

Schroeder, M.A. and L.A. Robb. 2003. Fidelity of greater sage grouse *Centrocercus urophasianus* to breeding areas in a fragmented landscape. *Wildlife Biology* 9:291-299.

In this paper, we report on breeding site fidelity for a small, localized population of greater sage-grouse *Centrocercus urophasianus* inhabiting a highly altered and fragmented landscape in north-central Washington, USA. One hundred sixteen greater sage-grouse were captured, fitted with radio transmitters and monitored during 1992-1998. Of 19 males captured as adults and nine captured as yearlings, one and four, respectively, were observed visiting two different leks. Of 78 females, 24 were observed visiting at least two leks, and eight visited at least three leks. Although the incidence of multiple lek visitation was similar to what has been reported for other regions, the average of 10.2 km distance between neighbouring leks was substantially further in north-central Washington. Average distance between a female's first nest and her re-nest was higher for yearlings (6.3 km) than for adults (2.0 km). Successful females moved an average of 1.6 km and unsuccessful females moved 5.2 km to nest in subsequent years. Most distances between consecutive nests were < 3.0 km, but some females, including adults, moved > 20 km. These data suggest that fidelity of greater sage-grouse to nesting areas in north-central Washington is substantially lower than has been found for other populations. Although the relationship between behaviour of greater sage-grouse and regional habitat fragmentation is a possible explanation for these observations, we were not able to detect a correlation between fidelity and local habitat availability.