

Sooty Grouse and Dusky Grouse (“Blue” Grouse)

Dendragapus fuliginosus and *D. obscurus*



Sooty Grouse. Photo by Larry Neel

Habitat Use Profile

Habitats Used in Nevada	
Coniferous Forest Aspen Montane Shrubland	
Key Habitat Parameters •	
Plant Composition	Mixed conifers, including white and red fir, ponderosa, limber, and Jeffrey pine, Douglas fir; also aspen, willow, mountain mahogany, serviceberry, currants, rose and other montane shrubs
Plant Density	Dense shrub and/or herbaceous understory (30 – 60% cover); open, dry forest mixed with shrubs are typical ⁶ . ^{EO}
Mosaic	Mixture of coniferous and deciduous woodlands near waterways ⁶
Distance to Water	Nest: 10 – 800 m [33 – 2600 ft] ⁶
Response to Vegetation Removal	Probably negative, especially removal of understory ^{EO}
Area Requirements •	
Minimum Patch Size	Unknown
Recommended Patch Size	> 150 ha [370 ac] ^{EO}
Home Range	Up to 42 ha [104 ac], depending on season ⁶

Conservation Profile

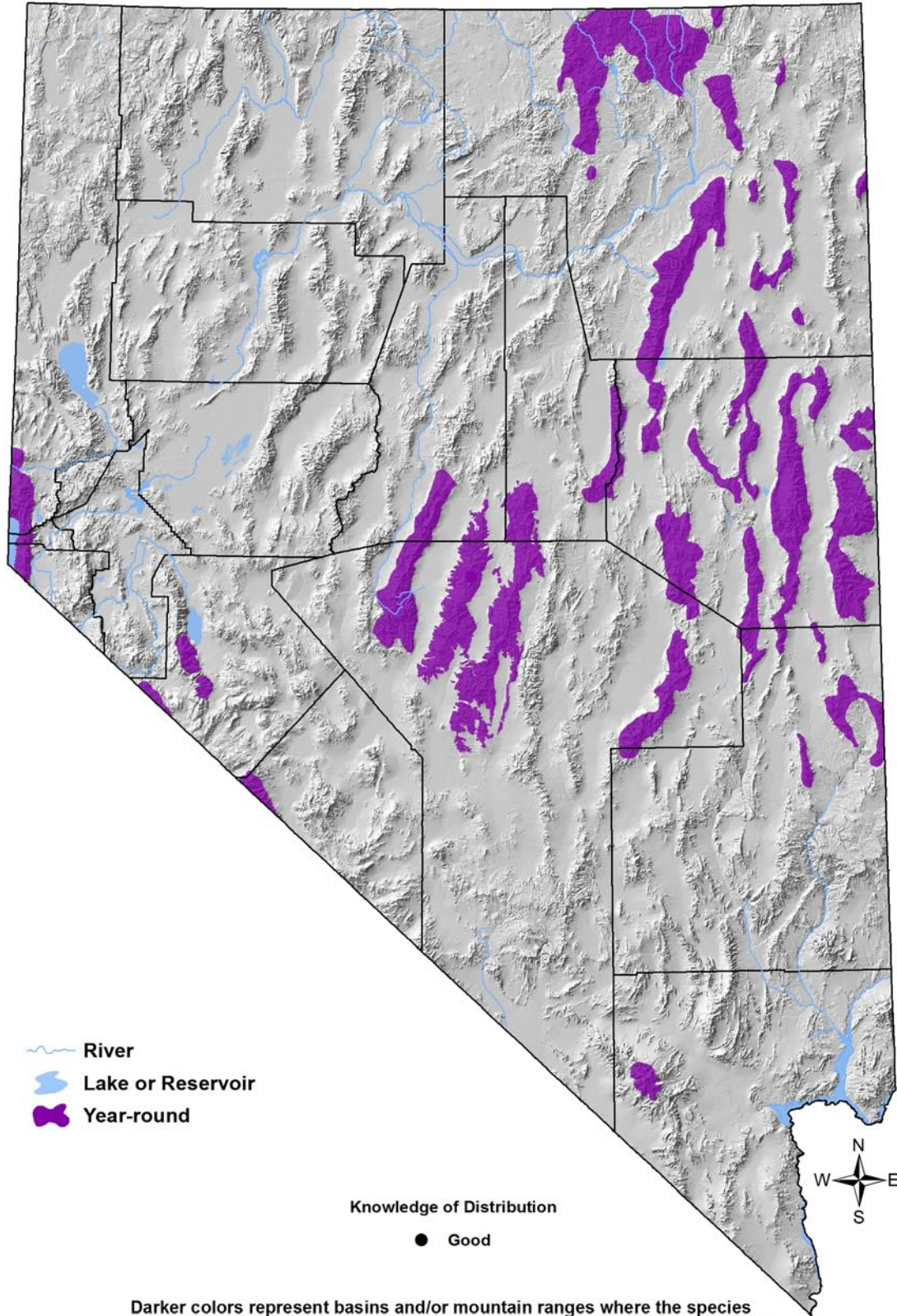
Priority Status	
Conservation Priority Species	
Species Concerns	
Recent declines Habitat threats	
Other Rankings	
Continental PIF	Sooty: Watch List; Dusky: None
Audubon Watchlist	Sooty: Yellow; Dusky: None
NV Natural Heritage	"Blue": S3
USFWS	None
BLM	None
USFS	None
NDOW	Conservation Priority
NV Upland Game Plan	High Concern
Trends	
Historical ○	Probable declines in Nevada ¹
Recent •	Declined 50% in western U.S. since 1960s; declines continue ^{5, 6}
Population Size Estimates	
Nevada •	Unknown (annual harvest ~ 1,700) ²
Global •	2,600,000 ⁴
Percent of Global	Unknown
Population Objective	
Increase by 100% ^{4, EO}	
Monitoring Coverage	
Source	Not systematically monitored
Coverage in NV	Poor
Key Conservation Areas	
Protection	Carson Range, coniferous forest and aspen habitat within occupied ranges (see map below)
Restoration	Same, especially degraded aspen stands

Natural History Profile

Seasonal Presence in Nevada	
Year-round	
Known Breeding Dates in Nevada	
Mid-April – July ³	
Nest and Nesting Habits	
Nest Placement	On ground under dense cover ⁶
Site Fidelity	High for breeding territory ⁶
Food Habits	
Basic	Ground forager
Primary Diet	Leaves, flowers, fruit year-round; conifer needles in winter ⁶
Secondary Diet	Terrestrial invertebrates during breeding ⁶

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Overview

The Dusky and Sooty Grouse were, until 2007, regarded as a single species, the “Blue” Grouse. They are treated together here because most of the available data and information do not distinguish between the two species. In Nevada, the Sooty Grouse occurs in the Carson Range, and the Dusky Grouse occurs in all other locations to the east and south of the Carson Range, with the possible exception of Esmeralda and Mineral counties, where records of “Blue” Grouse have not yet been ascribed to either species. Dusky Grouse populations in Nevada are patchy and isolated, and disconnected from larger population centers to the east and north.

Sooty and Dusky Grouse are montane birds, and in Nevada they appear to require the availability of aspen and montane riparian woodlands (where riparian shrubs and insect communities provide the spring and summer diet), along with coniferous forest (which provides important winter forage).⁶ Dusky Grouse are more inclined than Sooty Grouse to leave the woodlands, ranging up to 2 km [1.2 mi] from the forest edge into areas dominated by sagebrush, montane shrubs, and mountain mahogany, especially in late fall and early winter.^{2,EO} Both species move upward in elevation to denser forests for the winter.^{2,6} The most immediate conservation need is to better determine the respective habitat needs and conservation issues for these two grouse, which may still be declining in Nevada.

Abundance and Occupancy by Habitat

Sooty or Dusky Grouse were detected on 14 of 248 NBC transects that were located within montane habitats. The table below summarizes the percentage of different cover types (as defined in NBC; Montane Sagebrush is subsumed by Montane Shrubland in this plan, and Mt. Mahogany is subsumed by Pinyon-Juniper) present on occupied transects versus unoccupied transects.

Habitat Type (GIS classified)	Occupied Transects (% cover)	Unoccupied Transects (% cover)
Aspen	15.3	6.9
Coniferous Forest	27.5	9.3
Montane Riparian	7.9	6.3
Montane Sagebrush	7.2	11.4
Montane Shrubland	4.7	0.7
Mt. Mahogany	12.2	4.3
Pinyon-Juniper	13.3	27.8

Nevada-Specific Studies and Analyses

- George Barrowclough (American Museum of Natural History) collected DNA samples from Sooty and Dusky Grouse in Nevada. Results of this research, which are currently pending, may improve or knowledge of the true geographical ranges of the two species

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Main Threats and Challenges

Habitat Threats

- Little information exists about specific threats to Dusky or Sooty Grouse. It is probable that threats to Aspen (p. Hab-3-1), Montane Riparian (p. Hab-13-1), and Coniferous Forest (p. Hab-5-1) habitats affect both species. Heavy grazing and large fires in particular are likely threats

Research, Planning, and Monitoring Challenges

- Lack of knowledge about specific threats, and about the distinctions between the habitat needs and conservation status of the two species

Conservation Strategies

Established Strategies

- As for all managed game birds, NDOW has developed detailed conservation and management priorities for Dusky and Sooty Grouse,² with key elements including:
 - Develop survey protocols to determine distribution of both species in Nevada
 - Improve data gathering from harvested grouse
 - Conduct research to better determine ecological needs of both species
 - Conduct research on possible impacts of West Nile virus

Habitat Strategies

- Aspen (p. Hab-3-1), Montane Riparian (p. Hab-13-1), and Coniferous Forest (p. Hab-5-1) habitat conservation strategies benefit this species
- Give conservation priority to montane mosaics of mixed-age conifer forest, deciduous woodland, and shrubland

Research, Planning, and Monitoring Strategies

- Conduct research to better identify important threats to each species, and to better map the distribution of each species

Public Outreach Strategies

- None identified

References: ¹Alcorn (1988); ²NDOW (2008); ³Nevada Wildlife Action Plan Team (2006); ⁴Rich et al. (2004); ⁵Sauer et al. (2008); ⁶Zwickel (1992); ^{E0} Expert opinion