

# Wader studies in Orkney

Colin Corse

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Wader studies in Orkney really got off the ground with the survey of the entire non-cliff shoreline of all inhabited islands of Orkney in the winters of 1982-83 and 1983-84, carried out jointly by members of the Tay, Grampian and Orkney Ringing Groups. Prior to this, the only surveys carried out had been the British Trust for Ornithology Golden Plover and Ringed Plover surveys, and a Purple Sandpiper count on Mainland and South Ronaldsay. Here, the progress over the past decade is discussed.

The complete survey, an important forerunner of the national Winter Shorebird Count, showed the coastline of Orkney to hold internationally important numbers of five species of wader and nationally important numbers for a further three (Table 1). In total, 51,500 waders were counted, placing the Orkney coastline alongside major British estuarine sites in its significance. The fact that such large numbers of waders are

Table 1.  
Important concentrations of wintering waders along the Orkney coastline.

	Qualifying levels for:		Population on Orkney Coastline
	National Importance	International Importance	
Oystercatcher	2,800	9,000	2,800
Ringed Plover	230	500	1,600
Sanderling	140	1,000	860
Purple Sandpiper	160	500	5,700
Bar-tailed Godwit	610	1,000	770
Curlew	910	3,500	17,700
Redshank	750	1,500	6,900
Turnstone	450	700	6,000



Figure. 1 The Orkney Islands.

present had not previously been apparent, as on open shores, birds are more evenly distributed and in smaller flocks than on estuaries.

This initial survey led to several questions being asked: how did the number of waders using the shore vary throughout the year and from year to year, and was any seasonal variation similar to that found on estuarine sites? To help answer these questions, monthly counts have subsequently been carried out at four sites on Mainland and South Ronaldsay, providing a suite of relevant data which can now be analysed.

In addition to these regular counts, Sanday, a northern island found to contain high concentrations of waders in the first survey, has been completely surveyed during three mid-winters (January 1983, 1984 and 1987) and three springs (late April 1987, mid-May 1988 and early May 1989). Results from the mid-winter studies revealed that Ringed Plover, Turnstones and Purple Sandpiper are present in relatively constant winter numbers, but that Golden Plover, Dunlin, Bar-



Table 2. Numbers of waders on Sanday in winter and in spring.

	24-28 Jan 1987	26-30 Apr 1987	1-5 May 1989	12-15 May 1988
Oystercatcher	173	785	828	411
Ringed Plover	345	193	188	224
Golden Plover	85	0	2	0
Grey Plover	41	81	78	91
Knot	0	42	791	117
Sanderling	212	283	433	353
Purple Sandpiper	1,103	1,055	1,660	509
Dunlin	1,245	135	582	157
Bar-tailed Godwit	601	45	268	219
Curlew	117	121	131	168
Redshank	725	164	204	58
Turnstone	1,242	1,800	3,409	2,591

tailed Godwit and Curlew vary to a considerably greater extent.

The spring surveys on Sanday showed that by early May, Turnstone numbers had nearly tripled from the situation in mid-winter (Table 2). A similar increase was not recorded at any of the monthly count sites on Mainland or South Ronaldsay, indicating that Sanday differs from these areas in being important as a migration staging place for Turnstones. Purple Sandpipers on Sanday also had increased by 50% by early May, with numbers subsequently dropping sharply by mid-May. Sanderling and Knot also clearly pass through in May, the latter species being present in only very small numbers in winter. Oystercatcher numbers increase in spring, but by mid-May have decreased again, due to birds passing through or moving inland for breeding and hence not being counted on the shore.

As well as counting waders in January 1983, the Tay and Grampian Groups also trapped them using their min-cannon nets. In late 1983 the Orkney Ringing Group itself obtained a

cannon net and have continued to catch waders for ringing, concentrating in particular on Purple Sandpipers. The Orkney wintering birds comprise mainly the 'long-billed' population, the breeding range of which is still uncertain as there have been no recoveries from the breeding grounds. Studies have revealed that although Icelandic breeding birds have long bills, they also have longer wings and tarsi than Purple Sandpipers wintering in Orkney. It is now suspected that Orkney wintering Purple Sandpipers may originate from either Greenland or Canada, as a bird colour-dyed on Sanday in April 1987 was sighted in south-west Iceland in late May of the same year, probably en route to either Greenland or Canada.

In an attempt to assess the population turnover among Orkney Purple Sandpipers during the migration period, 100 birds were colour-dyed in spring 1990. North Ronaldsay was chosen for this study as its entire coastline measures only 18 km and could be counted each day whilst our team was there, and also after we left on a weekly basis by staff of the North Ronaldsay Bird Observatory. The results of this project are still being assessed, but whilst catching these birds we controlled our first ever Purple Sandpiper from outwith Orkney. An adult colour-ringed on Helgoland, off the German coast, on 10 March 1989 and present here again from at least 1 March to 18 April 1990, was controlled by us 19 days later, on 7 May. Presumably it was a bird stopping over in Orkney on its return to its breeding ground.

Our late spring trips to Sanday and North Ronaldsay have also enabled us to collect much information on fattening of Purple Sandpipers and Turnstone immediately prior to their migration. Some striking results are emerging from this, one example being the much greater weights reached by Turnstone in north Orkney relative to birds caught at the same time of year during the 1988 BTO studies on spring migration in the Hebrides (*BTO News*, July-August 1988). Could it be that Hebridean birds subsequently stage in Iceland whereas Orkney birds fly directly to their breeding grounds in Greenland and Canada?

A separate Orkney ringing study had been the dazzling of Ringed Plovers, mainly in August and September when peak numbers occur. Although numbers caught have been small, there have already been two recoveries indicating the breeding and wintering areas of these autumn passage birds. An adult ringed in September 1988 was found freshly dead in Finnmark in late-May 1989 and a first-year bird ringed in September 1986 was controlled in Togo, West Africa, in January 1990.

