

Pitman, J.C., C.A. Hagen, R.J. Robel, T.M. Loughlin, and R.D. Applegate. 2005. Location and success of lesser prairie-chicken nests in relation to vegetation and human disturbance. *Journal of Wildlife Management* 69:1259-1269.

Abstract: Lesser prairie-chicken (*Tympanuchus pallidicinctus*) populations have declined rangewide, and one of the principal causes is thought to be low nest success. Little is known about the relationship of vegetation structure and human intrusion to lesser prairie-chicken nest location and success. We conducted our study from 1997 to 2002 in southwestern Kansas, USA, on 2 sand-sagebrush (*Artemisia filifolia*) prairie areas managed for livestock production. We determined apparent nest success (26%) for 200 of 209 lesser prairie-chicken nests located. Nest sites had taller grass, greater sand-sagebrush density, and higher visual obstruction than random locations in the surrounding prairie. We recorded the distances from nests to 6 anthropogenic features (wellheads, buildings, improved roads, unimproved roads, transmission lines, center-pivot irrigation fields) to determine whether the features were related to nest location and success. Sand-sagebrush habitat around 5 of 6 features (all except unimproved roads) was avoided for 80 m (wellheads) to >1,000m (buildings) by nesting lesser prairie-chickens, but distances to the features were not substantial predictors of apparent nest success. Grass height, sagebrush plant density, and sagebrush height were the most important vegetation characteristics influencing nest success.