

identified more difficult specimens. E. J. Woehler and G. W. Johnstone commented on the manuscript.

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A survey of the Lower Arawata River

For 20 years I have been making periodic bird surveys of the braided riverbeds of Central Otago and have often felt that a similar one of the Arawata was justified. The current banding programme for the Banded Dotterel (*Charadrius bicinctus*) gave added incentive to the project as I anticipated finding some of them there.

The Arawata arises in a huge catchment draining the western glaciers and snowfields of the Main Divide immediately south of the Aspiring region (including the Bonar Glacier of Mt Aspiring itself), and it reaches the Tasman Sea at Neils Beach, a few kilometres north of the Jackson Bay settlement. (As with most South Westland rivers, the mouth is a well-frequented whitebaiting area). The broad level valley of the lower Arawata begins where the river tumbles from the mouth of the formidable Ten-Hour Gorge, some 50 km from the sea; the valley floor then varies in width from a few hundred metres to nearly 3 km, most of this (especially since 1979) being occupied by the shingly bed of the river itself. The grassy grazing flats and more or less stable scabweed islands and terraces have been considerably reduced in recent years by major flooding, especially 'old man' floods in the autumns of 1979 and 1982 and several weeks of persistent high flooding in the summer of 1984. These changes have undoubtedly affected birdlife, particularly Banded Dotterels and oystercatchers, which prefer the 'stable' scabweed areas of riverbeds rather than the vast expanses of clean flood-washed shingle which now characterise this riverbed. For this reason the upper reaches (14 Nov in Table 1), with smaller river volume and hence more traditional habitat intact, was the most productive of bird numbers and densities.

Having failed in negotiations for a jetboat, I decided to fly into the valley. Even though three airstrips are marked on map S.106, none is now usable because of the flooding mentioned above; landing is possible only on the shingle beaches of the riverbed itself, when water levels are low enough;

a dry spring this season made such an approach possible. We flew in a Cessna 185 from Makarora airstrip and landed on the riverbed about 2 km below the Ten-Hour Gorge, walked up to the start of the flats and began to count at 10 a.m. on 14 November 1985. It took 2½ days to reach the sea coast. I believe this to be the first time that this river has been thoroughly examined for birdlife.

Map reference: NZMS 1/S.97 Jackson Bay & S.106 Aspiring.

TABLE 1 —

Date	Nov. 14	Nov. 15	Nov. 16		
Times	1000-1830	0710-1730	0820-1400		
Stretch covered	Mouth of Ten-Hour Gorge to Waipara Inc.	Waipara Inc. to Main Rd bridge	Bridge to mouth & S. side of spit		
Distance (km)	17.5	24	7.5		
Weather	Fine, v. warm; strong upval. wind in p.m.	O'cast. cool, calm; light upval. wind in p.m.	O'cast, dull, cool; NW showers.		
Visibility	Excellent	Good	Poor		
Species				Totals	Comments
Black-backed Gull	35	24	98	157	Scattered throughout, but no breeding colonies
Caspian Tern	—	—	1	1	Near river mouth
Black Shag	9	3	2	14	
Spotted (or Blue?) Shag	—	—	8	8	Roosting on N. spit; too distant to determine subspecies
Paradise Duck	167	113	4	284	Commonly paired, many with ducklings; broods of 4 to 12 seen.
Grey Duck	11	17	—	28	No broods seen.
Mallard	—	2	—	2	
S.I.P.O.	39	26	19	84	Pairs throughout, mostly with nests or chicks
Variable Oystercatcher	—	—	2	2	Near river mouth
Banded Dotterel	123	84	11	218	Mostly with chicks — at least 9 at flying stage
Spur-winged Plover	69	34	4	107	Mostly with chicks
Pukeko	—	6	—	6	About 1 km above bridge on true right
Harrier	1	1	—	2	
Falcon	—	1	—	1	
Welcome Swallow	—	2	1	3	See under 'Discussion'

Recorded but not tallied

On the riverbed: Yellowhammer, Chaffinch, Starling, Skylark

In adjacent scrub/forest communities: Blackbird, Song Thrush, NZ Pigeon, Kaka, Kea (1), Tui, Bellbird, Shining Cuckoo, Long-tailed Cuckoo, Tomtit, Fantail, Grey Warbler, Silvereve, Morepork

Results

1. On the valley floor, and compared with most Central Otago riverbeds, there was a notable absence of Redpoll, Pipit, White-backed Magpie, Pied Stilt, Black-billed Gull, Shoveler, Canada Goose, Black Swan, White-faced Heron, and Black-fronted Tern.

There were vast areas of typical Wrybill habitat, but none were seen. Near the river mouth and on the spit we might have expected White-fronted Tern and Red-billed Gull. However, the south side is relatively unstable and subject to spring-tide flooding; the north side looked more promising in stability and vegetative cover but, owing to the size of the river, was inaccessible to us.

2. Density for all species lumped together was approximately as follows:

Day 1: 26 birds/km

Day 2: 13/km

Day 3: 20/km (but mostly mobile Black-backed Gulls; without them density was 7/km)

The down-valley decline was due mostly to habitat deterioration from flooding.

3. Paradise Shelducks were the most numerous species; they are obviously thriving and breeding very successfully, broods of up to 12 being recorded. Although Black-backed Gulls were scattered throughout, we were surprised to find neither solitary nests nor breeding colonies.

South Island Pied Oystercatchers were in reasonable numbers and breeding successfully; we checked most of them for leg bands but found none. We were pleasantly surprised to find a considerable number of Banded Dotterels; most had chicks, but a few full 3-egg clutches were seen. At least nine chicks had reached the flying stage. RM caught and colour-banded one female adult and two near-flying chicks. PC saw an adult male, colour-banded and orange-dyed, on the river bed opposite the Gallery Hut (44°09.5'S, 168°42.5'E), mated with an unbanded female. More than 90% of the adult Banded Dotterels were checked for leg bands.

4. Two Welcome Swallows were seen by DM and PC flying over marshy ground and resting on fence posts in the vicinity of Gallery Hut. On a horizontal beam inside a lean-to of this old hut was one nest containing two eggs, and a second half-built nest of damp mud. A single bird was flying among the cottages at Neils Beach near the river mouth.

I thank Don Morrison of Alexandra and Richard Maloney, Wildlife Assistant, Lake Tekapo, for their valuable field assistance; the Council of the Ornithological Society of New Zealand for a grant towards expenses incurred; and Mount Aspiring National Park staff at Makarora for road transport on the return journey.

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