NEW ZEALAND DOTTEREL BANDING REPORT NUMBER ONE

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ABSTRACT

Eighty-six New Zealand Dotterel *(Charadrius obscurus)* have been individually banded with metal and colour bands between 1950 and 1977 in the Auckland district. Subsequent sightings of banded birds show that some move considerably within a limited range and that others are fairly sedentary. The recovery history of the most interesting cases is given in outline. The oldest-known bird, a male, is over 26 years. A female was recorded breeding within her first year.

INTRODUCTION

The northern population of the New Zealand Dotterel *(Charadrius obscurus)* has a breeding range on the coast from the northern tip of the North Island to Kawhia on the west coast and to eastern Bay of Plenty on the east coast, including some offshore islands. Its non-breeding movements are, with a very few exceptions, limited to the same area (Edgar 1969).

In the early days of organised bird banding in New Zealand, the New Zealand Dotterel was chosen as suitable for individual colour banding because of its comparatively small numbers and because it had been recognised in the field that the species was not sedentary. J. M. Cunningham, then Convener of the Ringing Scheme, persuaded me to use individual combinations, and the project began in December 1950.

This report covers up to 31 March 1977, but the project is continuing.

THE WORK

Banding and sightings began on the eastern coast at Mataitai (Clevedon) and extended to Miranda, Taramaire, Kaiaua, Clevedon North, Whitford, Pollen Island (in upper Waitemata Harbour, Pakiri, Te Arai, Mangawhai and Waipu; on the outer west coast the Waikato Heads and South Kaipara Head (at Waionui Spit); in the Manukau Harbour, Karaka, Seagrove, Auckland International Airport and Mangere; in the Kaipara Harbour, Jordans' on the southern arm and Tapora in the centre (see Fig. 1).

Banding has been successful only in the breeding season, when chicks and adults are most easily caught, from late August to about the end of January, but mainly from October to December.

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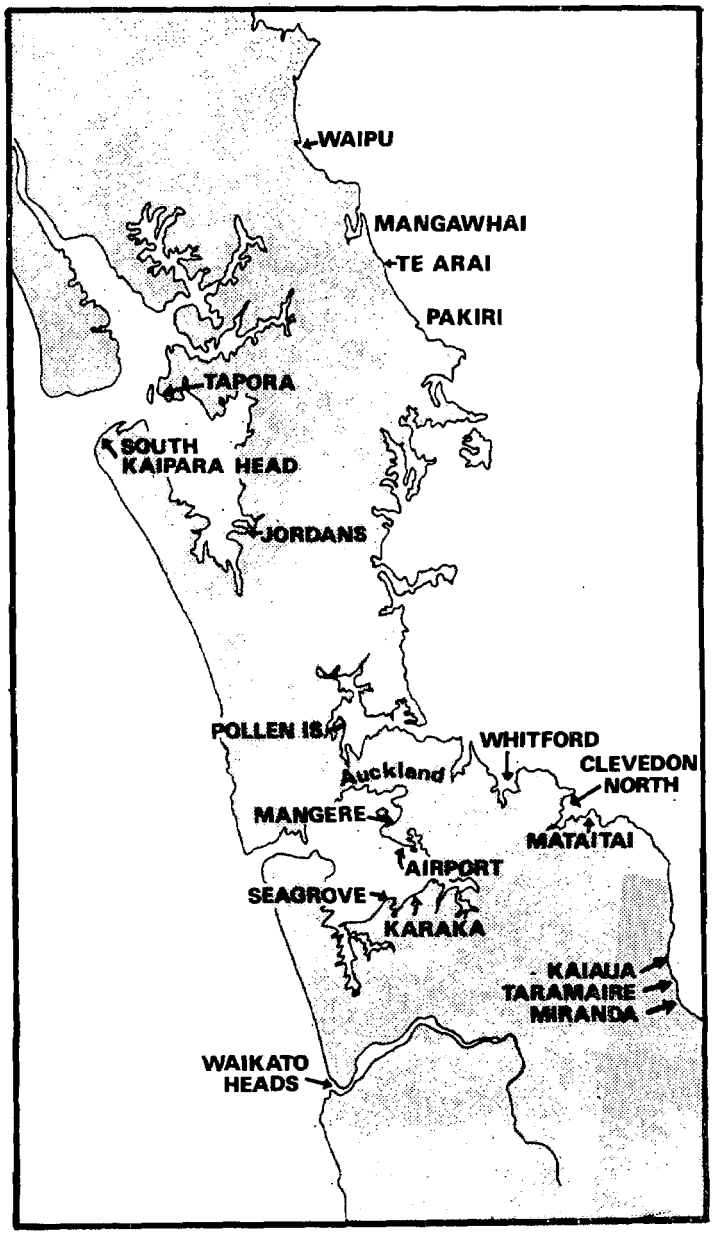

FIGURE 1 — Map of study area.

At first, banding was carried on steadily in a small way but with a lot of effort. Catching the chicks is not easy. While the pursuer is trying to run in mud more than ankle deep, the large chick is skimming over the surface like a departing aeroplane. On dry sand or shell it is simpler but several runners in strategic formation are still required. If the chick reaches cover it will penetrate it for a few yards and then "freeze," when, if it can be found, it can just be picked up.

I began with a party of eager young helpers who caught the chicks, while I did the banding. Later I entrusted the banding to experienced ornithologists, issuing the combinations and keeping the records myself. The pace stepped up when John and Beth Brown, with many ardent helpers, took part in various places but particularly at Karaka, where they also successfully poisoned rats which had made burrows in the shellbanks of the nesting areas.

Sylvia M. Reed has worked at all the places in Fig. 1 except Waikato Heads and Clevedon North. Since 2 November she has caught and banded 20 adults, 17 by drop trap at the nest and 3 by hand net as they displayed nearby. With helpers she opened up the very fruitful Waionui Spit area at South Kaipara Head, a difficult area where local help is needed with a four-wheel-drive vehicle.

Laurie and Alison Howell have regularly worked the Pakiri-Mangawhai stretch for sightings in the last few years. In the same period Anton Habraken has scoured all the southern places, especially the Waikato Heads, where in spite of many visits, no banded birds have been seen. It could well take a page to list all who have taken part, many of them extensively, during the 26 years of this interesting and popular project.

RESULTS

Eighty-six birds (66 chicks and 20 adults) were banded between 25 December 1950 and 31 March 1977. Fifty-two birds (60.5%), consisting of 35 chicks and 17 adults, have been seen again after banding for a total of 355 recoveries. Sightings ranged from 1 to 30 per bird. Only one was found dead. It was banded as a chick, D5289, at Pollen Island on 8 February 1970 and found at Clark's Beach, south Kaipara Harbour, on 3 September 1970.

Of the 35 chicks seen after banding, two had not fledged. The 33 seen alive after fledging give a minimum fledging success of 50%, but it could be better than 50% as some of the birds not seen after fledging may have moved to places such as offshore islands not covered by watchers, while others, from the earlier years, may have lost their colour bands. Also some, by moving about within the area, could have been missed, as it has not yet been possible to observe every place at the same time on one day.

The bands

Individual combinations of metal and colour bands were used, the first combinations being issued by J. M. Cunningham. The first metal bands, mainly or totally of aluminium, have been found to last, in one case at least, for 26 years, but that one was in very bad condition when recovered. The newer monometal bands are expected to last very much longer. However, the numbers on the new ones are so small that it has not yet been possible to read them in the field, even at a short distance. Only two bands, both of the earlier type, have been successfully read by sight, one, D5902 (R-M), by D. A. Urquhart on 3 July 1954 and one, D24268 (O-YM) by Maxine E. McKenzie and Anthea J. Goodwin on 8 November 1964. The colour bands had been lost.

The first coloured bands were of poor quality, and there is evidence that most of them came off within a year. This caused loss of many sight recoveries. Coloured bands of much better quality were later procured but there may still be trouble with the new bands as they are a little larger than the metal ones. When the two are on one leg a sight record may not be reliable because the metal band can have moved up or down inside the coloured one.

An example of an individual's band combination would be D1001 (RW-M), i.e., a red band over a white one on the left leg and a numbered metal band on the right. O = no band.

Outstanding records

The banding date is given first, then only the dates which indicate movements from one place to another.

D5902 (R-M) / D51438 (WB-M)

26 December 1950 chick, aged about 28 days, Mataitai. Seen again as a non-flying chick on 3, 6, 10 and 13 January 1951; flying weakly on 17 January; not seen on 5, 7 and 19 February. 4 March 1951 Karaka; 17 March 1951 Mangere (Puketutu); 8 April 1951 Karaka; 15 April 1951 Mangere (Puketutu); 22 April 1951 Karaka; 10 November 1976 Seagrove (where the number was changed to D51438 (WB-M); remained at Seagrove until March 1977, being then over 26 years old.

This bird had been banded D5902 (R-M). The red band lasted from 26 December to somewhere between 23 April 1952 and 8 May 1954 so apparently lasted longer than the other early coloured bands. This is the bird on which D. A. Urquhart read the number of the band by telescope.

On 10 November 1976 Sylvia M. Reed trapped it, a male, on the nest. The old metal band D5902 was so thin that it had not been seen previously that day when the bird was scanned with binoculars for bands. However there was enough of the band left to determine the number.

D51415 (RG-M)

15 December 1974 chick, Airport; 15 November 1975 Mataitai; 30 December 1975 Seagrove; 29 October 1976, 21 and 24 November 1976, 11 December 1976, 3 January 1977 Mangere.

D51419 (M-RW)

2 December 1973 chick, Karaka and seven more times there up to 4 August 1974; 29 December 1974 Mataitai and four more times there up to 15 November 1975; 23 December 1975 Whitford; 14 and 28 March 1976 Mataitai.

D51424 (BY-M)

1 December 1974 adult, Karaka and seen there again 28 times up to 6 March 1977. This is the highest number of sightings of a bird at one place only.

D51426 (BW-M)

7 December 1974 adult, South Kaipara Head; 12 February, 20 March, 14 September 1975 Karaka. This bird had moved 90 km (56¼ miles) within 7 months.

D51428 (M-BY)

15 December 1974 adult, Mangawhai. Seen 11 times up to 14 November 1976 between Te Arai and Mangawhai. An example of a fairly sedentary bird. Several similar records of other birds have been made at various places.

D51439 (WY-M)

12 November 1976 adult, Karaka; 21 November 1976 Mangere; 17 February 1977 Karaka; 2 March 1977 Seagrove; 6 March 1977 Karaka. A case of rapid changes in a limited area.

D127604 (YR-M)

5 January 1975 chick, South Kaipara Head; 6 July 1975 Jordans', South Kaipara; 9 and 25 November 1975 Miranda. The distance travelled, measured in a straight line, was 133 km (82½miles) within ten months.

D127607 (GY-M)

26 December 1974 adult, South Kaipara Head; seen six more times there up to 8 December 1976; 2 March 1797 Seagrove. This was a movement of 90 km (56¼ miles) within three months.

D127609 (GW-M)

2 January 1975 adult, Karaka. Seen there 26 times up to March 1977. It made only one known excursion from there, to Mataitai, on 16 November 1975.

D24269 (O-RM) / D5290 (O-MR)

7 December 1961 chick, Karaka; seen to be flying 22 December 1961; 4 November 1962 Kaiaua, colour band missing but number on

metal band read with binoculars. It was a female with a mate and at least one chick about a week old. 8 and 25 January 1968 Karaka; 7 March 1970 Taramaire, caught in mistnet by A. M. C. Davis while netting wrybills. The colour band being absent and the metal one not in first class order he rebanded it D5290 (O-MR). It was seen there again three times up to 24 March 1976. It is to be noted that this bird bred within a year of being hatched.

Other Notes

Three birds, with 7, 7 and 10 sightings did not move from the Pakiri-Mangawhai block (see Fig. 1). Four, with 6, 6, 13 and 14 sightings did not leave the Manukau Harbour block. Two others with 7 and 12 sightings, started in Manukau and transferred to the Miranda block. One Clevedon bird, with 6 sightings, moved to the Miranda block. Miranda block had one with 7 sightings. All other birds not mentioned had less than 6 sightings, or none.

DISCUSSION

Coverage

This scheme has so far been quite rewarding, though the percentage of New Zealand Dotterel banded is still very small. Difficulties are met because there are not observers to cover the ground. No active banders live at or near most of the haunts shown in Fig. 1 so that much travel is involved. The work is done mostly by people who go, according to time and tide, to study all birds, so that sighting of New Zealand Dotterel is often fortuitous. An ideal would be a complete census, say four times a year, so that every place would be covered at the same time. Once this can be done the sighting of all the banded birds alive will be more likely, but it will still be impossible to check the legs of all birds seen and there would still be the problem of banded birds wandering beyond reach to places not under observation. Where, for example, was D24269 / D5290 at long intervals between 1961, 1962, 1970 and 1976 ?

Flocking in relation to banding

Few banded birds have been sighted among the larger flocks. Most records have been made of birds when breeding, or staying in the same place after breeding.

The highest proportion of banded birds in a flock was found recently at Seagrove, 6 out of 11. Wandering flocks of up to 20 or more may yield no band sightings at all.

In North Auckland, Edgar (1969) showed that the species largely spreads out to breed, then re-forms into flocks afterwards. The attenuated northern terrain could be the cause for this. The complexity of the Auckland area imposes less geographical restriction, allowing flocks or single birds to move freely and irregularly from one resort to another.

Edgar (1969) showed that, even in the breeding season, many birds are still in flocks on the breeding beaches or on nearby estuaries, with comparatively few birds breeding. This was true, for example, of the Pakiri-Te Arai-Mangawhai beaches (Edgar 1969: 91) and has been confirmed by L. and A. Howell during their monthly patrols for dead seabirds on these beaches. At times it has been noted, as at Karaka (Edgar 1969: 98), that the individuals of an unemployed flock, identifiable by some odd features, may be there one week and not the next, although the flock total is unchanged.

Family ties

It seems that the parents lose interest in the chicks soon after they have fledged. The two Whitford chicks which flew, shortly after fledging, to Karaka and Miranda respectively, are hardly likely to have had a parent each accompanying them. At Karaka three flying chicks which had escaped being banded stayed in a loose party among scattered adults for at least two or three weeks with no parental care. There have been as yet no cases known of banded parents and chicks rejoining after absence.

On 10 January 1976 Sylvia M. Reed banded two chicks, D51429 (M-WB) and D51430 (M-WG), the banded parents being D127615 (GR-M) and D127618 (M-GB). The young were flying on 1 February 1976 but were not seen again. The parents remained.

Sylvia M. Reed, at South Kaipara Head, banded a female D127607 (GY-M) on the nest on 26 December 1974. On three further dates up to 6 December 1975 she had a lame unbanded mate. On 27 December 1975 the lame mate was missing and was replaced by another male, D51420 (RB-M). D127607 was still tending a lone chick, D51435 (W-M), on 17 January 1976. She was seen there again alone on 8 December 1976, then at Seagrove, as already stated, on 2 March 1977.

Pair bonds

Up to the present there have been only two pairs of banded breeding birds, both at Seagrove. The first pair, D127615 (GR-M) and D127618 (M-GB) was trapped and banded at a 3-egg nest on 20 December 1975. On 7 March 1976 the pair was seen at Karaka but on 9 March 1976 was back at Seagrove and stayed there during seven further observations to 15 December 1976, when they had one chick, which was banded D51434 (GM-G). The chick was not seen again. The last sighting of the pair in the period of this report was on 2 March 1977. Since then however they have remained at Seagrove and were seen paired again on 16 July, 20 August and 14 September 1977, so if they breed in the 1977-1978 season it will be their third consecutive season in the one territory.

The other pair D5902 (R-M) / D51438 (WB-M), the 26 year old veteran, and his mate D51437 (WR-M) were found breeding at Seagrove on 10 November 1976. Only one chick resulted from the

three eggs and it was found dead on 21 November 1976. The further dates of observation were the same as the first pair. This pair remained constantly at Seagrove and was also found paired on 16 July, 20 August and 14 September 1977 so may be expected to breed there for two consecutive seasons.

It would not be safe to assume on the evidence provided by these two pairs that such behaviour would be the rule. The species in general wanders so much that it could well be that most will find mates and breed wherever they happen to be when the breeding season comes round.

Breeding age

The bird banded D24269 (O-RM) / D5290 (O-MR) provides the only evidence of early breeding so far obtained. When banded on 7 December 1961 it was about 25 days old. Found with a chick a week or so old on 4 November 1962 it must have laid near the end of September, when it would have been about eleven months old. This was probably a rare case, as chicks hatched later in the season would hardly be likely to breed until the second year.

D5902 (R-M) / D51438 (WB-M), a male, has made a record by breeding at the age of 26 years. He was hatched on 25 November 1950 and found breeding on 10 November 1976. The breeding was unsuccessful, two eggs failing to hatch and a chick dying a few days after hatching. He was seen several times up to 12 March 1977 when his age was 26 years, 3 months and 14 days. Beyond the ending date of this report (31 March 1977) he was seen up to 14 September 1977, with his 1976 mate.

Known ages of birds banded as chicks (to the nearest year)

These ages are 1 of 26 years, 1 of 8, 2 of 7, 1 of 5, 1 of 4, 5 of 3, 6 of 2, and 10 of 1.

These sightings are few, largely due to the failure of the earlier coloured bands. Quite a few birds were seen to be wearing unreadable metal bands only. Unfortunately I did not record the date when the new colour bands were first used. However, one bird, D24269, banded on 1 January 1960 had lost its coloured band when captured in a net by A. M. C. Davis on 7 March 1970 so that most of the 23 birds banded between 25 December 1950 and 1 January 1968 could have had defective bands. It is not yet known how long the new coloured bands will last.

Movement habits

The instances given under " Outstanding records " show very little regularity. Some have stayed in one block, such as the several places in the Manukau Harbour, moving back and forth within it. A very few stay in one resort only, within a block. Others have moved from one block to another, some to several blocks.

No evidence has so far been found of birds returning, after wandering, to a former resort to breed. D24269 (O-RM) / D5290 (O-MR) was reared at Karaka and bred within a year at Kaiaua, an example of lack of attachment to birthplace.

ACKNOWLEDGEMENTS

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LITERATURE CITED

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SHORT NOTE

NOMENCLATURE OF THE SHINING CUCKOO

New Zealand's Shining Cuckoo is one of four races of a species which also breeds in south-east Australia, New Caledonia and the New Hebrides. The species in turn is one of a group of 12 known collectively as the glossy cuckoos, and distinguished by their irridescent plumage and small size. Taxonomists with largely regional interests grouped the four African species as *Chrysococcyx,* placed the non-glossy *osculans* in a monotypic genus *Misocalius,* and referred the remaining seven Indo-Australian species to *Chalcites* (Friedman 1968, *The evolutionary history of the avian genus Chrysococcyx.* (U.S. Nat. Mus. Bull. 265). New Zealand ornithologists follow the *Annotated Checklist of the birds of New Zealand* (OSNZ 1970) in calling the Shining Cuckoo *Chalcites lucidus lucidus.* However, Berger (1955, *On the anatomy and relationships of glossy cuckoos of the genera Chrysococcyx, Lampromorpha, and Chalcites.* Proc. U.S. Nat. Mus. 103: 585-597) compared the anatomy of several glossy cuckoos (including *lucidus*) and concluded that all are congeneric, and referable to *Chrysococcyx,* the oldest available name. The decision is widely accepted, and while it is unfortunate to have to deviate from the Checklist, the change in New Zealand from *Chalcites* to *Chrysococcyx* is desirable, to conform with current international usage.

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