

# Winter Shorebird Count 1984/85

## Title

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## Description and Summary Results

The populations of waders that winter on British estuaries had been counted since 1969/70 by the Birds of Estuaries Enquiry (now part of the Wetland Bird Survey -- WeBS). In contrast, the populations of waders that winter on the coast outside of these, on the rocky shores and sandy beaches, had only been looked at sporadically in parts of eastern and northern Britain. The relative importance of estuaries for waders therefore could not be estimated satisfactorily until the populations wintering on these other coasts had been determined.

To get this information, the Winter Shorebird Count was undertaken in the winter of 1984/85. It aimed to count all waders wintering on all the non-estuarine coasts around Britain, Northern Ireland, the Isle of Man and the Channel Isles. There have been subsequent repeat surveys based on this, known as Non-estuarine Waterbirds Surveys (NeWS) in 1997/98 and 2006/07.

The coastline of Britain and Northern Ireland including estuarine shores is 17840 km long, and Scotland, with its highly indented west coast and numerous offshore islands, accounts for 61% of this total. The non-estuarine component comprises more than three-quarters overall, but varies from 45% in England (including the Channel Isles and the Isle of Man) to 93% in Scotland. Overall, 83% (more than 10000km), and 90% excluding cliffs, was surveyed for the Winter Shorebird Count. The largest gaps in coverage were in Scotland, particularly in Highland (west coast), Strathclyde and Western Isles Regions, largely due to the difficulties of visiting many of the smaller offshore islands.

Almost 300000 waders of 19 species were recorded. Oystercatcher *Haematopus ostralegus* and Curlew *Numenius arquata* were the most abundant and most frequently encountered species, followed by Turnstone *Arenaria interpres*, Dunlin *Calidris alpina*, Redshank *Tringa totanus*, Ringed Plover *Charadrius hiaticula* and Purple Sandpiper *Calidris maritima*.

Densities varied greatly between regions with, in general, the lowest in southern and SE England, in NW Scotland (excluding the Western Isles) and in Shetland, and the highest around the Irish Sea coasts, NE England and SE Scotland.

The winter of 1984/85 was more severe in Britain and western continental Europe than the previous two winters. Oystercatcher, Ringed Plover, Turnstone, Curlew, Knot *Calidris canuta* and Purple Sandpiper showed neither regional nor nationally significant changes in density between the two halves of the survey, although all increased in density. Grey Plover *Pluvialis squatarola*, Golden Plover *P. apricaria* and Dunlin showed no significant regional changes but increased significantly overall at the national level in the second half of the survey (by 60, 172 and 99%, respectively). The four remaining species varied regionally in their changes between the 2 periods.

### **Methods of Data Capture**

The non-estuarine coastline was defined as all open rocky and sandy shores and includes some sheltered coasts such as are found in the sealochs of W and NW Scotland.

Most of the coastline was visited once only, mainly between 15 December 1984 and 31 January 1985. Each observer was assigned a length of up to 15km to survey within a day, but the stretches were divided, while in the field, into a number of shorter sections defined by major changes in shoreline habitat (defined by substrate, slope and seaweed cover). (Lengths of sections were measured, along the high water mark, from 1:50000 Ordnance Survey maps.)

Visits were carried out at low water (approximately half-ebb to half-flood). To avoid either missing or double-counting birds, observers were asked to walk well down the shore and to count all waders between the low- and high-water marks, including those that flew inland, out to sea, or behind the observer, and those that the observer walked past, but excluding those that flew forward. Nearly all flock-sizes were sufficiently small to allow individual birds to be counted; numbers rarely had to be estimated.

Some sections of coast were surveyed more than once to examine movements of birds during the survey. However, the county and national totals were computed from a single count for each section. The synchronized counts over long stretches of coast were used for these totals, but where counts had not been synchronized, the count closest to the middle of the survey period was used to represent that section for the analysis of the total population.

The coastlines of Orkney and the Outer Hebrides had been surveyed in the previous 2-3 years, using similar methods. These areas, except for the Uists, were not resurveyed and the earlier data were incorporated into this survey. Comprehensive high-water counts were available for Guernsey and these too were incorporated into the results since no low-water counts were made.

There were large differences in temperature between the first (mild) and second (cold) halves of the survey, as well as regional variation. Many species of waders are site faithful during winter but it was important to describe any changes in distribution or abundance that may have occurred in response to the temperature changes.

### **Purpose of Data Capture**

The aim was to count all waders along all non-estuarine coasts in all of Britain and Northern Ireland, including the Channel Islands and Isle of Man, to get a better estimate of the total numbers of these species present.

### **Geographic Coverage**

The non-estuarine coastline (excluding steep cliffs) of all of UK, including the Isle of Man and the Channel Islands.

### **Temporal Coverage**

The winter of 1984/85 with a single count on each stretch between 15 December 1984 and 31 January 1985.

### **Other Interested parties**

The survey was run by the BTO as a joint project with the Wader Study Group. It was an extension of the Birds of Estuaries Enquiry (now part of the Wetland Bird Survey), which was then financed jointly by the BTO, Nature Conservancy Council and Royal Society for the Protection of Birds.

Other funds came from the Center for Field Research (EARTHWATCH) USA (several volunteers from this carried out fieldwork in some of the more remote parts of Scotland), and fieldwork grants awarded by the Highland and Strathclyde Regional Councils, Television South-West, Nature Conservancy Council, Scottish Ornithologists' Club, London Natural History Society, Shetland Oil Terminal Environmental Advisory Group, Sir Herbert Bonar, Shell UK, British Petroleum and James Cadbury.

### **Organiser(s)**

Mike Moser and Ron Summers

### **Current Staff Contact**

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### **Publications**

The main report of the survey is:

Moser, M.E. & Summers, R.W. 1987. Wader populations on the non-estuarine coasts of Britain and Northern Ireland: results of the 1984-85 Winter Shorebird Count. *Bird Study* 34: 71-81.

A specifically Scotland report is:

Moser, M.E., Broad, R.A., Dennis, R.H. & Madders, M. 1986. The distribution and abundance of some coastal birds on the west and north-west coasts of Scotland in winter. *Scottish Birds* 14 : 61-67.

The results also played a large part in the reappraisal of total numbers of waders wintering in Britain:

Moser, M.E. 1987. A revision of population estimates for waders Charadrii wintering on the coastline of Britain. *Biological Conservation* 39: 153-164.

The survey was noticed in *BTO News* numbers 132, 134, 137 and 148 as well as in Birds of Estuaries Enquiry reports and newsletters.

### **Available from NBN?**

No.

### **Computer data -- location**

BTO Windows network central area

### **Computer data -- outline contents**

All the count data from the project and the programs used to analyse them.

### **Computer data -- description of contents**

The data (WSC.DATA) are:

The data are in a standard format for regions of coast, together with files with all data for England, Scotland, Wales, Northern Ireland and all UK. Files are D.--OK with format:

Columns 1-2 Region; cols 3-6 Section; cols 7-11 length (km to 1 decimal place; col 12 blank; col 13 Primary habitat (B=boulders, C=cobbles, G=gravel, M=mud, R=bedrock, S=sand); col 14 Secondary habitat (as for Primary); col 15 slope (F=flat, M=moderate, S=steep, C=cliff); col 16 weed cover (0=none, 1=<25%, 2=25-50%, 3=50-75%, 4=>75%); then 20 numbers each 6 columns wide referring to 19 species (Oystercatcher, Lapwing, Ringed Plover, Grey Plover, Golden Plover, Turnstone, Curlew, Bar-tailed Godwit, Redshank, Knot, Dunlin, Sanderling, Purple Sandpiper, Eider, Grey Heron, Snipe, Greenshank, Jack Snipe, Common Sandpiper) and the Total.

Other data are in WSCOTLAND (West Scotland data analysis); LOCHS (Scotland sea-loch data); WSC.REPS (repeat counts where done) all with the same format of data.

WSC.PROGS contains the programs used to sort out and analyse the results (Fortran as ready for the BTO's then Prime computer) and list of counties, species codes and species names.

### **Information held in BTO Archives**

3 Transfer Cases of data cards and miscellaneous letters etc. All data have been scanned.

### **Notes on Access and Use**

### **Other information**

### **Notes on Survey Design**

### **Specific Issues for Analysis**