

# Sharp-tailed Grouse

## *Tympanuchus phasianellus*



Photo by Joe Williams

### Habitat Use Profile

Habitats Used in Nevada	
Montane Shrubland Aspen (winter) Montane Riparian (winter) (Sagebrush)	
Key Habitat Parameters •	
Plant Composition	Diverse montane shrubs including sagebrush; high plant species richness preferred; <sup>2</sup> avoids cheatgrass <sup>EO</sup>
Plant Density	Dense shrub and grass/forb cover with structural complexity preferred <sup>2</sup>
Mosaic	Floristically diverse montane shrublands near aspen stands or montane riparian woodlands <sup>2</sup>
Distance to Water	Unknown, but require montane riparian or aspen habitat for wintering
Response to Vegetation Removal	Negative <sup>EO</sup>
Area Requirements •	
Minimum Patch Size	3,000 ha [7,400 ac] <sup>2, 3</sup>
Recommended Patch Size	> 3,000 ha [7,400 ac] <sup>EO</sup>
Home Range	≤ 200 ha [500 ac] <sup>2</sup>

### Conservation Profile

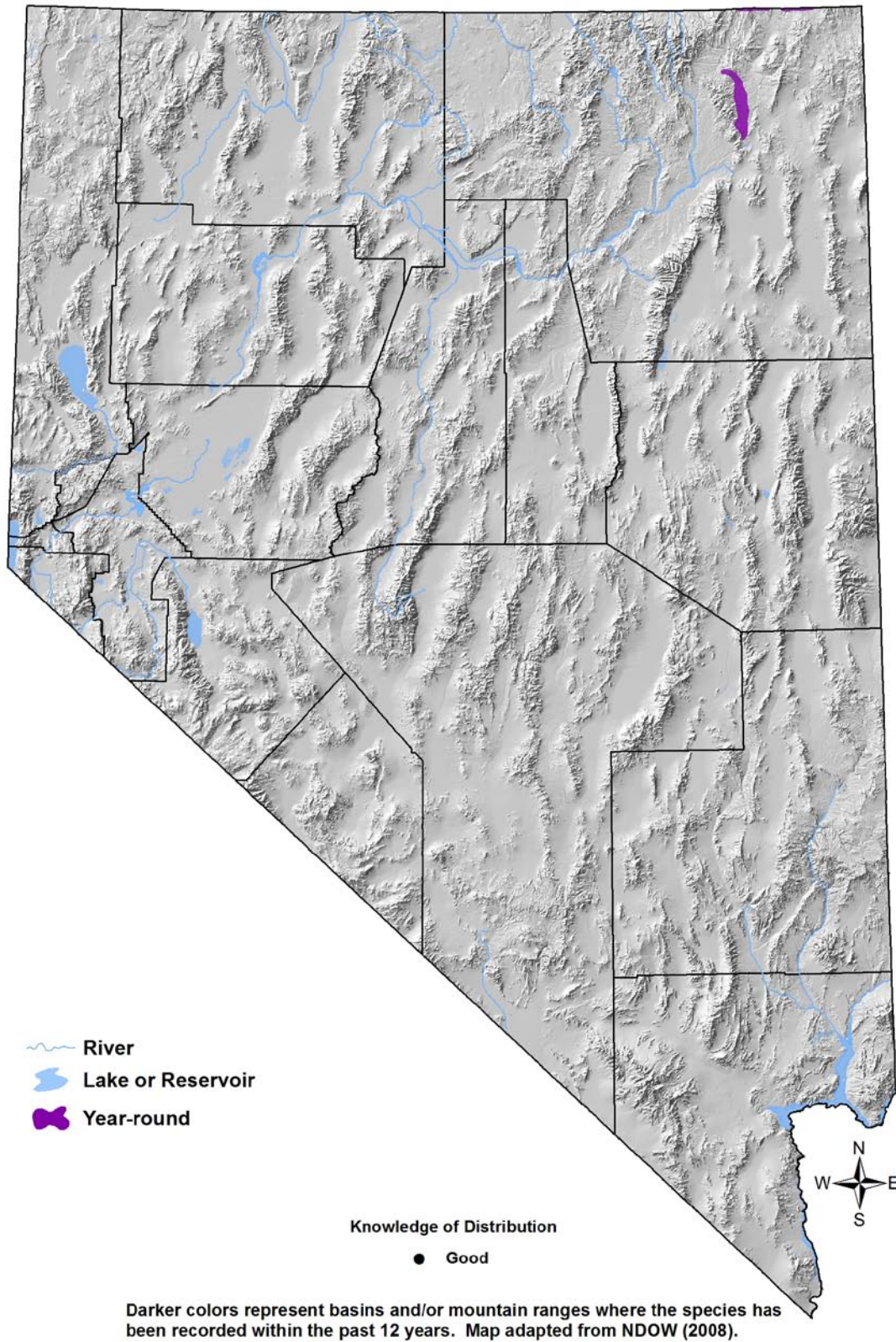
Priority Status	
Conservation Priority Species	
Species Concerns	
Small population size Habitat threats	
Other Rankings	
Continental PIF	Stewardship Species
Audubon Watchlist	None
NV Natural Heritage	S1
USFWS	None
BLM	None
USFS	None
NDOW	Conservation Priority
NDOW Upland Game Plan	High
Trends	
Historical •	50% decline rangewide; extirpated in Nevada in 1952 <sup>2</sup>
Recent •	Reintroduced in Nevada in late 1990s, apparently stable <sup>3</sup>
Population Size Estimates	
Nevada •	226 (number introduced) <sup>3</sup>
Global •	1,200,000 (includes all subspecies) <sup>9</sup>
Percent of Global	< 1%
Population Objective	
Maintain / Increase <sup>EO</sup>	
Monitoring Coverage	
Source	NDOW lek surveys
Coverage in NV	Good
Key Conservation Areas	
Protection	Snake Mountains in Elko County
Restoration	Elko County

### Natural History Profile

Seasonal Presence in Nevada	
Year-round	
Known Breeding Dates in Nevada	
April – early August <sup>2</sup>	
Nest and Nesting Habits	
Nest Placement	On ground under dense shrub or small tree <sup>2</sup>
Site Fidelity	High for lek sites; possibly high for nesting sites <sup>2</sup>
Food Habits	
Basic	Ground forager and gleaner
Primary Diet	Forbs, fruits, seeds, buds year-round <sup>2</sup>
Secondary Diet	Terrestrial arthropods during breeding <sup>2</sup>

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## Overview

The western subspecies of the Sharp-tailed Grouse (Columbian, *T. p. columbianus*) has declined precipitously throughout its U.S. range. These declines have been attributed to a number of factors, including habitat losses to agriculture, habitat fragmentation, excessive livestock grazing, and fire. In Nevada, the Columbian Sharp-tailed Grouse was extirpated by 1952. In 1999-2002, birds captured in Idaho were reintroduced to Nevada.<sup>1</sup> The Snake Mountains in Elko County were selected as the initial reintroduction site because of their large expanses of higher-elevation shrubland habitat adjoining lower-elevation sagebrush with relatively well-developed bunchgrass component.<sup>3</sup>

Sharp-tailed Grouse fare best in large intact tracts of montane shrubland with well-developed herbaceous and shrub cover.<sup>2</sup> Nesting areas tend to be selected where a mix of grasses, forbs, and shrubs provide structural diversity and good cover.<sup>2,10</sup> One study demonstrated that nest success increased with vegetation cover and structural diversity as far as 50 m [160 ft] from the nest site, and decreased when agricultural lands (and their associated populations of ravens and other nest predators) were closer than 1,600 m [1 mi] to the nest.<sup>6</sup> Columbian Sharp-tailed Grouse, at least in some areas where they have been studied, are heavily dependent on riparian and upland deciduous plant species (e.g. serviceberry, snowberry, chokecherry, hawthorn, aspen) for winter cover and food, and may move substantial distances to reach them in the winter.<sup>2,4,7</sup>

Nevada's single population of Sharp-tailed Grouse is well-monitored by NDOW, is not hunted, and is probably safe from major threats at this time, although catastrophic fires remain a concern. The main need is a better understanding of the factors promoting the species' long-term persistence (within both its current range and potential new translocation sites), along with protection of its current range from fragmentation.

## Abundance and Occupancy by Habitat

No information for Nevada

## Nevada-Specific Studies and Analyses

- Coates<sup>1</sup> conducted a Master's Thesis study on the movements, survivorship, and reproductive behaviors of Sharp-tailed Grouse translocated into Nevada

## Main Threats and Challenges

### Habitat and Other Threats

- In Nevada, energy development and large destructive fires are the most important threats; conifer encroachment could also be a local issue

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- The small size and isolation of the Nevada population renders it vulnerable to episodic “survival filters,” such as unusually severe winters, etc.

## Research, Planning, and Monitoring Challenges

- The parameters of fire regimes that promote long-term population persistence are not well defined

## **Conservation Strategies**

### **Established Strategies**

- NDOW has developed detailed conservation and management priorities for the Sharp-tailed Grouse as a managed game bird,<sup>7</sup> with key elements including:
  - Continue current monitoring and study of the existing population
  - Evaluate other areas as potential reintroduction sites, and conduct reintroductions where appropriate
  - Manage habitat to maintain healthy shrub cover with well-developed grass component in minimum patch sizes of several thousand acres
  - Seek to limit agricultural interspersions into occupied habitat<sup>8</sup>
  - Development activities should avoid known lek sites; all human activity should be curtailed within 800 m [0.5 mi] of an active lek (March – June)<sup>8</sup>

### **Habitat Strategies**

- Montane Shrubland (p. Hab-14-1), Montane Riparian (p. Hab-13-1), and Aspen (p. Hab-3-1) habitat conservation strategies benefit this species

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

- Conduct additional study of winter habitat use in Nevada
- Determine parameters of fires that potentially benefit the species versus those that should be aggressively controlled

### **Public Outreach Strategies**

- None identified

References: <sup>1</sup>Coates (2001); <sup>2</sup>Coates et al. (2006); <sup>3</sup>Connelly et al. (1998); <sup>4</sup>Giesen and Connelly (1993); <sup>5</sup>Manzer and Hannon (2005); <sup>6</sup>Marks and Marks (1988); <sup>7</sup>NDOW (2008); <sup>8</sup>Paige and Ritter (1999); <sup>9</sup>Rich et al. (2004); <sup>10</sup>Saab and Marks (1992); <sup>E0</sup> Expert opinion