Idaho and Southwestern Montana Greater Sage-Grouse Draft Land Use Plan Amendment and Environmental Impact Statement	
Sage-Grouse Conservation Issue	**Idaho/SW Montana Draft LUP/EIS (Preferred Alternative D)**
Priority Sage-Grouse Habitat	
Greater Sage-grouse are a landscape species (Connelly et al. 2011a). Migratory populations have large annual ranges that can encompass >2,700 km² (1,042 mi²/667,184 ac) (Knick and Connelly 2011, *citing* Dalke et al. 1963; Schroeder et al. 1999; Leonard et al. 2000) (the species may use up to 2,500 mi² 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; *see* Manier et al. 2013: 25-26). 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).	The Idaho/SW Montana Draft LUP/EIS (plan) identifies 7,266,502 acres and 963,016 acres of preliminary priority habitat (priority habitat) administered by BLM and Forest Service, respectively, in the planning area (total: 8,229,518 acres) (vol 1, ES-3, Table ES-1). However, the preferred alternative would only designate 6,819,100 acres of priority habitat, plus an additional 1,348,100 acres of medial habitat (total: 8,167,200 acres) (vol 1, ES-13, Table ES-4; vol 2, 2-98, Table 2-18, D-SSS-1).[1] Annual updates to the Idaho Sage-Grouse Habitat Planning Map may lead to adjustments in priority and medial habitat areas(?) (vol 2, 2-67). Some level of development or disturbance may be permitted in medial habitat that may impact sage-grouse (ES-15).
Prohibit new surface disturbance in priority sage-grouse habitat. Where new disturbance cannot be avoided (e.g., due to valid existing rights), **(A)** minimize impacts by limiting preexisting and permitted disturbance to one instance per section of sage-grouse habitat regardless of ownership, **(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. **(C)** Where possible, buffer active sage-grouse leks against surface disturbance or occupancy by 4 miles[2] (SGNTT 2011: 23).	The management agencies would require no net unmitigated loss of priority habitat instead of a cap on surface disturbance (vol 2, 2-65; vol 2, 2-100, Table 2-18, D-SSS-3). The preferred alternative does not prescribe a general no surface occupancy lek buffer to protect sage-grouse breeding, nesting and brooding habitat. The preferred alternative does not prescribe a general cap on development density (i.e., 1 site per section) in priority habitat. <u>Rights-of-way</u>: most new ROWs would be excluded in priority habitat (vol 2, 2-164, Table 2-18, D-LR-5); priority and medial habitat would otherwise be "avoidance" areas for new rights-of-ways (vol 2, 2-162, Table 2-18, D-LR-3; vol 2, 2-164, Table 2-18, D-LR-5) (communication sites would be allowed, 2-33, Table 2-3); new authorizations for the following uses would not be allowed in priority habitat: <u>transmission facilities (greater than 50kV)</u>, wind energy testing and development, commercial solar development, <u>commercial geothermal development</u>, nuclear development, <u>oil and</u>

[1] It is unclear what the total acreage listed for Alternative D in Table ES-4 (11,101,300 acres) refers to (ES-13).

[2] 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.

	gas development, mineral development, airports, and ancillary facilities associated with any of the aforementioned development; paved roads and graded gravel roads, landfills, and hydroelectric projects (vol 2, 2-162, Table 2-18, D-LR-3).[3] The preferred alternative would continue to manage 86,300 acres as utility corridors, including 64,200 acres for the Westwide Energy Corridor (vol 2, 2-172, Table 2-18, D-LR-26). Motorized travel would be limited to existing roads and trails in priority, medial and general habitat until travel management planning is completed (vol 2, 2-158, Table 2-18, D-TM-1). Leased fluid minerals: required design features (vol 2, 2-172, Table 2-18, D-MLS-1) and best management practices (vol 2, 2-176, Table 2-18, D-MLS-8) would be required as conditions for approval on applications for a permit to drill. These RDFs and BMPs do not prescribe lek buffers or development density or disturbance caps. Unleased fluid minerals: areas of no or low potential for fluid minerals development would be closed to fluid minerals development (vol 2, 2-176 – 2-177, Table 2-18, D-MLS-12). Areas of moderate and high potential would be available for development, pursuant to prescriptions listed below. Locatable minerals: all sage-grouse habitat would remain open to locatable mineral entry (vol 2, 2-180, Table 2-18, D-MLM-1). Salable minerals: new development would be prohibited within 3 km of occupied leks in all sage-grouse habitat (vol 2, 2-181, Table 2-18, D-MSM-1). Non-energy leasable minerals: priority and medial habitat would be closed to new non-energy mineral development (vol 2, 2-182, Table 2-18, D-MNL-1).
Identify[4] and protect sage-grouse winter habitat (Braun et al. 2005, *citing* Connelly et al. 2000 and others; Moynahan et al. 2007).	Desired habitat characteristics of sage-grouse winter habitat are described in Table 2-10 (vol 2, 2-72); winter habitat is generally found in priority habitat (vol 2, 2-98, Table 2-18, D-SSS-1), but is not mapped. This is inexplicable since Idaho Department of Fish and Game has apparently mapped sage-grouse winter habitat in the state (A-1). Adaptive management would be triggered with the loss of 10 percent of winter habitat within a population area (vol 2, 2-73). Timing restrictions would be applied to fluid minerals development

[3] Management measure D-LR-3, which states that new authorizations would be denied for new commercial geothermal and oil and gas development, and mineral development, appears to contradict other measures in the preferred alternative that would allow fluid minerals development, and locatable and salable mineral development in priority habitat.
[4] 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.

	in winter habitat in priority, medial and general habitat (vol 2, 2-36, Table 2-3); vegetation treatments would attempt to preserve winter habitat.
Manage or restore sage-grouse habitat so that at least 70 percent of the land cover is sagebrush sufficient to meet sage-grouse needs[5] (SGNTT 2011: 7; Knick et al. 2013[6]).[7]	While it appears that the adaptive management scheme prescribed in the preferred alternative would attempt to retain/restore sagebrush steppe to a minimum of 80 percent of land cover in sage-grouse seasonal habitats, the alternative doesn't actually commit to the minimum standard (vol 2, 2-73). Also, the concurrent allowance of habitat disturbance of between 10-20 percent could be negative for sage-grouse (vol 2, 2-73).
Restoration Sage-Grouse Habitat	
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 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.	Alternative F would designate 500,200 acres of restoration habitat (vol 1, ES-13, Table ES-4); the preferred alternative would designate none, although priority, medial and general habitat may include "potential restoration areas" (vol 2, 2-66). The preferred alternative includes criteria for selecting sites for restoration, as well as recommended habitat restoration methods (some more advisable than others) (vol 2, 2-101 – 2-104, Table 2-18, D-VG-2/D-VG-4/D-VG-5).
Specially Designated Sage-Grouse Habitat	
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),[8] 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.[9] 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.[10] 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.).	The preferred alternative would not designate any sagebrush reserves (ACECs, Zoological Areas) (vol 2, 2-194, Table 2-19). Alternative C analyzed 3,603,100 acres for designation as 39 new ACECs to conserve sage-grouse (vol 1, ES-15; vol 2, 2-27, Table 2-2). Alternative F would designate 7,791,693 acres as ACECs and Zoological Areas (including 3,460 acres as restoration habitat) (vol 2, 2-27, Table 2-2).

[5] While ≥ 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.
[6] Seventy-nine percent of the area within 5 km of active sage-grouse leks was in sagebrush cover.
[7] *See also* Karl and Sadowski (2005): 15.
[8] The Sage-Grouse Recovery Alternativ e referred to specially designated areas on Forest Service lands as "Sagebrush Conservation Areas," p. 30 (www.sagebrushsea.org/pdf/Sage-Grouse_Recovery_Alternative.pdf).
[9] More than 350 species of conservation concern occur in sagebrush steppe (Wisdom et al. 2005a: 21 and App. 2).
[10] *See* Sage-Grouse Recovery Alternative for criteria for designating sagebrush reserves, p. 50 (www.sagebrushsea.org/pdf/Sage-Grouse_Recovery_Alternative.pdf).

***Fluid Minerals Development* (unleased)**			
	NTT Report Recommendations	**Sage-Grouse Ecology**	**Idaho/SW Montana Draft LUP/EIS (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).	[un-leased fluid minerals] While most priority and medial habitat would be closed to fluid minerals development, some areas of moderate and high potential for development would be open to leasing, subject to conditions, including a 0.6 mile protective lek buffer (vol 2, 2-176 – 2-177, Table 2-18, D-MLS-12).
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).	[un-leased fluid minerals] Density of development not to exceed 1 site per section (vol 2, 2-176 – 2-177, Table 2-18, D-MLS-12).
Disturbance	Surface disturbance may not exceed 3 percent per 640 acres or project area (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 the lek (Knick et al. 2013).	[un-leased fluid minerals] Maximum disturbance of 3 percent surface area per section (vol 2, 2-176 – 2-177, Table 2-18, D-MLS-12).
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).	[un-leased fluid minerals] Timing restrictions would be applied to fluid minerals development in winter habitat in priority, medial and general habitat (vol 2, 2-36, Table 2-3).
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). Habitat objectives should be applied to all sage-grouse habitat areas. Management plans should: 1. Maintain ≥ 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).			The preferred alternative would manage for vegetation composition and structure "consistent with appropriate [sage-grouse] seasonal habitat objectives relative to site potential" in priority, medial and general habitat (vol 2, 2-141, Table 2-18, D-LG/RM-16). Grazing management measures designed to meet sage-grouse habitat objectives would be incorporated into AMPs and the permitting process (vol 2, 2-135, Table 2-18, D-LG/RM-2). Active AUMs for grazing would remain the same as current management (vol 2, 2-134, Table 2-18, D-LG/RM-1). Annual and temporary adjustments to grazing use may be made based on allotment evaluations (vol 2, 2-134, Table 2-18, D-LG/RM-1). Other intermediate and long-term adjustments may be required where grazing management is determined to be not compatible with or making progress toward achieving sage-grouse

	habitat objectives (vol 2, 2-137, Table 2-18, D-LG/RM-6) (no mention of Connelly et al. 2011, as in Alternatives B, F). The preferred alternative would not limit livestock grazing to 25 percent utilization. **(1)** Desired sage-grouse nesting/early brood-rearing, summer and winter habitat characteristics are presented in Tables 2-8, 2-9 and 2-10 (vol 2, 2-71-2-72), although the grazing prescriptions in the preferred alternative do not specifically reference them. Table 2-8, desired nesting/early brood-rearing habitat characteristics, includes a standard for minimum grass height (vol 2, 2-71). Land health assessments would evaluate vegetation structure, condition and composition on grazing allotments in accordance with "Stiver et al. (2010) as amended/replaced…or other approved methodology" (vol 2, 2-136, Table 2-18, D-LG/RM-5). Stiver et al. (2010), as published, lists grass height at ≥ 18 cm in sage-grouse nesting and brooding habitat, citing Connelly et al. (2000), although it is uncertain from this prescription whether Stiver et al. (2010) would actually be used in land health assessments. In priority habitat, coordinate with permittees to schedule grazing use to avoid sage-grouse breeding and nesting period, where practical (vol 2, 2-139, Table 2-18, D-LG/RM-11). **(2)** Cheatgrass invasion is identified as a management issue in the plan (vol 2, 1-27) and a threat to sage-grouse (vol 2, 4-9; vol 2, 4-296); nearly all sage-grouse habitat on federal public land in the planning area is vulnerable to cheatgrass incursion (vol 2, 3-37, Table 3-15). The plan acknowledges that grazing reduces resistance of native vegetation against invasion by cheatgrass, citing Reisner et al. (2013) (vol 2, 4-101), and notes that, with the possible exception of targeted applications, grazing is not effective at reducing cheatgrass, citing Hempy-Mayer and Pyke (2008) (vol 2, 3-64). The plan further recognized that the loss of biological soil crusts (e.g., from livestock grazing) is a contributing factor in the replacement of native plants by invasive species such as cheatgrass or medusa head (vol 2, 3-141). However, the preferred alternative would not proscribe grazing in areas invaded by cheatgrass in order to preserve remaining native habitats. **(3)** The preferred alternative would facilitate voluntary grazing permit retirement in priority, medial and general habitat, although the associated grazing allotment could be used as a forage reserve to use during fire rehabilitation or restoration efforts elsewhere, "when such actions are determined to result in a net benefit to [sage-grouse] habitat…" (vol 2, 2-137, Table 2-18, D-LG/RM-7).

Climate Change Effects	
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, *citing* 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 (*see* 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). 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).	The plan identifies climate change, specifically its contributions to the spread of cheatgrass and associated loss of sagebrush habitat, as a planning issue (vol 1, ES-7), but contends there "is no resource program for addressing this threat to [sage-grouse]" (vol 2, 2-5, Table 2-1). The plan claims to address the cumulative effects of climate change in section 4.15 (which is, unexpectedly, titled "Social and Economic Conditions (Including Environmental Justice"), but there is little discussion of the impacts of climate change in this section or anywhere else. The preferred alternative would generally attempt to increase the quality, extent and connectivity of sage-grouse habitat, "where possible, to accommodate the future effects of climate change" (vol 2, 2-97, Table 2-17, D-OBJ-10).
Wind Energy Development	
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.	Wind (and solar) energy development would be prohibited in priority habitat and restricted in medial habitat where adverse impacts could not be mitigated. General habitat would be avoidance areas for renewable energy development (vol. 2, 2-161, Table 2-18, D-LR-1).

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