90 percent) would be protected by the smaller buffer (see, e.g., Conservation Plan for Greater Sage-Grouse in Utah, unpublished: 9), although the impacts from continued and future land use (pursuant to valid existing rights) in nesting habitat would still advise adopting larger 4-mile lek buffers to conserve the species.

	<p><b>Unleased fluid minerals</b> – the preferred alternative would close more than 2.7 million acres of priority and general habitat, plus an additional 470,197 acres of federal mineral estate (state/private surface ownership) to fluid mineral development (2-54, Table 2-5). However, more than 4 million acres of priority habitat (almost all of it federal surface estate) would remain open to development (2-54 – 2-55, Table 2-5). Surface occupancy associated with development would not be permitted within 4 miles of active leks in priority habitat, or in areas outside of priority habitat within 1 mile of an active lek inside priority habitat (2-98, Table 2-6, Action D-MLS 6). Priority habitat beyond 4 miles of an active lek (located in priority habitat), or areas outside of priority habitat that are within 4 miles of an active lek in priority habitat, would be subject to seasonal disturbance, timing and noise limitations (2-98, Table 2-6, Action D-MLS 6). Limited opportunities for exception, modification and waiver would be available for these stipulations (F-5 – F-16).</p> <p><b>Leased fluid minerals</b> - the 3 percent disturbance cap would apply to development of leased fluid minerals in priority habitat (via approval process) (2-94, Table 2-6, Action D-MLS 1), although exceptions may be applied (2-96, Table 2-6, Conservation Measure D-MLS 5) (also, Appendix F would apparently allow up to 5 percent surface disturbance associated with fluid minerals development, F-11); surface occupancy associated with development would not be permitted within 4 miles of active leks in priority habitat, or in areas outside of priority habitat within 1 mile of an active lek inside priority habitat (2-94, Table 2-6, Conservation Measure D-MLS 1). Priority habitat beyond 4 miles of an active lek (located in priority habitat), or areas outside of priority habitat that are within 4 miles of an active lek in priority habitat, would be subject to seasonal disturbance, timing and noise limitations (2-94, Table 2-6, Conservation Measure D-MLS 1). Limited opportunities for exception, modification and waiver would be available for these stipulations (F-5 – F-16).</p> <p><b>Nonenergy leasable minerals</b> – development of nonenergy minerals would be subject to a no surface occupancy stipulation in priority habitat (2-104, Table 2-6, Action D-MSE 1).</p> <p><b>Salable mineral materials</b> – priority habitat would be closed to development of salable mineral materials; existing sites would be maintained (2-19).</p> <p><b>Locatable minerals</b> – almost all of the planning area would remain open to locatable mineral development and exploration under the preferred alternative (2-56, Table 2-5), while the conservation alternatives would recommend between 4-9 million acres for withdrawal (2-56, Table 2-5).</p> <p><b>Rights-of-way</b> – some priority habitat is already managed as exclusion or avoidance areas for new ROWs (Figure 2-7); the preferred alternative would expand avoidance areas for new ROWs in priority areas by 61 percent (2,617,900 acres) (5-44; Figure 2-10). Development would be directed to non-habitat areas or, if that is unfeasible, in the least suitable habitat for sage-grouse. New ROWs would be co-located with existing ROWs, where possible. Development could only occur if disturbance was within or under 3 percent per priority management area, and would be disallowed where disturbance is already 3 percent or higher (unless it does not create new disturbance). The general mitigation/no net loss standard would apply to ROW development. (2-90, Table 2-6, Action D-LR 1).</p> <p><b>Travel management</b> – travel would be restricted in priority habitat to existing roads and</p>
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	trails (until travel management planning is complete) (2-52, Table 2-5; 2-89, Table 2-6, Action D D-TM 1).
Identify <sup>3</sup> and protect sage-grouse winter habitat (Braun et al. 2005, <i>citing</i> Connelly et al. 2000 and others; Moynahan et al. 2007).	<p>Priority habitat contains known winter concentration areas (1-6; <i>see also</i> 3-6, Oregon core areas contain 99 percent of 1,695 winter locations; 3-7), which are considered crucial wildlife habitat (8-11), but the DRMPA/EIS does not include a map of winter habitat.<sup>4</sup></p> <p>Sage-grouse winter habitat would be prioritized for fire suppression (2-72, Table 2-6, Action D-WFM 8) and seasonal stipulations would apply to fluid minerals development in winter habitat (2-94, Table 2-6, Conservation Measure D-MLS 1; 2-98, Table 2-6, Action D-MLS 6; 2-100, Table 2-6, Action D-MLS 7) (although managers could modify or grant an exception to these stipulations, F-7; F-11). The preferred alternative would not otherwise specially protect winter habitat, even though the DRMPA/EIS recognizes the importance of winter habitat to sage-grouse (8-39).</p>
Manage or restore sage-grouse habitat so that at least 70 percent of the land cover is sagebrush sufficient to meet sage-grouse needs <sup>5</sup> (SGNTT 2011: 7; Knick et al. 2013 <sup>6</sup> ). <sup>7</sup>	<p>The preferred alternative would maintain or enhance sage-grouse habitat to “establish a mix of sagebrush classes...so as to provide a sustainable habitat for [sage-grouse]” (2-17; 2-43, Table 2-4, Goal D-VG 1) and cites Karl and Sadowski (2005) in support of this objective (2-17, fn. 1), but does specifically commit to maintain at least 70 percent of sage-grouse habitat in sagebrush steppe throughout the planning area (<i>see</i> 2-58 – 2-59, Table 2-6). The DRMPA/EIS does state that the “BLM’s objective is to...manage or restore priority areas so that at least 70 percent of land cover provides adequate sagebrush habitat to meet sage-grouse needs,” although it appears to be referring to current policy only in the Vale District (3-15) (the Southeastern Oregon RMP also has a goal of managing more than 70 percent of potential sagebrush habitat to achieve “desired range future conditions,” B-4). The preferred alternative would also manage sage-grouse habitat so that no more than approximately 30 percent of a given 5<sup>th</sup> field hydrological unit is early seral sagebrush steppe (2-47, Table 2-4, D-WFM 3), which might help meet the 70/30 standard for sagebrush cover.</p> <p>The State of Oregon <i>has</i> embraced the 70/30 standard for sage-grouse habitat in the state (3-5). Oregon Administrative Rule 635-140-0010 adopts a policy of maintaining a minimum of 70 percent of sage-grouse range in mid- and late-seral sagebrush steppe (2-26). Habitat objectives written into the rule include maintaining (i.e., no net loss) existing sagebrush habitat near or above 70 percent sagebrush steppe in five BLM planning areas (2-26), where sagebrush cover is already meeting or exceeding the standard, except the Prineville District, where sagebrush cover is 47 percent (3-15, Table 3-3).</p>
<b><i>Restoration Sage-Grouse Habitat</i></b>	
Designate restoration sage-grouse habitat to focus habitat restoration efforts to extend sage-grouse habitat and mitigate for future loss of priority habitat (BLM Memo MT-2010-017). Restoration habitat may be degraded or fragmented habitat that is currently unoccupied by sage-grouse, but might be useful to the species if restored to its potential	The preferred alternative would establish “Restoration Opportunity Areas” in sage-grouse habitat where restoration and mitigation activities would be emphasized (2-58, Table 2-6). Restoration Opportunity Areas are areas within existing GRSG habitat that, if restored, could provide better quality habitat and greater habitat connectivity for sage-grouse (2-22). These

<sup>3</sup> Failure to map sage-grouse winter habitat could be grounds for remanding an RMP/EIS back to BLM to address the omission. WWP v. Salazar, 4:08-CV-516BLW, Slip Op. at 3.

<sup>4</sup> The map of vegetation in the planning area (3-22, Figure 3-5) could be the basis of a sage-grouse winter range map.

<sup>5</sup> While  $\geq 70$  percent of land cover is sagebrush, the remainder of the landscape should be other natural habitats or areas that could be restored to sagebrush steppe.

<sup>6</sup> Seventy-nine percent of the area within 5 km of active sage-grouse leks was in sagebrush cover.

<sup>7</sup> *See also* Karl and Sadowski (2005): 15.

<p>natural community. Restoration habitat should be identified in management planning based on its importance to sage-grouse and the likelihood of successfully restoring sagebrush communities (Meinke et al. 2009; Wisdom et al. 2005a). Effective restoration requires a regional approach (e.g., sub/regional EISs) that identifies appropriate options across the landscape (Pyke 2011). Passive restoration should be prioritized over active restoration methods in these areas.</p>	<p>focal areas would total more than 2.5 million acres and include priority and general habitat, as well as habitat outside sage-grouse current range (2-19). The BLM would prioritize Restoration Opportunity Areas for habitat restoration, off-site mitigation, conservation partnering, fire suppression, post-fire rehabilitation, and sage-grouse habitat and population monitoring and assessment (8-15 – 8-16).</p> <p>Restoration Opportunity Areas are not land allocations, as they establish priorities for only certain types of BLM administrative actions and do not restrict or prohibit activities (2-22).</p> <p>The boundaries of Restoration Opportunity Areas could also change over time as habitat shifts and sage-grouse populations move across the landscape (2-19). Boundary changes would be based on the best available science and data, and only occur every 10 years (2-22).</p> <p>The preferred alternative would also identify general habitat areas for potential to become priority habitat, and would prioritize those areas for enhancement and restoration (2-21; 2-42, Table 2-4, D-SSS 6).</p>
<p><b><i>Specially Designated Sage-Grouse Habitat</i></b></p>	
<p>Designate a subset of sage-grouse priority habitat areas as sagebrush reserves (e.g., Areas of Critical Environmental Concern (Bureau of Land Management), Zoological Areas (Forest Service),<sup>8</sup> research natural areas (Bureau of Land Management, Forest Service), or national wildlife refuges (Fish and Wildlife Service), etc.) to be specially managed refugia for sage-grouse and other sagebrush-dependent species.<sup>9</sup> Sagebrush reserves should encompass centers of sage-grouse abundance on the landscape and protect a sufficiently large proportion of habitat in each planning area to sustain biological processes, recover species and mitigate for the systematic effects of climate change, invasion by nonnative plants and unnatural fire.<sup>10</sup> Sagebrush reserves should offer additional conservation benefits for sage-grouse and other sagebrush-dependent species over priority habitat. They may be withdrawn from locatable and leasable minerals development (43 U.S.C. § 1714); closed to new surface disturbance; and prioritized for grazing permit retirement and removal of infrastructure (unneeded oil and gas equipment, roads, range developments, fencing, etc.).</p>	<p>Conservation alternatives analyzed 4,040,201 and 4,348,340 acres for designation as ACECs, but the preferred alternative declined to propose any new ACECs in the planning area (2-53, Table 2-5). The preferred alternative would prioritize sage-grouse conservation on dozens of existing ACECs and Resource Natural Areas (RNAs). Sage-grouse are already identified as a relevant and important value for seven ACECs and RNAs (3-126). In addition to these, the preferred alternative would elevate conservation in "priority" ACECs that are at least 50 percent in general habitat, at least 20 percent in priority habitat, and/or have active leks/sagebrush habitat (2-105, Table 2-6, D-SD),<sup>11</sup> which amounts to 59 existing ACECs (with 42 RNAs) on 474,657 acres, containing 197,680 acres of priority habitat (4.5 percent) and 225,731 acres of general habitat (4.0 percent) (including the seven ACECs/RNAs where sage-grouse are already a relevant/important value) (I-2 - I-4, Table I-1).</p> <p>Conservation measures on priority ACECs and RNAs would include reducing, modifying, or eliminating impacts from off-road vehicles, ROWs and livestock grazing; prohibiting new ROWs; closing RNAs to off-road vehicles; adjusting grazing use to support sage-grouse objectives, or encouraging grazing permittees to relinquish their grazing permits where grazing is not meeting standards; removing un-needed infrastructure; treating invasive species; and other measures (2-105 – 2-108, Table 2-6, Action D-SD).</p> <p>RNAs would be managed as undisturbed vegetative reference areas to preserve natural habitats, biodiversity, and rare plants and animals (2-49 – 2-50, Table 2-4, Obj D-SD 1). RNAs with more than 20 percent priority habitat and/or 50 percent general habitat that are not meeting rangeland health standards and have a failing suitable habitat rating would be closed to livestock grazing until they attain standards and a suitable rating (2-79, Table 2-6, Action D-LG/RM 1).</p>

<sup>8</sup> The Sage-Grouse Recovery Alternative referred to specially designated areas on Forest Service lands as "Sagebrush Conservation Areas," p. 30 ([www.sagebrushsea.org/pdf/Sage-Grouse\\_Recovery\\_Alternative.pdf](http://www.sagebrushsea.org/pdf/Sage-Grouse_Recovery_Alternative.pdf)).

<sup>9</sup> More than 350 species of conservation concern occur in sagebrush steppe (Wisdom et al. 2005a: 21 and App. 2).

<sup>10</sup> See Sage-Grouse Recovery Alternative for criteria for designating sagebrush reserves, p. 50 ([www.sagebrushsea.org/pdf/Sage-Grouse\\_Recovery\\_Alternative.pdf](http://www.sagebrushsea.org/pdf/Sage-Grouse_Recovery_Alternative.pdf)).

<sup>11</sup> Appendix I states that priority ACECs must be at least 50 percent general habitat or 30 percent priority habitat (I-2).

<i>Fluid Minerals Development (unleased)</i>			
	NTT Report Recommendations	Sage-Grouse Ecology	Oregon BLM Alternative (Preferred Alternative D)
Lek Buffers	No surface occupancy throughout priority habitat; exceptions may be considered if a 4-mile no surface occupancy buffer is applied, and if an entire lease is within priority habitat, then a limitation of one well-pad per section might be applied.	Development negatively affects sage-grouse 1.9 miles from occupied leks (Holloran 2005). Most sage-grouse hens nest within 4 miles of leks (Moynahan 2004; Holloran and Anderson 2005). Effects of drilling on sage-grouse were noticeable out to 12.4 miles from leks (Taylor et al. 2012; Taylor et al. 2013).	<p><i>Unleased fluid minerals</i> – the preferred alternative would close more than 2.7 million acres of priority and general habitat, plus an additional 470,197 acres of federal mineral estate (state/private surface ownership) to fluid mineral development (2-54, Table 2-5). Surface occupancy associated with development would not be permitted within 4 miles of active leks in priority habitat, or in areas outside of priority habitat within 1 mile of an active lek inside priority habitat (2-98, Table 2-6, Action D-MLS 6). There would be limited opportunities for exception or waiver of these stipulation (F-5 – F-6).</p> <p><i>Leased fluid minerals</i> – surface occupancy associated with development would not be permitted within 4 miles of active leks in priority habitat, or in areas outside of priority habitat within 1 mile of an active lek inside priority habitat (2-94, Table 2-6, Conservation Measure D-MLS 1). There would be limited opportunities for exception or waiver of these stipulation (F-5 – F-6).</p>
Density	Limit disturbance to 1 well per 640 acres.	Maximum development density of 1 well per 640 acres to 1 well per 699 acres (Holloran 2005; Doherty et al. 2010a; Doherty 2008).	There is no general cap on development density in priority habitat.
Disturbance	Surface disturbance may not exceed 3 percent per 640 acres (exceptions may be considered in limited circumstances).	Ninety-nine percent of active sage-grouse leks are in landscapes with less than 3 percent disturbance within 5 km of leks (Knick et al. 2013).	<p><i>Unleased fluid minerals</i> – development would be subject to a general 3 percent disturbance cap per priority management area, considering all land ownerships and including existing disturbance (2-14; 2-17; 2-41, Table 2-4, D-SSS 3; 2-58, Table 2-6, Action D-SSS 2) (although Appendix F would apparently allow up to 5 percent surface disturbance associated with fluid minerals development, F-11).</p> <p><i>Leased fluid minerals</i> – the 3 percent disturbance cap would apply to development of leased fluid minerals in priority habitat (via approval process) (2-94, Table 2-6, Action D-MLS 1), although exceptions may be applied (2-96, Table 2-6, Conservation Measure D-MLS 5) (also, Appendix F would apparently allow up to 5 percent surface disturbance associated with fluid minerals development, F-11).</p>
Winter Habitat	No surface occupancy in winter habitat during any time of the year; exceptions may be considered if a 4-mile no surface occupancy buffer is applied, and if an entire lease is within priority habitat, then a limitation of one well site per section might be applied.	No surface disturbance in or adjacent to winter habitat any time of year (Walker 2008).	<i>Unleased/leased fluid minerals</i> – seasonal stipulations would apply to fluid minerals development in winter habitat (2-94, Table 2-6, Conservation Measure D-MLS 1; 2-98, Table 2-6, Action D-MLS 6; 2-100, Table 2-6, Action D-MLS 7) (and managers could modify or grant an exception to these stipulations, F-7; F-11).



### ***Livestock Grazing***

For range management, sage-grouse habitat objectives should be based on, in priority order, potential natural community within the applicable Ecological Site Description, Connelly et al. (2000: 977, Table 3), or other objectives that have been demonstrated to be associated with increasing sage-grouse populations.

Utilization levels should not exceed 25 percent annually on uplands, meadows, flood plains and riparian habitat (Holecheck et al. 2010, citing others). Habitat objectives should be applied to all sage-grouse habitat areas.

Management plans should:

1. Maintain  $\geq 18$  cm average grass height in nesting and brood-rearing habitat (Connelly et al. 2000; Braun et al. 2005).
2. Control livestock grazing to avoid contributing to the spread of cheatgrass (*Bromus tectorum*) (Reisner et al. 2013).
3. Facilitate voluntary grazing permit retirement in sage-grouse priority habitat (*see* SGNTT 2011: 17).

Manage livestock grazing “to maintain or improve priority sage-grouse habitat by achieving land health standards” (2-48, Table 2-4, Obj D-LG/RM 1). In priority habitat, “manage for vegetation composition and structure consistent with ecological site potential and within the reference state to achieve [sage-grouse] seasonal habitat objectives” (2-81, Table 2-6, Action D-LG/RM 8) (Objectives in priority habitat should be based in part on ecological site description (2-81, Table 2-6, Action D-LG/RM 7)). Incorporate habitat objectives into grazing permits when revising allotment management plans or renewing grazing permits (2-79, Table 2-6, Action D-LG/RM 2). Objectives include “provid[ing] adequate cover and sufficient forb diversity in nesting and brood-rearing habitat, consistent with ecological site capability,” with values adjusted for regional conditions (2-48, Table 2-4, Obj D-LG/RM 2). Where allotments and pastures are not providing suitable sage-grouse habitat, changes in grazing management must be made prior to the start of the next grazing season (2-80, Table 2-6, Action D-LG/RM 6).

The DRMPA/EIS acknowledges that “improper” livestock grazing can be a threat to sage-grouse, and further states that improper grazing “is when the degree of utilization of the current year’s growth will cause BLM-administered land to fail to achieve management objectives and maintain or improve the long-term productivity of the site” (2-12). However, the preferred alternative fails to prescribe a maximum limit for annual grazing utilization in sage-grouse habitat and admits that “because grazing utilization levels are not specified, management guidance from existing [land use plans] would continue to apply, which may be insufficiently protective of [sage-grouse] (4-49). Utilization levels in at least two existing RMPs are as high as 50 percent (B-2, B-8).

Monitoring and assessment of grazing allotments and, where necessary, adjustments in grazing use, would be based, in part, on the Habitat Assessment Framework (HAF) (Stiver et al. 2010) (2-21; *see, e.g.*, 2-80, Table 2-6, Action D-LG/RM 6; 2-79, Table 2-6, Action D-LG/RM 2; 2-81, Table 2-6, Action D-LG/RM 8). HAF, *as published*, includes minimum 18 cm grass height in sage-grouse nesting and brood-rearing habitat as criteria for assessing these habitats at a fine scale (Stiver et al. 2010: II-13, citing Connelly et al. (2000) and Hagen et al. (2007)), although this standard could be “adjusted for regional conditions.” However, Appendix G, “Greater Sage-Grouse Monitoring Framework,” which is apparently intended to condense Stiver et al. (2010) for the DRMPA/EIS, strips out the criteria for fine and site scale habitat assessments, and instead states that “details and application of monitoring at these two scales will be determined during implementation of the [DRMPA/EIS]” (G-8).

Grazing management would avoid livestock turnout and concentration on sage-grouse leks during breeding season (2-79, Table 2-6, Action D-LG/RM 2; 2-83, Table 2-6, Action E-LG/RM 16), and reduce grazing pressure on riparian and meadow complexes during the hot season (2-83, Table 2-4, Action D-LG/RM 14).

Planning criteria for the DRMPA/EIS includes developing management objectives for controlling invasive species in sage-grouse habitat (1-22). Invasive species are identified as a primary threat to sage-grouse in Oregon (2-11; 4-70) and millions of acres of public lands in the planning area are moderately or highly vulnerable to cheatgrass incursion (3-32, Table 3-8). However, and although the DRMPA/EIS acknowledges that grazing can reduce

	<p>resistance of native vegetation communities to cheatgrass incursion (4-13; 4-89; 4-129), it does not proscribe grazing where cheatgrass occurs to avoid contributing further to its spread on the landscape. In fact, the DRMPA/EIS suggests that grazing can reduce the spread of invasive grasses, if applied annually before the grasses have cured—without citing scientific support (4-13) and ignoring published research to the contrary.</p> <p>The preferred alternative would “[m]aintain retirement of grazing privileges as an option in [priority habitat] when the current permittee is willing to retire grazing on all or part of an allotment, although the BLM office would be required to “analyze the adverse impacts of no livestock use on wildfire and invasive species threats...in evaluating retirement proposals” (2-86, Table 2-6, Action D-LG/RM 28).</p>
<b><i>Climate Change Effects</i></b>	
<p>Account for the effects of climate change in management planning (Secretarial Order 3289, 02-22-2010; CEQ Memo, 02-18-2010 (draft)). Climate change is a recognized threat to sage-grouse (Connelly et al. 2011b: 556, Table 24.2; Blomberg et al. 2012; van Kooten et al. 2007) that is also predicted to have deleterious impacts on sagebrush steppe (Schlaepfer et al. 2012; Neilson et al. 2005). Most climate change simulations predict sagebrush steppe will contract as mean temperatures increase and the frost line shifts northward (Blomberg et al. 2012; Neilson et al. 2005). In the worst case scenario, sagebrush species are simulated to contract to just 20 percent of current distribution (Wisdom et al. 2005b: 206, <i>citing</i> Neilson et al. 2005). The largest remaining areas will be in southern Wyoming and in the gap between the northern and central Rocky Mountains, followed by areas along the northern edge of the Snake River Plateau and small patches in Washington, Oregon and Nevada (<i>see</i> Miller et al. 2011: 181, Fig. 10.19). Sagebrush steppe may also shift northward in response to increased temperatures (Schlaepfer et al. 2012; Shafer et al. 2001).</p> <p>Measures for ameliorating the effects of climate change on species and landscapes include increasing the size and number of protected areas, maintaining and enhancing connectivity between protected areas, and identifying and protecting areas likely to retain suitable climate/habitat conditions in the future (even if not currently occupied by the species of concern). Management should also repulse invasive species, sustain ecosystem processes and functions, and restore degraded habitat to enhance ecosystem resilience to climate change (Chester et al. 2012; NFWPCAS 2012).</p>	<p>The DRMPA/EIS acknowledges that climate change interacts with other factors to threaten sage-grouse (2-11). The preferred alternative commits to increase resiliency of sage-grouse habitat to disturbances and climate change, “where feasible” (2-43, Table 2-4, Goal D-VG 1).</p> <p>The preferred alternative would also establish 2,222,588 acres of “Climate Change Consideration Areas” (2-19-2-20) (including nearly 1.5 million acres of priority habitat) in the planning area (2-19, Table 2-3). Climate change Consideration Areas are generally high elevation areas (typically above 5,000 feet) with limited habitat disturbance. The BLM has identified these areas as likely to provide the best habitat for sage-grouse over the long term, according to recent climate change modeling (2-21).</p> <p>Climate Change Consideration Areas (and other types of focal areas) are identified to help focus and prioritize habitat restoration, off-site mitigation, conservation partnering, sage-grouse habitat and population monitoring and assessments, and post-fire emergency stabilization and rehabilitation efforts, and to provide special consideration during fire suppression to help sustain productive sage-grouse habitat. (8-15 – 8-16).</p> <p>Climate Change Consideration Areas are not land allocations, as they establish priorities for only certain types of BLM administrative actions and do not restrict or prohibit activities (2-22).</p> <p>The boundaries of Climate Change Consideration Areas could also change over time as habitat shifts and sage-grouse populations move across the landscape (2-19). Boundary changes would be based on the best available science and data, and only occur every 20 years (2-22).</p>
<b><i>Wind Energy Development</i></b>	
<p>Prohibit wind energy development in priority sage-grouse habitat (Jones 2012; SGNTT 2011: 12). If development is permitted, locate turbines and infrastructure at least four miles from sage-grouse leks (Manville 2004; Jones 2012); do not site wind energy development in or adjacent to sage-grouse wintering areas.</p>	<p>Some priority habitat is already managed as exclusion or avoidance areas for new ROWs (Figure 2-7); the preferred alternative would expand avoidance areas for new ROWs in priority areas by 61 percent (2,617,900 acres) (5-44; Figure 2-10). Development would be directed to non-habitat areas or, if that is unfeasible, in the least suitable habitat for sage-grouse. Development could only occur if disturbance was within or under 3 percent per priority management area, and would be disallowed where disturbance is already 3 percent or higher (unless it does not create new disturbance). The general mitigation/no net loss standard would apply to ROW development. (2-90, Table 2-6, Action D-LR 1).</p> <p>There are more than 1 million acres of existing wind energy rights-of-way on federal lands in sage-grouse habitat in the planning area (3-99, Table 3-41).</p>