PROPOSED CHANGES TO THE

GREATER SAGE-GROUSE NEVADA PLAN AMENDMENT

Forest Service Plan Components[1]

Desired condition - A description of specific social, economic, and/or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed. Desired conditions must be described in terms that are specific enough to allow progress toward their achievement to be determined, but do not include completion dates.

Objective - A concise, measurable, and time-specific statement of a desired rate of progress toward a desired condition or conditions. Objectives should be based on reasonably foreseeable budgets.

Standard - A mandatory constraint on project and activity decision making, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

Guideline – A constraint on project and activity decision making that allows for departure from its terms, so long as the purpose of the guideline is met. Guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

The direction in the following standards and guidelines will be applied consistent with applicable valid existing rights, laws, and regulations.

[1]Plan component definitions are based on generally accepted meanings under the 2012 Planning Rule as Amended.

[2]Priority habitat management areas and general habitat management areas may contain areas of non-habitat, and management direction would not apply to those areas of non-habitat. However, management direction would apply to all areas within sagebrush focal areas including non-habitat. [2]PHMA, GHMA or OHMA, if the location of the proposed authorization is determined to be unsuitable habitat or non-habitat; lacks the ecological potential to become marginal or suitable habitat; and would not result in direct, indirect, or cumulative impacts on greater sage-grouse and its habitat, then plan components would not apply.

Proposed Changes to 2015 Plan Components

This table shows proposed changes to current 2015 Land and Resource Management Plan (LRMP) direction. Text shown in red in the left column has been deleted. Text shown in blue and underlined in the right column that has been added or updated. Referenced tables 1a, 1b, 2, and 3 are displayed at the end of the Proposed Action table.

Current 2015 LRMP Direction	Proposed Action
	Habitat Management Area Map Update Process The Forest Service will conduct a NEPA sufficiency review (FSH 1909.15, Section 18.1) to update the habitat management area maps as new data (e.g., additional greater sage-grouse telemetry data, improved vegetation community data) are incorporated into the model described in "Spatially Explicit Modelling of Greater Sage-Grouse Habitat in Nevada and Northeastern California" (Coates et al. 2014, 2016, as adopted by the State of Nevada in December 2015). If the review indicates no new effects, the maps would be adopted as an administrative change to plan content. If the review indicates potential effects not previously disclosed, the appropriate NEPA and forest planning process will be followed before updating the map.

Current 2015 LRMP Direction	Proposed Action
GRSG-GEN-DC-001-Desired Condition The landscape for greater sage-grouse encompasses large contiguous areas of native vegetation, approximately 6 to 62 square miles in area, to provide for multiple aspects of species life requirements. Within these landscapes, a variety of sagebrush- community compositions exist without invasive species, which have variations in subspecies composition, co-dominant vegetation, shrub cover, herbaceous cover, and stand structure, to meet seasonal requirements for food, cover, and nesting for greater sage-grouse.	**GRSG-GEN-DC-001-Desired Condition** **No change**
GRSG-GEN-DC-002-Desired Condition Anthropogenic disturbance is focused in non-habitat areas outside of priority and general habitat management areas and sagebrush focal areas[2]. Disturbance in general habitat management areas is limited, and there is little to no disturbance in priority habitat management areas and sagebrush focal areas except for valid existing rights and authorized uses.	**GRSG-GEN-DC-002-Desired Condition** Anthropogenic disturbance is focused in non-habitat areas outside of priority and general habitat management areas[2]. Disturbance in general habitat management areas is limited, and there is little to no disturbance in priority habitat management areas except for valid existing rights and authorized uses.

Current 2015 LRMP Direction	Proposed Action
GRSG-GEN-DC-003-Desired Condition In greater sage-grouse habitats, including all seasonal habitats, 70% or more of lands capable of producing sagebrush have 10 to 30% sagebrush canopy cover and less than 10% conifer canopy cover. In addition, within breeding and nesting habitat, sufficient herbaceous vegetation structure and height provides overhead and lateral concealment for nesting and early brood rearing life stages. Within brood rearing habitat, wet meadows and riparian areas sustain a rich diversity of perennial grass and forb species relative to site potential. Within winter habitat, sufficient sagebrush height and density provides food and cover for greater sage-grouse during this seasonal period. Specific desired conditions for greater sage-grouse based on seasonal habitat requirements are in tables 1a and 1b.	**GRSG-GEN-DC-003-Desired Condition** At the landscape scale, in greater sage-grouse habitats, including all seasonal habitats, 70% or more of lands capable of producing sagebrush have 10 to 30% sagebrush canopy cover and less than 10% conifer canopy cover. In addition, within breeding and nesting habitat, sufficient herbaceous vegetation structure and height provides overhead and lateral concealment for nesting and early brood rearing life stages. Within brood rearing habitat, wet meadows and riparian areas sustain a rich diversity of perennial grass and forb species relative to site potential. Within winter habitat, sufficient sagebrush height and density provides food and cover for greater sage-grouse during this seasonal period. Seasonal use periods for greater sage-grouse on the Humboldt-Toiyabe National Forest are in Table 1. Seasonal habitat preferences for use during habitat assessment are in Appendix A.

Current 2015 LRMP Direction	Proposed Action
GRSG-GEN-ST-004-Standard In priority habitat management areas and sagebrush focal areas, do not issue new discretionary written authorizations unless all existing discrete anthropogenic disturbances cover less than 3% of the total greater sage-grouse habitat within the Biologically Significant Unit and the proposed project area, regardless of ownership, and the new use will not cause exceedance of the 3% cap. Discretionary activities that might result in disturbance above 3% at the Biologically Significant Unit and proposed project area would be prohibited unless approved by the forest supervisor with concurrence from the regional forester after review of new or site-specific information that indicates the project would result in a net conservation gain at the Biologically Significant Unit and proposed project area scale. Within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation gain to the species will be achieved. This exception is limited to projects that fulfill the use for which the corridors were designated (e.g., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location. Consider the likelihood of surface disturbing activities as a result of development of valid existing rights when authorizing new projects in priority habitat management areas.	**GRSG-GEN-ST-004-Standard** In priority habitat management areas, do not issue new discretionary written authorizations unless all existing discrete anthropogenic disturbances cover less than 3% of the total greater sage-grouse habitat within the Biologically Significant Unit and the proposed project area, regardless of ownership, and the new use will not cause exceedance of the 3% cap. Discretionary activities that might result in disturbance above 3% at the Biologically Significant Unit and proposed project area would be prohibited unless approved by the forest supervisor with concurrence from the regional forester after review of new or site- specific information that indicates the project would result in a net conservation gain at the Biologically Significant Unit and proposed project area scale. Within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation gain to the species will be achieved. This exception is limited to projects that fulfill the use for which the corridors were designated (e.g., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location. Consider the likelihood of surface disturbing activities as a result of development of valid existing rights when authorizing new projects in priority habitat management areas.

Current 2015 LRMP Direction	Proposed Action
GRSG-GEN-ST-005-Standard In priority and general habitat management areas and sagebrush focal areas, only allow new authorized land uses, if after avoiding and minimizing impacts, any remaining residual impacts to greater sage-grouse or their habitats are fully offset by compensatory mitigation projects that provide a net conservation gain to the species, subject to valid existing rights, by applying beneficial mitigation actions. Any compensatory mitigation will be durable, timely, and in addition to what would have resulted without the compensatory mitigation as addressed in the Mitigation Framework (Appendix B).	**GRSG-GEN-ST-005-Standard** In priority and general habitat management areas, only allow new authorized land uses, if after avoiding and minimizing impacts, any remaining residual impacts to greater sage-grouse or their habitats are fully offset by compensatory mitigation projects that provide a net conservation gain to the species, subject to valid existing rights, by applying beneficial mitigation actions. A common standardized method such as the State of Nevada's Habitat Quantification Tool shall be used to quantify the residual impacts from project activities and any pursuant compensatory mitigation projects. Any compensatory mitigation will be durable, timely, and in addition to what would have resulted without the compensatory mitigation as addressed in the Mitigation Framework (Appendix B)
GRSG-GEN-ST-006-Standard Do not authorize new surface disturbing and disruptive activities that create noise at 10dB above ambient measured at the perimeter of an occupied lek during lekking (March 1 to May 15) from 6 pm to 9 am. Do not include noise resulting from human activities that have been authorized and initiated within the past 10 years in the ambient baseline measurement.	**GRSG-GEN-ST-006-Standard** Do not authorize new surface disturbing and disruptive activities that create noise at 10dB above ambient measured at the perimeter of an active or pending lek during lekking from 6 pm to 9 am. Do not include noise resulting from human activities that have been authorized and initiated within the past 10 years in the ambient baseline measurement.
GRSG-GEN-GL-007-Guideline During breeding and nesting (March 1 to June 30), surface disturbing and disruptive activities to nesting birds should be avoided.	**GRSG-GEN-GL-007-Guideline** During breeding and nesting, surface disturbing and disruptive activities to nesting birds should be avoided.
GRSG-GEN-GL-008-Guideline In priority and general habitat management areas and sagebrush focal areas, conduct surveys during the breeding season during pre-planning operations. Use protocols such as those established by State Fish and Wildlife agencies. The surveys should encompass all suitable greater sage-grouse habitats within 4 miles of the proposed activities.	**GRSG-GEN-GL-008-Guideline** In priority and general habitat management areas, conduct surveys during the breeding season during pre-planning operations. Use protocols such as those established by State Fish and Wildlife agencies. The surveys should encompass all suitable greater sage-grouse habitats within 4 miles of the proposed activities.

Current 2015 LRMP Direction	Proposed Action
GRSG-GEN-GL-009-Guideline When breeding and nesting habitat overlaps with other seasonal habitats, habitat should be managed for breeding and nesting desired conditions in tables 1a and 1b.	**GRSG-GEN-GL-009-Guideline** When breeding and nesting habitat overlaps with other seasonal habitats, habitat should be managed for breeding and nesting desired conditions (GRSG-GEN-DC-003-Desired Condition).
GRSG-GEN-GL-010-Guideline Development of tall structures within 3.0 miles from the perimeter of occupied leks, as determined by local conditions (e.g., vegetation or topography), with the potential to disrupt breeding or nesting by creating new perching/nesting opportunities for avian predators or by decreasing the use of an area, should be restricted within nesting habitat.	**GRSG-GEN-GL-010-Guideline** Development of tall structures within 3.0 miles from active or pending leks, as determined by local conditions (e.g., vegetation or topography), with the potential to disrupt breeding or nesting by creating new perching/nesting opportunities for avian predators or by decreasing the use of an area, should be restricted within nesting habitat.
Adaptive Management	
GRSG-AM-ST-011-Standard If a hard trigger is identified based on either population monitoring or habitat monitoring, immediate action is necessary to stop a severe deviation from GRSG conservation objectives. The hard trigger responses are identified in tables 1 and 2 of the Adaptive Management (Appendix C) for both priority and general management areas.	**GRSG-AM-ST-011-Standard** Hard triggers (signals) represent a threshold that indicates that immediate action needs be considered to stop or reverse a severe deviation from GRSG conservation goals and objectives. The process for evaluating and responding to hard triggers is documented in Appendix C.
GRSG-AM-ST-012-Standard If a soft trigger is identified based on either population monitoring or habitat monitoring, apply more conservative or restrictive implementation measures (e.g., extending seasonal restrictions for seasonal surface disturbing activities, modifying seasons of use for livestock grazing, and applying additional restrictions on discretionary activities) for the specific causal factor in the decline of populations and/or habitats, with consideration of local knowledge and conditions. (Appendix C)	**GRSG-AM-ST-012-Standard** Soft triggers represent an intermediate threshold that indicates that management changes should be considered at the project or implementation level to address GRSG population and/or habitat declines. If a soft trigger is reached, consider additional implementation level management responses to address the known or probable causes of the decline in GRSG habitat or populations with consideration of local knowledge and conditions, as documented in Appendix C.
Lands and Realty	
Special Use Authorizations	

Current 2015 LRMP Direction	Proposed Action
GRSG-LR-SUA-O-013-Objective In nesting habitats, retrofit existing tall structures (e.g., power poles, communication tower sites) with perch deterrents or other anti-perching devices within 2 years of signing the ROD.	**GRSG-LR-SUA-O-013-Objective** **Delete**

Current 2015 LRMP Direction	Proposed Action
GRSG-LR-SUA-ST-014-Standard In priority habitat management areas and sagebrush focal areas, restrict issuance of new lands special use authorizations for infrastructure, such as high- voltage transmission lines, major pipelines, distribution lines, and communication tower sites. Exceptions may include co-location and must be limited (e.g., safety needs) and based on rationale (e.g., monitoring, modeling, or best available science) that explicitly demonstrates that adverse impacts to greater sage-grouse will be avoided by the exception. If co-location of new infrastructure cannot be accomplished, locate it adjacent to existing infrastructure, roads, or already disturbed areas and limit disturbance to the smallest footprint or where it best limits impacts to greater sage-grouse or their habitat. Existing authorized uses will continue to be recognized.	**GRSG-LR-SUA-ST-014-Standard** In priority habitat management areas do not allow new lands special use authorizations for infrastructure, such as high- voltage transmission lines, major pipelines, distribution lines, and communication tower sites. Exceptions may be made if: i. The location of the proposed authorization is determined to be unsuitable habitat or non-habitat; lacks the ecological potential to become marginal or suitable habitat; and would not result in direct, indirect, or cumulative impacts on greater sage-grouse and its habitat. ii. Impacts from the proposed action could be offset through use of the mitigation hierarchy (avoid, minimize, mitigate) to achieve a net conservation gain and demonstrate that the individual and cumulative impacts of the project would not result in habitat fragmentation or other impacts that would cause greater sage-grouse populations to decline. iii. The proposed action would be authorized to address public health and safety concerns, specifically as they relate to local, state, and national priorities. iv. Renewals or re-authorizations of existing infrastructure in previously disturbed sites or expansions of existing infrastructure that have *de minimis* impacts or do not result in direct, indirect, or cumulative impacts on Greater Sage-Grouse and its habitat. v. The proposed action would be determined a routine administrative function conducted by State or local governments, including prior existing uses, authorized uses, valid existing rights and existing infrastructure (i.e., rights-of-way for roads) that serve such a public purpose.

Current 2015 LRMP Direction	Proposed Action
GRSG-LR-SUA-ST-015-Standard In general habitat management areas, new lands special use authorizations may be issued for infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, and communication tower sites, if they can be located within existing designated corridors or rights-of-way and the authorization includes stipulations to protect greater sage-grouse and their habitats. Existing authorized uses will continue to be recognized.	**GRSG-LR-SUA-ST-015-Standard** In general habitat management areas, new lands special use authorizations may be issued for infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, and communication tower sites, if they can be located within existing designated corridors or rights-of-way and the authorization includes stipulations to protect greater sage-grouse and their habitats. Mitigate residual impacts according to GRSG-GEN-ST-005-Standard. Existing authorized uses will continue to be recognized.
GRSG-LR-SUA-ST-016-Standard In priority and general habitat management areas and sagebrush focal areas, do not authorize temporary lands special uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on greater sage-grouse or their habitats.	**GRSG-LR-SUA-ST-016-Standard** In priority habitat and general management areas, do not authorize temporary lands special uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on greater sage-grouse or their habitats.
GRSG-LR-SUA-ST-017-Standard In priority and general habitat management areas and sagebrush focal areas, require protective stipulations (e.g., noise, tall structure, guy wire removal, perch deterrent installation) when issuing new authorizations or during renewal, amendment, or reissuance of existing authorizations that authorize infrastructure (e.g., high- voltage transmission lines, major pipelines, roads, distribution lines, and communication tower sites).	**GRSG-LR-SUA-ST-017-Standard** In priority and general habitat management areas, require protective stipulations (e.g., noise, tall structure, guy wire removal, perch deterrent installation) when issuing new authorizations or during renewal, amendment, or reissuance of existing authorizations that authorize infrastructure (e.g., high- voltage transmission lines, major pipelines, roads, distribution lines, and communication tower sites). Refer to standards GRSG-GEN-ST-004 and GRSG-GEN-ST-005 for disturbance caps and compensatory mitigation for residual impacts.
GRSG-LR-SUA-ST-018-Standard In priority and general habitat management areas and sagebrush focal areas, locate upgrades to existing transmission lines within the existing designated corridors or right-of-way unless an alternate route would benefit greater sage-grouse or their habitats.	**GRSG-LR-SUA-ST-018-Standard** In priority and general habitat management areas, locate upgrades to existing transmission lines within the existing designated corridors or right-of-way unless an alternate route would benefit greater sage- grouse or their habitats.

Current 2015 LRMP Direction	Proposed Action
GRSG-LR-SUA-ST-019-Standard In priority and general habitat management areas and sagebrush focal areas, when a lands special use authorization is revoked or terminated and no future use is contemplated, require the authorization holder to remove overhead lines and other surface infrastructure in compliance with 36 CFR 251.60(i).	**GRSG-LR-SUA-ST-019-Standard** In priority and general habitat management areas, when a lands special use authorization is revoked or terminated and no future use is contemplated, require the authorization holder to remove overhead lines and other surface infrastructure in compliance with 36 CFR 251.60(i).
GRSG-LR-SUA-GL-020-Guideline In priority habitat management areas and sagebrush focal areas, outside of existing designated corridors and rights-of-way, new transmission lines and pipelines should be buried to limit disturbance to the smallest footprint unless explicit rationale is provided that the biological impacts to greater sage-grouse and its habitat are being avoided. If new transmission lines and pipelines are not buried, locate them adjacent to existing transmission lines and pipelines.	**GRSG-LR-SUA-GL-020-Guideline** In priority habitat management areas, outside of existing designated corridors and rights-of-way, new transmission lines and pipelines should be buried to limit disturbance to the smallest footprint unless explicit rationale is provided that the biological impacts to greater sage-grouse and its habitat are being avoided. If new transmission lines and pipelines are not buried, locate them adjacent to existing transmission lines and pipelines.
GRSG-LR-SUA-GL-021-Guideline The best available science and monitoring should be used to inform infrastructure siting in GRSG habitat.	**GRSG-LR-SUA-GL-021-Guideline** **No change**
Land Ownership Adjustments	
GRSG-LR-LOA-ST-022-Standard In priority and general habitat management areas and sagebrush focal areas, do not approve landownership adjustments, including land exchanges, unless the action results in a net conservation gain to greater sage-grouse or it will not directly or indirectly adversely impact greater sage-grouse conservation.	**GRSG-LR-LOA-ST-022-Standard** In priority and general habitat management areas, do not approve landownership adjustments, including land exchanges, unless the action results in a net conservation gain to greater sage-grouse or it will not directly or indirectly adversely impact greater sage-grouse conservation.

Current 2015 LRMP Direction	Proposed Action
GRSG-LR-LOA-GL-023-Guideline In priority and general habitat management areas and sagebrush focal areas with minority Federal ownership, consider landownership adjustments to achieve a landownership pattern (e.g., consolidation, reducing fragmentation) that supports improved greater sage-grouse population trends and habitats.	**GRSG-LR-LOA-GL-023-Guideline** In priority and general habitat management areas with minority Federal ownership, consider landownership adjustments to achieve a landownership pattern (e.g., consolidation, reducing fragmentation) that supports improved greater sage-grouse population trends and habitats.
Land Withdrawl	
GRSG-LR-LW-GL-024-Guideline In priority and general habitat management areas and sagebrush focal areas, use land withdrawals as a tool, where appropriate, to withhold an area from activities that will be detrimental to greater sage-grouse or their habitats.	**GRSG-LR-LW-GL-024-Guideline** **Delete**
Wind and Solar	
GRSG-WS-ST-025-Standard In priority and general habitat management areas and sagebrush focal areas, do not authorize new solar utility-scale and/or commercial energy development except for on-site power generation associated with existing industrial infrastructure (e.g., mine site).	**GRSG-WS-ST-025-Standard** In priority and general habitat management areas, do not authorize new solar utility-scale and/or commercial energy development except for on-site power generation associated with existing industrial infrastructure (e.g., mine site).
GRSG-WS-ST-026-Standard In priority habitat management areas and sagebrush focal areas, do not authorize new wind energy utility-scale and/or commercial development.	**GRSG-WS-ST-026-Standard** In priority habitat management areas, do not authorize new wind energy utility-scale and/or commercial development.

Current 2015 LRMP Direction	Proposed Action
GRSG-WS-GL-027- Guideline In general habitat management areas, new wind energy utility- scale and/or commercial development should be restricted. If development cannot be restricted due to existing authorized use, adjacent developments, or split estate issues, then ensure that stipulations are incorporated into the authorization to protect greater sage-grouse and their habitats.	**GRSG-WS-GL-027- Guideline** In general habitat management areas, new wind energy utility- scale and/or commercial development should be restricted. If development cannot be restricted due to existing authorized use, adjacent developments, or split estate issues, then ensure that stipulations are incorporated into the authorization to protect greater sage-grouse and their habitats. Refer to standards GRSG-GEN-ST-004 and GRSG-GEN-ST-005 for disturbance caps and compensatory mitigation for residual impacts.
Greater Sage-grouse Habitat	
GRSG-GRSG-DC-028-Desired Condition Sagebrush vegetation communities provide contiguous habitat for greater sage grouse, which is resistant and resilient to disturbances such as fire and invasives.	**GRSG-GRSG-DC-028-Desired Condition** **No change**
GRSG-GRSGH-O-029-Objective Every 10 years for the next 50 years, improve greater sage- grouse habitat by removing invading conifers and other undesirable species within the number of acres shown in table 2.	**GRSG-GRSGH-O-029-Objective** Every 10 years for the next 50 years, improve greater sage- grouse habitat by removing invading conifers and other undesirable species within the number of acres shown in table 2, subject to available resources and appropriations.
GRSG-GRSGH-ST-030-Standard Design habitat restoration projects to move towards desired conditions (table 1a or 1b).	**GRSG-GRSGH-ST-030-Standard** Design habitat restoration projects to move towards desired conditions (GRSG-GEN-DC-003-Desired Condition).
GRSG-GRSGH-GL-031-Guideline When removing conifers that are encroaching into greater sage-grouse habitat, avoid persistent woodland (i.e., old growth relative to the site or more than 100 years old).	**GRSG-GRSGH-GL-031-Guideline** **No change**

Current 2015 LRMP Direction	Proposed Action
GRSG-GRSGH-GL-032-Guideline In priority and general habitat management areas and sagebrush focal areas, actions and authorizations should include design features to limit the spread and effect of undesirable non-native plant species.	**GRSG-GRSGH-GL-032-Guideline** In priority and general habitat management areas, actions and authorizations should include design features to limit the spread and effect of undesirable non-native plant species.
GRSG-GRSGH-GL-033-Guideline To facilitate safe and effective fire management actions, in priority and general habitat management areas and sagebrush focal areas, fuel treatments in high- risk areas (i.e., areas likely to experience wildfire at an intensity level that might result in movement away from the greater sage-grouse desired conditions in table 1) should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse attributes to move away from desired conditions (table 1a and table 1b).	**GRSG-GRSGH-GL-033-Guideline** To facilitate safe and effective fire management actions, in priority and general habitat management areas, fuel treatments in high- risk areas (i.e., areas likely to experience wildfire at an intensity level that might result in movement away from the greater sage-grouse desired conditions) should be designed to reduce the spread and/or intensity of wildfire or the susceptibility of greater sage-grouse attributes to move away from desired conditions (GRSG-GEN-DC-003-Desired Condition).
GRSG-GRSGH-GL-034-Guideline In priority and general habitat management areas and sagebrush focal areas, native plant species should be used, when possible, to maintain, restore, or enhance desired habitat conditions (table 1a or 1b).	**GRSG-GRSGH-GL-034-Guideline** In priority and general habitat management areas, native plant species should be used, when possible, to maintain, restore, or enhance desired habitat conditions (GRSG-GEN-DC-003-Desired Condition).
GRSG-GRSGH-GL-035-Guideline In priority habitat management areas and sagebrush focal areas, vegetation treatment projects should only be conducted if they maintain, restore, or enhance desired habitat conditions (table 1a or 1b).	**GRSG-GRSGH-GL-035-Guideline** In priority habitat management areas, vegetation treatment projects should only be conducted if they maintain, restore, or enhance desired habitat conditions (GRSG-GEN-DC-003-Desired Condition).
GRSG-GRSGH-GL-036-Guideline Vegetation treatment activities in lentic riparian areas (i.e., seeps, springs, and wet meadows) in priority and general habitat management areas and sagebrush focal areas, should only be authorized if they maintain or improve conditions to meet greater sage- grouse desired conditions (table 1a or 1b).	**GRSG-GRSGH-GL-036-Guideline** Vegetation treatment activities in lentic riparian areas (i.e., seeps, springs, and wet meadows) in priority and general habitat management areas, should only be authorized if they maintain or improve conditions to meet greater sage- grouse desired conditions (GRSG-GEN-DC-003-Desired Condition).

Current 2015 LRMP Direction	Proposed Action
GRSG-GRSGH-GL-037-Guideline When authorizing vegetation management treatments in priority and general sage grouse habitat management areas and sagebrush focal areas, priority should be given to treatments in Phase I and early Phase II pinyon and/or juniper stands in areas with a sagebrush component. Pinyon-Juniper treatments in Phase I and Phase II condition should be designed to maintain or enhance sagebrush in the treatment areas. Treatments in late Phase II or Phase III condition should only be authorized to create movement corridors, connect habitats, or reduce the potential for catastrophic fire.	**GRSG-GRSGH-GL-037-Guideline** When authorizing vegetation management treatments in priority and general sage grouse habitat management areas, priority should be given to treatments in Phase I and early Phase II pinyon and/or juniper stands in areas with a sagebrush component. Pinyon-Juniper treatments in Phase I and Phase II condition should be designed to maintain or enhance sagebrush in the treatment areas. Treatments in late Phase II or Phase III condition should only be authorized to create movement corridors, connect habitats, or reduce the potential for catastrophic fire.
GRSG-GRSGH-GL-038-Guideline In priority and general habitat management areas and sagebrush focal areas, treatment methodologies should be based on the treatment areas' resistance to annual invasive grasses and the resilience of native vegetation to respond after disturbance. Use mechanical treatments (i.e., do not use fire) in areas with relatively low resistance to annuals and treat areas in early- to mid-phase pinyon-juniper expansion.	**GRSG-GRSGH-GL-038-Guideline** In priority and general habitat management areas, treatment methodologies should be based on the treatment areas' resistance to annual invasive grasses and the resilience of native vegetation to respond after disturbance. Use mechanical treatments (i.e., do not use fire) in areas with relatively low resistance to annuals and treat areas in early- to mid-phase pinyon-juniper expansion.
	GRSG-GRSGH-GL-0XX-Guideline Prioritize treatments for established invasive plant populations that have the potential to impact sage-grouse habitat in priority habitat management areas. Early detection and rapid response treatments remain the focus.
Livestock Grazing	
GRSG-LG-DC-039-Desired Condition In priority and general habitat management areas, sagebrush focal areas, and within lek buffers, livestock grazing is managed to maintain or move towards desired conditions (tables 1a and 1b).	**GRSG-LG-DC-039-Desired Condition** In priority and general habitat management areas livestock grazing is managed to maintain or move towards desired conditions (GRSG-GEN-DC-003-Desired Condition).

Current 2015 LRMP Direction	Proposed Action
GRSG-LG-ST-040-Standard In priority and general management areas and sagebrush focal areas, do not approve construction of water developments unless beneficial to greater sage-grouse habitat and consistent with State approved water rights.	**GRSG-LG-ST-040-Standard** Delete.
GRSG-LG-ST-041-Standard When vertical embankments in water troughs or open water facilities pose a drowning risk to birds, wildlife escape ramps should be installed and maintained.	**GRSG-LG-ST-041-Standard** **No change**
GRSG-LG-GL-042-Guideline Grazing guidelines should be applied in each of the seasonal habitats in table 3. If values in table 3 guidelines cannot be achieved based upon a site-specific analysis using Ecological Site Descriptions, long-term ecological site potential analysis, or other similar analysis, adjust grazing management to move towards desired habitat conditions in table 1a or 1b consistent with the ecological site potential. Do not use drought and degraded habitat condition to adjust values. Grazing guidelines in table 3 would not apply to isolated parcels of National Forest System lands that have less than 200 acres of greater sage-grouse habitat.	**GRSG-LG-ST-042-Standard** In riparian areas and meadows within priority and general habitat management areas, herbaceous utilization will not exceed 50%. If lower utilization standards exist for portions of the planning area, the lower utilization standards apply.
GRSG-LG-GL-043-Guideline In priority and general habitat management areas and sagebrush focal areas, when grazing permits are waived without preference or obtained through permit cancellation, consider the agency's full range of administrative authorities for future allotment management, including, but not limited to allotment closure, vacancy status for resource protection, establishment of forage reserve, re-stocking, or livestock conversion as management options to maintain or achieve desired habitat conditions (table 1).	**GRSG-LG-GL-043-Guideline** In priority and general habitat management areas, when grazing permits are waived without preference or obtained through permit cancellation, consider the agency's full range of administrative authorities for future allotment management, including, but not limited to allotment closure, vacancy status for resource protection, establishment of forage reserve, re-stocking, or livestock conversion as management options to maintain or achieve desired habitat conditions (GRSG-GEN-DC-003-Desired Condition).

Current 2015 LRMP Direction	Proposed Action
GRSG-LG-GL-044-Guideline Bedding sheep and placing camps within 2.0 miles from the perimeter of a lek during lekking (March 1 to May 15) should be restricted.	**GRSG-LG-GL-044-Guideline** Bedding sheep and placing camps within 2.0 miles from an active or pending lek during lekking should be restricted.
GRSG-LG-GL-045-Guideline During the breeding and nesting season (March 1 to June 30), trailing livestock through breeding and nesting habitat should be minimized. Specific routes should be identified, existing trails should be used, and stopovers on active leks should be avoided.	**GRSG-LG-GL-045-Guideline** During the breeding and nesting season, trailing livestock through breeding and nesting habitat should be minimized. Specific routes should be identified, existing trails should be used, and stopovers on active leks should be avoided.
GRSG-LG-GL-046-Guideline Fences should not be constructed or reconstructed within 1.2 miles from the perimeter of occupied leks, unless the collision risk can be mitigated through design features or markings (e.g., mark, laydown fences, or other design features).	**GRSG-LG-GL-046-Guideline** Fences should not be constructed or reconstructed within 1.2 miles from the perimeter of active or pending leks, unless the collision risk can be mitigated through design features or markings (e.g., mark, laydown fences, or other design features).
GRSG-LG-GL-047-Guideline New permanent livestock facilities (e.g., windmills, water tanks, corrals) should not be constructed within 1.2 miles from the perimeter of occupied leks.	**GRSG-LG-GL-047-Guideline** New permanent livestock facilities (e.g., windmills, water storage tanks, corrals) should not be constructed within 1.2 miles from the perimeter of active or pending leks.
Fire Management	
GRSG-FM-DC-048-Desired Condition In priority and general habitat management areas and sagebrush focal areas, protect sagebrush sage grouse habitat from loss due to unwanted wildfires or damages resulting from management related activities while using agency risk management protocols to manage for fire fighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Sage grouse habitat will be prioritized as a high value resource along with other high value resources and assets.	**GRSG-FM-DC-048-Desired Condition** In priority and general habitat management areas, protect sagebrush sage grouse habitat from loss due to unwanted wildfires or damages resulting from management related activities while using agency risk management protocols to manage for fire fighter and public safety and other high priority values. In all fire response, first priority is the management of risk to firefighters and the public. Sage grouse habitat will be prioritized as a high value resource along with other high value resources and assets.

Current 2015 LRMP Direction	Proposed Action
GRSG-FM-ST-049-Standard In priority and general habitat management areas and sagebrush focal areas, do not use prescribed fire in 12-inch or less precipitation zones unless necessary to facilitate restoration of greater sage-grouse habitat consistent with desired conditions in table 1a or 1b or for pile burning.	**GRSG-FM-ST-049-Standard** In priority and general habitat management areas, do not use prescribed fire in 12-inch or less precipitation zones unless necessary to facilitate restoration of greater sage-grouse habitat consistent with desired conditions (GRSG-GEN-DC-003-Desired Condition) or for pile burning.
GRSG-FM-ST-050-Standard In priority and general habitat management areas and sagebrush focal areas, if it is necessary to use prescribed fire for restoration of greater sage-grouse habitat consistent with desired conditions in tables 1a and 1b, the associated NEPA analysis must identify how the project would move towards greater sage-grouse desired conditions, why alternative techniques were not selected, and how potential threats to greater sage-grouse habitat would be minimized.	**GRSG-FM-ST-050-Standard** In priority and general habitat management areas, if it is necessary to use prescribed fire for restoration of greater sage-grouse habitat consistent with desired conditions (GRSG-GEN-DC-003-Desired Condition), the associated NEPA analysis must identify how the project would move towards greater sage-grouse desired conditions, why alternative techniques were not selected, and how potential threats to greater sage-grouse habitat would be minimized.
GRSG-FM-GL-051-Guideline In wintering or breeding and nesting habitat, sagebrush removal or manipulation, including prescribed fire, should be restricted unless the removal strategically reduces the potential impacts from wildfire or supports the attainment of desired conditions.	**GRSG-FM-GL-051-Guideline** In wintering or breeding and nesting habitat, sagebrush removal or manipulation, including prescribed fire, should be restricted unless the removal strategically reduces the potential impacts from wildfire or supports the attainment of desired conditions (GRSG-GEN-DC-003-Desired Condition).
GRSG-FM-GL-052-Guideline In planned fuels management activities or part of an overall vegetative management strategy to mitigate the impacts of wildfire in priority and general habitat management areas and sagebrush focal areas, when reseeding in fuel breaks, fire resistant native plant species should be used if available, or consider using fire resistance non-native species, if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term.	**GRSG-FM-GL-052-Guideline** In planned fuels management activities or part of an overall vegetative management strategy to mitigate the impacts of wildfire in priority and general habitat management areas, when reseeding in fuel breaks, fire resistant native plant species should be used if available, or consider using fire resistant non-native species, if analysis and/or best available science demonstrates that non-native plants will not degrade greater sage-grouse habitat in the long-term.

Current 2015 LRMP Direction	Proposed Action
GRSG-FM-GL-053-Guideline In priority and general habitat management areas and sagebrush focal areas, fuel treatments should be designed to maintain, restore, or enhance greater sage-grouse habitat.	**GRSG-FM-GL-053-Guideline** In priority and general habitat management areas, fuel treatments should be designed to maintain, restore, or enhance greater sage-grouse habitat.
GRSG-FM-GL-054-Guideline Locating temporary wildfire suppression facilities (e.g., incident command posts, spike camps, helibases, mobile retardant plants) in priority and general habitat management areas and sagebrush focal areas should be avoided. When needed to best provide for firefighter or public safety or to minimize fire size in sage grouse habitat, impacts to greater sage grouse should be considered and removal of sagebrush should be limited.	**GRSG-FM-GL-054-Guideline** Locating temporary wildfire suppression facilities (e.g., incident command posts, spike camps, helibases, mobile retardant plants) in priority and general habitat management areas should be avoided. When needed to best provide for firefighter or public safety or to minimize fire size in sage grouse habitat, impacts to greater sage grouse should be considered and removal of sagebrush should be limited.
GRSG-FM-GL-055-Guideline In priority and general habitat management areas and sagebrush focal areas, cross-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in sage grouse habitat, impacts to sage grouse should be considered and removal of sagebrush should be limited.	**GRSG-FM-GL-055-Guideline** In priority and general habitat management areas across-country vehicle travel during fire operations should be restricted. When needed to best provide for firefighter or public safety or to minimize fire size in sage grouse habitat, impacts to sage grouse should be considered and removal of sagebrush should be limited.
GRSG-FM-GL-056-Guideline In priority and general habitat management areas and sagebrush focal areas, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.	**GRSG-FM-GL-056-Guideline** In priority and general habitat management areas, use fire management tactics and strategies that seek to minimize loss of existing sagebrush habitat. The safest and most practical means to do so will be determined by fireline leadership and incident commanders.
GRSG-FM-GL-057-Guideline In priority and general habitat management areas and sagebrush focal areas, prescribed fire prescriptions should minimize undesirable effects on vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).	**GRSG-FM-GL-057-Guideline** In priority and general habitat management areas, prescribed fire prescriptions should minimize undesirable effects on vegetation and/or soils (e.g., minimize mortality of desirable perennial plant species and reduce risk of hydrophobicity).

Current 2015 LRMP Direction	Proposed Action
GRSG-FM-GL-058-Guideline In priority and general habitat management areas and sagebrush focal areas, roads and natural fuel breaks should be incorporated into planned fuel break design to improve effectiveness and minimize loss of existing sagebrush habitat.	**GRSG-FM-GL-058-Guideline** In priority and general habitat management areas, roads and natural fuel breaks should be incorporated into planned fuel break design to improve effectiveness and minimize loss of existing sagebrush habitat.
GRSG-FM-GL-059-Guideline In priority and general habitat management areas and sagebrush focal areas, where practical and available, all fire-associated vehicles and equipment should be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.	**GRSG-FM-GL-059-Guideline** In priority and general habitat management areas, where practical and available, all fire-associated vehicles and equipment should be inspected and cleaned using standardized protocols and procedures and approved vehicle/equipment decontamination systems before entering and exiting the area beyond initial attack activities to minimize the introduction of invasive annual grasses and other invasive plant species and noxious weeds.
GRSG-FM-GL-060-Guideline Unit-specific greater sage-grouse fire management related information should be added to wildland fire decision support systems (currently, the Wildland Fire Decision Support System), local operating plans and resource advisor plans to be used during fire situation to inform management decision, aid in development of strategies and tactics and for the prioritization of resources.	**GRSG-FM-GL-060-Guideline** **No change**
GRSG-FM-GL-061-Guideline Localized maps of priority and general habitat management areas and sagebrush focal areas should be made available to fireline, dispatch and fire support personnel.	**GRSG-FM-GL-061-Guideline** Localized maps of priority and general habitat management areas should be made available to fireline, dispatch and fire support personnel.
GRSG-FM-GL-062-Guideline In or near priority and general habitat management areas and sagebrush focal areas, a greater sage-grouse resource advisor should be assigned to all extended attack fires.	**GRSG-FM-GL-062-Guideline** In or near priority and general habitat management areas, a greater sage-grouse resource advisor should be assigned to all extended attack fires.

Current 2015 LRMP Direction	Proposed Action
GRSG-FM-GL-063-Guideline On critical fire weather days, protection of greater sage-grouse habitat should receive high consideration, along with other high values, for positioning of resources.	**GRSG-FM-GL-063-Guideline** **No change**
GRSG-FM-GL-064-Guideline Line officers should be involved in setting pre-season wildfire response priorities and, prioritizing protection of priority and general habitat management areas and sagebrush focal areas, along with other high values. During periods of multiple fires or limited resource availability fire management organizational structure (local, regional, national) will prioritize fires and allocation of resources in which sage grouse habitat is a consideration along with other high values.	**GRSG-FM-GL-064-Guideline** Line officers should be involved in setting pre-season wildfire response priorities and, prioritizing protection of priority and general habitat management areas, along with other high values. During periods of multiple fires or limited resource availability fire management organizational structure (local, regional, national) will prioritize fires and allocation of resources in which sage grouse habitat is a consideration along with other high values.
GRSG-FM-GL-065-Guideline In priority and general habitat management areas and sagebrush focal areas, consider using fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage, preventing the loss of other high value resources, or increasing the effectiveness of other tactical strategies. Agency administrators, or their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized equipment may be approved by agency administrators, or their designee, or fireline leadership.	**GRSG-FM-GL-065-Guideline** In priority and general habitat management areas, consider using fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage, preventing the loss of other high value resources, or increasing the effectiveness of other tactical strategies. Agency administrators, or their designee, or fireline leadership should consider fire suppression effects while determining suppression strategy and tactics; the use of fire retardant and mechanized equipment may be approved by agency administrators, or their designee, or fireline leadership.
GRSG-FM-GL-066-Guideline In priority and general habitat management areas and sagebrush focal areas, to minimize sagebrush habitat loss, consider using the full range of suppression techniques to protect unburned islands, doglegs, and other sage grouse habitat features that may exist within the perimeter of wildfires. These suppression objectives and activities should be prioritized against other wildland fire suppression activities and priorities.	**GRSG-FM-GL-066-Guideline** In priority and general habitat management areas, to minimize sagebrush habitat loss, consider using the full range of suppression techniques to protect unburned islands, doglegs, and other sage grouse habitat features that may exist within the perimeter of wildfires. These suppression objectives and activities should be prioritized against other wildland fire suppression activities and priorities.
Wild Horse and Burro	

Current 2015 LRMP Direction	Proposed Action
GRSG-HB-DC-067-Desired Condition In priority and general habitat management areas, wild horse and burro populations are within established appropriate management levels.	**GRSG-HB-DC-067-Desired Condition** **No change**
GRSG-HB-ST-068-Standard In priority and general habitat management areas, consider adjusting appropriate management levels, consistent with applicable law, if greater sage-grouse management standards are not met due to degradation that can be at least partially be attributed to wild horse or burro populations.	**GRSG-HB-ST-068-Standard** **No change**
GRSG-HB-ST-069-Standard In priority and general management areas, remove wild horses and burros outside of a wild horse and burro territory.	**GRSG-HB-ST-069-Standard** **No change**
GRSG-HB-GL-070-Guideline In priority and general habitat, herd gathering should be prioritized when wild horse and burro populations exceed the upper limit of the established appropriate management level.	**GRSG-HB-GL-070-Guideline** In priority and general habitat management areas, herd gathering should be prioritized when wild horse and burro populations exceed the upper limit of the established appropriate management level.
GRSG-HB-GL-071-Guideline In priority and general habitat, wild horse and burro population levels should be managed at the lower limit of established appropriate management level ranges, as appropriate.	**GRSG-HB-GL-071-Guideline** Delete
GRSG-HB-GL-072-Guideline In priority and general habitat, consider exclusion of wild horse or burros immediately following emergency situation (e.g., fire, floods, and drought).	**GRSG-HB-GL-072-Guideline** In priority and general habitat management area, consider exclusion of wild horse or burros immediately following emergency situation (e.g., fire, floods).
Recreation	

Current 2015 LRMP Direction	Proposed Action
GRSG-R-DC-073-Desired Condition In priority and general habitat management areas and sagebrush focal areas, recreation activities are balanced with the ability of the land to support them, while meeting greater sage-grouse seasonal habitat desired conditions (table 1a and 1b) and creating minimal user conflicts.	**GRSG-R-DC-073-Desired Condition** In priority and general habitat management areas, recreation activities are balanced with the ability of the land to support them, while meeting greater sage-grouse seasonal habitat desired conditions (GRSG-GEN-DC-003-Desired Condition) and creating minimal user conflicts.
GRSG-R-ST-074-Standard In priority and general habitat management areas and sagebrush focal areas, do not authorize temporary recreation uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impacts on greater sage- grouse or their habitats.	**GRSG-R-ST-074-Standard** In priority and general habitat management areas, do not authorize temporary recreation uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impacts on greater sage-grouse or their habitats.
GRSG-R-GL-075-Guideline In priority and general habitat management areas and sagebrush focal areas, terms and conditions that protect and/or restore greater sage-grouse habitat within the permit area should be included in new recreation special use authorizations. During renewal, amendment, or reauthorization, terms and conditions in existing permits and operating plans should be modified to protect and/or restore greater sage-grouse habitat.	**GRSG-R-GL-075-Guideline** In priority and general habitat management areas, terms and conditions that protect and/or restore greater sage-grouse habitat within the permit area should be included in new recreation special use authorizations. During renewal, amendment, or reauthorization, terms and conditions in existing permits and operating plans should be modified to protect and/or restore greater sage-grouse habitat.
GRSG-R-GL-076-Guideline In priority and general habitat management areas and sagebrush focal areas, new recreational facilities or expansion of existing recreational facilities (e.g., roads, trails, campgrounds), including special use authorizations for facilities and activities, should not be approved unless the development results in a net conservation gain to greater sage-grouse or their habitats or the development is required for visitor safety.	**GRSG-R-GL-076-Guideline** In priority and general habitat management areas, new recreational facilities or expansion of existing recreational facilities (e.g., roads, trails, campgrounds), including special use authorizations for facilities and activities, should not be approved unless the development results in a net conservation gain to greater sage-grouse or their habitats or the development is required for visitor safety.
GRSG-R-GL-077-Guideline During breeding and nesting (March 1 to June 30), outfitter-guide activities within 0.25 mile from the perimeter of active leks should not be authorized.	**GRSG-R-GL-077-Guideline** During breeding and nesting, outfitter-guide activities within 0.25 mile from active or pending leks should not be authorized.
Roads/Transportation	

Current 2015 LRMP Direction	Proposed Action
GRSG-RT-DC-078-Desired Condition In priority and general habitat management areas and sagebrush focal areas, within the forest transportation system and on roads and trails authorized under a special use authorization, greater sage-grouse experience minimal disturbance during breeding and nesting (March 1 to June 30) and wintering (November 1 to February 28) periods.	**GRSG-RT-DC-078-Desired Condition** In priority and general habitat management areas, within the forest transportation system and on roads and trails authorized under a special use authorization, greater sage-grouse experience minimal disturbance during breeding and nesting and wintering periods.
GRSG-RT-ST-079-Standard In priority and general habitat management areas and sagebrush focal areas, do not conduct or allow new road or trail construction (does not apply to realignments for resource protection) except when necessary for administrative access to existing and authorized uses, public safety, or to access valid existing rights. If necessary to construct new roads and trails for one of these purposes, construct them to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.	**GRSG-RT-ST-079-Standard** In priority and general habitat management areas, do not conduct or allow new road or trail construction (does not apply to realignments for resource protection) except when necessary for administrative access to existing and authorized uses, public safety, or to access valid existing rights. If necessary to construct new roads and trails for one of these purposes, construct them to the minimum standard, length, and number and avoid, minimize, and mitigate impacts.
GRSG-RT-ST-080-Standard Do not construct or allow road and trail maintenance activities within 2 miles from the perimeter of active leks during lekking (March 1 to May 15) from 6 pm to 9 am.	**GRSG-RT-ST-080-Standard** Do not construct or allow road and trail maintenance activities within 2 miles from the perimeter of active or pending leks during lekking from 6 pm to 9 am.
GRSG-RT-ST-081-Standard In priority habitat management areas and sagebrush focal areas, do not allow public motor vehicle use on temporary energy development roads.	**GRSG-RT-ST-081-Standard** In priority habitat management areas, do not allow public motor vehicle use on temporary energy development roads.
GRSG-RT-GL-082-Guideline In priority habitat management areas and sagebrush focal areas, new roads and road realignments should be designed and administered to reduce collisions with greater sage-grouse.	**GRSG-RT-ST-082-Standard** In priority habitat management areas, new roads and road realignments should be designed and administered to reduce collisions with greater sage-grouse.

Current 2015 LRMP Direction	Proposed Action
GRSG-RT-GL-083-Guideline In priority habitat management areas and sagebrush focal areas, road construction within riparian areas and mesic meadows should be restricted. If not possible to restrict construction within riparian areas and mesic meadows, roads should be designed and constructed at right angles to ephemeral drainages and stream crossings, unless topography prevents doing so.	**GRSG-RT-GL-083-Guideline** In priority habitat management areas, road construction within riparian areas and mesic meadows should be restricted. If not possible to restrict construction within riparian areas and mesic meadows, roads should be designed and constructed at right angles to ephemeral drainages and stream crossings, unless topography prevents doing so.
GRSG-RT-GL-084-Guideline In priority and general habitat management areas and sagebrush focal areas, when decommissioning roads and unauthorized routes, restoration activity should be designed to move habitat towards desired conditions (table 1a or 1b).	**GRSG-RT-GL-084-Guideline** In priority and general habitat management areas, when decommissioning roads and unauthorized routes, restoration activity should be designed to move habitat towards desired conditions (GRSG-GEN-DC-003-Desired Condition).
GRSG-RT-GL-085-Guideline In priority and general habitat management areas and sagebrush focal areas, dust abatement terms and conditions should be included in road-use authorizations when dust has the potential to impact greater sage-grouse.	**GRSG-RT-GL-085-Guideline** In priority and general habitat management areas, dust abatement terms and conditions should be included in road-use authorizations when dust has the potential to impact greater sage-grouse.
GRSG-RT-GL-086-Guideline In priority and general habitat management areas and sagebrush focal areas, road and road-way maintenance activities should be designed and implemented to reduce the risk of vehicle or human-caused wildfires and the spread of invasive plants. Such activities include but are not limited to the removal or mowing of vegetation a car-width off the edge of roads; use of weed-free earth-moving equipment, gravel, fill, or other materials; and blading or pulling roadsides and ditches that are infested with noxious weeds only if required for public safety or protection of the roadway.	**GRSG-RT-GL-086-Guideline** In priority and general habitat management areas, road and road-way maintenance activities should be designed and implemented to reduce the risk of vehicle or human-caused wildfires and the spread of invasive plants. Such activities include but are not limited to the removal or mowing of vegetation a car-width off the edge of roads; use of weed-free earth-moving equipment, gravel, fill, or other materials; and blading or pulling roadsides and ditches that are infested with noxious weeds only if required for public safety or protection of the roadway.

Current 2015 LRMP Direction	Proposed Action
GRSG-RT-GL-087-Guideline In priority and general habitat management areas and sagebrush focal areas, during breeding and nesting (March 1 to June 30), consider seasonal road closures on motorized travel routes with high traffic volume, speeds, or noise levels.	**GRSG-RT-GL-087-Guideline** In priority and general habitat management areas, during breeding and nesting (GRSG-GEN-DC-003-Desired Condition), consider seasonal road closures on motorized travel routes with high traffic volume, speeds, or noise levels.
GRSG-RT-GL-088-Guideline In priority and general habitat management areas and sagebrush focal areas, from November 1 to February 28, consider limiting over-snow motorized vehicles in wintering areas.	**GRSG-RT-GL-088-Guideline** In priority and general habitat management areas, during winter seasonal use periods, consider limiting over-snow motorized vehicles in wintering areas.
Minerals	
Fluid- Unleased	
GRSG-M-FMUL-ST-089-Standard In priority habitat management areas, any new oil and gas leases must include a no surface occupancy stipulation. There will be no waivers or modifications. An exception could be granted by the authorized officer with unanimous concurrence from a team of agency greater sage-grouse experts from the Fish and Wildlife Service, Forest Service, and State wildlife agency if: • There would be no direct, indirect, or cumulative effects to greater sage-grouse or their habitats or • Granting the exception provides an alternative to a similar action occurring on a nearby parcel and • The exception provides a clear net conservation gain to greater sage-grouse.	**GRSG-M-FMUL-ST-089-Standard** In priority habitat management areas, any new oil and gas leases or geothermal leases must include a no surface occupancy stipulation. There will be no waivers or modifications. An exception could be granted by the authorized officer with concurrence from an interagency technical team if one of the following applies: • The location of the proposed authorization is determined to be unsuitable (by a qualified biologist with Greater Sage-Grouse experience); lacks the ecological potential to become marginal or suitable habitat; and would not result in direct, indirect, or cumulative impacts on greater sage-grouse and its habitat. • Impacts from the proposed action could be offset through use of the mitigation hierarchy (avoid, minimize, mitigate) to achieve a net conservation gain and demonstrate that the individual and cumulative impacts of the project would not result in habitat fragmentation or other impacts that would cause greater sage-grouse populations to decline.

Current 2015 LRMP Direction	Proposed Action
GRSG-M-FMUL-ST-090-Standard In general habitat management areas, any new leases must include appropriate controlled surface use and timing limitation stipulations to protect sage- grouse and their habitat.	**GRSG-M-FMUL-ST-090-Standard** No change
GRSG-M-FMUL-ST-091-Standard In sagebrush focal areas, there will be no surface occupancy and no waivers, exceptions, or modifications for fluid mineral leasing.	**GRSG-M-FMUL-ST-091-Standard** Delete
GRSG-M-FMUL-ST-092-Standard In priority habitat management areas outside of sagebrush focal areas, proposed geothermal projects may be considered if: • A team of agency greater sage-grouse experts from the Fish and Wildlife Service, Forest Service, BLM, and State Wildlife agency advises on project-mitigation measures, including lek buffer distances, using the best available science; • Mitigation actions are consistent with the Mitigation Strategy; and • The footprint of the project is consistent with the disturbance protocols identified in GRSG- GEN-ST-004.	**GRSG-M-FMUL-ST-092-Standard** Delete
GRSG-M-FMUL-ST-093-Standard In priority and general habitat management areas and sagebrush focal areas, only allow geophysical exploration or similar type of exploratory operations that are consistent with vegetation objectives in table 1a or 1b, as appropriate, and include applicable seasonal restrictions.	**GRSG-M-FMUL-ST-093-Standard** In priority and general habitat management areas, only allow geophysical exploration or similar type of exploratory operations that are consistent with habitat desired conditions (GRSG-GEN-DC-003-Desired Condition), as appropriate, and include applicable seasonal restrictions.
Fluid Minerals-Leased	

Current 2015 LRMP Direction	Proposed Action
GRSG-M-FML-ST-094-Standard In priority habitat management areas and sagebrush focal areas, when approving the Surface Use Plan of Operation portion of the Application for Permit to Drill on existing leases that are not yet developed, require that leaseholders avoid and minimize surface disturbing and disruptive activities consistent with the rights granted in the lease.	**GRSG-M-FML-ST-094-Standard** In priority habitat management areas, when approving the Surface Use Plan of Operation portion of the Application for Permit to Drill on existing leases that are not yet developed, require that leaseholders avoid and minimize surface disturbing and disruptive activities consistent with the rights granted in the lease.
GRSG-M-FML-ST-095-Standard In priority and general habitat management areas and sagebrush focal areas, when facilities are no longer needed or leases are relinquished, require reclamation plans to include terms and conditions to restore habitat to desired conditions as described in table 1a or 1b.	**GRSG-M-FML-ST-095-Standard** In priority and general habitat management areas, when facilities are no longer needed or leases are relinquished, require reclamation plans to include terms and conditions to restore habitat to desired conditions (GRSG-GEN-DC-003-Desired Condition).
GRSG-M-FML-ST-096-Standard In priority and general habitat management areas and sagebrush focal areas, authorize new transmission line corridors, transmission line right-of- ways, transmission line construction, or transmission line-facility construction associated with fluid mineral leases with stipulations necessary to protect greater sage-grouse and their habitats, consistent with the terms and conditions of the permit.	**GRSG-M-FML-ST-096-Standard** In priority and general habitat management areas, authorize new transmission line corridors, transmission line right-of- ways, transmission line construction, or transmission line-facility construction associated with fluid mineral leases with stipulations necessary to protect greater sage-grouse and their habitats, consistent with the terms and conditions of the permit.
GRSG-M-FML-ST-097-Standard Locate compressor stations on portions of a lease that are non-habitat and are not used by greater sage-grouse, and if there would be no direct, indirect, or cumulative effects on sage-grouse or their habitat. If this is not possible, work with the operator to use mufflers, sound insulation, or other features to reduce noise, consistent with GRSG-GEN- ST-006-Standard.	**GRSG-M-FML-ST-097-Standard** **No change**

Current 2015 LRMP Direction	Proposed Action
GRSG-M-FML-ST-098-Standard In priority and general habitat management areas and sagebrush focal areas, when authorizing development of fluid mineral resources, work with the operator to minimize impacts to greater sage-grouse and their habitat, such as locating facilities in non-habitat areas first and then in the least suitable habitat.	**GRSG-M-FML-ST-098-Standard** In priority and general habitat management areas, when authorizing development of fluid mineral resources, work with the operator to minimize impacts to greater sage-grouse and their habitat, such as locating facilities in non-habitat areas first and then in the least suitable habitat.
GRSG-M-FML-GL-099-Guideline In priority and general habitat management areas and sagebrush focal areas, operators should be encouraged to reduce disturbance to greater sage- grouse habitat. At the time of approval of the Surface Use Plan of Operation portion of the Application for Permit to Drill, terms and conditions should be included to reduce disturbance to greater sage-grouse habitat, where appropriate and feasible and consistent with the rights granted to the lessee.	**GRSG-M-FML-GL-099-Guideline** In priority and general habitat management areas operators should be encouraged to reduce disturbance to greater sage- grouse habitat. At the time of approval of the Surface Use Plan of Operation portion of the Application for Permit to Drill, terms and conditions should be included to reduce disturbance to greater sage-grouse habitat, where appropriate and feasible and consistent with the rights granted to the lessee.
GRSG-M-FML-GL-100-Guideline On existing Federal leases in priority and general habitat management areas and sagebrush focal areas, when surface occupancy cannot be restricted due to valid existing rights or development requirements, disturbance and surface occupancy should be limited to areas least harmful to greater sage-grouse based on vegetation, topography, or other habitat features.	**GRSG-M-FML-GL-100-Guideline** – On existing Federal leases in priority and general habitat management areas, when surface occupancy cannot be restricted due to valid existing rights or development requirements, disturbance and surface occupancy should be limited to areas least harmful to greater sage-grouse based on vegetation, topography, or other habitat features.
GRSG-M-FML-GL-101-Guideline In priority and general habitat management areas and sagebrush focal areas, where the Federal government owns the surface and the mineral estate is in non-Federal ownership, coordinate with the mineral estate owner/lessee to apply appropriate stipulations, conditions of approval, conservation measures, and required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities.	**GRSG-M-FML-GL-101-Guideline** In priority and general habitat management areas, where the Federal government owns the surface and the mineral estate is in non-Federal ownership, coordinate with the mineral estate owner/lessee to apply appropriate stipulations, conditions of approval, conservation measures, and required design features to the appropriate surface management instruments to the maximum extent permissible under existing authorities.
Fluid Minerals- Operations	

Current 2015 LRMP Direction	Proposed Action
GRSG-M-FMO-ST-102-Standard In priority and general habitat management areas and sagebrush focal areas, do not authorize employee camps.	**GRSG-M-FMO-ST-102-Standard** In priority and general habitat management areas, do not authorize employee camps.
GRSG-M-FMO-ST-103-Standard In priority and general habitat management areas and sagebrush focal areas, when feasible, do not locate tanks or other structures that may be used as raptor perches. If this is not feasible, use perch deterrents.	**GRSG-M-FMO-ST-103-Standard** In priority and general habitat management areas, when feasible, do not locate tanks or other structures that may be used as raptor perches. If this is not feasible, use perch deterrents.
GRSG-M-FMO-GL-104-Guideline In priority and general habitat management areas and sagebrush focal areas, closed-loop systems should be used for drilling operations with no reserve pits, where feasible.	**GRSG-M-FMO-GL-104-Guideline** In priority and general habitat management areas, closed-loop systems should be used for drilling operations with no reserve pits, where feasible.
GRSG-M-FMO-GL-105-Guideline In priority and general habitat management areas and sagebrush focal areas, during drilling operations, soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.	**GRSG-M-FMO-GL-105-Guideline** In priority and general habitat management areas, during drilling operations, soil compaction should be minimized and soil structure should be maintained using the best available techniques to improve vegetation reestablishment.

Current 2015 LRMP Direction	Proposed Action
GRSG-M-FMO-GL-106-Guideline In priority and general habitat management areas and sagebrush focal areas, dams, impoundments and ponds for mineral development should be constructed to reduce potential for West Nile virus. Examples of methods to accomplish this include: • Increase the depth of ponds to accommodate a greater volume of water than is discharged. • Build steep shorelines (greater than 2 feet) to reduce shallow water and aquatic vegetation around the perimeter of impoundments to reduce breeding habitat for mosquitoes. • Maintain the water level below that of rooted aquatic and upland vegetation. Avoid flooding terrestrial vegetation in flat terrain or low-lying areas. • 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. • 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. • Line the overflow spillway with crushed rock and construct the spillway with steep sides. • Fence pond sites to restrict access by livestock and other wild ungulates. • Remove or re-inject produced water. • Treat waters with larvicides to reduce mosquito production where water occurs on the surface.	**GRSG-M-FMO-GL-106-Guideline** In priority and general habitat management areas, dams, impoundments and ponds for mineral development should be constructed to reduce potential for West Nile virus. Examples of methods to accomplish this include: • Increase the depth of ponds to accommodate a greater volume of water than is discharged. • Build steep shorelines (greater than 2 feet) to reduce shallow water and aquatic vegetation around the perimeter of impoundments to reduce breeding habitat for mosquitoes. • Maintain the water level below that of rooted aquatic and upland vegetation. Avoid flooding terrestrial vegetation in flat terrain or low-lying areas. • 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. • 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. • Line the overflow spillway with crushed rock and construct the spillway with steep sides. • Fence pond sites to restrict access by livestock and other wild ungulates. • Remove or re-inject produced water. • Treat waters with larvicides to reduce mosquito production where water occurs on the surface.

Current 2015 LRMP Direction	Proposed Action
GRSG-M-FMO-GL-107-Guideline In priority and general habitat management areas and sagebrush focal areas to keep habitat disturbance at a minimum, a phased development approach should be applied to fluid mineral operations, wherever possible, consistent with the rights granted under the lease. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**GRSG-M-FMO-GL-107-Guideline** – In priority and general habitat management areas to keep habitat disturbance at a minimum, a phased development approach should be applied to fluid mineral operations, wherever possible, consistent with the rights granted under the lease. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.
Locatable Minerals	
GRSG-M-LM-ST-108-Standard In priority and general habitat management areas and sagebrush focal areas, only approve Plans of Operation if they include mitigation to protect greater sage-grouse and their habitats, consistent with the rights of the mining claimant as granted by the General Mining Act of 1872, as amended.	**GRSG-M-LM-ST-108-Standard** In priority and general habitat management areas, only approve Plans of Operation if they include mitigation to protect greater sage-grouse and their habitats, consistent with the rights of the mining claimant as granted by the General Mining Act of 1872, as amended.
GRSG-M-LM-GL-109-Guideline In priority and general habitat management areas and sagebrush focal areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to operations consistent with the rights granted under the General Mining Act of 1872, as amended. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.	**GRSG-M-LM-GL-109-Guideline** In priority and general habitat management areas, to keep habitat disturbance at a minimum, a phased development approach should be applied to operations consistent with the rights granted under the General Mining Act of 1872, as amended. Disturbed areas should be reclaimed as soon as they are no longer needed for mineral operations.
GRSG-M-LM-GL-110-Guideline In priority and general habitat management areas and sagebrush focal areas, abandoned mine sites should be closed or mitigated to reduce predation of greater sage-grouse by eliminating tall structures that could provide nesting opportunities and perching sites for predators.	**GRSG-M-LM-GL-110-Guideline** In priority and general habitat management areas, abandoned mine sites should be closed or mitigated to reduce predation of greater sage-grouse by eliminating tall structures that could provide nesting opportunities and perching sites for predators.
Non-energy Leasable Minerals	

Current 2015 LRMP Direction	Proposed Action
GRSG-M-NEL-GL-111-Guideline In priority and general habitat management areas and sagebrush focal areas, at the time of issuance of prospecting permits, exploration licenses and leases, or readjustment of leases, the Forest Service should provide recommendations to the BLM for the protection of greater sage-grouse and their habitats.	**GRSG-M-NEL-GL-111-Guideline** In priority and general habitat management areas, at the time of issuance of prospecting permits, exploration licenses and leases, or readjustment of leases, the Forest Service should provide recommendations to the BLM for the protection of greater sage-grouse and their habitats.
GRSG-M-NEL-GL-112-Guideline In priority and general habitat management areas and sagebrush focal areas, the Forest Service should recommend to the BLM that expansion or readjustment of existing leases avoid, minimize, or mitigate the effects to greater sage-grouse and their habitat.	**GRSG-M-NEL-GL-112-Guideline** In priority and general habitat management areas, the Forest Service should recommend to the BLM that expansion or readjustment of existing leases avoid, minimize, or mitigate the effects to greater sage-grouse and their habitat.
Mineral Materials	
GRSG-M-MM-ST-113-Standard In priority management areas and sagebrush focal areas, do not authorize new mineral material disposal or development.	**GRSG-M-MM-ST-113-Standard** In priority management areas, do not authorize new mineral material disposal or development.
GRSG-M-MM-ST-114-Standard In priority habitat management areas and sagebrush focal areas, free-use mineral material collection permits may be issued and expansion of existing active pits may be allowed, except from March 1 to May 15 between 6 pm and 9 am within 2 miles from the perimeter of occupied leks, within the Biologically Significant Unit and proposed project area if doing so does not exceed the disturbance cap.	**GRSG-M-MM-ST-114-Standard** In priority habitat management areas, free-use mineral material collection permits may be issued and expansion of existing active pits may be allowed, except during lekking between 6 pm and 9 am within 2 miles from the perimeter of active or pending leks. Refer to standards GRSG-GEN-ST-004 and GRSG-GEN-ST-005 for disturbance caps and compensatory mitigation for residual impacts.
GRSG-M-MM-ST-115-Standard In priority and general habitat management areas and sagebrush focal areas, any permit for existing mineral material operations must include appropriate requirements for operation and reclamation of the site to maintain, restore, or enhance desired habitat conditions (table 1a or 1b).	**GRSG-M-MM-ST-115-Standard** In priority and general habitat management areas, any permit for existing mineral material operations must include appropriate requirements for operation and reclamation of the site to maintain, restore, or enhance desired habitat conditions (GRSG-GEN-DC-003-Desired Condition).
Predation	

Current 2015 LRMP Direction	Proposed Action
GRSG-P-DC-116-Desired Condition Anthropogenic uses on public lands are managed to reduce the effects of predation on greater sage-grouse.	**GRSG-P-DC-116-Desired Condition** **No change**
	GRSG-P-DC-XX-Desired Condition Efforts by other agencies to minimize impacts from predators on the greater sage-grouse should be supported and encouraged where needs have been documented.

Tables 1a and 1b (*Moved to Appendix A- see below*)

Table 1. *Seasonal use periods for greater sage-grouse, for use with specific plan components.*

Seasonal Use Period*	Dates
Breeding and Nesting	March 1 – June 30
• Lekking	• March 1 – May 15
• Nesting	• April 1 – June 30
Brood-Rearing/Summer	May 15 – September 15
Fall	September 16 – October 31
Winter	November 1 – February 28

* Seasonal dates may be adjusted (i.e., start and end dates may be shifted earlier or later), but the amount of days cannot be shortened by the local unit.

Table 2. *Treatment Acres per Decade.*[1]

	Acres		
FOREST	**MECHANICAL**[2]	**PRESCRIBED FIRE**[3]	**GRASS RESTORATION**[4]
Humboldt-Toiyabe Total	202000	0	43000
Population Area 15	200000	0	26000
Population Area 26	2000	0	17000

[1]These are estimates of treatments required to achieve and/or maintain desired habitat conditions over a period of 10 years. There are many dynamic and highly variable disturbances that may happen over that period of time that could have a significant effect on the amount, type, and timing of treatment needed. Those disturbances are factored into the 10-year simulation using stochastic, not deterministic, techniques. Probabilities of events such as large wildfires are used in the model to make the simulation as realistic as possible, given empirical data about such events in the past, but the results of the simulation cannot be used to predict the future occurrence of such events, including their timing, size, or location, which are essentially random.

[2]Removal of conifers that have invaded sagebrush including phase one juniper that is 10% or less and reducing sagebrush cover in areas over 30% canopy cover

[3]Acres are those that are greater than 30% sagebrush canopy cover and/or invaded by 10% or greater conifer.

[4]Acres presently dominated by annual grasses that could be improved by herbicide application and seeding of perennial vegetation.

Table 2. *Treatment Acres per Decade.[1] (As part of the revision process beginning in June 2018, the Forest Service will revisit the acre values highlighted in this table to provide an objective that better aligns with the available treatment acres on the Humboldt-Toiyabe National Forest. Those values will be presented in the DEIS.)*

	Acres	
FOREST	**MECHANICAL TREATMENTS[2]**	**ANNUAL INVASIVE GRASS TREATMENT [4]**
Humboldt-Toiyabe Total	202000	43000

[1]These are estimates of treatments required to achieve and/or maintain desired habitat conditions over a period of 10 years.

[2]Removal of conifers that have invaded sagebrush including phase one pinyon and juniper and reducing sagebrush cover in areas over 30% canopy cover

[3]Acres presently dominated by annual grasses that could be improved by herbicide application and seeding of perennial vegetation.

Table 3. *Grazing Guidelines for Greater Sage-grouse Seasonal Habitat.*

SEASONAL HABITAT	GRAZING GUIDELINES
Breeding and nesting [1] within 6.2 miles of occupied leks	Perennial grass height:[2] When grazing occurs during breeding and nesting season (from March 1 to June 15) manage for upland perennial grass height of 7 inches.[3,5] Measure average droop height, assuming current vegetation composition has the capability to achieve these heights. Heights will be measured at the end of the nesting period (Connelly et al. 2000). When grazing occurs post breeding and nesting season (from June 16 to October 30) manage for 4 inches[5,6] of upland perennial grass height.
Brood rearing and summer [1]	When grazing occurs post breeding and nesting season (from June 16 to October 30), retain an average stubble height of 4 inches for herbaceous riparian/mesic meadow vegetation in all[7] greater sage-grouse habitat.[8,9]
Winter [1]	≤35% utilization of sagebrush.

[1] For descriptions of Seasonal Habitat and Seasonal Periods of the greater sage-grouse, see table 1.

[2] Grass heights only apply in breeding and nesting habitat with ≥10% sagebrush cover to support nesting.

[3] Holloran et al. 2005. *Greater sage-grouse nesting habitat selection and success in Wyoming*.

[5] Hagen C., J.W. Connelly, and M.A. Schroeder. 2007. *A meta-analysis of greater sage-grouse Centrocercus urophasianus nesting and brood- rearing habitats*. Wildlife Biology 13(1): 42-50.

[6] Stubble height to be measured at the end of the growing season.

[7] All GRSG habitat with greater than 10% sagebrush cover irrespective of lek buffers and designated habitat management areas.

[8] In riparian brood-rearing habitat, sage-grouse prefer the lower vegetation (5–15 cm vs. 30–50 cm; Oakleaf 1971, Neel 1980, Klebenow 1982, Evans 1986) and succulent forb growth stimulated by moderate livestock grazing in spring and early summer (Neel 1980, Evans 1986); moderate use equates to a 10-cm residual stubble height for most grasses and sedges and 5-cm for Kentucky bluegrass (Mosley et al. 1997, Clary and Leininger 2000) (Crawford et al. 2004. Ecology and Management of sage-grouse grouse habitat).

[9] Stubble height to be measured in the meadow areas used by greater sage-grouse for brood-rearing (not on the hydric greenline). These meadows typically have sagebrush within 328 feet of the meadow.

Nevada Greater Sage-Grouse Plan Amendment Proposed Action Appendices

APPENDIX A – SEASONAL HABITAT PREFERENCES

The following tables present sage-grouse local seasonal habitat preferences in Nevada. Because habitat preferences vary, for example among ecological sites and along latitudinal, topographic, or precipitation gradients, several tables are presented with values most closely associated with local conditions. These values are not desired conditions as defined at 36 CFR 219.7, but conditions for which sage-grouse select during seasonal use periods. Tables and values should be used as a basis for comparison when completing seasonal habitat assessments, as described in Stiver et al. 2015. Tables may be added and updated with administrative changes based on the best available scientific information.

Table A-1. *Seasonal habitat preferences for greater sage-grouse. Seasonal Habitat Desired Conditions for Greater Sage-grouse at the Landscape Scale. (Generally applies in Ecoregion 342[1], although may be applied outside of Ecoregion 342[1] based on local ecological site conditions.)*

ATTRIBUTE	INDICATORS	DESIRED CONDITION VALUES
BREEDING AND NESTING [2,3,4] (Seasonal Use Period March 1 to June 30) (Within the Breeding and Nesting Period - Lekking Period: March 1 to May 15; Nesting Period: April 1 to June 30) Apply 4.0 miles from active leks.[5]		
Lek Security	Proximity of trees [6]	Trees or other tall structures are absent to uncommon within 3 miles (5 km) leks [7,8,16]
	Proximity of sagebrush to leks [7]	Adjacent protective sagebrush cover within 328 feet of lek [7]
	Seasonal habitat extent [8] (Percent of seasonal habitat meeting desired conditions.)	>80% of the breeding and nesting habitat
	Sagebrush canopy cover [7,8,9]	>15%
	Sagebrush height [8] Arid sites [7,8,10] Mesic sites [7,8,11]	 >12 inches >16 inches
	Predominant sagebrush shape [7]	>50% in spreading [12]
	Perennial grass cover [7,8] Arid sites [8,10] Mesic sites [8,11]	 >10% >15%
	Perennial grass height [7,8,9]	Provide overhead and lateral concealment from predators [8, 16]
	Perennial forb canopy cover [7,8,9] Arid sites [10] Mesic sites [11]	 >5% [7,8] >10% [7,8]
BROOD-REARING/SUMMER[2] (Seasonal Use Period May 15 to September 15)		

Cover	Seasonal habitat extent 8(Percent of seasonal habitat meeting desired conditions.)	>40% of the brood-rearing/summer habitat
	Sagebrush canopy cover [7,8,9]	10 to 25%
	Sagebrush height [8,9]	>16 inches
	Perennial grass and forb canopy cover [7,8]	>15%
	Riparian areas/mesic meadows	Proper Functioning Condition [13]
	Upland and riparian perennial forb availability [6,7]	Preferred forbs are common with several preferred species present [14]
	Sagebrush cover adjacent to riparian areas/mesic meadows [7]	Within 328 feet (100 meters)
Security	Riparian Area/Meadow Interspersion with adjacent sagebrush	Has adjacent sagebrush cover [6, 7]
FALL/WINTER[2] (Seasonal Use Period September 16 to February 28) (Fall: September 16 to October 31; Winter: November 1 to February 28)		
Cover and Food	Seasonal habitat extent [7,8,9] (Percent of seasonal habitat meeting desired conditions.)	>80% of the winter habitat
	Sagebrush canopy cover above snow [7,8,9]	>10%
	Sagebrush height above snow [7,8,9]	>10 inches [15]

[1]Bailey, R. G.; Avers, P. E.; King, T.; McNab, W. H., eds. 1994. Ecoregions and subregions of the United States (map). Washington, DC: USDA Forest Service. 1:7,500,000. With supplementary table of map unit descriptions, compiled and edited by W. H. McNab and R. G. Bailey.

[2]Seasonal dates can be adjusted; that is, start and end dates may be shifted either earlier or later, but the amount of days cannot be shortened-or lengthened by the local unit. Seasonal dates are based on dates used by Nevada Department of Wildlife (NDOW) to designate sage-grouse seasonal use. These dates overlap to allow for localized variation across the state.

[3] Doherty, K. 2008. *Sage-grouse and Energy Development: Integrating Science with Conservation Planning to Reduce Impacts*. University of Montana. Missoula, MT.

[4] Holloran and Anderson. 2005. *Spatial Distribution of Greater Sage-grouse nests in relatively contiguous sagebrush habitats*. Condor 107:742- 752.

[5] Buffer distance may be changed only if 3 out of 5 years if peer reviewed and published telemetry studies indicate the 4 miles is not appropriate.

[6] Baruch-Mordo, S. J.S. Evans, J.P Severson, D.E. Naugle, J. D. Maestas, J.M. Kiesecker, M.J. Falkowski. C.A. Hagen, and K.P. Reese. . 2013. *Saving sage-grouse from trees*: A proactive solution to reducing a key threat to a candidate species. Biological Conservation 167: 233-241.

[7] Stiver, S.J., E.T. Rinkes, D.E. Naugle, P.D. Makela, D.A. Nance, and J.W. Karl, eds., 2015. Sage-Grouse Habitat Assessment Framework: A Multiscale Assessment Tool. Technical Reference 6710-1. BLM and Western Association of Fish and Wildlife Agencies, Denver, Colorado.

[8] Connelly, J. M. A. Schroweder, A.R. Sands, and C.E. Braun.2000. Guidelines to manage sage-grouse populations and their habitats. Wildlife Society Bulletin 28 (4): 967-985.

[9] Connelly, J. K. Reese, and M. Schroder. 2003. *Monitoring of Greater sage-grouse habitats and populations*. Station Bulletin 80, Contribution 979. University of Idaho, College of Natural Resources Experiment Station. Moscow, ID.

[10] 10–12 inch precipitation zone; *Artemisia tridentata wyomingensis* is a common big sagebrush sub-species for this type site (HAF 2014).

[11] >12 inch precipitation zone; *Artemisia tridentata vaseyana* is a common big sagebrush sub-species for this type site (HAF 2014).

[12] Sagebrush plants with a spreading shape provide more protective cover than sagebrush plants that are more tree- or columnar shaped (HAF 2014).

[13] Existing LMP desired conditions for riparian areas/mesic meadows (spring seeps) may be used in place of properly functioning conditions, if appropriate for meeting greater sage-grouse habitat requirements.

[14] Preferred forbs are listed in HAF Table III-2 (HAF 2014). Overall total forb cover may be greater than that of preferred forb cover since not all forb species are listed as preferred in Table III-2.

[15] The height of sagebrush remaining above the snow depends upon snow depth in a particular year. Intent is to manage for tall, healthy, sagebrush stands.

[16] Coates, P. S., M. L. Casazza, E. J. Blomberg, S. C. Gardner, S. P. Espinosa, J. L. Yee, L. Wiechman, and B. J. Halstead. 2013. Evaluating greater sage-grouse seasonal space use relative to leks: implications for surface use designations in sagebrush ecosystems. Journal of Wildlife Management 77: 1598–1609.

Table A-2. Seasonal habitat preferences for greater sage-grouse. Seasonal Habitat Desired Conditions for Greater Sage-grouse. (Generally applies in Ecoregion 3411, although may be applied outside of Ecoregion 3411 based on local ecological site conditions.)

	INDICATOR	**DESIRED CONDITIONVALUES**
GENERAL/LANDSCAPE-LEVEL		
Cover (Nesting)	Seasonal Habitat Needed	>65% of the landscape in sagebrush cover [2]
	Annual Grasses	<5% [3]
Security (Nesting)	Conifer encroachment	<3% phase I (>0% to <25% cover) No phase II (25 – 50% cover) No phase III (>50% cover)
Cover and Food (Winter)	Conifer encroachment	<5% phase I (>0% to <25% cover) No phase II (25 – 50% cover) No phase III (>50% cover)
	Sagebrush extent	>85% sagebrush land cover
BREEDING AND NESTING (Seasonal Use Period March 1-June 30) [4] (Within the Breeding and Nesting Period - Lekking Period: March 1 to May 15; Nesting Period: April 1 to June 30) Apply 4.0 miles from pending and active leks. [19]		
Security [6]	Tree cover	<3% landscape canopy cover within 1 km of leks [5]
	Proximity of tall structures (1 meter above shrub canopy, excluding fences)	None within 3 miles (5 kilometers) [18]

	Availability of sagebrush cover	Has adjacent sagebrush cover [9,17]
	Sagebrush canopy cover	>20% [13,14]
	Residual and live perennial grass cover	>10% if shrub cover <25% [5,7,8]
	Annual grass cover [7]	<5% [15]
	Perennial grass height	Provide overhead and lateral concealment from predators [9,20]
	Total shrub cover	>30% [7,13]
BROOD-REARING/SUMMER (Seasonal Use Period May 15 to September 15) [4]		
Cover	Sagebrush canopy cover	10%-25% [9]
	Perennial grass canopy cover and forbs	>15% combined perennial grass and forb canopy cover [9]
	Perennial Grass Height	Provide overhead and lateral concealment from predators [9,20]
Cover and Food	Perennial forb canopy cover	>5% arid (<10 inches precipitation) >15% mesic (> 10 inches precipitation or within meadow system) [6]
Food	Riparian Areas/Meadows	Proper Functioning Condition [17]
	Understory species richness (in the vicinity of riparian areas/meadows)	>5 preferred forb species present [5,6]
Security	Riparian Area/Meadow Interspersion with adjacent sagebrush	Has adjacent sagebrush cover [9,17]
FALL/WINTER (Seasonal Use Period September 16 to February 28) [4] (Fall: September 16 to October 31; Winter: November 1 to February 28)		
Cover and Food	Sagebrush canopy cover	>10% above snow depth [9]
	Sagebrush height	>10 inches (25 centimeters) above snow depth [9]

[1] Bailey, R. G.; Avers, P. E.; King, T.; McNab, W. H., eds. 1994. Ecoregions and subregions of the United States (map). Washington, DC: USDA Forest Service. 1:7,500,000. With supplementary table of map unit descriptions, compiled and edited by W. H. McNab and R. G. Bailey.

[2] Aldridge, C. L.; Boyce, M. S. 2007. Linking occurrence and fitness to persistence: Habitat-based approach for endangered Greater Sage-Grouse. Ecological Applications, 17: 508 – 526.

[3] Blomberg, E.J., J.S. Sedinger, M.T. Atamian, and D.V. Nonne. 2012. Characteristics of climate and landscape disturbance influence the dynamics of greater sage-grouse populations. Ecosphere 3(6):55.

[4] Seasonal dates can be adjusted; that is, start and end dates may be shifted either earlier or later, but the amount of days cannot be shortened or lengthened by the local unit. Seasonal dates are based on dates used by Nevada Department of Wildlife (NDOW) to designate sage-grouse seasonal use. These dates overlap to allow for localized variation across the state.

[5] Baruch-Mordo, S., J. S. Evans, J. P. Severson, D. E. Naugle, J. D. Maestas, J. M. Kiesecker, M. J. Falkowski, C. a. Hagen, and K. P. Reese. 2013. Saving sage-grouse from the trees: a proactive solution to reducing a key threat to a candidate species. Biological Conservation 167:233–241.

[6]Casazza, M.L., P.S. Coates, C.T. Overton. 2011. Linking habitat selection to brood success in greater sagegrouse. In: Sandercock, MK, K Martin, G Segelbacher (eds.). Ecology, Conservation, and Management of Grouse. University of California Press. Pp. 151-167.

[7]Coates, P.S., and D.J. Delehanty. 2010. Nest predation of greater sage-grouse in relation to microhabitat factors and predators. Journal of Wildlife Management 74:240-248.

[8]Coates, P. S., M. L. Casazza, E. J. Blomberg, S. C. Gardner, S. P. Espinosa, J. L. Yee, L. Wiechman, and B. J. Halstead. 2013. Evaluating greater sage- grouse seasonal space use relative to leks: implications for surface use designations in sagebrush ecosystems. Journal of Wildlife Management 77: 1598–1609.

[9]Connelly, J.W., M.A. Schroeder, A.R. Sands, and C.E. Braun. 2000. Guidelines to manage sage-grouse populations and their habitats. Wildlife Society Bulletin 28:967-985.

[10]Connelly, J.W., Reese, K.P., M.A. Schroeder. 2003. Monitoring of Greater Sage-Grouse Habitats and Populations. Station Bulletin 80.

[11]Doherty, K.E., Naugle, D.E., Walker, B.L., and J.M. Graham. 2008. Greater Sage-Grouse Winter Habitat Selection and Energy Development. Journal of Wildlife Management: 72(1):187-195. 2008.

[12]Hagen, C.A., Connelly, J.W. & Schroeder, M.A. 2007: A meta-analysis of greater sage-grouse (Centrocercus urophasianus) nesting and brood- rearing habitats. - Wildlife Biology: 13 (Suppl. 1): 42-50.

[13]Kolada, E.J., J.S. Sedinger, M.L. Casazza. 2009a. Nest site selection by greater sage-grouse in Mono County, California. Journal of Wildlife Management 73:1333-1340.

[14]Kolada, E.J., J.S Sedinger, M.L. Casazza. 2009b. Ecological factors influencing nest survival of greater sage-grouse in Mono County, California. Journal of Wildlife Management 73:1341-1347.

[15]Lockyer, Z., P.S. Coates, M.L. Casazza, S. Espinosa, D.L. Delehanty. In review. Linking nest site selection to nest survival in greater sage-grouse.

[16]Nevada Governor's Sage-grouse Conservation Team. 2010. Nevada energy and infrastructure development standards to conserve greater sage- grouse populations and their habitats. Pp 9-11.

[17]Stiver, S.J., E.T. Rinkes, D.E. Naugle, P.D. Makela, D.A. Nance, and J.W. Karl, eds. [In press]. Sage-Grouse Habitat Assessment Framework: A Multiscale Assessment Tool. Technical Reference 6710-1. BLM and Western Association of Fish and Wildlife Agencies, Denver, Colorado.

[18] Gibson, D., E. Blomberg, and J. Sedinger. 2013. Dynamics of Greater Sage-grouse (Centrocercus urophasianus) Populations in Response to Transmission Lines in Central Nevada. Progress Report: Final December 2013of Land Management, Idaho State Office, Boise, Idaho.

[19] Buffer distance may be changed only if 3 out of 5 years of telemetry studies indicate the 4 miles is not appropriate.

[20] Projects will be designed to provide overhead and lateral concealment of nests on a site specific basis

APPENDIX B – MITIGATION STRATEGY

NOTE TO REVIEWERS: THIS APPENDIX HAS BEEN UPDATED IN ITS ENTIRETY. PLEASE SEE 2015 GREAT BASIN ROD FOR COMPARISON.

B.1 GENERAL

The Forest Service applies mitigation in a hierarchical manner: first seeking to avoid, then minimize, then rectify, then reduce or eliminate the impacts over time, and only then consider compensatory mitigation, if any is necessary, to address residual effects (sometimes called unavoidable impacts) that warrant compensatory mitigation.

Overall, application of the mitigation hierarchy and the development of compensatory mitigation would be done in close coordination with the proponent, cooperating agencies (e.g., NDOW, State of Nevada Sagebrush Ecosystem Technical Team, and local governments) and interested stakeholders in a transparent manner, based on the best available science and standardized metrics.

When authorizing discretionary, third-party actions within greater sage-grouse habitat management areas that would result in direct, indirect, or cumulative impacts on greater sage-grouse or their habitat, the Forest Service would require and ensure mitigation, subject to valid existing rights and federal regulations governing the authorization, that provides a net conservation gain (net benefit) to the species. This would be achieved by following regulations from the White House Council on Environmental Quality (CEQ; 40 CFR 1508.20) regarding application of the mitigation hierarchy (i.e., avoid, minimize, compensate).

If direct, indirect, or cumulative impacts from an authorized activity remain after applying avoidance and minimization measures, or cannot be rectified through reclamation (i.e., residual impacts), then compensatory mitigation would be used to provide a net conservation gain to the species. Any compensatory mitigation would be durable, timely, and in addition to that which would have resulted without the compensatory mitigation (see glossary).

B.2 MITIGATION PRINCIPLES AND GUIDANCE

The Forest Service would apply the following mitigation principles when evaluating third-party actions that result in impacts on greater sage-grouse or their habitat. The Forest Service would also consider any state-level greater sage-grouse mitigation guidance that is consistent with the requirements identified in this appendix.

The mitigation hierarchy would be the fundamental decision process followed by the Forest Service to avoid, minimize, and compensate for impacts on greater sage-grouse and its habitat. Following the mitigation hierarchy would be a sequential process that would document efforts to avoid and minimize before going directly to compensatory mitigation. The process is as follows:

Avoidance

– Eliminate conflicts by relocating disturbance activities outside of greater sage-grouse habitat in order to conserve greater sage-grouse and its habitat. Avoidance of a disturbance within greater sage-grouse habitat is the preferred option. If impacts are not avoided, the adverse effects would need to be both minimized and mitigated.

Minimization

– Impacts should be minimized by modifying proposed actions or incorporating measures that lessen the adverse effects on greater sage-grouse and its habitat.

  – Minimization would be accomplished through project-level, site-specific application of actions (e.g., required design features and best management practices), such as reducing the disturbance footprint, seasonal use limitations, and collocation of structures, etc., that would be applicable to the proposed activity.

  – Minimization would not preclude the need for compensatory mitigation, but could effectively reduce the severity of impacts and the degree to which compensatory mitigation was needed to offset those impacts.

Compensation (also referred to as compensatory mitigation)

– When impacts on greater sage-grouse and its habitat remain after avoidance and minimization, compensatory mitigation could be considered with the applicant subject to the federal regulations governing the authorization and valid existing rights.

  – Compensatory mitigation actions would be developed and implemented commensurate with the impacts of the proposed project such that net conservation is achieved through replacement or enhancement of greater sage-grouse habitat quality and quantity, as measured using consistent metrics for impacts and mitigation actions, such as those described in the Habitat Quantification Tool (HQT).

Impact and Compensatory Mitigation Project Valuation Guidance

– A common, standardized method, such as the State of Nevada's Habitat Quantification Tool should be used for quantifying the impacts of a proposed project and any pursuant compensatory mitigation projects.

Compensatory Mitigation Options

– Options for implementing compensatory mitigation include:

  ▪ Using the State of Nevada Conservation Credit System (CCS) or an established mitigation/conservation bank.

  ▪ Contributing to an established mitigation/conservation fund that can demonstrate how funds would be used to achieve net conservation gain.

  ▪ Authorized user- (proponent-) conducted mitigation projects that demonstrate net conservation gain.

– For any compensatory mitigation project, the investment must be additional (i.e., additionality means the conservation benefits of compensatory mitigation are demonstrably new and would not have resulted without the compensatory mitigation project).

Compensatory Mitigation Siting

– Sites should be in areas that have the potential to yield a net conservation gain to the greater sage-grouse, regardless of landownership.

– Sites should be durable (see glossary).

– Sites identified by existing plans and strategies (e.g., fire restoration plans, invasive species strategies) should be considered, if those sites have the potential to yield a net conservation gain to greater sage-grouse and are durable.

Compensatory Mitigation Project Types and Costs

– Projects should help reduce threats to greater sage-grouse (e.g., protection, conservation, and restoration projects).

  – Each project type should have a goal and measurable objectives.

  – Each project type should have associated monitoring and maintenance requirements, for the duration of the impact.

Compensatory Mitigation Compliance and Monitoring

– Mitigation projects should be inspected to ensure they are implemented as designed, and if not, there should be methods to enforce compliance.

– Mitigation projects should be monitored to ensure that the goals and objectives are met and that the benefits are effective for the duration of the impact.

Compensatory Mitigation Reporting

– Standardized, transparent, scalable, and scientifically defensible reporting requirements should be identified for mitigation projects.

B.3 INCORPORATING THE MITIGATION STRATEGY INTO NEPA ANALYSES

When a project proposes anthropogenic disturbance in a priority or general habitat management area, the Forest Service would apply the mitigation hierarchy to project design and quantify the residual impacts from the project using a common standardized method such as the State of Nevada's Habitat Quantification Tool shall be used to quantify the residual impacts from project activities and any pursuant compensatory mitigation projects.

When it is determined that an activity requires compensatory mitigation, or a proponent voluntarily offers to conduct compensatory mitigation, the Forest Service would coordinate with the State of Nevada's Sagebrush Ecosystem Technical Team regarding use of the Habitat Quantification Tool and Conservation Credit System and/or evaluation of other proponent-developed mitigation options. Subject to valid existing rights and the federal regulations governing a proposed authorization, the appropriate mitigation actions would be carried forward into the decision.

B.4 IMPLEMENTING A COMPENSATORY MITIGATION PROGRAM

The Forest Service would ensure that compensatory mitigation is strategically implemented to provide a net conservation gain to the species. In order to align with existing compensatory mitigation efforts in Nevada, the Forest Service would coordinate with Nevada Department of Natural Resources and Conservation and the Sagebrush Ecosystem Technical Team regarding use of the State-run Habitat Quantification Tool and Conservation Credit System. These efforts would be done in collaboration with Forest Service partners (federal, tribal, state, and local government) to facilitate the success of the state-run program, recognizing that the Forest Service does not have the statutory authority to require use of

the Conservation Credit System as the only means of satisfying debit obligations and achieving net conservation.

The Forest Service remains responsible for making decisions affecting Forest Service-administered lands.

B.5 GLOSSARY TERMS

Additionality: The conservation benefits of compensatory mitigation are demonstrably new and would not have resulted without the compensatory mitigation project. (adopted and modified from BLM Manual Section 1794).

Avoidance mitigation: Avoiding the impact altogether by not taking a certain action or parts of an action (40 CFR 1508.20(a)). This may also include avoiding the impact by moving the proposed action to a different time or location.

Compensatory mitigation: Compensating for the (residual) impact by replacing or providing substitute resources or environments (40 CFR 1508.20).

Compensatory mitigation projects: The restoration, creation, enhancement, and/or preservation of impacted resources (adopted and modified from 33 CFR 332), such as on-the-ground actions to improve and/or protect habitats (e.g., chemical vegetation treatments, land acquisitions, and conservation easements; adopted and modified from BLM Manual Section 1794).

Compensatory mitigation sites: The durable areas where compensatory mitigation projects would occur (adopted and modified from BLM Manual Section 1794).

Durability (protective and ecological): The maintenance of the effectiveness of a mitigation site and project for the duration of the associated impacts, which includes resource, administrative/legal, and financial considerations (adopted and modified from BLM Manual Section 1794).

Minimization mitigation: Minimizing impacts by limiting the degree or magnitude of the action and its implementation (40 CFR 1508.20 (b)).

Net conservation: Maintaining or increasing the current quantity and quality of Greater Sage-Grouse habitat within the planning area by protecting existing Greater Sage-Grouse habitat or by compensating for loss due to anthropogenic disturbances in a manner that results in a net increase to the quantity and quality of Greater Sage-Grouse habitat.

Residual impacts: Impacts that remain after applying avoidance and minimization mitigation; also referred to as unavoidable impacts.

Timeliness: The lack of a time lag between impacts and the achievement of compensatory mitigation goals and objectives (BLM Manual Section 1794).

APPENDIX C: ADAPTIVE MANAGEMENT PLAN FOR NEVADA

NOTE TO REVEIWERS: THIS APPENDIX HAS BEEN UPDATED IN ITS ENTIRETY. PLEASE SEE 2015 GREAT BASIN ROD FOR COMPARISON.

Introduction

Adaptive management is a decision process that promotes flexible resource management decision making. These decisions can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Carefully monitoring these outcomes both advances scientific understanding and helps with adjusting resource management directions as part of an iterative learning process.

Adaptive management would help identify if greater sage-grouse (GRSG) conservation measures contain the needed level of certainty for effectiveness. Principles of adaptive management are incorporated into the conservation measures in the plan amendment to lessen threats to GRSG and its habitat, thereby increasing the likelihood that the conservation measures and plan would be effective in reducing threats to them.

This adaptive management strategy includes warnings, soft and hard triggers (signals) and responses. The triggers (signals) are not specific to any particular project, but identify GRSG population and habitat thresholds outside of natural fluctuations or variations. Triggers (signals) are based on the two key metrics that are being monitored: population declines and habitat loss. Adaptive management, with specific triggers (signals), provides additional certainty that the regulatory mechanisms included in the plan amendment are robust and able to respond to a variety of conditions and circumstances quickly and effectively to conserve GRSG habitat and populations. Tripping a soft and/or hard trigger (signal) will initiate a local-state-federal interagency dialogue to evaluate causal factors and recommend adjustments to implementation-level activities to reverse the trend.

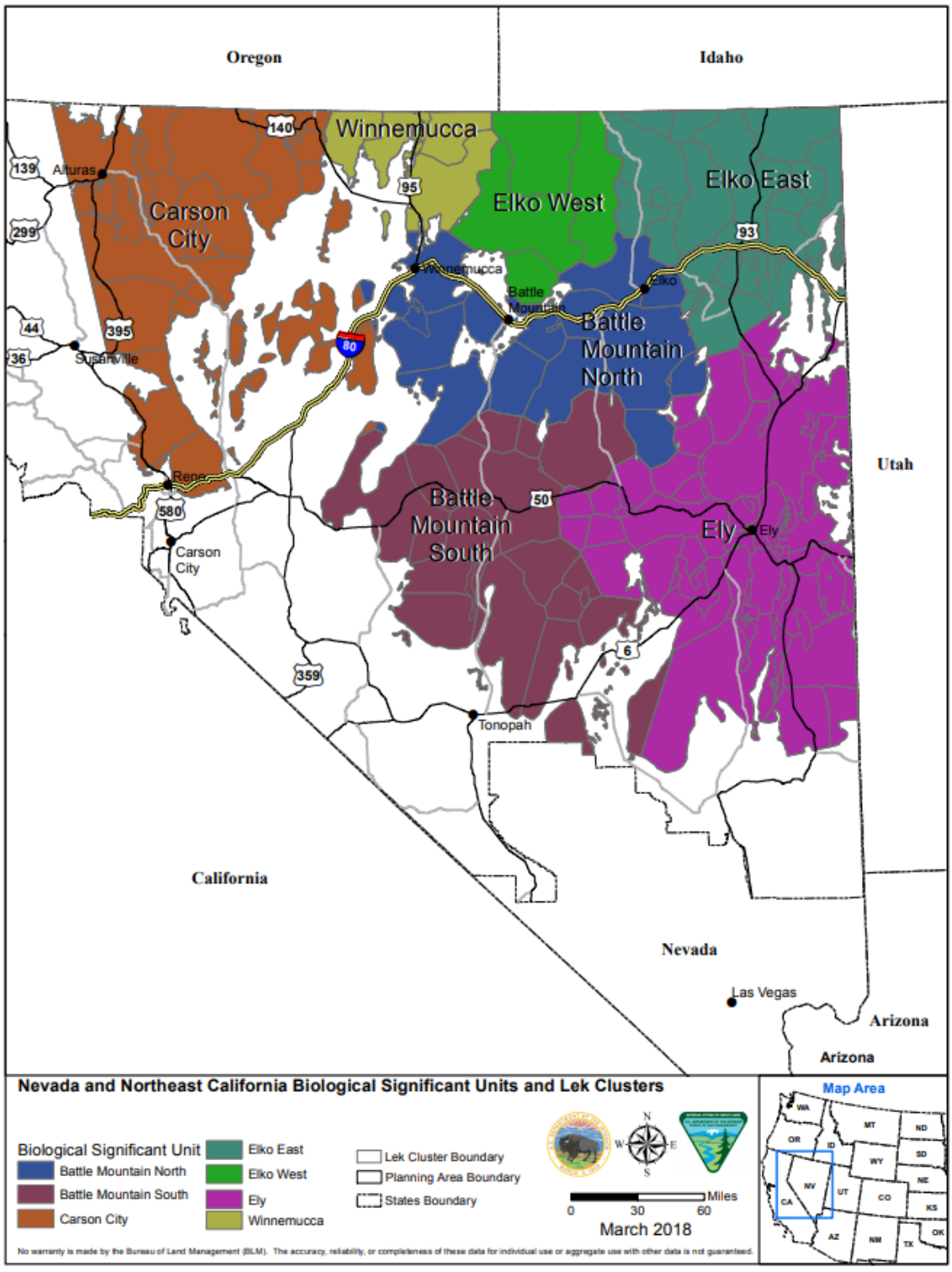
Adaptive Management Analysis Scales

The scales used to analyze adaptive management triggers (signals) and apply adaptive management responses are at the individual lek, lek cluster, and biologically significant units (BSU) as defined below. The boundaries of the BSU and lek clusters may be adjusted over time, based on the understanding of local GRSG population interactions, genetic sampling, and climate variation. Population and habitat monitoring methods may be updated based on new science and advances in technology (e.g., integrated population models).

The hierarchy of GRSG population and habitat scales is as follows:

- Lek—Individual breeding display sites where male and female GRSG congregate, with males performing courtship displays to gain mating opportunities with females.
- Lek cluster—A group of leks in the same vicinity, between which GRSG may interchange over time and representing a group of closely related individuals.
- BSU— represents nested lek clusters with similar climate and vegetation conditions.

Map C-1. *Biologically Significant Units and Lek Clusters for GRSG in Nevada.*



Definitions of Adaptive Management Warnings, Soft Triggers (Signals), and Hard Triggers (Signals)

Warnings

Warnings may occur based on population declines or impacts to GRSG habitat. Adaptive management population warnings are identified within the GRSG state-space model (Coates et al., 2017), described below. Adaptive management habitat warning include the occurrence of wildfire greater than 1,000 acres, other natural disturbance, or new anthropogenic disturbance that results in direct and indirect effects as defined in the Habitat Quantification Tool (HQT) within priority, general, or other habitat management areas (PHMA, GHMS, OHMA) within a lek cluster. An interagency technical team with representatives from the BLM, Forest Service, NDOW, CDFW, SETT (DCNR), and USGS would evaluate warnings on an annual basis to determine their ecological impact and magnitude, considering available science, site-specific conditions (context), ecological criteria (e.g., ecological site description, current state, resistance and resilience, cheat grass dominance), and available resources. The team would determine if a soft or hard response to the warnings is necessary to stop a decline in population or habitat.

Soft Trigger (Signal)

Soft triggers (signals) represent an intermediate threshold, which indicates that management changes should be considered at the project or implementation level to address GRSG population and/or habitat declines. If a soft trigger (signal) is reached, the Forest Service, in collaboration with partners, would consider additional implementation level management responses to address the known or probable causes of the decline in GRSG habitat or populations with consideration of local knowledge and conditions.

Hard Trigger (Signal)

Hard triggers (signals) represent a threshold that indicates that immediate action needs be considered to stop or reverse a severe deviation from GRSG conservation goals and objectives.

Adaptive Management Population Analysis

Population Change Rate Calculation for Triggers (Signals)

A GRSG state-space model (Coates et al. 2017) will be used to estimate the rate of GRSG population change (lambda) and the number of males at three hierarchically nested spatial scales: individual lek, lek cluster, and BSU. Lek count data collected by NDOW would inform the state-space model and be used to determine thresholds for population stability and decoupling from higher-order scales. Some lek clusters may need additional monitoring of leks to gain adequate sampling data in order to be modeled (Coates et al. 2017).

Population Soft and Hard Triggers (Signals)

Modeled change rates from GRSG population estimates will be calculated at the relevant management level annually as lek data are finalized by the state wildlife management agencies. The GRSG state-space model will be used to establish population change rates at the lek, lek cluster, and BSU level. The rate at which population stability declines and decouples at the scale of interest from the specified higher-order

scale dictates whether or not a soft or hard trigger (signal) is reached. Thresholds for stability and decoupling for soft and hard triggers (signals) were determined from simulation analyses that used 17 years of lek data (2000-2016). These simulations estimated the range of values where management actions would have an effect on stabilizing population change or synchronizing decoupled scales. The threshold value for each criteria represents the most likely threshold value (from a range of values), that if crossed, would associate most strongly with continued decline or decoupling if management action is not taken (Coates et al. 2017).

Information on the methods used to determine if a soft or hard trigger (signal) for GRSG populations has been tripped at the lek, lek cluster or BSU can be found in Coates et al. 2017, *Hierarchical population monitoring of greater sage-grouse (Centrocercus urophasianus) in Nevada and California—Identifying populations for management at the appropriate spatial scale*: U.S. Geological Survey Open-File Report 2017-1089, in the Evaluation Process Section.

Adaptive Management Habitat Analysis

Habitat Trends for Warnings and Triggers (Signals)

Triggers (signals) for habitat would be evaluated at the lek cluster scale based on changes within PHMA, GHMA and OHMA. Habitat triggers (signals) would be assessed as the percent of habitat impacted from natural and anthropogenic disturbances within the habitat management areas.

Habitat Warnings, Soft and Hard Triggers (Signals)

I. At the lek cluster scale: A habitat warning would be reached when any new natural disturbance (e.g. wildfire) of greater than 1,000 acres occurs or when there is a new anthropogenic disturbance that results in direct and indirect effects as defined in the Habitat Quantification Tool (HQT) within an HMA.
    a. Habitat warnings would be evaluated annually by an interagency technical team of specialists from the BLM, Forest Service, NDOW, CDFW, SETT (DCNR), and USGS to determine the ecological impact and magnitude of the habitat warnings. The team would determine which lek clusters warrant a soft, hard, or no management response (i.e., soft or hard trigger) based on available science, site-specific conditions (context), ecological criteria (e.g., ecological site description, current state, resistance and resilience, cheat grass dominance), and available resources. . The interagency technical team would make a recommendation to the appropriate agency's authorizing official responsible for addressing the trigger.
    b. If soft triggers (signals) are hit for both GRSG habitat and populations within a lek cluster in any given year, this would result in a hard trigger (signal) habitat response for that lek cluster.

Trigger (Signal) Responses and Causal Factor Analysis Process

Step 1-Assessment of GRSG Population and Habitat Baseline Conditions: In coordination with the interagency technical team, the Forest Service will evaluate population and habitat data to identify habitat warnings and population triggers (signals) and determine if an adaptive management soft or hard trigger (signal) has been reached.

Step 2-Determine the Causal Factor: Within four weeks after Step 1 is completed and soft or hard triggers (signals) have been identified, the interagency technical team, in collaboration with local

resource specialists, would initiate the causal factor analysis to identify why a soft and/or hard trigger (signal) was reached at the individual lek, lek cluster, and/or BSU scale(s), based on the following analysis areas for each scale:

a. Lek: GRSG seasonal habitats associated with the lek. An individual lek boundary is defined as a minimum four mile buffer;

b. Lek cluster: GRSG seasonal habitats associated with the lek cluster. A lek cluster boundary is defined by minimal GRSG movement between clusters, so demographic rates are influenced by birth/death rates rather than immigration/emigration;

c. BSU: GRSG seasonal habitats associated with the BSU. A BSU boundary is defined by similar environmental conditions where GRSG population dynamics are likely more driven by larger scale variations (e.g. climate).

The causal factor for habitat triggers (signals) would be either natural (e.g., wildfire) or anthropogenic disturbances based on the analysis conducted in Step 1. To identify the causal factors of a population trigger (signal) and appropriate responses, the technical team will consider all available information and examine the factors supporting the proximate cause. Questions to be answered may include, but are not limited to the following:

- What natural and human-caused events have occurred within the causal factor analysis area?
- What is the magnitude of the impact to GRSG and/or its habitat?
- Is the impact temporary or permanent?
- Can GRSG populations and/or habitat recover on its own without intervention?
- What is the average population trend for the lek, lek cluster, or BSU?
- What is the expected length of the recovery period?
- Can the management actions already included in the plan accelerate recovery or are different actions necessary?
- What role, if any did factors and events outside the affected area play in the event or activity outcomes?
- Are there previously burned areas within the lek cluster or BSU that have not recovered?
- Did the event or outcome arise from the interaction of more than one potential causal factor?

Findings from the causal factor analysis process would be documented and made available to the public on an annual basis.

Step 3-Identify Appropriate Trigger (signal) Responses: The interagency technical team, in collaboration with local resource specialists, would identify appropriate trigger (signal) responses to be applied to the individual lek (for population only), lek cluster, and/or BSU that has tripped a trigger (signal). Responses may include recommendations for additional analyses or data collection. Types of actions the team could evaluate or consider applying within an individual lek (for population only), lek cluster, and/or BSU to address a soft trigger (signal) may include:

- Halting or delaying planned prescribed fire;
- Increasing fire prevention patrols;
- Increasing fire prevention inspections of motorized equipment;

- Prohibiting open campfires outside of established fire pits and outside of stoves in designated recreation areas;
- Increasing inspections to ensure Required Design Features for limiting the spread of invasive plants are being followed;
- Increasing surveys to detect and treat new infestations of invasive plants, especially invasive annual grasses;
- Delaying any planned vegetation treatments until after the breeding and brood-rearing season;
- Halting or delaying planned fuels treatments in GRSG winter habitat;
- Delaying issuance of new permits and authorizations;
- Installing anti-perching devices on tall structures;
- Installing bird flight diverters on guy wires and fences;
- Delaying issuance of new or pending ROWs outside of existing designated corridors;
- Delaying planned construction of new recreation facilities (e.g., kiosks, toilets, and signs);
- Increasing litter patrols in and around heavily used recreation areas;
- Increasing educational contacts with visitors concerning the role of litter and garbage in attracting GRSG predators;
- Increasing enforcement efforts on travel restrictions;
- Limiting noise and/or light pollution.

In addition, if a soft trigger (signal) has been tripped, the interagency technical team, in collaboration with local resource specialists, would develop an emergency/contingency plan that would outline immediate management actions that would take place in the event a hard trigger (signal) is reached. Such a plan should include goals, objectives, management actions and monitoring requirements developed specifically for the appropriate geographic area and/or population being affected (e.g., lek (for population triggers only), lek cluster, and/or BSU).

If a hard trigger (signal) is reached, district and/or field offices would implement the site specific actions outlined in the emergency/contingency response plan developed as part of the soft trigger (signal) response. If the hard trigger (signal) was reached, but not preceded by a soft trigger (signal) or the emergency/contingency response was not developed, the Forest Service (in coordination with Federal, State, and local partners) may implement temporary closures o respond to causal factors that have resulted in a catastrophic event (i.e., a wildfire). In addition, BLM would no longer permit exceptions to allocation decisions in areas (e.g., lek (for population triggers only), lek cluster, and/or BSU) that have tripped a hard trigger (signal) and may delay issuance of new permits and authorizations until population and/or habitat levels fall below the trigger (signal) threshold and the trigger (signal) has been determined to be reversed by the process outlined below (Longevity of Trigger (Signal) Responses).

Areas that have been identified as reaching habitat triggers would be used to leverage funding and resources to target specific areas in need of management actions or those habitats that are at risk and to focus on prevention and proactive management rather than reactive responses. As part of the prioritization of scales that reached a habitat trigger, the sub-regional technical team should use existing tools including The Fire and Invasives Assessment Tool (Chambers et al. 2014), the BLM's Great Basin Region's Fuel Breaks and Habitat Restoration PEISs, Conservation Planning Tools (USGS), and other tools

to develop and recommend appropriate management actions. The interagency technical team may also organize a state, local, and county agency meeting to ensure coordination of efforts and resources to maximize outcomes.

Step 4-Implement Trigger (Signal) Responses: In collaboration with federal, state and local partners (which could include local area conservation groups, grazing permittees, and other local government natural resource advisors as appropriate), the Forest Service would implement project specific management responses at the scale in which the trigger (signal) was reached (e.g., lek (for population only), lek cluster, and/or BSU).

Step 5-Monitor Responses: In collaboration with federal, state and local partners (including local area conservation groups, grazing permittees, and other local government natural resource advisors as appropriate), the Forest Service will continue to monitor the lek(s), lek cluster(s) and/or BSU(s) in which a trigger (Signal) response is being applied to determine if the responses are adequately addressing the reason for the population and/or habitat decline. This information will be used in Step 1 above, "Assessment of GRSG Population and Habitat Baseline Conditions" the following year.

Longevity of Trigger (Signal) Responses

Removal of the soft and/or hard trigger (signal) responses would return management in the affected lek (for populations only), lek cluster and/or BSU to the management direction that was in place prior to reaching a trigger (signal).

The Forest Service would work with the interagency technical team to develop criteria that would be used to evaluate whether a lek (for populations only), lek cluster, and/or BSU that reached a trigger (signal) has recovered sufficiently to reverse the trigger (signal) and remove the response. The process may include, but not limited to the following:

- Identification of upward population trends, based on annual updates to the GRSG state-spaced model.
- Change in sagebrush landscape cover data derived from best available data;
- Changes in GRSG Habitat Management Areas based on periodic mapping updates;
- Evaluation of habitat or population response based on an adaptive management process to determine what management actions are successful and what actions should be changed to achieve the desired outcome;
- Evaluation of completed *Sage-Grouse Habitat Assessment Framework: A Multiscale Assessment Tool*. Technical Reference 6710-1 (Stiver et al., 2015).