

Species of Habitat Fragmentation Concern

Species: Greater Prairie Chicken (*Tympanuchus cupido*)

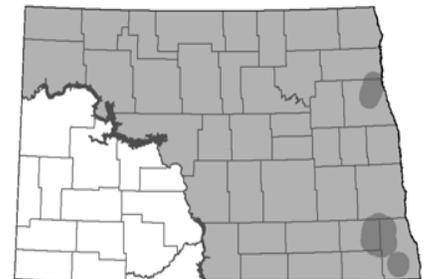
Habitat Preference: Year-round resident in North Dakota.

Historically wide-spread throughout grasslands in North Dakota, but now reduced to two primary breeding populations in Grand Forks County and the Sheyenne National Grasslands (Hagen et al., 2005). Important breeding habitat characteristics are large open areas of mid- and tall-grass prairie with minimal trees, slightly elevated sites with short and sparse vegetation for booming (i.e., mating) grounds, and relatively dense residual cover for nesting with suitable adjacent brood-rearing habitat (Johnson et al., 2011).



Credit: US Fish and Wildlife Service

Habitat Fragmentation Concerns: Species of Conservation Priority in North Dakota (Level II; Hagen et al., 2005). The occurrence and density of Greater Prairie Chickens appear sensitive to habitat patch size (Ribic et al., 2009). Greater Prairie-Chickens may benefit from grassland habitats that possess a 20-30% cropland component, but decline when the cropland proportion exceeds that (Svedarsky et al. 2000). Trees and other woody vegetation can have a negative impact on Prairie Chicken habitat (Hagen et al., 2005; Johnson et al. 2011). Intensive annual spring burning and grazing pressures may have a negative impact on Prairie Chickens. Studies in Kansas suggest these impacts have likely contributed to the 75-80% decline in the Greater Prairie Chicken population over the past 20 years (Johnson et al 2011). Construction of wind turbines and their associated power lines may lower Greater Prairie Chicken productivity via habitat fragmentation (Johnson et al 2011).



Map of Species Range in North Dakota
Source: Hagen et al., 2005.

General Review Literature:

- Hagen, S.K., P.T. Isakson, and S.R. Dyke. 2005. North Dakota Comprehensive Wildlife Conservation Strategy. North Dakota Game and Fish Department. Bismarck, ND. 454 pp.
<http://gf.nd.gov/conservation/cwcs.html>
- Johnson, Jeff A., M. A. Schroeder and L. A. Robb. 2011. Greater Prairie-Chicken (*Tympanuchus cupido*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/036>
- Ribic, C.A., R.R. Koford, J.R. Herkert, D.H. Johnson, N.D. Niemuth, D.E. Naugle, K.K. Bakker, D.W. Sample, and R.B. Renfrew. 2009. Area sensitivity in North American grassland birds: Patterns and process. *Auk* 126:233-244.
- Svedarsky, W.D., Westemeier, R.L., Robel, R.J., Gough, S. and J.E. Toepfer. 2000: Status and management of the greater prairie-chicken *Tympanuchus cupido pinnatus* in North America. *Wildl. Biol.* 6: 277-284.