

# Greater Sage-Grouse

## *Centrocercus urophasianus*

### Conservation Profile



Photo by Martin Meyers

### Habitat Use Profile

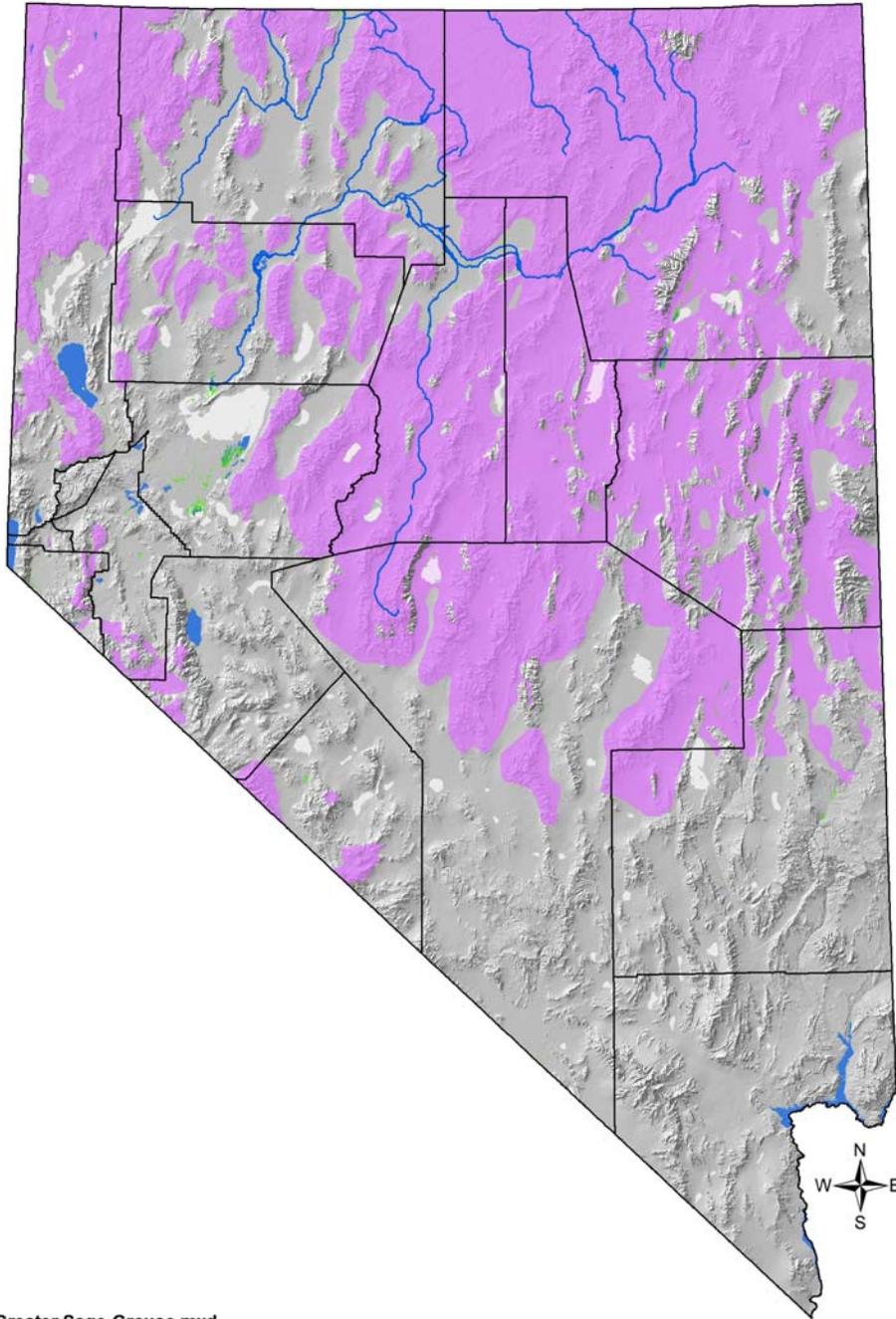
<b>Main Habitats Used in Nevada</b>	Sagebrush Wet Meadow Great Basin Lowland Riparian Montane Sagebrush Montane Shrubland Montane Riparian Agricultural
<b>Key Habitat Use Parameters [p1, p3]</b>	Primarily associated with sagebrush, but other habitats important during parts of seasonal cycle Uses various types of sagebrush and associated shrubs, but Wyoming big sagebrush especially valuable Winter habitat usually dense sagebrush stands Meadows important for females rearing broods Montane habitats and agricultural lands may be used during post-breeding season Lek sites located within sagebrush habitat have low vegetation and good visibility Proximity to surface water probably important during brood rearing
<b>Minimum Patch Size</b>	Over an annual cycle, home range as large as 1,500 km <sup>2</sup> [p9]; but smaller and highly variable within a given season [p1, p3] Estimated summer home range 2.5 – 7 km <sup>2</sup> [p9]

<b>Priority Status</b>	Conservation Target
<b>Reasons for Priority Status</b>	Declines Threats Candidate for ESA listing High stewardship responsibility
<b>Other Rankings</b>	Continental PIF: Watch List Audubon Watchlist: Yellow Natural Heritage: S3S4 USFWS: Species of Conservation Concern (Great Basin) BLM: Sensitive Species NDOW: Conservation Priority: "Very High" concern in Upland Game Management Plan
<b>Trends</b>	Historical: Very significant declines [p1] Recent: Declines possibly continuing, though data not definitive [p1, i1]
<b>Population Size Estimates</b>	Nevada: 68,000 [p3] Global: 150,000 [p1, p5] Percent of Global: 45 %
<b>Population Objective</b>	TBD
<b>Monitoring Coverage</b>	Source: NDOW lek counts; extensive telemetry study from a variety of sources Coverage and Adequacy: Excellent
<b>Key Conservation Areas</b>	TBD

### Natural History Profile

<b>Seasonal Presence in Nevada</b>	Year-round, with significant seasonal movements [p1]
<b>Known Breeding Dates in Nevada</b>	March - August [s4, p1, p3, EO]
<b>Nesting Habits</b>	Ground nest under shrub (usually sagebrush) cover (15 – 38% shrub canopy; 36 – 79 cm shrub height) [p1] Fidelity to lek sites very high; fidelity to nesting territories high [p1, p3]
<b>Food Requirements</b>	Sagebrush leaves, buds, flowers much of year, especially fall – early spring; also insects Forbs important food source for brood rearing and pre-nesting hens [p1]

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File: Greater Sage-Grouse.mxd

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### Temporary Map Key

Pink: Breeding range

Hot pink / magenta: For some birds, breeding data was limited, and was supplemented by extrapolation to include likely breeding range. In these cases, hot pink represents known breeding range, and lighter pink the extrapolated breeding range.

Blue: Winter range

Yellow: Important migration stopover areas

Purple: Year-round range

Green: In some maps, wetlands mapped by SWReGAP are shown in green for interpretational purposes

Dot symbols: In cases where breeding records were isolated or very restricted in extent, they are represented by a pink dot symbol rather than a shaded area.

Arrows: Major migration routes. These are shown only for birds for which there are migration-associated conservation issues.

### OVERVIEW

Because of its significant population declines, well-documented threats, and ESA candidate status, few birds of Nevada have been the subject of greater study or conservation interest than the Greater Sage-Grouse. Additionally, Nevada hosts a large percentage of the world population of this declining species. The sage-grouse is actively monitored and managed by the Nevada Department of Wildlife in an effort to stabilize and recover populations, but loss of thousands of acres of good-quality habitat to fire in recent years is cause for serious concern. This bird requires the presence of several different landscape components, often spread across a wide elevational range (~ 1,400 – 3,500 m) in order to meet its needs throughout the year [i6], which adds to the challenges of effective species management. A great deal of information exists regarding specific habitat use patterns and requirements throughout the annual cycle, which can be only briefly summarized in this account. The references listed below as “Further Reading” supply additional information.

### ABUNDANCE AND OCCUPANCY HABITAT

- TBD; insufficient NBC data
- Densities usually higher in northern than in central Nevada

### NEVADA-SPECIFIC STUDIES AND ANALYSES

- TBD by review of Greater Sage-Grouse Management Plan for Nevada and Eastern California (2004) and other sources and literature review

### MAIN THREATS AND CHALLENGES

- As presented in the Great Sage-Grouse Management Plan for Nevada and Eastern California (2004), the greatest threats are:
  - Loss of habitat to:

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- Fire
- Pinyon-Juniper encroachment
- Decline in habitat quality due to:
  - Invasive plants
  - Improper grazing management systems, which can particularly impact brood rearing meadows
- Other threats that have been identified include:
  - Fragmentation of landscapes and simplification of the flora across landscapes
  - Raven predation of eggs and young may be high in some areas

### CONSERVATION STRATEGIES

#### **Proscribed Strategies**

- Very detailed management recommendations and conservation strategies for the Greater Sage-Grouse already exist. Key elements presented in the Greater Sage-Grouse Management Plan for Nevada and Eastern California (2004) include:
  - Conduct Pinyon-Juniper removal projects in known grouse habitat
  - Protect key habitat from wildlife using green-strips where appropriate
  - Re-seed crested wheatgrass seedings with native grasses and forbs to improve brood rearing habitat
  - Improve grazing management systems
  - Better manage and control the spread of invasive plants, particularly cheatgrass
  - Improve and expand efforts to actively restore known habitat impacted by fire, especially in areas formerly dominated by Wyoming sagebrush

#### **Habitat Strategies**

- General Sagebrush, Montane Shrublands, Aspen, and Montane Riparian strategies
- Additionally Paige and Ritter (1999) [p9] recommend efforts to restore a patchy, multi-aged sagebrush overstory and a forb and perennial bunchgrass understory within sagebrush habitat to enhance habitat value for sage-grouse.

#### **Research, Planning, and Monitoring**

- The NV PIF review group noted the importance of better understanding the relative impacts of livestock grazing and feral horse/burro grazing on habitat quality. This pattern may vary around the state, with feral livestock having the greatest impact in northwestern Nevada.

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## OTHER PRIORITY SPECIES WITH SIMILAR CONSERVATION STRATEGIES

- Brewer's Sparrow
- Sage Sparrow
- Sage Thrasher
- Mountain Quail

## FURTHER READING

- Nevada Conservation Strategy [\_\_\_\_]
- Great Sage-Grouse Management Plan for Nevada and Eastern California (2004)

### Temporary codes for standard references

[p1] Birds of N. America account for this species  
[p2] NV Bird Conservation Plan ver. 1 (Neel 1999)  
[p3] NV Wildlife Action Plan  
[p4] Nevada Breeding Bird Atlas  
[p5] PIF N. American Landbird Conservation Plan (Rich et al 2004) (NOTE:  
[p6] Intermountain West Regional Shorebird Plan (Oring et al 2003)  
[p7] Pacific Flyway reports  
[p8] Shrubsteppe Landscapes in Jeopardy (Dobkin and Sauder 2004)  
[p9] Birds in a Sagebrush Sea (Paige and Ritter 1999)  
[s1] NBC-based population size estimates  
[s2, s3] NBC-based habitat relationship analysis  
[s4] Breeding Bird Atlas breeding phenology data  
[i1] BBS trends analysis (Sauer et al 2005)  
[i2] NV Upland Game Management Plan (Espinosa et al in prep.)  
[i3] Western Quail Management Plan (Zornes et al 2008)  
[i4] NDOW Shorebird and Waterbird monitoring data (Neel)  
[i5] Brad Andres IMJV Shorebird / Waterbird data set  
[i6] GBBO Technical Report 08-01 (2008)  
[EO] Expert opinion from NVPIF group members  
[IWWCP] Intermountain West Waterbird Conservation Plan  
[NAWCP] North American Waterbird Conservation Plan  
[LBCUSACP] Long-billed Curlew Status Assessment and Conservation Plan  
[USSCP] U.S. Shorebird Conservation Plan  
[WHSRN] Western Hemispheric Shorebird Regional Network