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Bird Banding in Aberdeen, South Dakota, in the 1930's and 1980's

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Introduction

When we became aware of each other's systematic bird banding in Aberdeen, Brown Co., South Dakota, Mewaldt in the 1930's and Tallman in the 1980's, we agreed to make a comparative study of the 24,379 birds of 113 kinds that we banded. Despite substantial differences in our capture methods, we found that species composition and relative abundances have changed little in the past 50 years. Here we report on the similarities in the avifauna then and now and on several differences that seem noteworthy.

Materials and Methods

In 1932 Richard Mewaldt became an apprentice bander to Mr. F. W. George. They banded birds in their yards on South Lincoln Street near 14th Avenue and, beginning in 1934, in an overgrown orchard behind the Simons estate, which occupied 2 city blocks between Main and First Streets and 14th and 16th Avenues. Trees, mostly American Elm and White Ash, grew for 2 blocks south of the Simmons' house to 16th Avenue. South of 16th Avenue to Melgaard Road and beyond, the land was devoted to agriculture. The Simmons' estate was subdivided in the 1940's. In 1935 Mewaldt took over major responsibility from the ailing Mr. George and continued the banding project until he left Aberdeen in the late summer of 1938. Because of work and studies, from 1935 to 1938 Mewaldt banded much less actively.

Mewaldt and George captured most birds in their home-made wire mesh traps baited with millet, chick scratch, and/or water dripping into a pan. Traps included as many as 6 two- to seven-celled top entry perch-triggered water-drip traps, about 10 two to four-celled Potter traps, about 5 ground funnel traps, occasionally a couple of tree trunk traps, and a few manually operated drop traps. They operated maximum numbers of traps during the spring and fall and smaller numbers during the summer. Only rarely did they band in the winter. In the mid-1930's they banded birds about 220 days each year.

From 1979 through 1983, Dan Tallman banded birds in his backyard at 1506 SE Third Avenue in residential east Aberdeen. The 30 square meter yard contains a large

Mountain Ash, a dead willow, several saplings and a 5 x 13 m vegetable garden. Moccasin Creek is about 1.5 blocks east.

Tallman uses a three-celled and a four-celled Potter trap below feeders offering sunflower, millet, and thistleseed. Two 12 m nets are open in weather above 0° C. On warmer days, a third net is often raised. Dripping water from a bottle suspended from bushes is often used to attract birds. Tallman bands about 280 days each year.

Results and Discussion

In the 2 periods, 1932–1938 and 1979–1983, we captured and banded 24,379 birds of 113 species and subspecies (Table 1). Because of important differences in our capture methods and in our banding sites, we characterize our findings with caution. Nevertheless, we found that species composition and relative abundances seem to have changed little in the past 50 years. We generally disagree with Baird's (1980) assessment that bird distributions have greatly changed in the last 50 years although we acknowledge status changes of some individual species. We occasionally found status differences due to habitat changes, although usually due to maturing woodlands unlike southeastern South Dakota where the status of forest inhabiting birds has changed due to forest destruction (Blankespoor and Krause 1982).

The top 33 percent of the species, each with 100 or more captures, account for 93 percent of the total captures (22,683 of 24,379). Logically, of the top 8, those with 1000 or more captures, are all migratory, thus presenting the greatest possibility for turnover at a banding station. Four (Slate-colored Junco, Common Redpoll, Pine Siskin, and Tree Sparrow) are migratory winter residents, 2 (Common-Grackle and American Robin) are migratory summer residents, 1 (American Goldfinch) is resident with a strong migratory component, and 1 (Harris' Sparrow) is simply migratory. Of the remaining 30 (of the top 38), 14 are migratory summer residents, 14 are migrants. 1 is a migratory winter resident, and 1 is a resident with a migratory component. Thus, from our sample a single overwhelming characterization of the bird populations in northeastern South Dakota is that they are migratory.

Table 1. Birds captured in traps and mist nets and banded with U.S. Fish and Wildlife Service bands at Aberdeen, South Dakota 1932-38 and 1979-83.

Species	Status	1932	1933	1934	1935	1936	1937	1938	1979	1980	1981	1982	1983	Alpha Code
American Kestrel	SM ¹			1										SPHA
Sora Rail	SM			1	1	1								SORA
Mourning Dove	SM	5	10	35	11	50	20	23	2	2	4	7	1	MODO
Black-billed Cuckoo	SM		4	4	2	4	1	1						BBCU
Yellow-billed Cuckoo	SM		2											YBCU
Ruby-th. Hummingbird	SM										2			RTHU
Yellow-bellied Sap.	SM					1				1	1			YBSA
Downy Woodpecker	RM		5	3	1	1			2	12	8	5	13	DOWO
Hairy Woodpecker	RM	1	2	3					1	3	1	5	1	HAWO
Northern Flicker	SM	9	35	9	6	25	5	1	5	7	4	7	16	YSFL
Eastern Wood Pewee	SM			2							1			EWPE
Yellow-bellied Flycat.	M		1						1		1		1	YBFL
Willow Flycatcher	SM		3	2	1	5	3	1		9	7	23	13	TRFL
Least Flycatcher	SM		28	60	6	17	8			1	10	42	34	LEFL
<i>Empidonax sp.</i>	SM										3	2	2	UNEM
Western Kingbird	SM	5	2	1							2			WEKI
Eastern Kingbird	SM			1	1									EAKI
Cliff Swallow	SM										1			CLSW
Barn Swallow	SM										1		1	BASW
Blue Jay	RM		2	5	3	2	2		4	3	8	1	6	BLJA
Black-capped Chickadee	RM		7	4			4		5	11	23	15	20	BLCH
Red-breasted Nuthatch	WM		6							4	5	1	4	RBNU
White-breasted Nuthatch	R		2						1	4	14	4	7	WBNU
Brown Creeper	WM		1	16	8	2	1		3	9	1	3	6	BRCR
House Wren	SM	3	29	35	14	16	23	16	11	23	56	16	18	HOWR
Winter Wren	WM				1						1			WIWR
Marsh Wren	SM		6	1										LMWR
Golden-crowned Kinglet	M	3	6	36	6			4	5	11	3	9	18	GCKI
Ruby-crowned Kinglet	M	6	30	31	17	8	24	6	1	11	33	16	22	RCKI
Eastern Bluebird	SM	2	1	2		4								EABL
Veery	M		5	9		1	1					2		VEER
Gray-cheeked Thrush	M	1	41	30	8	1	2	21		6	4	11	14	GCTH
Swainson's Thrush	M	12	120	167	44	137	29	25	3	22	28	27	54	SWTH
Hermit Thrush	M	6	14	2	3	3	4	2	1	2		9	5	HETH
Wood Thrush	M		2											WOTH
American Robin	SM	123	253	69	78	71	82	27	103	83	113	133	231	ROBI
Gray Catbird	SM	9	49	97	42	60	32	25	6	6	9	7	7	CATB
Brown Thrasher	SM	11	60	88	40	42	47	6	3	7	10	7	13	BRTH
Bohemian Waxwing	W									1			1	BOWA
Cedar Waxwing	RM			1	16	6		1	39	46	36	105	132	CEWA
Northern Shrike	W												1	NOSH
Loggerhead Shrike	SM	1			4		5							LOSH
Starling	RM								2	3	3	4	7	STAR
Solitary Vireo	M						1				1	1	5	SOVI
Warbling Vireo	SM		12	11	1	4	1		2	1	8	9	14	WAVI
Red-eyed Vireo	SM		20	20	7	4	1		1	8	11	3	2	REVI
Tennessee Warbler	M	39	33	52	13	2	37	24		2	38	13	8	TEWA
Orange-crowned Warbler	M	6	92	187	39	83	146	33	25	90	91	26	77	OCWA
Nashville Warbler	M	6	26	3	4	11	3		1	1	13	3	12	NAWA
Parula Warbler	M		2											PAWA
Yellow Warbler	SM	7	201	41	11	25	45	2	12	4	11	11	29	YEWA
Chestnut-sided Warbler	M		1				1							CSWA
Magnolia Warbler	M	5	8	7	2		1				8	1	3	MAWA
Cape May Warbler	M				1									CMWA
Black-th. Blue Warbler	M			1						1				BTWA

Table 1. Continued

Species	Status	1932	1933	1934	1935	1936	1937	1938	1979	1980	1981	1982	1983	Alpha Code
Myrtle Warbler	M	30	54	42	31	140	60	62	13	15	17	32	90	MYWA
Audubon's Warbler	M												1	AUWA
Palm Warbler	M												3	PMWA
Blackburnian Warbler	M		1			1			1	2	1	1		BLWA
Pine Warbler	M		1		2	1								PIWA
Bay-breasted Warbler	M			1			1				1			BBWA
Blackpoll Warbler	M		5	27	2	1	15	8		2		2	5	BPWA
Black and White Warbler	M		18	11	8	6	4			3	1	2	37	BAWA
American Redstart	M		34	52	21	6	12	7		3	4	1	3	AMRE
Worm-eating Warbler	M											1		WEWA
Ovenbird	M	1	9	13	3	4	1	3		17	15	24	10	OVEN
Northern Waterthrush	M	1	24	12	1	3		4			6	4	5	NOWA
Connecticut Warbler	M		5	5		4		4				1		COWA
Mourning Warbler	M		5	12	6	12	3	5	1	1	5	15	8	MOWA
MacGillivray's Warbler	M		7	9	1	1	3		1			1	2	MGWA
Common Yellowthroat	SM	6	97	114	28	42	33	18	1	1	29	6	2	YELL
Wilson's Warbler	M	1	46	7	5	11	16		3	16	24	10	3	WIWA
Canada Warbler	M		3	5	2	1	2				2	1		CAWA
Yellow-breasted Chat	M		21	38	6	4	13	9			1		1	YBCH
Scarlet Tanager	M						1					1		SCTA
Western Tanager	M						1							WETA
Rose-breasted Grosbeak	SM		10	5	2	2	6				5	1	2	RBGR
Black-headed Grosbeak	SM				4									BHGR
Lazuli Bunting	SM		16	9	34	9	9	26						LZBU
Rufous-sided Towhee	SM		19	77	11	12	15	23		1	2	2	1	RSTO
American Tree Sparrow	WM	33	113	334	108	136	158	37	2	15	9	44	19	TRSP
Chipping Sparrow	SM	16	26	3	150	20	98	1	4	11	111	103	107	CHSP
Clay-colored Sparrow	SM		94	95	12	71	173	29		1	18	13	6	CLSP
Field Sparrow	SM		22	12	4	1	10				3		3	FISP
Vesper Sparrow	SM						1							VESP
Lark Bunting	SM	1												LASP
Savannah Sparrow	SM	7	2	1	1		1							SASP
Le Conte's Sparrow	M	1	1											LCSP
Fox Sparrow	M	1		3	2			2		1	2	14	4	FOSP
Song Sparrow	SM	3	46	102	56	85	19	8		2	3	2	1	SOSP
Lincoln's Sparrow	M	29	100	174	91	72	104	102	2	13	66	37	63	LISP
Swamp Sparrow	M	36	61	1	12	6							1	SWSP
White-throated Sparrow	M	20	179	59	267	71	49	66	9	29	29	43	48	WTSP
Gambel's Wh-cr. Sp.	M	6	55	81	45	75	68	73						GWSP
White-crowned Sparrow	M	5	6	7	1	3	4	8		4	8	18	27	WCSP
Harris' Sparrow	M	171	204	275	305	280	199	116	10	47	53	25	161	HASP
Slate-colored Junco	WM	145	146	48	193	112	187	132	60	264	82	301	330	SCJU
Oregon Junco	WM								1	5	3	3	5	ORJU
Red-winged Blackbird	SM					1					23	19	11	RWBL
Western Meadowlark	SM	1												WEME
Yellow-headed Blackbird	SM		1				1		4					YHBL
Rusty Blackbird	M				3									RUBL
Common Grackle	SM	110	370	351	32	170	37	24	24	74	141	79	47	COGR
Brown-headed Cowbird	SM	1	7	15		2	4	11	1	2	4	1	4	BHCO
Orchard Oriole	SM		4	1	2	6	23					1	3	OROR
Baltimore Oriole	SM	2	26	27	14	14	22	1	3	10	3	7	5	BAOR
Purple Finch	WM		2	2	5	1	6		2	26	21	242	78	PUFI
House Finch	SM										1			HOFI
Red Crossbill	WM				1						1 ²			RECR
Common Redpoll	WM			1						1	27	1019		CORE
Hoary Redpoll	WM											4		HORE
Pine Siskin	WM		5	1				1		137	849	392	157	PISI
American Goldfinch	RM	12	81	88	95	80	85	59	75	345	365	321	447	AMGO
Evening Grosbeak	WM									1	1		4	EVGR
Total		903	3047	3158	1957	2052	1973	1057	456	1443	2510	3321	2502	24379

¹S = Summer resident; M = Migrant; W = Winter resident; R = Resident.²Red Crossbill x Pine Siskin hybrid.

The bottom 33 percent, each with 10 or fewer captures, account for only 0.5 percent of the total captures (119 of 24,379). About half of these 38 species were vagrants including eastern forms such as 10 species of Parulids, and some western birds such as Western Tanager, Black-headed Grosbeak, and House Finch. Most of the remainder of this group were species that we seldom caught in our nets or traps such as Western Meadowlark, Sora, Kestrel, Northern Shrike, and Rusty Blackbird. Again a common theme is present; all are migrants.

The middle third of the species, with a mean capture total of about 42 birds during the 12 years are also mostly migrants. They do, however, include 4 species that may have a valid resident component—Blue jay, Black-capped Chickadee, White-breasted Nuthatch, and Starling. Unfortunately, the House Sparrow, one of the best established residents and a species about which we have much to learn, has been the victim of official and emotional discrimination and was not banded in Aberdeen in the 1930's or 1980's.

In our judgment a few species warrant special comment, usually because of what appears to be a change in status between the 1930's and the 1980's. Many of our comments relate to status as described for northeastern South Dakota by Whitney et al. (1979).

Black-billed Cuckoo. The 16 captures in 6 of the years from 1932 to 1938 seem to provide valid records for Aberdeen. The lack of recent banding records is likely due to differences in banding location habitat rather than a change in the actual status of this species. A similar situation probably exists for Yellow-Billed Cuckoos; Tallman is aware of 1 of these birds bouncing off a net in 1979.

Black-capped Chickadee. The increase in banded birds from 15 in the 1930's to 74 in the 1980's probably represents a real increase in the breeding population perhaps associated with the maturing of the suburban woodland since the 1930's. Tallman's captures were highest in July and August, months when juvenile dispersal of local breeders peaks. In the 1930's, except at a local tree nursery, Mewaldt seldom encountered Black-capped Chickadees.

White-breasted Nuthatch. The increase in numbers banded from 2 in the 1930's to 30 in the 1980's probably presents a parallel real increase with the chickadee. Again, nuthatches could be most likely found in the 1930's only at a local nursery.

Eastern Bluebird. The 9 captured in the 1930's in 4 of the 7 years were adults or young associated with nests in bird houses in south Aberdeen. At the time, Mewaldt attributed low numbers of bluebirds to competition from House Sparrows. Perhaps the absence of captures in the 1980's continues to reflect inability to compete with House Sparrows and now European Starlings.

European Starling. Although none was caught in the 1930's, Mewaldt saw one starling (his first) at Aberdeen on 31 March 1934 and 2 more on 15 April. On the Aberdeen Christmas Bird Count on 21 December 1939, Mewaldt and others counted about 271. Starlings are now common permanent residents in Aberdeen.

Black-and-white Warbler. Similar numbers were obtained in the 1930's and 1980's (47 vs. 43). However, because the following captures are well between expected spring and fall migration periods (Whitney et al. 1978), we suggest this species nested in Aberdeen in the 1930's: 5 June 1933 (adult female), 12 and 19 August 1933 (juveniles), 30 June 1934 (adult female with brood patch), 6 July 1934 (juvenile), and 8 August 1934 (juvenile).

Yellow-breasted Chat. The contrast between 91 captures in the 1930's and but 2 in the 1980's seems greater than the general trend of more Parulids banded in the early years. This difference may be due to differences in habitats (the overgrown orchard at the Simmons' in the 1930's was especially favorable) or to a real change in the species' local status.

Lazuli Bunting. One of the most striking differences then and now is the contrast between the 103 Lazuli Buntings banded in 6 different years in the 1930's (Table 2) and none in the 1980's. Although Mewaldt and George were impressed with the beauty of these buntings and recognized their western affinities, they made no special notes on their occurrence and have no nesting records. Mewaldt recalls discussions with George in which they dismissed the possibility that any of the females might be Indigo Buntings. Curiously, Tallman had no records of any type of the Lazuli Bunting in the Aberdeen region until May 1984 when he banded 2 at his home and observed 8 in various parts of town.

Rufous-sided Towhee. The substantially larger numbers, 157 in the 1930's may be compared to but 6 in the 1980's. In both periods, all birds seemed to be migrants, with no evidence of nesting in the Aberdeen area. In the 1980's both spotted and eastern races of towhees were caught.

Table 2. Lazuli Buntings Banded at Aberdeen, 1933–1938.

Year	Month and Days	Adults		Juveniles	Notes
		Males	Females		
1933	23–30 May	7	7	0	12 repeats to 30 May
	2 June	1	1	0	
1934	16–20 May	5	1	0	Female returned 12 May 1936
	2–11 June	0	2	0	
	27 August	1	0	0	
1935	31 May	2	1	0	
	1–8 June	16	15	0	
1936	25–29 May	2	1	0	
	6 June	0	1	0	
	20–29 Aug.	0	1	1	
	7–13 Sept.	2	0	1	
1937	16–25 May	3	3	0	
	3 June	0	2	0	
	21 Aug.	0	0	1	
1938	23–31 May	13	1	0	
	1–4 June	6	6	0	

Song Sparrow. As in the towhee, more Song Sparrows were caught in the 1930's than in the 1980's (319 vs. 8). Although showing more yearly variation in numbers than the towhee, the Song Sparrow seems to parallel the former species as a migrant more abundant than now.

White-crowned Sparrow. Again, Tallman banded far fewer of this sparrow (57) than did Mewaldt (437). About 8 percent (34 of 437) of Mewaldt's birds were the nominate race *Z. l. leucophrys*. Tallman stopped making racial determinations when he became convinced that most Aberdeen *leucophrys* were actually intermediate between *leucophrys* and *Z. l. gambelli*. From 1981–1983, about 28 percent (9 of 32) of Tallman's birds had black lores.

Oregon Junco. Tallman identified 17 Oregon Juncos from among 1037 Dark-eyed Juncos. Mewaldt and George did not record the Oregon Junco among the 963 Dark-eyed Juncos that they banded.

Purple Finch, Common Redpoll, and Pine Siskin. These 3 carduline species, which tend to be winter nomads, were specialties of Tallman (e.g. Mutchler 1983, Tallman 1983). Tallman's consistent efforts during the winter have permitted him to intercept major flights, something that Mewaldt and George did not do. Mewaldt recalls occasional winters when redpolls and Pine Siskins were present but he made no special efforts to capture them.

American Goldfinch. The substantially larger numbers taken by Tallman (1553 vs. 500) probably reflect either Tallman's more intense winter operations or differences in capture methods.

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