

## Dusky grouse on the Methow Wildlife Area, Washington

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Between 1956 and 1961, research was conducted on dusky grouse (*Dendragapus obscurus*, formerly known as blue grouse) on, and adjacent to, the Methow Wildlife Area Unit of the Methow Wildlife Area near Twisp, Washington (Fig. 1). The wildlife area is currently managed by the Washington Department of Fish and Wildlife (WDFW), but was formerly known as the Methow Game Range and was operated by the Washington Game Department. The original purpose of the research was to obtain baseline data on habitat use, movement, and some of the basic factors influencing grouse numbers. In 1968 this early research was followed up with an evaluation of the impact of grazing on the breeding range of dusky grouse. In order to address this issue, 2 different study areas were selected; the grazed Balky Hills study area on private land and the ungrazed Frazer Creek study on WDFW land (Fig. 1). The research also included a comparison of 1 16-km transect on ungrazed public land with 2 16-km transects on grazed private land.

Although the specific research on grazing did not extend beyond 1968, key observations were noted. First, dusky grouse appeared to be more common on ungrazed transects than grazed transects. A maximum of 10 males was observed on the 20 stations on the ungrazed transect (0.50 birds/station), whereas a maximum of 7 males was observed on the 40 stations on the two grazed transects (0.18 birds/station). The difference in the apparent number of males was reflected in the number of hooting calls (primary territorial display of males) heard (maximum of 1.60 vocalizations/ungrazed station vs. 0.33 vocalizations/grazed station). Although a difference in density could not be documented between the Balky Hills and Frazer Creek, more than twice as many birds were captured at Frazer Creek. Finally, a greater diversity of avian and mammalian wildlife was noted at Frazer Creek, with the unexpected consequence of an apparently higher predation rate on dusky grouse.

In 1983, the density of male dusky grouse was examined in much greater detail at the Frazer Creek study area (Lewis 1985). Lewis used hooting calls to localize and map territorial males with the supporting information from other studies that males display fidelity to their territories throughout the breeding season. Lewis was able to identify 38 unique male territories during May 1983, 36 of which were on the Frazer Creek study area. Although Lewis initiated his research relatively soon after the initiation of a new grazing program at Frazer Creek, the lack of consistent data collection meant that the data could not be compared with any of the earlier research collect prior to the initiation of grazing.

By 2007, grazing had been continued on the Frazer Creek study area for at least 30 years. Anecdotal observations by Fred C. Zwickel (personal communication) of the habitat on the Frazer Creek study area had indicated some obvious changes in habitat quality including declines in understory in the areas dominated by aspen (*Populus tremuloides*),

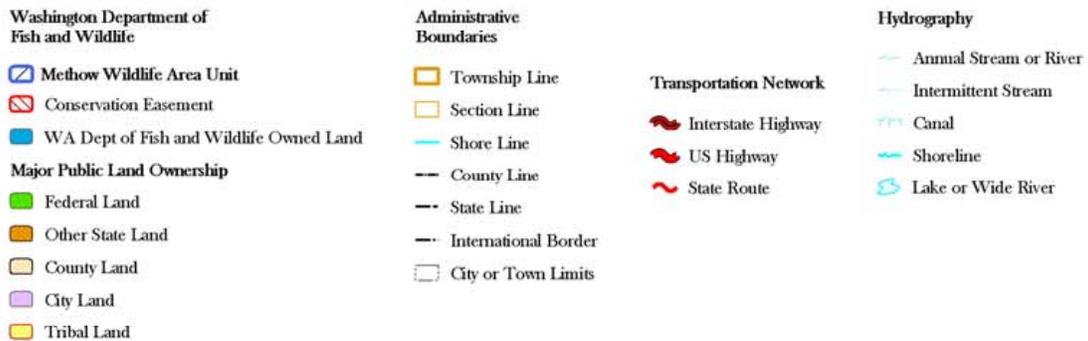
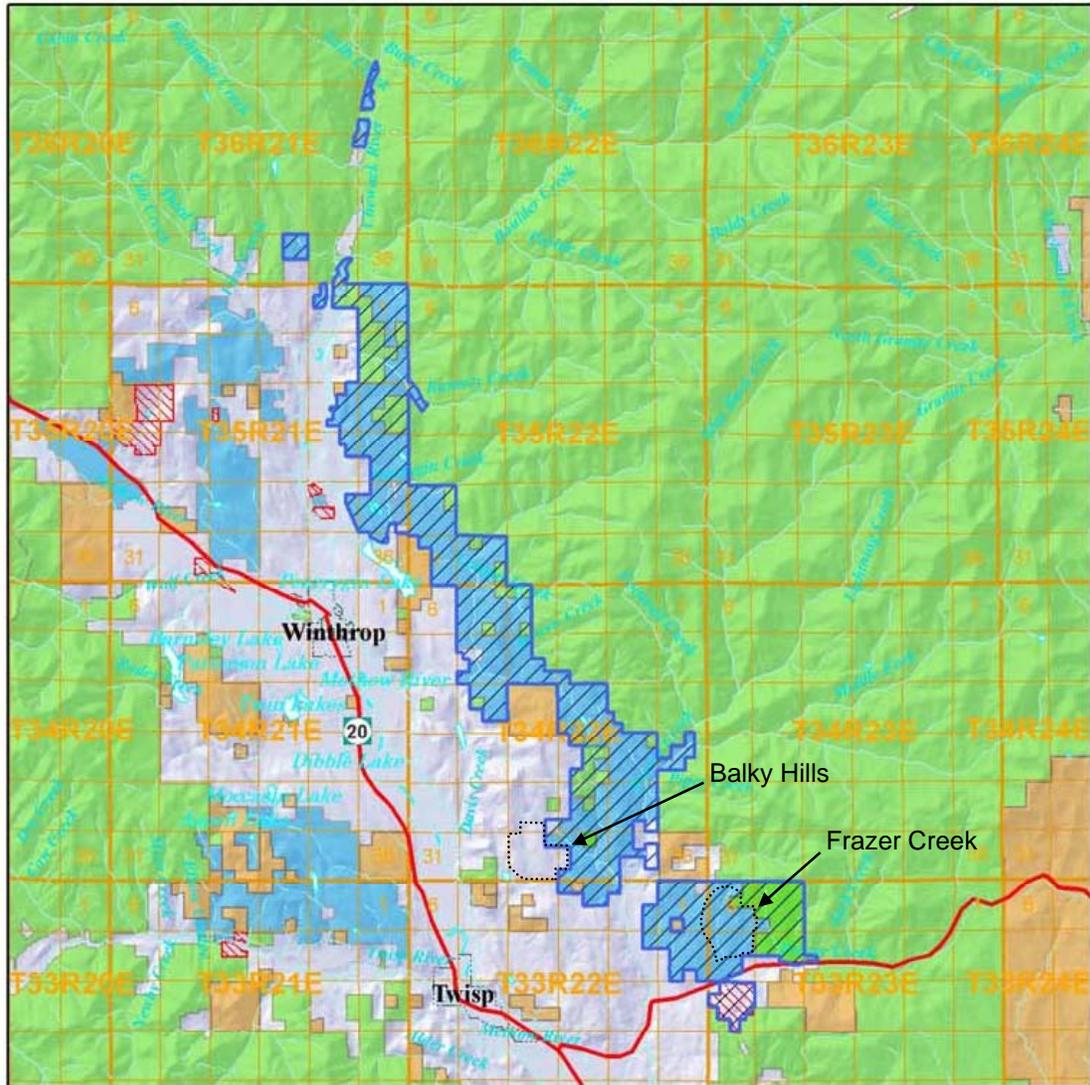
increases in the abundance and distribution of noxious weeds, and declines in the prevalence of bunchgrasses. Although these changes may, or may not be related to grazing, I decided to repeat the research of Lewis (1985) to determine if the density of dusky grouse males had changed.

Preliminary results collected in April 2007 showed that 26 territories were identified, 20 of which were on the same study area examined by Lewis (Fig. 2). This suggests that numbers are substantial lower than in 1983 when 36 territories were identified. The difference in the number of territories was not evenly distributed throughout the study area. The largest apparent difference in the number of territories was in the areas near the large pockets of aspen, relatively close to the stock tanks where water was provided for livestock.

Although there is no way to know for certain that livestock issues are the primary cause for the decline, this preliminary result suggests that this avenue of research be pursued. It is also worth noting that changes that are dramatic enough to influence dusky grouse may also be having an effect on other species. For example, sharp-tailed grouse (*Tympanuchus phasianellus*) were common on the study area in 1968 but are now extirpated. Because the sharp-tailed grouse is clearly a species associated with bunch grass, their extirpation suggests that declining bunch grasses may be an issue on the Frazer Creek study area in particular, and throughout the Methow Valley in general.

Additional research is needed. This research should be focused on multiple areas that are grazed and ungrazed and on the collection of long-term data. The research is of the utmost importance for dusky grouse and for the development of appropriate management strategies on WDFW-owned wildlife areas. For example, the Methow Wildlife Area, and wildlife areas in the Okanogan Valley provide a substantial portion of the breeding habitat for dusky grouse in the overall region. The private areas that are adjacent to the wildlife areas are more likely to be grazed and are under increasing potential for development. The dusky grouse is the primary native gamebird in Okanogan County, Washington, which has the highest harvest of native gamebirds in the state of Washington. Lack of consideration for the needs of dusky grouse on these state-owned areas will have enormous consequences of harvest. In fact, long-term declines in grouse harvest (about 80% of this harvest is dusky grouse) have already been documented. Given the isolated nature of the wintering areas for dusky grouse it seems unlikely that heavy rates of harvest are the primary considerations in these declines.

Fig. 1. Location of the Frazer Creek and Balking Hills study areas in relation to the Methow Wildlife Area and the Methow Valley of Washington.



1:230,000  
1 inch equals 3.6 miles

