

Our work with Dunlin (also *C. a. pacifica*) this past summer on the Yukon Delta suggests this population engages in a different migration route and probably a different migration strategy in fall than birds from the Alaska Peninsula. It appears, at least in 1978, that *alpina* from the Yukon Delta were a week or two later in their moult schedule than birds at Nelson Lagoon. Since we left our Yukon Delta camp on 15 September, our data on premigratory fat deposition and timing of departure of Dunlin are, unfortunately, incomplete.

Of the six sightings received to date of Dunlin marked this summer, five have come from the Victoria area, British Columbia, most in mid November. These sightings occurred 3-4 weeks later than our first sightings of birds from Nelson Lagoon in 1977. We feel that *alpina* from the Yukon Delta cross southern Alaska in fall to the Gulf of Alaska and then either cut across the northern Gulf or follow the British Columbia coastline south to the Vancouver area and then to suitable areas farther south along the coasts of Washington, Oregon and California. During 1979 we plan to determine flight ranges via lipid extraction and to look for marked birds along the south-central Alaska coast in late September and October.

Western Sandpiper

Western Sandpipers at Nelson Lagoon and the Yukon Delta appear to have similar migration strategies in fall. Adults are the first to use intertidal areas following breeding (beginning in late June) and usually depart by the time appreciable numbers of Hatching Year birds move onto the tidal flats. By mid August few Western Sandpipers are found at either site.

Observations of marked birds from Nelson Lagoon indicate that they move along the Alaska Peninsula to the north Gulf of Alaska and Prince William Sound areas (2 sightings), and then along the coast to wintering areas in Washington, Oregon and north-central California (Gill 1978). Analysis of flight range of both After Hatching Year and Hatching Year birds at time of departure indicates that neither group is capable of an extended over-water migration similar to that of Dunlin.

Western Sandpipers from the southern Yukon Delta probably have a similar route once they leave Alaska. Movements away from the breeding grounds but within Alaska, however, are less well known. Sightings of two Yukon Delta Western Sandpipers at Nelson Lagoon in early August 1978 indicate a considerable movement from the breeding grounds and suggests at least Hatching Year birds from the Delta spread out over much of the southern Delta, Bristol Bay, and the Alaska Peninsula. Birds probably then move into the north Gulf of Alaska and south along the Alaska and British Columbia coastline to their wintering grounds. Sightings of birds as of this writing (Figure 1) indicate widespread use of the Pacific Coast during winter.

Rock Sandpiper

Our work to date indicates that populations along the Alaska Peninsula are lagoon-specific and remain at their respective area through post-nuptial moult and into late fall. We have had sightings of two Nelson Lagoon birds near Homer on the lower Cook Inlet of south-central Alaska. This suggests some birds at least move into the Gulf of Alaska to winter. Others might move west along the peninsula and into the Aleutians but the lack of observers in this area in winter almost assures no sightings.

References

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SHOREBIRD BANDING AT THE CHEYENNE BOTTOMS WATERFOWL MANAGEMENT AREA

by E.F. Martinez

The Cheyenne Bottoms Waterfowl Management Area is an important stopover area for many species of waterbirds using the Central Flyway. Waterbirds by the hundreds of thousands are attracted to this large (7,285 hectares, or 18,000 acres), shallow (less than 1 metre deep) fresh water marsh. Among the birds recorded as using the area are 39 species of shorebirds. The marsh is owned by the State of Kansas and is managed by the Kansas Fish and Game Commission; it is "managed", however, only for the use of ducks and geese. The marsh is used during season for waterfowl hunting with an area set aside for refuge. Situated in the middle of a large natural depression, some 65 square kilometres (25 square miles), it is dependent on two intermittent and often un dependable and unpredictable streams. An additional water source is supplied by the diversion of water from the nearby Arkansas River. When I began banding in 1966, there were over 160 kilometres (100 miles) of shoreline, including dikes and ditches. A large percentage of the former shoreline and mudflats has been overgrown with cattails and rushes, reducing much of the available habitat suitable for shorebirds.

My original study plan was to determine the migrational routes, breeding grounds and wintering grounds of shorebirds using the Bottoms through banding. I have expanded the study by including biometrics and recording moult. With the exception of an occasional weekend interested "birder", the entire operation is a one person project.

Mist nets are the only tool used for the capturing of shorebirds. The nets are set singly or in series, side by side along the shore or over mudflats. The nets are set each day at least 2 hours prior to sunrise. The major movement of birds begins about an hour before daybreak. Most of the birds are caught in this hour before daybreak. The netted birds are immediately removed and placed in well-ventilated, screened gathering cages. The nets are taken down and the birds then processed at the netting site. Nets are seldom set for more than three hours each banding day.

Totals of shorebirds banded on this project since 1966 are included in Table 1. According to the U.S. Banding Laboratory, 349 shorebirds of 16 species had been banded before my work, as the result of studies of local breeding shorebirds and an avian encephalitis study. Foreign recoveries are few and widely scattered; most are south of the banding station, primarily from South America. Examples include recoveries of Semipalmated Sandpipers from Alaska to the north and from Brazil to the South. The northernmost recoveries are from central Siberia (a Long-billed Dowitcher and a Pectoral Sandpiper), and the southernmost recovery is of a White-rumped Sandpiper south of Buenos Aires, Argentina.

This project will continue at its present level, and will include colour-marking as many individuals as time will permit. Hopefully this will help to detect or separate breeding populations of the shorebirds using the Cheyenne Bottoms Waterfowl Management Area.

Table 1. Totals of shorebirds captured at Cheyenne Bottoms, Kansas, 1966-1978

	Banded	Recoveries *	Controls *	Station Returns *
Semipalmated Plover	497	1	-	2
Piping Plover	11	-	-	-
Snowy Plover	195	-	3	8
Killdeer	748	1	-	2
American Golden Plover	9	-	-	-
Black-bellied Plover	13	-	-	-
Ruddy Turnstone	6	-	-	-
Common Snipe	33	1	-	-
Spotted Sandpiper	135	-	-	1
Solitary Sandpiper	4	-	-	-
Willet	29	-	-	-
Greater Yellowlegs	23	-	-	-
Lesser Yellowlegs	897	3	-	-
Red Knot	19	-	-	-
Pectoral Sandpiper	1359	2	-	-
White-rumped Sandpiper	3866	12	-	1
Baird's Sandpiper	459	-	-	-
Least Sandpiper	9034	2	4	153
Dunlin	32	-	-	-
Short-billed Dowitcher	41	-	-	-
Long-billed Dowitcher	939	2	-	6
Stilt Sandpiper	3079	2	-	5
Semipalmated Sandpiper	28906	28	5	356
Western Sandpiper	7038	6	-	70
Buff-breasted Sandpiper	32	-	-	-
Marbled Godwit	3	-	-	-
Hudsonian Godwit	35	-	-	-
Sanderling	69	-	-	-
American Avocet	188	1	-	-
Black-necked Stilt	1	-	-	-
Wilson's Phalarope	384	-	-	-
Northern Phalarope	75	-	-	-
	58159	61	12	604

*Recoveries: banded birds reported from other locations

Controls : birds captured at Cheyenne Bottoms, previously banded elsewhere

Station Returns: recaptures of birds banded at Cheyenne Bottoms in previous years.

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