
SPECIES-SPECIFIC SCALING TO DEFINE AND CONSERVE THE NORTHERN GREAT PLAINS REGION

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Prairie ecosystems are in a continuous state of flux, shifting by processes that include variable weather patterns and climatic conditions, disturbance regimes, and more recently, human-induced modification. Similarly, wildlife resources fluctuate across the landscape as a result of these ever-changing conditions; however, human alterations have increased, removed, and manipulated the ecological processes of the prairie. Specifically, the spatial scales at which humans manage and interact with the landscape are often inconsistent or incompatible with the scales required for the persistence of wildlife populations. Our synthesis demonstrates how the spatial scales at which wildlife in the Northern Great Plains of North America operate have been constrained by human intervention. This process of anthropogenic scaling has affected the decline of many native wildlife populations and in some cases has resulted in the complete extirpation of species from the landscape. We use historical observations and recent quantitative data to describe the primary cause of spatial scale alteration for prairie focal species (i.e. plains bison, pronghorn, grassland birds, Greater Sage-grouse, black-tailed prairie dogs, swift fox, prairie rattlesnakes) using migration, home range, distribution, and dispersal distances as metrics. We then describe the role that spatial scale plays in wildlife management of the prairie landscape from the non-profit, state, and federal perspective and how these entities are managing at the scales of each focal species.