

4.0 DESIRED HABITAT CONDITIONS FOR GREATER SAGE-GROUSE IN NEVADA

The desired habitat conditions for sage-grouse describe what is generally considered to be the highest quality seasonal habitat for greater sage-grouse, specific to Nevada. The desired habitat conditions do not specify what is and what is not habitat, but depict the characteristics of seasonal habitats that sage-grouse in Nevada are using most successfully, based on research, [data and observations](#) in Nevada and the Great Basin. The desired habitat conditions are based on current knowledge of sage-grouse selection and demographic rates related to habitat conditions in Nevada and the Great Basin. Management to work towards these desired habitat conditions must be implemented using professional judgement that assesses ecological site descriptions (including current state and potential), adaptive management, and knowledge of authorized land uses and plans. Vegetation community responses to management techniques can be highly variable and may take years to reach desired conditions depending on a multitude of factors. Vegetation communities go through natural and human influenced successional stages over time that may or may not be progressing sites towards the desired habitat conditions. Therefore, monitoring and data collection must be conducted over a sufficient period of time to allow for an accurate accounting of whether or not a site is making progress toward the desired conditions.

The desired habitat conditions will be used to evaluate management actions and site conditions in sage-grouse habitat to ensure that 1) habitats are maintained if meeting desired conditions, or 2) habitats are trending toward these conditions if they are not being met. Management actions in sage-grouse habitats will include site-specific [resource objectives \(Swanson et al 2006\)](#) using these desired habitat conditions as guidelines, while taking into account ecological site descriptions tied to state and transitions models [and other locally relevant resource values and relevant information about management context and commitments](#). Progress of management actions will be evaluated through long-term monitoring [and for](#) adaptive management. When habitat within the State is identified as not meeting these desired conditions and there are opportunities and resources available, the State will seek to work with private and public land managers to assess the causal factors and recommend adjustments in management to work towards [the desired conditions site specific resource objectives](#). The desired habitat conditions in table 4-1 should not be used to conduct land health assessments and are not regulatory, but are intended to help guide planning for current and future management [and usingshould include](#) adaptive management as a part of the process. In implementation, managers must have flexibility to manage for these desired sage-grouse habitat conditions along with other desired conditions on the site, taking into consideration existing permitted uses and corresponding management plans. [Also;](#) as well, some sites [may do](#) not have the potential to meet [all](#) desired sage-grouse habitat conditions, [which is why resource objectives must be](#) specific to the site.

The State of Nevada recognizes that a resilient and resistant sagebrush ecosystem should be heterogeneous (a mosaic of multiple seral [statesphases](#)) across the landscape and that achievement of [these any](#) desired habitat conditions resulting in a large-scale homogenous landscape is not [desirable within the State of Nevada optimum](#). Thus, the State will work with land managers and advisors to work towards achieving or [maintaining a resistant and resilient landscape informed by the continued maintenance of](#) the desired conditions in Table 4-1 [and ecological site descriptions](#), and to incorporate new science, adaptive management, and incentives in the future that will allow this to occur.

The desired conditions in Table 4-1 should not be reviewed, measured, or managed for, independently. Sage-grouse habitat suitability should be determined by the relationship among several indicator values including ecological site descriptions (including current state and potential) along with the relative abundance of habitat types across the landscape. These conditions apply to an area being used by sage-grouse for the appropriate life stage (microsites) and not across the entire site or landscape. The desired conditions for each seasonal habitat should only be assessed during the appropriate season of use (dates can vary annually based on climatic conditions) and in areas spatially mapped as the relevant seasonal habitat (expected from USGS in May 2015). Habitat types may not be mutually exclusive and therefore may have to be managed to meet multiple conditions or selected for the more limiting habitat in the area. It is important to understand that the desired conditions described for these habitat types are based on average plant productivity, structural data, supporting scientific literature, and expert opinion relative to sage-grouse use of sagebrush communities and they may not apply to all sagebrush communities in the planning area (Davies et al. 2006). These measures also do not account for inter-annual climate variation (e.g. precipitation) (Davies et al. 2006). Herbaceous vegetation, in particular, varies dramatically year to year; measurements for a single given year should not necessarily be used to adjust management decisions or actions. When evaluating herbaceous vegetation in areas grazed in different seasons in different years, it is important to evaluate conditions across the years of rotation, recognizing that effective management for robust healthy plants may leave more or less residual in a specific season of any one year. Individual indicator values do not define site suitability and overall site suitability descriptions require an interpretation of the relationships between the indicators, ecological site descriptions (including current state and potential), and other factors. In order to provide recommendations for management changes and adaptive management, professional expertise and judgment are required to properly assess current conditions. This should include but not be limited to inter-annual climate variation, and authorized uses and their associated plans.

These desired habitat conditions were developed by a team consisting of representatives from the USFWS, NDOW, USFS, USGS, and BLM. The team reviewed the Connelly et al. (2000) guidelines adding considerable detail and making adjustments based on regionally and locally derived data and analysis by the USGS. The State of Nevada's Science Work Group provided input on the science behind the desired habitat conditions.

SETT

Your work on the paragraphs about the table were a great improvement. I think they can be made better still with the attached changes. I have attached a word file that I made by pasting from the pdf, taking out the line numbers and then using track changes to make the changes I voiced today in the meeting. I think Chris or Leo suggested adding a definition of resource objectives, which you can find in the Nevada Rangeland Monitoring Handbook (Swanson 2006) glossary or here:

Resource objectives – Specific attributes of natural resource conditions that management will strive to accomplish, the area or location where this will occur, and the time frame. Resource objectives must be site specific, measurable, and attainable statements of the desired resource attributes.

Swanson, Sherman (Editor in Chief), Ben Bruce, Rex Cleary, Bill Dragt, Gary Brackley, Gene Fults, James Linebaugh, Gary McCuin, Valerie Metscher, Barry Perryman, Paul Tueller, Diane Weaver, and Duane Wilson. 2006. Nevada Rangeland Monitoring Handbook Second Edition. University of Nevada Reno Cooperative Extension Educational Bulletin-06-03 81 pp.

<http://www.unce.unr.edu/publications/files/ag/2006/eb0603.pdf>

In addition, I offer these thoughts on the table.

Site-specific objectives should be defined based on ecological site descriptions and current ecological state.

change to

Site-specific resource objectives should be defined based on ecological site descriptions and current ecological state and phase, informed by this table, and by other locally relevant resource values and management information.

GENERAL/LANDSCAPE-LEVEL

All Life Stages Rangeland Health Indicator Assessments Conduct assessments in sage-grouse habitat and develop site-specific objectives based off assessments Pellant et al. 2005
change to

All Life Stages Rangeland Health Indicator Assessments Conduct assessments in sage-grouse habitat and develop site-specific objectives informed by assessments Pellant et al. 2005

Security (Nesting) Conifer Encroachment <3% phase I (>0- <25%cover) No phase II (25–50% cover) No phase III (>50% cover) Casazza et al. 2011 USGS (In prep) (A)

change to

Security (Nesting) Conifer Encroachment <3% phase I (>0- <25% relative cover) No phase II (25–50% relative cover) No phase III (>50% relative cover) Casazza et al. 2011 USGS (In prep) (A) Tausch et al. 2009

Note that the table definitions of phases are not correct: Tausch, R.J., Miller, R.F., Roundy, B.A., and Chambers, J.C., 2009, Piñon and juniper field guide: Asking the right questions to select appropriate management actions: U.S. Geological Survey Circular 1335, 96 p. has the following • Phase I – trees are present but shrubs and grasses are the dominant vegetation that influence ecological processes (hydrologic, nutrient, and energy cycles) on the site; • Phase II – trees are co-dominant with shrubs and herbs, and all three vegetation layers influence ecological processes on the site; • Phase III – trees are the dominant vegetation and the primary plant layer influencing ecological processes on the site.

AND they state Tree canopy (% of maximum potential) My point is that the numerical % figures are not cover, they are relative canopy cover, i.e. % of total plant cover in trees, not % of land in trees. This

is important because dry sites cross the threshold to phase III at much less tree cover than wet sites, even though they cross the threshold at about the same relative cover.

Phase I Open, actively expanding <20%

Phase II Actively expanding 20 to 50%

Phase III Expansion nearly stabilized > 50%

Security Riparian Area/Meadow Interspersion with Adjacent Sagebrush Has adjacent sagebrush cover Casazza et al. 2011 Stiver et al. (In press) HAF

Note that Casazza et al 2011 did not study sage-grouse in July, August or early September, only from March through June.

5 Site does not have to meet PFC but should be showing progress in trending toward functioning or functioning at risk.

Change to

5 Site does not have to meet PFC but should be showing progress in trending toward proper functioning condition if functioning at risk.

Sherm