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CHARADRIIFORM BIRDS OF CHEYENNE BOTTOMS

PART I

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Snowy Plover at Nest

David Parmalee, artist

Since the fall of 1958, the authors have observed the birds of Cheyenne Bottoms, Barton County, Kansas.¹ During the early years of study observations were sporadic. A more consistent record has been kept since Schwilling moved to the area and became supervisor of the Cheyenne Bottoms Waterfowl Management Area in 1962. Inasmuch as our observations and those of others indicated that the waterfowl management area and outlying swamp and grasslands are important feeding, resting, and nesting grounds, we decided to write a brief, annotated check-list of the birds of Cheyenne Bottoms. We hoped not only to make public our findings, but to provide in time a useful guide for the many observers who visit the large natural sink to see birds. The following is our first account of one of the larger groups, the charadriiform birds, which includes shorebirds, jaegers, gulls, and terns.

¹ Acknowledgments.—Kansas State Teachers College, Kansas Forestry, Fish and Game Commission, and The University of Oklahoma (National Institutes of Health, AI 05232-01) contributed financial support to the project. Many persons assisted in various ways, but we are most grateful to Charles A. Ely, Richard F. Johnston, Edmund F. Martinez, and Merrill G. McHenry.

Most of the 55 charadriiform species listed recently for Kansas (Johnston, 1965) occur at Cheyenne Bottoms. Nearly all records are backed by specimens. The Pomarine Jaeger (*Stercorarius pomarinus*), Laughing Gull (*Larus atricilla*), and Black-legged Kittiwake (*Rissa tridactyla*) have been seen there by us and others; however, since no specimens exist, we place them in a hypothetical list. We have no records for the Mountain Plover (*Eupoda montana*), American Woodcock (*Philohela minor*), the rare and perhaps extinct Eskimo Curlew (*Numenius borealis*), and California Gull (*Larus californicus*). The Parasitic Jaeger (*Stercorarius parasiticus*), heretofore not observed for Kansas, is included in our list of 49 confirmed species.

Relatively few charadriiform birds nest at Cheyenne Bottoms. Eggs or flightless young were observed for all species designated as breeding and marked with an asterisk in the list below. The mere sighting of adults in breeding plumage during the summer is not considered proof of nesting.

The majority of charadriiform birds that visit Cheyenne Bottoms can be rightly called transients. For some species the spring and fall migrations through the area may be brief; for others it may be prolonged. Certain shorebirds, for example, may arrive in March; and individuals of the same species may still be passing through as late as mid-June. Hardly do these last stragglers go northward when birds travelling southward appear, perhaps even as early as 20 June. Probably many first-year birds and adults do not reach the northern breeding grounds; some may linger for days along the migration routes. Though we lack concrete evidence that such birds "summer" at Cheyenne Bottoms, some may.

The so-called fall migration of shorebirds really gets underway in summer. Peak numbers of some species may pass through Cheyenne Bottoms and other parts of Kansas during July and August—a fact appreciated by far too few birders. We arbitrarily designate the northward migration as a period from 1 February to 19 June, and the southward migration from 20 June to 31 December. It is understood that there is likely an overlap in northbound and southbound birds—an interesting phenomenon that needs further study. The distinction that we make between the end of the northward migration and start of the southward migration is, therefore, highly artificial.

Despite a backlog of records, it is difficult to predict the movements, not to mention the nestings, of birds at Cheyenne Bottoms because of many variables that affect the marsh habitat in the area. Foremost among these variables is the uncertainty of surface water level (Rice, 1956). When the pools are filled to capacity many shorebirds may bypass the area in search of shallows and mudflats, but when one or more pools are nearly dry the myriads of these birds may be overwhelming.

It may be said confidently that the best times to see a variety and a large number of shorebirds is from about 25 April to 25 May and from about 20 July to 20 September. Birders visiting Cheyenne Bottoms in early and mid-April, and after mid-September, often come up with disappointing lists. The fact remains that Cheyenne Bottoms is somewhat unpredictable. It is precisely this quality that makes the area the most exciting spot for birding in the midlands.

Estimating numbers of individuals of a given species may be as difficult as predicting peak migrations. For this reason we use standard terms that are applicable.

- ABUNDANT:** high density; numbers often indefinite; daily counts frequently including thousands of individuals during peak migration or nesting.
- COMMON:** numerous but not truly abundant; numbers fairly definite; daily counts occasionally including a few hundred individuals during peak migration or nesting.
- UNCOMMON:** low density; individuals, pairs, or small flocks thinly scattered; daily counts less than a hundred individuals.
- RARE:** few records only; individuals in this category may be vagrant or highly irregular.

Most observations to date were made in the waterfowl management area, chiefly along dike roads. Much less is known about the perimeters of the outer pools, and still less about the areas that extend from there to the rim of the sink, which forms

the natural boundary of Cheyenne Bottoms and defines the limits of our study. These peripheral areas need attention and probably would yield interesting records and data for a variety of birds.

Although more than 10,000 waterfowl have been banded at the management area since 1962, until recently fewer than two thousand charadriiform birds had been banded, and returns have been meager. Where the countless numbers come and go from Cheyenne Bottoms is still very much a mystery. Hopefully the banding program of Edmund F. Martinez, who is methodically banding shorebirds and other species, will enlighten us.

ANNOTATED LIST OF SPECIES

The 1957 edition of the American Ornithologists' Union check-list of North American birds is the standard for the common and scientific names used below.

Charadrius semipalmatus Bonaparte: Semipalmated Plover

Regular, uncommon to common transient. Extreme dates of northward migration 7 April and 23 May; most numerous 22 April–9 May; largest daily counts: 24 April 1963 (50+ birds); 28 April 1968 (500+ birds); and 30 April 1964 (50+ birds). Extreme dates of southward migration 20 July and 3 October; most numerous 8 August–11 September; largest daily count: 8 August 1959 (10 birds).

Charadrius melodus Ord: Piping Plover

Irregular, uncommon transient in spring, rare in fall. Extreme dates of northward migration 29 March and 14 May; largest daily count: 22 April 1961 (six birds). Ferguson (1962) noted six birds on 1 May 1962. One fall record: 1 August 1968 (two birds). Kansas State Teachers College specimens: four males 14–22 April; two females 17 April–2 May.

Remarks.—This species was considered a rare transient in Kansas by Tordoff (1956) and an uncommon to rare transient by Johnston (1960). According to Johnston (1965), it has been noted in Kansas from mid-March to late May, and from 8 August to 1 October. There are June and July records for Oklahoma (Sutton, 1967), and a July record for Kansas (Tordoff, 1956).

**Charadrius alexandrinus* Linnaeus: Snowy Plover

Regular, uncommon transient; irregular, summer resident. Nests on dry ground in open areas, but nesting largely dependent on available habitat related to water levels of pools. Recorded 31 March–18 September; largest daily counts: 18 June 1963 (37 birds) and 29 August 1963 (20 birds). Breeding: one unfledged young (8 August 1959); nest with one young and two eggs (18 June 1961); four pairs with one, two, two, and three downy young respectively (8 July 1961); nest with one egg (26 May 1962); nest with three eggs (4 June 1962); two nests with three eggs each (summer 1962 by Ferguson (1962)); 15 pairs and one nest with three eggs (four eggs at later date) in the center pool of the waterfowl management area which had been drained dry (18 June 1963 by Nilsen (personal communication)); one recently fledged young (2 July 1963); one pair with two young (21 July 1963 by Zuvanich and McHenry (1964)); nest with three eggs (3 June 1967).

Remarks.—Tordoff (1956) reported only one definite nesting for Kansas (Comanche Co., 1886). Since then numerous pairs, young and eggs have been noted by various observers at the salt marshes in Stafford Co. The species breeds in Finney Co., and probably in Scott, Rooks, and Trego counties, according to Zuvanich and McHenry (1964). Johnston (1964) includes Meade and Clark counties within the breeding range.

**Charadrius vociferus* Linnaeus: Killdeer

Regular, common to abundant transient and common summer resident. Nests in dry spots, chiefly along dike roads. Recorded 7 March–11 December; most numerous 15 April–15 November; largest daily counts 15 August 1964 (200+ birds), 10

September 1961 (200+ birds), 26–27 September 1963 (200+ birds each date), 22–24 October 1964 (2,000+ birds each date). Eggs recorded 16 April–26 June. Newly hatched young recorded 27 April–2 July.

Pluvialis dominica (Müller): American Golden Plover

Regular transient, uncommon in spring, uncommon to common in fall. Extreme dates of northward migration 9 April and 18 June; most numerous 11–22 May; largest daily count: 22 May 1967 (12 birds). Extreme dates of southward migration 20 June and 9 November; most numerous 10 September–15 October; largest daily counts: 25 September 1963 (100+ birds); 2 October 1963 (300+ birds); 9 November 1958 (24 birds); and 9 November 1964 (50 birds). Ely (1961) noted "several hundred" birds 13 October 1960.

Remarks.—Spring observations are surprisingly few and scattered.

Squatarola squatarola (Linnaeus): Black-bellied Plover

Regular transient, uncommon to common in spring, uncommon in fall. Extreme dates of northward migration 9 April and 19 June; most numerous 8–22 May; largest daily counts: 17 May 1963 (200+ birds); 22 May 1963 (500+ birds, including flock of 44 birds); and 22 May 1967 (200+ birds). Extreme dates of southward migration 8 August and 9 November; most numerous 22 August–8 October; largest daily counts: 22 August 1968 (100+ birds); 30 September 1963 (17 birds), and 8 October 1959 (12 birds).

Arenaria interpres (Linnaeus): Ruddy Turnstone

Regular transient, uncommon to common in spring, uncommon in fall. Extreme dates of northward migration 7 May and 6 June; most numerous 18 May–1 June; largest daily counts: 22 and 24 May 1963 (200+ birds each date); and 18 May 1967 (100+ birds). Extreme dates of southward migration 9 August and 8 October; most numerous 30 September–8 October; largest daily counts: 31 August 1962 (three birds); and 2 October 1963 (three birds). Kansas State Teachers College specimens: five males 24 May–2 June and 11–30 September; four females 24 May and 18 September–8 October. Fort Hays Kansas State College specimens: two males 17 and 20 May; one female 12 June 1962.

Remarks.—Species considered a rare transient in Kansas even in recent years by Tordoff (1956) and Johnston (1960) on the basis of a few specimens and sight records. According to Johnston (1965), there have been many sight records (May, August, September, October) from Barton Co. east since that time but lists only four specimens for Kansas. The species has been noted in Oklahoma as early as 25 April (Sutton, 1967).

Capella gallinago (Linnaeus): Common Snipe

Regular transient, common in spring, common to abundant in fall. Extreme dates of northward migration 11 March and 10 June; most numerous 2–23 April; largest daily count: 23 April 1966 (200+ birds). Extreme dates of southward migration 13 July and 6 December; most numerous 20 September–18 October; largest daily counts: 1 October 1963 (200+ birds); 14 November 1963 (1,000+ birds); and 5 December 1963 (60 birds including flock of 40 birds).

Numenius americanus Bechstein: Long-billed Curlew

Irregular, uncommon transient and rare summer resident. Breeding in peripheral areas is uncertain. Recorded 29 March–25 September; most observations 2–25 September (one or two birds each observation).

Remarks.—Nesting by at least one pair was suspected in the vicinity of Long Lake north of the management area in 1962 and 1963, and one-half mile northeast of the management area headquarters in 1966, but no nests or young were observed.

Numenius phaeopus (Linnaeus): Whimbrel

Irregular transient, uncommon in spring and rare in fall. Extreme dates of northward migration 24 April and 22 May; most numerous 13–18 May; largest daily counts: 17 May 1963 (11 birds); and 16 May 1964 (31 birds including flock of 30 birds). Extreme dates of southward migration 30 June and 27 September, but records scattered (one to four birds each observation). Two males (Kansas State Teachers College specimens B1138 and T828) collected 22 May 1963 were the first specimens for Kansas (Parmelee, 1964).

Bartramia longicauda (Bechstein): Upland Plover

Regular, uncommon transient and rare summer resident. Breeding in peripheral areas is uncertain. Recorded 9 April–7 September; most numerous 3 July–22 August; largest daily counts: 3 July 1963 (25+ birds); 24 July 1963 (eight birds); and 3 August 1963 (eight birds).

Remarks.—The species is seen regularly during summer in the vicinity of Long Lake where nesting is suspected, but no nests or young have been observed.

KANSAS BREEDING BIRD SURVEY FOR 1968

BY JOHN L. ZIMMERMAN

Again in 1968 members of the Kansas Ornithological Society cooperated in the annual June roadside bird count conducted by the Migratory Bird Populations Station of the Fish and Wildlife Service (for methods used in this survey, see Zimmerman, J. L. 1968. Kansas Ornithol. Soc. Bull., 19:9–13). This year's participants and the 1968 routes sampled are given in Figure 1. Six routes run in 1967 were not completed in 1968, but four new routes were added to give a total of 26 for 1968 compared to the 28 routes completed the previous year.

Table 1 summarizes the species data for Kansas in 1968, giving the average number of birds per route ($n = 26$) and the percentage of these 26 routes on which the species was seen. Twenty-two species not seen in 1967 were added in 1968. Most of these are species exhibiting quite local distributions in the state, either due to habitat (e.g. Gadwall, Redhead, King Rail, Snowy Plover) or geographic range (e.g. Acadian Flycatcher, Ovenbird, Kentucky Warbler, Summer Tanager, Black-headed Grosbeak). Likewise, the eight species recorded in 1967 but not in 1968 have similar distributional patterns. It is important to emphasize that these records are only of species presence and are not documented instances of actual breeding (e.g. White Pelican, Vesper Sparrow).

The greatest value in these data as they are compiled is the comparison of given species from year to year. Although just two years is insufficient for detecting any trends in bird populations, there are some changes in values between 1967 and 1968 that are worth noting because they relate to a point of caution in analyzing the results. Coverage in the state was more easterly in 1968. West of the 98th meridian three routes run in 1967 were not covered in 1968 and no new ones were added. East of this longitude there were three routes covered in 1967 but not in 1968, but four new ones were sampled in 1968. I suggest that this geographic difference in coverage is responsible for most of the apparent population changes between these two years. Such species as Mourning Dove and Horned Lark decreased in average number per route, and Western Meadowlark and Lark Bunting decreased in both average number and percentage of routes observed. Conversely many eastern species showed an increase (e.g. Yellow-shafted Flicker, Eastern Phoebe, Carolina Wren, Bell's Vireo, Red-eyed Vireo, Eastern Meadowlark, Baltimore Oriole).

Even with the difference in coverage many species have values for the average number per route and percentage of routes observed that are essentially the same for both 1967 and 1968 (Bobwhite, Yellow-billed Cuckoo, Red-headed Woodpecker, Eastern Kingbird, Western Kingbird, Purple Martin, Blue Jay, Black-billed Magpie,

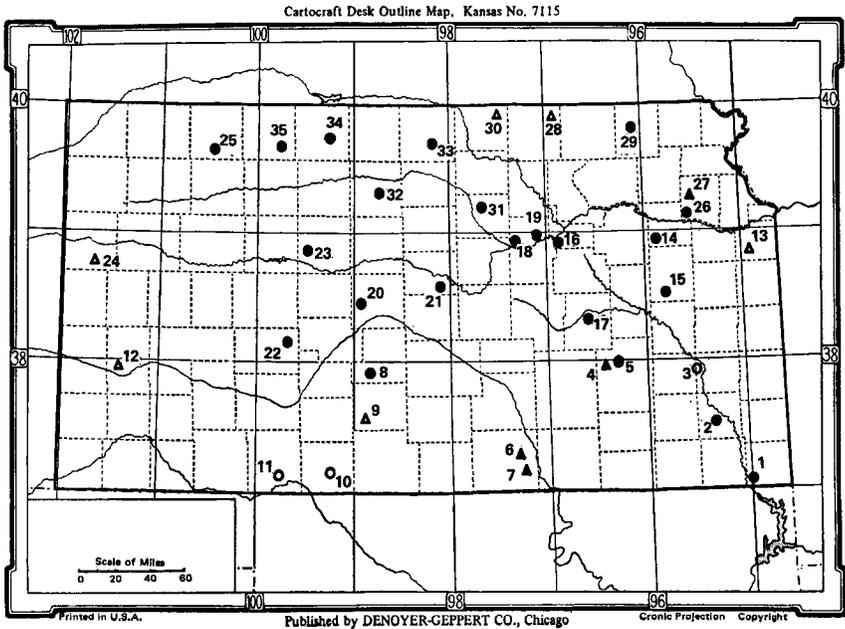


FIG. 1. Starting points of routes in Kansas. Solid circles—routes completed in 1967 and 1968. Solid triangles—routes completed in 1968 only. Open triangles—routes completed in 1967 only. Open circles—routes not completed in either 1967 or 1968.

Observers and route numbers: A. R. Challans—22; R. D. Classen—5; C. W. Comer—4; C. A. Ely—23, 32, 34, 35; E. V. Fisher—26; C. S. Holmes—6, 7; J. C. Johnson—2; E. R. Lewis—14; M. G. Heskett—33; W. A. Meier—25; D. R. Platt—17; O. O. Rice—27; J. D. Rising—15; M. D. Schwilling—8, 20; T. G. Shane—16, 18, 19; T. M. Sperry—1; P. A. Volkland—21; I. M. Willis—29; J. L. Zimmerman—31.

Although route 13 was completed by M. J. Fauhl, the results were not processed in time to be included in this report.

TABLE 1
SPECIES RECORDED ON THE 1968 BREEDING BIRD SURVEY IN KANSAS

Species ^a	Average no. per route	Percent routes recorded	Species ^a	Average no. per route	Percent routes recorded
White Pelican	7.0	3.8	Turkey Vulture	0.9	34.6
Great Blue Heron	1.3	53.8	Mississippi Kite	0.2	3.8
Green Heron	0.3	26.9	Cooper's Hawk	+	3.8
Bl.-cr. Night Heron	4.2	3.8	Red-tailed Hawk	1.8	65.4
Canada Goose	2.5	11.5	Swainson's Hawk	2.0	57.6
Mallard	1.2	11.5	Marsh Hawk	0.7	23.0
Gadwall	0.2	3.8	Sparrow Hawk	1.9	69.3
Pintail	1.2	3.8	Gr. Prairie Chicken	0.3	15.4
Green-winged Teal	0.1	3.8	Bobwhite	38.9	96.1
Blue-winged Teal	1.9	7.7	Ring-necked Pheasant	17.8	65.4
Shoveler	+ ^b	3.8	King Rail	+	3.8
Wood Duck	+	3.8	American Coot	1.3	3.8
Redhead	0.7	3.8	Snowy Plover	+	3.8

TABLE 1 (Continued)

Species ^a	Average no. per route	Percent routes recorded	Species ^a	Average no. per route	Percent routes recorded
Killdeer	5.3	92.3	Mockingbird	12.3	96.1
Upland Plover	5.1	42.3	Catbird	0.9	26.9
American Avocet	0.7	3.8	Brown Thrasher	9.2	100.0
Forster's Tern	0.2	3.8	Robin	9.2	96.1
Least Tern	0.1	3.8	Wood Thrush	0.2	15.4
Rock Dove	2.3	50.0	Eastern Bluebird	2.3	46.1
Mourning Dove	63.6	100.0	Blue-gr. Gnatcatcher	0.5	15.4
Yellow-billed Cuckoo	7.7	76.9	Loggerhead Shrike	7.6	100.0
Black-billed Cuckoo	0.4	19.2	Starling	20.7	88.6
Screech Owl	+	3.8	Bell's Vireo	1.0	46.1
Great Horned Owl	0.5	19.2	Red-eyed Vireo	0.2	19.2
Burrowing Owl	0.3	7.7	Warbling Vireo	1.0	50.0
Barred Owl	+	3.8	Parula Warbler	0.1	7.7
Short-eared Owl	0.1	3.8	Yellow Warbler	0.4	15.4
Common Nighthawk	2.1	42.3	Ovenbird	+	3.8
Chimney Swift	6.5	84.7	La. Waterthrush	+	3.8
Ruby-thr. Hummingbird	+	3.8	Kentucky Warbler	+	3.8
Belted Kingfisher	0.2	11.5	Yellowthroat	0.8	30.8
Yellow-shafted Flicker	5.3	96.1	Yellow-breasted Chat	0.3	11.5
Red-bellied Woodpecker	2.5	53.8	House Sparrow	87.0	100.0
Red-headed Woodpecker	5.3	92.3	Eastern Meadowlark	49.8	69.3
Hairy Woodpecker	0.4	23.0	Western Meadowlark	66.5	57.6
Downy Woodpecker	0.7	46.1	Yell.-head. Blackbird	9.5	3.8
Eastern Kingbird	13.8	100.0	Red-winged Blackbird	72.4	100.0
Western Kingbird	16.7	84.7	Orchard Oriole	9.2	88.6
Scis.-tailed Flycatcher	3.1	53.8	Baltimore Oriole	11.3	100.0
Gr.-crested Flycatcher	3.2	65.4	Bullock's Oriole	0.1	3.8
Eastern Phoebe	1.5	65.4	Common Grackle	45.8	100.0
Say's Phoebe	0.2	11.5	Brown-headed Cowbird	48.8	100.0
Acadian Flycatcher	+	3.8	Summer Tanager	0.1	3.8
Eastern Wood Pewee	0.7	30.8	Cardinal	13.9	80.8
Horned Lark	15.4	76.9	Rose-br. Grosbeak	0.1	7.7
Bank Swallow	2.0	19.2	Black-head. Grosbeak	0.2	7.7
Rough-winged Swallow	0.8	30.8	Blue Grosbeak	1.9	50.0
Barn Swallow	25.3	100.0	Indigo Bunting	3.1	61.4
Cliff Swallow	14.2	15.4	Painted Bunting	0.1	7.7
Purple Martin	0.9	23.0	Dickcissel	64.1	100.0
Blue Jay	6.8	88.6	American Goldfinch	7.4	73.1
Bl.-billed Magpie	1.1	19.2	Ruf.-sided Towhee	0.1	7.7
Common Crow	13.4	100.0	Lark Bunting	5.5	23.0
Bl.-cap. Chickadee	2.4	53.8	Grasshopper Sparrow	6.6	76.9
Carolina Chickadee	0.2	7.7	Vesper Sparrow	0.1	3.8
Tufted Titmouse	2.1	50.0	Lark Sparrow	4.0	69.3
Wh.-breast. Nuthatch	0.1	3.8	Chipping Sparrow	0.1	7.7
House Wren	5.9	73.1	Field Sparrow	5.0	53.8
Bewick's Wren	0.1	7.7	Song Sparrow	0.3	3.8
Carolina Wren	0.7	30.8			

^a Probable transients also recorded: Osprey, White-rumped Sandpiper, Herring Gull, Ring-billed Gull, and Franklin's Gull.

^b + indicates that the average number per route was less than 0.1.

Bewick's Wren, Eastern Bluebird, Blue-gray Gnatcatcher, Red-winged Blackbird, Cardinal, Blue Grosbeak, Field Sparrow). These are species that range from uncommon to abundant in numbers and from localized to widespread in their distribution within Kansas.

The similarity of these species populations between the two years suggests that the methods used in sampling do give repeatability and that fluctuations over the years that will begin to appear can validly be related to such environmental factors as change in weather patterns or habitat. It is imperative, however, that coverage from year to year be as nearly equal as possible, and thus the support of the members of the Kansas Ornithological Society will continually be required.

Kansas State University, Manhattan, Kansas.

Kansas Ornithological Society

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