



Utah Greater Sage-Grouse Draft Land Use Plan Amendment and Environmental Impact Statement

Sage-Grouse Conservation Issue	Utah DRMPA/DEIS (Alternative D)
<p>Priority Sage-Grouse Habitat</p> <p>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, <i>citing</i> 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; <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 identifies 2,760,300 acres of preliminary priority management areas (priority habitat) (all land ownerships?) “as having the highest value to maintaining sustaining [sage-grouse] populations” (1-4; 2-15, Table 2.1, MA-GRSG-1). These areas include 97.5 percent of mapped occupied habitat included in U.S. Fish and Wildlife Service priority areas for conservation and leks associated with 98.9 percent of sage-grouse in the planning area (4-74). However, these priority habitat areas are still smaller than proposed in both Alternative B (NTT report; 2,781,700 acres) and Alternative C (conservation organizations; 3,313,800 acres) (2-15, Table 2.1, MA-GRSG-1). The preferred alternative would not include the southern portion of the Panguitch Population Area as priority habitat, which includes the southern-most lek in Utah (Alton lek) that is impacted by ongoing coal mining (4-74). The next lek north, though larger and consistently used, is also affected by the same coal mining activity (which is excluded from priority habitat) (4-74). The preferred alternative would also exclude the southern portion of the Sheeprocks Population Area (4-74) and parts of the Uinta Basin from priority habitat designation.</p>
<p>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 miles¹ (SGNTT 2011: 23).</p>	<p>The preferred alternative would not prohibit new surface disturbance (consistent with valid existing rights) in priority habitat, which would “be open to most land uses” (2-3). Disturbance would be managed so that discrete disturbances would cover less than 5 percent “of total [sage-grouse] habitat” within a “biologically based disturbance calculation area” in a priority management area (2-3; 2-21, Table 2.1, MA-GRSG-4). Total disturbance would include all land ownerships (2-21, Table 2.1, MA-GRSG-4). Prescribed or natural fire and vegetation treatments would not be counted in the disturbance threshold (2-3; 2-22, Table 2.1, MA-GRSG-4), although areas burned by large fires would be deducted from the baseline acreage on which the 5 percent disturbance cap is calculated (4-74). Heavily grazed areas and range developments are also excluded from the disturbance cap (2-24, Table 2.1, MA-GRSG-4). Land uses would be most stringently managed within 4 miles of active sage-grouse leks (2-3), although exceptions to this stipulation would be available (e.g., development of unleased fluid minerals). The 4-mile buffer may extend to areas capable of supporting sage-grouse outside priority habitat in some cases (2-18, Table 2.1, MA-GRSG-2). Decisions associated with priority and general habitat areas “would apply to areas with</p>

¹ 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.

or ecologically capable of supporting [sage-grouse] habitat” (2-16 – 2-17, Table 2.1, MA-GRSG-2).

Unleased fluid minerals: surface occupancy associated with development of unleased fluid minerals would be prohibited within 4 miles of active (and undetermined status?) sage-grouse leks (2-133, Table 2.1, MA-MIN-19), although exceptions would be available for this stipulation (K-12 – K-13). Surface occupancy associated with development of unleased fluid minerals would also be prohibited in areas outside of sage-grouse habitat, but within 1-mile of an occupied lek in priority habitat (2-133, Table 2.1, MA-MIN-19); exceptions would also be available for this stipulation (K-12).

Leased fluid minerals: some areas would be subject to no surface occupancy, seasonal and other stipulations intended to conserve sage-grouse; these measures are more restrictive than current management, but would protect significantly less habitat than recommended in the conservation alternative (2-132 – 2-133, Table 2.1, MA-MIN-18; Map 2-42) (note: it is also unclear in the ~~dev~~^{dev} plan which NSO and other stipulations would apply—would they be the same as prescribed for development of *unleased* minerals on federal lands?). Exceptions would be available to the 5 percent disturbance cap for development associated with APDs on existing leases (2-144, Table 2.1, MA-MIN-26).

Solid leasable minerals (nonenergy): priority habitat would be closed to new surface mining (2-10, Table 2.1, MA-MIN-3), although subsurface mining could be permitted (4-75). Developments associated with subsurface mining in priority habitat could be allowed within 1 mile of sage-grouse leks (4-75).

Solid leasable minerals (coal): almost all priority habitat would remain suitable for both surface and subsurface coal mining (2-115, Table 2.1, MA-MIN-7); disturbance associated with mining could negatively impact sage-grouse, including allowable surface disturbance associated with subsurface mining (e.g., inadequate 1-mile lek buffer) (4-76). (The preferred alternative appears to prescribe a more accommodating standard for new subsurface coal mining in priority habitat [facilities may be sited within 1 mile of leks, 2-118, Table 2.1, MA-MIN-8] than for new facilities associated with existing subsurface mining on current leases [place any new appurtenant facilities outside of priority habitat, 2-122, Table 2.1, MA-MIN-11].) Surface mining associated with new and existing leases would continue to impact sage-grouse in the Emery Population Area (4-76).

Locatable minerals: priority habitat would be available for mineral entry where not already withdrawn from entry (2-123, Table 2.1, MA-MIN-13). Applicants would be encouraged to comply with voluntary conservation measures to reduce impacts of development on sage-grouse (4-76).

Mineral materials: priority habitat would be closed to commercial extraction; noncommercial use could occur within 0.25 miles from a road (4-76).

	<p>Rights-of-way: new linear, above-ground rights-of-way would be excluded within 4 miles of active leks in priority habitat; areas beyond 4 miles from active leks in priority habitat would be “avoidance areas” for new above-ground linear rights-of-way (4-80). Site-type rights-of-ways would be “avoided” in priority habitat, but could be located as close as 1 mile from active leks (4-80).</p> <p>Travel management: motorized travel would be limited to either existing or designated routes in sage-grouse habitat (2-88, Table 2.1, MA-TTM-1). The Utah DRMPA/DEIS also indicates that new roads would be “avoided” in priority habitat (4-80). It is unclear if this general prescription is only intended to accommodate road upgrades and realignments, and access to valid existing rights (2-91 – 2-92, Table 2.1, MA-TTM-6 – MA-TTM-7), or other, additional road construction.</p>
Identify ² and protect sage-grouse winter habitat (Braun et al. 2005, <i>citing</i> Connelly et al. 2000 and others; Moynahan et al. 2007).	<p>Winter habitat has been identified (3-8) and mapped (3-10, Table 3.1; Map 1.1). Discrete anthropogenic disturbances and disruptive activities would be seasonally restricted in wintering areas in priority habitat (2-28, Table 2.1, MA-GRSG-5), including surface occupancy associated with development of unleased fluid minerals (K-13). However, the BLM could also grant exceptions to the seasonal restriction on disturbance in winter habitat (2-30, Table 2.1, MA-GRSG-5). Federal agencies would be required to consult with the State of Utah to design vegetation treatments in winter habitat (2-61, Table 2.1, MA-FIRE-3). The protective 4-mile lek buffer for active leks in priority habitat would protect more than 50 percent of winter habitat from land uses such as development of unleased fluid minerals (4-77) and new rights-of-way (4-80).</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 ³ (SGNTT 2011: 7; Knick et al. 2013 ⁴). ⁵	<p>“Manage or restore [priority habitat] so that at least 50 percent of the landscape (mapped occupied habitat within a population area) provides sagebrush cover to meet [sage-grouse] needs” (2-11, Table 2.1). It is unclear why the preferred alternative would settle for such a low bar. Most of the population areas currently have greater than 70 percent cover in mid- and late-seral sagebrush steppe (4-84, Table 4.9). Mid-/late-seral sagebrush cover currently averages 57 in all population areas, which is estimated to increase to 60 percent in ten years and 66 percent in 50 years under the preferred alternative (4-84, Table 4.9).</p>
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-	<p>“Restore historical habitat to support [sage-grouse] populations to maintain or enhance connectivity. Vegetation treatments may be applied to meet [sage-grouse] habitat objectives and provide additional [sage-grouse] habitat. Discrete anthropogenic disturbances should not be authorized in areas that have been previously treated with the intent of improving or creating new [sage-grouse] habitat” (2-37 – 2-38, Table 2.1,</p>

² 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.

³ 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.

⁴ Seventy-nine percent of the area within 5 km of active sage-grouse leks was in sagebrush cover.

⁵ See also Karl and Sadowski (2005): 15.

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 is preferred for restoring these areas over active restoration methods.		MA-GRSG-8). Map 3.2-3 depicts sage-grouse historic range in Utah.
<i>Specially Designated Sage-Grouse Habitat</i>		
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), ⁶ 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. ⁷ 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. ⁸ 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.).		Alternative C would designate 2,233,800 acres as ACECs and Zoological Areas; the preferred alternative would not specially designate any new sagebrush reserves to conserve sage-grouse (2-148, Table 2.1, MA-ACEC-1).
<i>Fluid Minerals Development (unleased)</i>		
NTT Report Recommendations		Utah DRMPA/DEIS (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).
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).
		Surface occupancy associated with development of unleased fluid minerals would be prohibited within 4 miles of active sage-grouse leks (2-133, Table 2.1, MA-MIN-19), although exceptions would be available for this stipulation (K-12 – K-13). Surface occupancy associated with development of unleased fluid minerals in areas outside of sage-grouse habitat, but within 1-mile of an occupied lek in priority habitat, would also be prohibited (2-133, Table 2.1, MA-MIN-19); exceptions would also be available for this stipulation (K-12).
		There is no cap for development density in the preferred alternative. Disturbance would be managed so that discrete disturbances would cover less than 5 percent “of total [sage-grouse] habitat” within a “biologically based disturbance calculation area” within a priority management area (2-3; 2-21, Table 2.1, MA-GRSG-4). Development could exceed 1 site per section under this general disturbance limit.

⁶ 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).

⁷ More than 350 species of conservation concern occur in sagebrush steppe (Wisdom et al. 2005a: 21 and App. 2).

⁸ See Sage-Grouse Recovery Alternative for criteria for designating sagebrush reserves, p. 50 (www.sagebrushsea.org/pdf/Sage-Grouse_Recovery_Alternative.pdf).

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).	Disturbance associated with development of unleased fluid minerals could not exceed 5 percent of sage-grouse habitat within the disturbance calculation area within a priority management area (2-21, Table 2.1, MA-GRSG-4), and exceptions to the cap may be available in some circumstances (K-16).
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).	The 4-mile no surface occupancy lek buffer against disturbance associated with development of unleased fluid minerals would protect more than 50 percent of sage-grouse wintering areas in the planning area (4-77) (where not granted an exception). Development would also be seasonally restricted in sage-grouse wintering areas (K-13). The Utah DRMPA/DEIS acknowledges that some development could occur in winter habitat under the preferred alternative (4-77).
Livestock Grazing			
<p>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.</p> <p>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.</p> <p>Management plans should:</p> <ol style="list-style-type: none"> 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 (<i>Bromus tectorum</i>) (Reisner et al. 2013). 3. Facilitate voluntary grazing permit retirement in sage-grouse priority habitat (see SGNTT 2011: 17). 		<p>Grazing would continue in priority and general habitat, with 329,521 active AUMs on BLM lands and 265,373 AUMs on National Forest System lands (2-65, Table 2.1, MA-GRA-1). Sage-grouse habitat objectives would be incorporated into allotment management plans or as grazing permits are renewed (2-67, Table 2.1, MA-GRA-2). Allotments would be evaluated using Utah's Rangeland Health Standards (2-68, Table 2.1, MA-GRA-4). Assessments would also include "appropriate indicators and protocols to assess the condition of sage-grouse habitat, considering objectives such as grass height (2-68, Table 2.1, MA-GRA-4). Ecological site description (and Forest Service equivalent) would also be used to determine desired plant community (2-68, Table 2.1, MA-GRA-4).</p> <p>The preferred alternative does not limit grazing utilization in sage-grouse habitat.</p> <p>The preferred alternative has a goal "[m]aintain[ing] or improv[ing] understory (grass, forb) and/or riparian condition within breeding and late brood-rearing habitats" (2-19, Table 2.1, MA-GRSG-3). "Desired cover percentages and heights for sagebrush, grasses, and forbs in seasonal habitats will be managed to meet habitat guidelines from scientific literature (e.g., Connelly et al. 2000 and Hagen et al. 2007), where such standards can be met. Adjustments from the guidelines may be made, but must be based on documented regional variation of habitat characteristics (e.g., sagebrush type, ecological site potential), quantitative data from population and habitat monitoring, and evaluation of local research" (2-12, Table 2.1, MA-GRSG-2; 2-50, Table 2.1, MA-VEG-9; 2-69 – 2-70, Table 2.1, MA-GRA-5).</p> <p>The Utah DRMPA/DEIS identifies invasive species as a planning issue (ES-7) and acknowledges that invasive plants harm sage-grouse chicks and degrade habitat (4-34; 4-33). The plan suggests that "over-grazing" can spread cheatgrass (4-33) and predicts that the occurrence of cheatgrass will decrease in sage-grouse population areas under the preferred alternative due to an estimated reduction in wildfire (4-85). The preferred</p>	

	<p>alternative would not specifically proscribe livestock grazing in areas of cheatgrass to avoid contributing to its incursion in sage-grouse habitat. Instead, the draft plan contends that “[i]ntense ‘flash’ grazing during the winter or early-late spring, while it’s still green, may control cheatgrass” (4-40).</p> <p>If grazing permits are offered for relinquished in priority habitat, the agencies(?) would “consider reassigning the available preference and forage allocation if the issuance of a grazing permit implements improved grazing management practices that will enhance and restore GRSG habitat” (2-83, Table 2.1, MA-GRA-22).</p>
<i>Climate Change Effects</i>	
<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>Impacts from climate change are identified as a management issue in the Utah DRMPA/DEIS (ES-6; 1-14). The draft plan also acknowledges Secretarial direction to evaluate climate change risks and vulnerabilities on Interior agency operations and mission in management plans (3-40). The plan incorporates climate change information from draft and final Rapid Ecological Assessments that cover Utah, noting significant effects on temperatures and weather (3-41 – 3-48). Climate change contributes to the spread of invasive species (3-152) and alters fire ecology. Larger, more destructive fires degrade and eliminate sage-grouse habitat (3-48; <i>see also</i> 3-54, <i>citing</i> UDWR 2009; 3-65). Climate change could increase soil erosion and conifer encroachment in sage-grouse population areas (4-106). Entire population areas could be lost due to climate-driven cheatgrass-fueled wildfire (4-109).</p> <p>Although the Utah DRMPA/DEIS recognizes the importance of increasing habitat resiliency in the face of climate change (4-109), the preferred alternative does not propose a comprehensive program for managing the effects of climate change on sage-grouse habitat. In fact, it fails to adopt even simple measures to increase habitat resiliency, such as considering potential changes in climate when reseeding burned areas for restoration (i.e., collecting seeds from native plants adapted to warmer areas of sagebrush steppe) (2-52, Table 2.1, MA-VEG-14).</p>
<i>Wind Energy Development</i>	
<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>New wind energy development would be excluded in priority habitat (2-105, Table 2.1, MA-LAR-13; 2-155, Table 2.2). Areas outside of priority habitat but within 1 mile of active leks in priority habitat would also be excluded from wind energy development (2-105, Table 2.1, MA-LAR-13). Areas outside priority habitat but within 4 miles of active leks in priority habitat would be avoidance areas for wind energy development (not including the 1-mile exclusion zone) (2-105, Table 2.1, MA-LAR-13).</p>

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