

Blue Grouse (*Dendragapus obscurus*)

(Recently split to include Sooty Grouse and Dusky Grouse. Dusky Grouse breeds in New Mexico)

NMPIF level: Biodiversity Conservation Concern, Level 2 (BC2)

NMPIF assessment score: 13

NM stewardship responsibility: Low

National PIF status: Watch List

New Mexico BCRs: 16, 34

Primary breeding habitat(s): Mixed Conifer Forest

Other habitats used: Spruce-fir Forest, Ponderosa Pine Forest

Summary of Concern

Blue Grouse reaches the southern terminus of its range in montane forest areas of northern and central New Mexico. Range-wide the species has shown significant and long-term population declines; little is known about trends in New Mexico populations.

Associated Species

Northern Goshawk, Northern Saw-whet Owl, Broad-tailed Hummingbird (SC2), Red-naped Sapsucker (SC2), Three-toed Woodpecker, Olive-sided Flycatcher (BC2), Western Wood-Pewee, Warbling Vireo (SC2), Pine Grosbeak, Evening Grosbeak

Distribution

Blue Grouse is primarily a species of the northern Rockies, and north-coastal mountains and forests. Its year-round range extends from Alaska and northwestern Canada south into the United States along the Rocky Mountain and Cascade/Sierra Nevada chains. Coastal and interior populations are considered separate subspecies. Isolated populations extend as far south as southern Arizona and New Mexico (Zwicker 1992).

In New Mexico, Blue Grouse is a rare resident in the Sangre de Cristo, San Juan, and Jemez mountains. It is very rare in isolated western ranges south to the Mogollons (Hubbard 1978, Parmeter et al. 2002).

Ecology and Habitat Requirements

Blue Grouse breeds in montane forest communities with relatively open tree canopies, and may occupy adjacent shrub-steppe habitat out to 2 kilometers from the forest edge. Breeding habitat may be dominated by Ponderosa Pine, Douglas-fir, or true fir species, sometimes with an aspen component. This species winters almost exclusively in montane conifer forests, often at high elevations (Schroeder 1984, Cade and Hoffman 1990, Zwickel 1992).

Breeding activities begin in April. Clutches vary greatly in size, up to 10 or more. Territorial males typically return to the same breeding site year after year, and most adult females return to the same general areas chosen as yearlings (Jamieson and Zwickel 1983). In Colorado, 9 of 10 marked grouse used same wintering areas in 2 consecutive years (Cade 1985). Nests are always on the ground with some overhead cover, usually placed under shrubs, rock overhangs, logs or stumps. Nests may also occur at the base of large trees with no immediate cover in older mature forests. In some areas, densities have increased post-logging, then returned to lower levels after 10-15 years. In fall and winter, the diet consists largely of conifer needles; leaves, flowers and berries may be consumed in summer (Zwickel 1992).

Conservation Status

Species Assessment

DISTRIBUTION	3
THREATS	3
GLOBAL POPULATION SIZE	3
LOCAL POPULATION TREND	3
IMPORTANCE OF NEW MEXICO TO BREEDING	1
COMBINED SCORE	13

Blue Grouse is a Biodiversity Conservation Concern, Level 2 species for New Mexico, with a total assessment score of 13. Although it receives no vulnerability score higher than a 3, state populations are small and unmonitored. The species is thought to have been extirpated from some areas such as the Zuni Mountains. Blue Grouse is a national PIF Watch List Species.

Population Size

Total population for the state is unknown. PIF estimates that less than 1 percent of the species population of 2.6 million may occur in the BCR 16 portion of the state, or about 4,000 birds. This is an initial estimate based on BBS sampling and should not yet be considered reliable. Population densities from Colorado, Montana and Washington ranged from 7-10 adult males per square kilometer; higher densities occur in more northern and coastal areas (Zwickel 1992).

Population Trend

Blue Grouse is poorly sampled by BBS; however, data do indicate a significant, long-term population decline (annual trend = -2.5, $p = 0.00$, $n = 102$). Nationally, PIF gives this species a score of 5 for population trend, which raises it to Watch List status. No trend data exist for the species in New Mexico.

Threats

Effects of forest management practices on interior grouse populations are poorly understood. This species typically reaches higher densities in more open-canopy forest configurations, so fire suppression resulting in denser closed-canopy forests may be detrimental. Grazing by domestic livestock of shrub-steppe and forested breeding ranges may be a problem, but evidence is equivocal and more work needed. Logging at higher elevations may impact winter ranges (Cade and Hoffman 1990, Zwickel and Bendell 1985). Hunting is not thought to exert a significant impact.

Management Issues and Recommendations

Management for Blue Grouse in New Mexico should focus on maintaining appropriate habitat in areas of known occurrence.

NMPIF Recommendations

- Restoration of more natural fire regimes and forest configurations should benefit this species.
- Limit disturbance and habitat alteration from logging operations, particularly at high elevations.
- Maintain open meadows surrounded by relatively open forest.

Species Conservation Objectives

PIF Objectives

The PIF North American Landbird Conservation Plan places Blue Grouse in the conservation action category Management. It sets a population objective of doubling the current population over the next 30 years.

NMPIF Objectives

- Determine inventory methods to assess the present population. Reasons for steep population declines range-wide need to be better understood.
- Monitor for continued presence in the Mogollon Rim.
- Re-establish population in the Zuni Mountains.

Sources of Information:

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Zwickel, F. C., and J. F. Bendell. 1985. Blue Grouse—effects on, and influences of, a changing forest. *Forestry Chron.* 6:185-188.