

Connelly, J.W., K.P. Reese, and M.A. Schroeder. 2003. Monitoring of Greater Sage-grouse Habitats and Populations. College of Natural Resources Experiment Station Bulletin 80, University of Idaho, Moscow, ID.

Numerous studies have reported on characteristics of greater sage-grouse (*Centrocercus urophasianus*) populations and habitats throughout the species' range (Gregg et al. 1994, Fischer et al. 1996a, Schroeder 1997, Apa 1998, Sveum et al. 1998, Commons et al. 1999, Lyon 2000, Nelle et al. 2000, Smith 2003, and others). Additionally, Connelly et al. (2000b) provided guidelines for managing sage-grouse populations and habitats and identified monitoring as an important component of a sage-grouse management program. Most studies of sage-grouse relied on published techniques for assessing range vegetation, monitoring and trapping sage-grouse (Canfield 1941, Daubenmire 1959, Floyd and Anderson 1982, Giesen et al. 2002, Connelly et al. 2000a, and others). However, published methods for assessing vegetation were not developed specifically for sage-grouse habitats. Some population monitoring techniques have not been described in detail while others were based on work done in a single area or over a relatively short time. Because of declines in sage-grouse populations (Connelly and Braun 1997, Braun 1998) and continuing threats to this species and its habitats (Connelly and Braun 1997, Wambolt et al. 2002), standard techniques for monitoring populations and habitats are necessary to allow valid comparisons among areas and years and provide rigorous and consistent data sets. To date, no effort has been made to compile and standardize all major monitoring techniques useful for assessing sage-grouse habitats and populations. The purpose of this report is to describe various techniques suitable for assessing sage-grouse habitat characteristics, monitoring sage-grouse populations, and capturing and marking sage-grouse. We attempt to standardize techniques where variations may exist and make recommendations about the use of some techniques. We also provide a glossary at the end of this report to help standardize terms used in sage-grouse management. We intend this report to be used with the guidelines to manage sage-grouse populations and their habitats (Connelly et al. 2000b).