

lack of controls of Curlew Sandpipers from the W.Cape, where many thousands have been ringed, suggests fidelity to the different non-breeding quarters. The large number of Turnstones caught was gratifying since the total ringed in South Africa to date is only 79. The high proportion of first year Turnstone, 58%, and Sanderlings, 37%, was of interest and contrasts with the situation in the W. Cape where ratio of first year birds is lower. There were fewer first year Curlew Sandpipers, 13%, but a high proportion of second year birds (a minimum of 40%.

A full report is in preparation and will be advised later.

Table 1 Ringing Totals

White-fronted Plover	18
Chestnut-banded Plover	2
Avocet	4
Stilt	2
Turnstone	323
Ringed Plover	3
Grey Plover	8
Curlew Sandpiper	557
Little Stint	7
Knot	12
Sanderling	141
Bar-tailed Godwit	7
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TOTAL	1084
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Ron Summers

WADER RINGING IN CO. CORK

A little wader ringing has been carried out at Ballycotton each autumn for about five years but in 1976 Kieran O'Brien and Patrick Smiddy began a programme of regular netting at Ballycotton and at a site in Cork Harbour. Ballycotton affords an excellent opportunity to catch Curlew as they fly to roost in a small saltmarsh adjacent to the seashore. Some 300 were ringed in the autumn of 1976, virtually all of which were in primary moult. Lack of manpower prevented us from processing these birds as fully as we would have liked but this situation should be remedied in 1977.

Some 250 Dunlin were ringed this year, the measurements of which confirm the pattern noted at other British and Irish estuaries i.e. schinzii passage in early autumn (Ballycotton bird recovered in Morocco), the wintering population consisting mainly of alpina birds. Reasonable samples of Oystercatcher and Redshank have also been caught.

Plans for next autumn include intensified efforts at Ballycotton and trial sessions at some new sites in Cork Harbour.

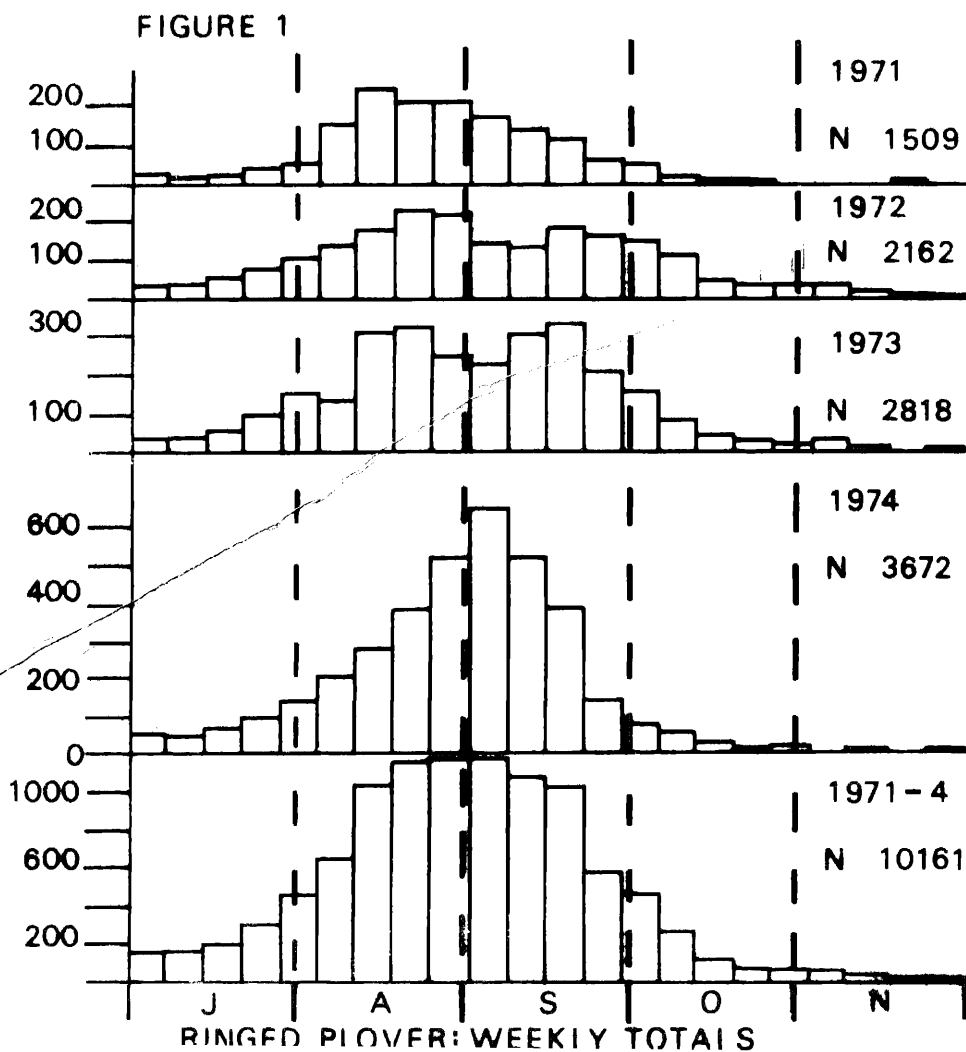
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THE INLAND MIGRATION OF RINGED PLOVER (*Charadrius hiaticula*) IN AUTUMN

A paper summarising the data obtained from the Inland Wader Enquiry during 1971-1974 is in preparation. This analysis, intended as an interim report, summarises Ringed Plover data obtained from 21 selected inland sites in England and Wales. Ringed Plover was the fifth most abundant species recorded, being scarcer than Lapwing, Snipe, Dunlin and perhaps surprisingly, Ruff.

The graphs (Figure 1 below), illustrate the summated totals from these sites for the 22 weekly periods from July 1 to December 1. The 1971-4 total graph shows a large influx of birds in August followed by a rapid decline in late September and early October. Looking at individual years, however, 1972 and 1973 (when water levels were generally low in September) shows evidence of a bi-modal pattern, with peak numbers in mid/late August and mid/late September. 1971 shows only the earlier peak, and 1974 shows a large peak during the low water levels of early September; (although higher levels later in September may have masked a second influx). On the Wash, at least, adults predominate in August, with juveniles in September (Minton, 1975).. The two influxes suggested by 1972 and 1973 data may refer to passage adults followed by juveniles and/or local breeders moving (west?) after moulting, or perhaps to a more complex mixture of the two age groups of the populations involved (C.h. hiaticula from Britain, Iceland and Greenland, and C.h. tundrae from N Scandinavia and USSR.)

Brady (1949), giving totals for the Northumberland coast, recorded two peaks for each of the autumns from 1945 to 1947, the first being in late August or early September and the second four to six weeks later. Mason (1969) recorded peaks in late August and late September for Leicestershire during 1958-1967, but Eades and O'Kill (1976) only an August peak for the Dee Estuary. Baula and Sermet (1975) found peaks in mid-September and early October at Yverdon, Switzerland, for 1942-1972 data. Johnson (1974) recorded peaks in early and late September for the Camargue in 1972, and (*in litt*) late September peaks for 1973-1974. Harenger *et al.* (1973) recorded peaks in mid- and particularly late September for 1962-1971 at Münster sewage farms. The timing of the peaks for the three continental sites implies that tundrae (presumably the population involved) is mainly a late September migrant in those countries. This study indicates, that while



adults of both hiaticula and tundrae pass through particularly in late August, mid-/late September influxes may be due to weather-drifted influxes of juvenile tundrae. Data indicate that these later peaks were more obvious in S E Britain, and that they occurred in years with low water levels in late September, along with influxes (especially in 1973) of Grey Plover, Greenshank, Spotted Redshank, Little Stint, Dunlin and Curlew Sandpiper.

Annual totals, representing the sum of weekly totals, are given with the graphs and may be used to assess annual changes in abundance. However, such a method may suffer from bias by several factors, notably the effects of water level fluctuations. The exaggeration in annual totals caused by long-staying individuals or flocks can be reduced by summing the weekly net gains (minimum arrivals) at individual sites. This laborious method gives annual totals of 428, 521, 670 and 843 for 1971-1974 respectively, thus confirming the degree of annual increases suggested by the easier method.

Summary

The overall picture for 1971-1974 tends to even out fluctuations noted in weekly Ringed Plover totals in individual years. Mid-/late August influxes may represent passage of mainly adults of both northern hiaticula and tundrae populations. Juveniles predominate in September and, in years with lower water levels, peaks towards the end of that month may represent influxes of weather-drifted juvenile tundrae. An impression of variations in annual abundance can be gained by comparing the simple summations of weekly totals.

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WADER STUDIES ON THE MORAY FIRTH

The Beaully, Cromarty and Dornoch Firths, which together constitute the Moray Firth in its broadest sense, are the most northerly estuaries of importance to waders in Britain. The Estuaries Enquiry showed that in winter the Moray Firth held a total of about 28,000 waders, of which the totals of 2,800 Redshank and 1,700 Bar-tailed Godwit were of particular importance. The Firths, particularly the Cromarty Firth, are also of international importance for ducks, geese and swans. All the Firths are of outstanding natural beauty, surrounded by a varied agricultural and woodland landscape backed by the mountains of Inverness-shire and Ross and Cromarty. So far there has been relatively little industrial development, in contrast to the situation on almost every other British estuary. The Moray Firth is, however, a prime target for development, being in the centre of the North Sea oil boom. There are already Platform Fabrication Yards at Ardersier in the Inverness Firth and at Nigg in the Cromarty Firth.