

Table 1. Numbers of birds seen in each locality in 1979

Locality	1	2	3	4	5	6	7	8	9	10	Total
Habitats present	A M	I B	M	C	B I	R	A	I	S	D	
Date	21-12	15-12	23-11	17-11	23-11	8-12	8-12	9-12	9-12	2-12	
Painted Snipe									1		1
Black Oystercatcher				10		40					50
Curlew		2									2
Wimbrel		18		200							218
Avocet							4	10	4		18
Stilt	1						1	12	1		28
Dinkop	3			5							3
Turnstone		10			2	25					37
Ringed Plover		26			2						28
White-fronted Sandplover		20	1		4	2					27
Chestnut-banded Sandplover									1		1
Kittlitz's Sandplover		4				2			2		8
Grey Plover		30			1	1		8			40
Crowned Plover		12				1					13
Blacksmith Plover			2			2	10		10	6	30
Long-toed Plover										1	1
Curlew Sandpiper		2	25		90		15	110	22		264
Dunlin		3									3
Little Stint						3	3				6
Knot		40			10	6					56
Sanderling		20			5	50					75
Ruff				2000			95			2	2097
Terek Sandpiper		5			1						6
Common Sandpiper		4								4	8
Marsh Sandpiper							3	1	30		34
Greenshank	1	2						1			4
Wood Sandpiper									1		1
											3059

Localities: 1 = Goukammer River; 2 = Gouritz River mouth; 3 = Canal Cape Town; 4 = Rietvlei near Milnerton; 5 = Langebaan Lagoon; 6 = Markus Island; 7 = Paternoster; 8 = Berg River mouth; 9 = Berg River salt pans; 10 = Kruger National Park.
 Habitats: A = Salt-marsh; B = Sandy Beach; C = Marsh; D = Riverbank; I = Intertidal mud; M = Mud; R = Rocky beach; S = Salt pans.

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PROBLEMS IN CENSUSING BREEDING WADERS IN S.W. ICELAND

by Ron Summers and Mike Nicoll

Recently, there has been much interest in estimating the populations of breeding waders, in an attempt to measure the effects of the continuing and increasing drainage of the few remaining wetlands in lowland Britain. Some of the problems in counting breeding waders have been identified by Dyrce and Tomiatocj (1974); for example, incubating birds may leave their nests and territory undetected, or neighbouring pairs may join territory holders to mob the observer. Waders vary in size, crypsis and breeding behaviour, so the methodology has to vary according to the species and the habitat in which they breed. Therefore, the problems we encountered in attempting to census waders during a visit to Iceland, 5-19 June 1981, may be of interest.

We attempted to estimate the density of breeding waders on a sedge marsh north of Selfoss, south-west Iceland. It was about eight hectares in size and composed of sedges, mosses, and prostrate willows and birches. The vegetation formed turf hummocks about half a metre across and about 20 cm high, surrounded by shallow water with emergent sedges. The hummocks made walking difficult, and the small waders were not easy to see.

Four pairs of Black-tailed Godwits *Limosa limosa* were present. They were easy to count, for the non-incubating bird stood on a prominent mound and defended the territory.

The smaller species were less easy. We attempted to flush incubating Dunlins *Calidris alpina* and Snipe *Gallinago gallinago* from their nests by dragging a 50 metre nylon cord (diameter 4 mm) between us. By pacing the distance walked, we knew the area that we were dragging. It became apparent that the Dunlins and Snipe that we flushed from nests were close to where we were walking, and no nests were located in areas where the cord had flushed birds. This suggested that the dragged cord was inefficient in flushing incubating birds, but did flush non-incubating birds which we would have otherwise not seen.

To test the effectiveness of the cord we dragged the centre portion of it over the Dunlin nests we had already found. Four nests and eight adults (trapped afterwards) were involved, and on seven occasions the cord passed over the sitting bird without flushing it. The nests were all on the tops of hummocks so the cord would have passed within a centimetre or two above the bird. This test shows the ineffectiveness of this technique. All clutches were in advanced stages of incubation, for the eggs floated to the surface when put in water. The dragged cord may be more effective at earlier stages of incubation. Also the technique may be more effective if a rope was used instead of a cord, or where waders nest among shorter vegetation. Wherever this technique is used however, it would first have to be tested over known nests to establish its efficiency.

The exercise also brought to light the problem of censusing non-incubating birds on the marsh (we were walking 50 m apart). Had we not dragged the cord we would have been unaware of the numbers of Dunlin, Snipe and Red-necked Phalaropes *Phalaropus lobatus* present, presumably feeding, among the hummocks.

Reference

Dyrce, A. & Tomiatocj, L. 1974. Application of the mapping method in the marshland habitats. In Pinowski and Williamson (Eds.). Proceedings of the 4th Meeting of the International Bird Census Committee. Acta Ornithologica, Warsza 20 X11, Nr.25, pp 348-352.

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