The Birds of the Estuaries Enquiry - results from the 1989/90 and 1990/91 winters

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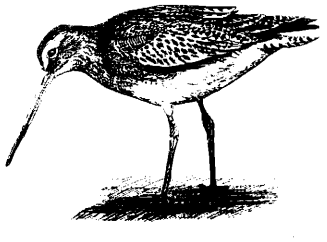
The Birds of Estuaries Enquiry (BoEE) is the United Kingdom's scheme for monitoring estuarine bird populations. It is organised by the British Trust for Ornithology (BTO) and co-sponsored by the BTO, Joint Nature Conservation Committee, Royal Society for the Protection of Birds and the Department of the Environment for Northern Ireland. The objectives of the BoEE are to document seasonal and annual trends in shorebird populations and to synthesise this information for scientific and conservation purposes. Including the 1969-70 Pilot Study, the twenty-first and twenty-second consecutive seasons of co-ordinated counts for the BoEE took place from July 1989-June 1990 and July 1990-June 1991. As usual, counts were made by over 1,000 participants on selected dates near the middle of each month, timed to coincide with the best tidal conditions for counting estuarine birds.

Detailed results for the winter periods (November-March), together with a summary of key findings from passage periods, are available in Kirby *et al.* (1990) *Wildfowl and wader counts 1989/90* and Kirby *et al.* (1991) *Wildfowl and wader counts 1990/91.* available from the BTO (address-below), price £1.50 each, including postage). Here we present a synopsis of the results.



1989/90

In 1989/90, the mid-winter (December-February) United Kingdom (UK) totals for all wader species showed little overall change from the previous winter. The UK total in January 1990, however, exceeded 1.6 million waders, the highest count on record (Table 1). The January indices, which are used to compensate for varying coverage from year to year, showed population changes of over 10% compared to 1989 for Grey Plover *Pluvialis squatarola*, Ringed Plover *Charadrius hiaticula*, Bar-tailed Godwit *Limosa lapponica* and Knot *Calidris canutus*, with only the last named showing an increase. The Knot index was 29% above that of a year earlier, whereas in contrast, Bar-tailed Godwit showed the

Table 1. Total numbers of the main species of waders recorded by the BoEE at coastal sites in the United Kingdom during the 1989/90 winter.

	NOV	DEC	JAN	FEB	MAR
No. of sites counted	137	150	154	147	137
Oystercatcher	272115	254313	285775	247566	152401
Avocet	482	770	1112	836	353
Ringed Plover	11468	10376	12909	8758	4056
Golden Plover	58663	38643	80999	41748	21758
Grey Plover	26111	23967	33731	37403	31487
Lapwing	173897	161712	263986	157642	16074
Knot	195826	206299	302402	221276	107822
Sanderling	5900	5218	5514	4617	4463
Purple Sandpiper	982	1589	2213	2058	1346
Dunlin	360754	399414	463998	388608	157310
Black-tailed Godwit	6549	4239	6904	8114	5313
Bar-tailed Godwit	28713	41501	43044	44221	17108
Curlew	67990	50042	79759	71352	61294
Redshank	78750	72040	88882	76325	62857
Turnstone	19478	17683	20923	19507	19024
Totals*(all waders)	1311478	1291106	1696285	1332948	665015

* Peak counts of species not given above but included in the totals were Greenshank (287), Ruff (210), Spotted Redshank (85), Green Sandpiper (48), Jack Snipe (30), Common Sandpiper (23), Little Stint (7), Woodcock (4), Whimbrel (4), Little Ringed Plover (3), Grey Phalarope (2), Kentish Plover (1), Curlew Sandpiper (1), Lesser Yellowlegs (1), Wood Sandpiper (1), Terek Sandpiper (1), Spotted Sandpiper (1).

@ Figures for number of sites counted in 1988/1989 were incorrectly reported in *WSG Bulletin* 57.

greatest decline, with the January 1990 index 26% below that of the previous year. These large changes in their January index values probably merely reflect considerable movements between the UK and the rest of Europe, frequently undertaken by both Knot and Bar-tailed Godwit. Examination of the counts made in the other months of the 1989/90 winter shows that, for both species, the size of the UK wintering population was similar to that of the previous winter.

For the third successive winter, the mid-winter period was extremely mild and this was probably responsible for the high numbers of Golden Plover *Pluvialis apricaria* and Lapwing *Vanellus vanellus*. Record peak numbers of over 1,000 Avocet *Recurvirostra avosetta* and over 8,000 Black-tailed Godwit *Limosa limosa* were recorded in January and February respectively, although both species were present in smaller numbers during the other winter months.

All BoEE sites which either supported more than 20,000 waders in winter 1989/90, or have averaged more than this value over the past five winters, are listed in Table 2. Three sites held substantially more waders than in recent winters. North Norfolk Marshes recorded an all-wader total 50% above its recent average, due largely to high numbers of Lapwing, Golden Plover and Bar-tailed Godwit. High numbers of Lapwing and Golden Plover were again responsible for the above average totals at the Humber and the Dee (England/ Wales), with high counts also recorded for Black-tailed Godwit and Knot at the latter site. At the other major sites, counts were much closer to those in recent winters. At Chichester Harbour the January count of 2,093 seems to be the highest wintertime count ever made at any site.

1990/91

For the fourth successive winter, overall UK mid-winter (December- February) wader totals were up on the previous year (Table 3). In January 1991, the total numbers counted by the BoEE exceeded 1.7 million for the first time ever. At least part of this increase would have been due to improved coverage, which culminated in all 117 UK estuaries being counted in 1990/91 for the first time ever.

Table 2. Overall wader counts at principal BoEE sites in winter.

Site	Peak winter count 1989/90	Peak winter count 1990/91	Average peak winter count 1986/87 to 1990/91
Wash	248854	279882	228703
Morecambe Bay	192766	204906	174824
Ribble	136312	121864	122016
Humber	*127274	*127082	103636
Thames	91055	108521	94890
Dee (England/Wales)	121042	100837	92132
Solway	*64935	87447	79061
Severn	*56603	74131	63051
Alt	65050	46944	59525
Forth	35728	48095	41539
Strangford Lough	47507	36830	41316
Langstone Harbour	46096	36744	40965
Medway	*41500	45378	39216
Mersey	31200	75576	36024
Chichester Harbour	*45106	38621	35902
Burry	29227	36798	35806
Swale	30433	29760	32615
Lindisfarne	26754	21979	28081
Stour	29282	30331	27063
Blackwater	25363	37140	26851
Duddon	27163	27764	25963
Colne	25923	21131	22886
N Norfolk Marshes	29838	34768	21949
Inner Moray Firth	21152	25476	21359
Dengie	17426	26714	20746

* indicates only incomplete counts were undertaken.

The January indices, more reliable measures of population levels than simple UK totals, show that the main wader species suffered mixed fortunes in 1991. Changes of more than 10%, compared to January 1990, were found in seven species. Sanderling totals were up by 24%, whereas both Curlew *Numenius arquarta* (24%) and Redshank *Tringa totanus* (21%) declined. Bar-tailed Godwit and Grey Plover recovered somewhat from their lower values of January 1990, showing increases of 17% and 12% respectively. Dunlin *Calidris alpina* numbers increased for the fourth successive January, this time by 18%, and its population index is now at its highest level since winter 1976/77. Turnstone *Arenaria interpres* numbers were down about 10% compared to the previous January.

For the first winter since 1986/87, a spell of severe cold weather occurred in the UK in 1990/91. During late January and mid-February bitterly cold conditions resulted in heavy mortality of several wader species, especially in eastern England. In the Wash alone, which was particularly badly affected, over 2,800 bodies of dead waders were collected. Over 1,500 of these birds were Redshank, a species which

Table 3. Total numbers of waders recorded by the BoEE at coastal sites in the UK during winter 1990/91.

	NOV	DEC	JAN	FEB	MAR
No. of sites counted	145	156	160	153	142
Oystercatcher	260753	270876	283642	289689	169608
Avocet	1141	1418	1564	1044	718
Ringed Plover	13190	11942	11342	9363	4698
Golden Plover	63551	58469	50397	30255	26431
Grey Plover	36394	37312	40963	43338	36488
Lapwing	150364	186414	149640	63338	15654
Knot	294137	254646	280301	248238	122073
Sanderling	6735	5124	6462	4858	7514
Purple Sandpiper	1423	1368	1964	2140	1315
Dunlin	432635	538712	583441	546068	235775
Common Snipe	2153	2591	2673	1442	975
Black-tailed Godwit	9539	8237	7180	4888	8057
Bar-tailed Godwit	38155	40338	46167	75975	21657
Curlew	59962	63009	73791	67453	70229
Redshank	80035	77773	73581	68845	52437
Turnstone	18073	18279	20139	18603	18386
Totals* (All waders)	1468899	577037	1703209	1476038	792424

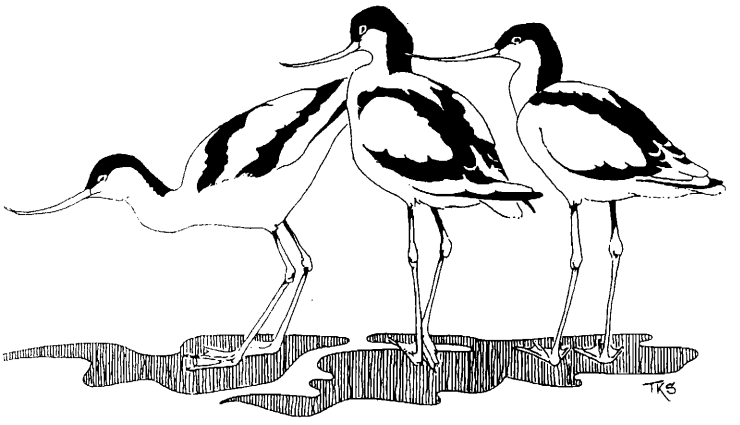
* Peak counts of species not given above but included in the totals were Greenshank (276), Ruff (138), Spotted Redshank (109), Jack Snipe (49), Green Sandpiper (45),Common Sandpiper (34), Woodcock (16), Whimbrel (11), Curlew Sanpiper (10), Little Stint (10), Kentish Plover (1), Little Ringed Plover (1), Terek Sandpiper (1).

seems unable to move away from areas of severe cold and tends to suffer severely at such times.

BoEE counts in February showed that the numbers of Bar-tailed Godwit in the UK had jumped by well over half since the January count, reaching an all-time high of over 75,000 birds. High counts are regularly recorded during very cold weather and are normally due to an influx of birds from the Wadden Sea. Also typical of severe weather was the decline in numbers of Black-tailed Godwit, Lapwing and Golden Plover.

Despite the temporary decline in Black-tailed Godwit numbers in the cold spell in February, the wintering populations of Black-tailed Godwits and Avocets both continued their long-running increase. Southern England forms the UK stronghold for both these species in winter, although the Ribble and the Dee, both in noth-west England, hold sizable populations of Black-tailed Godwit. In February 1991, Oystercatcher and Grey Plover recorded UK totals which appear to be records for any winter month.

All BoEE sites which supported more than 20,000 waders in 1990/91, or which averaged above this figure over the past five winters, are shown in Table 2. Only the Alt and Lindisfarne showed notably reduced numbers of waders compared to recent winters. The decline on the Alt was due mainly to low numbers of Knot, a species that often shows erratic movements. At Lindisfarne low numbers of Dunlin, Bar-tailed Godwit, Redshank and Grey Plover combined to produce a particularly low all-wader total. At nearly all the other 23 internationally important sites counts were high in 1990/91, with the Mersey and Hamford Water recording totals well over double the recent average. On the Mersey peak numbers of Grey Plover and Dunlin were incredibly ten and three times higher respectively than their recent averages. All major estuaries in western Britain recorded Dunlin in numbers well above the average of recent years.



The future

Over twenty years since it was initiated, the BoEE is currently operating at its highest ever level. Our aim now is to maintain this flow of information both for conservation and scientific research proposes and, where possible, to upgrade it even further. In early 1991, a detailed analysis and standardisation of count coverage on BoEE estuarine sites was completed, and a similar project into our more limited coverage of open coast shores is now underway. One of the aims of this will be to increase our regular coverage of this habitat, so as to include representative proportions of the total UK populations of predominately open coast waders such as Purple Sandpiper *Calidris maritima*. Progress is also being made towards implementation of a new approach to indexing the population trends of wintering wader species from BoEE results, incorporating counts from all winter months, thus making more efficient use of data received. Supplementing the BoEE, a new 'Wader Productivity' database has been established, which collates information on the proportions of young birds present in catches made by BTO ringers. Finally, in winter 1992/93 we are hoping to proceed with the organisation of a rolling programme of low-tide counts of UK estuaries. Assessment of the potential conservation impacts of proposed estuarine developments increasingly requires detailed fine-scale information on the distribution of feeding waterfowl and this new programme should help fill this need.