

Lander Field Office Resource Management Plan
 Greater Sage-Grouse National Technical Team Report Conformance Review

National Technical Team (NTT) Report Conservation Measures							Lander Resource Management Plan (RMP) Conformance			
No.	NTT Pg.	Program Areas	Program Activity	Management Action	Habitat	NTT Conservation Measures	Addressed in RMP	Reference	Lander Comment	Reviewers' Comments
Travel and Transportation Management										
1	11	Travel/Trans	General	RMP-Allocation	PHA	Limit motorized travel to designated roads, primitive roads, and trails at a minimum. Provide a range of alternatives: one alternative limited to existing roads, another to require road closure(s), etc.	Partially	6044 Travel Management Appendix	Travel is limited to existing and designated roads as an interim steps. During implementation, roads will either be designed or closed. Limit motorized travel to existing roads, primitive roads, and trails at a minimum, until such time as travel management planning is complete and routes are either designated or closed.	
2	11	Travel/Trans	General	RMP-MA	PHA	Complete activity level plans within five years of the record of decision.	Partially	MA 6044 Travel Management Appendix	Implementation planning for travel management will be done following the ROD. Implementation planning will occur across several portions of Core Area within 5 years of the record of decision; still others will occur after this deadline. Core Area, in general, will be high priority for travel implementation. App. V projects that initial travel planning will be completed 11 years after the signing of the ROD. These projections are based on existing staffing levels, data needs, and complexity of planning issues associated with implementing travel plans for these areas.	
3	11	Travel/Trans	General	RMP-MA	PHA	Use existing roads, or realignments as described above to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary, and add the surface disturbance to the total disturbance in the priority area. If that disturbance exceeds 3 % for that area, then make additional, effective mitigation necessary to offset the resulting loss of sage - grouse habitat (see Objectives).	Partially	6017, 6021, 4098, 4099 and see Best Management Appendix for designing ROW to limit disturbance.	Yes. One alternative looked at 2.5%; proposed plan can apply disturbance cap on subunits. See MA 4097 (below) for Proposed Plan	
							Proposed Plan	BMP Appendix at page 7	“Design roads to minimize total disturbance to the smallest amount possible and to the lowest standard while meeting road objectives or purpose including safety. Establish speed limits that will reduce vehicle speed to reduce sage-grouse mortality.”	
							Proposed Plan:	4098 provides:	“If the new disturbance for a ROW in sage-grouse Core Area coupled with existing disturbance would exceed 3% for that area, then additional effective mitigation necessary to offset the resulting loss of sage-grouse habitat. Interim reclamation following construction of the ROW and final reclamation following the relinquishment of the ROW will ensure reestablishment of the pre-disturbance sage-grouse habitat with the reclamation bond amount set in consideration of this reclamation obligation.”	
							Proposed Plan:	Co-location is preferred under all alternatives (6017):	The preferred location for new ROWs and access route authorizations is in areas already disturbed by existing ROWs. See Best Management Appendix for design constraints to limit surface disturbance associated with new ROWs. Locate linear ROWs such as fiber optic and low-voltage powerline corridors along currently established road systems (e.g., interstate or state highways and county roads). See Best Management Appendix for design constraints to limit surface disturbance associated with new ROWs.”	
							Proposed Plan:	Co-location is mandatory unless proponent shows it is unfeasible: MA 6021	“ROWs outside of designated corridors are co-located in existing disturbance unless proponent establishes that co-location is not possible or it otherwise minimizes adverse impacts to other resources.”	
4	12	Travel/Trans	General	RMP-MA	PHA	Allow no upgrading of existing routes that would change route category (road, primitive road, or trail) or capacity unless the upgrading would have minimal impact on sage grouse habitat necessary for safety, or eliminates the need to construct a new road.	Partially	6017	While limitation on roads can be achieved, it is not possible to totally restrict ROWs in 70% of the planning area as this would be inconsistent with the policy objectives for the area by preventing right-of-way uses across a very large area in the absence of resource conflicts or when any such conflict can be avoided by imposing less restrictive	

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									measures.	
							Proposed Plan	MA 6017	The preferred location for new ROWs and access route authorizations is in areas already disturbed by existing ROWs. See Best Management Practices Appendix for design constraints to limit surface disturbance associated with new ROWs. Locate linear ROWs such as fiber optic and low-voltage powerline corridors along currently established road systems (e.g., interstate or state highways and county roads). See BMP Appendix for design constraints to limit surface disturbance associated with new ROWs. Identify opportunities to reclaim duplicative ROWs or those no longer in current use.	
5	11	Travel/Trans	General	RMP-MA	PHA	Limit route construction to realignments of existing designated routes if that realignment has a minimal impact on sage -grouse habitat, eliminates the need to construct a new road, or is necessary for motorist safety	Yes	6020 and 6021 and BMP appendix and general NEPA analysis.	New route construction not totally precluded as this would be inconsistent with the policy objectives for the area by preventing right-of-way uses across a very large area in the absence of resource conflicts or when any such conflict can be avoided by imposing less restrictive measures.	
							Proposed Plan	BMP at page 8	“Close and rehabilitate duplicate roads and ROWs no longer being utilize. When reseeded restoring original landform and establishing desirable vegetation, use appropriate seed mixtures or transplants as provided above and in the Reclamation Appendix.: as this would be inconsistent with the policy objectives for the area by preventing right-of-way uses across a very large area in the absence of resource conflicts or when any such conflict can be avoided by imposing less restrictive measures.	
6	12	Travel/Trans	General	RMP-MA	PHA	Conduct restoration of roads, primitive roads and trails not designated in travel management plans. This also includes primitive route/roads that were not designated in WSAs and within lands with wilderness characteristics that have been selected for protection.	Yes	Travel management Appendix V	Restoration practices and techniques associated with route features not designated in a travel management plan will be addressed within the Travel implementation plan, and will be subject to site specific considerations.	
7	12	Travel/Trans	General	RMP-MA	PHA	When reseeded roads, primitive roads and trails, use appropriate seed mixes (appropriate for sage-grouse ecological conditions) and consider the use of transplanted sagebrush.	Yes	Reclamation and BMP appendices		
8	11	Travel/Trans	General	Implementation Guidance	PHA	Travel management should evaluate the need for permanent or seasonal road or area closures. Identify permanent or seasonal closure areas for sage grouse.	Yes	4063, 4074, 4094, 4095, 6034, 6038, 7146, Appendix V See MA 6039	Disturbance and disruption are seasonally limited. Portions of Core Area have seasonal limitations while other areas may gain seasonal and permanent road closures through implementation planning. Certain areas are closed to motorized use for recreational purposes that also are protective of sage-grouse.	
9	11	Travel/Trans	General	BMP	PHA	During activity level planning, where appropriate, designate routes with current administrative/agency purpose or need to administrative access only. Criteria for travel planning	Yes	6045	This is standard practice associated with a travel management implementation plan.	
							Proposed Plan	MA 6045	“Prohibit cross-country motorized travel in all areas with limited and closed travel management designations (Map 110), with the following exceptions and supplementary stipulations: -BLM authorization to exercise valid existing rights -Any non-amphibious registered motorboat -Any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes -Any vehicle whose use is expressly authorized by the Authorized Officer, or otherwise officially approved -Vehicles in official use -Any combat or combat support vehicle when used in times of national defense emergencies”	
Recreation										
10	12	Recreation	Special Recreation Permits	RMP-MA	GHA/PHA	Only allow SRPs that have neutral or beneficial affects to priority habitat areas. Plan level actions may need to be identified.	Mostly	6075	SRP uses are constrained by management actions including TLS, CSU, motorized-vehicle travel. SRP activity is varied. NEPA for SRPs considers impacts to sage-grouse and identifies appropriate mitigation.	
							Proposed Plan	MA 6075	“Continue to allow for all recreation activity types in areas allocated as an SRMA or RMZ unless otherwise specified in this land use plan or a subsequent activity level plan. Authorize Special Recreation use Permits (SRPs) in greater sage-grouse Core Area only	

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									which will have neutral or beneficial impacts to sage-grouse.”	
Lands/Realty										
11	12	Lands/Realty	ROWs	RMP-Allocation	PHA	Make priority sage-grouse habitat areas exclusion areas for new ROWs permits. Consider the following exceptions:	Yes	4094, 6022, 6024, 7145 (the 3age-grouse REA area.)	Management for other resources such as the historic trails are also avoidance and exclusion areas.	
							Proposed Plan	MA 4094	“Prohibit surface-disturbing or surface occupancy on or within a 0.6-mile radius of the perimeter of occupied greater sage-grouse leks in Core Area and on or within a ¼-mile radius of the perimeter of occupied greater sage-grouse leks outside Core Area. (Map 65).”	
							Proposed Plan	MA 6023	“Manage 1,047,966 acres as ROW avoidance areas (Map 104).”	
							Proposed Plan	MA 6024	“Manage 829,332 acres as ROW exclusion areas (Map 104).”	
						Within designated ROW corridors encumbered by existing ROW authorizations, new ROWs may be co-located within the designated corridors.	Yes	4094 6023	MA 4094 is provided under line just above.	
							Proposed Plan	MA 4094	“The following corridors are designated as corridors for major ROW development (Map 108). (These corridors meet corridors in the Casper Field Office and Rawlins Field Office appropriately). (Note: specific corridor descriptions are omitted.)	
						Subject to valid existing rights including non-federal land inholdings: co where it best minimizes sage-grouse impacts. Use existing roads, or realignments as described above, to access valid existing rights that are not yet developed. Exception: If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary, and add the surface disturbance to the total disturbance in the priority area. If that disturbance exceeds 3% for that area, then make additional effective mitigation necessary to offset the resulting loss of sage -g such a ROW is subsequently relinquished, the Authorized Officer will require the holder to complete reclamation with objective of ensuring reestablishment of prior affected sage-grouse habitat.	Mostly	6017, 6020, 6021, 4098	All ROWs should be co-located (6017) unless technically unfeasible. The burden is on the proponent to show that the ROW cannot be co-located (2020A) Corridors for major ROWs have been designated; while ROWs outside those corridors will be considered (unless an area is otherwise avoided or excluded), the burden is on the proponent to show that the designated corridor cannot be made to work. (MA 6020A). Disturbance above 3% requires additional mitigation.	
							Proposed plan:	MA 4098	“If the new disturbance for a ROW in sage-grouse Core Area coupled with existing disturbance would exceed 3% for that area, then additional effective mitigation necessary to offset the resulting loss of sage-grouse habitat. Interim reclamation following construction of the ROW and final reclamation following the relinquishment of the ROW will ensure reestablishment of the pre-disturbance sage-grouse habitat with the reclamation bond amount set in consideration of this reclamation obligation.”	
12	13	Lands/Realty	ROWs	RMP-Allocation	GHA/PHA	Make general sage-grouse habitat areas “avoidance areas” for new ROWs. Develop criteria that would be used to determine if a proposed ROW could be sited in an avoidance area or not.	Mostly.	0.25 miles around leks in GHA and almost all of Core Area is closed.	70% of the field office is Core Area; 29% is GHA. It is not reasonable to avoid or exclude 99% of the field office for new ROWs. Some GHA is protected by lek exclusion areas and protection for other wildlife and cultural resources. See map.	
							Proposed Plan:	MA 6023 MA 6024	“Manage 1,047,966 acres as ROW avoidance areas (Map 104).” “Manage 829,332 acres as ROW exclusion areas (Map 104).”	
13	13	Lands/Realty	ROWs	RMP-MA	GHA/PHA	Where new ROWs are necessary, co-locate new ROWs within existing ROWs where possible.	Yes	6017		
							Proposed Plan	MA 6017	“The preferred location for new ROWs and access route authorizations is in areas already disturbed by existing ROWs. See Best Management Appendix for design constraints to limit surface disturbance associated with new ROWs. Locate linear ROWs such as fiber optic and low-voltage powerline corridors along currently established road	

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									systems (e.g., interstate or state highways and county roads). See Best Management Appendix for design constraints to limit surface disturbance associated with new ROWs."	
14	13	Lands/Realty	ROWs	Planning Direction Note	PHA	While engaged in this sage-grouse EIS planning process, relocate existing designated ROW corridors crossing priority sage-grouse habitat void of any authorized ROWs, outside of the priority habitat area. If relocation is not possible, un-designate that entire corridor during the planning process.	Yes	6020, 6021, 6022	All designated corridors have existing development of the type being authorized (above or below ground.)	
								MA 6022	"The following corridors are designated as corridors for major ROW development (Map 108). (These corridors meet corridors in the Casper Field Office and Rawlins Field Office appropriately). -Lost Creek Spur: below ground -Lost Creek: above and below ground -Pathfinder: below ground -Sand Draw to Casper: above and below ground -Highway 20/26: above and below ground -Beaver Creek North: below ground -Shoshoni/Badwater: below ground -Bairoil: above and below ground"	
15	13	Lands/Realty	ROWs	BMP	PHA	Evaluate and take advantage of opportunities to remove or modify existing power lines within priority sage-grouse habitat areas. When possible, require perch deterrents on existing or new overhead facilities.	Yes	6020, 6021, 4102, 4105, 4106	MA 6020 is provided above.	
							Proposed Plan	MA 4105	"To minimize raptor use, require anti-perching devices on new overhead powerlines in greater sage-grouse Core Area. Require anti-perching devices on new overhead powerlines and wind energy met towers in prairie dog, mountain plover, and pygmy rabbit habitats on a case-by-case basis. Work with ROW holders to install anti-perching devices on existing powerlines in these habitats"	
							Proposed Plan	MA 4106	"Same as Alternative A plus evaluate and take advantage of opportunities such as the renewal of existing ROWs to remove or modify existing power lines, prioritizing sage-grouse Core Area."	
16	13	Lands/Realty	ROWs	BMP	PHA	Where existing leases or ROWs have had some level of development (road, fence, well, etc.) and are no longer in use, reclaim the site by removing these features and restoring the habitat. Within designated priority habitat, reclaim by removing these features and restoring the habitat of these ROW that are no longer in use	Yes	6017	Habitat restoration for sage-grouse required in final reclamation (for all authorized activities, not just ROWs or leases).	
							Proposed Plan	MA 6017	"Identify opportunities to reclaim duplicative ROWs or those no longer in current use."	
17	13	Lands/Realty	Land Tenure Adjustments	RMP-Allocation	PHA	Retain public ownership of priority sage-grouse habitat. Consider exceptions where:				
						Disposal Criteria: There is mixed ownership, and land exchanges would allow for additional or more contiguous federal ownership patterns within the priority sage-grouse habitat area	Yes	6005		
							Proposed Plan	MA 6005	"No parcels within an NLCS unit or an ACEC or in sage-grouse Core Area are identified for disposal unless the disposal would benefit the goals and objectives of the area's priority values or other important resource values. (In the 1987 RMP, parcels in NLCS units were identified for disposal but Alternative A management is to retain all parcels in these areas.) Acquire lands in areas with mixed ownership and where land exchanges would result in additional or more contiguous federal ownership patterns or would improve management for the benefit of priority resources."	
						Disposal Considerations: Under priority sage-grouse habitat area	Proposed Plan	MA 4078	Note: There are no areas of priority habitat with minority federal ownership, so this	

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						with minority federal ownership, include an additional, effective mitigation agreement for any disposal of federal land. As final preservation measures consider identifying and pursuing off-site compensation/mitigation or the establishment of a conservation easement.	Plan		measure is not triggered. However, impacts to greater sage-grouse would be analyzed and mitigation measures such as conservation easements would be applied. See, for example, MA 6008 which identifies lands for disposal with restrictions. MA 4078 applies this requirement to disposal in Core Area.	
							Proposed Plan	MA 4078	1,435 acres of BLM-administered land are available for disposal with restrictions on use (Map 95) including off-site compensation or mitigation including the establishment of a conservation easement.	
18	14	Lands/Realty	Land Tenure Adjustments	RMP-MA	PHA	Where suitable conservation actions cannot be achieved, seek to acquire state and private lands with intact subsurface mineral estate by donation, purchase or exchange in order to best conserve, enhance or restore sage-grouse habitat.	Yes	6005	See MA 6005 provided under No.20 above.	
19	13	Lands/Realty	Proposed Land Withdrawals	RMP-MA	PHA	Recommend withdrawal of 3809 mineral lands within priority sage grouse habitat areas based upon the size of the priority habitat areas. In proposed large withdrawals, the analysis that must be made is a review of the adequacy of application of the 43 CFR 3809 surface management regulations with mitigating impacts, consistent with whatever cumulative disturbance threshold is allowed in a particular priority habitat area. Such an analysis should clearly demonstrate that application of the 3809 surface management regulations could not adequately control and mitigate impacts when considering the priority habitat areas as a whole.	Partially	2007	Alternative B analyzed 1,632,605 acres to recommend as proposed for withdrawal from locatable mineral entry, of which approximately 75% was in Core Area; the balance is in GHA. The Proposed Plan pursues a withdrawal of 23% of Core Area specifically for the protection of sage grouse as well as an additional acres for the benefit of other resources. A total of 467,425 acres are withdrawn under the Proposed Plan almost all of which is in either priority or general habitat except 2400 acres in Dubois. The analysis in the withdrawal identifies the adequacy of the 43 CFR surface management regulations to mitigate impacts and identifies the manner in which the regulations would not adequately control and mitigate impacts when considering the priority habitat areas as a whole.	
							Proposed Plan	MA 2007	"Approximately 467,000 acres are pursued for withdrawal from locatable mineral entry (Map 24). (Approximately 8,634 acres are withdrawn in pre-FLPMA actions which would continue indefinitely.)"	
20	14	Lands/Realty	Proposed Land Withdrawals	RMP-MA	PHA	Recommend withdrawal proposals not associated with mineral activity unless the land management is consistent with sage grouse conservation measures. (For example; in a proposed withdrawal for a military training range buffer area, manage the buffer area with sage grouse conservation measures.)	Not applicable		No such situation exists in the Lander planning area.	
Range										
21	14	Range	General	RMP-MA	PHA	Within priority sage grouse habitat, incorporate sage grouse habitat objectives and management considerations into all BLM grazing allotments through AMPs or permit renewals.	Yes	6050		
							Proposed Plan	MA 6050	"Within greater sage-grouse Core Area, incorporate sage grouse habitat objectives and management considerations into all BLM grazing allotments containing sage-grouse habitat through AMPs or permit renewals."	
22	15	Range	Objective	RMP-MA	GHA/PHA	Develop specific objectives - through NEPA analysis conducted in accordance with the permit/lease renewal process - to conserve, enhance or restore priority sage-grouse habitat. Based on ESDs and assessments (including within wetlands and riparian areas). If an effective grazing system that meets sage-grouse habitat requirements is not already in place, analyze at least one alternative that conserves, restores or enhances sage-grouse habitat in the NEPA document prepared for the permit renewal (Doherty et al. 2011b, Williams et al. 2011).	Yes	6066, 6068,	Some portions of the planning area do not have ESDs and not all of the ESDs are correct. The objectives for sage grouse habitat is incorporated.	
							Proposed Plan	MA 6066	"Utilizing Best Management Practices (BMPs) such as those in Appendix H, develop and install range improvement projects necessary to implement comprehensive grazing management strategies leading to improved rangeland health or to enhance successful grazing management strategies (see Glossary) already in place. Benefits associated with	

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									the projected improvement in rangeland health should exceed the adverse impacts associated with the project infrastructure. Avoid projects that would expand grazing on the landscape without a clear link to a comprehensive grazing strategy and consideration of other resources.”	
							Proposed Plan	MA 6068	<p>“Prioritize completion of land health assessments and processing of grazing permits within sage-grouse Core Area and on allotments with riparian areas in failing condition. Emphasize allotments that have the best opportunities for riparian improvement or for conserving, enhancing or restoring habitat for sage-grouse.”</p> <p>“Work cooperatively with permittees, leases and other landowners to develop grazing management strategies to develop site specific objectives to conserve, enhance or restore sage-grouse Core Area and General Habitat Areas. Develop a grazing strategy to achieve these objectives.”</p>	
23	15	Range	Objective	RMP-MA	GHA/PHA	Base objectives on Ecological Site Descriptions (ESDs) and rangeland health assessments on both upland and riparian/wetland habitats. When existing Ecological Site Descriptions have not been developed, or are too general to serve adequately as benchmarks, identify and document local areas of similar potential that exemplify achievement of sage-grouse habitat objectives, and use these sites as the benchmark reference.	Yes	4018		
							Proposed Plan:	4018	<p>“Manage vegetation communities for vegetative attributes described in NRCS Ecological Site Guides and to meet identified vegetative goals.”</p> <p>“When existing Ecological Site Descriptions have not been developed, are too general, or are not correct to serve adequately as benchmarks, identify and document local areas of similar potential within each specific ecological site, that exemplify achievement of appropriate habitat objectives, and use these sites for the development of new reference sheets to be used as the benchmark reference. Establish measurable objectives related to sage-grouse habitat such as stubble heights.”</p>	
24		Range	Objective	RMP-MA	GHA/PHA	Establish measurable objectives related to sage-grouse habitat from baseline monitoring data, ecological site descriptions, or land health assessments/evaluations.	Yes	4018	See 4018 at Number 23	
25	15	Range	Objective	RMP-MA	PHA	Manage for vegetation composition and structure consistent with the Reference State (sometimes referred to as the Historic Climax Plant Community in older ecological site descriptions) described in the State and Transition Model developed for the relevant Ecological Site Description. Utilize the reference state in Ecological Site Descriptions (ESDs) as the site potential benchmark (and not just standards of range land health or proper function condition objectives) when conducting land health assessments to determine if standards of range-land health related to sage-grouse habitat are being met.	Yes	4018	See 4018 at Number 23	
26	14	Range	Objective	RMP-MA	GHA/PHA	Manage riparian areas and wet meadows to achieve or maintain diverse species richness that includes a component of perennial forbs in conjunction with desirable riparian sedges, rushes, bulrushes and grasses.	Yes (slightly modified)	4030		
							Proposed Plan:	4030	“Identify riparian management actions to promote biodiversity and develop an implementation plan to incorporate actions into BLM-authorized activities. Manage riparian areas and wet meadows to achieve or maintain diverse species richness that includes a component of perennial forbs in conjunction with desirable riparian sedges,	

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									the landscape without a clear link to a comprehensive grazing strategy and consideration of other resources.”	
30	14	Range	Monitoring and Assessments	RMP-MA	GHA/PHA	Prioritize completion of land health assessments and processing grazing permits within priority sage grouse habitat areas. Focus this process on allotments that have the best opportunities for conserving, enhancing or restoring habitat for sage grouse.	Yes	6069		
							Proposed Plan:	6069	Prioritize completion of land health assessments and processing of grazing permits within sage-grouse Core Area and on allotments with riparian areas in failing condition. Emphasize allotments that have the best opportunities for riparian improvement or for conserving, enhancing or restoring habitat for sage-grouse.	
31	15	Range	Monitoring and Assessments	RMP-MA	GHA/PHA	When conducting land health assessments include indicators and measurements of structure, condition and, composition of vegetation specific to achieving sage-grouse habitat objectives. If local/state seasonal habitat objectives are not available, use sage-grouse habitat recommendations from Connelly et al. 2000b and Hagen et al. 2007.	Yes	LR 10:2, and RH Standard #4 which all alternatives follow.		
							USFWS comment		Add specific sage-grouse habitat objectives in grazing strategies and rangeland management. LFO Response: Added with a reference to updating research.	
							Proposed Plan	6069	“When conducting land health assessments include indicators and measurements of structure, condition and, composition of vegetation specific to achieving sage-grouse habitat objectives. If local/state seasonal habitat objectives are not available, use sage-grouse habitat recommendations from Connelly et al. 2000b and Hagen et al. 2007 or as more recent research suggests.”	
							Proposed Plan	10:2 states: SHR #4	“Implement grazing strategies, including range improvement projects, to maintain or enhance vegetative communities and ecosystem functions and to achieve the Wyoming Standards for Healthy Rangelands and grazing objectives in cooperation, consultation, and coordination with permittees/lessees, cooperators and the interested public. Design all range projects in a manner that minimizes potential for invasive species establishment. Monitor for, and treat invasive species associated with existing range improvements.” SHR #4 states (see Appendix): “Rangelands are capable of sustaining viable populations and a diversity of native plant and animal species appropriate to the habitat. Habitats that support or could support threatened, endangered, species of special concern, or sensitive species will be maintained or enhanced. “This means that: “The management of Wyoming rangelands will achieve or maintain adequate habitat conditions that support diverse plant and animal species. These may include listed threatened or endangered species (U.S. Fish and Wildlife-designated), species of special concern (BLM-designated), and other sensitive species (State of Wyoming-designated). The intent of this standard is to allow the listed species to recover and be delisted.”	
32	14	Range	Monitoring and Assessments	RMP-MA	GHA/PHA	Monitor measureable objectives and evaluate grazing management to assure that management actions are achieving sage-grouse habitat objectives.	Yes	6054, 6057, 6069		
							USFWS Comment		Include statements that will commit the BLM to ensure that there is adequate monitoring and range evaluation activities [as] necessary to ensure long-term sage-grouse habitat objectives.	

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									Lander response: sage-grouse specific monitoring is limited to representative sites in the 70% of the planning area that is in Core Area. Requiring monitoring in GHA would require monitoring 99% of the planning area. WGF has the primary responsibility to monitor sage grouse. Rangeland health is assessed on a ten year cycle.	
							Proposed Plan	MA 6069	"In Core Area, monitor measurable objectives in representative sites and evaluate grazing management to assure that management actions are achieving sage-grouse habitat objectives."	
							Proposed Plan provides:	MA 6054 MA 6057	"Monitor precipitation and vegetative production trends on BLM-administered lands as a tool to understand impacts to soil, water, and vegetative resources." "Conduct grazing program monitoring (see Glossary) of allotments by focusing on Category I allotments in order of priority starting with those allotments that are in whole or in part in greater sage-grouse Core Area. The level of monitoring will be commensurate with the intensity of grazing and will require permittee monitoring for high intensity grazing. Modify BLM-authorized grazing use on an allotment-by-allotment basis to protect soil, water, vegetative resources and wildlife."	
33	16	Range	Range Project Infrastructure	RMP-MA	PHA	Authorize new water development for diversion from spring or seep source only when priority sage-grouse habitat would benefit on both upland and riparian habitat from the development or there are no negative impacts to sage grouse. This includes developing new water sources for livestock as part of an AMP/conservation plan to improve sage-grouse habitat.	Yes	4101, 6064	Part of the Comprehensive Grazing Strategy	
							Proposed Plan	MA 4101 Glossary for Comprehensive Grazing Strategy:	"Allow livestock water development projects in greater sage-grouse nesting habitat if the project will contribute to improved greater sage-grouse habitat, developments can be designed to be compatible with greater sage-grouse, and if they are part of a comprehensive grazing strategy. When fences are authorized, require a design that has the fewest adverse impacts to sage-grouse including features to reduce sage-grouse strikes and mortality. Remove, modify or mark fences in high risk areas." "A comprehensive grazing management strategy is a management approach that incorporates a documented grazing prescription that tailors the timing and intensity (utilization) of grazing to specific vegetation objectives in order to maintain, or make significant progress toward fulfillment of the Wyoming Standards for Healthy Rangelands. The grazing prescription is clearly linked to the physiological requirements of the species identified in the objectives and is considerate of other resource values (e.g. greater sage-grouse, critical wildlife habitats). Objectives are established for locations preferred by livestock. A Comprehensive Grazing Management strategy gives specific attention to the critical growing season on upland ranges and the hot season in riparian-wetland habitat. The kind and class of livestock along with the season of use will affect the timing and intensity requirements."	
34	16	Range	Range Project Infrastructure	RMP-MA	PHA	Modify existing springs, seeps developments and associated pipelines as necessary or when scheduled for reconstruction to maintain the continuity of the predevelopment riparian habitat.	Yes	6072		
							Proposed Plan	6072	"Evaluate existing project infrastructure in the development of comprehensive grazing management strategies. Identify projects that are no longer necessary, or that are contributing toward impacts to other resources, and modify or remove projects as appropriate to mitigate impacts in conjunction with Comprehensive Grazing Management Strategies."	
35	18	Range	Range Project Infrastructure	BMP	GHA/PHA	When conducting NEPA analysis for water developments or other rangeland improvements address the direct and indirect effects to sage-grouse populations and habitat.	Yes	6072 and standard NEPA analysis for any BLM special	6072 is quoted in the preceding line.	

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36	17	Range	Range Project Infrastructure	RMP-MA	GHA/PHA	Design any new structural range improvements to conserve, enhance, or restore sage-grouse habitat through an improved grazing management system relative to sage-grouse objectives. Structural range improvements, in this context, include but are not limited to: cattleguards, fences, enclosures, corrals or other livestock handling structures; pipelines, troughs, storage tanks (including moveable tanks used in livestock water hauling), windmills, ponds/reservoirs, solar panels and spring developments.	Yes	status species 4083, 4099 , 4101, 6066 and Comprehensive Grazing Strategy		
							Proposed Plan	MA 4083 MA 4101 MA 4102 MA 6074 MA 6066 Glossary for Comprehensive Grazing Strategy	<p>“In cooperation with stakeholders, design and locate fences so as not to disturb important greater sage-grouse habitat areas. Increase the visibility of existing fences to reduce hazards to flying greater sage-grouse. Require the installation of fence markers on new wire fences constructed in greater sage-grouse habitat to increase fence visibility and reduce collision potential.”</p> <p>“Allow livestock water development projects in greater sage-grouse nesting habitat if the project will contribute to improved greater sage-grouse habitat, developments can be designed to be compatible with greater sage-grouse, and if they are part of a comprehensive grazing strategy. When fences are authorized, require a design that has the fewest adverse impacts to sage-grouse including features to reduce sage-grouse strikes and mortality. Remove, modify or mark fences in high risk areas.”</p> <p>“New permanent, high-profile structures (higher than 12 feet) within greater sage-grouse nesting habitat will be allowed on a case-by-case basis. Require the installation of anti-perching devices on appropriate structures to reduce predation opportunities.”</p> <p>“Remove or modify fences and cattleguards on a case-by-case basis to facilitate livestock, wild horses, and wildlife movement and management.”</p> <p>“Utilizing Best Management Practices (BMPs) such as those in Appendix H, develop and install range improvement projects necessary to implement comprehensive grazing management strategies leading to improved rangeland health or to enhance successful grazing management strategies (see Glossary) already in place. Benefits associated with the projected improvement in rangeland health should exceed the adverse impacts associated with the project infrastructure. Avoid projects that would expand grazing on the landscape without a clear link to a comprehensive grazing strategy and consideration of other resources.”</p> <p>“A comprehensive grazing management strategy is a management approach that incorporates a documented grazing prescription that tailors the timing and intensity (utilization) of grazing to specific vegetation objectives in order to maintain, or make significant progress toward fulfillment of the Wyoming Standards for Healthy Rangelands. The grazing prescription is clearly linked to the physiological requirements of the species identified in the objectives and is considerate of other resource values (e.g. greater sage-grouse, critical wildlife habitats). Objectives are established for locations preferred by livestock. A Comprehensive Grazing Management strategy gives specific attention to the critical growing season on upland ranges and the hot season in riparian-wetland habitat. The kind and class of livestock along with the season of use will affect the timing and intensity requirements.”</p>	
37	-	Range	Range Project Infrastructure	RMP-MA	PHA	To reduce sage-grouse strikes and mortality, remove, modify or mark fences in high risk areas.	Yes	4039, 4083	4083 is quoted under #36	

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							Proposed Plan	MA 4039	“Remove or modify identified wildlife hazard fences that are adversely affecting wildlife where opportunities exist. Require wildlife escape ramps be installed in stock water troughs and tanks.”	
38	-	Range	Range Project Infrastructure	RMP-MA	PHA	Design all range projects in a manner that minimizes potential for invasive species establishment. Monitor for, and treat invasive species associated with existing range improvements	Yes	LR 10.2 and MA 4029		
							Proposed Plan:	LR: 10.2 MA 4029 MA 6072	“If the Authorized Officer determines that BLM-authorized activities are contributing to the spread of noxious or invasive species, adjust the terms of the authorized activity to aid in the control of the species.” “Implement grazing strategies, including range improvement projects, to maintain or enhance vegetative communities and ecosystem functions and to achieve the Wyoming Standards for Healthy Rangelands and grazing objectives in cooperation, consultation, and coordination with permittees/lessees, cooperators and the interested public. Design all range projects in a manner that minimizes potential for invasive species establishment. Monitor for, and treat invasive species associated with existing range improvements” “Evaluate existing project infrastructure in the development of comprehensive grazing management strategies. Identify projects that are no longer necessary, or that are contributing toward adverse impacts to other resources, and modify or remove projects as appropriate to mitigate impacts in conjunction with Comprehensive Grazing Management Strategies. Evaluate whether the infrastructure contributes to the introduction or spread of INNS, and develop mitigation (including removal of infrastructure)_ to reduce or eliminate weed infestation and spread.”	
39	17	Range	Range Project Infrastructure	RMP-MA	PHA	When developing or modifying water developments, use best management practices in this table’s BMP Section C: Locatable Minerals.	Yes	6066		
							Proposed Plan	MA 6066	“Utilizing Best Management Practices (BMPs) such as those in Appendix H, develop and install range improvement projects necessary to implement comprehensive grazing management strategies leading to improved rangeland health or to enhance successful grazing management strategies (see Glossary) already in place. Benefits associated with the projected improvement in rangeland health should exceed the adverse impacts associated with the project infrastructure. Avoid projects that would expand grazing on the landscape without a clear link to a comprehensive grazing strategy and consideration of other resources.”	
40	17	Range	Range Project Infrastructure	RMP-MA	GHA/PHA	Locate supplements (salt or protein blocks) in a manner designed to conserve, enhance or restore sage-grouse habitat.	Yes	6073		
							Proposed Plan:	6073	Prohibit placement of salt and mineral supplements, such as low moisture block supplements in the following areas: <ul style="list-style-type: none"> • within ½ mile of water and riparian-wetland areas and NHT, regional historic trails and early highways or as needed to protect setting, so long as impacts are not visible. • within 0.6 mile of the perimeter of greater sage-grouse leks • on areas being reclaimed Locate supplements (salt or mineral blocks) in a manner designed to conserve, enhance or restore sage-grouse habitat.	
41	17	Range	Retirement of Grazing Preference	RMP-MA	PHA	Retire grazing preference on a case by case basis when the advantage to sage grouse habitat warrants, and a permittee or lessee voluntarily relinquishes their grazing preference in a specific grazing allotment.	Yes	6064, 6063		
							Proposed Plan	6064	“Establish and manage future forage reserves as opportunities arise within the planning area on a voluntary basis or as lands are acquired “	

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								6063	“When livestock grazing permits are voluntarily relinquished, conduct a NEPA analysis to determine if resource benefits from closing the area to livestock grazing exceed the adverse impacts of closing the area to grazing. If resource benefits warrant, particularly in sage-grouse Core Area, close the area to livestock grazing.”	
42	18	Range	Retirement of Grazing Preference	RMP-MA	GHA/PHA	Authorize temporary use on a case by case basis in allotments where grazing preference has been relinquished or non-use warrants, to rest other allotments that include important sage-grouse habitat.	Yes	6066		
							Proposed Plan	6066	“Utilizing Best Management Practices (BMPs) such as those in Appendix H, develop and install range improvement projects necessary to implement comprehensive grazing management strategies leading to improved rangeland health or to enhance successful grazing management strategies (see Glossary) already in place. Benefits associated with the projected improvement in rangeland health should exceed the adverse impacts associated with the project infrastructure. Avoid projects that would expand grazing on the landscape without a clear link to a comprehensive grazing strategy and consideration of other resources.”	
43	15	Range	Monitoring and Assessments	RMP-MA	PHA	During drought periods, prioritize evaluating effects of the drought in priority sage-grouse habitat areas relative to their needs for food and cover. Since there is a lag in vegetation recovery following drought (Thurrow and Taylor 1999, Cagney et.al. 2010), ensure that post-drought management allows for vegetation recovery that meets sage-grouse needs in priority habitat areas.	Yes	6071		
							Proposed Plan	6071	Manage drought and post drought recovery periods for the maintenance and improvement of rangeland health, and the cover and forage needs of all grazing animals and wildlife.	
Wild Horse and Burro										
44	18	Wild Horse and Burro	Objective	RMP-MA	GHA/PHA	Manage wild horse and burro population levels within established Appropriate Management Levels (AML).	Yes	4113		
							Proposed Plan:	MA 4113	Conduct regular and periodic gathers when necessary to maintain a thriving natural ecological balance or when required by emergency to maintain the following initial Appropriate Management Level ranges (number of horses): -Antelope Hill Cyclone Rim: 60-82 -Conant Creek: 60-100 -Crooks Mountain: 65-85 -Dishpan Butte: 50-100 -Green Mountain: 170-300 -Muskrat Basin: 160-250 -Rock Creek Mountain: 50-86	
45	18	Wild Horse and Burro	Objective	RMP-MA	PHA	Prioritize gathers in priority sage-grouse habitat, unless removals are necessary in other areas to prevent catastrophic environmental issues, including herd health impacts.	Yes	4115	Note: all herd areas are at least partially in Core Area. Some are entirely in CA.	
							Proposed Plan:	MA 4115	Gather wild horses outside the established HMAs during routine periodic gathers (Map 68). Prioritize gathers in sage-grouse Core Area unless removals are necessary in other areas to prevent serious environmental issues including herd health impacts.	
46	-	Wild Horse and Burro	Objective	RMP-MA	GHA/PHA	Develop objectives, monitor and evaluate rangelands in the same manner described in the range section.	Mostly		Wild horse gathers are the mechanism used to control herd size which is the method to control impacts of wild horses on rangeland. Actual range condition is analyzed during livestock grazing permit renewals, based upon monitoring and land health assessment. Standard NEPA analysis for herd gathers and livestock grazing permit renewals both consider rangeland health standards. The need for wild horse gathers is established	

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									through inventory of horses numbers, which indirectly is a reflection of the rangeland condition.	
							Proposed Plan	MA 4121	Update the Herd Management Area Plan as needed to meet herd health objectives, including Appropriate Management Levels, and to address impacts to other resources. Consider forage competition and evaluate overall utilization levels by all grazing animals and incorporate greater sage-grouse habitat management objectives.	
								MA 4120	Evaluate all proposed range improvement projects to benefit wild horses for impacts to other resources and uses	
47	18	Wild Horse and Burro	Program Management	RMP-MA	PHA	Develop or amend herd management area plans (HMAPs) to incorporate sage-grouse habitat objectives and management considerations for all BLM herd management areas (HMAs).	Yes	4121		
							Proposed Plan	MA 4121	Update the Herd Management Area Plan as needed to meet herd health objectives, including appropriate management levels, and to address impacts to other resources. Consider forage competition and evaluate overall utilization levels by all grazing animals and incorporate sage grouse habitat management objectives.	
48	18	Wild Horse and Burro	Program Management	RMP-MA	PHA	Prioritize the evaluation of all AMLs based on sage-grouse habitat objectives.	Yes	4121	MA 4121 is in the immediately preceding record.	
49	18	Wild Horse and Burro	Proposed Activities	RMP-MA	GHA/PHA	Conduct land health assessments to determine existing structure/condition/composition of vegetation within all BLM HMAs.	Yes	LR 10.1		
							Proposed Plan	LR: 10.1	Continue to assess rangeland health on a 10-year cycle in accordance with the Wyoming Standards for Healthy Rangelands. Use rangeland health assessments to prioritize rangeland management.	
50	18	Wild Horse and Burro	Proposed Activities	BMP	PHA	When conducting NEPA analysis for wild horse and burro management activities, water developments or other rangeland improvements for wild horses in priority sage-grouse habitat, address (and apply conservation measures as appropriate) the direct and indirect effects to sage-grouse populations and habitat.	Yes	4120	Standard NEPA analysis considers direct and indirect impacts to SG and all special status species. MA 4120 indicates that fences are to be evaluated for removal, management that is supportive of SG.	
51	18	Wild Horse and Burro	Range Project Infrastructure	RMP-MA	PHA	Implement project infrastructure and vegetation treatments in the same manner described in the range section.	Yes	4120		
							Proposed Plan	MA 4120	"Maintain sufficient year-round water sources to sustain wild horses. Evaluate all proposed range improvement projects to benefit wild horses for impacts to other resources and uses."	
Fluid Minerals										
52	22	Fluid Minerals	Unleased Estate – Alternative A	RMP-Allocation	PHA	Close priority sage-grouse habitat areas to fluid mineral leasing. Upon expiration or termination of existing leases, do not accept nominations/expressions of interest for parcels within priority areas. Exception:	Addressed in one alternative but not the Proposed Plan	MA 2012	The proposed plan closes approximately 120,000 acres (MA 2012 plus Boysen Reservoir lands) to oil and gas leasing and limits surface occupancy in 306,630 acre plus 0.6 miles around leks in Core Area and 0.25 miles in GHA. All ACECs are NSO. There are major constraints including NSO and timing restrictions greater than six months for 1.18 million acres or approximately 40% of the field office. These limitations will be applied to areas currently leased if the lease should end.	
							Proposed Plan	MA 2012	Alternative B closes 2.28 million acres including all of priority habitat to leasing.	
							Yes			
						Where drainage is likely, the BLM may issue new leases with an NSO stipulation with appropriate exception waiver, and modification criteria.	Proposed	MA 2004	If drainage occurs in an area closed to oil and gas leasing, authorize leasing on a case-	

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							Plan		by-case basis with Category 4 (no surface occupancy) restrictions.	
53	22	Fluid Minerals	Unleased Estate – Alternative B	RMP-Allocation/RMP-MA	PHA	Close priority sage-grouse habitat areas to fluid mineral leasing. Consider an exception:				
							USFWS Comments	“Because of the very high value of the sage-grouse priority areas within the Lander resource area to sage-grouse conservation and because this area has relatively little resource development potential, the Service strongly recommends the BLM to adopt this conservation measure from the NTT Report, in full, and incorporate it into the Proposed Plan.”	Lander response: Approximately 50% of Core Area is subject to an NSO restriction and all Core Area is subject to the surface disturbance caps and restrictions of the Wyoming EO as achieving sage-grouse conservation requirements while still authorizing oil and gas leasing.	
						When an opportunity exists for the BLM to influence conservation measures where surface and/or mineral ownership is not entirely federally owned (e.g., checkerboard or other mixed and/or split-estate ownership). In this case, a plan amendment may be developed that opens the priority habitat area for new leasing. The plan must demonstrate a potential for long-term population increases in the priority habitat area through mitigation (prior to issuing the lease) including lease stipulations, off-site mitigation, etc., and avoid short-term losses that put the sage-grouse population at risk of extirpation from stochastic events leading to extirpation.	Not applicable	Most of LFO’s ownership is concentrated; there is no checkerboard. See Figure 3 for ownership.		
						Where drainage is likely, the BLM may issue new leases with an NSO stipulation with appropriate exception, waiver, and modification criteria. The BLM would consider granting an exception, modification, or waiver to this NSO only in collaboration with the state wildlife agency.	Yes	2004		
							Proposed Plan	2004	If drainage occurs in an area closed to oil and gas leasing, authorize leasing on a case-by-case basis with Category 4 (NSO) restrictions.	
54	22	Fluid Minerals	Leased or Unleased Estate	RMP-MA	PHA	Allow geophysical exploration within priority sage-grouse habitat areas to obtain information for existing Federal fluid mineral leases or areas adjacent to state or fee lands within priority sage-grouse habitat areas. Allow geophysical operations only using helicopter-portable drilling, wheeled or tracked vehicles on existing roads, or other approved methods conducted in accordance with seasonal timing limitations and other restrictions that may apply.	Yes	2014	Analyzed closing all Core Area to geophysical. Final RMP allows geophysical except where an area is closed to leasing or subject to a major constraint as well as where other limitations on mineral activities apply such as withdrawn from locatable mineral entry for recreation (MA 6081) or has management protections for other resources such as the historic trails (MA 7008)	
							Proposed Plan	MA 2014	The planning area is open to geophysical exploration except for lands identified as closed to mineral leasing or NSO to oil and gas leasing. Geophysical exploration is subject to motorized travel limitations and restrictions on surface-disturbing and disruptive activities.	
55	22	Fluid Minerals	Leased Estate	RMP-MA	PHA	In cases where Federal oil and gas leases have been issued without adequate stipulations for the protection of sage-grouse or their habitats being provided in the applicable RMP decision, as revised or amended, consider their inclusion as permit Conditions of Approval (COAs) when approving exploration and development activities through completion of the environmental record of review (43 CFR 3162.5), including appropriate documentation of compliance with NEPA.	Yes	BMP appendix under “mineral development” and “facilities”.	COAs are applied in the review of APDs. While the BLM can make post-lease modifications to the terms, see Yates Petroleum, 176 IBLA 144 (2008), the authority is limited and the BLM must consider valid existing rights. Consequently, analysis of applying NSO stipulations to all leased parcels in Core Area was not analyzed in detail since it would require a site-specific analysis to determine if GSG protections including NSO stipulations would be appropriate. This determination could not be made at a planning area wide scale.	
						Overall consideration shall be given to minimizing the impact to				

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						<p>sage-grouse through a project design that avoids, minimizes, reduces, rectifies, and/or adequately compensates for direct and indirect impacts to sage-grouse habitat or use and includes applicable and technically COAs (see this table's Leased Estate Management Actions and BMP Section B: Fluid Minerals). Selection and application of these measures shall be based on current science and research on the effects to important breeding, nesting, brood-rearing, and wintering areas. For proposed operations in priority habitat areas, the Surface Use Plan of Operations (see 43CFR 3162-1(f)) shall address, at a minimum, the anticipated noise, density and amount of disturbance, mechanical movement (e.g., pump jacks), permanent and temporary facilities, traffic, phases of development over time, offsite mitigation, and expected periods of use associated with the proposed project. Seasonal habitats or project features related to potential sage-grouse impacts that are not addressed in the SUPO based on site-specific or project-specific considerations shall be noted in the project file, along with a rationale for not including them.</p> <p>In this process evaluate, among other things:</p>				
							Proposed Plan (Best Management Practices Appendix)	The attached BMP appendix lists many BMPs to protect sage-grouse. The quoted provision to the right shows that mandatory ones will be applied as COAs to APDs or other actions.	<p>"Public land users are encouraged to review these practices, incorporate them where appropriate, or develop better methods for achieving the same goal. However, the BLM may also require their incorporation into the design features of the project as a condition of approval (COA). Only when the design feature would become part of the BLM authorization as a COA should the NEPA analysis of the project analyze the beneficial impacts of the design feature. If the practice is only voluntary or suggested, the BLM lacks the authority to require its implementation, so the project should be analyzed as if the practice will not occur. The BLM authorization will make clear whether the BMP is mandatory (attached as a Condition of Approval) or merely encouraged."</p> <p>The standard for applying the BMPs is:</p> <p>"In applying BMPs for greater sage-grouse protections, all projects must evaluate (1) whether the conservation measure is reasonable (see 43 CFR 3101.1-2 for the definition of "reasonable" for fluid mineral leases) and consistent with valid existing rights and (2) whether the action is in conformance with the Resource Management Plan. Each conservation measure will be evaluated on a site-specific basis for likely effectiveness on a cost-benefit basis."</p>	
						Whether the conservation measure is "reasonable" (43 CFR 3101.1-2) and consistent with valid existing rights;	Yes	BMP appendix under introduction.	See statement quoted in No. 55	
						Whether the action is in conformance with the approved RMP; and	Yes	BMP appendix under introduction.	See statement quoted in No. 55	
						The effectiveness of the proposed mitigation measures.	Yes	BMP appendix under introduction.	See statement quoted in No. 55	
						The conservation measures described below represent a hierarchical approach (rows 56 to 58) and important measures (rows 59 to 69) for minimizing impacts from development within the constraints of valid existing rights. These shall be considered relative to all exploration and development applications submitted to the BLM and located within sage-grouse priority habitat areas. Due to site-specific circumstances, some features may not apply to some projects and/or may require deviation from what is described.				

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56	23	Fluid Minerals	Leased Estate	RMP-MA	PHA	Do not allow new surface occupancy on Federal leases within priority habitat areas, including winter concentration areas during any time of the year (Doherty et al. 2008, Carpenter et al. 2010). Where this is not possible due to valid existing rights and development requirements for the specific geologic and fluid mineral resources, consider the following disturbance and surface occupancy limits to the extent practicable:	Partially. With valid rights, see measures in next lines.	2012 Alternative D applies an NSO stipulation to almost 50% of Core Area.	Please see comment under number 52.	
57	23	Fluid Minerals	Leased Estate	RMP-MA	PHA	If the lease is partially or entirely within priority habitat areas:				
						<ul style="list-style-type: none"> Subject to topographic and other environmental constraints, require any development within priority habitat to be placed in the area least harmful to sage-grouse based on vegetation, topography, or other habitat features. 	Yes	BMP Appendix under "Facilities"		
							Proposed Plan (Best Management Practices page 5)	BMP Appendix under "Facilities"	Subject to topographic and other environmental constraints, require development for a project wholly or partially in Core Area to be placed in the area least harmful to sage-grouse based on vegetation, topography, or other habitat features.	
						To the extent possible and consistent with valid existing rights, limit disturbances to an average of one site per 640 acres on average, with no more than 3% direct surface disturbance in the analysis area.	Yes	4097		
							USFWS comment		"Because of the very high value of the priority habitat areas in the BLM's Lander resource area to sage-grouse conservation and because this area has relatively little resource development potential, the Service strongly recommends the BLM to adopt this conservation at the 3% level from the NTT Report and incorporate it into the Proposed Plan." Lander response: Lander's Proposed Plan applies the 5% cap identified in the Wyoming EO (not the 3% cap from the NTT) based upon the State of Wyoming's determination that 5% cap would result in sage-grouse conservation sufficiently to prevent listing. The NSO management in 50% of Core Area for the benefit of a number of resources (trails, wildlife, viewshed, etc.) would reduce the amount of surface disturbance. Alternative B analyzed a 2.5% cap.	
							Proposed Plan	MA 4097	"In greater sage-grouse Core Area, limit the density of disturbances to an average of one oil and gas or mining location per 640 acres. The one location and cumulative value of existing disturbances will not exceed 5 percent of habitat within those same 640 acres."	
						Consider an exception to the 3% limit if project siting and design and additional mitigation are demonstrated to be capable of minimizing or concurrently offsetting resultant losses of sage-grouse or their habitats.	Partially; alternative B analyzed 2.5%.	4097	The proposed plan adopts a 5% cap; therefore, no exceptions were needed. Lander is also going to analyze disturbance based upon sub units so that a landscape-based analysis can be used to measure overall impacts. Alternative B analyzed a 2.5% cap for disturbance.	
							Proposed Plan	MA 4097	"Develop an implementation plan to divide Core Area into smaller subunits and develop an absolute disturbance threshold not to exceed 5 percent total disturbance for each subunit. Areas with co-located disturbances may exceed 1 per 640 acres and the 5% of cumulative disturbance provided the total disturbance does not exceed the limit for the subunit."	
	Yes	BMP appendix in the "general" section.								
	Proposed	(Best Management	"When additional mitigation is necessary, conduct it in Core Area within the same sage-							

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							Plan	Practices page 5)	grouse population area. If Core Area does not provide appropriate mitigation, conduct off-site mitigation in general sage-grouse habitat with the ability to increase sage-grouse populations."	
						When additional mitigation is necessary, conduct it within the same population area where the impact occurs if possible or, if that is not possible, within the same Management Zone as the impact.	Yes	BMP appendix in the "general" section.	See immediately preceding line.	
58	23	Fluid Minerals	Leased Estate	RMP-MA	PHA	To limit impacts to breeding and nesting habitat, surface-disturbing and disruptive activities shall be prohibited or restricted within 4 miles of a lek the extent possible consistent with valid existing rights. If the entire lease is entirely within the 4-mile perimeter of a lek, require any development to be placed at the part of the lease farthest from the lek, or, based depending on topography and other habitat features, in an area demonstrably the least harmful to sage-grouse.	Partially.			
							USFWS Comment		"Because of the very high value of the priority habitat areas in the BLM's Lander resource area to sage-grouse conservation and because this area has relatively little resource development potential, the Service strongly recommends the BLM to further investigate the possibility of adopting conservation measures to protect nesting and brood-rearing habitat within 4 miles of leks within priority habitat areas." Lander response: The Wyoming Governor's Executive Order identified a 3-mile buffer as providing adequate conservation of sage-grouse and enhancement of habitat. However, because of the concentration of leks in the Lander resource area, the Core Area includes approximately 85,000 acres more than would be included if the Core Area were disregarded and timing limitations were applied to areas within 4 miles of leks. While some areas within the four mile buffer are not included (see attached map, Figure 6), Core Area protects the more concentrated habitat. A 4 mile buffer is used in the Density Disturbance Calculation Tool or DDCT. The DDCT analyzes what leks are in a 4 mile wide area around a project's boundary. If an occupied lek is in that area, it is buffered by an additional 4 miles. This is the DDC analysis area. The amount of existing surface disturbance in this area is added to the proposed disturbance and divided by the area's total acreage to determine the percent disturbance.	
							WGFD comment		Clarify that Lander analyzed a 2.5% cap but adopted the EO's 5% cap. Lander response: The Wyoming Governor's Executive Order identified a 3-mile buffer as providing adequate conservation of sage-grouse and enhancement of habitat with a 5% surface cap.. Alternative B analyzed a 2.5% cap.	
59	23	Fluid Minerals	Leased Estate	RMP-MA	PHA	To ensure comprehensive planning relative to sage-grouse conflicts, complete Master Development Plans during planning and review of projects involving multiple proposed disturbances within a lease or priority habitat area, with an exception for individual wildcat (exploratory) wells.	Yes	BMP Appendix under Mineral Development.		
							Proposed Plan	(Best Management Practices page 10)	To ensure comprehensive planning relative to sage-grouse conflicts, complete Master Development Plans during planning and review of projects involving multiple proposed disturbances within Core Area.	
60	23	Fluid Minerals	Leased Estate	RMP-MA	PHA	Encourage unitization when deemed necessary for proper development and operation of an area or to facilitate more orderly (e.g., phased and/or clustered) development as a means of minimizing adverse impacts to sage-grouse. (See Federal Lease Form, 3100-11, Sections 4 and 6).	Yes			
							Proposed Plan	MA 2004	"Encourage unitization when deemed necessary for proper development and operation of an area or to facilitate more orderly (e.g., phased and/or clustered) development as a means of minimizing adverse impacts to resources, including sage-grouse."	
61	23	Fluid	Leased Estate	RMP-MA	GHA/	See Lands Acquisition: Identify areas where acquisitions (including	Yes	BMP Appendix		

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		Minerals			PHA	subsurface mineral rights) or conservation easements, would benefit sage-grouse habitat.		under Miscellaneous		
							Proposed	Plan (Best Management Practices page 10)	Identify areas where acquisitions (including subsurface mineral rights) or conservation easements, would benefit sage-grouse habitat. Apply acquisition and disposal criteria from Appendix R.	
62	23	Fluid Minerals	Leased Estate	RMP-MA	PHA	Apply a seasonal timing restriction on exploratory drilling that prohibits construction, drilling, completion, and reclamation activities, including those for exploratory wildcat wells, during the nesting and early brood-rearing seasons in all priority sage-grouse habitats areas for this period.	Yes	4094 and 4095		
							Proposed Plan	MA 4094 MA 4095	“Prohibit surface-disturbing or surface occupancy on or within a 0.6-mile radius of the perimeter of occupied greater sage-grouse leks in Core Area and on or within a ¼-mile radius of the perimeter of occupied greater sage-grouse leks outside Core Area. (Map 65).” “Prohibit surface-disturbing and/or disruptive activities from March 15 to June 30 in suitable greater sage-grouse nesting/early brood-rearing habitat in Core Area. Outside Core Area and in important connectivity habitat, prohibit surface-disturbing and/or disruptive activities from March 15 to June 30 within 2 miles of the perimeter of occupied leks (Map 65). Dates may be modified if data indicates a change is necessary to better protect nesting greater sage-grouse.”	
63	23	Fluid Minerals	Leased Estate	RMP-MA	PHA	Require a full reclamation bond specific to the site and sufficient to cover costs required for full reclamation (Connelly et al. 2000, Hagen et al. 2007).	Yes		Proposed Plan has been modified to include this provision.	
							FWS comment	MA 1015 MA 1022	“The Service recommend that this conservation measure [full reclamation bond] be incorporated into the RMP. This conservation measure does not specifically address bond amounts. It only states that bonds need to be sufficient to cover costs of reclamation.” “For future actions, require a full reclamation bond specific to the site in accordance with 43 CFR 3104.2, 3104.3, and 3104.5. Insure bonds are sufficient for costs relative to reclamation (Connelly et al. 2000, Hagen et al. 2007) that would result in full restoration of the lands to the condition it was found prior to disturbance. Base the reclamation costs on the assumption that contractors for the BLM will perform the work.” MA 1022 institutes a process to identify areas where reclamation has not been successful and to prioritize reclamation as funding opportunities such as offsite mitigation, vegetation treatment funds, and partnerships allow.	
								MA 1015	“For future actions, require a full reclamation bond specific to the site in accordance with 43 CFR 3104.2, 3104.3, and 3104.5. Insure bonds are sufficient for costs relative to reclamation (Connelly et al. 2000, Hagen et al. 2007) that would result in full restoration of the lands to the condition it was found prior to disturbance. Base the reclamation costs on the assumption that contractors for the BLM will perform the work.:	
64	24	Fluid Minerals	Leased Estate	RMP-MA	PHA	Where applicable and technically feasible, apply Best Management Practices (see this table’s BMP Section B: Fluid Minerals) as mandatory Conditions of Approval (COAs) within priority sage-grouse habitat. Note that BMPs listed in this table’s BMP Section B: Fluid Minerals differ to some extent between priority and general habitat	Yes	4093		
							Proposed	MA 2002	“Incorporate proponent committed or BLM required design features or mitigation such	

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							Plan		as BMPs as conditions of approval for any authorized mineral activity for federal minerals regardless of surface ownership. “Public land users are encouraged to review these practices, incorporate them where appropriate, or develop better methods for achieving the same goal. However, the BLM may also require their incorporation into the design features of the project as a condition of approval (COA). Only when the design feature would become part of the BLM authorization as a COA should the NEPA analysis of the project analyze the beneficial impacts of the design feature. If the practice is only voluntary or suggested, the BLM lacks the authority to require its implementation, so the project should be analyzed as if the practice will not occur. The BLM authorization will make clear whether the BMP is mandatory (attached as a Condition of Approval) or merely encouraged.”	
65	64	Fluid Minerals	Operations	RMP-MA	PHA	Use only closed-loop systems for drilling operations, with no reserve pits.	Partially	BMP Appendix under Mineral Development	The language “unless technically unfeasible” has been added. Lander analyzes no reserve pit styles of drilling which we believe more accurately reflects the sage-grouse protective measures behind this suggestion. “Closed loop” systems can mean many things, most dealing with the re-use of drilling fluids. Lander’s approach is to minimize surface disturbance which improves reclamation success.	
							BMP	BMP page 10	In Core Area, require closed-loop systems for drilling operations with no reserve pits unless technically unfeasible.	
66	64	Fluid Minerals	Operations	RMP-MA	PHA	Limit noise to less than 10 decibels (dBa) above ambient measures (typically 20 to 24 dBA) from 2 hours before until 2 hours after at sunrise at the perimeter of a lek during active lek season (Patricelli et al. 2010, Blickley et al. <i>in preparation</i>).	Yes	4101		
							Proposed Plan	MA 4101	“Limit noise sources to 10 dBA above natural ambient noise measured at the perimeter of occupied greater sage-grouse leks from March 1 to May 15 unless scientific findings indicate a different noise level is appropriate.”	
67	64	Fluid Minerals	Operations	RMP-MA	PHA	Require noise shields when drilling during the lek, nesting, brood-rearing, and wintering seasons.	Yes	BMP Appendix under Mineral Development		
							Proposed Plan	(BMP page 10)	“Require noise shields or other noise abatement devices when drilling during the lek, nesting, brood-rearing, and wintering seasons. Locate new compressor stations Core Area and require a design that reduces noise directed toward priority habitat.”	
68	64	Fluid Minerals	Operations	RMP-MA	PHA	Design new transmission towers with anti-perching devices and retrofit existing towers to discourage use by raptors.	Yes	4099, 4102	Work with proponents to reduce predation on other species.	
							Proposed Plan	MA 4102	““To minimize raptor use, require anti-perching devices on new overhead powerlines in greater sage-grouse Core Area. ... Work with ROW holders to install anti-perching devices on existing powerlines in these habitats.”	
69	65	Fluid Minerals	Operations	RMP-MA	PHA	When fences are necessary, require a sage-grouse-safe design.	Yes	4083, BMP Appendix under General	Modify identified hazard fences, and analyze and construct new fences in accordance with appropriate wildlife needs, the BLM Fencing Handbook 1741-1, and WO IM 2010-022 Managing Structures for the Safety of Sage-grouse, Sharp-tailed grouse, and Lesser Prairie-chicken, and similar guidance and policy as updated over time.	
							Proposed Plan (BMP, General)	MA 4083 BMP page 5	“In cooperation with stakeholders, design and locate fences so as not to disturb important greater sage-grouse habitat areas. Increase the visibility of existing fences to reduce hazards to flying greater sage-grouse. “Require the installation of fence markers on new wire fences constructed in greater sage-grouse habitat to increase fence visibility and reduce collision potential” “Modify identified hazard fences, and analyze and construct new fences in accordance with appropriate wildlife needs, applicable guidance such as the BLM Fencing	

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									Handbook 1741-1, and WO IM 2010-022 "Managing Structures for the Safety of Sage-grouse, Sharp-tailed grouse, and Lesser Prairie-chicken" and policy as updated over time."	
70	65	Fluid Minerals	Operations	RMP-MA	PHA	Locate new compressor stations outside priority habitats and require a design that reduces noise directed toward priority habitat.	Partially	BMP Appendix under Mineral Development	4101 limits new noise in Core. See text under No. 64 above.	
							Proposed Plan	BMP under Facilities	Text incorporated with an exception if applicant can show that the measure would preclude lease development.	
							FWS Comment		"The NTT report states that 'new compressor stations will be located outside priority habitats.' However, the proposed plan adds the cause 'if technically feasible' to this management action. The Service recommends the BLM adopt the conservation measure from the NTT report as originally written." Lander's response: Conservation measure is added but allows an exception if the lease holder can establish that the required design feature would preclude lease development.	
							Proposed Plan	BMP page 9	"Subject to topographic and other environmental constraints, require development for a project wholly or partially in Core Area to be placed in the area least harmful to sage-grouse based on vegetation, topography, or other habitat features."	
71	65	Fluid Minerals	Operations	RMP-MA	PHA	Locate man camps outside priority sage-grouse habitats.	Yes	BMP Appendix under Mineral Development		
									"Locate all residential development for employees and contractors ("man camps") outside of Core Area."	
72	65	Fluid Minerals	Reclamation	Implementation Guideline	GHA/PHA	Include reclamation objectives requiring that sage-grouse habitat needs are adequately addressed and accomplished.	Yes	1018, Reclamation Appendix		
							Proposed Plan	MA 1018 Reclamation Appendix (page 1)	"Consider wildlife habitat objectives in all final reclamation objectives. In Core Area, final reclamation objectives will be to restore sage-grouse habitat. Include metrics to ensure that restoration goals are met." "The reclamation plan will provide comprehensive as well as detailed site-specific reclamation procedures, methods and actions to successfully meet the objectives and standards for any surface disturbance. The reclamation plan will also include sufficient monitoring requirements and reports to ensure reclamation success has been accomplished. Site-specific reclamation plans will identify the dominant Ecological Site Descriptions, referenced plant communities, and soil map units. The approved reclamation plan must adhere to federal, state and local requirements, which can be used by regulatory agencies in their oversight roles to ensure that the reclamation measures are implemented, are appropriate for the site, meet area resource objectives (such as wildlife including sage-grouse) and are ecologically functional." "Project level reclamation objectives and standards will be established prior to disturbance and must be consistent with the objective set forth. The objectives and standards may be modified by the Authorized Officer if site-specific situations are deemed necessary to meet the overall land management objectives. The objectives will identify metrics to ensure that objectives are being met, with triggers such as plant composition, percent cover, or other site-specific factors."	
73	65	Fluid Minerals	Operations	RMP-MA	PHA	Require proper containment and prompt removal of refuse to avoid attracting predators (Bui et.al. 2011).	Yes	BMP Appendix under General		
							Proposed Plan	BMP (page 5)	Require proper containment and prompt removal of refuse to avoid attracting predators	

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Solid Minerals										
74	24	Solid Minerals-Coal	Surface Coal Mining Operations	RMP-Allocation	PHA	<u>Surface coal mines</u> : Apply the requirements of 43 CFR 3461 to determine unsuitability. Find unsuitable all surface mining of coal under the criteria set forth in 43 CFR 3461.5 to ensure that the specific Lek instance or reference is adequately addressed).	Not applicable	No coal. No coal lease would be approved without an RMP amendment.	MA 2001	
75	24	Solid Minerals-Coal	Underground Coal Mines	RMP-MA	PHA	<u>Underground Coal Mines</u> : Grant no new mining leases unless all surface disturbances (appurtenant facilities) are placed outside of the priority sage-grouse habitat area [see 43 CFR 3461.1 (a) and (b)]. Also see Part 3460: Environment, Subpart 3461: Federal Lands Review: Unsuitability for Mining, 3461.1 - Underground mining exemption from criteria.	Not applicable	No coal. No coal lease would be approved without an RMP amendment.	MA 2001	
						(a) Federal lands with coal deposits that would be mined by underground mining methods shall not be assessed as unsuitable where there would be no surface coal mining operations, as defined in? 3400.0-5 of this title, on any lease, if issued.	Not applicable	No coal. No coal lease would be approved without an RMP amendment.	MA 2001	
						(b) Where underground mining will include surface operations and surface impacts on Federal lands to which a criterion applies, the lands shall be assessed as unsuitable unless the surface management agency find that a relevant exception or exemption applies.	Not applicable	No coal. No coal lease would be approved without an RMP amendment.	MA 2001	
76	-	Solid Minerals-Coal	Coal Exploration	RMP-MA	PHA	See 43 CFR 3461.4 (a) and (b) Exploration. An unsuitability finding does not always prohibit exploration.	Not applicable	No coal. No coal lease would be approved without an RMP amendment.	MA 2001	
77	24	Solid Minerals-Coal	Existing Coal Leases	RMP-MA	PHA	<u>Underground mining</u> : in priority sage-grouse habitat areas, plan any new appurtenant facilities outside of priority areas. Where new appurtenant facilities associated with the existing lease cannot be located outside the priority sage-grouse habitat area, co-locate new facilities within existing disturbed areas. If this is not possible, then build any new appurtenant facilities to the minimum standard necessary for the action (Tie this to the appropriate minimize surface impact BMPs). 43 CFR 3461.3-2 specifically excludes applying unsuitability criteria to leased lands. The first lease is generally valid for 20 years. During the time period the operator has existing rights under the lease that prevents a change in the terms and conditions of the lease. The BLM may negotiate with the lessee to achieve certain changes but the BLM cannot require these changes in terms and conditions of the lease. At the end of the first 20 year period BLM can require changes to the terms and conditions of subsequent 10 year lease renewals.	Not applicable	No coal. No coal lease would be approved without an RMP amendment.	MA 2001	
78	24	Solid Minerals-Coal	Surface Coal Management	BMP	GHA/PHA	Recommend minimization of surface-disturbing or disrupting activities (including operations and maintenance) where needed to reduce the impacts of human activities on important seasonal sage-grouse habitats. Apply these measures during activity level planning (Jurisdiction is managed by the State. BLM has no regulatory authority for these activities). The Office of Surface Mining or a delegated State Regulatory authority authorizes active coal mining operations on federal mineral estate. The BLM is not involved in reviewing, regulating or approving permits for active coal mines on federal mineral estate. BLM issues coal leases and exploration licenses for right of entry to promote development of minerals. See the following in regards to BLM exploration: § 3461.4 Exploration.	Not applicable	No coal. Coal application would require an RMP amendment	MA 2001	

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						States with delegated authority from the Office of Surface Mining may have their own sage grouse guidance in association with state wildlife agencies. This guidance will likely be on a state by state basis.				
						(a) Assessment of any area as unsuitable for all or certain stipulated methods of coal mining operations pursuant to section 522 of the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1272) and the regulations of this subpart does not prohibit exploration of such area under subpart 3410 and Part 3480 of this title.	Not applicable	No coal. Coal application would require an RMP amendment	MA 2001	
						(b) <u>An application for an exploration license on any lands assessed as unsuitable for all or certain stipulated methods of coal mining shall be reviewed by the Bureau of Land Management to ensure that exploration does not harm any value for which the area has been assessed as unsuitable.</u>	Not applicable	No coal. Coal application would require an RMP amendment	MA 2001	
Locatable Minerals										
79	24	Locatable Minerals	General	RMP-MA	PHA	Recommend withdrawal from mineral entry based on risk to the sage-grouse and its habitat from conflicting locatable mineral potential and development.	Partially.	7145 72% of Core Area was analyzed for withdrawal under Alternative B.	Alternative B analyzed 1,632,605 acres to recommend as withdrawn from locatable mineral entry, of which approximately 72% was in Core Area; the balance is in GHA. The Proposed Action pursues a withdrawal of approximately 306,000 acres for protection of sage grouse as well as an additional 50,000 acres of GHA/Core Area for the benefit of other resources.	
							Proposed Plan	MA 2007	Approximately 467,000 acres are pursued for withdrawal from locatable mineral entry (Map 24).	
80	24	Locatable Minerals	General	RMP-MA	PHA	Make any existing claims within the withdrawal area subject to validity exams. Include claims that have been subsequently determined to be null and avoid in the proposed withdrawal (see 43 CFR 3809.100).	Yes	MA 2027	A validity exam is required by 43 CFR 3809.100(a). This language has been added to MA 2027	
							Proposed Plan	MA 2027	"Any existing [mining] claims within the withdrawal area subject to validity exams or buy out."	
81	24	Locatable Minerals	General	RMP-MA/BMP	PHA	In plans of operations required prior to any proposed surface disturbing activities include as appropriate the following: Additional, effective mitigation in perpetuity for conservation. In accordance with existing policy, WO IM 2008-204). Example purchase private land and mineral rights within the priority area and deed to US Government. WO IM 2008-204 IM provides guidance for instances where onsite mitigation is not an option.	Partially.	BMP under General	Lander identifies required design features and/or mitigation that is protective of sage-grouse. However, the requiring the type of "perpetual" conservation measures appear to be beyond the BLM's authority under the 1872 Mining Law unless voluntary by the applicant.	
82	25	Locatable Minerals	General	BMP	PHA	Consider seasonal restrictions if deemed effective.	Partially.	4095, 4096	Seasonal restrictions are applied to exploration in Core Area by predefining "as undue or unnecessary degradation" exploration during seasonal restrictions. BLM lacks the authority to prevent year round mining activities, many of which require continuous operations just to keep underground water in balance, such as an ISL facility or de-watering an underground mine. Outside of Core Area, exploration activities are evaluated for undue or unnecessary degradation based on other management such as resource emphasis in the area (Is development in the area emphasized or are resource protections for other values such as crucial winter range emphasized in the area).	
83	25	Locatable Minerals	General	RMP-MA	PHA	Where applicable and technically feasible, apply Best Management Practices (see this table's BMP Section C: Locatable Minerals) mandatory as conditions of approval within priority sage-grouse habitat (see this table's BMP Section C: Locatable Minerals).	Yes	2002		

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							Proposed Plan	MA 2002	"I Incorporate proponent committed or BLM required design features or mitigation such as BMPs as conditions of approval for any authorized mineral activity for federal minerals regardless of surface ownership."	
Non-energy Leasable										
84	25	Non-energy Leasable Minerals (i.e. Potash)	General	RMP-Allocation	PHA	Close priority habitat to non-energy leasable mineral leasing. This includes not permitting any new leases to expand an existing mine.	Yes	2015	All Core Area lands with phosphate (Lander's only non-energy leasable) are closed.	
							Proposed Plan	MA 2015	"1,191,881 acres of federal mineral estate are closed to phosphate leasing (Map 41)."	
85	25	Non-energy Leasable Minerals (i.e., Potash)	General	COA	PHA	For existing non-energy leasable mineral leases, in addition to the solid minerals BMPs (see this table's BMP Section C: Locatable Minerals), apply applicable and as appropriate Fluid Mineral BMPs (see this table's BMP Section B), when wells are used for solution mining. New environmental guidance can be implemented during a lease renewal. If there is a law or regulation change then a lease can be modified.	Yes	2002		
							Proposed Plan	MA 2002	"Incorporate proponent committed or BLM required design features or mitigation such as BMPs as conditions of approval for any authorized mineral activity for federal minerals regardless of surface ownership."	
Saleable Mineral Materials										
86	25	Saleable Mineral Materials	General	RMP-Allocation	PHA	Close priority habitat to mineral material sales.	Partially	2016	Core Area is 70% of planning area. Complete closure is unreasonable (particularly in light of areas closed for other wildlife values) but since mineral sales are discretionary, sale would not be approved if adverse impacts to SG would result. (all leks (with a 0.25 and 0.60 buffer applied outside and inside Core Area) are closed and many other areas are closed for other values such as historic trails.)	
87	25	Saleable Mineral Materials	General	RMP-MA	PHA	Restore saleable mineral pits no longer in use to meet sage-grouse habitat conservation objectives. Emphasis needs to be given to reclamation/restoration of sage grouse habitat as a viable long term goal to improve the sage grouse habitat.	Yes	2006		
							Proposed Plan	MA 2006	1,249,626 acres are closed to mineral material disposal (Map 37) including 50% of Core Area.	
Split Estate										
88	25	Mineral Split Estate	General	RMP-MA	PHA	Where the federal government owns the mineral estate, and the surface is non-federal ownership, apply the same conservation measures as applied on public land. The conservation measures must be consistent with the surface owner's rights. A solicitor review may be required.	Yes	2008, 2009, 2012, 2015	The identified acres include both federal surface and federal minerals in split estate. See Figure 3 for mineral estate.	
							Proposed Plan	MA 2012 (same "mineral estate" language is used for other mineral management.	"Approximately 110,014 acres of federal mineral estate are closed to oil and gas leasing (Map 32)."	
89	25	Mineral Split Estate	General	COA	PHA	Where the federal government owns the surface, and the mineral estate is in non-federal ownership, apply appropriate BMPs to surface development.	Yes	2002		
							Proposed	MA 2002	"Incorporate proponent committed or BLM required design features or mitigation such	

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							Plan		as BMPs as conditions of approval for any authorized mineral activity for federal minerals regardless of surface ownership.”	
<p>This section identifies conservation measures for vegetation treatments for all programs including those done in rangeland, forest, woodland and riparian ecosystems as well as fuels treatments, post fire stabilization and rehabilitation treatments, and restoration treatments. Vegetation treatments must tie to land use plan objectives for vegetation. An RMP may divide the planning area into smaller geographic units based on ecological sites and/or vegetation classifications. The RMP should outline and identify desired outcomes for vegetative resources, including the desired mix of vegetative types being managed for in each smaller geographic unit, taking in to account structural stages, landscape and riparian functions, and forage allocations. The LUP should establish vegetation objectives specific to each smaller geographic unit that are measurable, outline a monitoring schedule for vegetation, and identify thresholds and management measures that would be taken (adaptive management) if vegetation objectives are not being met. (see BLM Handbook 1601-1, Land Use Planning; and BLM Handbook 1740-2, Integrated Vegetation Management)</p>							Not applicable		Geographic subunits not identified.	
Vegetation Treatments										
90	28	Vegetation Treatments	General	RMP-Objective	GHA/PHA	Restore native (or desirable) plants and create landscape patterns which most benefit sage-grouse. Write specific land use plan objectives for vegetation that connects habitats and creates patterns that benefit sage-grouse. Write specific vegetation management objectives relative to invasive annual grass spread and woody plant removal where these are of concern in sage-grouse habitat. Consider management objectives in buffers around intact priority habitats that detect and rapidly respond to invasions in the buffer zones.	Yes	3012 BR 5, 13, and 14		
							Proposed Plan:	MA 3012	“Utilizing Best Management Practices (BMPs) such as those identified in Appendix H, establish fuels treatment projects at strategic locations to minimize size of wildfires and limit further loss of greater sage-grouse habitat. Restore native or desirable plants and create landscape patterns to benefit sage-grouse. In suitable habitat within sage-grouse Core Area, incorporate sage-grouse specific habitat objectives and apply appropriate seasonal restrictions for implementing vegetation management treatments in sage-grouse Core Area. Do not allow treatments in Core Area winter concentration areas unless the treatments are designed to strategically reduce wildfire risk around or in the winter range and will maintain winter range habitat quality. “	
								BR 5	“In all parts of the planning area, manage for the reduction, prevention, and halting the expansion of cheatgrass in the planning area. Emphasize the prevention of invasive annual grass and woody plants in sage-grouse Core Area. Manage for the reduction, prevention, and halting the expansion of cheatgrass in the planning area.”	
								BR 13	“Sustain the integrity of the sagebrush biome to provide the amount, continuity, and quality of habitat that is necessary to maintain sustainable populations of greater sage-grouse and other species by achieving the objectives below.”	
								BR 14	“Identify the amount of habitat that should undergo restoration and/or rehabilitation during the life of the plan and initiate restoration and/or rehabilitation by achieving the objective below.”	
91	26	Vegetation Management	General	RMP-Objective	PHA	Do not reduce sagebrush canopy cover to less than 15% (Connelly et al. 2000, Hagen et al. 2007) unless a vegetation management objective requires additional reduction in sagebrush cover to meet strategic protection of priority sage-grouse habitat and conserve habitat quality for the species.	Yes	3007		
							Proposed Plan	MA 3007	“Do not reduce sagebrush canopy cover to less than 15% within a defined treatment polygon in suitable sage-grouse Core Area habitat unless a vegetation management objective requires additional reduction in sagebrush cover to protect or to conserve	

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									habitat quality for Greater sage grouse or other sagebrush steppe dependent and obligate species. Maintain sagebrush and understory diversity (relative to ecological site description) unless such removal is necessary to achieve greater sage-grouse habitat management objectives. Remove conifers or reduce the density of conifers that have encroached into sagebrush plant communities.”	
92	16	Vegetation Treatments	General	RMP-MA	GHA/PHA	In sage-grouse habitat only allow treatments that conserve, enhance or restore sage-grouse habitat (this includes treatments that benefit livestock as part of an AMP/Conservation Plan to improve sage-grouse habitat).	Yes	3006		
							Proposed Plan	MA 3006	“Allow vegetation treatments in sage-grouse Core Area that conserve, enhance or restore sage-grouse habitat (this includes treatments that benefit livestock as part of an AMP/Conservation Plan to improve sage-grouse habitat). In identified sage-grouse winter range vegetation treatments should emphasize strategically reducing wildfire risk around or in the winter range and maintaining winter range habitat quality. .Prioritize restoration treatments in areas that are thought to limit sage-grouse distribution and/or abundance. Focus vegetation treatments outward from existing, intact sage-grouse habitat. Utilize Best Management Practices, such as those in Appendix H, and other current habitat management guidelines when designing and implementing the project.”	
93	16	Vegetation Treatments	General	RMP-MA	PHA	Evaluate the role of existing seedings that are currently composed of primarily introduced perennial grasses in and adjacent to priority sage-grouse habitats to determine if they should be restored to sagebrush or habitat of higher quality for sage-grouse. If these seedings are part of an AMP/Conservation Plan or if they provide value in conserving or enhancing the rest of the priority habitats, then no restoration would be necessary. Assess the compatibility of these seedings for sage-grouse habitat or as a component of a grazing system during land health assessments (Davies et al. 2011). For example, some introduced grass seedings are an integral part of a livestock management plan and reduce grazing pressure in important sagebrush habitats, or serve as a strategic fuels management area.	Yes	3007 Reclamation and BMP Appendix under “Reseeding”	See MA 3007 in No. 91. Note: there is introduced non-native seedlings.	
							Proposed Plan:	Reclamation Appendix	“Non-native plants are permissible only as an approved short term and non-persistent alternative to native plant materials. Ensure the non-natives will not hybridize, displace, or offer long-term competition to the endemic plants, and are designed to aid in the re-establishment of native plant communities.”	
								Reseeding	“When reseeding, use appropriate seed mixes and consider the use of appropriate subspecies of sagebrush seed. Continue to evaluate seed mixtures over time, considering changes in climate. Consider seed collections from the warmer component within a species’ current range for selection of native seed.”	
94	12	Vegetation Treatments	Travel/Transportation	RMP-MA	GHA/PHA	When reseeding roads, primitive roads and trails, use appropriate seed mixes and consider the use of appropriate subspecies of sagebrush seed.	Yes	BMP under Reseeding and Reclamation Appendix		
							Proposed Plan	BMP Appendix page 6	“When reseeding, use appropriate seed mixes and consider the use of appropriate subspecies of sagebrush seed. Continue to evaluate seed mixtures over time, considering changes in climate. Consider seed collections from the warmer component within a species’ current range for selection of native seed.”	
								Reclamation Appendix page 2	“Interim reclamation will emphasize native plant species and will be designed to minimize re-disturbance during final reclamation activities and to initiate and accelerate ecological succession	

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95	26	Vegetation Treatments	General	RMP_MA	PHA	Apply appropriate seasonal restrictions for implementing vegetation management treatments according to the type of seasonal habitats present in a priority area.	Yes	3012		
							Proposed Plan	MA 3012	“Utilizing Best Management Practices (BMPs) such as those identified in Appendix H, establish fuels treatment projects at strategic locations to minimize size of wildfires and limit further loss of greater sage-grouse habitat. Restore native or desirable plants and create landscape patterns to benefit sage-grouse. In suitable habitat within sage-grouse Core Area, incorporate sage-grouse specific habitat objectives and apply appropriate seasonal restrictions for implementing vegetation management treatments in sage-grouse Core Area. Do not allow treatments in Core Area winter concentration areas unless the treatments are designed to strategically reduce wildfire risk around or in the winter range and will maintain winter range habitat quality.”	
96	26	Vegetation Treatments	General	RMP_MA	PHA	Only use treatments in identified sage-grouse winter range that are designed to strategically reduce wildfire risk around or in the winter range and will maintain winter range habitat quality.	Yes	3006		
							Proposed Plan	MA 3006	“Allow vegetation treatments in sage-grouse Core Area that conserve, enhance or restore sage-grouse habitat (this includes treatments that benefit livestock as part of an AMP/Conservation Plan to improve sage-grouse habitat). In identified sage-grouse winter range vegetation treatments should emphasize strategically reducing wildfire risk around or in the winter range and maintaining winter range habitat quality. .Prioritize restoration treatments in areas that are thought to limit sage-grouse distribution and/or abundance. Focus vegetation treatments outward from existing, intact sage-grouse habitat. Utilize Best Management Practices, such as those in Appendix H, and other current habitat management guidelines when designing and implementing the project.”	
97	26	Vegetation Treatments	General	RMP_MA	PHA	Do not use fire to treat sagebrush in less than 12-inch precipitation zones (e.g., Wyoming big sagebrush or other xeric sagebrush species; Connelly et al. 2000, Hagen et al. 2007, Beck et al. 2009). However, if as a last resort and after all other treatment opportunities have been explored, and site specific variables allow, the use of prescribed fire that would disrupt fuel continuity or enhance land health could be considered where cheatgrass is a very minor component in the understory (Brown 1982).	Yes	3011		
							Proposed Plan	MA 3011	“Limit the use of fire to treat sagebrush in areas receiving less than 12-inches of annual precipitation. Prescribed fire to reduce hazardous fuels or enhance land health in areas receiving less than 12–inches of annual precipitation could be considered after exploring other potential treatment methods and where cheatgrass is a very minor component of the understory.”	
							FWS comment		Use the recommendation as written. Lander’s response: 78% of Core Area receives less than 12” of precipitation; in drought conditions, it is likely that the 13% of Core Area designated as receiving 12-14” of rain may receive far less. A complete restriction of fire use in as much as 91% of Core Area would unduly limit much needed treatment, such as introducing age diversity and reducing fuels build up.	
98	26	Vegetation Treatments	General	RMP_MA	GHA/PHA	Monitor and control invasive vegetation post-treatment.	Yes	3010		
							Proposed Plan	MA 3010	“Monitor fuels treatment and wildfire burn areas for sufficient time after treatment or fire event in order to determine short-term and long-term project success, detect weed infestations and accelerated soil erosion, and assess overall vegetation recovery. Utilize	

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									all available rehabilitation tools to control weed infestation and accelerated soil erosion. Implement rest of treated areas from livestock grazing for two full growing seasons on all prescribed or wildland fires unless vegetation recovery dictates otherwise.”	
99	26	Vegetation Treatments	General	RMP_MA	GHA/ PHA	Rest treated areas from grazing for two full growing seasons unless vegetation recovery dictates otherwise (WGFD 2011).	Yes	3010	MA 3010 is provided in No. 98	
100	-	Vegetation Treatments	General	RMP-MA	GHA/ PHA	Vegetation treatments must include monitoring to determine achievement of objectives and their long-term success.	Yes	3010	MA 3010 is provided in No. 98	
101	27	Vegetation Treatments	General	RMP-MA	GHA/ PHA	Choose native plant seeds for vegetation treatments based on availability, adaptation (site potential), probability for success, and the vegetation management objectives for the area covered by the treatment (Richards et al. 1998). Where probability of success or native seed availability is low, use species that meet soil stability and hydrologic function objectives as well as vegetation and sage-grouse habitat objectives (Pyke 2011).	Yes	BMP under Reseeding		
							Proposed Plan	BMP at page 7	“Choose native plant seeds for vegetation treatments based on availability, adaptation (site potential), probability for success, and the vegetation management objectives for the area covered by the treatment.”	
102	27	Vegetation Treatments	General	RMP-MA	GHA/ PHA	Reestablish appropriate sagebrush species/subspecies and important understory plants relative to site potential. Identify priority plant species and collect seed of understory plants and sagebrush subspecies important to sage-grouse. Establish seed harvest areas that are managed for seed production (Armstrong 2007) and are a priority for protection from outside disturbances.	Yes	3007 and BMP under Vegetation Treatment		
							Proposed Plan	MA 3007 BMP Appendix Page 8 BMP Appendix page 9	“Do not reduce sagebrush canopy cover to less than 15% within a defined treatment polygon in suitable sage-grouse Core Area habitat unless a vegetation management objective requires additional reduction in sagebrush cover to protect or to conserve habitat quality for Greater sage grouse or other sagebrush steppe dependent and obligate species. Maintain sagebrush and understory diversity (relative to ecological site description) unless such removal is necessary to achieve greater sage-grouse habitat management objectives. Remove conifers or reduce the density of conifers that have encroached into sagebrush plant communities.” “Do not reduce sagebrush canopy cover to less than 15% within a treatment polygon unless a vegetation management objective requires additional reduction in sagebrush cover to meet strategic protection of priority sage-grouse habitat and conserve habitat quality for the species” “Reestablish appropriate sagebrush species/subspecies and important understory plants relative to site potential. Identify priority plant species and collect seed of understory plants and sagebrush subspecies important to sage-grouse. Establish seed harvest areas that are managed for seed production and are a priority for protection from outside disturbances.”	
103	27	Vegetation Treatments	General	RMP-MA	GHA/ PHA	Apply post vegetation treatment management and monitoring to ensure long term persistence of seeded native plants. Outline temporary or long-term changes in livestock grazing, wild horse and burro, and travel management, etc., to achieve and maintain vegetation management objectives to benefit sage-grouse and their habitats (Eiswerth and Shonkwiler 2006).	Yes	3009		
							Proposed Plan	3009	“Monitor fuels treatment and wildfire burn areas for sufficient time after treatment or fire event in order to determine short-term and long-term project success, detect weed infestations and accelerated soil erosion, and assess overall vegetation recovery. Utilize	

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									all available rehabilitation tools to control weed infestation and accelerated soil erosion. Implement rest of treated areas from livestock grazing for two full growing seasons on all prescribed or wildland fires unless vegetation recovery dictates otherwise..”	
104	27	Vegetation Treatments	General	RMP-MA	GHA/PHA	Design vegetation treatments in sage-grouse habitats to strategically reduce wildfire threats in the greatest area. This may involve spatially arranging new vegetation treatments with past treatments, vegetation with fire-resistant serial stages, natural barriers, and roads in order to constrain fire spread and growth.	Yes	3012 and BMP Appendix under Vegetation Treatment		
							Proposed Plan	MA 3012 BMP Appendix under Veg Treatment	“Utilizing Best Management Practices (BMPs) such as those identified in Appendix H, establish fuels treatment projects at strategic locations to minimize size of wildfires and limit further loss of greater sage-grouse habitat. Restore native or desirable plants and create landscape patterns to benefit sage-grouse. In suitable habitat within sage-grouse Core Area, incorporate sage-grouse specific habitat objectives and apply appropriate seasonal restrictions for implementing vegetation management treatments in sage-grouse Core Area. Do not allow treatments in Core Area winter concentration areas unless the treatments are designed to strategically reduce wildfire risk around or in the winter range and will maintain winter range habitat quality.” “Design vegetation treatments in sage-grouse habitats to strategically reduce wildfire threats in the greatest area. This may involve spatially arranging new vegetation treatments with past treatments, vegetation with fire-resistant serial stages, natural barriers, and roads in order to constrain fire spread and growth. This may require vegetation treatments to be implemented in a more linear versus block design.”	
105	28	Vegetation Treatments	General	RMP-MA	GHA/PHA	Include sage-grouse habitat parameters as defined by Connelly et al. (2000), Hagen et al. (2007) or if available, State Sage-Grouse Conservation plans and appropriate local information in habitat restoration objectives. Make maintaining these objectives within priority sage-grouse habitat areas a high restoration priority.	Yes	BMP Appendix “Re seeding”		
							Proposed Plan	BMP Appendix at page7	“Make re-establishment of sagebrush and desirable understory plant cover (relative to ecological site potential) a high priority for restoration efforts. Write specific vegetation objectives to reestablish sagebrush cover and desirable understory cover.”	
106	28	Vegetation Treatments	General	RMP-MA	GHA/PHA	Make re-establishment of sagebrush and desirable understory plant cover (relative to ecological site potential) a high priority for restoration efforts. Write specific vegetation objectives to reestablish sage-brush cover and desirable understory cover.	Yes	BMP Appendix “Re seeding”		
							Proposed Plan	BMP Appendix at page 7	“Make re-establishment of sagebrush and desirable understory plant cover (relative to ecological site potential) a high priority for restoration efforts. Write specific vegetation objectives to reestablish sagebrush cover and desirable understory cover.”	
107	-	Vegetation Treatments	General	RMP-MA	GHA/PHA	Where applicable and technically feasible, apply Best Management Practices identified in this table’s BMP Section D: Vegetation Treatments	Yes	3012		
							Proposed Plan	MA 3012	Utilizing Best “Management Practices (BMPs) such as those identified in Appendix H, establish fuels treatment projects at strategic locations to minimize size of wildfires and limit further loss of greater sage-grouse habitat. Restore native or desirable plants and create landscape patterns to benefit sage-grouse. In suitable habitat within sage-grouse Core Area, incorporate sage-grouse specific habitat objectives and apply appropriate seasonal restrictions for implementing vegetation management treatments in sage-grouse Core Area. Do not allow treatments in Core Area winter concentration areas unless the treatments are designed to strategically reduce wildfire risk around or in the winter range and will maintain winter range habitat quality.”	
108	28	Vegetation Treatments	General	Implementation Guideline	GHA/PHA	Prioritize implementation of restoration projects based on environmental variables that improve chances for project success in	Yes	3003		

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						areas most likely to benefit sage-grouse (Meinke et al. 2009).				
							Proposed Plan	MA 3003	“Inventory the FRCC (Map 42) of the vegetative communities found within the fire management units (Map 43). In coordination with stakeholders and in consideration of sage-grouse Core Area objectives, prioritize areas requiring treatment and utilize appropriate vegetation treatment techniques to improve the condition class across a landscape. Prioritize those projects in areas with the greatest benefits and the highest likelihood of wildfire. “	
109	-	Vegetation Treatments	General	Implementation Guideline	GHA/PHA	Prioritize vegetation treatments that are designed to strategically reduce wildfire threat in areas of high fire risk rather than where the probability of fire is low and the potential for natural post-fire recovery is high.	Yes	3003	See No. 108	
110	27	Vegetation Treatments	General	Implementation Guideline	GHA/PHA	Prioritize native seed allocation for use in priority sage-grouse habitat in years when preferred native seed is in short supply.	Yes	BMP Appendix “Re seeding”	Not part of BLM RMP decision; would be implemented during site specific seeding.	
							Proposed Plan	BMP at page 7	“Prioritize native seed allocation for use in Core Area in years when preferred native seed is in short supply.”	
111	-	Vegetation Treatments	General	Implementation Guideline	GHA/PHA	Prioritize restoration treatments and monitoring in seasonal habitats that are thought to be limiting sage-grouse distribution and/or abundance. Write specific land use plan objectives and design treatments to achieve vegetation that provides seasonal habitat where it is thought to be limiting.	Partially	3003	Sage-grouse distribution is not limited by seasonal habitat for the most part.	
							Proposed Plan	MA 3003	“Inventory the FRCC (Map 42) of the vegetative communities found within the fire management units (Map 43). In coordination with stakeholders and in consideration of sage-grouse Core Area objectives, prioritize areas requiring treatment and utilize appropriate vegetation treatment techniques to improve the condition class across a landscape. Prioritize those projects in areas with the greatest benefits and the highest likelihood of wildfire. “	
112	71	Vegetation Treatments	General	Implementation Guideline	GHA/PHA	Give priority for implementing specific sage-grouse habitat restoration projects in annual grasslands first to sites which are adjacent to or surrounded by sage-grouse key habitats (e.g., buffers around intact habitats); second to annual grasslands when the sites are not adjacent to key habitat, but are within 2 miles of key habitat; and third to sites beyond 2 miles of key habitat. The intent is to focus restoration outward from existing, intact habitat.	Partially	3003	Too strong an emphasis on annual grasslands for Lander’s vegetation community which has very little grasslands (see Map 45).	
Fire Management										
113	27	Fire Management	General	RMP-MA	PHA	In priority sage-grouse habitat areas, prioritize suppression, immediately after firefighter and public safety to conserve the habitat.	Yes	3001		
							Proposed Plan	MA 3001	“Utilize a full suite of wildland fire suppression tactics based upon a full evaluation of the highest priority of firefighter and public safety and other factors such as the circumstances under which a fire occurs, the threat to human infrastructure, important natural and cultural resources, and other values to be protected. Coordinate responses to wildland fire across jurisdictional boundaries. Conduct emergency stabilization and rehabilitation as needed. In greater sage-grouse Core Area, prioritize suppression to conserve the habitat immediately after fire fighter and public safety. Where applicable and technically feasible, apply Greater sage-grouse Best Management Practices such as those identified in Appendix H”	
114	27	Fire Management	General	RMP-MA	GHA	In general sage-grouse habitat assign a high priority for suppression where wildfires threaten priority sage-grouse habitat.	Yes	3015		
							Proposed	MA 30015	“Full suppression of wildland fire is used within the WUI and in areas of critical	

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							Plan		resource values including sage-grouse Core Area. A full range of wildland fire suppression tactics are allowed throughout the planning area, including the use of unplanned ignition to achieve resource benefit."	
115	27	Fire Management	General	RMP-MA	GHA/PHA	Where applicable and technically feasible, apply Best Management Practices identified in this table's BMP Section E: Fire Management.	Yes	3001		
							Proposed Plan	MA 3001	"In greater sage-grouse Core Area, prioritize suppression to conserve the habitat immediately after fire fighter and public safety. Where applicable and technically feasible, apply Greater sage-grouse BMPs such as those identified in Appendix H"	
BMP Section A: West Nile Virus										
116	61	West Nile Virus	General	BMP	GHA/PHA	Increase the size of fresh -water ponds to accommodate a greater volume of water than is discharged. This will result in un-vegetated and muddy shorelines that breeding <i>Cx. tarsalis</i> avoid (De Szalay and Resh 2000). This modification may reduce <i>Cx. tarsalis</i> habitat but could create larval habitat for <i>Culicoides sonorensis</i> , a vector of blue tongue disease, and should be used sparingly (Schmidtman et al. 2000). Steep shorelines should be used in combination with this technique whenever possible (Knight et al. 2003).	Yes	BMP Appendix under Impoundment Pond Design		
							Proposed Plan	BMP page 7	"Design impoundment ponds to reduce attraction to breeding mosquitoes while considering attraction to other vectors of diseases such as blue tongue disease. Design parameters should include steepness of sides, avoidance of shallows less than 2 feet (60cm), and reduction of rooted vegetation (both aquatic and uplands)."	
117	61	West Nile Virus	General	BMP	GHA/PHA	Build steep shorelines to reduce shallow water (>60 cm) and aquatic vegetation around the perimeter of impoundments (Knight et al. 2003). Construction of steep shorelines also will create more permanent ponds that are a deterrent to colonizing mosquito species like <i>Cx. tarsalis</i> which prefer newly flooded sites with high primary productivity (Knight et al. 2003).	Yes	BMP Appendix under Impoundment Pond Design	See BMP in No. 116	
							Proposed Plan	BMP page 7	"Identify permanent ponds so as to reduce the number of newly flooded sites which have high productivity for mosquitoes. Avoid flooding flat terrain or low lying areas."	
118	61	West Nile Virus	General	BMP	GHA/PHA	Maintain the water level below that of rooted vegetation for a muddy shoreline that is unfavorable habitat for mosquito larvae. Rooted vegetation includes both aquatic and upland vegetative types. Avoid flooding terrestrial vegetation in flat terrain or low lying areas. Aquatic habitats with a vegetated inflow and outflow separated by open water produce 5-10 fold fewer <i>Culex</i> mosquitoes than completely vegetated wetlands (Walton and Workman 1998). Wetlands with open water also had significantly fewer stage III and IV instars which may be attributed to increased predator abundances in open water habitats (Walton and Workman 1998).	Yes	BMP Appendix under Impoundment Pond Design	See BMP in No. 116	
119	61	West Nile Virus	General	BMP	GHA/PHA	Construct dams or impoundments that restrict down slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage, or lining constructed ponds in areas where seepage is anticipated (Knight et al. 2003).	Yes	BMP Appendix under Impoundment Pond Design		
							Proposed Plan	BMP page 7	"Avoid down slope seepage or overflow (including from natural drainage). Line constructed ponds as necessary to avoid seepage. Prevent shallow surface inflow and accumulation of sediment that promotes aquatic vegetation through piping discharge into open water and lining channels."	

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120	61	West Nile Virus	General	BMP	GHA/PHA	Line the channel where discharge water flows into the pond with crushed rock, or use a horizontal pipe to discharge inflow directly into existing open water, thus precluding shallow surface inflow and accumulation of sediment that promotes aquatic vegetation.	Yes	BMP Appendix under Impoundment Pond Design	See BMP provided in No. 119	
121	61	West Nile Virus	General	BMP	GHA/PHA	Line the overflow spillway with crushed rock, and construct the spillway with steep sides to preclude the accumulation of shallow water and vegetation.	Yes	BMP Appendix under Impoundment Pond Design		
							Proposed Plan	BMP page 7	"Line the overflow spillway with crushed rock, and construct the spillway with steep sides to preclude the accumulation of shallow water and vegetation."	
122	61	West Nile Virus	General	BMP	GHA/PHA	Fence pond site to restrict access by livestock and other wild ungulates that trample and disturb shorelines, enrich sediments with manure and create hoof print pockets of water that are attractive to breeding mosquitoes	Yes	BMP Appendix under Impoundment Pond Design		
							Proposed Plan	BMP page 7	"Fence pond site to restrict access by livestock and other wild ungulates that trample and disturb shorelines, enrich sediments with manure and create hoof print pockets of water that are attractive to breeding mosquitoes."	
BMP Section B: Fluid Minerals										
123	63	BMP Appendix	Roads	BMP	PHA	Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.	Yes	BMP Appendix under Roads		
							Proposed Plan	BMP page 7	"Design roads to minimize total disturbance to the smallest amount possible and to the lowest standard while meeting road objectives or purpose including safety. "	
124	63	BMP Appendix	Roads	BMP	PHA	Locate roads to avoid important areas and habitats.	Yes	BMP Appendix under Roads		
							Proposed Plan	BMP page 7	"Locate roads to avoid important habitats for greater sage-grouse and other wildlife. Identify measures to reduce the use of motorized vehicles to reduce adverse impacts to wildlife."	
125	63	BMP Appendix	Roads	BMP	PHA	Coordinate road construction and use among Federal fluid mineral lessees and ROW holders.	Yes	BMP Appendix under Roads		
							Proposed Plan	BMP page 7	"When responding to a request for a road, develop a transportation plan on a landscape scale so as to consider all parties who will be authorized to use the road."	
126	63	BMP Appendix	Roads	BMP	PHA	Construct road crossings of ephemeral, intermittent, and perennial streams to minimize impacts to the riparian habitat, such as by crossing at right angles to ephemeral drainages and stream crossings.	Yes	BMP Appendix under Roads		
							Proposed Plan	BMP page 7	"If road crossings of linear water features (such as ephemeral, intermittent, and perennial streams) cannot be avoided, construct crossings to minimize impacts to the riparian habitat. Usually this will mean crossing the feature at right angles. Temporary, portable bridges should be considered."	
127	63	BMP Appendix	Roads	BMP	PHA	Establish slow speed limits on BLM-administered roads or design roads for slower vehicle speeds to reduce sage-grouse mortality.	Yes	BMP Appendix under Miscellaneous		
							Proposed Plan	BMP page 7 Page 10	"Establish speed limits that will reduce vehicle speed to reduce sage-grouse mortality." "Establish slow speed limits on BLM-administered roads or design roads for slower vehicle speeds to reduce sage-grouse mortality and other wildlife conflicts."	
128	63	BMP Appendix	Roads	BMP	PHA	Do not issue ROWs to counties on newly constructed energy development roads, unless for a temporary use consistent with all other terms and conditions included in this document.	Yes	BMP Appendix under Roads		
							Proposed Plan	BMP page 8	"Limit the use of the road including not making it part of the public road network or implementing seasonal closures. Restrict motorized vehicle use to authorize users using	

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									signage, gates, and other devices.” See BMP quoted in No. 128	
129	63	BMP Appendix	Roads	BMP	PHA	Restrict vehicle traffic to only authorized users on newly constructed routes (using signage, gates, etc.)	Yes	BMP Appendix under Roads		
130	63	BMP Appendix	Roads	BMP	PHA	Apply dust abatement on roads, well pads, and other surface disturbances.	Yes	BMP Appendix under Roads		
							Proposed Plan	BMP page 8	“Apply dust abatement to roads and other unreclaimed disturbed soils.”	
131	63	BMP Appendix	Roads	BMP	PHA	Close and rehabilitate duplicate roads by restoring original landform and establishing desirable vegetation.	Yes	BMP Appendix under Roads		
							Proposed Plan	BMP page 8	“Close and rehabilitate duplicate roads and ROWs no longer being utilize. When reseeded restoring original landform and establishing desirable vegetation, use appropriate seed mixtures or transplants as provided above and in the Reclamation Appendix.”	
132	63	BMP Appendix	Operations	BMP	PHA	Cluster disturbances, operations (hydraulic fracture stimulation, liquids gathering, etc.), and facilities.	Yes	BMP Appendix under Facilities		
							Proposed Plan	BMP page 5	“Co-locate new development (facilities, pipelines, etc.) in existing disturbances or in areas where reclamation success has not been fully achieved. Cluster disturbances, operations (hydraulic fracture stimulation, liquids gathering, etc.), and facilities. Co-locate powerlines, flowlines, and small pipelines under or immediately adjacent to existing roads. Design or site permanent structures to minimize impacts to sage-grouse, with emphasis on locating and operating facilities that create movement (e.g., pump jacks) or attract frequent human use and vehicular traffic (e.g., fluid storage tanks) in a manner to minimize disturbance of sage-grouse or interference with habitat use.”	
133	63	BMP Appendix	Operations	BMP	PHA	Use directional and horizontal drilling to the extent feasible as a means to reduce surface disturbance in relation to the number of wells.	Yes	BMP Appendix under Mineral Development		
							Proposed Plan	BMP page 9	“Where feasible, co-locate new development (facilities, pipelines, etc.) in existing disturbances. Cluster disturbances, operations (hydraulic fracture stimulation, liquids gathering, etc.), and facilities. Use drilling techniques to reduce surface disturbance in relation to the number of wells where feasible. Place liquid gathering facilities and compressor stations outside Core Area, if technically feasible. Identify measures to reduce traffic in Core Area.”	
							FWS comments		“In the proposed plan, the Service recommends the words ‘if technically feasible’ be removed from the sentence that discusses the placement of liquid gathering facilities and compressor stations outside of Core Area.” Lander Response: Lander considers that prohibiting liquid gathering and similar facilities in new disturbance in Core Area is unnecessarily severe and could preclude a lessee from developing a lease where the distance to get outside of Core Area would be too great to be technically feasible and could result in overall greater surface disturbance by needing a longer route to get outside Core.	
134	63	BMP Appendix	Operations	BMP	PHA	Place infrastructure in already disturbed locations where the habitat has not been fully restored.	Partially	BMP Appendix under Facilities	See BMP identified in No. 133	
135	63	BMP Appendix	Operations	BMP	PHA	Consider using oak (or other material) mats for drilling activities where topography permits to reduce vegetation disturbance and for temporary roads between closely spaced wells to reduce soil compaction and maintain soil structure to increase likelihood of vegetation reestablishment following drilling.	Yes	BMP Appendix under Facilities		
							Proposed Plan	BMP page 6	“Where applicable, use mats for drilling activities where topography permits to reduce vegetation disturbance and as temporary roads between closely spaced wells to reduce soil compaction and maintain soil structure to increase likelihood of vegetation	

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								BMP page 9	reestablishment.” “Give overall consideration to impacts to sage-grouse in applying technically feasible COAs . Selection and application of these measures shall be based on current science and research on the effects to important breeding, nesting, brood-rearing, and wintering areas. The plan of development or Plan of Operations as applicable, shall address, at a minimum, the anticipated noise, density and amount of disturbance, mechanical movement (e.g., pump jacks), permanent and temporary facilities, traffic, phases of development over time, offsite mitigation, and expected periods of use associated with the proposed project. The NEPA analysis and authorization should identify seasonal habitats or typical project features related to potential sage-grouse impacts such as drill mats that are not made a part of the COA based on site-specific or project-specific considerations and the explanation of why these protections were not included.”	
136	63	BMP Appendix	Operations	BMP	PHA	Apply a phased development approach with concurrent reclamation.	Yes	MA 8014 BMP Appendix under Facilities	See BMP quoted in No. 135. Concurrent reclamation is always required; phased development is considered in every NEPA document.	
							Proposed Plan	MA 8014 BMP page 5	“Consider paced development options for mineral and energy development projects in the planning area to avoid adverse impacts to socioeconomic conditions.” “Apply a phased development approach with concurrent interim reclamation.”	
137	63	BMP Appendix	Operations	BMP	PHA	Place liquid gathering facilities outside priority areas. Do not place tanks at well locations within priority habitat areas to reduce truck traffic and perching and nesting sites for ravens and raptors	Yes	BMP Appendix under Facilities		
							Proposed Plan	BMP page 9	“Place liquid gathering facilities and compressor stations outside Core Area, if technically feasible.”	
138	-	BMP Appendix	Operations	BMP	PHA	Use remote monitoring techniques for production facilities and develop a plan to reduce the frequency of vehicle use (Lyon and Anderson 2003).	Yes	BMP Appendix under Mineral Development		
							Proposed Plan	BMP page 10	“Use remote monitoring techniques for production facilities.”	
139	64	BMP Appendix	Operations	BMP	PHA	Restrict the construction of tall facilities, distribution powerlines, and fences to the minimum number and amount needed.	Yes	BMP Appendix under Facilities		
							Proposed Plan	BMP page 6	“Restrict the construction of tall facilities, distribution powerlines, fences, and other infrastructure to the minimum number and amount needed. Place facilities such as tanks which could serve as sage-grouse predator perches outside of Core Area. Equip tanks and other above-ground facilities with structures or devices that discourage nesting of ravens and raptors.”	
140	64	BMP Appendix	Operations	BMP	PHA	Site and/or minimize linear ROWs to reduce disturbance and fragmentation of sagebrush habitats.	Yes	BMP Appendix under Facilities		
							Proposed Plan	BMP page 6	“Site and/or minimize linear features to reduce disturbance and fragmentation of sage-grouse habitats.”	
141	64	BMP Appendix	Operations	BMP	PHA	Collocate new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.	Yes	BMP Appendix under Facilities		
							Proposed Plan	BMP page 5	“Co-locate new development (facilities, pipelines, etc.) in existing disturbances or in areas where reclamation success has not been fully achieved. Cluster disturbances, operations (hydraulic fracture stimulation, liquids gathering, etc.), and facilities. Co-locate powerlines, flowlines, and small pipelines under or immediately adjacent to existing roads. Design or site permanent structures to minimize impacts to sage-grouse, with emphasis on locating and operating facilities that create movement (e.g., pump jacks) or attract frequent human use and vehicular traffic (e.g., fluid storage tanks) in a	

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									manner to minimize disturbance of sage-grouse or interference with habitat use.”	
142	64	BMP Appendix	Operations	BMP	PHA	Bury new distribution power lines except when an existing line is already in place.	Partially	BMP Appendix under Facilities	In LFO, burying PL could have adverse consequences that are not offset by the benefits of reducing predator perches. Increased INNS and reduced native vegetation could result.	
							Proposed Plan	BMP Appendix	“Evaluate whether the benefits to sage-grouse from burying powerlines would outweigh the potential loss of habitat from the disturbance associated with the burying of the line considering the potential threat from INNS, low reclamation potential, and other factors. Require the burying of the powerlines unless the proponent establishes that burying is not technically feasible.”	
143	64	BMP Appendix	Operations	BMP	PHA	Collocate powerlines, flowlines, and small pipelines under or immediately adjacent to existing roads (Bui et al. 2010).	Yes	BMP Appendix under Facilities		
							Proposed Plan	BMP page 5	“Co-locate powerlines, flowlines, and small pipelines under or immediately adjacent to existing roads.”	
144	64	BMP Appendix	Operations	BMP	PHA	Design or site permanent structures to minimize impacts to sage-grouse, with emphasis on locating and operating facilities that create movement (e.g., pump jacks) or attract frequent human use and vehicular traffic (e.g., fluid storage tanks) in a manner to minimize disturbance of sage-grouse or interference with habitat use.	Yes	BMP Appendix under Facilities and Mineral Development		
							Proposed Plan	BMP page 5	“Design or site permanent structures to minimize impacts to sage-grouse, with emphasis on locating and operating facilities that create movement (e.g., pump jacks) or attract frequent human use and vehicular traffic (e.g., fluid storage tanks) in a manner to minimize disturbance of sage-grouse or interference with habitat use.”	
145	64	BMP Appendix	Operations	BMP	PHA	Cover all fluid-containing pits and open tanks with netting (maximum 1.5-inch mesh size).	Yes	BMP Appendix under Mineral Development		
							Proposed Plan	BMP page 10	“Cover all fluid-containing pits and open tanks with netting (maximum 1.5-inch mesh size). “	
146	64	BMP Appendix	Operations	BMP	PHA	Equip tanks and other above-ground facilities with structures or devices that discourage nesting of ravens and raptors.	Yes	BMP Appendix under Facilities		
							Proposed Plan	BMP page 6	“Equip tanks and other above-ground facilities with structures or devices that discourage nesting of ravens and raptors.”	
147	64	BMP Appendix	Operations	BMP	PHA	Control the spread and effects of invasive non-native plant species (Evangelista et al. 2011), including treating weeds prior to surface disturbance and washing vehicles and equipment at designated wash stations when constructing in areas with weed infestations).	Yes	4027		
							Proposed Plan	MA 4027	“On a case-by-case basis, require that all equipment and vehicles used for BLM-authorized activities be cleaned for seeds of noxious weeds and INNS before moving onto BLM-administered lands. If the area on which BLM-authorized activities take place is identified as being a high risk for invasive and/or noxious weeds require that vehicles be cleaned before leaving the worksite with prescriptions for the disposal of wash water.”	
148	65	BMP Appendix	Reclamation	BMP	PHA	Maximize the area of interim reclamation on long-term access roads and well pads, including reshaping, topsoiling, and revegetating cut-and-fill slopes.	Yes	BMP Appendix under Facilities		
							Proposed Plan	BMP page 10	“Maximize the area of interim reclamation on long-term access roads and well pads, including reshaping, topsoiling, and revegetating cut-and-fill slopes.”	
149	65	BMP Appendix	Reclamation	BMP	PHA	Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.	Yes	BMP Appendix under Facilities		
							Proposed Plan	BMP page 6	“Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.”	

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National Technical Team (NTT) Report Conservation Measures							Lander Resource Management Plan (RMP) Conformance			
No.	NTT Pg.	Program Areas	Program Activity	Management Action	Habitat	NTT Conservation Measures	Addressed in RMP	Reference	Lander Comment	Reviewers' Comments
150	65	BMP Appendix	Reclamation	BMP	PHA	Implement irrigation during interim or final reclamation for sites where establishment of seedlings has been shown or is expected to be difficult due to dry conditions.	Yes	BMP Appendix under Reseeding		
							Proposed Plan	BMP page 6	“Utilize enhanced reclamation if needed to support more rapid interim and final reclamation including irrigation, mulching, soil amendments, and erosion blankets.”	
151	65	BMP Appendix	Reclamation	BMP	PHA	Use mulching, soil amendments, and/or erosion blankets to expedite reclamation and to protect soils.	Yes	BMP Appendix under Reseeding	See quoted BMP in No. 150	
152	65	BMP Appendix	Roads	BMP	GHA/PHA	Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.	Yes	BMP Appendix under Roads		
							Proposed Plan	BMP page 7	“Design roads to minimize total disturbance to the smallest amount possible and to the lowest standard while meeting road objectives or purpose including safety. “	
153	65	BMP Appendix	Roads	BMP	GHA/PHA	Do not issue ROWs to counties on energy development roads, unless for a temporary use consistent with all other terms and conditions including this document.	Yes	BMP Appendix	Same as #128	
154	65	BMP Appendix	Roads	BMP	GHA/PHA	Establish slow speed limits on BLM-administered roads or design roads for slower vehicle speeds to reduce sage-grouse mortality.	Yes	BMP Appendix	Same as #127	
155	65	BMP Appendix	Roads	BMP	GHA/PHA	Coordinate road construction and use among Federal fluid mineral lessees and ROW holders.	Yes	BMP Appendix	Same as #125	
156	65	BMP Appendix	Roads	BMP	GHA/PHA	Construct road crossings of ephemeral, intermittent, or perennial streams to minimize impacts to the riparian habitat, such as by crossing at right angles to ephemeral drainages and stream crossings.	Yes	BMP Appendix	Same as #126	
157	65	BMP Appendix	Roads	BMP	GHA/PHA	Apply dust abatement on roads, well pads, and other surface disturbances.	Yes	BMP Appendix	Same as #130	
158	66	BMP Appendix	Roads	BMP	GHA/PHA	Close and rehabilitate duplicate roads by restoring original landform and establishing desired vegetation.	Yes	BMP Appendix	Same as #131	
159	66	BMP Appendix	Operations	BMP	GHA/PHA	Cluster disturbances, operations (hydraulic fracturing stimulation, liquids gathering, etc.), and facilities.	Yes	BMP Appendix	Same as #132	
160	66	BMP Appendix	Operations	BMP	GHA/PHA	Use directional and horizontal drilling to the extent feasible as a means to reduce surface disturbance in relation to number of wells.	Yes	BMP Appendix	Same as #133	
161	66	BMP Appendix	Operations	BMP	GHA/PHA	Restrict the construction of tall facilities, distribution powerlines, and fences to the minimum number and amount needed.	Yes	BMP Appendix	Same as #139	
162	66	BMP Appendix	Operations	BMP	GHA/PHA	Cover fluid-containing pits and open tanks with netting (1.5-inch maximum mesh size).	Yes	BMP Appendix under Roads	Same as #140	
163	66	BMP Appendix	Operations	BMP	GHA/PHA	Equip tanks and other above-ground facilities with structures or devices that discourage nesting by ravens and raptors.	Yes	BMP Appendix under Facilities	Same as #146	
164	66	BMP Appendix	Operations	BMP	GHA/PHA	Use remote monitoring techniques for production facilities and develop a plan to reduce vehicular traffic frequency of vehicle use.	Yes	BMP Appendix	Same as #138	
165	66	BMP Appendix	Operations	BMP	GHA/PHA	Control the spread and effects of invasive from non-native plant species, including treating weeds prior to surface disturbance and washing vehicles and equipment at designated wash stations when constructing in areas with weed infestations. (e.g., by washing vehicles and equipment.)	Yes	BMP Appendix	Same as #147	
166	66	BMP Appendix	Operations	BMP	GHA/PHA	See this table’s BMP Section A: West Nile Virus	Yes	BMP Appendix under Impound Ponds		
BMP Section C: Locatable Minerals										
167	68	BMP Appendix	Roads	BMP	GHA/PHA	Design roads to an appropriate standard no higher than necessary to accommodate their intended purposes.	Yes	BMP Appendix	Same as #152	

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168	68	BMP Appendix	Roads	BMP	GHA/PHA	Locate roads to avoid important areas and habitats.	Yes	BMP Appendix	Same as #155, 125	
169	68	BMP Appendix	Roads	BMP	GHA/PHA	Coordinate road construction and use among ROW holders.	Yes	BMP Appendix	Same as #156, 126	
170	68	BMP Appendix	Roads	BMP	GHA/PHA	Construct road crossing at right angles to ephemeral drainages and stream crossings.	Yes	BMP Appendix	Same as #154	
171	68	BMP Appendix	Roads	BMP	GHA/PHA	Establish speed limits on BLM system roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.	Yes	BMP Appendix	Same as #127	
172	68	BMP Appendix	Roads	BMP	GHA/PHA	Do not issue ROWs to counties on mining development roads, unless for a temporary use consistent with all other terms and conditions including this document	Yes	BMP Appendix	Same as #128	
173	68	BMP Appendix	Roads	BMP	GHA/PHA	Restrict vehicle traffic to only authorized users on newly constructed routes (e. g., use signing, gates, etc.)	Yes	BMP Appendix	Same as #129	
174	68	BMP Appendix	Roads	BMP	GHA/PHA	Use dust abatement practices on roads and pads.	Yes	BMP Appendix	Same as #157, 130	
175	68	BMP Appendix	Roads	BMP	GHA/PHA	Close and reclaim duplicate roads, by restoring original landform and establishing desired vegetation'	Yes	BMP Appendix	Same as #131	
176	68	BMP Appendix	Operations	BMP	GHA/PHA	Cluster disturbances associated with operations and facilities as close as possible.	Yes	BMP Appendix	Same as #1558. 132	
177	68	BMP Appendix	Operations	BMP	GHA/PHA	Place infrastructure in already disturbed locations where the habitat has not been restored.	Yes	BMP Appendix	Same as #134	
178	68	BMP Appendix	Operations	BMP	GHA/PHA	Restrict the construction of tall facilities and fences to the minimum number and amount needed.	Yes	BMP Appendix	Same as #161, 139	
179	68	BMP Appendix	Operations	BMP	GHA/PHA	Site and/or minimize linear ROWs to reduce disturbance to sagebrush habitats.	Yes	BMP Appendix	Same as #140	
180	68	BMP Appendix	Operations	BMP	GHA/PHA	Place new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.	Yes	BMP Appendix	Same as #141	
181	68	BMP Appendix	Operations	BMP	GHA/PHA	Bury power lines.	Yes	BMP Appendix	Same as #142	
182	68	BMP Appendix	Operations	BMP	GHA/PHA	Cover (e.g., fine mesh netting or use other effective techniques) all pits and tanks regardless of size to reduce sage-grouse mortality.	Yes	BMP Appendix	Same as #145	
183	68	BMP Appendix	Operations	BMP	GHA/PHA	Equip tanks and other above ground facilities with structures or devices that discourage nesting of raptors and corvids.	Yes	BMP Appendix	Same as #146	
184	69	BMP Appendix	Operations	BMP	GHA/PHA	Control the spread and effects of non-native plant species (Gelbard and Belnap 2003, Bergquist et al. 2007).	Yes	BMP Appendix	Same as #147	
185	69	BMP Appendix	Operations	BMP	GHA/PHA	See this table's BMP Section A: West Nile Virus	Yes	BMP Appendix		
186	69	BMP Appendix	Operations	BMP	GHA/PHA	Require sage-grouse-safe fences around sumps.	Yes	BMP Appendix	"Require sage-grouse safe fences around sumps, pits, and other trenching." BMP Page 3	
187	69	BMP Appendix	Operations	BMP	GHA/PHA	Clean up refuse (Bui et al. 2010).	Yes	BMP Appendix	Same as #65	
188	69	BMP Appendix	Operations	BMP	GHA/PHA	Locate man camps outside of priority sage-grouse habitats.	Yes	BMP Appendix	Same as #71	
189	69	BMP Appendix	Reclamation	BMP	GHA/PHA	Include restoration objectives to meet sage-grouse habitat needs in reclamation practices/sites.	Yes	BMP Appendix	Same as #72	
190	69	BMP Appendix	Reclamation	BMP	GHA/PHA	Address post reclamation management in reclamation plan such that goals and objectives are to protect and improve sage-grouse habitat needs.	Yes	BMP Appendix	See #72	
191	69	BMP	Reclamation	BMP	GHA/PHA	Maximize the area of interim reclamation on long-term access	Yes	BMP Appendix	Same as #148	

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National Technical Team (NTT) Report Conservation Measures							Lander Resource Management Plan (RMP) Conformance			
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		Appendix				roads and well pads including reshaping, topsoiling and revegetating cut and fill slopes.				
192	69	BMP Appendix	Reclamation	BMP	GHA/PHA	Restore disturbed areas at final reclamation to pre-disturbance landform and desired plant community	Yes	BMP Appendix	Same as #149	
193	69	BMP Appendix	Reclamation	BMP	GHA/PHA	Irrigate interim reclamation as necessary during dry periods. Utilize mulching techniques to expedite reclamation.	Yes	BMP Appendix	Same as #150	
BMP Section D: Vegetation Treatments										
194	-	BMP Appendix	General	BMP	GHA/PHA	Identify and work with partners to increase native seed availability and work with plant material centers to develop new plant materials, especially the forbs needed to restore sage-grouse habitat	Yes	BMP Appendix	“Identify and work with partners to increase native seed availability and work with plant material centers to develop new plant materials, especially the forbs needed to restore sage-grouse habitat” page 6	
195	27	BMP Appendix	General	BMP	GHA/PHA	Consider potential changes in climate (Miller et al. 2011) when proposing seedings using native plants. Consider seed collections from the warmer component within a species’ current range for selection of native seed. (Kramer and Havens 2009).	Yes	BMP Appendix	“Consider potential changes in climate (Miller et al. 2011) when proposing seedings using native plants. Consider seed collections from the warmer component within a species’ current range for selection of native seed. (Kramer and Havens 2009).”	
196	-	BMP Appendix	General	BMP	GHA/PHA	Use Ecological Site Descriptions (ESDs) to identify the understory species and sagebrush subspecies needed to restore desirable habitat conditions.	Yes	MA 4018	“Manage vegetation communities for vegetative attributes described in NRCS Ecological Site Guides and to meet identified vegetative goals.”	
197	27	BMP Appendix	General	BMP	GHA/PHA	During vegetation management project design, consider the utility of using livestock to strategically reduce fine fuels (Diamond et al. 2009), and implement grazing management that will accomplish this objective (Davies et al. 2011, Launchbaugh et al. 2007). Consult with ecologists to minimize impacts to native perennial grasses.	Yes	NA	The Affected Environment does not identify the build-up of fine fuels to be a fire risk in the planning area. However, in vegetative treatment EAs (such as for INNS or fuels reduction projects) all tools including livestock grazing are analyzed. This approach is part of looking at a full range of alternatives and not an RMP land use allocation.	
198	71	BMP Appendix	General	BMP	GHA/PHA	Provide to personnel planning vegetation treatments information on sage-grouse biology, habitat requirements, and identification of areas utilized locally.	Yes		Specialists with sage-grouse knowledge are part of the NEPA analysis for vegetation treatments, which is done by an inter-disciplinary team including a wildlife biologist with sage-grouse knowledge. The recommended measure has been added to the BMP section for clarity.	
199	71	BMP Appendix	General	BMP	GHA/PHA	Use vegetation treatment prescriptions that minimize undesirable effects on vegetation or soils (e.g., minimize mortality of desirable plant species and reduce risk of hydrophobicity. Incorporate the standard operating procedures outlined in the 17 states Veg EIS into all treatments.	Yes	BMP Appendix under “Vegetation Treatment” Page 8	“Minimize undesirable effects on vegetation or soils (e.g., minimize mortality of desirable plant species and reduce risk of hydrophobicity. Incorporate vegetation treatment standard operating procedures such as those outlined in the 17 states Vegetation EIS into treatments”	
200	71	BMP Appendix	General	BMP	GHA/PHA	Ensure proposed sagebrush treatments are planned with interdisciplinary input from BLM and /or state wildlife agency biologist and that treatment acreage is conservative in the context of surrounding sage-grouse seasonal habitats and landscape.	Yes	BMP Appendix under “Vegetation Treatment”	“Ensure proposed sagebrush treatments are planned with interdisciplinary input from BLM and state wildlife agency biologist and that treatment acreage is conservative in the context of surrounding sage-grouse seasonal habitats and landscape.”	
201	71	BMP Appendix	General	BMP	GHA/PHA	Ensure that treatments are configured in a manner (e.g., strips) that promotes use by sage-grouse (See Connelly et al., 2000*)	Yes	BMP Appendix under “Vegetation Treatment”	“Ensure that treatments are configured in a manner (e.g., strips) that promotes use by sage-grouse”	
202	71	BMP Appendix	General	BMP	GHA/PHA	Power-wash all vehicles and equipment involved in vegetation treatment activities prior to entering the area to minimize the introduction of undesirable and/or invasive plant species.	Yes	BMP Appendix under “Vegetation Treatment”	“Power-wash all vehicles and equipment involved in vegetation treatment activities prior to entering the area to minimize the introduction of undesirable and/or invasive plant species”. See also MA 4027: “On a case-by-case basis, require that all equipment and vehicles used for BLM-authorized activities be cleaned for seeds of noxious weeds and INNS before moving onto BLM-administered lands. If the area on which BLM-authorized activities take place is identified as being a high risk for invasive and/or noxious weeds require that vehicles be cleaned before leaving the worksite with prescriptions for the disposal of wash water.”	
203	71	BMP Appendix	General	BMP	GHA/PHA	Design vegetation treatments in areas of high wildfire frequency to facilitate firefighter and public safety, reduce the risk of extreme	No	BMP Appendix, Page 9	“Design vegetation treatments in sage-grouse habitats to strategically reduce wildfire threats in the greatest area. This may involve spatially arranging new vegetation	

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National Technical Team (NTT) Report Conservation Measures							Lander Resource Management Plan (RMP) Conformance			
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						fire behavior; and to reduce the risk and rate of fire spread to sage-grouse habitats.			treatments with past treatments, vegetation with fire-resistant serial stages, natural barriers, and roads in order to constrain fire spread and growth. This may require vegetation treatments to be implemented in a more linear versus block design.”	
204	71	BMP Appendix	General	BMP	GHA/PHA	Restore prior perennial grass/shrub plant communities infested with non-native invasive species to a species composition characterized by perennial grasses, forbs, and shrubs as outlined in Ecological Site Descriptions.	Not relevant to Lander	Not applicable to Lander’s ecological sites.	The Affected Environment does not identify this as a risk factor for greater sage-grouse in the planning area.	
205	71	BMP Appendix	General	BMP	GHA/PHA	Remove standing and encroaching trees within at least 100 meters of occupied sage-grouse leks and other habitats (e.g., nesting, wintering, and brood rearing) to reduce the availability of perch sites for avian predators.	Yes	BMP Appendix	“Remove standing and encroaching trees within at least 100 meters of occupied sage-grouse leks and other habitats (e.g., nesting, wintering, and brood rearing) to reduce the availability of perch sites for avian predators.”	
206	72	BMP Appendix	General	BMP	GHA/PHA	Protect wildland areas from wildfire originating on private lands, infrastructure corridors, and recreational areas.	Yes	3015	“Full suppression of wildland fire is used within the WUI and in areas of critical resource values including sage-grouse Core Area. A full range of wildland fire suppression tactics are allowed throughout the planning area, including the use of unplanned ignition to achieve resource benefit.”	
207	72	BMP Appendix	General	BMP	GHA/PHA	Identify roads where the risk of vehicle or human-caused wildfires and the spread of invasive species into sage-grouse habitats could be minimized by planting perennial vegetation (e.g., green-strips) paralleling road rights-of-way. (This BMP could be applied to BLM linear ROW authorizations)	Yes	BMP Appendix under Roads page 8	“Identify roads where the risk of vehicle or human-caused wildfires and the spread of invasive species into sage-grouse habitats could be minimized by planting perennial vegetation (e.g., green-strips) paralleling road rights-of-way. (This BMP could be applied to BLM linear ROW authorizations)”	
208	72	BMP Appendix	General	BMP	GHA/PHA	Strategically place and maintain pre-treated strips/areas (e.g., mowing, herbicide application, and strictly managed grazed strips) to aid in controlling wildfire should wildfire occur near key habitats or important restoration areas (such as where investments in restoration have already been made).	Yes	FMP	The practice of mowing and spraying along state highway and county ROWs is routinely done in Wyoming, including lands within the Lander Field Office. However, the practice of implementing strictly managed grazed strips is not carried out in the lands within the LFO. This type of management is not necessary since fire frequency intervals in the LFO are much lower than in areas where it is practiced. In addition, the costs and time needed to implement this type of practice is prohibitive, therefore it is not used on BLM lands.	
BMP Section E: Fire Management										
209	72	BMP Appendix	General	BMP	GHA/PHA	Develop state-specific sage-grouse reference information and resource materials containing maps, a list of resource advisors, contact information, local guidance, and other relevant information.	Yes	BMP Appendix under Fire Page 8	“Develop state-specific sage-grouse reference information and resource materials containing maps, a list of resource advisors, contact information, local guidance, and other relevant information.”	
210	72	BMP Appendix	General	BMP	GHA/PHA	Provide localized maps to dispatch offices and extended attack incident commanders for use in prioritizing wildfire suppression resources and designing suppression tactics.	Yes	BMP Appendix under Fire Page 8	“Provide localized maps to dispatch offices and extended attack incident commanders for use in prioritizing wildfire suppression resources and designing suppression tactics”	
211	72	BMP Appendix	General	BMP	GHA/PHA	Assign a sage-grouse resource advisor to all extended attack fires in or near key sage-grouse habitat areas. Prior to the fire season, provide training to sage-grouse resource advisors on wildfire suppression organization, objectives, tactics, and procedures to develop a cadre of qualified individuals.	Yes	FMP	The LFO assigns resource advisors (RAs) to most, if not all fires within the LFO. Depending on the type of resources issues at risk, the Incident Commander (IC) will request a RA through fire dispatch. For example, if a fire breaks out in an area known to have archeological sites, an archeology RA would be assigned to the fire. Similarly, if a fire breaks out in an area containing a large amount of core sage-grouse habitat, a wildlife RA with knowledge of sage-grouse habitat will be called to advise the IC and Field Manager on appropriate suppression tactics.	
212	72	Fire Management	General	BMP	GHA/PHA	On critical fire weather days, pre-position additional fire suppression resources to optimize a quick and efficient response in sage-grouse habitat areas.	Yes	Standard Operating Procedures under FMP	During periods of extreme fire weather behavior, federal agencies, through the use of fire severity funding can request additional firefighting resources to be placed on standby to assist with fire suppression efforts. This practice is routinely performed in the LFO. Any pre-positioning of firefighting resources in the LFO would respond to fires within sage-grouse habitat areas.	
213	72	Fire Management	General	BMP	GHA/PHA	During periods of multiple fires, ensure line officers are involved in setting priorities.	Yes	Standard Operating Procedures under FMP	In the event of multiple fires within the LFO, line officers are involved in setting priorities. All line officers are required to take “Fire Management of Line Officers” training through the National Training Center (NTC). This is standard operating	

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									procedures in all BLM field offices.	
214	72	Fire Management	General	BMP	GHA/PHA	Locate wildfire suppression facilities (i.e., base camps, spike camps, drop points, staging areas, and heli-bases) in areas where physical disturbance to sage-grouse habitat can be minimized. These include disturbed areas, grasslands, near roads/trails or in other areas where there is existing disturbance or minimal sagebrush cover.	Yes	BMP Appendix under Fire Page 8	"Locate wildfire suppression facilities (i.e., base camps, spike camps, drop points, staging areas, and heli-bases) in areas where physical disturbance to sage-grouse habitat can be minimized. These include disturbed areas, grasslands, near roads/trails or in other areas where there is existing disturbance or minimal sagebrush cover."	
215	72	Fire Management	General	BMP	GHA/PHA	Power-wash all firefighting vehicles, including engines, water tenders, personnel vehicles, and ATVs prior to deploying in or near sage-grouse habitat areas to minimize noxious weed spread.	Yes	MA 3012	"Power wash all fire vehicles including engines, water tenders, personnel vehicles, and OHVs after they have been in the field to help to prevent the establishment or spread of invasive weeds."	
							WGFD comment	MA 3012	Incorporate the recommendation. Lander's response: recommendation is incorporated but the washing of vehicles required whenever they have been in the field. Response time to a fire is often critical so that pre-deployment washing would be unduly burdensome and could come at a time when fire conditions restrict water usage.	
216	72	Fire Management	General	BMP	GHA/PHA	Minimize unnecessary cross-country vehicle travel during fire operations in sage-grouse habitat.	Yes	BMP Appendix under Fire page 8	"Minimize unnecessary cross-country vehicle travel during fire operations in sage-grouse habitat."	
217	72	Fire Management	General	BMP	GHA/PHA	Minimize burnout operations in key sage-grouse habitat areas by constructing direct fireline whenever safe and practical to do so.	Yes		Specific guidance for this type of fire operations are also contained in the objective section of the Fire Management Units (FMUs) for the LFO. This is not addressed in the RMP but will be incorporated at the FMU level.	
218	72	Fire Management	General	BMP	GHA/PHA	Utilize retardant and mechanized equipment to minimize burned acreage during initial attack.	Yes	BMP Appendix under Fire Page 8	"Where applicable, utilize retardant and mechanized equipment to minimize burned acreage in Core Area during extended attack."	
219	72	Fire Management	General	BMP	GHA/PHA	As safety allows, conduct mop-up where the black adjoins unburned islands, dog legs, or other habitat features to minimize sagebrush loss.	Yes	BMP Appendix under Fire Page 8	"As safety allows, conduct mop-up where the black adjoins unburned islands, dog legs, or other habitat features to minimize sagebrush loss."	