

**Plant and Breeding Bird Communities of Black-tailed Prairie Dog Colonies and Non-colonized Areas in Southwestern Kansas and Southeast Colorado**

by

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**ABSTRACT**

**This research was initiated to determine if plant and bird communities on black-tailed prairie dog (*Cynomys ludovicianus* Ord) colonies in southwest Kansas and southeast Colorado differed from those found on associated non-colonized areas. Vegetation height and density, and the cover and frequency of numerous plant species differed between prairie dog colonies and non-colonized areas that were co-dominated by mid-height grasses and shortgrasses. A comparison of prairie dog colonies with non-colonized areas that were dominated solely by shortgrasses did not reveal a difference in vegetation height and density. The number of species that differed in cover or frequency between prairie dog colonies and non-colonized shortgrass areas was less than when the comparison of prairie dog colonies was made with areas co-dominated by mid and shortgrasses. Plant species richness and diversity measures did not differ between prairie dog colonies and the non-colonized areas. Bird communities in 1996, following twelve months of drought conditions, were species poor relative to 1997. Fewer bird species were detected on prairie dog colonies than on non-colonized areas during both years. Burrowing owls were highly dependent on prairie dog colonies in region of this study, but there were several species for which prairie dog colonies were sub-optimal habitat. Horned lark habitat preference alternated between prairie dog colonies and non-colonized sites, probably in response to the influence of climatic variation on vegetation conditions. Fundamental differences in characteristic vegetation between semiarid shortgrass steppe and less arid regions of the Great Plains appear to contribute to regional differences in the influence of prairie dogs on plant and bird communities.**