

BANDED DOTTEREL AND OTHER WADERS WINTERING NEAR DUNEDIN.

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The distribution and movements of winter flocks of waders has attracted the attention of several observers, and the banded dotterel and the godwit have been selected as species for special study by the Ornithological Society. For this reason no attempt has been made here to collect all the relevant references from the literature or to make comparisons with situations reported from elsewhere, all this will no doubt be done in comprehensive reports at some future date. Little, however, seems to have been published concerning winter flocks in the South Island and it seemed worth while to summarise some notes taken during the past three years.

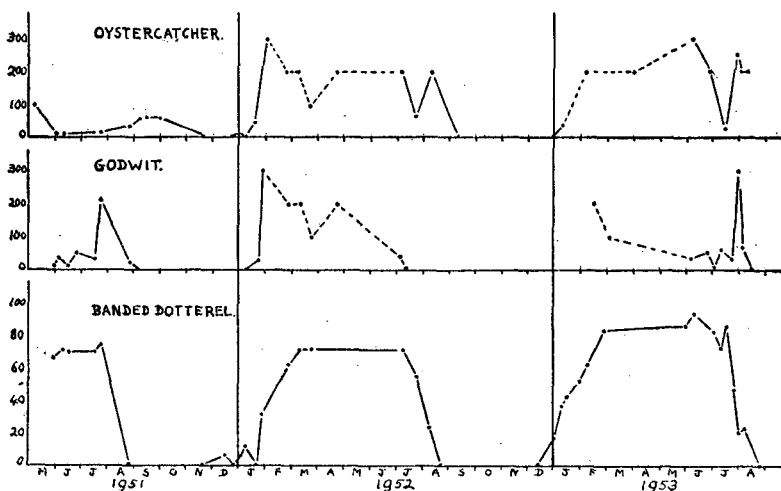
The coastline near Dunedin has been subjected to an elevation of the sea level which has resulted in a series of some ten drowned valleys. These are of various sizes, but each consists of a sand flat more or less dry at low tide, almost cut off from the sea by a sand spit which extends from the northern side and leaves only a very narrow entrance. The sand spit consists of sandhills along the ocean beach, with more or less extensive areas of flax *Phormium tenax*; salt-meadow consisting of *Samolus repens*, *Selliera radicans*, *Cotula dioica* and *Scirpus cernuus* with clumps of *Leptocarpus simplex*; and *Salicornia australis*. If large enough, these inlets form the winter habitat of S.I. pied oystercatchers (*Haematopus ostralegus*), stilts (*Himantopus himantopus*), godwit (*Limosa lapponica*) and banded dotterel (*Charadrius bicinctus*). Black oystercatchers (*Haematopus unicolor*) are often seen, usually in numbers of only one to four in an inlet, though there is a report in "Notornis" of a flock of 50 in Blueskin Bay, 15/5/52. They may nest on the sand spit at the entrance, a nest with three eggs was found at the mouth of Pleasant River 2/1/53 and another at Hooper's Inlet 15/11/53. The banded dotterel, though seen feeding on the sand flats are commonly on the salicornia and salt-meadow, and withdraw there at high tide. The other waders are seen on the inlet flats until driven off by the tide, when they usually move to the ocean beach.

Of the drowned valley inlets mentioned above, seven seemed likely to contain banded dotterel and they were visited during June and July, 1953. From north to south they are as follow:—Pleasant River is a long narrow inlet with several branches and its salt meadow area is limited though there is much salicornia. It was visited once, 5/7/53, and only 16 dotterel were seen. The Waikouaiti River estuary at Karitane is somewhat similar and contained 30 dotterel on 20/6/53. Blueskin Bay is large, about two square miles, and has very little saltmarsh. Owing to the size of the inlet and the fact that it has an island in the middle, it is difficult to get near enough to count dotterel satisfactorily, but as a result of several visits their numbers were estimated at 50, possibly more. Purakanui Inlet is small and no dotterel were seen on one visit, 21/6/53. The mouth of Otago Harbour is the largest of the series and has considerable stretches of saltmarsh. Fifty-five dotterel were counted on 13/6/53. On Otago Peninsula are Papanui and Hooper's Inlets. Papanui Inlet is without salt-meadow, as the region behind the sand spit is reclaimed, and no dotterel were seen but Hooper's Inlet has a regular wintering flock numbering 93 this year. Two hundred and forty-five banded dotterel (as a minimum) were thus counted in five inlets and to judge from behaviour at Hooper's Inlet they are resident for the winter.

Allan's Beach, the area of sandhill and saltmarsh at the mouth of Hooper's Inlet, Otago Peninsula, is being studied ecologically and has been under observation since May, 1951. The saltmarsh was at that time inhabited by about 70 banded dotterel, and periodical observations have been made on their numbers since then. These are shown on the graph, and they clearly show a stable wintering population. The birds start to

arrive in January and leave again in August, none are known to nest in the vicinity. The birds are very quiet and tame, and seem to spend more time on the salt-meadow than on the open sand flats of the inlet. They are almost the exact colour of the vegetation and so are difficult to see even with glasses, and if there is much wind they squat in the hollows and are practically invisible. It would be very easy to visit the inlet to look at the waders and not to notice the dotterel unless one went on to the saltmarsh, which is some 200 yards across, and specially looked for them. It seems possible that there may be wintering flocks in other similar localities which have been overlooked. The flock counted at the mouth of Otago Harbour would never have been seen if it had not been specially searched for in the light of experience at Allan's Beach. In connection with the dates of departure and return it is interesting to see in former volumes of "Notornis" two notes from the Hakataramea Valley to the effect that banded dotterel are absent from there in winter but common from late August onwards. There is also a note from Cromwell that they leave there in the second week in January and reappear in September. Presumably the birds wintering on the coast near Dunedin breed in such inland regions.

Less attention has been paid to the other species of waders in Hooper's Inlet. They are scattered widely over the sand at low tide and often cross over to the ocean beach at high tide, though sometimes some of them come up on to the salt-meadow. The stilts breed in small numbers at the head of the inlet and are present throughout the year. Numbers up to 63 have been counted. Pied oystercatchers are not known to breed anywhere in the vicinity. They are absent in the summer and present throughout the winter in numbers up to 300 or more. They are less static than the dotterel and flocks have several times been seen crossing between Hooper's Inlet and Otago Harbour or Papanui Inlet. No North Island pied oystercatchers have been seen. Both stilts and pied oystercatchers occur in the other inlets described above throughout the winter. At a very rough estimate a total of over 1000 oystercatchers and 200-300 stilts may be present. The godwit shows somewhat similar behaviour, appearing in large numbers, up to about 300 in February and decreasing until about July, after which they are absent except for perhaps an odd bird.



Graph showing the numbers of waders present in Hooper's Inlet, Otago Peninsula, between May 1951 and August 1953. The dotted lines join points where the numbers were only estimated.