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THE BREEDING BIRDS OF A SANDSAGE PRAIRIE

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In southwestern Kansas the sandsage prairie of gently rolling hills with sand and sandy loam soils sporadically follows both the Arkansas and Cimarron River drainage systems. One of the most striking plants of the sandsage prairie is the shrubby appearing forb, *Artemisia filifolia*, commonly called sagebrush. A breeding bird survey, following the format described by Van Velzen (1972), was conducted on a tract of sandsage prairie in Finney County, Kansas, during the summer of 1986. The study site was three mi SSW of the Arkansas River bridge at Garden City. The 160 acre area was a quarter sub-section of section 1 on the Kansas Fish and Game wildlife area, approximately 37° 54'N, 100° 53'W.

Site Description

The study site was bordered on all sides by similar habitat for at least a quarter of a mile. A sorghum field with center pivot irrigation was a quarter mile north, and a paved road and power line bordered the site on the east. In the northwest corner of the tract there was a water pump house, and there was an oil pump on the south end. A windmill and stock tank for a herd of bison was in the southwestern corner. The estimated elevation was 2800 ft.

Forbs were counted by their percent occurrence in four randomly selected 8 m² grids. *Chenopodium glaucum*, *C. desiccatum*, *Amaranthus tamariscinus*, *Mentzelia nuda*, *Cryptantha minima*, *Ambrosia psilostachya*, *Artemisia filifolia*, *Erigeron bellidiiastrum*, *Haplopappus ciliatus*, and *Helianthus petiolaris* were present on all grids. The following forbs were present on at least 50% of the grids: *Abronia fragrans*, *Opuntia* sp., *Cassia fasciculata*, *Oenothera grandis*, *Plantago patagonica*, *Lactuca* sp., and *Tradescantia occidentalis*. The grasses were less common, and the presence of the following species was noted: *Festuca octoflora*, *Poa arida*, *Sporobolus cryptandrus*, *Bouteloua hirsuta*, *B. gracilis*, *Munroa squarrosa*, *Buchloe dactyloides*, and *Andropogon hallii*. Plant names are from Hitchcock 1951, Bare 1979, and Great Plains Flora Assoc. 1986.

Rain for the census period was slightly below average. Ten inches of moisture had fallen for the year through July, two inches below average. Temperatures for the census period were relatively cool for May and June, but warm for July. For example, the daily mean temperature for July was 79.4 F, one degree above average.

Results and Discussion

Eight census trips, six in the morning and two in the evening, totalled 19.5 hrs. of observation. Census dates were 23 and 28 May, 1, 11, 18, 25 and 29 June, and 6 July. The total number of species observed on the 160 acre tract during the study was 18 (Table 1). Total density of singing males plus numbers of females for cowbirds was 41.9 birds/40 hectares (approximately 100 acres). This value is similar to the 38 males/40 hectares reported by Ports (1980) from an unburned sandsage prairie in Morton county, but there were some species differences between my study and his as well as some differences in the order of abundance. In both studies Cassin's Sparrow was the most abundant species, but in Ports' work Mourning Doves were next in abundance followed in turn by my second place species, the Western Meadowlark. Ports also listed the Lesser Prairie Chicken as a breeding species and noted Scaled Quail as a visitor to burned sandsage prairie. I expected both of these species on my plot, but they were not found. Nor did I record Brewer's Sparrow and Lark Bunting, but did have some species missing

TABLE 1. Territorial males and female Brown-headed Cowbirds on a 160-acre tract of sandsage prairie in Finney County, Kansas.

Species	% trips (n = 8) species noted	density (no./40 ha.)
Cassin's Sparrow	100	11.6
Western Meadowlark	100	6.2
Northern Bobwhite	100	5.0
Lark Sparrow	100	4.3
Ring-necked Pheasant	100	3.6
Mourning Dove	100	2.2
Brown-headed Cowbird	100	2.1
Field Sparrow	88	1.2
Dickcissel	88	1.2
Northern Mockingbird	100	1.0
Common Nighthawk	88	0.9
Barn Swallow	63	0.6
Burrowing Owl	50	0.5
Say's Phoebe	63	0.4
Blue Grosbeak	63	0.4
House Sparrow	63	0.4
Swainson's Hawk	50	0.2
Grasshopper Sparrow	13	0.1
Total Species: 18		
Total density: 41.9 birds/ha		

from the Morton county study like Ring-necked Pheasant, Field Sparrow, Dickcissel and Grasshopper Sparrow.

Fledgling Cassin's Sparrows and Lark Sparrows were observed. A Mourning Dove nest with two eggs was found on the ground on 25 May. The well house provided nesting sites for Barn Swallows, and a pair of House Sparrows nested on the ledge of the windmill. Visitors recorded were Mississippi Kite, Red-tailed Hawk, Chimney Swift, Western Kingbird, Cliff Swallow, and Common Grackle.

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