

Crosswalk of Management Concepts in Nevada

Management Concept	Agency	Year	Category names (Number)	Extent	Relevance/Methods to develop	Notes	Website for download.	Attachment Number
PMU <i>Population Management Units</i>	NDOW	2001	Tuscarora, Fish Creek, etc. (61)	Nevada. CA also has same designation.	DRAFT for Discussion - version 5/29/2014 NDOW's PMUs were initially outlined in 2001 State Pland and refined in 2004 State Plans. They were developed as the basic management unit for sage-grouse in Nevada for threat assessment and mitigation planning. They were delineated based on aggregations of leks, understanding of habitat, and potential boundaries to populations (such as mountains and valleys).		http://gis.ndow.nv.gov/ndowdata/maps/GSG_PopulationManagmentUnits_2012.pdf	1
Management Zone	WAFWA	2006	III -Southern Great Basin, IV-Snake River Plain, V-Northern Great Basin, etc. (7)	Range wide	The management zones were developed to guide sage-grouse conservation goals and range-wide management outlined in the 2006 Greater Sage-grouse Comprehensive Conservation Strategy developed by WAFWA. The management zones were delineated based on sage-grouse populations within floristic provinces (See 2006 WAFWA report - pg 1-6).		http://www.wafwa.org/documents/pdf/GreaterSage-grouseConservationStrategy2006.pdfpg.1-11	2
Breeding Densities <i>(not management per se, but can be used to guide prioritization)</i>	Doherty et al. (Mapping breeding densities of GRSg: A tool for range-wide conservation planning)	2010	25% Breeding densities 50% Breeding densities 75% Breeding densities 100% Breeding densities (generally 4, though more have been developed)	Range wide	The breeding bird densities were developed to help spatially, prioritize conservation efforts to areas with large, intact breeding populations. The breeding densities were delineated by using maximum count data from leks based on 25, 50, 75, and 100% of the known breeding population.	Nevada Sage-grouse Committee developed 85% breeding densities for development of their 2012 planning strategy.	http://www.blm.gov/pgdata/etc/medialib/blm/wo/Communications_Directorate/public_affairs.Par.46599.File.tmp/GRSG%20Rangewide%20Breeding%20Density.pdf	3
NDOW Habitat Categorization	NDOW	2012	Essential/Irreplaceable Habitat Important Habitat Habitat of Moderate Importance Low Value habitat/Transitional Range Unsuitable Habitat (5)	Just Nevada	NDOW's Habitat Categorization Map is an analysis tool that was developed to incorporate the best available data (lek observations, telemetry locations, survey and inventory reports, vegetation cover, soils information, and aerial photography) into a statewide prioritization of sage-grouse habitat. Categories were delineated by identifying homogenous habitat patches and individually evaluating them based on overall quality of habitat, patch size, and known sage-grouse activity.	This process has been "retired" and updated with the Nevada Management Categories.	http://www.ndow.org/Nevada_Wildlife/Sage_Grouse/	4
PPH and PGH <i>Preliminary Priority Habitat and Preliminary General Habitat</i>	BLM/FS	2012	PPH PGH (2)	Nevada and CA (though term is used range wide)	PPH and PGH were developed for the BLM/FS land use planning strategy (Subregional EIS/LUPA) to indicate where land-use changes could result in an expected negative impact to sage-grouse population health. PPH and PGH were delineated from NDOW's Habitat Categories. PPH is (1) Essential/Irreplaceable Habitat and (2) Important habitat. PGH is (3) habitat of moderate importance.	These terms have been "retired" and are replaced with PHMA, PGMA, and OHMA.	http://www.blm.gov/pgdata/etc/medialib/blm/nv/wildlife_fishes/sage_grouse.Par.8043.File.dat/BLM-USFS_GSG_Preliminary_Habitat_Map_No.pdf	5
SGMA	2012 Sage-Grouse Committee	2012	no names (14)	Just Nevada	The SGMAs were developed to represent a broad-scale evaluation of sage-grouse habitat. They were delineated based on NDOW's Habitat Categorization Map, PPH and PGH, Doherty et al.'s 85% breeding bird density, and on land use conditions. (See 2012 State Plan)	These delineations have been "retired" and are replaced with the 2014 SGMA.	Not available online	6
Occupied, Potential, and Suitable Habitat	2012 Sage-Grouse Committee	2012	never mapped	Just Nevada	These definitions were established to guide management in the 2012 State Plan. A process to delineate these habitat categories was never established.	These terms have been "retired" and are replaced with the SEPs Management Categories.	Not available.	Not mapped.
PPMA and PGMA (MA = management areas)	BLM/FS	2013	PPMA PGMA (2)	Nevada and CA (though term is used range wide)	PPMA and PGMA were developed for each alternative in the BLM/FS Subregional EIS/LUPA to identify where management of PPH and PGH, respectively, would be applied. The delineation of PPMA and PGMA for each alternative is outline in Chapter 2, pg 7 of the DEIS.	These terms have been "retired" and are replaced with PHMA, PGMA, and OHMA.	http://www.blm.gov/pgdata/etc/medialib/blm/nv/wildlife_fishes/sage_grouse/2013_public_workshop.Par.98718.File.dat/alternativeD%20Poster.pdf	7

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PACs <i>Priority Areas for Conservation</i>	FWS	2013	no name (1)	Range wide	PACs were developed to identify areas that are key for conservation of sage-grouse to maintain representative, redundant and resilient populations (See 2013 COT Report). PACs were delineated independently by each state.	Nevada submitted the 2012 SGMAs as the Nevada PACs. Nevada had drafted revised PACs in 2014 based on the Nevada Management Categories, but the revision was never submitted to the FWS due to lack of clarity on how the PACs will be used moving forward.	http://www.fws.gov/mountain-prairie/species/birds/sagegrouse/COT/COT-Report-with-Dear-Interested-Reader-Letter.pdf	8
SGMA <i>Sage-grouse Management Area</i>	SEP	2014	no name (1)	Just Nevada	The SGMA concept was revised during updates to the 2012 State Plan. The revised concept indicated that the SGMA defines the extent of management that triggers consultation with the SETT. The 2014 SGMA was delineated as the extent of the Habitat Suitability Model which provides the range of sage-grouse in Nevada.		The SGMA is depicted on the State of Nevada Management Categories Map and on the State of Nevada Suitable/Non-suitable Map. See below.	9
State of Nevada Habitat Suitability Model (HSM) and Habitat Suitability Index (HSI)	SEP	2014	continuous surface indexed from 0 to 1 (no categories)	Nevada and California	The HSM is being developed through the State of Nevada, USGS and other state and federal partners to provide a relative suitability of sage-grouse habitat in Nevada. The HSM uses resource selection functions to delineate suitability. The HSI is the continuous surface output of the HSM. (See White paper for more detail.) The most recent version is August 2014.		http://sagebrushco.nv.gov/HSM/HSM_Work_Products/	10
State of Nevada Suitable/Non-suitable habitat	SEP	2014	Suitable Habitat Non-suitable Habitat (2)	Nevada and California	Suitable vs non-suitable were developed to provide a cut point within the Habitat Suitability Index to determine from the continuum what is generally considered habitat, versus non-habitat. Habitat versus non-habitat was delineated from the Habitat Suitability Index as 1.5 standard deviations below the mean value of the index. The most recent version is August 2014.		http://sagebrushco.nv.gov/HSM/HSM_Work_Products/	11
State of Nevada Management Categories	SEP	2014	Core Management Area Priority Management Area General Management Area Non-habitat Management Area (4)	Nevada and California	The management categories were developed to guide management for the "Avoid Process" of the revised 2012 State Plan. The management categories were delineated from habitat suitability, derived from the HSM, and from sage-grouse space use, derived from lek data, through a state and federal interagency team. See White paper for more detail. The most recent version is March 2015.		http://sagebrushco.nv.gov/HSM/HSM_Work_Products/	12
BSU (BSAs) <i>Biologically Significant Units (Areas)</i>	all	2015	Bi-State, Monitor, etc. (18)	Nevada and California	This concept was developed at the request of BLM/FS to represent the scale at which monitoring or reporting would occur, or at which adaptive management would occur, etc. These were delineated by merging associated PMUs to provide a broader scale management option that reflects sage grouse populations at a higher scale. The PMUs nest within the BSUs.		Not available online	13
PHMA, PGMA, and OHMA <i>Priority Habitat Management Area General Habitat Management Area Other Habitat Management Area</i>	BLM/FS	2015	PHMA PGMA OHMA (3)	Nevada and California	These terms replace PPH and PGH from the DEIS. In addition, the BLM/FS have adopted the August 2014 version of the State of Nevada Management Categories. The following is the cross walk between categories: BLM/FS: PHMA (Priority) = State: Core Management Category BLM/FS: GHMA (General) = State: Priority Management Category BLM/FS: OHMA (Other) = State: General Management Category BLM/FS: No equivalent = State: Non-habitat Management Category		Not available online	Not available yet
SFAs <i>Sagebrush (Sage-grouse) Focal Areas (Aka SuperPACs)</i>	FWS/BLM/FS	2015	Not named	Range wide	These are areas of management prioritization were initially drafted by the FWS and subsequently adopted by the BLM. They are indicated to be important areas of habitat necessary to the conservation of the species range-wide.	Revision to Nevada portion of the SFAs to incorporate the Nevada Management Categories will be delineated in the Sub-regional FEIS (anticipated summer 2015).	Not available online	Not available yet

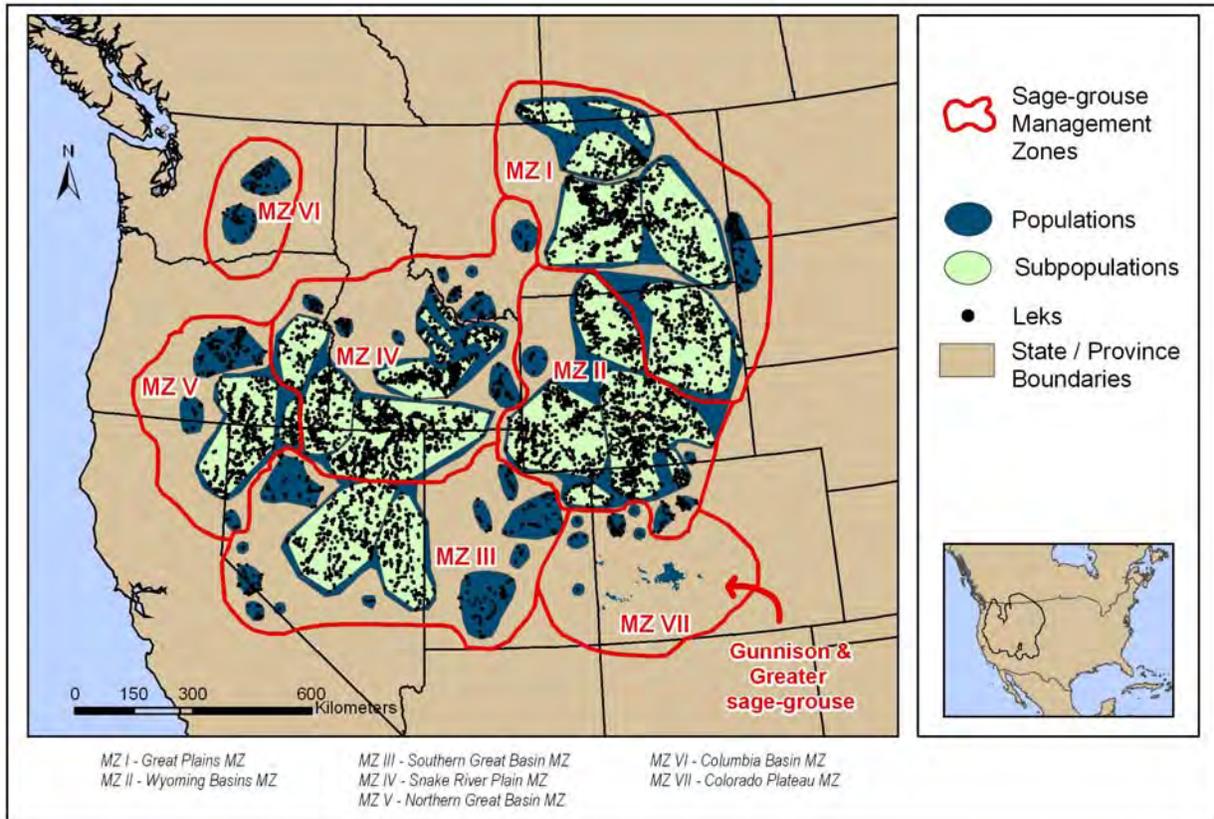
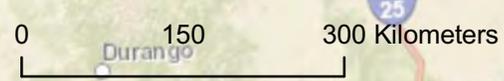
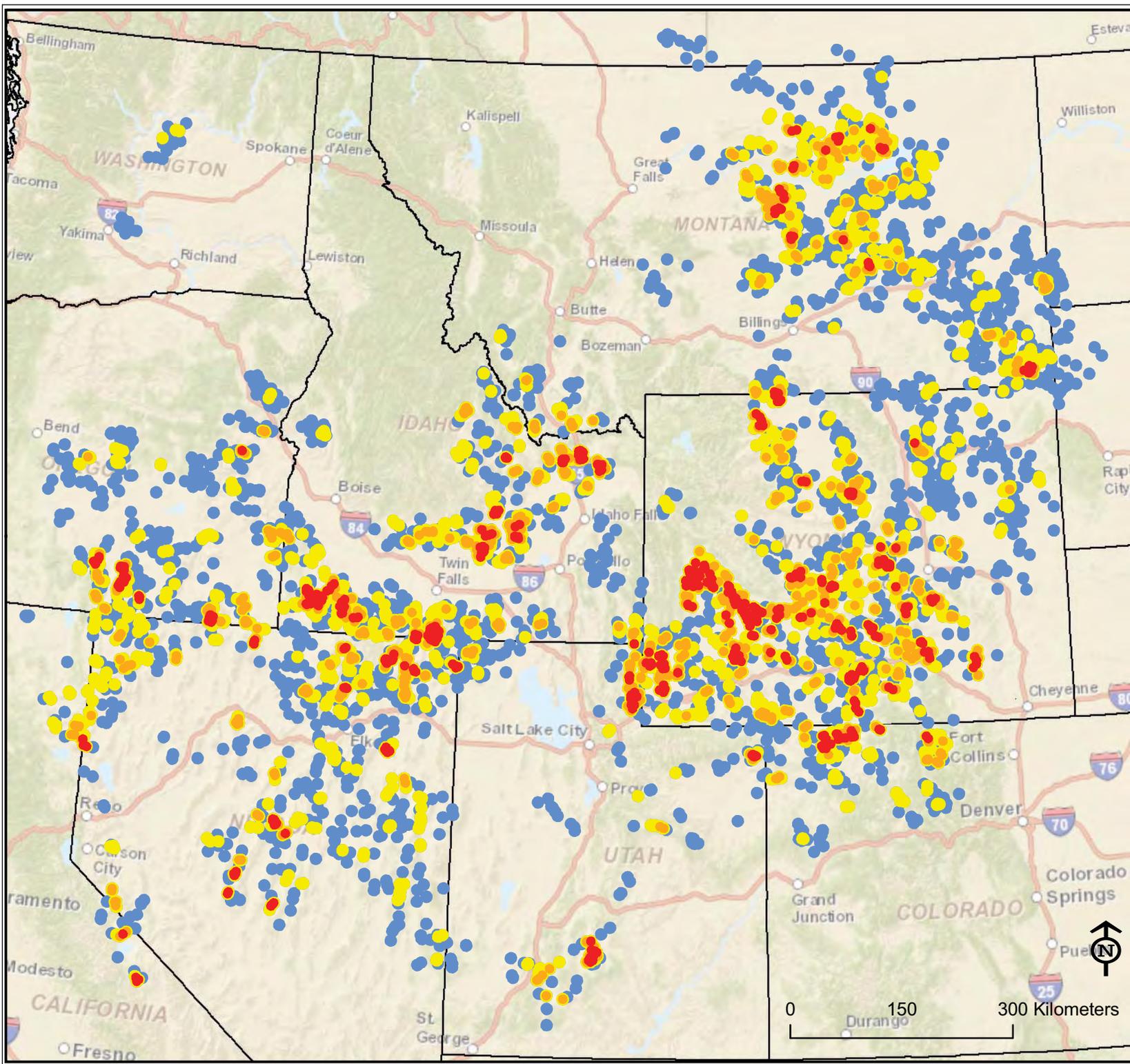


Figure 1.3. Greater and Gunnison sage-grouse Management Zones outlined in North America.

Greater Sage-Grouse Range-Wide Breeding Density Thresholds

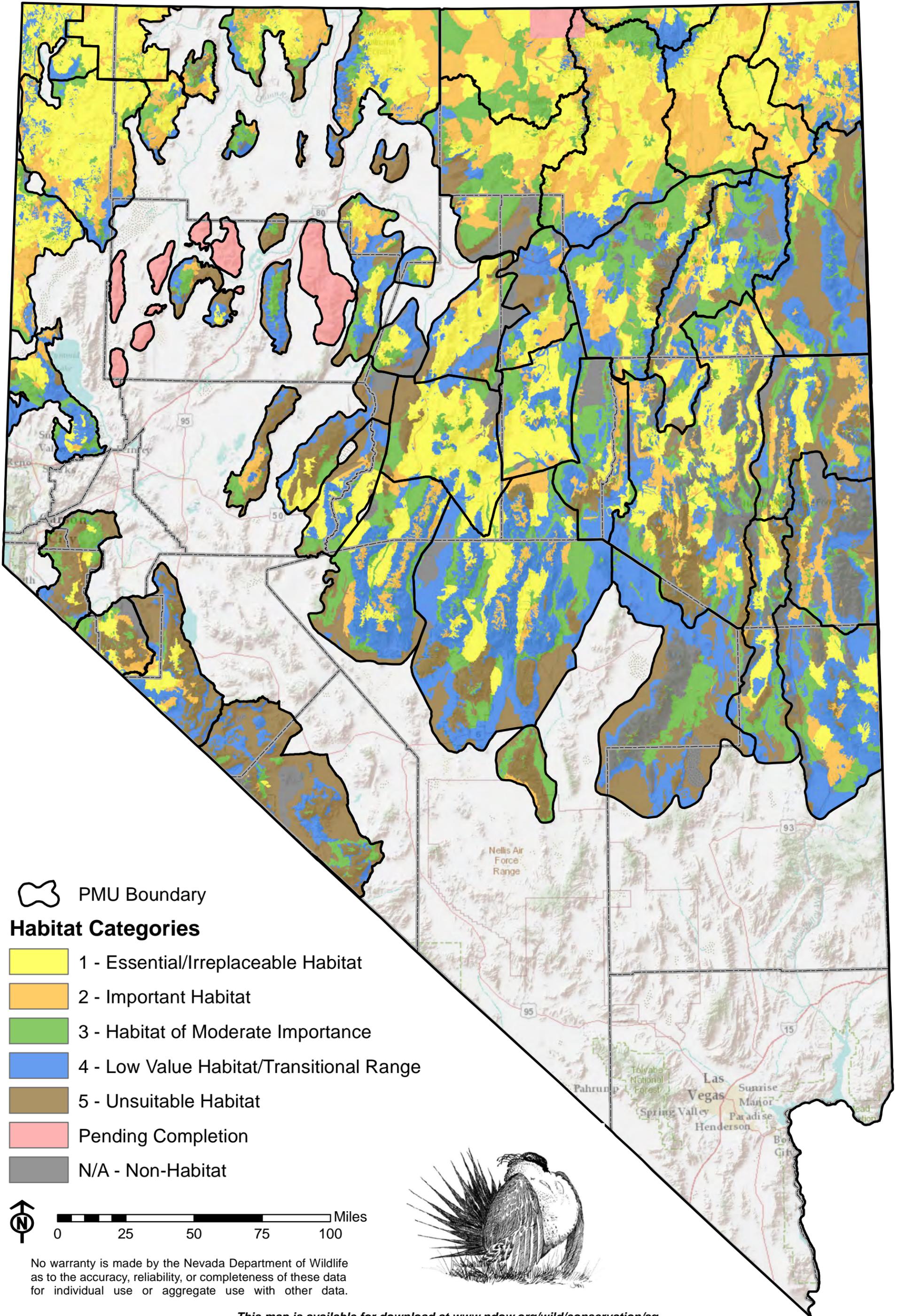
- LEGEND**
-  25% Breeding Densities
 -  50% Breeding Densities
 -  75% Breeding Densities
 -  100% Breeding Densities

Doherty K.E., J.D. Tack, J.S. Evans, and D.E. Naugle. 2010. Breeding densities of greater sage-grouse: A tool for range-wide conservation planning.





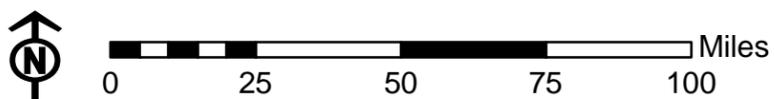
Nevada Department of Wildlife Greater Sage-Grouse Habitat Categorization Map



 PMU Boundary

Habitat Categories

-  1 - Essential/Irreplaceable Habitat
-  2 - Important Habitat
-  3 - Habitat of Moderate Importance
-  4 - Low Value Habitat/Transitional Range
-  5 - Unsuitable Habitat
-  Pending Completion
-  N/A - Non-Habitat

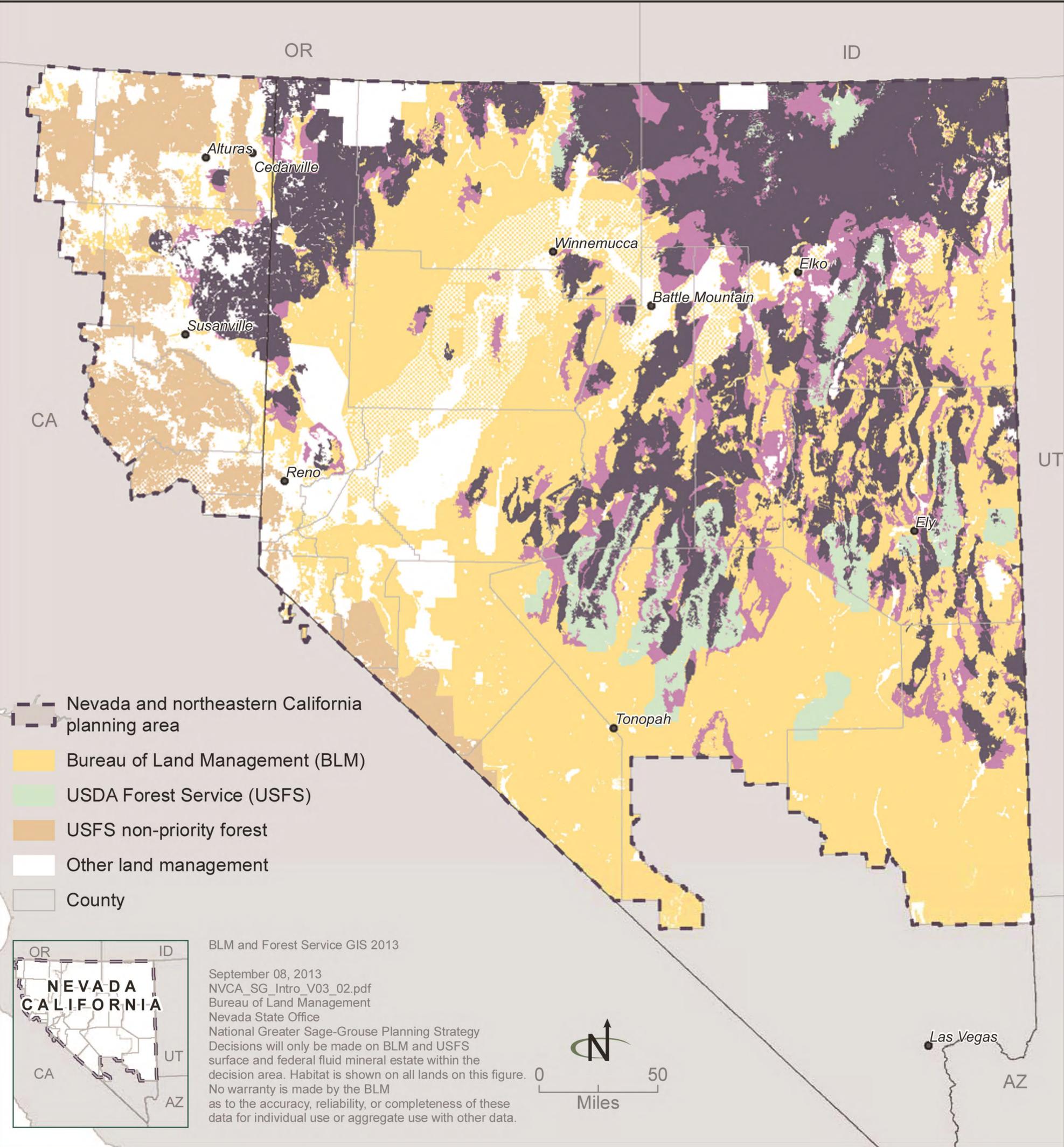


No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.





Nevada and Northeastern California Greater Sage-Grouse Sub-region Planning Area



■ Preliminary Priority Habitat
■ Preliminary General Habitat

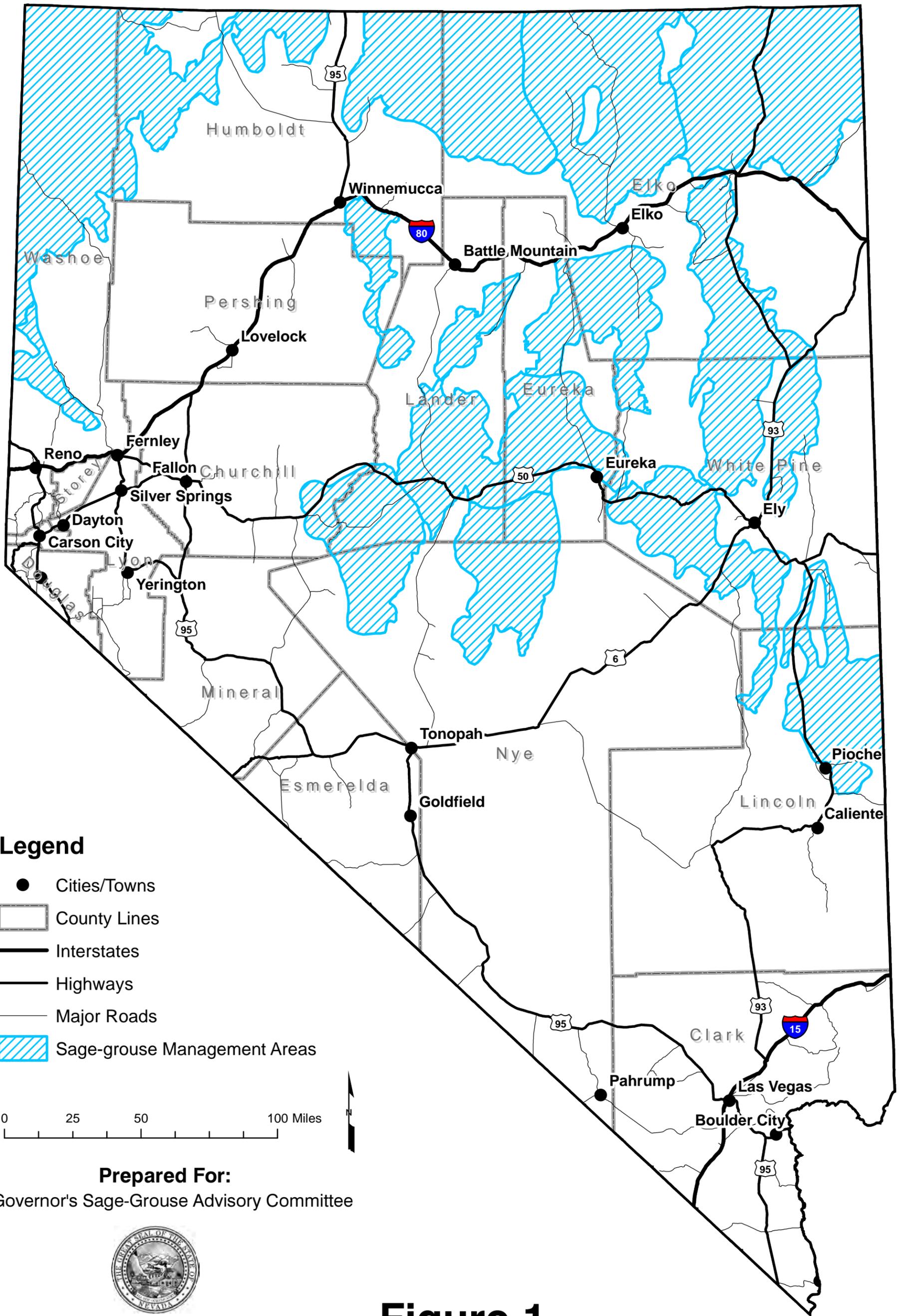
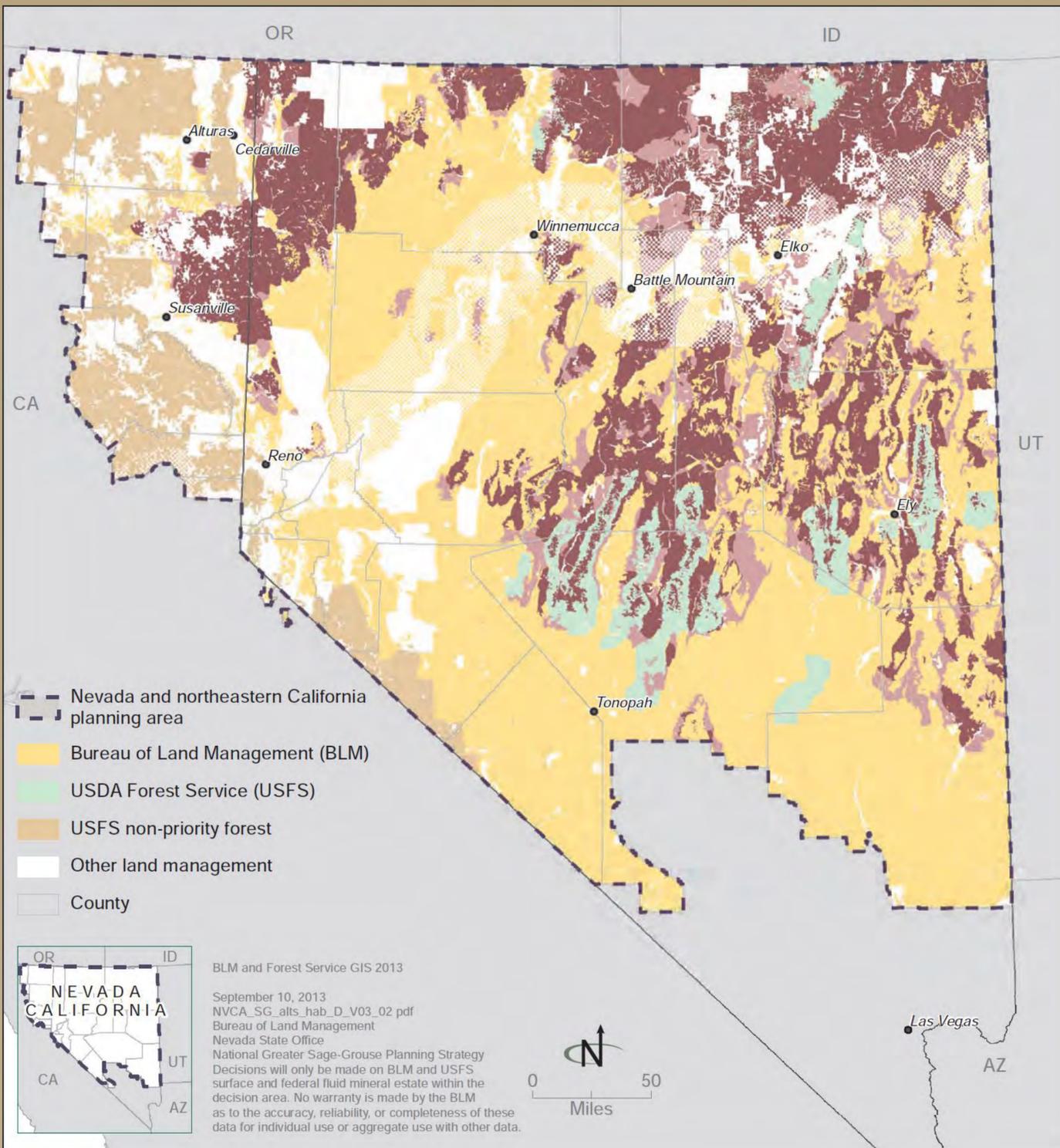


Figure 1

Nevada Sage-Grouse Management Areas

Alternative D - GRSG Preliminary Priority/General Management Areas



	Total PPMA	Total PGMA	% Habitat in PPMA	% Habitat in PGMA
Alternative B	12,693,500	5,039,400	72%	28%
Alternative C	17,732,900	0	100%	0%
Alternative D	12,927,400	4,805,500	73%	27%
Alternative E ¹	10,655,300 (SGMA Occupied) ²	2,295,500 (SGMA Suitable)	82%	18%
Alternative F	12,693,500	5,039,400	72%	28%

¹ Management under Alternative E applies to lands in Nevada only. Proposed management under Alternative E in California would be the same as Alternative A (current management).
² SGMA: Sage-Grouse Management Area

 **Preliminary Priority Management Areas (PPMAs)**

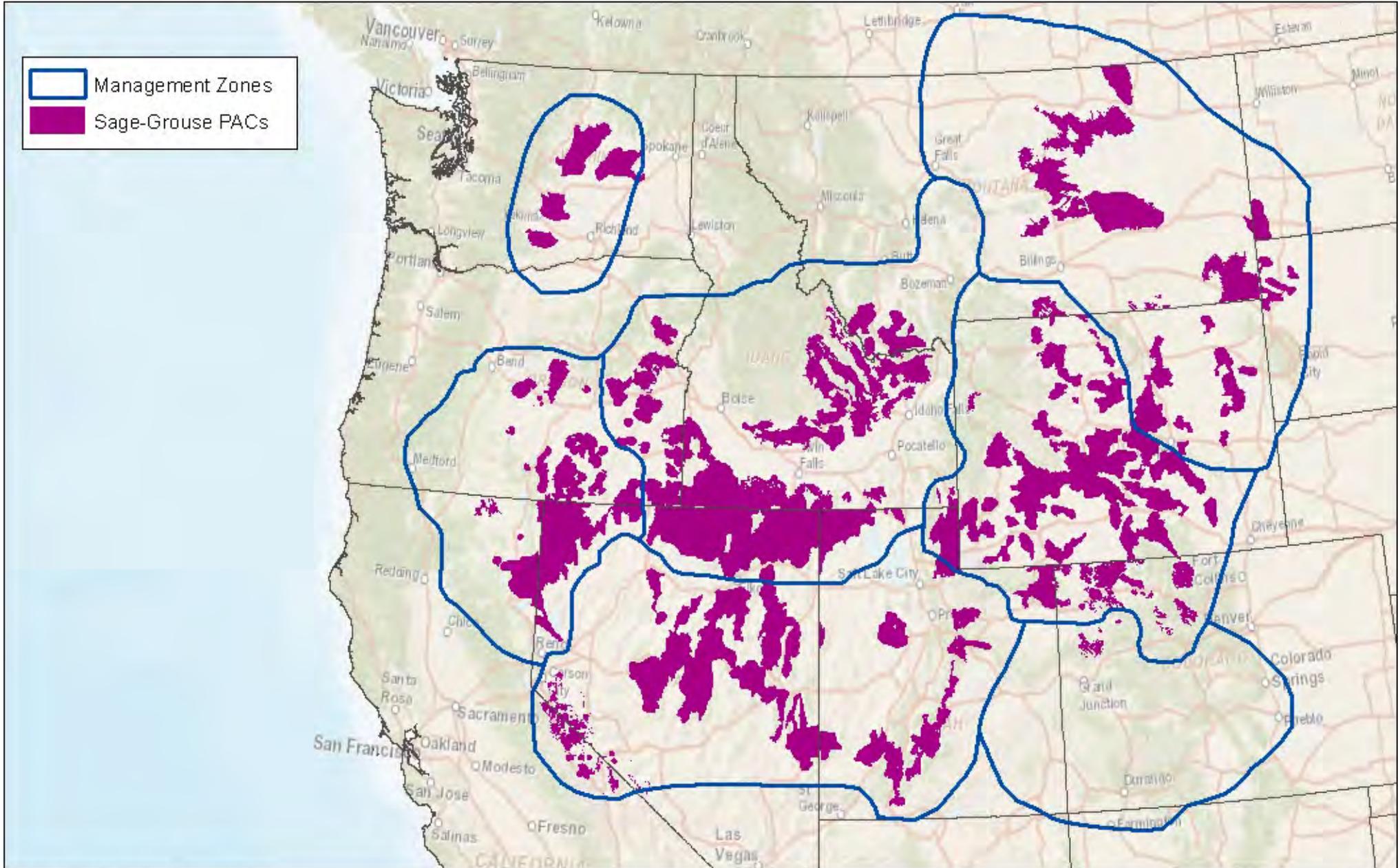
 **Preliminary General Management Areas (PGMAs)**

**Nevada and Northeastern California
 Greater Sage-Grouse Draft LUPA/EIS**

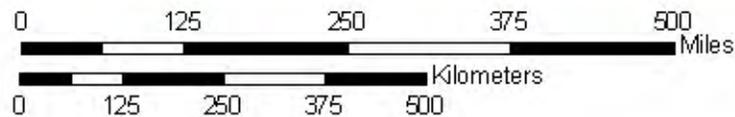




COT - Greater Sage-Grouse Priority Areas for Conservation (PACs)



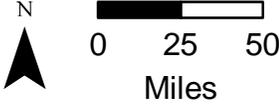
Created By: US FWS, Wyoming ES
Map Date: 3/6/2013
Source: CAGF | COPW | IDFG | MTFWP |
NDGF | NDOW | ORDFW | UTDWR |
WDFW | WYGF | BLM | WAFWA | FWS





■ Sage-Grouse Management Area (SGMA) 2014

The express purpose of this maps is to trigger consultation with the SETT; specific area or project habitat determinations must be conducted in accordance with established scientific protocol. This should not be used for any other purpose.



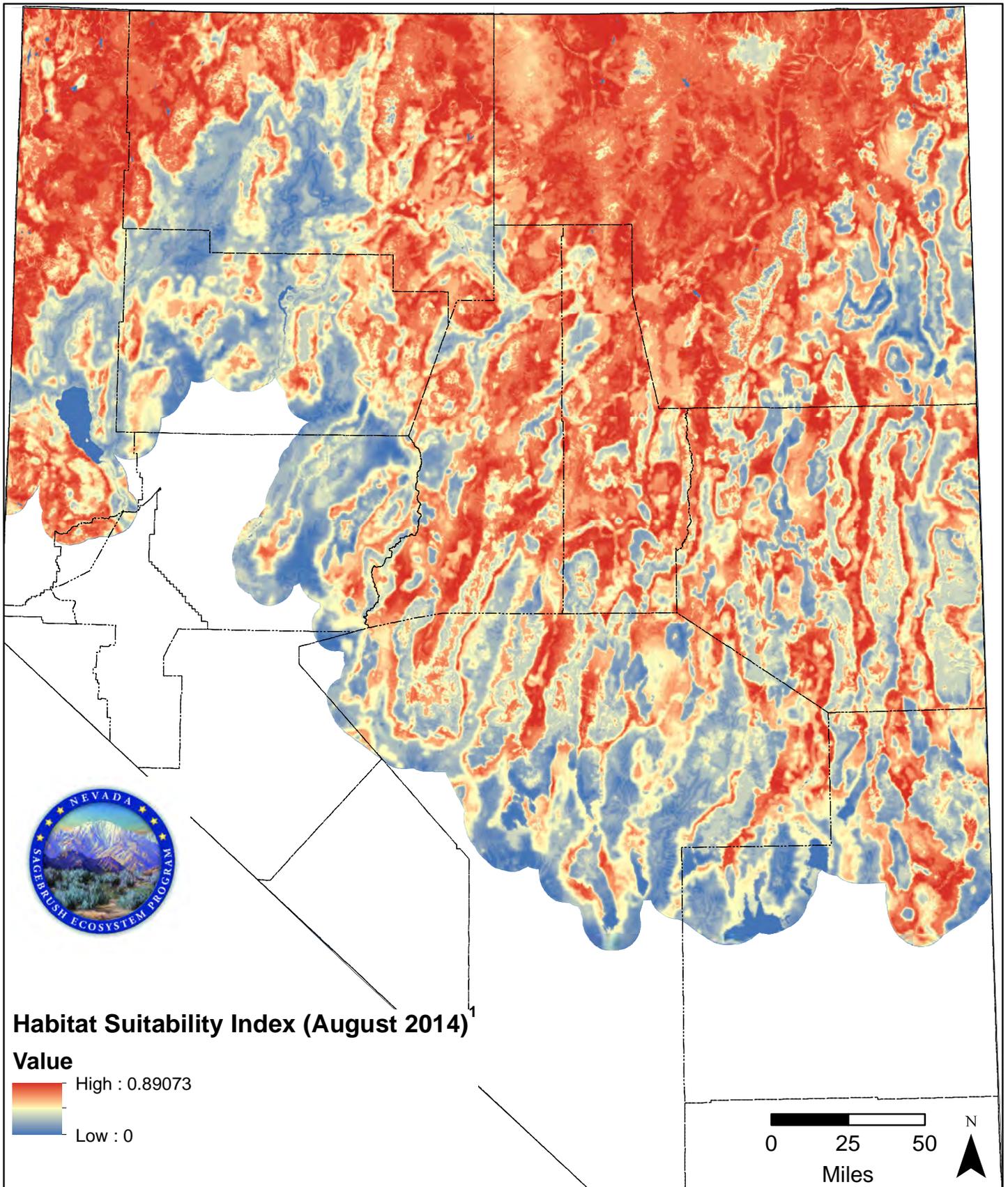


Figure 5. Habitat Suitability Index

1. Coates et al. 2014

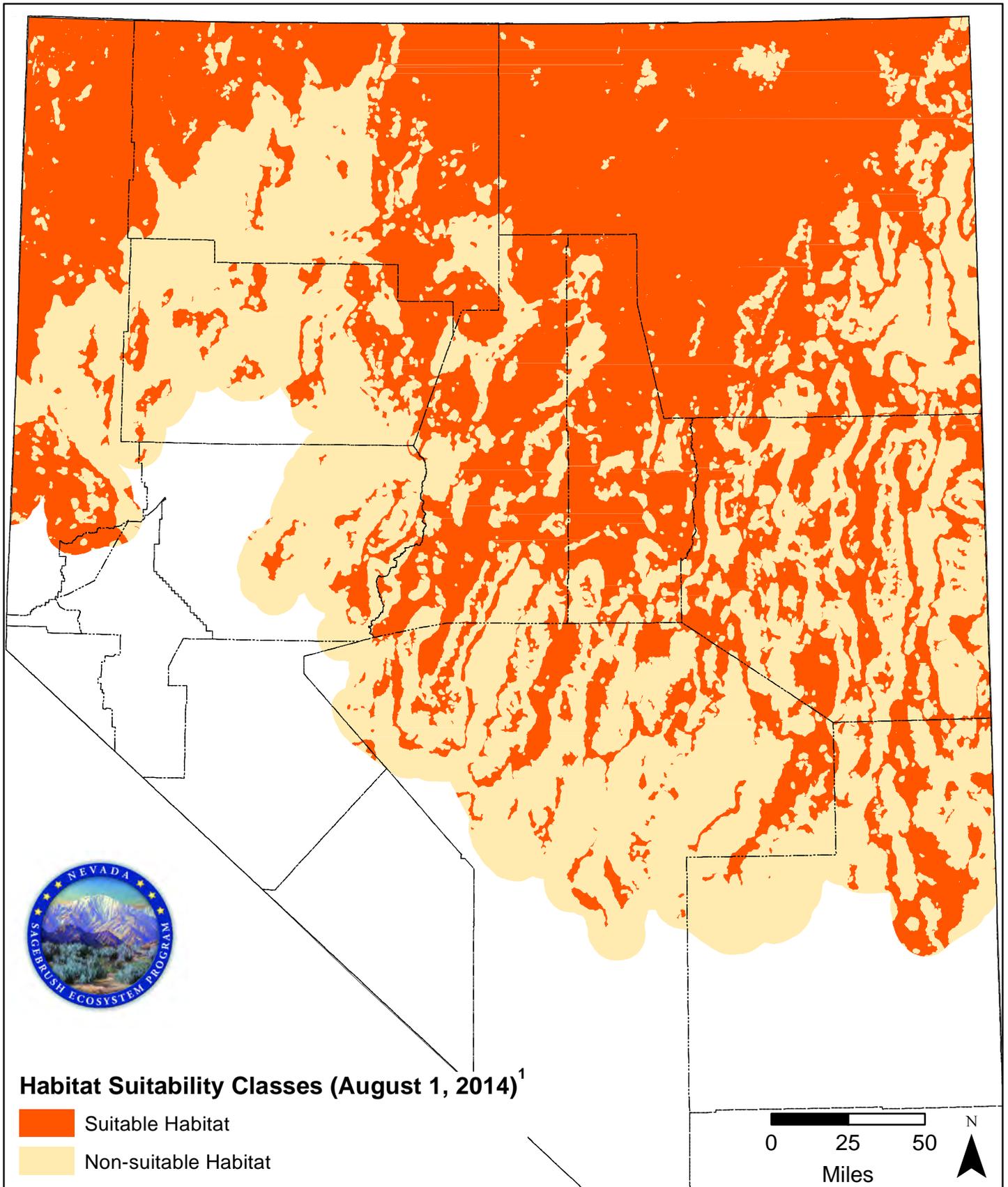


Figure 3. Habitat Suitability Classes

1. Coates et al. 2014

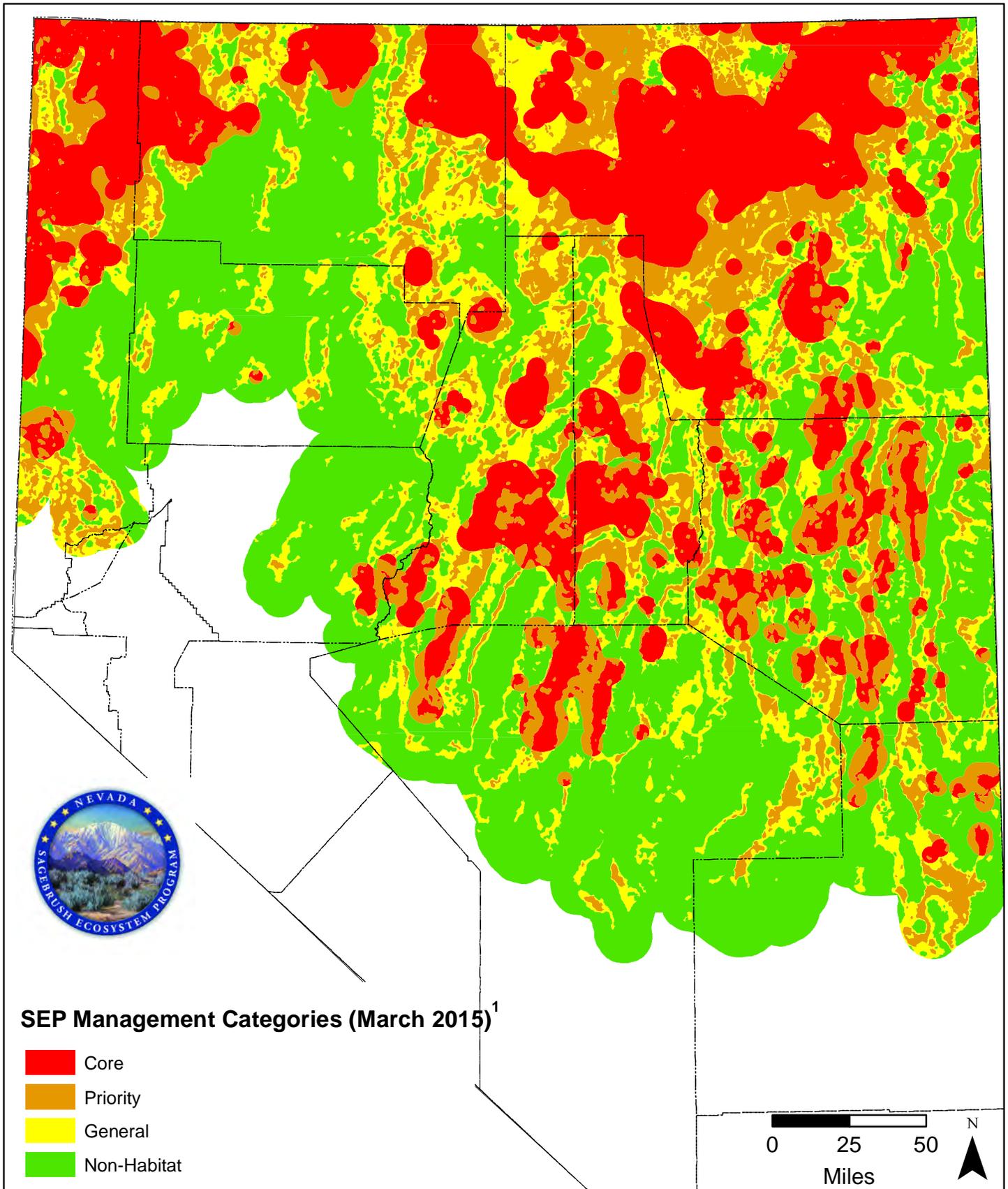
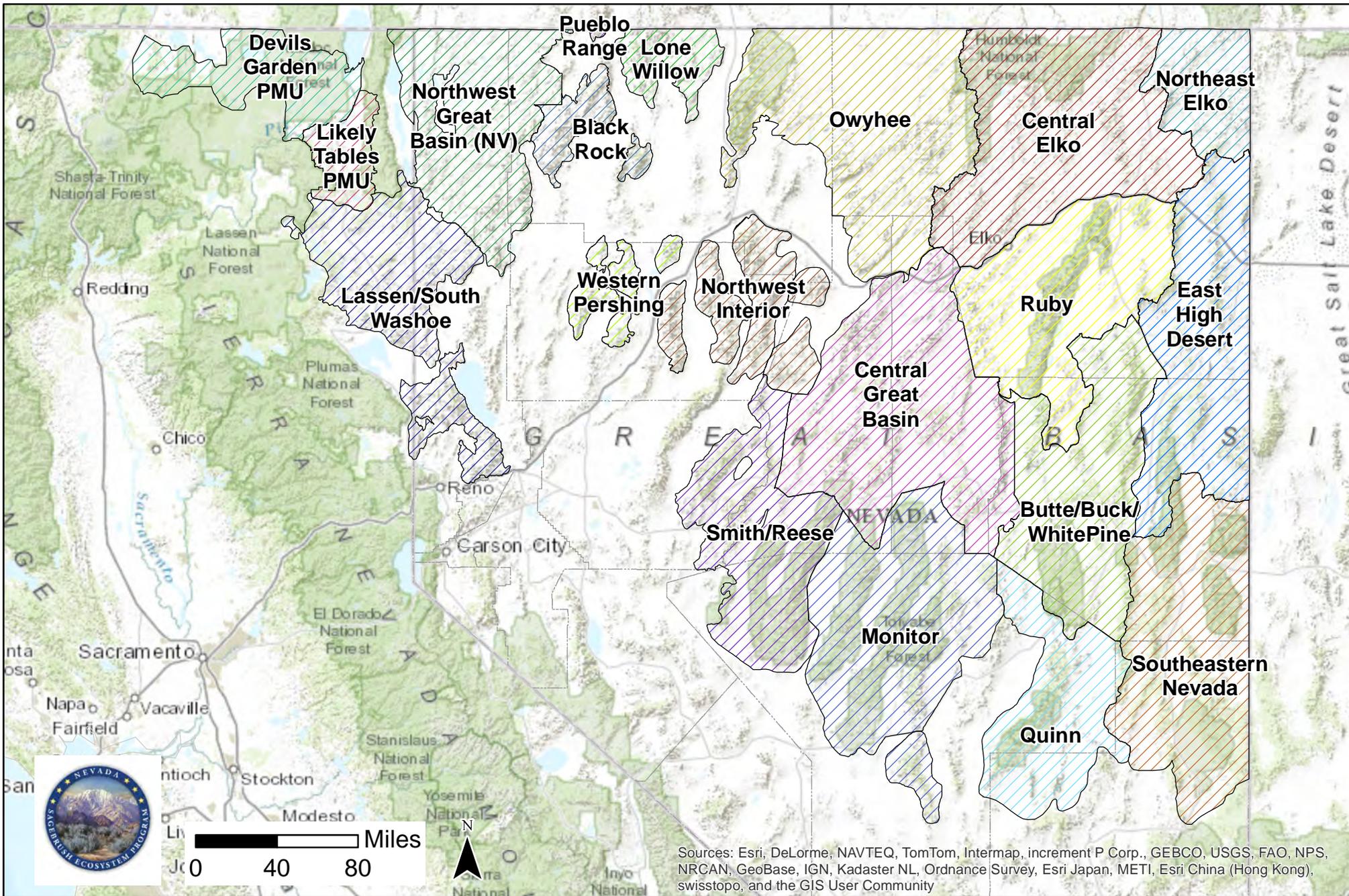


Figure 4. Management Category Map

1. Coates et al. 2014



BSUs

Nevada and California's Biologically Significant Units (BSUs) were delineated by merging associated PMUs to provide a broader scale management option that reflects sage grouse populations at a higher scale. PMU boundaries were then modified to incorporate Core Management Areas (August 2014; Coates et al. 2014) for management purposes. The BLM/FS anticipate using the BSUs as the reporting unit for the EIS/LUPA. These are the areas for management of greater sage-grouse in Nevada, excluding Bi-State DPS. The Management Categories should be referenced for management withing these BSUs.