North Dakota Greater Sage-Grouse Draft Resource Management Plan and Environmental Impact Statement	
Sage-Grouse Conservation Issue	**North Dakota Draft RMP/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 BLM manages only 33,030 acres of federal surface and 396,053 acres of federal mineral estate in southwestern North Dakota (ES-4, Table ES-1). BLM surface estate represents approximately 3 percent sage-grouse habitat in the planning area (ES-3). Preliminary priority habitat (priority habitat) for all alternatives includes 32,900 acres of surface estate, and 396,053 acres of subsurface ownership (ES-4, Table ES-1; 2-25, Table 2-3). Priority habitat encompasses 100 percent of the Breeding Bird Density map for sage-grouse in North Dakota (3-7) (which represents only 7 percent of total priority habitat in the planning area) (2-25, Table 2-3).
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[1] (SGNTT 2011: 23).	The preferred alternative would generally "protect [priority habitat] from anthropogenic disturbances that would reduce distribution or abundance of [sage-grouse]" (2-25, Table 2-3). Un-leased fluid minerals: surface occupancy associated development would be prohibited in priority habitat (2-12) (61,197 acres, 2-48, Table 2-5), *although the BLM could waive, modify or grant an exception to this stipulation* (C-8). The same measure would apply to BLM subsurface estate on split estate lands (2-38, Table 2-3). Existing leases for fluid minerals could be developed in accordance with general prescriptions on development density or disturbance, timing, noise and other effects; these stipulations do not limit density or disturbance in priority habitat, and BLM could waive, modify or grant exceptions to them (2-34 – 2-35, Table 2-3). Surface mining of coal in priority habitat would be considered unsuitable (2-12).[2] Travel would be restricted to existing roads until a travel management plan is completed that designates routes as either open or closed (2-25, Table 2-3). Priority habitat would be "avoidance" areas for new rights-of-way (except

[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.

[2] The ND DRMPA/EIS states that, under the preferred alternative, "[s]ubsurface coal mining disturbances and facilities would be allowed in [priority habitat] only if facilities could *not* be located outside these areas" (2-12, emphasis added). It appears that the use of "not" is erroneous here.

	for wind energy development) (2-46, Table 2-12; 4-54, Table 4-11); closed to mineral materials sales (2-37, Table 2-3) and non-energy mineral leasing (2-37, Table 2-3); and potentially available to locatable mineral development (2-36, Table 2-3). No lands are recommended for mineral withdrawal (2-12).
Identify[3] and protect sage-grouse winter habitat (Braun et al. 2005, *citing* Connelly et al. 2000 and others; Moynahan et al. 2007).	The plan defines "winter concentration areas" (Glossary-28), which are generally within priority habitat (ES-2; 1-2), but does not specifically identify winter habitat. The preferred alternative would proscribe fire and fuels management in "known winter range" (4-37).
Manage or restore sage-grouse habitat so that at least 70 percent of the land cover is sagebrush sufficient to meet sage-grouse needs[4] (SGNTT 2011: 7; Knick et al. 2013[5]).[6]	The preferred alternative would "protect [priority habitat] from anthropogenic disturbances that would reduce distribution or abundance of [sage-grouse]"; it would not require that at least 70 percent of land cover provides adequate sagebrush habitat for the species (2-25, Table 2-3).
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.	The plan includes cursory criteria for defining restoration areas (I-4), but does not otherwise designate, or specify a program for, restoration habitat.
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),[7] 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.[8] 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.[9] 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	The plan analyzed 32,900 acres (BLM priority habitat, surface) as a potential Greater Sage-Grouse Area of Critical Environmental Concern, but the preferred alternative does not propose to designate the ACEC (2-42, Table 2-3).

[3] 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.
[4] 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.
[5] Seventy-nine percent of the area within 5 km of active sage-grouse leks was in sagebrush cover.
[6] *See also* Karl and Sadowski (2005): 15.
[7] 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).
[8] More than 350 species of conservation concern occur in sagebrush steppe (Wisdom et al. 2005a: 21 and App. 2).
[9] *See* Sage-Grouse Recovery Alternative for criteria for designating sagebrush reserves, p. 50 (www.sagebrushsea.org/pdf/Sage-Grouse_Recovery_Alternative.pdf).

prioritized for grazing permit retirement and removal of infrastructure (unneeded oil and gas equipment, roads, range developments, fencing, etc.).			
***Fluid Minerals Development* (unleased)**			
	NTT Report Recommendations	**Sage-Grouse Ecology**	**North Dakota Draft RMP/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] Surface occupancy associated with fluid minerals development would be prohibited in priority habitat (2-12) (61,197 acres, 2-48, Table 2-5), although BLM could waive, modify or grant an exception to this stipulation (C-8). The stipulation would also apply to BLM subsurface on split estate lands (2-38, Table 2-3). [leased] General prescriptions—but no maximum limitations—on development density or disturbance, timing, noise and other effects, which BLM could also waive, modify or grant an exception (2-34 – 2-35, Table 2-3).
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).	[leased] General prescriptions—but no maximum limitations—on development density or disturbance, timing, noise and other effects, which BLM could also waive, modify or grant an exception (2-34 – 2-35, Table 2-3).
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).	[leased] General prescriptions—but no maximum limitations—on development density or disturbance, timing, noise and other effects, which BLM could also waive, modify or grant an exception (2-34 – 2-35, Table 2-3).
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).	[leased] General prescriptions—but no maximum limitations—on development density or disturbance, timing, noise and other effects, which BLM could also waive, modify or grant an exception (2-34 – 2-35, 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:			Ecological site descriptions would be utilized in land health assessments (2-29, Table 2-3), along with locally developed objectives (2-29, Table 2-3). Connelly et al. (2000) and Hagen et al. (2007) are listed among references for habitat recommendations in the conservation alternative, but not the preferred alternative, even though the preferred alternative would "incorporate[] the best available science" in habitat objectives (2-29, Table 2-3). The preferred alternative claims sage-grouse habitat objectives will not always be the same as ecological site potential (in contrast, the

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).	conservation alternative would manage sage-grouse habitat in priority habitat consistent with ecological site potential). Livestock use would be limited to 25 percent of average annual forage production (2-29, Table 2-3). Grazing management in priority habitat would incorporate North Dakota sage-grouse habitat objectives (2-29, Table 2-3). The Management Plan and Conservation Strategies for Greater Sage-Grouse in North Dakota, although still draft (November 2013), describes desired habitat features for sage-grouse, including grass height (MPCSGSGND 19, Table 5) that could be used to plan grazing management in sage-grouse habitat (MPCSGSGND 18-19).[10] Cheatgrass is present (3-22) and increasing in the planning area (3-25) (although it appears to fluctuate based on weather, 3-25). The plan notes that cheatgrass is negative for sage-grouse (3-26) and that efforts to reduce cheatgrass incursion would promote healthy plant communities (4-65). The plan acknowledges that cheatgrass can be spread by "over-grazing" (3-23) or "improper" grazing (3-25), but the preferred alternative would not control grazing where cheatgrass is present. The MPCSGSGND also would not limit or restrict grazing in areas of cheatgrass incursion. The preferred alternative would not facilitate voluntary grazing permit retirement (2-29, Table 2-3).
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 ND DRMP/EIS lists climate change as a planning issue for sage-grouse habitat (ES-7, Table ES-2; 1-9). Climate change is expected to affect sage-grouse by, for example, worsening the threat of disease (5-10, *citing* Manier et al. 2013), increasing fire frequency in the planning area (5-16), and contributing to the conversion of sagebrush steppe to grasslands (5-22, 5-24). Although the plan proposes a few conservation measures related to climate change (e.g., managers should consider climate change in restoration and post-fire seedings in priority habitat (2-41 – 2-42, Table 2-3)), it is without a comprehensive program for increasing habitat resiliency to climate change.

[10] The Management Plan and Conservation Strategies for Greater Sage-Grouse in North Dakota references an "Attachment I" that apparently includes management objectives for sage-grouse habitat, but the attachment was not included in the draft document.

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).	
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.	New wind energy authorizations would be excluded in priority habitat (2-12; 2-27, Table 2-3); general habitat would be open to wind energy development (2-27, Table 2-3).
Sage-Grouse Recovery Alternative	
Conservation organizations submitted the Sage-Grouse Recovery Alternative as a complete alternative to be analyzed and considered in management plans affecting sage-grouse in accordance with the National Environmental Policy Act (42 U.S.C. §§ 4321- 4347). The recovery alternative seeks to maintain and increase sage-grouse abundance and distribution by conserving, enhancing and restoring sagebrush steppe. It is comprehensive, reasonable and feasible to implement, and prescribes scientifically valid conservation measures to provide the best opportunity to conserve and recover sage-grouse.	The ND DRMPA/EIS includes an alternative (Alternative C) based on recommendations submitted by "individuals and conservation groups…for protection and conservation of [sage-grouse] and habitat at the range-wide level," although the prescriptions were modified based on "resource allocation opportunities and internal sub-regional BLM input…" (ES-12). The Sage-Grouse Recovery Alternative is unrecognizable from the prescriptions in Alternative C.

For more information, please contact Mark Salvo, Director, Federal Lands Conservation, Defenders of Wildlife at msalvo@defenders.org.