

## CONSERVATION NEWS

### **Blue grouse *Dendragapus obscurus* are now considered to be two species: dusky grouse *Dendragapus obscurus* and sooty grouse *Dendragapus fuliginosus***

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The American Ornithologists' Union (AOU) has split the blue grouse *Dendragapus obscurus* into two separate species: dusky grouse *D. obscurus* and sooty grouse *D. fuliginosus* (AOU 2006). This split is actually a reversion to the previous designation during the early 1900's when dusky and sooty grouse were considered distinct. The current reclassification was justified by the AOU on the basis of mitochondrial DNA research by Barrowclough et al. (2004), but also on early research by Brooks (1929) where he described differences in the tail, cervical apteria, and volume of the hooting display.

Both dusky and sooty grouse are widely distributed in the mountainous portions of western North America and their current distribution appears to be relatively unchanged from historical levels (Zwicker 1992). Nevertheless, their populations have been locally reduced, such as in the metropolitan area of Seattle (Figure 1). Sooty and dusky grouse have also been reduced in areas where native habitat has been converted for crop production or degraded by abuse. The current North American population of both species combined is estimated to be about 1,000,000, with 400,000 in the United States and 600,000 in Canada (Storch 2000). Neither species is listed by any state, provincial, or federal government as threatened or endangered.

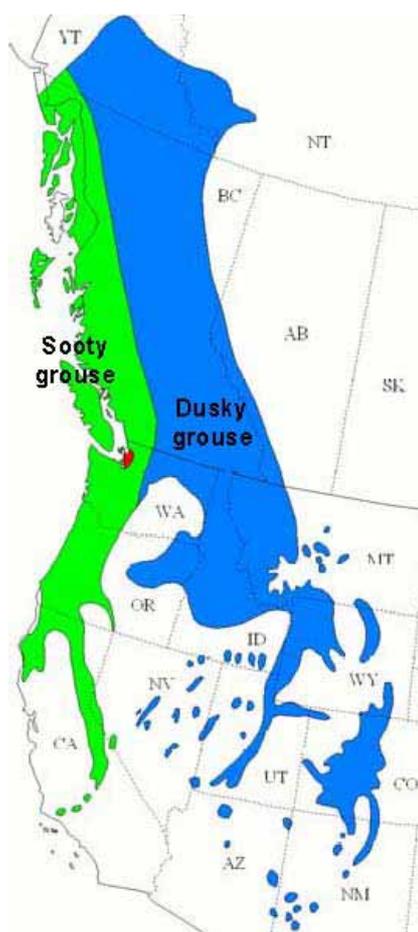


Figure 1. Estimated distribution of sooty and dusky grouse in North America (modified from Zwicker & Bendell 2004). The area defined by red includes habitat believed to be lost for sooty grouse, due to development.



Although sooty and dusky grouse generally winter in coniferous forest, their breeding habitats are quite varied and include shrub-steppe, steppe, mountain shrub, open coniferous forest, clearcuts, old growth forest, and alpine tundra. Both species nest on the ground, usually protected by shrub and/or herbaceous cover, and within 1.5 km of conifers. Because the sooty grouse tends to live in forested habitats throughout the year, it appears to be vulnerable to variations in forest practices. For example, research on sooty grouse in British Columbia indicated that their populations fluctuated dramatically depending on age of the forest following clear-cutting (Zwickel & Bendell 2004). Unfortunately, there has been little effort to evaluate the relationship between current forest management practices and sooty grouse populations across the range. In contrast to sooty grouse, dusky grouse tend to be adapted to relatively open habitats in forest openings or close to forest edges. Because these open habitats are preferred areas for development and livestock production, the management issues tend to be different for dusky grouse than for sooty grouse.

The range map (Figure 1) provides some indication of separation between the species and was based on previous maps showing the overall distribution (Zwickel & Bendell 2004) as well as the distribution of the subspecies (Aldrich & Duvall 1955). In general, the coastal birds are sooty grouse and the interior birds are dusky grouse. In Oregon, Washington, and British Columbia, the demarcation line for the two species is east of the south-north oriented crest of the Cascade Mountains. For example, on Harts Pass in north-central Washington the birds appear to be sooty grouse while the birds a few km east appear to be dusky grouse.

Table 1. General characteristics of sooty and dusky grouse.

Characteristic	Sooty grouse	Dusky grouse
Typical number of tail feathers	18	20
Appearance of tail, particularly in male	Terminal gray band	Solid dull black
Cervical apteria color (visible during male display)	Yellow	Red
Volume of hooting sound and distance it can be heard	Loud (1 km)	Quiet (100 m)

Can the two species be distinguished on the basis of appearance and behavior? According to Brooks (1929), Zwickel (1992), and Zwickel & Bendell (2004), there are some basic differences including apteria color, tail appearance, and volume of the hooting display (Table 1, Figure 2). It is difficult to count tail feathers unless you are holding the bird. However, males sometimes make this easy by fanning their tails during display. It is also important to understand the difference between the apteria (bare patches of skin on the side of the neck that are exposed during display), and the eye combs. Males of both species have yellow eye combs that tend to turn reddish when they are in peak display near a female. Identification of these species in the field is sometimes confusing. In portions of southeastern Alaska, the sooty grouse have red apteria (instead of yellow), and in Colorado and New Mexico, the dusky grouse have gray, banded tails (instead of solid black tails), usually with 18 tail feathers. This variation may be due to geographic isolation and the relatively small movements of blue grouse within their occupied patches (Barrowclough et al. 2004). Because of the rugged nature of the sooty/dusky grouse habitat in British Columbia and Alaska and the vast number of islands with potential habitat, it is likely that more remains to be learned on this topic.





Figure 2. Male sooty grouse on left (note yellow apteria and banded tail) and male dusky grouse on right (note red apteria and solid black tail). Photographs by Michael A. Schroeder.

### References

- Aldrich, J.W., & Duvall, A.J.. 1955. Distribution of American gallinaceous game birds. - Circular 34, USDI, U. S. Fish and Wildlife Service, Washington, D. C., USA.
- Banks, R.C., Cicero, C.J., Dunn, L., Kratter, A.W., Rasmussen, P.C., Remsen, J.V., Jr., Rising, J.D. & Stotz, D.F. 2006. Forty-seventh supplement to the American Ornithologists' Union check-list of North American birds. - *Auk* 123: 926-936.
- Barrowclough, G.F., Groth, J.G., Mertz, L.A. & Gutierrez R.J. 2004. Phylogeographic structure, gene flow and species status in blue grouse (*Dendragapus obscurus*). - *Molecular Ecology* 13: 1911-1922.
- Brooks, A. 1929. On *Dendragapus obscurus obscurus*. - *Auk* 46: 111-113.
- Storch, I. (Compiler). 2000. Grouse status survey and conservation action plan 2000-2004. - WPA/Birdlife/SSC Grouse Specialist Group. IUCN, Switzerland and Cambridge, UK and the World Pheasant Association, Reading, UK.
- Zwikel, F.C. 1992. Blue grouse. - *The birds of North America*, No. 15. The Birds of North America, Inc., Philadelphia, Pennsylvania, USA.
- Zwikel, F.C., & Bendell, J.F. 2004. Blue grouse. Their biology and natural history. - National Research Council of Canada, Ottawa, Ontario, Canada

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