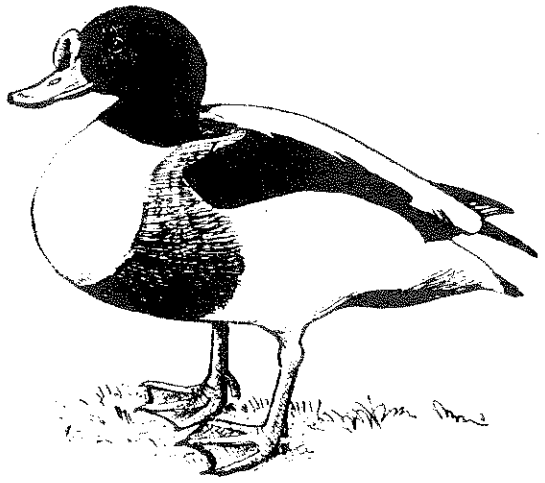
WILDFOWL AND WADER COUNTS 1982-83



Wildfowl and Wader Counts 1982-1983

The Results of the National Wildfowl Counts and Birds of Estuaries Enquiry

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INTRODUCTION

This is the fourth annual combined report of the National Wildfowl Counts and the Birds of Estuaries Enquiry.

The following are thanked for their help and advice in its production:

G.L. Atkinson-Willes, Dr L.H. Campbell, R.J. Fuller, Miss L. McHugh, J.H. Marchant, Mrs E. Murray, M. Nugent, Dr R.J. O'Connor, Dr M.A. Ogilvie, Dr M. Owen, Mrs J. Portlock, Mrs D. Smallwood, Mrs A. Wenger.

Our greatest thanks are due to the hundreds of volunteer observers who undertook the counts. Their contribution to the cause of waterfowl and wetland conservation is inestimable.

WEATHER

After the severity of the previous winter, 1982-83 was generally mild. The autumn was very wet. Winds were generally light and westerly, but southerly gales in early November affected the immigration of wildfowl, particularly Dark-bellied Brent Geese (q.v.). A fine, calm start to December was followed by two months of westerly winds and rain, with temperatures at or above average, broken only by a short colder spell around 20th December. In early February it turned much colder, many areas having their only snow of the winter. By the end of the month it was again mild, and although March contained some colder spells, there were no more adverse periods.

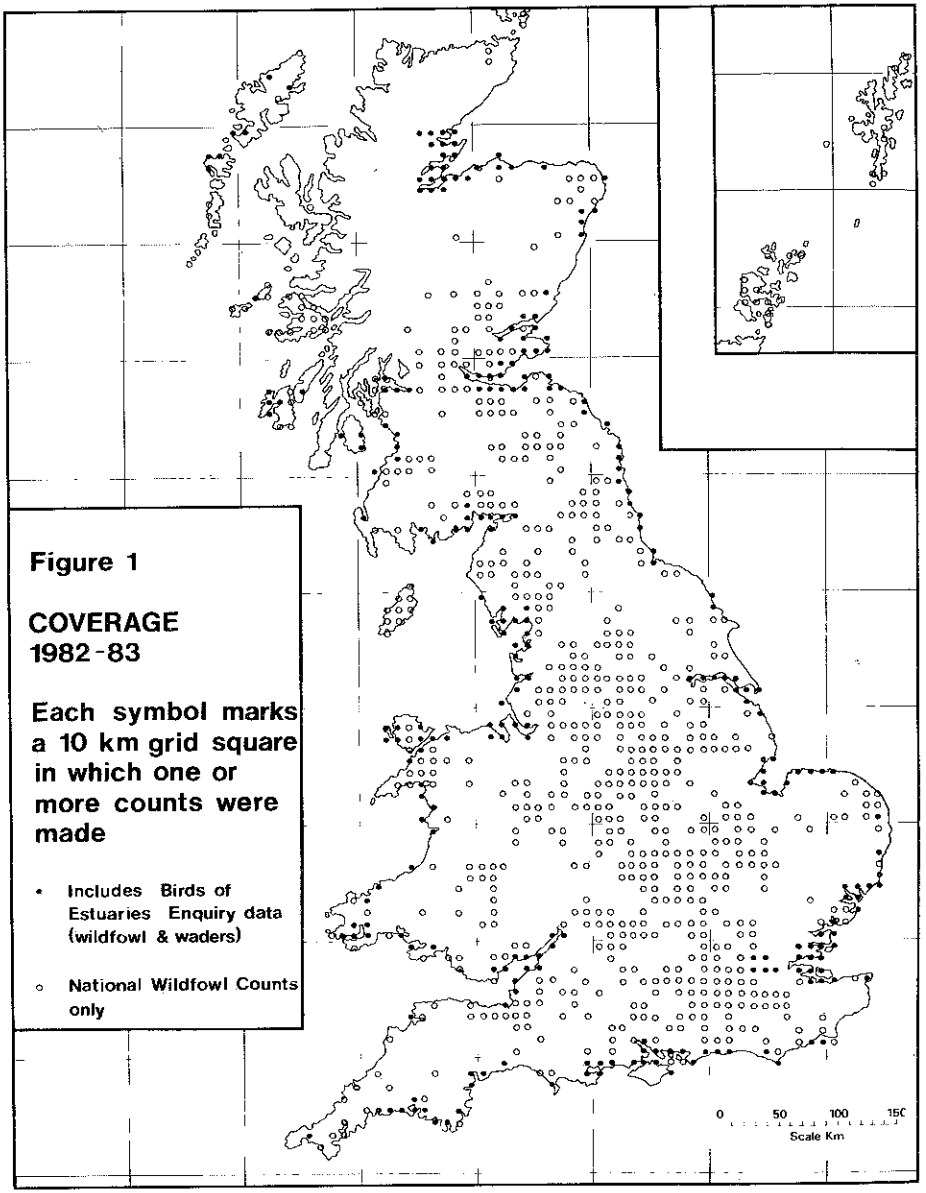


Figure 1
COVERAGE
1982-83
Each symbol marks a 10 km grid square in which one or more counts were made
• Includes Birds of Estuaries Enquiry data (wildfowl & waders)
○ National Wildfowl Counts only
0 50 100 150
Scale Km

WILDFOWL

The National Wildfowl Counts, instigated in 1947, are organised by the Wildfowl Trust under contract to the Nature Conservancy Council. They cover ducks, geese, swans, Great Crested Grebes and Coot on all wetland habitats, coastal and inland, from September to March. The set dates in 1982-83 were: September 12th, October 17th, November 14th, December 12th, January 16th, February 13th and March 13th. Where these dates were impracticable (or the tides unsuitable) counts were made on the nearest available occasion. Data from the Birds of Estuaries Enquiry have been used for sites not covered in the wildfowl counts.

1,653 sites in England, Scotland and Wales were visited, 207 more than in 1981-82 and 366 more than 1980-81. This improvement has been due mainly to an extra effort in January, the International Census month, following requests for the special forms provided in that month to be used for places not included in the regular counts. Of the 1,471 localities covered in January 1983, 138 were included for the first time.

In Northern Ireland the main estuaries were counted (Lough Foyle and Bann Estuary, Londonderry; Larne Lough, Antrim; Belfast Lough, Strangford Lough, Dundrum Bay and Carlingford Lough, Down) but the only inland site was the south-eastern corner of Lough Neagh. These data are included in the Species Accounts where appropriate.

Figure 1 shows the 10 km grid squares in Great Britain in which counts of wildfowl and/or waders were made. The filled-in dots signify counts for the Birds of Estuaries Enquiry, but National Wildfowl Counts at either coastal or inland localities may also have been made in these grid squares. The gaps in the coverage inland in East Anglia, north Devon, Wales and northern Scotland are partly caused by the lack of suitable habitat for wintering wildfowl in those regions.

Table 1. Total counts of wildfowl (plus Great Crested Grebe and Coot) in Great Britain, 1982-83

Monthly totals (no. of sites) Figures over 100 rounded to nearest 10.

	Sep (960)	Oct (1,042)	Nov (1,100)	Dec (1,060)	Jan (1,471)	Feb (1,117)	Mar (1,086)	Average maximum 1977-78 to 1981-82
G-crested Grebe	5,410	4,770	4,610	3,580	3,140	3,770	4,610	*
Mute Swan	7,330	8,210	8,520	8,270	8,550	7,030	6,500	6,890
Bewick's Swan	0	0	1,830	2,340	3,690	4,830	970	4,370
Whooper Swan	25	710	3,150	1,880	1,880	1,680	1,350	2,310
Eur Wf Goose	7	89	310	3,200	5,700	4,910	360	4,500
Canada Goose	21,370	20,890	17,610	17,200	20,070	16,300	12,300	16,190
D-b Brent Goose	60	27,170	57,130	74,490	92,610	58,680	37,360	59,810
L-b Brent Goose	3	10	360	610	270	180	12	1,280
Shelduck	10,420	21,060	33,260	53,360	58,760	44,656	42,890	60,580
Wigeon	28,660	114,430	173,940	199,910	138,890	141,030	67,370	181,040
Gadwall	2,620	3,370	3,820	3,410	3,270	3,130	2,050	2,570
Teal	43,580	67,430	85,320	98,210	85,300	62,400	31,970	80,350
Mallard	144,490	139,830	145,970	157,130	176,690	123,280	54,670	151,890
Pintail	5,420	17,900	17,690	24,180	25,480	13,230	4,410	19,740
Shoveler	6,830	6,890	7,690	5,580	5,870	4,920	4,270	6,830
Garganey	22	3	1	0	0	0	7	10
Pochard	10,110	21,880	35,980	30,430	33,040	32,490	17,710	35,530
Tufted Duck	31,570	37,097	43,560	38,090	40,710	35,030	32,220	43,200
Scaup	550	1,910	980	3,150	2,770	3,200	1,330	5,340
Goldeneye	260	1,420	6,180	7,560	8,190	9,330	8,260	9,790
Smew	0	1	14	25	32	35	18	100
R-b Merganser	1,750	1,860	2,410	1,900	2,000	3,040	1,780	2,570
Goosander	210	270	470	780	2,520	3,860	1,620	2,110
Ruddy Duck	690	730	1,020	1,150	1,380	1,380	650	1,010
Coot	61,660	74,760	71,330	67,720	70,380	61,080	36,740	*

(* not available).

SPECIES ACCOUNTS

(NB: in the tables, in both the wildfowl and wader sections, a cross indicates "no data" and brackets around a count mean that the figure has been excluded when calculating the average, because of incomplete coverage. The averages are for the seasonal maxima 1978-79 to 1982-83. The "month" column shows the month in which the peak occurred in 1982-83. Unless otherwise stated, the Dee estuary is that in Cheshire/Clwyd and Stour in Essex/Suffolk.)

Great Crested Grebe *Podiceps cristatus*

Although outside the order Anseriformes, Great Crested Grebes and Coot (see p. 24) are so closely linked to the wildfowl ecologically, and recorded in such numbers in the counts, that it has been decided to include them in these reports from now on (although it has not yet been possible to process the data for these species from seasons prior to 1982-83).

The great majority of Britain's Great Crested Grebes are resident, although there is a winter influx from the Continent (Prater 1981). Three national censuses have been undertaken: in May/June of 1931, 1965 and 1975. The resultant estimates of the adult population were, respectively: 2,650 (Harrisson & Hollom 1932); 4,651 (Prestt & Mills 1966) and 6,813 (Hughes, Bacon & Flegg 1979). These figures show how well the species has recovered from its persecution in the 19th century, presumably aided by the great increase in its potential habitat with the creation of innumerable new reservoirs and gravel pits in the lowlands.

If the British population has continued to increase at the same rate as between 1965 and 1975, the summer 1982 level will have been about 9,000 adults. However, there is likely to have been high mortality during the cold winters of 1978-79 and 1981-82, so the September 1982 count total (see Table 1) may not be far below the true population. Some shortfall must have resulted, though, from the fact that Great Crested Grebes were not counted at some potentially important resorts. The autumn peak shown in the counts coincides with the post-moult gatherings on inland waters. By mid-winter many have moved to the coast (Cramp and Simmons 1977), where some concentrations may be missed.

In 1982-83 flocks of over 100 were found at 13 localities, notably Seafield, Firth of Forth (593, December), Chew Valley Lake, Avon (480, September), Queen Mary Reservoir, Surrey (255, September), Loch Leven, Tayside (240, September), Grafham Water, Cambs (225, November) and Pitsford Reservoir, Northants (223, December). The first two areas have long been known as the most important examples of their respective habitats for Great Crested Grebes in Britain.

Mute Swan Cygnus olor

The further increase in the number counted was due partly to the improvement in coverage. In January, 220 were found at sites being covered for the first time, an indication of how many there are on minor waters throughout the country. The principal factor, however, has been an increase at most of the main resorts, notably the Ouse Washes, where 621 were counted in January 1983, more than double the level of five years previously. The peaks at other major centres were as follows: Chesil Fleet, Dorset 890 (January); Stour Estuary 314 (November); Loch of Strathbeg, Grampian 309 (September); Strangford Lough, Co. Down (where there has been a steady decline in this and several other species) 276 (November), compared to an average of 360 between 1977-78 and 1981-82.

The moulting concentration at Abberton Reservoir, Essex, has increased substantially. Having amounted to 100-250 in the previous seven years it reached 346 in August 1982. In the same month there were 451 in Christchurch Harbour, Dorset.

A complete census of the Thames and its backwaters between the source and Richmond by the Thames Fisheries Consultative Council on 9th January 1983 located 577 Mute Swans - 389 above Reading and 188 below (French 1983).

The results of the national census of April/May 1983 are now being analysed, and will be published in due course.

Bewick's Swan Cygnus columbianus bewickii

After an unremarkable autumn and New Year the cold spell which affected northern Europe in early February brought an influx to Britain and boosted that month's total almost to the record level of 1981-82. The extra birds did not reach the south-west, however, and at both Slimbridge and the Somerset Levels the numbers were well below the recent average.

It should be noted that the Martin Mere flock roosts on the Ribble Estuary, so the birds at these two sites are mostly the same.

Table 2. Bewick's Swan : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Ouse Washes	2,303	2,120	2,995	2,842	2,792	Feb	2,610
Nene Washes, Cambs	1,000	1,010	200	222	600	Feb	606
Slimbridge, Glos	610	300	403	580	285	Feb	436
Lough Neagh/Beg	x	239	493	(25)	(50)		366
Somerset Levels	238	256	114	380	131	Feb	224
Ribble Estuary, Lancs	213	96	179	267	220	Feb	195
Walmore Common, Glos	15	56	124	380	53	Nov	126
Walland Marsh, Kent	x	x	53	182	143	Mar	126
Hampshire Avon: Blashford-Ibsley	76	45	142	183	173	Jan	124
Breydon Water, Norfolk	149	89	134	106	136	Feb	123
Martin Mere, Lancs	21	58	135	154	215	Feb	117
Lower Derwent Ings, Humberside / N.Yorks	100	187	214	24	60	Dec	117
L. Foyle, Co. Londonderry	12	16	41	370	128	Dec	113

Whooper Swan Cygnus cygnus

Of the record November count total, 30% were at two sites: the Loch of Strathbeg (with 633, the previous highest being 519 in October 1981) and the Loch of Spiggie, Shetland, where 336 occurred, compared with a previous highest of 192. In December a record 223 were present on the Ouse Washes; nowhere else in England held over 100.

In contrast, there has been a big decline in the Cromarty Firth / Loch Eye area, formerly the haunt of some 500, or exceptionally 1,000, Whooper Swans. The highest count in 1982-83 was only 112, in December.

As with Mute Swans, the Whoopers at Strangford Lough have decreased markedly. The December peak of 124 was the lowest on record.

Bean Goose Anser fabalis

At the main resort, the Yare Valley, Norfolk, the exceptional numbers of 1981-82 (329) were not repeated, but the overall trend of increase continues. Despite the mildness of the winter, 197 were present in late January.

Only two other flocks of over 10 were reported: at Elmley Marshes, Kent (33, December) and Overy Marshes, Norfolk (13, January).

Pink-footed Goose Anser brachyrhynchus

The November Census found a tiny (and insignificant) drop in the total numbers to 89,000 from 90,000, following only moderate breeding success in Iceland.

The harvest had been early and clean, especially in south-east Scotland, where there were many fewer Pinkfeet than usual (19,000), while the numbers in central Scotland (33,560) and Lancashire (18,410) were well above average (Ogilvie 1982).

In October, exceptional gatherings had occurred at two Lothian reservoirs, Gladhouse (13,700) and Westwater (10,680), suggesting that the Pinkfeet congregated in that region on arrival but quickly moved out due to the lack of food. In the same month Loch Leven carried 12,000, and in February there were 12,200 at Caerlaverock, Dumfries & Galloway.

European White-fronted Goose Anser albifrons albifrons

After the decline of the early 1970s the British population has apparently stabilised, the tradition of moving on from the Netherlands having been re-inforced by the cold winters of 1978-79 and 1981-82.

The two principal areas, Slimbridge and the Swale (Kent), held peaks of 3,040 (January/February) and 1,493 (January) respectively, the latter evenly divided between Elmley and Shellness. Elsewhere the numbers were low, the South Thames (North Kent) Marshes, Hampshire Avon and Tywi (at Dryslwyn) each holding only 250-350.

Greenland White-fronted Goose Anser albifrons flavirostris

Stroud (1983) reports that the November 1982 and March/April 1983 Censuses found 7,189 and 7,282 respectively in Britain - within the range 6,500-7,300 estimated by Ruttledge & Ogilvie (1979), based on the mid-1970s population. The autumn flocks contained 13.5% young, indicating below-average breeding success.

On Islay 3,250 were counted in November, 3,872 during an additional local census in February and 3,441 in March/April. In November 1981 and 1982 the island had held, respectively, 4,300 and 3,300. On the Mull of Kintyre the 1982-83 peaks were 856 at Rhunahaorine in November and 500 at

Machrihanish in March/April. Elsewhere, three areas carried over 300: The Reef, Tiree (340, March/April); Loch Ken, Dumfries & Galloway (320, December) and Stranraer (380, March).

The results from Ireland, censused in April only, are not yet available.

Greylag Goose Anser anser

Despite a successful breeding season, the November census total was only 80,000, compared with 96,000 in 1981. This remarkable shortfall could have been caused partly by undercounting, since the Greylags were unusually mobile during the census weekend as they searched for feeding grounds following the clean harvest. Otherwise the only possible explanation is an abnormally high mortality, perhaps during the hard weather of 1981-82 (which might partially have accounted for the very low return in March 1982) (Ogilvie 1982). As noted in the last report, Greylags, which are comparatively sedentary during the winter, made little attempt to find snow-free areas outside their usual range during the cold spell.

In the Loch Eye area the extraordinary concentration of autumn 1981 was not repeated, but a count of 10,000 in October 1982 was still high.

Canada Goose Branta canadensis

Canada Geese in Britain have increased at an almost constant rate of 8% per annum since 1953 (Ogilvie 1977; Owen & Atkinson-Willes in prep.) The September 1982 count total fits that trend nicely, representing a rise of 8.8% over the same month of 1981. Despite this increase only one water - Bewl Bridge Reservoir, flooded in 1975 - has newly assumed a major importance in recent years. Although the reservoirs and, in particular, gravel pits are greatly favoured, the principal habitat is still that on to which they were introduced in the 17th and 18th centuries: country estates with ornamental lakes.

The January census of the Thames and its backwaters found 2,229 Canada Geese above Richmond, half of them between Reading and Henley (French 1983).

Table 3. Canada Goose : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Stratfield Saye, Hants	800	1,380	1,500	1,460	1,800	Sep	1,388
Kedleston Pk, Derbys.	720	1,360	1,040	1,050	1,800	Sep	1,194
Shavington Pk, Salop	500	1,000	800	1,600	x		975
Ellesmere Meres, Salop	568	676	481	854	923	Sep	700
Holkham Park, Norfolk	450	800	(45)	x	x		625
Drakelow Wildfowl Res., Derbys.	500	840	595	430	600	Jan	593
Aqualate Mere, Staffs	487	554	566	592	556	Oct	551
Clumber Park, Notts	802	500	614	532	208	Sep	531
Dorchester GPs, Oxon	186	372	699	654	630	Oct	508
R.Ure: Ripon, N.Yorks	886	747	80	300	x		503
Bewl Bridge Resr. Kent/ E.Sussex	77	234	505	552	900	Sep	454
Blithfield Resr. Staffs	357	284	680	422	493	Dec	447
Elvetham Pk, Hants	525	290	325	410	648	Jan	440
Stanton Harcourt GPs, Oxon	400	380	481	328	500	Sep	418
Kingsbury Water Pk, Warw.	400	485	497	391	304	Dec	415

Barnacle Goose Branta leucopsis

An aerial survey of the Greenland population on its Irish and Scottish wintering grounds in late March/early April produced an estimate of 25,250, a decrease of c.25% since the last census in April 1978. On Islay, the main centre, there were 14,000 (as against 21,500 in 1978); in the rest of Scotland 6,820 (6,560) and in Ireland 4,430 (5,760). The decline follows greatly increased shooting mortality and disturbance and a succession of poor breeding seasons. Away from Islay only three places in Scotland carried 500 or more in March/April 1983: Boreray, Western Isles (1,375); Shiant Islands, Western Isles (580); and Scapa Flow Islands, Orkney (500) (Ogilvie 1983).

The Spitsbergen population, based at Caerlaverock on the Solway Firth, showed a slight increase to 8,500, from 8,300 in 1981-82, following a moderate breeding season (13.5% young). The average peak for the seasons 1978-79 to 1982-83 was 8,470, compared with 6,070 for the previous five years.

Dark-bellied Brent Goose Branta bernicla bernicla

The 1982 breeding season was among the most successful on record, c.50% of those subsequently wintering in Britain being first-winter birds, and the total numbers in both Britain and Europe as a whole (92,600 and 202,500 respectively) greatly exceeding the previous highest (75,000 and 160,000 in 1979-80).

The arrival pattern in England was most unusual. After the normal October influx at Foulness and Leigh Marsh, Essex (amounting to 18,208), the second wave was hit by southerly gales. During one week-end in early November 47,000 Brents made a landfall in east Norfolk, instead of their usual arrival points in Essex, and flew southwards down the coast. Their distribution thereafter assumed a more normal pattern, but some exceptional concentrations assembled: 24,497 on the Wash at the end of January (26% of the 1982-83 British population); 11,860, North Norfolk (January); 11,500, Blackwater Estuary, Essex (January); 10,547, Chichester Harbour, W. Sussex/ Hants (February); 8,000, Hamford Water, Essex (December), and 7,536, Langstone Harbour, Hants (December).

Light-bellied Brent Goose Branta bernicla hrota

The mildness of the winter meant that only 600 birds of the Spitsbergen population came to Lindisfarne from Denmark, the fewest for seven years.

At Strangford Lough the autumn gathering from Greenland/Canada showed a big reduction, reaching 7,519 in November, compared with the usual 11-14,000. Elsewhere in Northern Ireland there were 521 at Lough Foyle (December) and 375 at Carlingford Lough (January).

Shelduck Tadorna tadorna

The main return from the German moulting grounds was delayed (perhaps by the autumn gales) until December, and there was no significant influx thereafter, not surprisingly in such a mild winter. The largest concentrations were reported from the Wash (16,948, December - 32% of that month's total British count), Mersey Estuary (7,110, December) and Dee Estuary (4,975, October). Nowhere else held over 3,000.

Wigeon Anas penelope

In most of England and Wales the peak was unusually early - in December - and, for such a mild winter, high. The largest gatherings were at the Ouse Washes (28,073 in February, the December count having been 22,395), Elmley Marshes (14,000, February), Ribble Estuary (13,823, December) and Mersey Estuary (9,050, November).

In Scotland and Northern Ireland, where most Wigeon are of the Icelandic breeding population, reaching their maximum in the autumn before moving farther south, the numbers were also well above average. Lindisfarne held a record 41,000 in October, Lough Foyle 28,475 (November), the Cromarty Firth 9,380 (November) and the Dornoch Firth 8,275 (September).

Gadwall Anas strepera

This was the sixth consecutive season of increase. The favoured sites have remained the same but for the first time Rutland Water held the largest flock.

Table 4. Gadwall : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Gunton Park, Norfolk	480	580	503	630	427	Sep	524
Rutland Water, Leics	135	351	141	380	493	Dec	300
Slimbridge	100	150	250	440	250	Feb	238
Martin Mere	260	200	200	200	200	Mar	212
Abberton Reservoir	248	185	99	194	280	Sep	201
Ouse Washes	371	67	89	266	205	Feb	200
Loch Leven	80	162	208	175	169	Oct	159
Lt. Paxton GPs, Cambs	71	115	300	232	65	Oct	151
Hornsea Mere, Humberside	58	110	155	117	228	Nov	134
Hickling Broad, Norfolk	(24)	55	96	228	196	Nov	115
Chesil Fleet	100	84	142	176	30	Dec	106

Teal Anas crecca

As usual, roughly a quarter of those counted were on the Mersey Estuary, although the peak there (26,100, December) was well below the record level of 1981-82. Three sites within a 25-mile radius of there carried at least 4,000: the Ribble Estuary (4,808, December); Woolston Eyes, deposit grounds for the Manchester Ship Canal (4,590, January); and Martin Mere (4,000, November). Elsewhere the Ouse Washes held 4,319 in February, the Humber Wildfowl Refuge 3,163 (October), Southampton Water 3,055 (December) and Elmley Marshes 3,000 (October).

Mallard Anas platyrhynchos

The high September count suggests a successful breeding season among the native population. In January the numbers were again well above average, indicating similarly large productivity in the immigrant population from the Continent.

Two notable features were the large autumn gathering at Abberton Reservoir and the further increases in Cheshire and South Lancashire. The Dee, Mersey and Ribble Estuaries, together with the nearby inland resorts at Woolston Eyes and Martin Mere, carred 9,500 between them in December 1982.

There was a mis-print in the 1981-82 Report. The January Mallard count at Hamford Water was 2,800 not 12,800.

Table 5. Mallard : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Humber	5,447	8,428	6,430	4,190	6,001	Jan	6,099
Ouse Washes	3,458	4,460	2,884	6,262	5,547	Jan	4,522
Lower Derwent Ings	1,350	5,903	4,436	8,142	1,559	Dec	4,278
Abberton Reservoir	4,298	4,540	2,950	2,500	5,900	Sep	4,038
The Wash	1,585	2,805	5,484	4,977	4,745	Dec	3,919
Firth of Forth	6,066	3,030	3,296	2,091	(1,185)		3,621
Inner Severn Est	1,368	1,631	2,632	3,711	3,339	Feb	2,536
Loch Leven	1,600	2,726	2,337	3,686	2,200	Sep	2,510
L.Neagh/Beg	x	2,435	2,539	(242)	(203)		2,487
Martin Mere	1,240	2,000	2,000	3,000	3,000	Dec	2,248
Dee Estuary	x	1,980	2,235	2,830	3,750	Oct	2,159
Mersey Estuary	1,841	1,760	2,440	2,290	2,283	Dec	2,123
L. of Strathbeg	2,500	1,550	2,800	1,750	1,850	Nov	2,090
Rutland Water	1,982	1,685	1,857	2,544	2,162	Sep	2,046

Pintail Anas acuta

Apart from the sites in Table 6, unusually large numbers were found in 1982-83 at Morecambe Bay (804 in February) and Woolston Eyes (484, January), emphasizing further the extent to which Britain's Pintail are concentrated in north-west England.

Table 6. Pintail : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Mersey Estuary	8,240	10,030	18,450	11,440	13,750	Jan	12,382
Dee Estuary	x	6,700	5,510	5,395	7,360	Nov	6,241
Martin Mere	1,400	1,200	4,000	2,000	3,700	Oct	2,460
The Wash	434	550	1,672	2,943	1,822	Jan	1,484
Burry Inlet, W. Glam.	617	730	510	2,426	2,535	Nov	1,364
Inner Solway Firth	1,400	1,890	665	320	802	Oct	1,015
Nene Washes	1,410	1,820	677	156	650	Mar	943
Ouse Washes	598	860	932	978	1,123	Feb	898
Hamford Water	1,150	300	450	1,450	220	Dec	714
Ribble Estuary	138	80	411	1,273	689	Jan	518

Shoveler Anas clypeata

All the main sites, apart from Loch Leven, are in southern England, but the numbers at individual localities fluctuate considerably, presumably in response to food availability.

The overall number in Britain is at its highest during the autumn passage and, as illustrated in Figure 2, which shows the trend for November (the peak month) since 1960, has increased substantially over the last twenty years. Owen & Atkinson-Willes (in prep.) estimate the population at 9,000, but suggest that the increase might be due simply to the native breeding birds increasingly staying on into November, thereby overlapping with continental immigrants (many of which also move farther south).

Table 7. Shoveler : maxima at main resorts

	Average Maximum 1968-79 to 1972-73	Average Maximum 1973-74 to 1977-78	Seasonal maxima 1978 - 79	1979 - 80	1980 - 81	1981 - 82	1982 - 83	Month	Average Maximum 1978-79 to 1982-83
Rutland Water*	x	269	471	471	316	317	443	Sep	404
Abberton Resr.	445	598	328	310	281	485	612	Sep	403
Ouse Washes	796	520	212	334	411	296	685	Mar	388
King George VI Resr. Surrey	91	418	311	109	488	299	539	Sep	349
Woolston Eyes	x	x	x	133	259	516	453	Sep	341
Loch Leven	298	419	100	293	431	696	60	Oct	316
Chew Valley L.	217	271	139	480	359	185	375	Sep	308
Belvide Resr. Staffs	88	201	240	245	127	570	310	Dec	276
Elmley Marshes	x	x	110	200	274	398	386	Dec	274
Wraysbury Resr. Surrey/Berks +	0	27	720	111	136	117	(74)		271
QE II Resr. Surrey	170	238	370	298	290	290	82	Nov	266
Aqualate Mere, Staffs	152	287	300	358	380	150	122	Nov	262
Roach Est., Essex	x	27	x	x	130	300	300	Dec	243
Cliffe Pits & Marshes, Kent	148	123	237	182	193	280	265	Jan	231
Hampton/Kempton Resrs. Gt.London	19	53	x	124	284	339	150	Feb	224

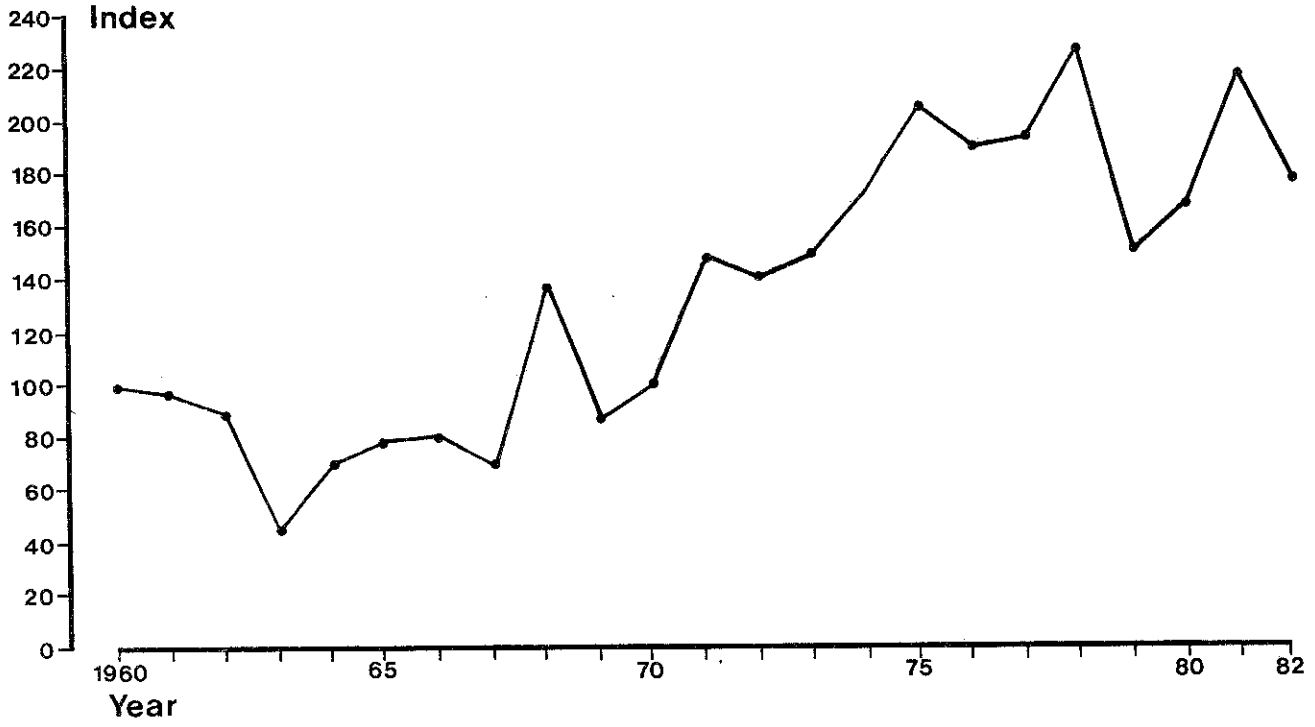
* flooded 1975 + flooded 1970

Figure 2

Trends in nos. of Shoveler in Britain, November, 1960 to 1982

(Based on 1970 = 100)

(After Owen & Atkinson-Willes in prep.)



Pochard *Aythya ferina*

In November the total counted was the highest on record for that month. The decline in December (of both Pochard and Tufted Duck) suggested in Table 1, though on a much lesser scale than in the cold of 1981, is harder to explain. The night before the set count day was frosty in some areas, but little ice resulted. A more significant factor, perhaps, was that with water-levels abnormally high after the heavy autumn rain, both species were more dispersed than usual, as they sought places where the water was not too deep. In January, when more minor waters were covered, both Pochard and Tufted Duck recorded a slight increase, although the 138 sites counted for the first time in that month held only 320 Pochard and 470 Tufted Duck between them.

The fluctuations from season to season at some localities in Table 8 require comment. On floodland, such as the Lower Derwent Ings and the Nene Washes, large numbers are only present when the right depth of water (c. 1-2.5 m.) is available. The exceptional gathering on the Inner Thames Estuary in January 1979 (surpassing even those of the late 60s and 70s) occurred during a severe cold spell when many inland waters were frozen, but the influxes to Staines Reservoir and, on a lesser but perhaps more permanent scale, the two Warwickshire sites, are more difficult to account for. All these changes may have been connected with a redistribution following the disappearance of the large numbers from Duddingston Loch, Edinburgh, in the late 1970s (Salmon 1980).

The moulting flock at Abberton Reservoir amounted to 2,450 in early August - the most since 1977. Between 1978 and 1982 this concentration averaged 1,702, the comparable figure for 1973 to 1977 being 2,387.

Table 8. Pochard : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Lough Neagh/Beg	x	41,144	16,843	(2,480)	(2,535)		28,994
L. of Harray, Orkney	3,250	1,095	1,747	1,491	4,500	Feb	2,417
Ouse Washes	2,948	4,706	1,203	1,310	1,607	Dec	2,355
Coton Pools, Warks.	x	(120)	1,180	1,150	2,800	Feb	1,710
Staines Resr. Surrey	1,200	5,000	510	1,100	224	Sep	1,607
Cotswold Water Park East, Glos.	697	1,098	1,683	1,450	1,687	Nov	1,323
Inner Thames Estuary	5,812	4	225	266	61	Mar	1,274
Cotswold Water Park West, Glos./Wilts.	1,437	1,415	1,192	1,438	762	Dec	1,249
Lower Derwent Ings	715	3,115	1,125	50	23	Feb	1,006
L. of Boardhouse, Orkney	1,544	193	641	1,061	1,105	Oct	909
Kingsbury Water Pk, Warwicks	154	195	1,243	1,101	1,674	Nov	873
Loch of Strathbeg	1,100	1,250	600	550	800	Nov	860
Firth of Forth	884	1,390	635	890	312	Dec	822
Chesil Fleet	430	640	450	1,442	700	Nov	732
Abberton Reservoir*	1,016	865	820	260	500	Jan	692
Slimbridge	400	400	450	980	1,020	Feb	650
Loch Leven	353	660	310	760	1,160	Nov	649
Loch Ore, Fife	801	578	641	411	617	Oct	610
Nene Washes	960	x	222	22	1,200	Mar	601

(*excluding moulting concentration; see text)

Tufted Duck Aythya fuligula

The November peak was virtually the same as in 1981-82. After the decline in December, discussed in the Pochard account, the January numbers had partly recovered, and the remainder of the season was unremarkable.

The moulting flock at Abberton Reservoir reached 3,130 in early August, giving an average for 1978 to 1982 of 2,554, compared with 2,344 for 1973 to 1977.

Table 9. Tufted Duck : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Lough Neagh/Beg	x	19,088	8,038	(1,853)	(1,208)		13,563
Loch Leven	2,000	4,500	4,273	4,560	3,455	Oct	3,758
Rutland Water	2,287	2,208	1,523	1,804	2,380	Nov	2,040
Loch of Harray	1,740	916	1,289	1,322	2,279	Nov	1,509
Abberton Reservoir*	1,507	430	1,260	2,670	1,560	Oct	1,485
Staines Reservoir	1,700	4,000	327	500	665	Sep	1,438
Loch of Strathbeg	1,100	1,500	1,160	1,350	1,950	Nov	1,412
Grafham Water, Cambs	1,750	3,050	1,010	765	190	Nov	1,353
Wraysbury GPs, Berks	1,411	909	1,528	1,343	1,512	Sep	1,341
Walthamstow Resr., Gt. London	1,225	885	994	1,037	820	Sep	992
Wraysbury Resr.	1,246	422	1,358	893	(30)		980
Firth of Forth	1,230	670	425	1,854	571	Dec	950
Loch of Stenness, Orkney	1,200	583	1,200	1,218	75	Dec	855
Coton Pools	x	500	605	1,600	178	Oct	721
Queen Mary Resr., Surrey	360	541	1,252	1,147	213	Sep	703
King George V. Resr., Gt.London	390	216	2,000	350	300	Nov	651
Kingsbury Water Pk.	369	309	450	601	1,514	Oct	649
Tophill Low Resr., Humberside	446	700	780	766	486	Dec	636
Pitsford Resr. Northants.	275	600	530	985	721	Oct	622

(*excluding moulting concentration; see text)

Scaup Aythya marila

After a period of stabilisation following the gradual disappearance of the Edinburgh flocks in the late 1970s, a further drop is apparent. At Largo Bay, which had held between 1,500 and 2,500 for many years, no more than 717 were found in 1982-83. Only two counts were made there, however (in December and February), so this result must be treated with caution.

Elsewhere, the highest counts were: 1,244 in January on the Inner Solway Firth, where the coverage was the best for some years; 820, Carlingford Lough, Co. Down (January); 785, Loch Indaal, Islay (December); 325, Edderton Bay, Dornoch Firth (March); 221, Dee Estuary (December); 210, Loch Ryan, Dumfries & Galloway (January); and two groups in unusual places in February - 195 in the Eden Estuary, Fife and 192 off Ayr.

Eider Somateria mollissima

Additional data have been received for past seasons for the following areas in north-east Scotland, replacing the figures given in Table 14 of the 1981-82 Report:-

	1977-78	1978-79	1979-80	1980-81	1981-82	77-78 to 81-82 Average
Murcar (Don Mth to Balmedie)	10,250				9,700	8,490
Fraserburgh	1,735	1,852	1,070	1,570	2,600	1,765
Rattray Head	1,700	1,950	1,950	680	4,250	2,106

The highest counts received for 1982-83 were from Murcar, Grampian (9,500, August), Lindisfarne (5,900, September - the highest ever), Firth of Forth (3,959, September), Ythan Estuary (1,670, October), Inner Firth of Clyde (1,594, December) and Montrose Basin (1,350, February). During the second winter of the Britoil/RSPB survey of the Moray Firth 1,995 Eiders were found in Loch Fleet.

Long-tailed Duck Clangula hyemalis

The Britoil/RSPB survey of the Moray Firth found 7,370 roosting at Burghhead on February 22nd and 6,857 at Brora, on the opposite side of the firth, a fortnight earlier. In 1981-82 the equivalent counts had been 15,637 and 4,000 respectively.

Eleven flocks of 50 or more were located in the regular counts, the largest being at Tentsmuir, Fife (600, October), Spey Bay, Highland, 10 miles east of Burghhead Bay (555, February), Water Sound, Orkney (210, February) and Lindisfarne (163, January).

Common Scoter Melanitta nigra and Velvet Scoter Melanitta fusca

For the second season running well over 10,000 scoters were found in the Moray Firth by Britoil/RSPB: 10,467 in November and 12,266 in March. The largest number of each species discernible was 6,929 Common (November) and 8,035 Velvet (March). The latter is the largest count of Velvet Scoters ever made in Britain.

Otherwise the highest counts of Common Scoters were at Tentsmuir (1,700, December), west side of Carmarthen Bay (1,500,January), Criccieth, Gwynedd (582, January) and off Pett Levels, E. Sussex (500, January). The south shore of the Firth of Forth held 59 Velvet Scoters in September.

Goldeneye Bucephala clangula

The total counted in Britain has been in the region of 9,300-10,100 for five consecutive seasons, despite the decline on the Firth of Forth.

In addition to the sites qualifying for Table 10, Loch Leven carried 350 in January 1983 and Rutland Water 219 in March.

Table 10. Goldeneye : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Lough Neagh/Beg	x	5,234	3,294	(323)	(826)		4,264
Firth of Forth	3,665	2,510	2,578	1,278	1,549	Feb	2,316
Abberton Reservoir	510	510	590	610	503	Mar	545
Blackwater Estuary	414	350	280	799	226	Feb	414
Turnberry-Dipple, Ayr	620	340	380	250	180	Dec	354
Inner F. of Clyde	157	304	x	535	405	Mar	350
Cromarty Firth	389	390	442	271	233	Feb	345
Loch of Strathbeg	400	320	200	160	360	Nov	288
Ness Mouth	145	252	518	164	249	Mar	266
Outer Firth of Tay	360	260	(16)	136	(21)		252
Windermere, Cumbria	222	222	276	239	273	Nov	246
Teesmouth, Cleveland	204	182	234	440	113	Feb	235
Loch of Stenness	225	170	296	276	182	Jan	230

Smew Mergus albellus

After the minor influx of 1981-82, the numbers were down to their usual tiny level. As normal, the most were present in the coldest month, in this case February. Although the trend for a slightly more northerly distribution continued, the main site was again Dungeness, Kent, with 10 in February.

Red-breasted Merganser Mergus serrator

The unpredictable nature of this species is well illustrated in Table 11. The Beauly Firth has long held a huge winter flock of Goosanders, but comparable numbers of Mergansers have appeared for short periods in each of the last three winters. At Dornoch Sands, 20 miles north, Mergansers have in fact rarely been seen, except for the large but brief concentrations in the autumns of 1981 and 1982 shown in the table.

Table 11. Red-breasted Merganser : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Firth of Forth	840	1,320	671	653	862	Nov	869
Beauly Firth, Highland	100	133	700	1,744	1,200	Feb	775
Tentsmuir/Tay Mth	(20)	(50)	1,000	205	865	Oct	690
Cromarty Firth	415	454	291	300	130	Dec	318
Poole Harbour, Dorset	90	535	157	397	280	Dec	292
Strangford Lough	350	350	388	147	161	Nov	279
Dundrum Bay	x	x	x	296	150	Dec	273
Dornoch Sands	0	0	0	600	500	Sep	220
Loch Ryan	220	125	191	156	126	Oct	164
Langstone Harbour	116	120	155	185	194	Nov	154

Goosander Mergus merganser

The fifth consecutive season of increase on the Beauly Firth brought the February count there to 2,400, 62% of the total for Britain. At no other locality were more than 75 seen.

Ruddy Duck Oxyura jamaicensis

As expected, there has been an immediate recovery from the set-backs of the 1981-82 winter. In fact, the totals for January and February 1983 almost reached the level of mid-December 1981.

At Chew Valley Lake a record 504 were present in December. The other major centres held the following: Blithfield Reservoir, Staffs. 358 (January); Blagdon Reservoir, Avon 323 (January); Belvide Reservoir 290 (September); Ellesmere, Shropshire 105 (November).

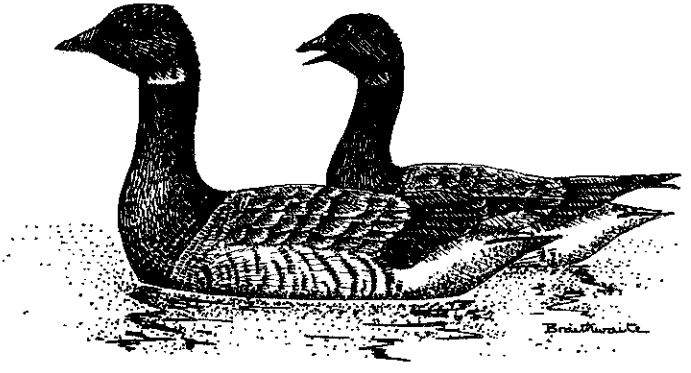
Coot Fulica atra

Coot have been included in the International Censuses since 1968, 670,000 having been counted in north-west Europe in January 1969 (Atkinson-Willes 1974), but the count totals in Table 1 are the first to be published for this species based on a purely British survey. They must, however, grossly underestimate the numbers present during the winter, partly because Coot were not counted at some places known to hold large amounts, but mainly because, as with Mallard, many must occur on small ponds which are not counted.

It was considered by Sharrock (1976) that the British and Irish breeding population comprised the greater part of 100,000 pairs and by Cramp and Simmons (1980) that probably few British-bred birds emigrate (though some from eastern Europe reach Britain in winter).

This species, like the Great Crested Grebe, has taken full advantage of the man-made waters which have appeared this century. Parslow (1973) found little evidence that Coot had increased overall, but felt that they must have in eastern England (where most gravel pits are).

500 or more Coot were reported from 48 sites in 1982-83. The largest concentrations were at Abberton Reservoir (8,600, October), Rutland Water (3,633, December), Ouse Washes (3,375, February), Cotswold Water Park, West (3,322, November), Loch Leven (2,564, October), Cheddar Reservoir, Somerset (2,450, December) and Hornsea Mere, Nth. Humberside (2,300, January).



WADERS

The Birds of Estuaries Enquiry is co-sponsored by the British Trust for Ornithology, Nature Conservancy Council and Royal Society for the Protection of Birds, and has a full-time organiser based at Tring. 1982-83 was the thirteenth consecutive season of coordinated counts made for the Enquiry. This report concentrates on counts of waders made during the mid-winter months (December, January and February), although year-round data were collected at many sites. Counts are made on selected dates in the middle of each month, and are timed to coincide with the best tidal conditions for counting estuarine birds. Estuarine records of wildfowl from both the BoEE and National Wildfowl Counts are analysed by the Wildfowl Trust, and are presented in the first section of this report.

Progress and developments in the Birds of Estuaries Enquiry, 1982-83

The revitalisation of the Estuaries Enquiry has progressed well, and there were no major gaps in the counts received for the priority mid-winter months in 1982-83 (see Figure 1). An analysis of annual changes in coverage since the start of the Enquiry will be presented in the next report. New teams have been organised to count several sites for which little information is available - notably several estuaries in Cornwall, the Cleddau (Dyfed), the Esk (Cumbria), the south shore of the Solway Firth (Cumbria), the outer south shore of the Humber (Lincs.), and various smaller sites. New counters are welcome in all areas, and interested readers of this section should contact the Estuaries Officer (Mike Moser, BTO, Beech Grove, Tring, Herts.).

An exciting step forward has been the computerisation of the entire 1969-83 data. This process, which is now almost complete, will facilitate detailed analyses of the information so far collected, which have not been possible to date simply because of the volume of data collected. It will also speed up the provision of information to the conservation bodies for use in site protection. Thirteen seasons of counts are now available for monitoring the seasonal and long-term trends of our shorebird populations. These provide an invaluable source of information, which is now instantly available for the assessment of the relative conservation importance of different areas for shorebirds.

Another major development in the Enquiry has been the initiation of two projects to aid the interpretation of the standard monthly counts. The first concerns the problem of interpreting counts of waders made during passage periods, when population turnover is high. To this end, field-workers from both the Estuaries Enquiry and Wader Study Group will combine forces in Spring 1984 to examine the patterns of migration of four species of high-Arctic breeding waders (Dunlin, Ringed Plover, Sanderling and Turnstone) up the west coast of Britain.

The second major gap in our knowledge of British shorebird populations during their non-breeding season concerns the extent to which they use coastal habitats other than estuaries. Recent surveys of rocky and sandy shore areas in E Scotland, the Outer Hebrides and Orkney have revealed substantial wader populations to be present (Table 12). Little is known of the populations in these habitats outside Scotland. In order to assess their size and patterns of distribution, a national survey is being planned for the near future.

Table 12. Counts of wintering waders in some areas of non-estuarine coasts in Scotland. (There is little similar information for other parts of Britain and Ireland.)

	WESTERN ISLES	ORKNEY (Partial)	E. SCOTLAND Berwickshire-Morayshire
	Buxton (1982)*	Martin and Summers (1983)	Summers et al (1975)
Oystercatcher	3,318	10,469	2,169
Ringed Plover	2,800	515	1,170
Golden Plover	2,113	994	3,353
Grey Plover	111	16	22
Lapwing	5,307	-	3,355
Knot	44	11,329	18
Sanderling	1,412	-	649
Purple Sandpiper	2,511	3,920	3,550
Dunlin	3,662	5,124	1,911
Bar-tailed Godwit	2,048	174	854
Curlew	1,865	2,532	17,525
Redshank	965	4,578	5,493
Greenshank	9	6	0
Turnstone	3,249	7,700	4,185

* Minimum figures are presented.

Britain and Ireland support substantial populations of breeding as well as wintering waders. The increasing threats to wader breeding habitats from land development (particularly drainage and afforestation) have stimulated considerable effort over the last five years to assess the size and distribution of these populations. Various surveys have been carried out by the BTO, NCC, RSPB and WSG, culminating this year in a joint NCC/WSG survey of the Hebridean machair habitats. It is vital to carry out studies of the requirements of waders during

both parts of their annual cycle, to determine during which period these populations are being limited.

During the past 12 months, data collected for the Estuaries Enquiry have been used towards site protection on several important estuaries, particularly the Wash, Firth of Tay, South Thames Marshes and Mersey. In addition, the data have been requested for use in various applied research projects. The most important of these is an EEC/NCC funded project being carried out from the University of Durham to examine the 'Movements of Wader Populations in Western Europe'. We anticipate several joint publications concerning the seasonal and long-term patterns of population change of waders from this integration of movement and count data.

British Population Totals

Table 13 shows the national totals of each wader species counted in the priority midwinter months in 1982-83. The totals show a welcome rise on recent years, reflecting the improved coverage in 1982-83. Most but not all sites were counted in every month, and the three monthly totals are not therefore strictly comparable. The counts are made largely on estuarine habitats, and therefore underestimate the national population totals for those species which use other habitats. In addition to the species tabulated, the following were also recorded outside the midwinter period, but on official count days: Kentish Plover, Baird's Sandpiper, Pectoral Sandpiper, Wood Sandpiper, Lesser Yellowlegs and Grey Phalarope.

Table 13. Total numbers of waders recorded in Britain and N. Ireland during midwinter 1982-83. (Figures of over 100 have been rounded up to the nearest ten; over 1,000 to the nearest hundred).

	December	January	February
Oystercatcher	192,800	166,700	174,700
Avocet	110	200	320
Ringed Plover	7,300	7,300	6,300
Little Ringed Plover	0	0	3
Golden Plover	29,600	32,500	15,300
Grey Plover	16,200	18,100	14,000
Lapwing	95,000	110,400	48,300
Knot	221,900	182,600	187,200
Sanderling	3,900	4,800	4,000
Little Stint	0	3	1
Curlew Sandpiper	3	0	0
Purple Sandpiper	1,700	1,500	1,700
Dunlin	391,500	399,000	289,100
Ruff	450	670	150
Jack Snipe	27	21	45
Snipe	2,800	2,700	2,200
Black-tailed Godwit	4,800	4,900	2,800
Bar-tailed Godwit	35,800	50,000	46,300
Whimbrel	2	0	1
Curlew	45,800	54,100	44,400
Spotted Redshank	48	62	56
Redshank	49,400	49,300	46,200
Greenshank	230	190	160
Green Sandpiper	17	9	18
Common Sandpiper	22	21	20
Turnstone	10,000	9,300	9,000

In Table 14 are shown the national distribution patterns of the major wader species on estuaries. The table was constructed from the January count only, and shows the proportion of the national total for each species in that month which occurred in each region.

Table 14.

Regional distribution of some wader species on the estuaries of Britain and N. Ireland, January 1983. Figures are the percentage of the national total in each region.

	S.W. England	S. England	E. England	E. Scotland	W. Scotland	N.W. England	Wales	N. Ireland
Oystercatcher	2.3	2.9	24.8	12.8	11.6	26.5	15.8	3.2
Ringed Plover	5.1	25.3	40.9	4.6	7.3	4.2	10.5	2.2
Grey Plover	3.1	19.3	54.3	4.4	0.4	13.5	4.3	0.6
Knot	0.1	0.6	63.6	7.4	3.0	20.6	3.1	1.4
Sanderling	3.3	13.9	26.5	7.0	0	42.8	6.6	0.1
Dunlin	4.7	19.6	43.2	4.1	1.9	17.0	8.1	1.5
Ruff	0.5	89.4	9.9	0.3	0	0	0	0
Black-tailed Godwit	7.6	52.4	34.0	1.1	0	4.9	0	0
Bar-tailed Godwit	1.0	2.9	32.4	16.5	5.3	35.4	0.8	5.6
Curlew	9.7	12.9	26.7	6.9	7.6	17.4	13.6	5.2
Spotted Redshank	3.2	20.6	46.0	1.6	0	3.2	22.2	3.2
Redshank	3.9	11.5	44.9	10.9	3.9	8.9	9.3	6.7
Greenshank	16.4	10.4	3.8	0.6	8.7	2.7	15.9	41.5
Turnstone	4.5	13.0	44.4	13.8	6.7	5.3	9.1	3.1

NB S.W. England: Glos., Avon, Somerset, Devon and Cornwall
S. England: Dorset to Pegwell Bay (Kent), inclusive
E. England: Swale (Kent) to Tweed (Northumberland), inclusive
E. Scotland: Border to Moray Firth, inclusive
W. Scotland: Hebrides to N. Solway, inclusive
N.W. England: S. Solway to Dee, inclusive
Wales: excl. Dee; incl. Gwent Severn

SPECIES ACCOUNTS

The tables in this section rank the principal sites in Britain and Ireland for each species on the basis of the average mid-winter maxima for the last five seasons.

Population indices to 1982 were presented in full in the previous report (Marchant 1982), and are not repeated here. The percentage change in the January index for each species since last winter is given in the text, and the trends are discussed. A population index based on a single month has certain drawbacks, as it can vary as a result of real population changes, population movements or changes resulting from biases in the distribution of sites counted. In future reports, more detailed analyses for particular species will be presented.

Oystercatcher *Haematopus ostralegus*

The estuaries of Britain and N. Ireland together hold almost 40% of the Oystercatchers which winter in western Europe. The vast majority of these occur in E. and N. England, Scotland and Wales (see Table 14). Oystercatchers also winter on non-estuarine shores (Table 12) and inland fields, and the national totals are thus greater than shown for the estuaries alone in Table 13.

In 1982-83, the numbers on the Dee, Morecambe Bay, Solway and Ribble all fell considerably in relation to 1981-82. This resulted in a fall of 11% in the January index, the second consecutive drop, following a regular series of increases. Such large fluctuations in the number of Oystercatchers wintering on particular estuaries have, in the past, been related to changes in the abundance of Cockles, one of their major prey. Intensive studies of Oystercatchers on the Exe estuary (Goss-Custard and Durell 1983) have recently revealed that competition between individuals for the preferred food resources may be an important mechanism in the regulation of numbers. The population levels in Britain still remain considerably higher than in 1973, when monitoring first began. The first eight sites in Table 15 are all of international importance.

Table 15. Oystercatcher : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Morecambe Bay	x	46,500	46,250	x	29,754	Dec	40,835
Dee	(2,950)	16,300	41,400	42,505	28,430	Dec	32,159
Solway Firth	x	14,942	22,165	31,604	21,328	Dec	22,510
Wash	17,589	18,352	22,853	19,223	23,803	Dec	20,364
Burry Inlet	8,805	15,380	14,930	14,300	16,170	Jan	13,917
Duddon, Cumbria	4,800	10,200	7,728	12,680	10,655	Dec	9,213
Foulness	5,157	10,224	12,901	7,890	7,974	Jan	8,829
Forth	10,254	(3,351)	5,912	7,093	6,801	Feb	7,515
Ribble	9,989	7,930	7,545	7,324	3,521	Feb	7,262
Lavan Sands, Gwynedd	4,675	8,400	7,000	(440)	5,718	Dec	6,448
Clyde (inner firth)	2,931	4,403	4,515	4,122	4,576	Jan	4,109
Strangford Lough	2,237	2,707	2,675	3,041	8,532	Feb	3,838

Avocet Recurvirostra avocetta

The number of Avocets wintering in East Anglia has continued to increase, and peaks of 152 at Havergate Island and 59 on the Butley River were noted in February. The number wintering on the Exe, Devon, has also risen again, to 92. No complete counts were made on the Tamar. The 20 individuals on Southampton Water in December was an unexpected number for this site and were presumably only transient birds.

Ringed Plover Charadrius hiaticula

Ringed Plovers are widely distributed on British and Irish estuaries but rarely occur in large concentrations. They also winter on sandy non-estuarine coasts, and the Estuaries Enquiry Counts thus underestimate the national population totals. Large concentrations have recently been recorded wintering in the Western Isles and Orkney (Table 12), where important breeding populations also occur.

There are no sites of international importance for this species in Britain and Ireland during the winter, although very large numbers occur at several sites during the Spring and Autumn passage. The January population index showed a further increase of 28%, continuing the recent series of rises which have also occurred in other western European countries (Prater 1981). The index is now at its highest ever level.

Table 16. Ringed Plover : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Forth	747	541	429	356	320	Feb	479
Medway	x	x	519	268	515	Dec	434
Orwell, Suffolk	295	200	(12)	370	482	Dec	337
Humber	423	(124)	(101)	241	(209)		332
Galway Bay	216	52	488	477	x		308
Southampton Water	279	302	404	277	271	Dec	307
Swale	x	x	267	333	308	Dec	303
Chichester Harbour	278	339	298	215	364	Dec	299
Leigh/ Canvey Island	559	124	285	220	272	Jan	292
Langstone Harbour	82	215	306	547	300	Dec	290
Dee	218	700	180	81	200	Dec	276
Blackpill, W. Glam	x	236	304	218	253	Dec	253

Golden Plover Pluvialis apricaria

Although Britain and Ireland are of particular importance to this species in winter (Prater 1981), the majority occur inland and are not therefore covered by the Estuaries Enquiry. The greatest inland concentrations occur in N. England (Fuller and Lloyd 1981). The major estuaries are listed in Table 17, showing the importance of sites in southern Ireland. The rarity of severe weather on these coasts favours a species which prefers to feed on inland fields (Fuller and Youngman 1979), which can rapidly become frozen during cold spells.

The fluctuations of the January counts on estuaries largely reflect local and regional movements in response to weather conditions. Such counts cannot therefore be used to measure changes in the total population.

Table 17. Golden Plover : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Clonakilty, Co. Cork	6,500	x	x	x	x		
Cork Harbour	3,450	4,919	15,000	1,096	x		6,116
Strangford Lough	5,062	5,556	6,410	2,200	5,352	Jan	4,916
Ballycotton, Co. Cork	x	2,800	x	x	x		
Taw/Torridge, Devon	2,812	1,859	4,315	(418)	2,037	Jan	2,756
Ribble	(501)	1,256	1,959	698	6,968	Dec	2,720
Forth	2,368	3,829	2,105	(847)	1,691	Dec	2,498
Humber	(415)	1,649	(1,463)	2,940	(711)		2,295
Tacumshin, Co. Wexford	x	1,380	3,208	x	x		2,294
Burry Inlet	1,550	2,715	1,530	2,250	1,700	Dec	1,949

Grey Plover Pluvialis squatarola

Grey Plovers do not occur in large numbers outside estuaries. The largest winter concentrations are in southern, eastern and north-west England (see Table 14). All the sites in Table 18 are of international importance.

Studies being carried out on the Tees by the University of Durham suggest that social behaviour may be an important factor in the regulation of numbers on each estuary. Some individuals maintain feeding territories throughout the winter, whilst others feed in flocks. Detailed knowledge of such behaviour is vital when attempting to predict the effects of habitat loss through reclamation.

The steady increase in the size of the wintering population in western Europe (Prater 1981) was continued in 1982-83, and the January index for Britain and Ireland was up by 21% on last year.

Table 18. Grey Plover : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Wash	1,639	2,026	8,264	1,616	2,807	Dec	3,270
Dengie, Essex	1,000	x	4,000	1,380	400	Jan	1,695
Chichester Harbour	1,183	1,416	1,022	1,666	1,971	Dec	1,452
Swale	1,100	x	2,247	682	1,126	Jan	1,289
Dee	(84)	1,000	1,700	720	1,490	Dec	1,228
Foulness	1,113	829	880	2,213	683	Jan	1,144
Ribble	1,109	1,525	743	903	1,040	Jan	1,064
Stour	741	899	590	1,084	1,125	Dec	888
Hamford Water	580	687	1,042	1,000	835	Jan	829

Lapwing Vanellus vanellus

The BTO Winter Atlas will soon provide new information on the inland winter distribution of Lapwings, a species which has not been adequately covered to date by other surveys. Prater (1981) estimated at least one million birds to be present, although the vast majority of these winter on inland fields away from estuaries.

Temporary cold spells can bring large flocks to our estuaries in winter, whilst more prolonged freezing of their feeding habitats tends to result in large-scale movements, such as were seen during the cold winters of 1978-79 and 1981-82 (Marchant 1982). No such movements were observed during 1982-83, and the January index was up by a phenomenal 197%, raising it to its highest ever level. For species such as Lapwing, the January index can change as a result of movements and/or real population change. It is difficult to separate such effects, although movements obviously occur on a very large scale during cold spells.

Table 19. Lapwing : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Swale	x	x	3,772	16,127	11,466	Jan	10,455
Ribble	(2,314)	6,420	3,852	6,997	15,482	Dec	8,188
Cork Harbour	12,851	3,382	8,618	6,299	x		7,788
Taw/Torridge	6,328	6,131	9,078	2,818	8,930	Dec	6,657
Strangford Lough	x	4,205	7,476	7,019	6,730	Jan	6,358
Wexford Harbour	10,254	158	x	x	x		5,206
Burry Inlet	2,425	1,600	1,425	14,300	4,245	Jan	4,799
Severn	8,910	x	1,455	2,335	5,949	Jan	4,662
Solway	x	4,370	(2,352)	5,632	2,211	Jan	4,071
Dee	(276)	2,500	4,415	4,325	4,925	Dec	4,041

Knot Calidris canutus

Britain and Ireland hold about 65% of the Knot which winter in western Europe and N.W. Africa (Prater 1981). Within Britain, the vast majority occur at a few key sites on the North and Irish Sea coasts (Table 14). The December count on the Wash of 108,000 exceeds by almost 20,000 the previous highest winter count for any British estuary. Although the numbers remained relatively high in January and February, many had moved out of the Wash by this time. Knot are highly mobile during the winter, and ringing recoveries have shown an annual movement of birds to the Irish Sea estuaries at this time of year, from both the Wash and the Wadden Sea.

All sites holding an average winter peak of more than 10,000 Knot are listed in Table 20. Despite the high numbers recorded on the Wash, the national January population index was 15% down. The number wintering in western Europe has shown a steady decline since the first counts were made in the late 1960s, and this continuing trend certainly merits further investigation.

An exceptional mortality of more than 150 Knot, and some other species, occurred on the Ribble on 30th May 1983, when a violent hailstorm struck the estuary (F. Mawby pers. comm.). These birds were presumably about to depart to their breeding grounds in Greenland and N.E. Canada.

Table 20. Knot : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Wash	51,416	48,843	82,400	54,139	108,739	Dec	69,107
Morecambe Bay	x	35,500	40,500	x	28,087	Feb	34,696
Dee	5,000	48,000	21,450	25,315	28,390	Feb	25,631
Humber	31,800	10,623	17,905	34,734	14,829	Jan	23,766
Ribble	8,480	26,030	11,300	16,262	11,078	Dec	14,630
Foulness	16,855	6,894	7,219	33,380	8,727	Jan	14,615
Alt, Merseyside	601	2,500	34,100	6,200	18,000	Dec	12,280
Forth	18,565	11,995	8,197	3,843	11,419	Jan	10,804

Sanderling Calidris alba

The wintering population in Britain was estimated by Prater and Davies (1978) to be 10,300. This represents 63% of the known European wintering population. Although a bird of sandy beaches, the major concentrations tend to be associated with estuaries. The most important site in winter is the Ribble, where the peak numbers appear to be in decline. However, the January index shows no change on last year.

The numbers present in winter (mainly of Siberian origin) are dwarfed by the passage of Greenland breeders which occurs on the estuaries of N.W. England each spring. These estuaries (particularly the Dee, Ribble, Morecambe Bay, Duddon and Solway) are of vital importance for the Greenland birds, serving as staging posts where they can put on fat reserves to complete their migration to the Arctic breeding grounds. Sanderling will be a target species for the 1984 Spring Passage Project, when we hope to find out more about their migrational requirements.

Table 21. Sanderling : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Ribble	2,324	2,025	1,739	1,790	1,045	Jan	1,785
Alt	331	616	809	356	547	Dec	532
Clwyd	550	500	x	x	x		525
Wash	249	286	1,022	212	182	Feb	390
Teesmouth	510	570	365	214	245	Jan	381
Blackpill	x	416	275	365	310	Jan	342
Tay	(20)	x	152	300	475	Dec	309
Hamford Water	306	300	250	250	395	Jan	300
Dee	106	350	135	135	435	Dec	232
Humber	205	288	288	102	(78)		221
Duddon	231	243	264	169	195	Jan	220
Chichester Harbour	14	284	321	109	376	Jan	220

Little Stint Calidris minuta

Very few winter in Britain and Ireland. The only records for 1982-83 were of singles on the Severn, Roach and Hamford Water in January, and a single in February on the Esk, Cumbria.

Curlew Sandpiper Calidris ferruginea

The only winter record was of three individuals at Blackpill in December.

Purple Sandpiper Calidris maritima

Purple Sandpipers winter exclusively on rocky shores, and will be a major target species for the proposed national survey of non-estuarine coasts. The preliminary results of the BTO Winter Atlas, and of a special Enquiry (Atkinson, Davies and Prater 1978) have shown the major concentrations to be in N.E. England, E. Scotland, Orkney, Shetland and the Hebrides. In Ireland, the counts have suggested that the numbers are greater on the west coast than the east.

Little can be inferred from the few estuarine sites at which they were counted. The largest numbers were recorded on the Northumberland coast (780), Forth (237), Cornelian Bay, N. Yorks (210), Hartlepool Bay (210), Dee, Aberdeen (190), and Eyemouth, Borders (157).

Dunlin Calidris alpina

Dunlin are almost twice as numerous in winter as any other wader occurring in Britain and Ireland. Relatively few are found on non-estuarine habitats, and the counts therefore give an accurate picture of the distribution of this species.

The main concentrations occur in S.E. and N.W. England. The top 10 sites listed in Table 22 all support internationally important populations in mid-winter.

Table 22. Dunlin : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Morecambe Bay	x	59,500	58,500	x	28,223	Feb	48,741
Severn	46,146	x	36,450	52,605	27,670	Dec	31,224
Wash	23,748	36,983	30,193	27,572	29,082	Jan	29,516
Mersey	28,250	29,200	30,500	25,400	30,100	Dec	28,690
Lindisfarne	31,700	32,000	31,000	15,000	23,000	Dec	26,540
Humber	25,608	16,575	(12,493)	32,203	(22,736)		24,795
Chichester Harbour	18,706	24,554	21,036	23,803	27,751	Dec	23,170
Dee	(5,000)	31,000	23,470	16,380	21,135	Dec	22,996
Langstone Harbour	16,228	14,780	25,050	28,000	29,000	Jan	22,612
Ribble	23,782	27,101	23,572	18,624	17,396	Dec	22,095

Ruff Philomachus pugnax

The vast majority of Ruffs wintering on British estuaries occur in southern England (Table 14). There are, however, several important wintering sites farther north, although these are mainly inland (e.g. Martin Mere, Lancs.)

The peak mid-winter counts in 1982-83 were at Pagham Harbour, W. Sussex (302) and the nearby Bracklesham Bay (158).

Jack Snipe Lymnocryptes minimus and Snipe Gallinago gallinago

Both species occur chiefly on inland habitats rather than estuaries, and their use of the latter habitat may be determined by prevailing weather conditions, particularly frost (which prevents them from feeding in freshwater areas). The difficulties of detecting these species in the Estuary Counts further restrict the conclusions that can be drawn.

The peak counts of Snipe usually occur in S. and S.E. England. In 1982-83 they were at Christchurch Harbour (365), Southampton Water (323), Poole Harbour (300) and Pagham Harbour (213). Jack Snipe occurred in very small numbers only, with maxima at Christchurch Harbour (16), the Tavy, Devon (9) and the Severn (7).

Black-tailed Godwit Limosa limosa

Black-tailed Godwits winter mainly in southern Ireland and southern and eastern England. There is also a small but regular wintering population on the Eden Estuary. All these birds belong to the Icelandic subspecies L.l. islandica, rather than the nominate L.l. limosa which winters in Africa, to the south of the Sahara. It is this latter subspecies which breeds in Britain each year in small numbers.

All the sites in Table 23 are of international importance. Some additional areas in the Irish Republic probably also qualify, but have not been counted in recent years. The counts for Langstone, Portsmouth and Chichester Harbours have been combined to reduce the chance of duplication for this species, which frequently moves between the three sites.

There was a further rise in the January population index of 34.7%. This continues the steady recovery from the very low levels of 1978 and 1979.

Table 23. Black-tailed Godwit : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Cork Harbour	1,637	1,058	948	2,984	x		1,657
Stour	936	1,065	701	426	1,050	Jan	836
Dee	722	1,200	14	1,290	500	Feb	745
Ribble	(0)	358	1,020	868	516	Dec	691
Langstone/Portsmouth Harbours	809	458	627	343	440	Dec	535
Exe	905	266	303	368	800	Dec	528
Chichester Harbour	256	490	553	391	889	Dec	516
Hamford	460	530	650	280	556	Dec	495
Wexford Harbour	649	153	439	x	x		414

Bar-tailed Godwit Limosa lapponica

The main concentrations wintering in Britain are on the east and north-west coasts of England, and the east coast of Scotland (Table 24). The peak counts for 1982-83 showed a return to the normal pattern following the hard weather movements of the previous winter, when for example over 14,000 were recorded at Foulness (compared with 4,655 in 1982-83). Britain and Ireland support approximately 65% of the west European Bar-tailed Godwits in winter (Prater 1981). The first four sites in Table 24 are internationally important. Small numbers can regularly be found away from estuaries on sandy shores, but these are unlikely to contribute greatly to the national totals.

The January index has remained fairly stable since the early 1970s, with the exception of the two cold winters of 1978-79 and 1981-82, when large influxes were noted. The numbers were still relatively high in 1983, with the index only 15% down on last year.

Table 24. Bar-tailed Godwit : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Wash	11,849	8,691	10,936	8,359	8,131	Feb	9,647
Ribble	5,543	8,528	7,098	15,885	10,875	Jan	9,586
Foulness	5,752	3,619	4,093	14,131	4,655	Jan	6,450
Morecambe Bay	x	7,250	6,200	x	4,268	Feb	5,996
Alt	1,100	3,440	4,510	6,540	6,000	Jan	4,318
Solway Firth	x	1,214	5,494	7,022	3,088	Feb	4,205
Lindisfarne	3,910	5,000	4,730	2,600	4,520	Jan	4,152
Forth	3,055	3,147	2,303	3,840	2,764	Jan	3,022
Dee	850	7,365	1,105	3,480	130	Feb	2,586
Lough Foyle	1,482	2,312	2,220	1,831	2,915	Feb	2,152
Eden	2,350	2,500	1,512	x	1,603	Jan	1,991
Dornoch Firth	(884)	1,760	1,605	1,526	1,531	Jan	1,606

Whimbrel Numenius phaeopus

Although common in Britain as a passage migrant, Whimbrels are very rare during the winter. Only three winter occurrences were reported in 1982-83.

Curlew Numenius arquata

Curlew winter in large numbers in Britain and Ireland. In addition to their occurrence on non-estuarine shores, they are commonly found feeding inland, except when such areas become frozen. Recent research has revealed that there is a difference between the proportion of each sex feeding on estuaries and on inland fields; more females occur on the estuaries, where their longer bills allow them better access to deeper dwelling prey (Townshend 1981).

Few winter in Africa, and Britain and Ireland support a large proportion of the European wintering population. The January index continues at a stable level, which has not altered greatly since 1973. There was a 12% increase in 1983 on the 1982 index.

Table 25 Curlew : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Morecambe Bay	x	6,850	7,850	x	4,422	Feb	6,374
Solway Firth	x	2,396	2,076	3,543	4,000	Dec	3,254
Wash	1,658	2,378	4,562	2,871	2,723	Feb	2,838
Lough Foyle	2,586	2,555	1,729	1,632	4,000	Dec	2,500
Dee	(487)	2,555	2,490	2,545	2,015	Dec	2,401
Foulness	1,447	3,220	1,297	2,858	1,919	Jan	2,148
Swale	(690)	x	1,820	1,207	3,119	Jan	2,049
Forth	2,610	2,450	(969)	1,284	1,831	Jan	2,044
Severn	2,408	1,224	1,087	1,813	2,758	Dec	1,857
Humber	2,086	2,069	1,723	1,216	1,282	Jan	1,774
Taw/Torridge	1,638	1,812	1,911	1,497	1,710	Dec	1,714
Duddon	1,430	962	1,880	1,715	1,731	Dec	1,544

Spotted Redshank Tringa erythropus

Spotted Redshanks are uncommon winter residents in Britain, and occur mainly in S. and S.E. England, and Wales (Table 14). The Cleddau/ Milford Haven, Dyfed, which for the first time in recent years received full coverage, produced the third highest count for this species (12). The two larger counts were on the Medway (25) and Swale (20).

Redshank Tringa totanus

Redshanks are widely distributed in Britain and Ireland in winter, although by far the largest numbers occur on the estuaries of E. England (Table 14), mainly to the south of the Wash. They also occur in other habitats, including inland fields and non-estuarine shores (Table 12).

Despite the severe mortality noted during 1981-82 for this species (Clark 1982), the January index for 1983 was slightly up on last year (4.2%).

Table 26 Redshank : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Morecambe Bay	x	6,850	8,850	x	2,454	Dec	6,051
Clyde (inner Firth)	3,522	4,616	3,444	2,609	2,574	Dec	3,353
Wash	2,157	2,895	5,610	2,446	2,893	Dec	3,200
Dee	1,200	3,425	4,495	2,880	3,185	Dec	3,037
Stour	3,831	2,475	2,236	2,748	2,039	Feb	2,666
Forth	4,317	x	1,451	1,517	2,919	Jan	2,551
Orwell	(292)	(286)	(140)	(508)	2,475	Feb	
Lindisfarne	2,430	2,405	3,000	1,500	2,845	Dec	2,436
Humber	2,940	1,513	(867)	1,776	(1,885)		2,076
Ribble	1,685	2,110	1,927	1,955	2,132	Dec	1,962
Strangford Lough	1,818	1,998	1,360	1,902	2,092	Feb	1,834

Greenshank Tringa nebularia

Although Greenshanks are thinly scattered throughout Britain and Ireland in winter, by far the largest numbers occur in Ireland (where many sites remain uncounted). In Britain, the most important sites are on the milder south and west coasts (Table 14). The Cleddau/Milford Haven complex, receiving complete coverage for the first time, ranked second in Britain in 1982-83, with a peak of 19.

There was a 47% increase in the January index.

Table 27. Greenshank : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Lough Foyle	48	42	24	10	49	Dec	35
Cork Harbour	23	18	45	16	x		26
Taw/Torridge	23	32	32	12	27	Dec	25
Cleddau/ Milford Haven	x	x	x	x	19	Dec	19
North Bull, Co. Wexford	17	14	x	x	x		16
Strangford Lough	16	8	9	12	34	Jan	16
Lavan Sands	18	20	24	0	14	Dec	15
Galway Bay	10	3	30	16	x		15
Inner Clyde	9	14	18	12	16	Jan	14
Carlingford Lough	11	17	16	12	5	Feb	12
Southampton Water	6	13	9	11	23	Dec	12
Larne Lough	x	x	x	x	12	Jan	

Green Sandpiper Tringa ochropus

The only records were in England. The highest numbers were 3 on the Swale, South Thames Marshes and Roach/Crouch. Many more are known to winter inland.

Common Sandpiper Actitis hypoleucos

The few found on estuaries in mid-winter were mainly in S. and S.W. England. Peak numbers were on the Severn (7), and Taw/Torridge (6).

Turnstone Arenaria interpres

Table 12 shows the importance of non-estuarine coasts to Turnstones. Only a very small proportion of the British total is covered by the Estuary Counts. The number so far recorded outside estuaries strongly suggests that the British total may exceed considerably the 25,000 suggested by Prater (1981).

The first four sites in Table 28 hold internationally important numbers. There was a very slight fall of 3.7% in the January index.

Table 28. Turnstone : maxima at main resorts

	1978-79	1979-80	1980-81	1981-82	1982-83	Month	Average
Forth	2,015	2,799	1,614	(1,034)	1,195	Dec	1,906
Morecambe Bay	x	1,720	1,740	x	770	Dec	1,410
Wash	884	724	1,159	824	496	Feb	817
Guernsey	500	950	518	484	350	Dec	560
Orwell	695	450	(30)	325	336	Jan	452
Stour	332	354	427	366	469	Dec	390
Southampton Water	336	350	308	437	345	Dec	355
Blackwater	730	303	206	375	106	Jan	344
Burry Inlet	275	640	275	270	215	Feb	335

PRINCIPAL SITES FOR WADERS

The most important sites for wintering waders in the United Kingdom are shown in Table 29, in the order of the winter peak counts recorded for 1982-83. The winter peak is calculated by listing the highest counts made for each species from December to February, irrespective of the month in which they were made, and then totalling these counts. This procedure makes allowance for any poor counts that may have been made in particular winter months, and also gives due importance to peaks of wintering numbers occurring early or late in the mid-winter period. Where only one or two counts were made during these three months, the estimate of the winter peak is likely to be reduced. Only those sites with a winter peak of more than 2,000 individuals are listed. Sites regularly supporting more than 20,000 waders are considered to be of international importance (see Appendix).

Also shown in Table 29 are the all-year peaks for each site. These are calculated by adding the maxima recorded for each species during the whole July to June period.

Table 29. Peak counts of waders, 1982-83

	Winter		All-year	
Wash	179,993	(3)	179,993	(3)
Morecambe Bay	104,943	(3)	105,330	(4)
Dee	91,070	(3)	93,759	(7)
Ribble	70,794	(3)	118,393	(11)
Solway Firth	52,711	(3)	57,848	(9)
Humber	47,734	(2)	48,320	(5)
Chichester Harbour	42,791	(3)	49,435	(10)
Severn	41,665	(3)	44,325	(12)
Lindisfarne	38,176	(3)	46,751	(10)
Strangford Lough	37,556	(3)	37,659	(7)
Swale	37,436	(3)	38,694	(12)
Firth of Forth	37,132	(3)	41,932	(7)
Langstone Harbour	36,551	(3)	40,854	(12)
Burry Inlet	34,793	(3)	41,159	(12)
Foulness	34,403	(3)	38,530	(8)
Mersey	31,371	(1)	34,508	(6)
Alt	26,704	(3)	27,014	(5)
Stour	24,218	(3)	24,878	(7)
Duddon	19,557	(3)	23,517	(12)
South Thames Marshes	19,411	(3)	20,081	(9)
Taw/Torridge	18,259	(3)	20,278	(10)
Leigh/Canvey Island	16,798	(3)	18,108	(8)
Medway	16,728	(3)	19,749	(9)
Lough Foyle	15,534	(3)	16,408	(6)
Teesmouth	14,827	(3)	17,337	(12)
Lavan Sands	14,464	(3)	15,892	(7)
Blackwater	14,419	(2)	16,374	(7)
Southampton Water	14,204	(3)	16,488	(12)
Firth of Tay	13,502	(3)	13,539	(6)
Orwell	13,262	(3)	13,326	(4)
Clyde (inner)	12,284	(3)	12,292	(4)
Roach/Crouch	11,359	(3)	12,805	(8)
Exe	11,332	(3)	13,752	(11)
Pagham Harbour	10,929	(3)	11,458	(10)
Portsmouth Harbour	10,199	(3)	11,027	(12)
Cleddau / Milford Haven	9,788	(3)	10,071	(8)
Taff/Ely, S. Glamorgan	9,768	(2)	9,833	(5)
Hamford Water	8,425	(3)	15,497	(8)
Eden, Fife	7,876	(3)	9,746	(6)
Solent (north-west)	6,644	(3)	7,332	(12)
Cromarty Firth	6,511	(3)	7,681	(8)
Blackpill	6,497	(3)	7,029	(12)
Montrose Basin, Tayside	5,504	(3)	6,977	(6)
Moray Firth (Culbin)	5,422	(3)	6,666	(6)
Colne, Essex	5,224	(3)	6,207	(8)
Inland Sea/Beddmanarch Bay	5,081	(3)	5,679	(5)
Brora/Embo	4,906	(3)	5,602	(8)
Belfast Lough	4,632	(1)	5,685	(4)
Beaulieu, Hampshire	4,598	(2)	5,798	(8)
Carlingford Lough	4,538	(2)	4,538	(2)
Rye Harbour, E. Sussex	4,380	(3)	4,985	(9)
Dornoch Firth	4,379	(3)	5,494	(8)
Deben, Suffolk	4,355	(3)	4,355	(3)

cont'd over

Table 29 continued

	Winter	All-year
Cresswell-Chevington, Northumberland	3,712 (3)	3,944 (5)
Dengie Flats	3,640 (1)	3,677 (3)
Seahouses-Beadnell, Northumberland	3,628 (3)	4,178 (8)
Howick-Beadnell, Northumberland	3,409 (3)	3,655 (5)
Boulmer-Howick, Northumberland	3,340 (3)	3,794 (8)
Breydon Water	3,265 (3)	4,683 (8)
Newhaven (Ouse), E. Sussex	3,259 (3)	3,311 (10)
Pett Level	2,975 (3)	3,036 (9)
Irt/Mite/Esk, Cumbria	2,839 (3)	2,850 (7)
Loch Ryan	2,796 (3)	3,180 (6)
Cuckmere, E. Sussex	2,765 (3)	2,837 (10)
Tynemouth-Seaton Sluice, Tyne & Wear	2,714 (3)	2,795 (5)
Inner Thames	2,501 (3)	2,589 (8)
Pegwell Bay, Kent	2,398 (3)	3,722 (12)
Larne Lough	2,372 (3)	2,437 (7)
Penmon-Beaumaris, Gwynedd	2,341 (3)	2,577 (6)
Taf, Dyfed	2,284 (3)	2,295 (7)
Adur, W. Sussex	2,240 (3)	2,829 (10)
Hayle, Cornwall	2,220 (3)	2,386 (11)
Arun-Middleton, W. Sussex	2,168 (3)	2,381 (10)
Moray Firth (Castle Stuart/Whiteness)	2,146 (2)	4,101 (7)
Kingsbridge, Devon	2,084 (3)	2,596 (11)
Newtown, Isle of Wight	2,017 (2)	2,290 (7)

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APPENDIX

Criteria and Qualifying Levels for International and National Importance

A wetland is considered Internationally Important if it:

(a) REGULARLY supports either 10,000 ducks, geese and swans; or 10,000 coots; or 20,000 waders.

(b) REGULARLY supports 1% of the individuals in a population of one species or subspecies of waterfowl.

(c) REGULARLY supports 1% of the breeding pairs in a population of one species or subspecies of waterfowl.

At the Conference of Contracting Parties to the Ramsar Convention at Cagliari, Italy in November 1980 the above criteria (inter alia) were recommended for use in the identification of wetlands suitable for designation under the Convention (IWRB, 1980).

The United Kingdom ratified the Ramsar Convention in 1976, at the same time designating 13 sites. A further six were added in July 1981 (IUCN 1983). In reply to a Parliamentary Question on 14th December 1982 the Secretary of State for the Environment stated that his department had completed consultations on nine more sites, and noted that a total of 103 wetlands in the UK qualified as Internationally Important (Hansard : Cols. 100-102).

The next conference of Ramsar Parties is to be held in Groningen, Netherlands, from 7th - 12th May 1984. This conference should lead to an increase in the number of states which are parties to the Convention and in the wetlands listed thereunder. (At present 34 states have designated a total of 280 sites, covering 19,000,000 hectares).

A wetland in Britain is considered Nationally Important if it regularly holds at least 1% of the estimated wintering population of one species or subspecies of waterfowl (Prater 1981; Salmon 1981).

Table 30 gives the qualifying levels among wildfowl and waders for both categories of importance. Note that "regularly", as used in the criteria, means that the average maximum for the FIVE most recent seasons available exceeds the appropriate qualifying level.

Table 30. Qualifying levels for national and international importance

	National (Great Britain only)	International (Northwest/west European pop.)
Mute Swan	180	1,200
Bewick's Swan	50	120
Whooper Swan	* 50	100
Bean Goose	-	700
Pink-footed Goose: Iceland/Greenland pop.	900	900
European White-fronted Goose	60	2,000
Greenland White-fronted Goose	60	150
Greylag Goose: Iceland pop.	900	900
Barnacle Goose: Greenland pop.	200	300
Svalbard pop.	80	* 100
Dark-bellied Brent Goose	600	1,300
Light-bellied Brent Goose		
Canada/Greenland pop.	-	150
Svalbard pop.	* 50	* 100
Shelduck	750	1,250
Wigeon	2,000	5,000
Gadwall	* 50	550
Teal	1,000	2,000
Mallard	4,000	+10,000
Pintail	250	750
Shoveler	90	1,000
Pochard	500	2,500
Tufted Duck	600	5,000
Scaup	50	1,500
Eider	500	+10,000
Long-tailed Duck	200	5,000
Common Scoter	350	+10,000
Velvet Scoter	* 50	2,000
Goldeneye	150	2,000
Smew	-	200
Red-breasted Merganser	100	400
Goosander	* 50	750
Oystercatcher	3,000	7,500
Avocet	-	260
Ringed Plover	120 (Passage: 300)	1,000
Golden Plover	2,000	10,000
Grey Plover	100	800
Lapwing	5,000	+20,000
Knot	2,500	3,500
Sanderling: Passage	300	500
Winter	100	150
Purple Sandpiper	180	?
Dunlin	5,500 (Passage: 2,000)	+20,000
Ruff	-	10,000
Snipe	?	10,000
Black-tailed Godwit	50	400
Bar-tailed Godwit	450	5,500
Whimbrel	100	500
Curlew	1,000	3,000
Spotted Redshank	50	500
Redshank	1,000 (Passage: 1,200)	2,000
Greenshank	50	500
Turnstone	250	500

(* minimum permissible; represents over 1%
+ maximum permissible; represents under 1%
- British population too small for meaningful figure to be obtained)