PURPLE SANDPIPER
Calidris maritima

International importance:	**500**
Great Britain importance:	**210**
All-Ireland importance:	**10***

GB maximum:	**1,698**	**Mar**
NI maximum:	**87**	**Jan**

Trend **not available**

UK totals of Purple Sandpiper recorded in the 1992-93 winter were greater than those of the previous year and close to the average values of the previous five years. Winter counts over 100 birds were recorded at the following sites in 1992-93: Hartlepool-Sunderland* (347 in February), Rosehearty-Fraserburgh* (346 in March), Newbiggin-Blyth* (313 in March), Seahouses-Budle* (278 in February), Tees (185 in March), Dee (Scotland) (166 in November), Lossiemouth* (130 in February) and the Spey Coast* (110 in January). As usual, all these major sites are in NE Britain and in 1992-93 only two recorded a winter peak count below recent averages.

A wintering site is recognised as nationally important for Purple Sandpiper if the peak counts average more than 210 birds. Hartlepool-Sunderland*, Rosehearty-Fraserburgh* and the Tees currently qualify as nationally important. It is particularly pleasing to find the Hartlepool-Sunderland stretch of open coast at the top of the list, since the newly installed local organiser and his counting team have worked hard to cover this important stretch for the first time.

A study of seasonal patterns in the body mass of Purple Sandpipers wintering in Britain failed to detect significant variation in mass during the winter (Summers *et al.* 1992). This is in contrast to the patterns found with other waders such as Dunlin, Sanderling and Turnstone which all showed a significant increase in mass in mid-winter. It was suggested that Purple Sandpipers may be less at risk from cold weather and food shortages, perhaps because their food supply on rocky shores is less affected by cold weather than the prey of other wader species in estuaries. The Purple Sandpipers in this study displayed an increase in mass in May prior to migration, with those birds travelling the furthest distances accumulating the greatest fat reserves.

DUNLIN
Calidris alpina

International importance:	**14,000**
Great Britain importance:	**5,300**
All-Ireland importance:	**1,250**

GB maximum:	**448,485**	**Dec**
NI maximum:	**11,935**	**Jan**

Trend	**88-89**	**89-90**	**90-91**	**91-92**	**92-93**
UK	**83**	**85**	**100**	**97**	**83**

Dunlin is the only species where the UK winter index has not risen above 100 for more than 15 years. In 1992-93 the index dropped 15% on the previous winter, to reach its lowest level for five years. All internationally important sites, plus those of national importance that now average over 10,000 birds and all sites important in an all-Ireland context are listed in Table 49. Additionally, the Burry, Dengie, Duddon, Exe, Forth, Hamford Water, Lindisfarne, Moray Firth, Orwell, Poole Harbour, Southampton Water and Tamar support nationally important numbers of Dunlin. At the top six sites the winter peak was well down on recent averages but surprisingly the majority of the remaining sites in this table registered above average peaks, although the only notably high count was at the Blackwater.

Many Dunlin coming to Britain migrate through the Baltic and a recent paper showed that some of these birds actively moult their wing feathers before they arrive in W Europe (Holmgren *et al.* 1993). Second year birds were more likely to be in moult than older birds and tended to stop for longer periods on migration in the Baltic than older birds but could gain weight at the same rate. Those birds that arrived with low body weights tended to gain weight more rapidly than those arriving with some fat already laid down.

During the year, the BTO carried out a research project looking at the amount of movement between roost sites on the Wash (Rehfisch *et al.* 1993). The study used the wealth of information gathered by the Wash Wader Ringing Group over the last 30 years. Juvenile Dunlin were found to be rather more mobile than adults, both within winters and from year to year. Nevertheless, over three quarters of juveniles were retrapped in the same part of the Wash as they were ringed. Only 10% of adults were recorded in different parts of the Wash within the same non-breeding season and, remarkably, a similar proportion were found to move over several years. This indicates that most Dunlin return to the same part of the Wash each year.

Table 49. DUNLIN: WINTER MAXIMA AT MAIN RESORTS

	88-89	89-90	90-91	91-92	92-93	(Mth)	Average
International							
Morecambe Bay	42,987	54,802	76,602	72,113	49,285	(Jan)	59,157
Severn	44,311	(44,170)	58,705	42,056	(35,611)	(Feb)	48,357
Wash	65,679	56,510	43,233	43,768	29,680	(Jan)	47,774
Mersey	22,000	17,500	52,100	55,000	30,000	(Dec)	35,320
Langstone Hbr	31,700	37,660	27,720	34,500	31,250	(Feb)	32,566
Thames	(24,309)	25,893	29,925	38,556	(22,968)	(Feb)	31,458
Medway	(28,569)	(21,843)	26,442	28,607	(29,753)	(Feb)	28,342
Ribble	16,684	(14,147)	19,038	39,832	30,862	(Jan)	26,604
Humber	(21,899)	(22,903)	(26,133)	25,604	(27,075)	(Jan)	26,270
Dee (Eng/Wales)	16,772	14,710	24,670	31,368	21,223	(Dec)	21,748
Chichester Hbr	12,915	(28,268)	24,235	13,972	21,721	(Dec)	20,222
Blackwater	19,785	11,400	19,025	20,900	(26,425)	(Dec)	19,507
Stour	16,154	16,116	16,429	17,412	19,902	(Nov)	17,202
Great Britain+							
Solway	(12,443)	(14,537)	12,977	14,404	9,572	(Mar)	12,786
Swale	(13,610)	(12,055)	12,410	11,785	12,988	(Dec)	12,698
Colne	10,933	12,930	12,506	12,092	10,190	(Jan)	11,730
Northern Ireland							
Strangford Lo.	5,128	10,693	5,043	5,010	2,403	(Jan)	5,655
Lo. Foyle	1,900	(2,900)	2,475	(3,000)	5,170	(Feb)	3,181
Outer Ards*	2,967	2,506	2,620	2,493	1,744	(Jan)	2,466
Carlingford Lo.	3,300	910	1,420	1,670	(688)	(Jan)	1,825
Belfast Lo.	997	1,263	1,376	2,416	1,659	(Dec)	1,542
Dundrum Bay	1,550	(2,100)	1,991	1,345	465	(Jan)	1,490

+ remaining sites of national importance listed in text.

RUFF
Philomachus pugnax

International importance: ?
Great Britain importance: 7*
All-Ireland importance: +*

GB maximum: 420 **Mar** **Trend** **not available**
NI maximum: 3 **Nov**

In the 1991-92 winter totals of Ruff recorded at estuarine/coastal sites in the UK reached their highest levels for more than five years. Numbers recorded in 1992-93 were more typical of recent winters. In contrast UK totals on inland wetlands were higher in the 1992-93 winter than the previous year, although differences in coverage may be partly responsible. Winter peak counts greater than 20 were recorded at 10 sites, mostly in SE England: Lower Derwent# (107 in March), the Blackwater (63 in February), Martin Mere# (57 in March), Nene Washes# (46 in January), Hamford Water (45 in December), North Norfolk Marshes (45 in March), the Swale (45 in December), Pulborough Levels# (35 in January), Sandbach Flashes# (35 in January) and the Crouch/Roach (25 in November). Passage counts greater than 50 birds were recorded at Cresswell-Chevington* (140 in September), Humber (106 in September) and North Norfolk Marshes (56 in September).

The numbers of Ruff wintering in the UK are small compared with recent estimates of 180-200,000 birds in the Senegalese part of the Senegal River delta in January (Trolliet *et al.* 1992). In Germany migrant Ruffs were censused in both July and August 1990, (OAG Münster & OAG Schleswig-Holstein 1992). Around 5,000 birds were counted on each date, mostly at the coast, but the high proportion of juveniles in August suggested high turnover. Papers collated by Hötker (1991) report decreases in Ruff as a breeding bird in The Netherlands, Belgium, Germany and Denmark.

The highly complex lekking behaviour and mating system of Ruffs has been recently described by Hogan-Warburg (1992), and Hoglund *et al.* (1993). Hogan-Warburg draws attention to the similarities in location, configuration and spacing of individuals, between the lek and groups of birds feeding on spring passage. The author relates this to van Rhijn's (1991) hypothesis that many females are inseminated at leks encountered during their spring migration. It is suggested that the intense competition between males for mating opportunities has led to the evolution of a system in which passing females are intercepted at foraging stops far south of their eventual nesting location.

Jack Snipe
Lymnocryptes minimus

International importance:	**?**
Great Britain importance:	**?**
All-Ireland importance:	**250**

GB maximum:	**85**	**Nov**	**Trend**	**not available**
NI maximum:	**1**	**Jan**		

UK totals for Jack Snipe in the 1992-93 winter were close to recent averages for estuarine/coastal sites, but for inland wetlands UK totals were significantly higher than the previous year. The cryptic plumage and skulking habits of this species mean that the counts probably record only a small fraction of the birds present. During the 1992-93 winter double figures were recorded on only one occasion when 10 were seen at Chichester Harbour in February.

SNIPE
Gallingo gallingo

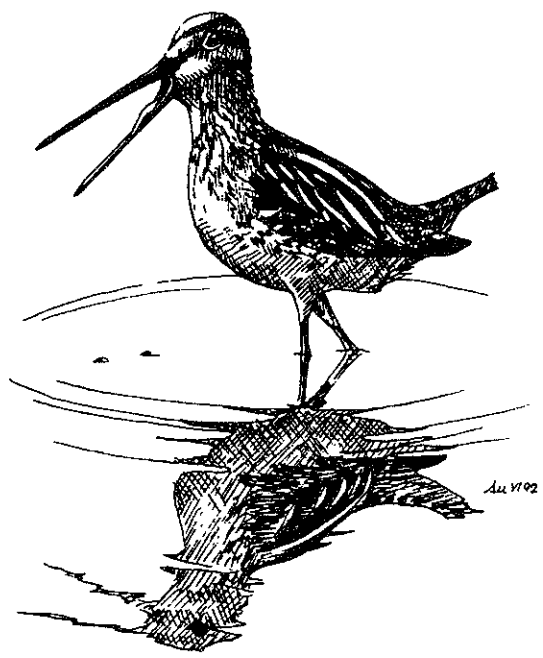
International importance:	**10,000**
Great Britain importance:	**?**
All-Ireland importance:	**?**

GB maximum:	**6,729**	**Nov**	**Trend**	**not available**
NI maximum:	**89**	**Feb**		

The total numbers of Snipe recorded at estuarine/coastal sites in the UK during the 1992-93 winter were again generally lower than recent averages, particularly in January. As in 1991-92, UK totals recorded at inland sites were somewhat higher than those at estuarine/coastal sites. For only the second time in more than 10 years, and for the second consecutive winter, no estuarine/coastal sites recorded a winter count above 200 birds. This figure was exceeded at six inland sites: Stodmarsh# (1,000 in November), W. Sedgemoor# (605 in February), Burtle Moor# (473 birds in December), Pulborough Levels# (405 in November), Tealham and Tadham Moors# (351 in February) and Nene Washes# (251 in November).

The breeding origins of the UK wintering Snipe are largely in Scandinavia and the UK. Surveys conducted in 1982 and 1989 showed that a high percentage of British breeding Snipe are now restricted to nature reserves, where their numbers have declined less than on unprotected areas (O'Brien & Smith 1992). In Britain and Ireland, a contraction of breeding range has occurred in recent years, especially in lowland regions of S England, Wales, NE Scotland and S Eire. The British and Irish breeding population now stands at *c.* 45,000 pairs having declined by approximately 20% since 1972 (Gibbons *et al.* 1993). This decline is thought to have resulted from the drainage of suitable wetland nesting habitats for intensive agricultural purposes. Undrained areas would normally remain waterlogged throughout most of the summer thereby prolonging the availability of soil invertebrates for Snipe offspring.

By examining bags of Snipe shot in the UK over the past 100 years, Tapper (1992) showed that wintering numbers were almost certainly much greater in the first half of the twentieth century than in the past forty years. In contrast to recent breeding surveys, however, winter bag returns give no evidence of any continuing decline over the past 30 years. It is suggested that this pattern may be the result of changes in agricultural practice, with the heaviest declines caused by periods of extensive land drainage. A decrease in the wintering population is also suggested in Denmark where shooting bags have declined by a half since the 1950s (Meltofte 1993). By comparing recoveries of hunted and non-hunted ringed Snipe across Europe, Henderson *et al.* (1993) showed that hunting pressure is unlikely to be the cause of the declines in the European Snipe population. Instead habitat loss was thought to be the more likely cause.



BLACK-TAILED GODWIT
Limosa limosa

International importance: 700
Great Britain importance: 75
All-Ireland importance: 90

GB maximum:	**9,940**	**Nov**
NI maximum:	**440**	**Jan**

Trend	88-89	89-90	90-91	91-92	92-93
UK	167	188	143	168	183

The 1992-93 UK winter index for Black-tailed Godwit continued its upward trend with a 9% increase over the previous winter. All internationally important sites, all sites important in an all-Ireland context plus those of national importance that average over 400 birds are presented in Table 50. The Alde, Beaulieu, Blyth, Suffolk, Burry, Cefni, Crouch/Roach, Deben, Dengie, Eden, Fal, Humber, Mersey, Morecambe Bay, Newtown, Thames, North West Solent, Portsmouth Harbour, Solway and Tay are also of national importance for Black-tailed Godwit. At about half of these major sites, the winter peak for 1992-93 was below recent averages. The Colne and, particularly, the Ribble held substantially fewer birds than in the 1991-92 winter, when numbers had also declined from previous years. Low recorded counts on the Ribble in 1992-93 may be partly the result of incomplete coverage achieved, but it is highly probable that actual numbers present were indeed very low that winter. Typically, UK monthly totals during passage periods were higher than those in the winter, and with more rapid turnover occurring during the migration periods, far more birds must pass through the UK during spring and autumn than overwinter. Passage counts greater than 700 were made at nine sites in 1992-93, compared to 12 in the previous year. Peak passage counts of over 1,000 birds were made at Hamford Water (3,058 in September), Dee (Eng/Wales) (1,901 in October), Ribble (1,586 in August), Medway (1,549 in August), Stour (1,090 in October) and Wash (1,062 in April).

The number of Black-tailed Godwits occurring on the Wash has increased dramatically since regular counting for the BoEE began in 1969. The results of an analysis of the biometric data of all Black-tailed Godwits ringed by the Wash Wader Ringing Group since 1970 (Clark *et al.* 1993) supported the suggestion that the birds were from the *islandica* population (Prater 1981). On the Ouse Washes, the breeding population considered to be an extension of the Dutch *limosa* population has suffered more mixed fortunes (Gibbons *et al.* 1993). During 1988, 1989 and 1990, 33-36 pairs were confirmed to have bred in Britain, compared with approximately 60 pairs in the late 1970s.

Table 50. BLACK-TAILED GODWIT: WINTER MAXIMA AT MAIN RESORTS

	88-89	89-90	90-91	91-92	92-93	(Mth)	Average
International							
Swale	465	(34)	(569)	2,115	1,394	(Feb)	1,754
Stour	1,080	(1,734)	2,372	2,169	1,007	(Feb)	1,672
Hamford Water	1,010	(70)	2,241	1,254	1,899	(Nov)	1,601
Dee (Eng/Wales)	552	1,600	1,233	1,617	1,760	(Nov)	1,352
Poole Hbr	1,099	1,451	1,236	1,280	1,423	(Mar)	1,297
Ribble	2,490	491	977	561	(38)	(Mar)	1,129
Blackwater	392	(1,037)	743	1,132	1,167	(Mar)	894
Great Britain+							
Chichester Hbr	1,125	(750)	367	536	451	(Jan)	645
Colne	1,400	616	378	147	499	(Mar)	608
Southampton Water	427	(997)	311	305	876	(Dec)	583
Exe	542	648	782	480	450	(Jan)	580
Langstone Hbr	761	599	651	460	305	(Dec)	555
Wash	132	664	(401)	321	854	(Dec)	492
Medway	(519)	(630)	168	274	856	(Mar)	489
Orwell	139	(335)	330	700	597	(Dec)	441
Northern Ireland							
Belfast Lo.	138	135	139	286	330	(Jan)	205
Strangford Lo.	176	175	47	121	110	(Jan)	125

+ remaining sites of national importance listed in text.

BAR-TAILED GODWIT
Limosa lapponica

International importance: 1,000
Great Britain importance: 500
All-Ireland importance: 175

			Trend	88-89	89-90	90-91	91-92	92-93
GB maximum:	**40,778**	**Nov**						
NI maximum:	**2,885**	**Jan**	**UK**	**129**	**126**	**152**	**122**	**120**

Although the UK winter index for Bar-tailed Godwit fell by only 2% in 1992-93, the new value is the lowest for 12 years. Table 51 lists all sites of international importance, those sites important in an all-Ireland context and those of national importance averaging over 600 birds. Other nationally important sites not listed in the table are the Inner Moray Firth and the North Norfolk Marshes. Winter peaks were below the recent average for almost all sites in the top half of the table but all bar two sites in the bottom half recorded a 1992-93 winter peak that was above the recent average. For a species whose counts fluctuate widely (often due to large scale international movements), 1992-93 was an unremarkable winter at all major sites except the Solway, where the winter peak of 1,940 birds was only 48% of the average peak count over the previous five winters.

Larsen (1993) has studied the foraging behaviour of Bar-tailed Godwits on their breeding grounds in Norway in the period prior to egg-laying. The study area consisted of a mosaic of peat bogs, shallow lakes and ponds, and dry, lichen covered moraines with open birch forests. Female godwits preferred to feed in the wet bogs, whilst males associated with Whimbrel foraging on the dry mounds (palsas) in the bogs. The vigilance of male godwits was not significantly affected by the presence of their mates, but female vigilance fell significantly both when they fed near their mate and when they fed near Whimbrels. Female godwits therefore, share their vigilance with Whimbrels whereas male godwits do not appear to benefit from interspecific association.

Table 51. BAR-TAILED GODWIT: WINTER MAXIMA AT MAIN RESORTS

	88-89	89-90	90-91	91-92	92-93	(Mth)	Average
International							
Ribble	7,898	13,350	9,940	18,775	(10,412)	(Mar)	12,490
Wash	8,403	12,622	14,834	9,807	11,098	(Dec)	11,352
Thames	(3,304)	(3,804)	(11,517)	3,969	(9,530)	(Nov)	8,338
Alt	7,902	5,391	7,095	2,934	(3,913)	(Mar)	5,830
Lindisfarne	6,010	6,200	4,900	(3,590)	(3,515)	(Jan)	5,703
Solway	7,315	(2,831)	3,650	1,536	(1,940)	(Dec)	4,167
Forth	3,372	1,510	2,722	3,075	2,260	(Feb)	2,587
Lo. Foyle	2,520	(2,222)	3,427	1,115	2,140	(Jan)	2,300
Humber	(1,054)	(1,270)	(2,002)	(1,837)	(1,711)	(Jan)	(2,002)
Morecambe Bay	1,844	858	2,568	1,886	2,736	(Nov)	1,978
Inner Moray Fth	1,465	1,487	1,987	1,632	2,374	(Feb)	1,789
Tay	1,835	1,400	1,696	2,296	1,310	(Jan)	1,707
N Norfolk Marshes	423	(1,599)	1,653	1,225	852	(Jan)	1,150
Chichester Hbr	890	(1,448)	1,056	954	1,267	(Dec)	1,123
Cromarty Fth	907	801	1,309	913	1,231	(Jan)	1,032
Dee (Eng/Wales)	152	396	2,480	837	(1,181)	(Feb)	1,009
Great Britain+							
Dornoch Fth	633	546	1,515	995	1,050	(Feb)	947
Dengie	386	800	1,000	1,200	1,180	(Mar)	913
Eden	892	700	680	490	1,461	(Feb)	844
Northern Ireland							
Strangford Lo.	1,074	628	329	291	836	(Mar)	631

+ *remaining sites of national importance listed in text.*

WHIMBREL
Numenius phaeopus

International importance:	**6,500**
Great Britain importance:	**+***
All-Ireland importance:	**+***

GB maximum:	**20**	**Jan**
NI maximum:	**3**	**Mar**

UK totals for Whimbrel were typically in single figures for all months of the 1992-93 winter except in January, when a count of 15 at Artro was largely responsible for the UK total of 20 birds. Peak passage counts were, as usual, much higher with peaks over 100 recorded at the Severn (254 in May), Carmarthen Bay (229 in October), Thames (189 in April), Wash (177 in July), Morecambe Bay (147 in May), Lough Foyle (146 in May), Chichester Harbour (132 in May) and Humber (105 in May).

The nocturnal foraging of Whimbrel was studied on the Zwartkops estuary, South Africa by Turpie & Hockey (1993). Whimbrels foraged more slowly at night (to compensate for the reduced visibility) but their energy intake rates did not differ significantly from those achieved during the day. A long-term study of breeding waders in Finland has shown that breeding densities of Whimbrel were appreciably higher on clear-cut areas of forestry than in natural open habitats (Pulliainen & Saari 1993). Extensive clear-cut areas in Lapland have provided new breeding grounds for Whimbrel, but the population nonetheless seems to be declining, suggesting that the availability of nesting habitat is not limiting.

A recent recovery of an adult ringed on Fetlar confirmed the wintering area of at least some of our breeding birds. This individual was controlled in November at Guinea-Bissau, four years after being ringed on its nest in Scotland.

CURLEW
Numenius arquata

International importance:	**3,500**
Great Britain importance:	**1,200**
All-Ireland importance:	**875**

GB maximum:	**85,546**	**Dec**
NI maximum:	**7,744**	**Dec**

Trend	**88-89**	**89-90**	**90-91**	**91-92**	**92-93**
UK	**126**	**135**	**123**	**148**	**151**

In 1992-93 the UK winter index for Curlew rose by just 2% on the value of the previous year. This is the highest value recorded since counting began in 1970. As in the case of the Lapwing and Golden Plover (that also winter in the UK in significant numbers away from wetlands) the highest UK totals for 1992-93 were recorded in December. In contrast to the two plover species, winter count totals of Curlew peaked in Northern Ireland in December. All internationally important sites, together with those of national importance averaging over 1,750 birds and all sites important in an all-Ireland context are listed in Table 52. In addition, the Burry, Chichester Harbour, Cleddau, Clyde, Cromarty Firth, Dornoch Firth, Lavan Sands, Mersey, Poole Harbour, Stour, Swale, Taw/Torridge and Wigtown Bay also hold nationally important numbers of Curlew. At the majority of these sites the peak counts for the 1992-93 winter were above the recent averages.

Territory establishment and habitat use by breeding Curlew have been examined in a recent study in central Sweden (Berg 1992, 1993). Food availability was thought to be important in the establishment of territories. Earthworms were found to be the most important food item during this period. Significantly higher numbers of earthworms were caught per minute in sown grassland than in tillage, despite there being no significant difference in the biomass of earthworms between the two habitats. Breeding densities of Curlew were higher on grassland than farmland where tillage predominates because of greater food availability. These results suggest that changes in land use due to intensification of farming practices have caused the Swedish Curlew population to decline since the 1950s.

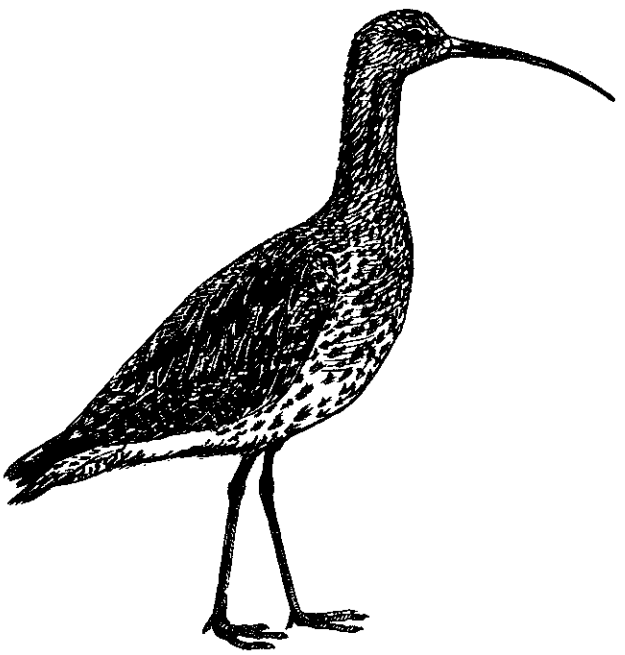


Table 52. CURLEW: WINTER MAXIMA AT MAIN RESORTS

	88-89	89-90	90-91	91-92	92-93	(Mth)	Average
International							
Morecambe Bay	9,849	10,199	13,174	12,970	14,538	(Dec)	12,146
Solway	(3,757)	(4,882)	5,171	7,360	(5,345)	(Dec)	6,265
Wash	3,796	3,295	3,578	(3,727)	4,396	(Mar)	3,766
Dee (Eng/Wales)	2,474	2,910	2,892	5,331	4,209	(Jan)	3,563
Great Britain+							
Severn	2,706	(2,736)	2,505	(3,328)	4,555	(Dec)	3,273
Thames	(3,492)	(3,345)	(3,301)	3,311	2,380	(Mar)	3,165
Humber	(2,704)	(1,483)	(2,320)	3,414	2,344	(Dec)	2,879
Forth	(1,306)	1,676	2,137	2,520	2,859	(Feb)	2,298
Duddon	2,163	2,300	1,992	2,094	2,342	(Dec)	2,178
Inner Moray Fth	1,355	1,929	2,293	(1,726)	2,491	(Feb)	2,017
Orkney (Widewall)*	1,750	2,400	1,700	2,200	-		2,012
Blackwater	1,067	2,102	2,401	2,706	1,622	(Mar)	1,979
Medway	(1,796)	(1,981)	1,868	1,986	1,932	(Dec)	1,941
Northern Ireland							
Lo. Foyle	3,000	(1,351)	1,925	1,982	2,439	(Dec)	2,336
Strangford Lo.	2,056	1,483	2,096	1,575	2,467	(Dec)	1,935
Outer Ards*	1,501	1,997	710	1,793	758	(Jan)	1,351
Belfast Lo.	1,377	962	1,128	1,440	1,096	(Nov)	1,200

+ remaining sites of national importance listed in text.

SPOTTED REDSHANK
Tringa erythropus

International importance: 1,500
Great Britain importance: +*
All-Ireland importance: +*

GB maximum: 70 Nov **Trend not available**
NI maximum: 2 Nov/Feb

The recorded UK totals of Spotted Redshank were typically around 50 birds each month during the 1992-93 winter. Winter counts in double figures were recorded at the Tamar complex (20 in November) and on the Medway (11 in December). Passage period UK totals were unexceptional and peak counts over 50 were recorded only at the Wash (128 in July), Swale (74 in July) and the Blyth (Suffolk) (61 in September). Both these sites also recorded passage peaks above 50 in 1991-92.

The amount of food removed by several wader species including Spotted Redshank was assessed by Sezkely & Bamber (1992) by excluding birds from certain plots which contained predominately Chironomid larvae. These experiments in central Europe were backed up by direct observations of Black-tailed Godwit, Ruff and Spotted Redshank. Over the 13 day experiment, around 85% of the prey were removed by the waders present.

REDSHANK
Tringa totanus

International importance:		**1,500**
Great Britain importance:		**1,100**
All-Ireland importance:		**245**

GB maximum:	**73,606**	**Dec**
NI maximum:	**6,358**	**Feb**

Trend	88-89	89-90	90-91	91-92	92-93
UK	119	120	101	112	103

In 1992-93 the UK winter index for Redshank fell by 8% on the previous year. UK totals were close to recent averages in all months of the 1992-93 winter. Table 53 lists all internationally important sites, together with those of national importance and all sites of importance in an all-Ireland context. About half of the major sites recorded peak counts above the recent averages but only at the Alde complex, Poole Harbour and Blackwater were these peaks counts up more than 50%. Only at Lindisfarne was the peak less than half of the recent average.

Redshank can suffer high mortality at winter sites from raptor predation. Escape responses have been shown to depend on the species of predator and the type of attack (Cresswell 1993). Behaviour that increases the chance of identifying an approaching predator may elicit an appropriate escape response.

Long-term studies at a coastal breeding site found that there was no significant difference in male and female adult survival rates each year (Thompson & Hale 1993). There were, however, consistently more females in the study population, with females breeding more frequently in their first year than males. Breeding numbers were lower, though not significantly so, in years following a wet June and were higher following a wet July. The number of breeding males, but not females, was found to be partially related to the mean February air temperature in the previous winter, with fewer males returning to breed following a cold February.

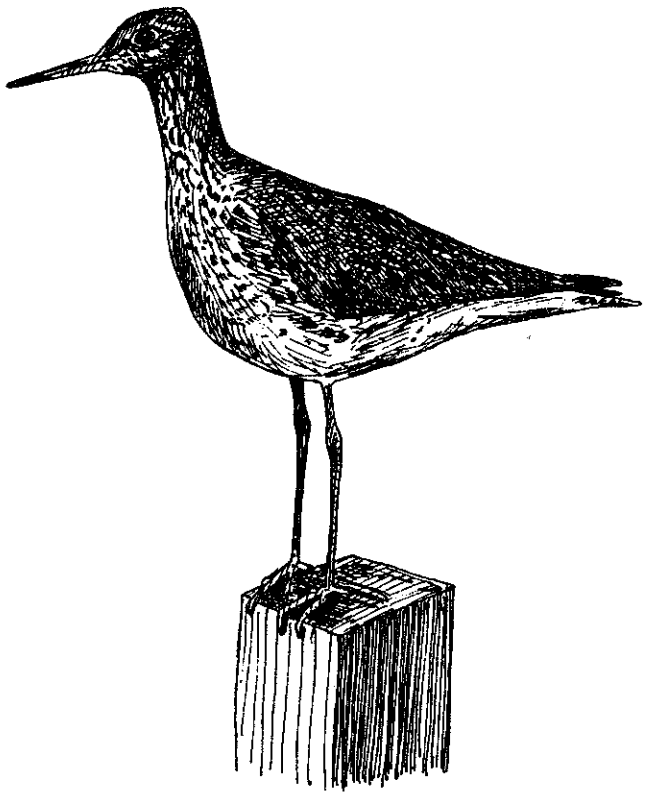


Table 53. REDSHANK: WINTER MAXIMA AT MAIN RESORTS

	88-89	89-90	90-91	91-92	92-93	(Mth)	Average
International							
Dee (Eng/Wales)	8,035	7,692	7,330	9,322	7,174	(Dec)	7,910
Morecambe Bay	7,151	6,763	6,379	5,756	7,272	(Nov)	6,664
Humber	(2,671)	(5,208)	(4,776)	4,219	(6,777)	(Jan)	5,245
Thames	(5,160)	6,040	(4,569)	(4,014)	2,567	(Mar)	4,584
Medway	(5,087)	(4,664)	3,450	5,355	3,073	(Mar)	4,325
Mersey	2,930	4,458	4,335	4,578	3,823	(Jan)	4,024
Forth	3,464	3,563	4,393	4,526	3,895	(Feb)	3,968
Wash	4,619	3,497	(3,872)	2,391	3,787	(Nov)	3,633
Inner Moray Fth	2,962	3,664	2,827	(2,654)	3,194	(Jan)	3,161
Solway	(1,851)	(1,966)	2,049	(3,127)	(3,192)	(Nov)	2,789
Severn	2,627	(1,614)	2,166	(2,841)	2,924	(Nov)	2,639
Lindisfarne	3,100	3,600	2,600	(1,045)	1,157	(Nov)	2,614
Strangford Lo.	2,809	2,771	2,420	2,345	2,336	(Dec)	2,536
Swale	(3,714)	(1,552)	(1,472)	1,817	1,463	(Dec)	2,331
Montrose Basin	1,983	2,530	2,717	2,202	2,049	(Mar)	2,296
Inner Clyde	2,243	1,546	2,441	1,817	1,998	(Jan)	2,009
Belfast Lo.	1,646	2,153	1,043	2,188	2,061	(Dec)	1,818
Cromarty Fth	1,829	1,168	2,304	1,634	1,339	(Feb)	1,654
Ribble	1,449	1,151	1,717	2,013	1,909	(Nov)	1,647
Alde complex	1,128	(1,458)	1,784	1,114	2,259	(Dec)	1,571
Deben	1,903	1,657	(1,191)	1,089	1,432	(Nov)	1,520
Great Britain							
Tay	1,051	2,339	711	1,152	2,236	(Mar)	1,497
Poole	1,997	858	1,012	1,300	2,178	(Jan)	1,469
Duddon	1,878	1,219	1,043	1,319	1,639	(Feb)	1,419
Orwell	1,373	1,243	1,574	1,531	862	(Dec)	1,316
Blackwater	598	(1,197)	1,023	1,728	(1,925)	(Jan)	1,294
Colne	1,247	1,288	1,152	1,332	1,391	(Mar)	1,282
Cleddau	1,603	1,629	1,326	729	911	(Dec)	1,239
Stour	905	1,185	1,478	1,279	1,331	(Mar)	1,235
Tees	1,319	(888)	1,264	986	960	(Dec)	1,132
Chichester Hbr	1,770	(1,595)	1,718	759	1,267	(Dec)	1,123
Northern Ireland							
Outer Ards*	847	1,267	863	737	779	(Jan)	898
Dundrum Bay	582	(725)	568	707	1,049	(Nov)	726
Lo. Foyle	800	597	730	(735)	634	(Feb)	699
Carlingford Lo.	938	810	557	388	688	(Feb)	676
South Down*	-	654	-	-	-	654	
Larne Lo.	327	566	363	390	429	(Feb)	415

GREENSHANK
Tringa nebularia

International importance: 3,000
Great Britain importance: +*
All-Ireland importance: +*

GB maximum:	**220**	**Dec**	**Trend**	**not available**
NI maximum:	**76**	**Jan**		

During the 1992-93 winter, UK totals of Greenshank were unexceptional, with around 250 recorded in each month except March. Winter peak counts over 20 birds were made only at Strangford Lough (39 in November), Tamar complex (26 in December) and the Taw/Torridge (25 in January). Recorded UK totals of Greenshank during autumn passage normally greatly exceed those made during the winter. In autumn 1992, recorded numbers were on the low side in comparison to recent averages. Peak passage counts over 50 were made at the Wash (182 in July), Blackwater (136 in September), Medway (106 in August), Chichester Harbour (85 in September), Morecambe Bay (84 in September), Langstone Harbour (68 in August) and Strangford Lough (67 in October). Most of these high passage counts are usually recorded in autumn and at sites in SE England.

For only the second time, movement by Greenshank between the UK and south of the Sahara was confirmed. An adult ringed near Portsmouth in July 1985 was found freshly dead in Ghana in January 1992. (Mead *et al.* 1993).

GREEN SANDPIPER
Tringa ochropus

GB maximum:	**98**	**Mar**
NI maximum:	**0**	

UK totals of Green Sandpiper at coastal/estuarine sites were marginally higher than recent averages in February and March 1993. Similarly, at inland sites, UK totals in these two months were higher than in the corresponding months of the previous winter with the totals for inland sites slightly higher than those for coastal/estuarine sites. Sites holding five or more birds in the 1992-93 winter were the Thames (10 in February and March), Stour Valley# (seven in January), Colne (seven in February), Tamar complex (six in November and February), Swale (six in February) and Crouch/Roach (five in February). As usual, the main wintering areas are in S England. Passage period UK totals at coastal/estuarine sites were similar to recent averages with the autumn figures, as usual, exceeding those from the winter period. For the second consecutive year however no sites recorded counts over 50 birds, with the maximum being 25, recorded at the Thames and at the Swale.

Green Sandpipers leave their breeding grounds very early in the year, with birds on passage in Britain from late June to early October and peak numbers in August (Prater 1981). The British and Irish wintering population has been estimated at between 500 and 1000 individuals (Lack 1986) which suggests that only 10% of the population is recorded by WeBS counts, presumably because the preferred habitat includes small ponds and ditches. Ringing recoveries suggest that the majority of passage birds fly further south to Africa and that Britain's wintering populations comprise largely Scandinavian breeding birds (Mead & Clark 1993).

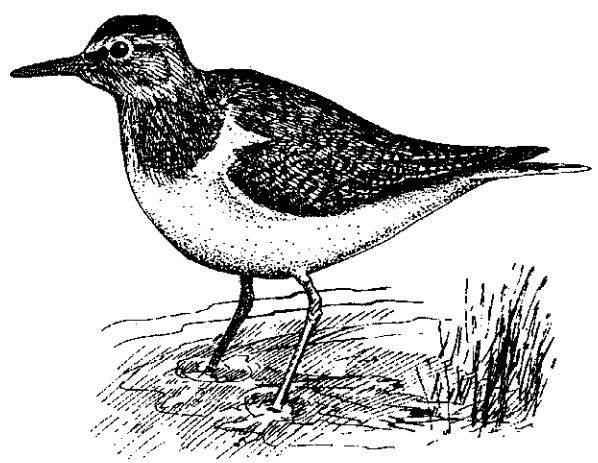
A recent study has found that Green Sandpipers have very high return rates from one winter to the next (83.5%), being very site faithful in mid-winter (Smith *et al.* 1992). Interestingly the return rates of Green Sandpipers are negatively correlated with the number of night frosts which occur in the first winter (Smith, Reed & Trevis 1992).

COMMON SANDPIPER
Actitis hypoleucos

GB maximum:	**32**	**Nov**
NI maximum:	**0**	

The wintering distribution of this species has a strong southerly bias which is illustrated in the 1992-93 counts. During the 1992-93 winter peak counts of greater than two birds were made at the Tamar complex (six in November and February), Medway (six in January), Barn Elms Resr.# (four in November), Long Ridge Reservoirs# (three in December) and Exe (three in November and March). UK totals for the winter were similar to recent averages. As usual the highest peak count made during 1992-93 was at Morecambe Bay (106 in July). In addition passage peak counts exceeding 50 were made at the Wash (62 in August) and Severn (51 in July).

The British and Irish wintering population has been estimated at around 100 individuals (Prater 1981; Lack 1986) and perhaps as a consequence very little work has been carried out on British wintering Common Sandpipers. Evidence from ringing recoveries (Mead & Clark 1993) suggests that the British breeding population winters in Africa, with most authors (Prater 1981; Lack 1986) suggesting an area south of the Sahara. The furthest British recovery was a bird ringed in Essex and subsequently shot in Guinea-Bissau. The British wintering population is made up of Scandinavian waders with 23 ringed birds confirming British-Scandinavian movements. The distribution maps from the two British atlases (winter and breeding) (Lack 1986, Gibbons *et al.* 1993) show that breeding and wintering birds occupy totally different geographical areas. Breeding birds prefer upland areas of Wales, N. England and Scotland, whereas wintering birds occur in lowland England and Wales, predominantly in coastal areas.



TURNSTONE
Arenaria interpres

International importance: 700
Great Britain importance: 650
All-Ireland importance: 225

			Trend	88-89	89-90	90-91	91-92	92-93
GB maximum:	**15,934**	**Jan**						
NI maximum:	**2,223**	**Jan**	**UK**	**144**	**152**	**141**	**153**	**134**

In 1992-93 the UK winter index dropped by 12% to reach its lowest value for eight years. The majority of the wintering population in the UK, however, is not covered by WeBS counts since around 80% occur on non-estuarine coasts, many of which are not included in the survey. All internationally important sites which are included within the current counts plus those of national importance and those important in an all-Ireland context are shown in Table 54. Other sites of importance may remain uncounted. At only two of these major sites (Morecambe Bay and Belfast Lough) was the winter 1992-93 peak above the recent average. The greatest decline in numbers was noted at the Wash.

During passage periods in 1992-93, peak counts exceeding 700 birds were noted at seven sites. Sites with a peak in autumn were Morecambe Bay (1,645 in October), Thames (1,551 in September), Thanet* (1,244 in August), Medway (1,176 in September) and Wash (739 in August). This list demonstrates the importance of the N Kent and S Essex region for migrant Turnstones. Peak passage counts were recorded in the spring at Guernsey* (812 in April) and the Forth (701 in April). For the first time in three years the peak count at Morecambe Bay was in the autumn rather than the spring.

Table 54. TURNSTONE: WINTER MAXIMA AT MAIN RESORTS

	88-89	89-90	90-91	91-92	92-93	(Mth)	Average
International							
Morecambe Bay	1,647	1,651	1,944	1,721	2,086	(Jan)	1,809
Outer Ards*	1,775	2,336	1,612	(1,207)	1,163	(Jan)	1,721
Thanet*	1,284	1,144	1,253	1,342	949	(Nov)	1,194
South Down*	-	1,190	-	-	-		1,190
Forth	1,184	(869)	(1,188)	1,082	1,066	(Jan)	1,130
Thames	(681)	(595)	766	1,379	(665)	(Nov)	1,072
Wash	1,282	967	(1,131)	896	457	(Mar)	946
Dee (Eng/Wales)	960	1,185	853	780	765	(Nov)	908
Guernsey*	602	(664)	936	615	(565)	(Mar)	717
Northern Ireland							
Belfast Lo.	575	778	877	476	770	(Jan)	695
Strangford Lo.	437	455	326	346	312	(Nov)	375
Tyrella/Minerstown*	-	449	186	233	-		289

KINGFISHER
Alcedo atthis

International importance: ?
Great Britain importance: ?
All-Ireland importance: ?

GB maximum:	**271**	**Sep**	**Trend**	**not available**
NI maximum:	**1**	**Sep/Nov**		

The Kingfisher's quiet habits and preference for slow flowing rivers (Taylor 1986) mean that, despite its dazzling appearance, it is recorded only in small numbers by WeBS. The 1992-93 peak count is considerably higher than the 1991-92 figure, and March numbers were also well up, possibly due to the relatively mild winter. Harsh winter conditions are known to cause severe mortality amongst Kingfisher populations, though it is interesting to note that the breeding distribution is gradually spreading further north (Mead 1993). Estimated breeding numbers of between 3,300 and 5,500 pairs are present in Britain, and hence apparent trends or changes noted by the winter counts are subject to a great deal of uncertainty since only a small proportion of the population is ever recorded. The following sites held 5 or more birds during 1992-93: Tamar Estuary (10, November, *cf.* 0), Poole Harbour (10, October, *cf.* 3), Somerset Levels (8, October, *cf.* 5), Wraysbury Gravel Pits (7, October, *cf.* 8), River Ouse: Southease to Lewes (6, October, not counted in 1991-92), Stour Estuary (6, September, *cf.* 0), Stockers Lake (6, March, *cf.* 1), Cheshunt Gravel Pit (6, March, *cf.* 5), Theale Gravel Pits (6, February, *cf.* 2), Drakelow Gravel Pit (6, October, *cf.* 0), Cotswold Water Park West (5, March, *cf.* 2), Tring Reservoirs (5 November, *cf.* 2), Frisby Gravel Pits (5, September, *cf.* 3), Gunthorpe Gravel Pits (5, September, *cf.* 2), Lancaster Canal (5, January, *cf.* 0) and Eglwys Nunydd Reservoir (5, October, *cf.* 3).

ADDITIONAL SPECIES

Several species of waterfowl, although they occur regularly in Britain, are only recorded in very small numbers by WeBS. These include scarce visitors and rarities (see e.g. Rogers and the Rarities Committee 1993) and escaped or feral birds. In several cases, it is not possible to identify the origin of individual birds with confidence, and, following the recommendations of Vinicombe *et al.* (1993), all WeBS records are presented here for completeness.

LESSER WHITE-FRONTED GOOSE *Anser erythropus*

Birds were recorded at three sites in 1992-93: one was seen on Alton Water in February and April, another on the Duddon in August, September and November in 1992, although the bird seen on Derwent Water in February and March 1993 may have been the same bird as that on the Duddon.

RED-BREASTED GOOSE *Branta ruficollis*

Singles were noted at Fisherwick and Elford Gravel Pits in September and October, and on the Blackwater Estuary in February.

AMERICAN WIGEON *Anas americana*

Possibly as many as seven birds were found at six sites in 1992-93, although some records probably relate to the same individuals. Singles were recorded at Loch of Skene, Stenhouse Reservoir and Loch of Loriston with two on the Firth of Fourth, all during mid-winter, while there were MArch records of single birds at Martin Mere and Foryd Bay.

RING-NECKED DUCK *Aythya collaris*

Numbers of this species have increased in recent years and birds were recorded widely throughout the UK, with some individuals having returned to the same site for several winters in succession. Singles were found at Upper Lough Erne, Loe Pool, Drift Reservoir, Timsbury Lake, Broadlands Estate, Fairburn Ings, Winfields Pond and Whinfell Tarn, while two birds found on Loch Morlich in November moved to Loch Vaa in December.

FERRUGINOUS DUCK *Aythya nyroca*

A single bird was recorded at Wicken Fen Gravel Pit in November while another overwintered at Kingsbury and Coton Pools.

KING EIDER *Somateria spectabilis*

A lone bird was recorded amongst the large numbers of sea-duck at Loch Fleet in October, and two were recorded by RSPB/BP surveys on the Moray Firth.

SURF SCOTER *Melanitta perspicillata*

Four birds were discerned amongst their European cousins in the Firth of Forth in January, with another two on the Eden Estuary in the same month. At least a further three were recorded by RSPB/BP surveys in the Moray Firth (Evans 1993).

WOOD SANDPIPER *Tringa glareola*

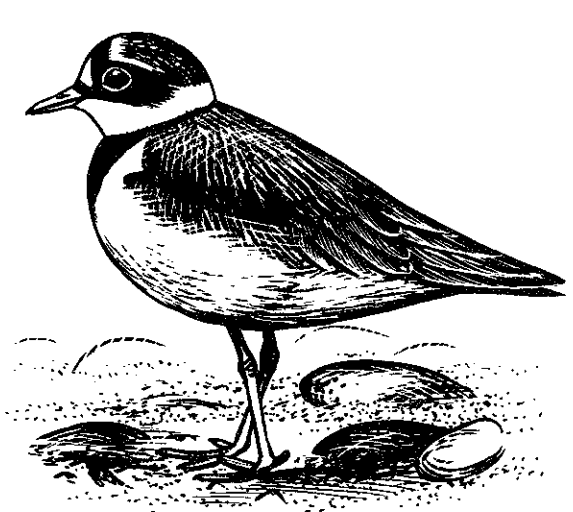
Recorded at 11 sites with the maximum count of two birds noted at the Tamar complex in May and at the North Norfolk Marshes in September. No birds were recorded in the 1992-93 winter period.

KENTISH PLOVER *Charadrius alexandrinus*

The winter record of an individual at Morecambe Bay in December, January and February is highly unseasonal. One bird on the Exe in April was at a more typical time of year.

LITTLE RINGED PLOVER *Charadrius dubius*

Recorded at 32 sites, many inland, with the maximum counts being six birds at North Norfolk Marshes in August and the same number at Sennowe Park, Lake Guist# in July and August.



GREY PHALAROPE *Phalaropus fulicarius*

Recorded only at Rosehearty-Fraserburgh* (in January), Morecambe Bay, Llangorse Lake# and Loch an Tiumpan (Lewis)#, all in September. Single individuals only.

PECTORAL SANDPIPER *Calidris melanotos*

All counts were made in September with two on the Tees and one bird recorded at both North Norfolk Marshes and the Avon estuary.

WOODCOCK *Scolopax rusticola*

Only singletons were recorded from nine sites between October and March.

RED-NECKED PHALAROPE *Phalaropus lobatus*

One at the Severn Estuary in September.

TEMMINCK'S STINT *Calidris temminckii*

One at the Tees in July.

BUFF-BREASTED SANDPIPER *Tryngites subruficollis*

One at Netherfield Gravel Pits# in September.

LESSER YELLOWLEGS *Tringa flavipes*

The October count at Loch Ordais (Lewis)# included one individual.

PRINCIPAL SITES

Table 55 lists the principal sites in terms of overall waterfowl numbers in the UK as recorded by WeBS, including all internationally important sites. All sites regularly holding a total of at least 10,000 waterfowl (i.e. divers, grebes, Cormorant, Grey Heron, wildfowl, waders and rails), or, where wader data for the last five seasons are not available (i.e. for inland sites), 10,000 or more wildfowl (i.e. divers, grebes, Cormorant, wildfowl and Coot) are included here. These are ranked according to their average maxima over the five-year period 1988-89 to 1992-93. Sites supporting one or more species with a population level of international importance (see Appendix 1), according to average maxima calculated over the five year period 1988-89 to 1992-93, are also included.

It is important to note that the ranking of sites given in Table 55 relates to waterfowl numbers, rather than conservation importance (see *Interpretation of Waterfowl Counts*). Also, some sites which may be of critical importance to certain waterfowl species or populations will not be included in this list, for example, sites that are important only in times of severe weather or during migratory periods. The locations of the sites in Table 55 are given in Appendix 2.

The peak counts at each site are calculated by summing the highest count for each individual species during the winter season, irrespective of the month in which it occurred. The table shows the average peak counts at each site over the period 1988-89 to 1992-93, and the peak counts of all waterfowl, wildfowl and waders in 1992-93 in successive columns. For most inland sites, the numbers of waders present has only been recorded for the past two years. In these cases, the five year average value is calculated using wildfowl data alone, and is marked in the table by an asterisk. The number of Internationally Important Populations (IIP) and corresponding species codes are given in the final two columns.

Note that data for the "wildfowl" species first recorded in WeBS databases in 1991-92 have been included in calculating site totals of waterfowl and wildfowl in Table 55 for 1992-93 only. While totals for previous seasons would have been higher if these species were included for those years also, the numbers involved are, in many cases, negligible. The maximum increase for any site as a result of including these extra species in 1992-93 was 375 birds. The average increase per site was just 10 birds, although 78% of sites recorded increases of less than this. Only data collected during WeBS monthly counts and the censuses of Pink-footed and Greylag Geese are included in calculating site totals. Additional counts, such as those of sea-ducks on the Moray Firth, made using different methodologies, are not currently incorporated into the WeBS databases.

It is also worth noting that, since the production of the last report (Cranswick *et al.* 1992), revised qualifying levels for international importance have been published for some species (Rose & Scott 1993), e.g. Gadwall 1% international level has increased from 120 to 250. Hence, some sites may appear to have declined in importance for particular species when compared to previous years.

Though the table requires careful interpretation, it does serve to identify many of the UK's important wetlands, and some of the species for which these sites have special value. Readers should refer to the sections on *Interpretation of Waterfowl Counts* and *Data Presentation* for guidance.

Wildfowl numbers inevitably fluctuate from year to year, so detecting significant increases or decreases is difficult. However, of sites that regularly support in excess of 20,000 waterfowl, the following held peak counts that were at least 30% above or below their respective five year averages in 1992-93: the Blackwater Estuary (+68%), Breydon Water (+43%), the Stour Estuary (30%) and the Alt Estuary (-71%). In addition, the increases on the Dee Estuary (England/Wales) and the Wash were also remarkable in terms of the absolute numbers of birds, although representing only 27% and 18% increases respectively.

Variations in just total wildfowl or total wader numbers may be masked when considering all waterfowl combined. Of sites regularly supporting in excess of 10,000 wildfowl, counts at the following sites were 30% above or below their respective five year averages: Cameron Reservoir (+54%), Montrose Basin (+31%), Tay Estuary (-77%), Slains Loch (- 76%), Lough Foyle (-47%), Dupplin Lochs (-35%), Lindisfarne (-35%) and Abberton Reservoir (-31%). Similarly, for sites which regularly hold 10,000 or more waders, the following recorded peak counts of 30% above or below their respective five year averages: Langstone Harbour (+92%), Inner Moray Firth (+51%), Breydon Water (+44%), Alde Complex (43%), Carmarthen Bay (+40%), Chichester Harbour (+37%), Dee Estuary (+37%), Poole Harbour (+37%) and Medway Estuary (-74%).

The peak 1992-93 count of wildfowl at many of the key sites in Table 55 was either on a par with or, for some sites, much lower than, their respective five year average. As a result of the poor breeding success of many Arctic-nesting geese, the populations were, for some species, lower than in recent years. There were no particularly large concentrations of Pink- footed Geese in 1992-93 and the count at Dupplin Lochs was less than half that of 1991-92. Numbers of Dark-bellied Brent Geese were also lower, which, combined with fewer Pinkfeet, contributed to the low count on the Wash. Although the 1992-93 peak of wildfowl of the Ribble Estuary was very similar to the site's five year average, it was almost 50,000 less than the record count of 1991-92, largely due to the "lesser" numbers of Wigeon. Numbers on the Mersey and the Dee (England/Wales) Estuaries were also lower than in recent seasons, mostly as a result of fewer Teal and Pintail at these sites. Smaller numbers of all four species mentioned thus far contributed to the 1992-93 total for the North Norfolk Marshes being the lowest for over five years and less than half the figure recorded in 1991-92. A similar pattern of total numbers was observed at Lough Foyle, as a result of much fewer Wigeon and Light-bellied Brent Geese at the site in 1992-93. Some of the most notable declines at

inland sites were at Loughs Neagh and Beg, which held far fewer diving ducks than in recent years, and Abberton Reservoir, where numbers of several species were lower than normal. Montrose Basin and the Swale Estuary were some of the few sites to record more wildfowl than in recent years. Most notable, however, were the increases on the Somerset Levels, which must be rich reward for the successful management of this area, especially West Sedgemoor, in recent years. Numbers of Teal and Wigeon here have risen dramatically in recent years and the total of over 80,000 waterfowl in 1992-93 indicates that this area will almost certainly feature much higher in Table 55 in years to come.

Most sites with peak counts averaging over 10,000 waders over the past five winters recorded above average peaks in the 1992-93 winter. High numbers of Lapwing and Golden Plover were present at many sites, giving rise to the record high UK totals recorded. At the Blackwater, high counts of Lapwing, Golden Plover and Dunlin increased the "all species" total to more than double the average peak of the previous five winters. High numbers of Lapwing were also recorded on the adjacent estuaries of Hamford Water and the Stour. The overall numbers of waders recorded at each of these three estuaries in eastern England has increased every winter for the past three years. Also, for the third winter in succession, Golden Plover and Lapwing were present in above average numbers at Breydon Water, giving rise to a further increase in the all waders total. Much further west at Carmarthen Bay, exceptionally large numbers of Golden Plover were recorded, more than double the previous average all wader total. Of those major sites whose winter peaks average more than 100,000 waders in recent years, the Dee (England/Wales) registered the greatest change in total numbers. The peak count of waders in 1992-93 was more than 50% higher than the average of the previous five winters, due mainly to increased numbers of Oystercatcher and Knot. At the nearby Alt, overall numbers of waders declined more in 1992-93 than at any other major site. Dunlin and especially Knot numbers were particularly low on the Alt. Movement of Knot between the Alt and the Dee is well known and probably accounts for most of these observed results. Montrose Basin was the only other major site recording overall wader totals well below those of recent years. The 40% drop in the winter peak count at this estuary in eastern Scotland was due largely to unusually low numbers of Dunlin and Golden Plover.

The general trend at inland wetlands was for the 1992-93 winter peak of waders to exceed that of the previous winter with Lapwing, in particular, and Golden Plover recorded in larger numbers. A notable exception to this pattern was Loughs Neagh and Beg where the 1992-93 peak was less than half that of the previous winter due to much lower numbers of Lapwing and Golden Plover. It will be interesting to see how counts in future winters will enable us to draw firm conclusions about the importance of sites for inland wader populations.

SPECIES CODES

Little Grebe	LG	Scaup	SP
Great Crested Grebe	GG	Eider	E
Cormorant	CA	Long-tailed Duck	LN
Mute Swan	MS	Goldeneye	GN
Bewick's Swan	BS	Red-breasted Merganser	RM
Whooper Swan	WS	Goosander	GD
Pink-footed Goose	PG	Coot	CO
European White-fronted Goose	EW	Oystercatcher	OC
Greenland White-fronted Goose	NW	Avocet	AV
Greylag Goose	GJ	Little Ringed Plover	LP
Canada Goose	CG	Ringed Plover	RP
Barnacle Goose	BY	Golden Plover	GP
Dark-bellied Brent Goose	DB	Grey Plover	GV
Light-bellied Brent Goose	PB	Lapwing	L
Shelduck	SU	Knot	KN
Wigeon	WN	Sanderling	SS
Gadwall	GA	Dunlin	DN
Teal	T	Black-tailed Godwit	BW
Mallard	MA	Bar-tailed Godwit	BA
Pintail	PT	Whimbrel	WM
Shoveler	SV	Curlew	CU
Pochard	PO	Redshank	RK
Tufted Duck	TU	Turnstone	TT

NB *Not every species covered by WeBS has a corresponding qualifying level for international importance (see Appendix 1). Hence these species do not feature in this table.*

TABLE 55. PRINCIPAL WATERFOWL SITES IN THE UK, 1988-89 TO 1992-93

Site name	5 Yr Mean Waterfowl	1992-93 Waterfowl	1992-93 Wildfowl	1992-93 Waders	†IIP	Species codes
Wash	343,866	407,748	54,731	353,017	13	PG,DB,SU,PT,OC,GV,L,KN,DN,BA,CU, RK, TT
Ribble Est.	237,721	230,741	85,838	144,903	15	BS,WS,SU,WN,T,PT,OC,GV,L,KN,SS,DN, BW,BA,RK
Morecambe Bay	223,068	219,701	32,317	187,384	12	PG,SU,PT,OC,GV,L,KN,DN,BA,CU,RK,TT
Dee (Eng/Wales)	145,760	186,422	28,124	158,298	12	SU,T,PT,OC,GV,KN,DN,BW,BA,CU,RK,TT
Humber Est.	143,065	142,997	21,008	121,989	9	DB,SU,GP,GV,L,KN,DN,BA,RK
Thames Est.	142,886	151,533	28,164	123,369	10	DB,SU,OC,RP,GV,KN,DN,BA,RK,TT
Solway Est.	123,935	123,572	39,799	83,773	9	WS,PG,BY,PT,SP,OC,KN,BA,CU,RK
Lo. Neagh/Beg	*97,658	95,713	84,755	10,958	6	WS,BS,PO,TU,SP,GN
Mersey Est.	82,942	80,090	30,571	49,519	5	SU,T,PT,DN,RK
Severn Est.	80,941	69,538	18,119	51,419	5	BS,SU,GA,DN,RK
Forth Est.	76,914	74,237	35,001	39,236	6	PG,SU,KN,BA,RK,TT
Medway Est.	72,290	70,783	16,735	54,048	7	DB,SU,PT,RP,GV,DN,RK
N. Norfolk Marshes	70,351	62,469	34,224	28,245	6	PG,DB,WN,PT,KN,BA
Strangford Lo.	61,081	53,778	18,618	35,160	3	BI,KN,RK
Blackwater Est.	60,318	101,152	23,179	77,973	5	DB,SU,GV,DN,BW
Swale Est.	59,848	71,459	26,308	45,151	6	DB,WN,GV,KN,BW,RK
Ouse Washes	*52,654	72,465	57,404	15,061	7	BS,WS,WN,GA,T,PT,SV
Chichester Hbr	52,453	54,619	16,732	37,887	5	DB,RP,GV,DN,BA
Langstone Hbr	52,236	47,418	10,215	37,203	2	DB,DN
Lindisfarne	50,710	45,283	14,873	30,410	5	GJ,WN,RP,BA,RK
Inner Moray Fth	49,308	50,926	22,144	28,782	6	PG,GJ,WN,RM,BA,RK
Montrose Basin	47,078	52,761	42,864	9,897	2	PG,RK
Alt Est.	45,793	13,232	1,678	11,554	2	KN,BA
Stour Est.	43,908	57,143	10,810	46,333	3	GV,DN,BW
Lo. of Strathbeg	*39,812	37,691	37,691	-	3	WS,PG,GJ
Dupplin Lo.	*39,238	25,560	25,500	60	1	PG
Lo. Foyle	38,878	32,071	12,187	19,884	3	WS,WN,BA
Burry Inlet	37,614	27,777	5,497	22,280	2	PT,OC
Colne Est.	35,336	43,327	13,227	30,100	1	DB
Duddon Est.	34,929	43,068	8,016	35,052	2	PT,KN
Abberton Rsr	*34,772	24,072	24,072	-	3	GA,T,SV
Lo. Leven	*32,279	33,188	32,655	533	2	PG,SV
West Water Rsr	*32,200	25,329	25,269	60	1	PG
Hamford Water	31,317	38,018	9,987	28,031	4	DB,RP,GV,BW
Dengie	29,843	33,760	5,114	28,646	2	GV,KN
Dornoch Fth	29,243	31,577	21,072	10,505	2	GJ,WN,
Cromarty Fth	27,518	22,544	13,452	9,092	6	WS,PG,GJ,WN,BA,RK
Tay Est.	26,824	16,456	3,564	12,892	3	E,BA,RK
Crouch/Roach Est.	26,767	28,210	8,953	19,257	1	DB
Martin Mere	*26,229	29,401	27,964	1,437	4	BS,WS,WN,PT
Exe Est.	23,150	21,573	7,038	14,535		
Poole Hbr	22,821	28,437	8,843	19,594	2	SU,BW
Alde Complex	22,679	27,105	8,857	18,248	2	AV,RK
Lo. Eye	*22,642	20,052	20,044	8	3	WS,PG,GJ
Inner Clyde	22,252	24,040	5,936	18,104	1	RK
Breydon Water	21,428	30,731	7,037	23,694	1	BS
Orwell Est.	21,018	22,461	7,002	15,459		
Rutland Water	*20,959	19,551	16,222	3,329	2	GA,SV
Tees Est.	20,522	19,511	5,723	13,788	1	KN
Dinnet Lo.	*19,957	23,533	23,533	-	1	GJ
Southampton Water	19,751	19,966	8,100	11,866		
Belfast Lo.	19,459	22,863	5,366	17,497	1	RK
Carmarthen Bay	19,083	26,058	933	25,125		
Outer Ards	18,583	16,822	511	16,311	2	RP,TT
Slains Lo.	*18,161	4,360	4,360	-	1	PG
Lo. of Skene	*18,156	21,020	21,020	-	2	WS,GJ

Site name	5 Yr Mean Waterfowl	1992-93 Waterfowl	1992-93 Wildfowl	1992-93 Waders	†IIP	Species codes
Fleet/Wey	17,928	18,761	16,756	2,005		
Cleddau Est.	17,254	15,769	7,314	8,455		
Hule Moss	*17,161	17,373	17,354	19	1	PG
Wigtown Bay	16,603	11,870	5,292	6,578	1	PG
Lower Derwent Ings	*16,398	37,921	18,344	19,577		
Deben Est.	15,336	14,996	4,873	10,123	1	RK
Eden Est.	15,066	15,745	4,359	11,386		
Carsebreck/Rhynd Lo.	*14,369	13,289	11,300	1,989	1	PG
Pagham Hbr	13,646	14,919	7,298	7,621	1	DB
Portsmouth Hbr	13,611	10,600	4,104	6,496	1	DB
NW Solent	13,140	13,997	5,297	8,700	1	DB
Lo. of Harray	*12,701	12,428	9,651	2,777	2	WS,GJ
Tamar Complex	11,978	11,940	2,909	9,031		
Lavan Sands	11,769	10,297	2,314	7,983		
Taw/Torridge Est.	11,131	10,994	2,969	8,025		
Cameron Rsr	*10,726	17,015	16,581	434	1	PG
Castle Lo., L'maben	*12,558	(3,000)	(3,000)	-	1	PG
Dundrum Bay	10,403	10,297	2,048	8,249		
Dyfi Est.	10,232	9,780	6,046	3,734		
Ythan Est.	9,971	10,663	2,855	7,808		
Chew Valley Lake	*9,791	23,036	8,934	14,102	2	GA,SV
Fala Flow	*9,220	4,881	4,845	36	1	PG
Lo. Fleet Complex	9,169	7,503	3,862	3,641		
Somerset Levels	*9,031	80,370	24,357	56,013	1	T
Irvine Est.	8,845	10,048	3,862	6,186		
South Down	8,809	8,809	-	8,809	2	RP,TT
Nene Washes	*8,799	25,278	12,903	12,375	1	BS
Blyth Est. (Suffolk)	8,350	12,117	2,906	9,211		
Rye Hbr/Pett Levels	8,209	7,654	2,425	5,229		
Camel Est.	8,142	10,729	349	10,380		
Lo. Spynie	*8,132	8,140	8,139	1	1	GJ
Thanet Coast	8,087	8,087	2,036	6,051	1	TT
Beaulieu Est.	7,821	9,208	3,575	5,633		
Newtown Est.	7,594	7,390	4,263	3,127		
Tyninghame Est.	6,985	8,104	2,261	5,843		
Avon Valley (Mid)	*6,936	9,287	9,287	-	2	BS,GA
Carlingford Lo.	6,767	6,081	2,263	3,818		
Lo. of Kinnordy	*6,227	5,709	5,563	146	1	PG
Upper Lo. Erne	*6,074	5,492	4,047	1,445	1	WS
Drummond Pond	*6,009	11,053	9,071	1,982	1	GJ
Haddo House Lo.	*5,965	5,702	5,696	6	1	GJ
Lo. Indaal	5,921	5,428	3,415	2,013		
Inland Sea	5,812	7,187	2,018	5,169		
Lo. of Lintrathen	*5,756	6,346	6,232	114	1	GJ
Pegwell Bay	5,661	6,848	1,248	5,600		
Swansea Bay	5,204	3,950	124	(3,826)		
Lo. Larne	5,056	4,036	1,963	2,073		
Hayle Est.	4,895	8,529	1,248	7,281		
Fal Complex	4,832	5,924	971	4,953		
Lo. Ryan	4,665	4,936	2,245	2,691		
Gladhouse Rsr	*4,470	3,676	3,673	3	1	PG
Lo. Tullybelton	*4,370	5,800	5,800	-	1	PG
Christchurch Hbr	4,282	6,006	771	5,235		
Auchencairn Bay	4,208	2,825	590	2,235		
Traeth Bach	4,205	2,699	2,396	1,303		
Irt/Mite/Esk Est.	4,073	4,311	1,722	2,589		
Crombie Lo.	*3,972	3,953	3,917	36	1	PG
Clwyd Est.	3,956	4,718	884	3,834		

Site name	5 Yr Mean Waterfowl	1992-93 Waterfowl	1992-93 Wildfowl	1992-93 Waders	†IIP	Species codes
Foryd Bay	3,901	4,304	2,744	1,560		
Lo. Mahaick	*3,772	800	800	-	1	PG
Kingsbridge Est.	3,746	4,119	2,117	2,002		
Conwy Est.	3,717	3,297	1,074	3,223		
Bann Est.	3,696	3,872	662	3,210		
Cowgill Rsr	*3,579	6,700	6,700	-	1	PG
Cefni Est.	3,305	3,041	1,147	1,894		
Hoselaw Lo.	*3,274	907	905	2	1	GJ
Lo. Lomond	*3,137	3,434	3,434	-	1	NW
Guernsey Coast	3,123	2,993	169	2,824	1	TT
Holburn Moss	*3,099	3,404	3,404	-	1	GJ
Lake of Menteith	*3,063	80	80	-	1	PG
Lo. Ken	*2,910	(323)	(323)	-	1	NW
Lo. Gruinart	2,867	3,086	1,043	2,041		
Brading Hbr	2,815	4,117	1,202	2,915		
Adur Est.	2,810	4,153	63	4,090		
Red Wharf Bay	2,704	2,245	589	1,656		
Fedderate Rsr	*2,605	-	-	-	1	GJ
Lour	*2,605	-	-	-	1	PG
Luce Bay	2,594	3,329	554	2,775		
Thorpe WP	*2,548	2,091	2,091	-	1	GA
Lo. Clunie	*2,547	2,718	2,718	-	1	GJ
Berney Marshes	*2,532	8,407	4,537	3,870	1	BS
Braint Est.	2,519	1,378	256	1,122		
Ballo Rsr	*2,316	3,212	3,212	-	1	GJ
Cuckmere Est.	2,282	2,217	1,592	625		
Gadloch	*2,247	2,958	2,958	-	1	GJ
Corby Lo.	*2,099	1,530	1,273	257	1	GJ
Mawddach Est.	2,032	1,612	873	739		
Yar Est.	2,012	1,850	1,481	369		
Tweed Est.	1,987	2,287	1,251	1,036		
Hunterston Est.	1,930	1,643	1,176	467		
Lower Bogrotten	*1,883	3,000	3,000	-	1	GJ
Dysynni Est.	1,855	2,737	1,842	895		
Rough Firth	1,795	2,498	419	2,079		
Gartmorn Dam	*1,719	1,200	1,200	-	1	GJ
Newhaven Est.	1,550	1,953	25	1,928		
St Benet's Levels	*1,499	3,368	898	2,470	1	BS
Gunton Park Lakes	*1,494	1,154	1,154	0	1	GA
Lo. of the Lowes	*1,452	3,040	3,040	-	1	GJ
Ogmore Est.	1,434	1,434	560	874		
Blyth Est. (N'berland)	1,395	1,177	226	951		
Kircudbright Bay	1,363	1,434	739	695		
Medina Est.	1,353	2,049	419	1,630		
Coquet	1,341	1,600	405	1,195		
Teifi Est.	1,320	1,215	634	581		
Lossie Est.	1,314	1,681	860	821		
Axe Est.	1,279	2,480	311	2,169		
Lo. Garten	*1,169	1,057	1,057	-	1	GJ
Otter Est.	1,076	1,120	1,028	92		
Machrihanish	*1,057	1,110	1,110	-	1	NW
Dee Est. (Scotland)	1,031	2,052	881	1,171		
Nyfer Est.	1,029	548	194	354		
Rhunahaorine	*1,010	726	726	-	1	NW
Lo. Gilp	1,003	795	290	505		
Dulas Bay	948	782	81	701		
Plym Est.	904	685	106	579		
Avon Est.	776	567	357	210		

Site name	5 Yr Mean Waterfowl	1992-93 Waterfowl	1992-93 Wildfowl	1992-93 Waders	†IIP	Species codes
Deveron Est.	690	656	174	482		
Erme Est.	677	608	481	127		
Artro Est.	648	805	356	349		
Yealm Est.	647	783	560	223		
Wootton Est.	639	735	298	437		
Gannel Est.	624	569	65	504		
Don Est.	606	792	263	529		
Fleet Bay	604	602	181	421		
Linne Mhurich/Lo. na Cille	*542	542	542	-	1	NW
Teign Est.	425	292	131	161		
South Alnmouth	334	271	103	168		
Spey Est.	329	839	795	44		
Tyne Est.	301	-	-	-		
Dart Est.	247	96	96	-		
Afan Est.	239	239	83	156		
Fowey Est.	231	298	113	185		
Helford Est.	214	262	108	154		
Looe Est.	169	-	-	-		
Caithness Lo.	-	-	-	-	1	GJ
Islay	-	-	-	-	2	NW,BY
Walland Marsh	-	-	-	-	1	BS
SW Lancashire	-	-	-	-	1	PG
Coll	-	-	-	-	1	NW
Tiree	-	-	-	-	1	NW
Tay/Isla Valley	-	-	-	-	1	GJ
Stranraer Lo.	-	-	-	-	2	NW,GJ
Orkney	-	-	-	-	1	GJ
Bute Lochs	-	-	-	-	1	GJ

- *Indicates that no total count is available*

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Appendix 1. INTERNATIONAL AND NATIONAL IMPORTANCE

Criteria for International Importance have been agreed by the Contracting Parties to the Ramsar Convention on Wetlands of International Importance (Ramsar Convention Bureau 1988). Under one criterion, a wetland is considered Internationally Important if it regularly holds 1% of the individuals in a population of one species or subspecies of waterfowl, while any site regularly holding a total of 20,000 waterfowl also qualifies. Britain and Ireland's wildfowl belong to the north-west European population (Pirot *et al.* 1989), and the waders to the east Atlantic flyway population (Smit & Piersma 1989). A wetland in Britain is considered Nationally Important if it regularly holds 1% of the estimated British population of one species or subspecies of waterfowl, and in Northern Ireland important in an all-Ireland context if it holds 1% of the estimated all-Ireland population (see Table 56).

Since *Wildfowl and Wader Counts 1991-92*, a further 11 Ramsar sites and 15 SPAs have been designated in the UK, some sites receiving dual designation.

Ramsar designation only
Roydon Common (Norfolk)
Crymlyn Bog (W Glam)
Malham Tarn (N Yorks)

SPA classification only
Sheep Island (Co Antrim)
Great Yarmouth North Denes (Norfolk)
Ouse Washes (Cambs/Norfolk)
Hornsea Mere (Humbs)
Flamborough Head & Bempton Cliffs (Humbs/N Yorks)
Salisbury Plain (Wilts/Hants)
Bowland Fells (Lancs)

SPA and Ramsar designation
Nene Washes (Cambs)
Gibraltar Point/The Wash Phase 2 (Lincs)
South Tayside Goose Roosts (Tayside)
Hamford Water (Essex)
Lower Derwent Valley (Humbs/N Yorks)
The New Forest (Hants)
Medway Estuary and Marshes (Kent)
Stodmarsh (Kent)

These designations represent real progress in the designation programme (see *Conservation and Management*). In total, 69 Ramsar sites and 77 SPAs have been designated in the UK.

(R) = Ramsar site only; (S) = SPA only; the remainder have dual designation.

Abberton Reservoir
Abernethy Forest (S)
Ailsa Craig (S)
Alt Estuary
Bowland Fells (S)
Bridgend Flats
Bridgwater Bay (R)
Bure Marshes (R)
Burry Inlet
Cairngorm Lochs (R)
Chesil Beach/Fleet
Chew Valley Lake (S)
Chichester/Langstone Harbours
Chippenham Fen (R)
Claish Moss (R)
Coquet Island (S)
Cors Caron (R)
Cors Fochno/Dyfi (R)
Crymlyn Bog (R)
Dee Estuary
Derwent Ings
Eilean na Muice Duibhe (Duich Moss)
Esthwaite Water (R)
Exe Estuary
Fala Flow
Farne Islands (S)
Feur Lochain
Flamborough Head & Bempton Cliffs (S)
Flannan Isles (S)
Forth Islands (S)
Fowlsheugh (S)
Gibraltar Point/The Wash Phase 2
Glac-na-Criche
Gladhouse Reservoir
Glannau Aberdaron (S)
Glannau Ynys Gybi (S)
Grassholm (S)
Great Yarmouth North Denes (S)
Gruinart Flats
Hamford Water
Handa Island (S)
Hickling Broad/Horsey Mere (R)
Holburn Lake and Moss
Hornsea Mere (S)
Hoselaw Loch
Irtinghead Mires (R)
Laggan Peninsula (S)
Leighton Moss
Lindisfarne
Llyn Idwal (R)
Llyn Tegid (R)
Loch An Duin (R)
Lochs Druidibeg/a'Machair/Stillgary
Loch Eye
Loch Ken/Dee Marshes
Loch Leven (R)
Loch Lomond (R)
Loch of Lintrathen
Loch of Skene
Loch Spynie
Loughs Neagh/Beg (R)
Lower Derwent Valley
Malham Tarn (R)
Martin Mere
Medway Estuary and Marshes
Minsmere/Walberswick
Moor House (S)
Nene Washes
North Norfolk Coast
Old Hall Marshes
Orfordness/Havergate (S)
Ouse Washes
Pagham Harbour
Porton Down (S)
Priest Island (S)
Rannoch Moor (R)
Redgrave and South Lopham Fens (R)
Rhum (S)
Ribble Estuary (part) (S)
Rockcliffe Marshes
Rostherne Mere (R)
Roydon Common (R)
Rutland Water
Salisbury Plain (S)
Sheep Island (S)
Shiant Isles (S)
Silver Flowe (R)
Skokholm and Skomer Islands (S)
South Tayside Goose Roosts
St Kilda (S)
Stodmarsh
Swan Island (S)
The New Forest
The Wash
The Swale
Traeth Lafan (S)
Upper Severn Estuary
Upper Solway
Walmore Common
Ynys Feurig (S)

1% Levels for National and international importance

A wetland is considered important in a national or all-Ireland context if it regularly holds 1% of one species, sub-species or population of waterfowl in Great Britain or the island of Ireland respectively. Similarly, a wetland is of international importance if it supports 1% of the international population. Many wildfowl wintering in Britain and Ireland form part of the North-West European population, whilst many waders form part of populations that may range over much of the East Atlantic. Table 56 lists the numbers of each species that represent 1% of the British, all-Ireland and international waterfowl populations where known. Thus, any site regularly supporting this number of birds potentially qualifies for designation under national legislation or international directives or conventions. The international population ranges for each species and sub-species are also given in the table. However, it should be noted that, where 1% of the national population is less than 50 birds, 50 is normally used as a minimum qualifying level for the designation of sites of national importance. 1% levels have not been derived for introduced species since these species are not included in the relevant parts of the legislation and important sites (e.g. SSSIs) would not be identified on the basis of numbers of these birds. Sources of qualifying levels represent the most up-to-date figures following recent reviews: for British wildfowl see Kirby (in prep.); for British waders see Cayford & Waters (in prep.); for all-Ireland importance for divers see Danielsen *et al.* (1993) and for other waterfowl see Whilde (in prep.) cited in Way *et al.* (1993). Following a recent workshop in Denmark on international populations, international criteria follow Smit & Piersma (1989) or Rose & Scott (1994). Several of the international populations are expected to be revised shortly (P. Rose pers. comm.).

Table 56. 1% LEVELS FOR NATIONAL AND INTERNATIONAL IMPORTANCE

	Great Britain	all-Ireland	International	Population
Red-throated Diver	50	10 *	750	Europe/Greenland
Black-throated Diver	7 *	1 *	1,200	Europe/W Siberia
Great Northern Diver	30 *	?	50	Europe
Little Grebe	30 *	?	?	W Palaearctic
Great Crested Grebe	100	30 *	?	NW Europe
Red-necked Grebe	1 *	?	300	NW Europe
Slavonian Grebe	4 *	?	50	NW Europe
Black-necked Grebe	1 *	?	1,000	W Palaearctic
Cormorant	130	?	1,200	NW Europe
Grey Heron	?	?	4,500	Europe/N Africa
Mute Swan	260	55	1,800	NW Europe
Bewick's Swan	70	25 *	170	Europe (wintering)
Whooper Swan	55	100	170	Iceland
Bean Goose	4 *	+ *	800	W Tundra
Pink-footed Goose: Iceland/Greenland	1,900	+ *	1,900	Iceland/Greenland
European White-fronted Goose	60	+ *	4,500	NW Europe
Greenland White-fronted Goose	140	140	260	Greenland
Greylag Goose: Iceland	1,000	40 *	1,000	Iceland
Hebrides/N Scotland	50	n/a	50	Scotland
Barnacle Goose: Greenland	270	753	20	Greenland
Svalbard	120	+ *	120	Svalbard
Dark-bellied Brent Goose	1,000	+ *	2,500	Siberia
Light-bellied Brent Goose: Canada/Greenland	+ *	200	200	Canada/Greenland
Svalbard	25 *	+ *	40	Svalbard
Shelduck	750	70	2,500	NW Europe
Wigeon	2,800	1,250	7,500	NW Europe
Gadwall	80	+ *	250	NW Europe
Teal	1,400	650	4,000	NW Europe
Mallard	5,000	500	20,000 **	NW Europe
Pintail	280	60	700	NW Europe
Garganey	+ *	+ *	20,000 **	W Africa (wintering)
Shoveler	100	65	400	NW Europe
Red-crested Pochard	+ *	+ *	200	SW/Central Europe
Pochard	440	400	3,500	NW Europe
Tufted Duck	600	400	7,500	NW Europe
Scaup	110	30 *	3,100	NW Europe
Eider	750	20 *	20,000 **	Europe
Long-tailed Duck	230	+ *	20,000 **	Iceland/Greenland

	Great Britain		all-Ireland		International		Population
Common Scoter	230		40	*	8,000		NW Europe
Velvet Scoter	30	*	+	*	2,500		NW Europe
Goldeneye	170		110		3,000		NW Europe
Smew	2	*	+	*	150		NW Europe
Red-breasted Merganser	100		20	*	1,000		NW Europe
Goosander	90		+	*	1,500		NW Europe
Coot	1,100		250		15,000		NW Europe
Oystercatcher	3,600		500		9,000		Europe/W Africa (wintering)
Avocet	10	*	+	*	700		Europe/NW Africa (breeding)
Ringed Plover	290		125		500		Europe/NW Africa (wintering)
Golden Plover	2,500		2,000		18,000		NW Europe (breeding)
Grey Plover	440		40	*	1,500		E Atlantic
Lapwing	20,000	**	2,500		20,000	**	Europe/W Africa
Knot *C. c. canutus*	2,900		375		3,500		W Europe/Canada
C. c. islandica					5,000		W Africa/W Siberia
Sanderling	230		35	*	1,000		E Atlantic
passage	300						
Purple Sandpiper	210		10	*	500		E Atlantic
Dunlin *C. a. arctica*					150		Greenland (breeding)
C. a. schinzii (Icelandic)					8,000		Iceland/Greenland (breeding)
C. a. schinzii (temperate)					200		UK/Ireland/Baltic
C. a. alpina	5,300		1,250		14,000		Europe (breeding)
Ruff	7	*	+	*	?		W Africa (wintering)
Jack Snipe	?		250		?		Europe/W Africa (wintering)
Snipe	?		?		10,000		Europe/W Africa (breeding)
Black-tailed Godwit	75		90		700		Iceland (breeding)
Bar-tailed Godwit	500		175		1,000		W Europe (wintering)
Whimbrel	+	*	+	*	6,500		Europe/W Africa (wintering)
passage	50						
Curlew	1,200		875		3,500		Europe/NW Africa
Spotted Redshank	+	*	+	*	1,500		Europe/W Africa
Redshank *T. t. totanus*	1,100		245		1,500		Europe/W Africa (wintering)
T. t. robusta					1,500		NW Europe (wintering)
Greenshank	+	*	9	*	3,000		Europe/W Africa
Turnstone	650		225		700		Europe (wintering)

? Population size not accurately known.

\+ Population too small for meaningful figure to be obtained.

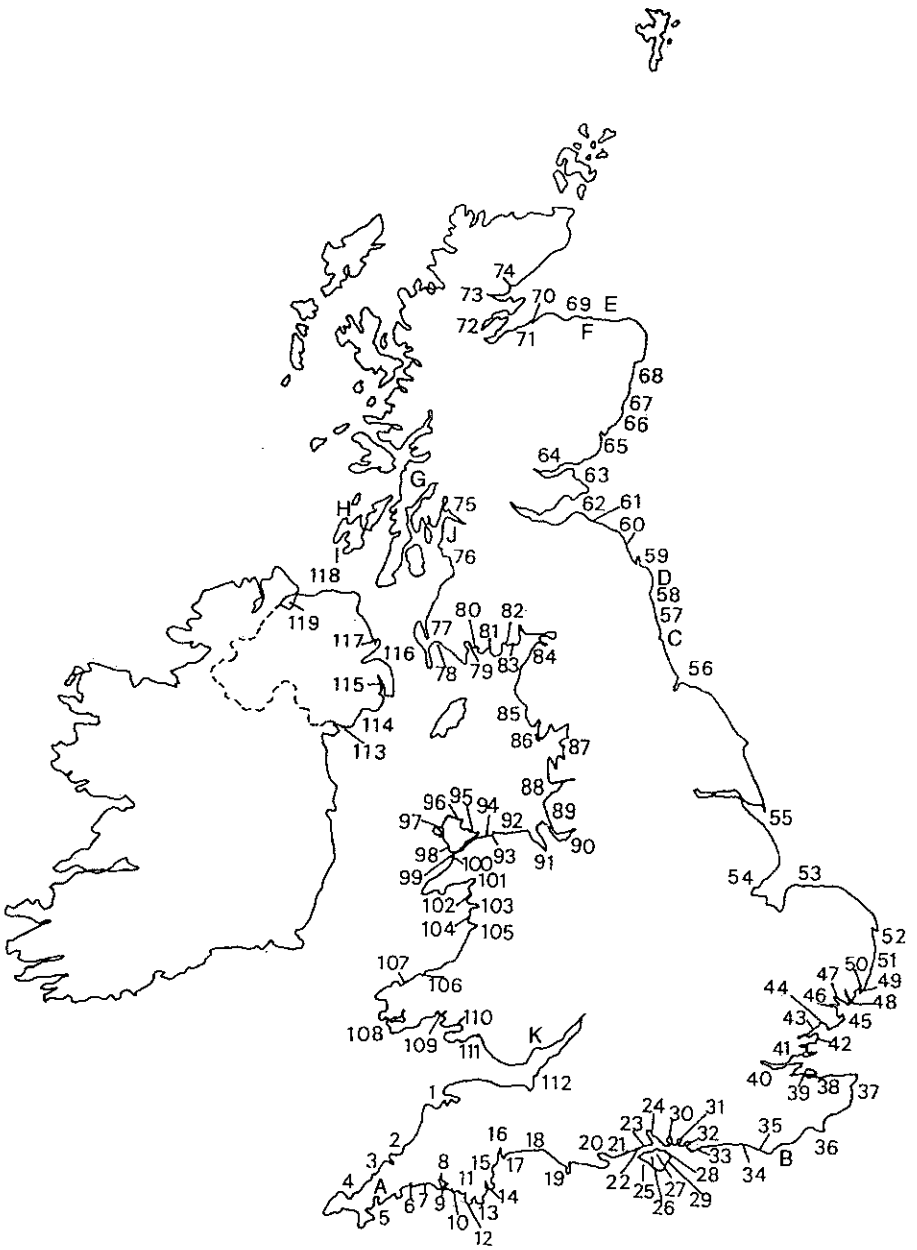
* Where 1% of the British or all-Ireland wintering population is less than 50 birds, 50 is normally used as a minimum qualifying level for national or all-Ireland importance respectively.

** A site regularly holding more than 20,000 waterfowl qualifies as internationally important by virtue of absolute numbers.

Appendix 2. LOCATIONS OF WeBS COUNT SITES

The location of all count sites or areas mentioned in this booklet are given here. The location of estuaries are given in Figure 2, whilst inland sites are listed in Table 57 in alphabetical order, with the 1 km square grid reference for the centre of the area and the county or district.

Figure 2. MAP OF THE BRITISH ISLES SHOWING THE LOCATIONS OF ALL ESTUARIES CONSIDERED IN THIS REPORT



Site numbers are as follows: 1 Taw/Torridge; 2 Camel; 3 Gannel; 4 Hayle; 5 Fal complex; 6 Fowey; 7 Looe; 8 Tamar; complex; 9 Plym; 10 Yealm; 11 Erme; 12 Avon; 13 Kingsbridge; 14 Dart; 15 Teign; 16 Exe; 17 Otter; 18 Axe; 19 The Fleet/Wey; 20 Poole Harbour; 21 Christchurch Harbour; 22 NW Solent; 23 Beaulieu; 24 Southampton Water; 25 Yar; 26 Newtown; 27 Medina; 28 Wootton; 29 Brading Harbour; 30 Portsmouth Harbour; 31 Langstone Harbour; 32 Chichester Harbour; 33 Pagham Harbour; 34 Adur; 35 Newhaven; 36 Rye Harbour/Pett Levels; 37 Pegwell Bay; 38 Swale; 39 Medway; 40 Thames; 41 Crouch/Roach; 42 Dengie; 43 Blackwater; 44 Colne; 45 Hamford Water; 46 Stour; 47 Orwell; 48 Deben; 49/50 Alde complex; 51 Blyth; 52 Breydon Water; 53 N Norfolk Marshes; 54 Wash; 55 Humber; 56 Tees; 57 Blyth; 58 Coquet; 59 Lindisfarne; 60 Tweed; 61 Tyninghame; 62 Forth; 63 Eden; 64 Tay; 65 Montrose Basin; 66 Dee; 67 Don; 68 Ythan; 69 Spey; 70/71 Inner Moray Firth; 72 Cromarty Firth; 73 Dornoch Firth; 74 Loch Fleet; 75 Inner Clyde; 76 Irvine; 77 Loch Ryan; 78 Luce Bay; 79 Wigtown Bay; 80 Fleet Bay; 81 Kirkcudbright Bay; 82 Auchencairn Bay; 83 Rough Firth; 84 Solway; 85 Irt/Mite/Esk; 86 Duddon; 87 Morecambe Bay; 88 Ribble; 89 Alt; 90 Mersey; 91 Dee; 92 Clwyd; 93 Conwy; 94 Lavan Sands; 95 Red Wharf Bay; 96 Dulas Bay; 97 Inland Sea; 98 Cefni; 99 Braint; 100 Foryd Bay; 101 Traeth Bach; 102 Artro; 103 Mawddach; 104 Dysynni; 105 Dyfi; 106 Teifi; 107 Nyfer; 108 Cleddau; 109 Carmarthen Bay; 110 Burry; 111 Swansea Bay; 112 Severn; 113 Carlingford Lough; 114 Dundrum Bay; 115 Strangford Lough; 116 Belfast Lough; 117 Lough Larne; 118 Bann; 119 Lough Foyle. A Helford; B Cuckmere; C Tyne; D South Alnmouth; E Banff; F Lossie; G Loch Gilp; H Loch Gruinart (Islay); I Loch Indaal (Islay); J Hunterston; K Afan; L Ogmore.

Table 57. THE LOCATION OF INLAND WeBS SITES

Site	1 km square	County
Abberton Reservoir	NT 4581	Lothian
Abbots Moss	NY 5142	Cumbria
Aird Meadow	NS 3658	Strathclyde
Alaw Reservoir	SH 3968	Gwynedd
Aller Moor	ST 3929	Somerset
Alton Water	TM 1536	Suffolk
Alvecote Pools	SK 2504	Warwickshire
Annaghroe	H 7344	Tyrone
Ancum Loch	HY 7654	Orkney
Appin/Eriska/Benderloch	NM 9138	Strathclyde
Ardleigh Reservoir	TM 0328	Essex
Ardoch Loch	NN 8408	Tayside
Arlesford Pond	SU 5933	Hampshire
Arundel WWT	TQ 0207	West Sussex
Bardolf Water Meadows	ST 7795	Dorset
Barn Elms Reservoirs	TQ 2277	Greater London
Belvide Reservoir	SJ 8610	Staffordshire
Benacre Broad	TM 5383	Suffolk
Berney Marshes	TG 4605	Norfolk
Besthorpe/Girton Gravel Pits	SK 8165	Nottinghamshire
Bewl Water	TQ 6733	East Sussex
Blagdon Lake	ST 5150	Avon
Blenheim Park Lake	SP 4316	Oxfordshire
Blickling Lake	TG 1729	Norfolk
Blithfield Reservoir	SK 0524	Staffordshire
Borth/Ynyslas	SN 6092	Dyfed
Bosherston Lake	SR 9794	Dyfed
Brandon Grounds	SP 4176	Warwickshire
Broad Bay	NB 4733	Western Isles
Broomhill Flash	SE 4102	South Yorkshire
Buckden/Stirtloe Gravel Pits	TL 2066	Cambridgeshire
Burham Marsh	TQ 7362	Kent
Caban Coch Reservoir	SN 9163	Powys
Caistron Quarry	NU 0001	Northumberland
Cameron Reservoir	NO 4711	Fife
Carron Valley Reservoir	NS 6884	Central
Carsebreck/Rhynd Lochs	NN 8609	Tayside
Castle Howard Lake	SE 7170	North Yorkshire
Castle Loch, Lochmaben	NY 0881	Dumfries & Galloway
Catcott Heath	ST 4041	Somerset
Cheddar Reservoir	ST 4454	Somerset
Cheshunt Gravel Pit	TL 3602	Hertfordshire
Chew Valley Lake	ST 5659	Avon
Chichester Gravel Pits	SU 8703	West Sussex
Clifford Hill Gravel Pit	SP 8061	Northamptonshire
Cloddach Gravel Pit	NJ 2059	Highland
Clumber Park Lake	SK 6347	Nottinghamshire
Colliford Reservoir	SX 1871	Cornwall
Cotswold Water Park East	SU 1999	Gloucestershire/Oxfordshire
Cotswold Water Park West	SU 0595	Gloucestershire/Wiltshire
Cowgill Reservoirs	NT 0327	Strathclyde
Cresswell Ponds	NZ 2993	Northumberland
Crombie Loch	NO 5240	Tayside
Danna/Keils Peninsula	NR 7383	Strathclyde
Daventry Reservoir	SP 5763	Northamptonshire
Dinnet Lochs	NJ 4800	Grampian
Dorchester Gravel Pits	SU 5795	Oxfordshire
Doxey Marshes	SJ 9024	Staffordshire
Drakelow Gravel Pit	SK 2320	Derbyshire
Drift Reservoir	SW 4328	Cornwall

Site	1 km square	County
Drummond Pond	NN 8518	Tayside
Dungeness	TR 0619	Kent
Dupplin Loch	NO 0320	Tayside
Durleigh Reservoir	ST 2636	Somerset
Eccup Reservoir	SE 2941	West Yorkshire
Eglwys Nunydd Reservoir	SS 7984	West Glamorgan
Endrick Mouth, Loch Lomond	NS 4388	Strathclyde
Essenside Loch	NT 4520	Borders
Eyebrook Reservoir	SP 8595	Leicestershire
Fairburn Ings	SE 4627	North Yorkshire
Fala Flow	NT 4258	Lothian
Farmoor Reservoirs	SP 4406	Oxfordshire
Farmwood Pool	SJ 8173	Cheshire
Fedderate Reservoir	NJ 8652	Grampian
Fen Drayton Gravel Pits	TL 3470	Cambridgeshire
Fiddlers Ferry Lagoons	SJ 5585	Cheshire
Fleet Pond	SU 8255	Surrey
Frensham Ponds	SU 8440	Surrey
Gladhouse Reservoir	NT 2953	Lothian
Grafham Water	TL 1568	Cambridgeshire
Gunthorpe Gravel Pits	SK 6744	Nottinghamshire
Gunton Parks	TG 2234	Norfolk
Haddo House Lakes	NJ 8734	Grampian
Hallington Reservoir	NY 9776	Northumberland
Hamilton Low Parks	NS 7257	Strathclyde
Hamner Mere	SJ 4539	Clwyd
Hanningfield Reservoir	TQ 7398	Essex
Hardley Flood	TM 3899	Norfolk
Hay-a-Park Gravel Pits	SE 3658	North Yorkshire
Heaton Park Reservoir	SD 8205	Greater Manchester
Hickling Broad	TG 4121	Norfolk
Hilfield Park Reservoir	TQ 1595	Hertfordshire
Hirsel Lake	NT 8240	Borders
Holburn Lake and Moss	NU 0536	Northumberland
Holden Wood Reservoir	SD 7722	Lancashire
Holme Pierrepoint Gravel Pits	SK 6239	Nottinghamshire
Holywell Pond	NZ 3175	Northumberland
Horsey Mere	TG 4415	Norfolk
Hoselaw Loch	NT 8031	Borders
Hoveringham/Bleasby Gravel Pits	SK 7047	Nottinghamshire
Hule Moss	NT 7149	Borders
Kedleston Park	SK 3141	Derbyshire
Kilconquhar Loch	NO 4801	Fife
King George V Reservoir	TQ 3796	Greater London
Kingsbury Water Park/Coton Pools	SP 2096	Warwickshire
Kings Mill Reservoir	SK 5159	Nottinghamshire
Kinmount Ponds	NY 1468	Dumfries & Galloway
Lackford Gravel Pits	TL 7971	Suffolk
Lake of Menteith	NN 5700	Central
Lancaster Canal	SD 4766	Lancashire
Leighton Moss	SD 4875	Lancashire
Leighton/Roundhill Reservoirs	SE 1678	North Yorkshire
Leybourne/New Hythe Gravel Pits	TQ 6959	Kent
Liddel Loch	ND 4583	Orkney
Little Paxton Gravel Pits	TL 1963	Cambridgeshire
Llyn Penrhyn	SH 3077	Gwynedd
Llyn Traffwll	SH 3276	Gwynedd
Loch Bee	NF 7743	Western Isles
Loch Calder	ND 0760	Highland
Loch Eye	TH 8379	Highland
Loch Heilen	ND 2568	Highland
Loch Ken	NX 6870	Dumfries & Galloway

Site	1 km square	County
Loch Leven	NO 1401	Tayside
Loch Linnhe	NM 9862	Highland
Loch Mahaick	NN 7006	Central
Loch Na Keal	NM 5038	Strathclyde
Loch of Boardhouse	HY 2725	Orkney
Loch of Harray	HY 2915	Orkney
Loch of Kinnordy	NO 3655	Tayside
Loch of Lintrathen	NO 2754	Tayside
Loch of Skene	NJ 7807	Grampian
Loch of Strathbeg	NK 0758	Grampian
Loch Quien	NS 0659	Strathclyde
Loch Watten	ND 2256	Highland
Loch Scarmclate	ND 1859	Highland
Loch Spynie	HU 3716	Shetland
Loch Tullybelton	NO 0034	Tayside
Loe Pool	SW 6424	Cornwall
Loughs Neagh & Beg	J 0575	Down/Antrim/Derry/Tyrone/Armagh
Lour	NO 4746	Tayside
Machrie Bay, Arran	NR 8933	Strathclyde
Machrihanish	NS 6922	Strathclyde
Maidens Harbour/Turnberry	NS 1902	Strathclyde
Martin Mere	SD 4105	Lancashire
Mere Sands Wood	SD 4415	Lancashire
Merryton Ponds	NS 7654	Strathclyde
Middle Yare Marshes	TG 3504	Norfolk
Minnis Bay to Reculver	TR 2569	Kent
Minsmere	TM 4666	Suffolk
Morfa Bychan Pools	SH 5537	Gwynedd
Murcar, Aberdeen	NJ 9510	Grampian
Nene Washes	TF 3300	Cambridgeshire
Netherfield Gravel Pit	SK 6339	Nottinghamshire
North Warren	TM 4658	Suffolk
Nosterfield Quarry	SE 2780	North Yorkshire
Ogston Reservoir	SK 3760	Derbyshire
Ormesby Broads	TG 4614	Norfolk
Ouse Washes	TL 5394	Cambridgeshire
Pannel Valley	TQ 8815	East Sussex
Pawston Lake	NT 8632	Northumberland
Pensthorpe Lakes	TF 9428	Norfolk
Pentney Gravel Pits	TF 7013	Norfolk
Pitsford Reservoir	SP 7669	Northamptonshire
Port Meadow	SP 4908	Oxfordshire
Pulborough Levels	TQ 0416	West Sussex
Queen Elizabeth II Reservoir	TQ 1167	Surrey
Queen Mary Reservoir	TQ 0769	Surrey
Queen Mother Reservoir	TQ 0076	Berkshire
Ranworth and Cockshoot Broads	TG 2515	Norfolk
Rhunahaorine	NR 7049	Strathclyde
River Avon: Blashford to Hucklesbrook	SU 1408	Hampshire
River Avon: Fordingbridge	SU 1617	Hampshire
River Avon: Ringwood	SU 1408	Hampshire
River Eden: Rockcliffe to Armathwaite	NY 4758	Cumbria
River Lune: Arkholme to Whittington	SD 5871	Lancashire
River Lune: Caton to Hornby	SD 5566	Lancashire
River Severn: Shrewsbury	SJ 4815	Shropshire
River Soar: Leicester	SK 5805	Leicestershire
River Tay: Perth	NO 1125	Tayside
River Teviot: Nisbet	NT 6725	Borders
River Tweed: Kelso to Coldstream	NT 7737	Borders
River Tyne: Corbridge to Blaydon	NZ 1064	Northumberland/Tyne & Wear
Rookery Pit	TL 0141	Bedfordshire
Rostherne Mere	SJ 7484	Cheshire

Site	1 km square	County
Ruslands Pool	SD 3486	Cumbria
Rutland Water	SK 9207	Leicestershire
Ryton Willows	NZ 1462	Tyne & Wear
St Benets Levels	TG 3815	Norfolk
Saintear Loch	HY 4347	Orkney
Sandbach Flashes	SJ 7259	Cheshire
Scarmclate	ND 1959	Highland
Seahouses to Budle Point	NU 2231	Northumberland
Shibdon Pond	NZ 1962	Tyne & Wear
Slains Lochs/Ythan Estuary	NK 0230	Grampian
Somerset Levels	ST 4040	Somerset
South Forty Foot Drain	TF 2843	Lincolnshire
South Muskham & North Newark Gravel Pits	SK 7956	Nottinghamshire
Stanford Reservoir	SP 6080	Leicestershire
Stantling Craigs and Bunting Craigs Reservoirs	NT 4339	Borders
Stanwick Gravel Pits	SP 9773	Northamptonshire
Stodmarsh	TR 2061	Kent
Stranraer Lochs	NX 1161	Dumfries & Galloway
Stratfield Saye	SU 7061	Hampshire
Strumpshaw Fen	TG 4306	Norfolk
Sutton Bingham Reservoir	ST 5410	Somerset
Swillington Ings	SE 3828	West Yorkshire
Swithland Reservoir	SK 5513	Leicestershire
Tabley Mere	SJ 7276	Cheshire
Talkin Tarn	NY 5458	Cumbria
Tay/Ilsa Valley	NO 1438	Tayside
Tealham and Tadham Moor	ST 4145	Somerset
Tentsmuir	NO 5024	Fife
Thorpe Water Park	TQ 0268	Surrey
Thrapston Gravel Pit	SP 9979	Northamptonshire
Tophill Low Reservoirs	TA 0748	Humberside
Twyford Gravel Pit	SU 7875	Berkshire
Upper Glendevon Reservoir	NN 9004	Tayside
Upper Loch Erne	H 3231	Fermanagh
Upper Quoile	J 4846	Down
Upton Warren	SO 9367	Hereford & Worcester
Walland Marsh	TQ 9824	Kent
Walmore Common	SO 7425	Gloucestershire
Waltham Brooks	TQ 0112	East Sussex
Walthamstow Reservoir	TQ 3589	Greater London
Walton Reservoirs	TQ 1268	Surrey
Washington WWT	NZ 3356	Tyne & Wear
Watch Water Reservoir	NT 6656	Borders
Water Sound	ND 4694	Orkney
Wayoh Reservoir	SD 7301	Lancashire
Westfield Marshes	ND 0664	Highland
Westhay Heath	ST 4142	Somerset
Westhay Moor	ST 4544	Somerset
West Sedgemoor	ST 3525	Somerset
West Water Reservoir	NT 1252	Borders
Whitemore Reservoir	SD 8473	Lancashire
Whittledene Reservoirs	NZ 0667	Northumberland
Willington Gravel Pits	SK 2828	Derbyshire
Windermere	SD 3995	Cumbria
Woolston Eyes	SJ 6588	Cheshire
Wraysbury Gravel Pits	TQ 0073	Berkshire
Yare Valley	TG 3504	Norfolk
Ynys-hir	SN 6896	Dyfed

Appendix 3. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN ENGLAND DURING WINTER 1992-93.

Wildfowl at all sites	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites counted	1,243	1,329	1,352	1,365	1,431	1,361	1,371
Red-throated Diver	22	66	73	580	194	98	272
Black-throated Diver	4	0	3	5	3	0	2
Great Northern Diver	0	0	4	4	7	6	6
Little Grebe	2,160	2,138	1,912	1,604	1,411	1,695	1,827
Great Crested Grebe	8,005	8,766	7,852	6,891	4,982	6,945	8,032
Red-necked Grebe	7	10	12	9	11	12	19
Slavonian Grebe	1	10	30	43	36	71	55
Black-necked Grebe	19	11	7	36	35	34	33
Cormorant	8,959	10,202	8,840	9,228	9,392	8,150	8,705
Grey Heron	2,563	2,399	2,041	1,945	1,746	1,993	2,119
Mute Swan	10,496	10,769	10,970	10,446	10,838	9,906	9,554
Bewick's Swan	0	45	2,642	1,052	6,763	6,996	572
Whooper Swan	0	131	1,400	1,447	1,083	1,571	641
Bean Goose	0	0	0	2	352	7	36
Pink-footed Goose	222	+16,448	+37,026	42,246	24,545	19,292	15,182
European White-fronted Goose	13	87	625	1,523	1,818	1,729	3,075
Greenland White-fronted Goose	0	2	1	1	1	3	13
Lesser White-fronted Goose	1	0	1	0	0	2	1
Greylag Goose*	12,718	13,430	11,310	12,928	12,730	9,275	9,052
Snow Goose	11	68	64	35	55	69	35
Canada Goose	35,024	34,905	33,625	38,046	33,615	26,914	21,700
Barnacle Goose	179	311	7,915	274	4,288	11,376	1,512
Dark-bellied Brent Goose	2,656	59,833	93,319	96,563	94,937	94,692	86,631
Light-bellied Brent Goose	380	1,305	+1,762	1,175	1,788	183	8
Red-breasted Goose	1	1	0	0	0	1	0
Egyptian Goose	153	108	76	63	43	51	64
Shelduck	23,503	47,308	50,816	63,634	62,073	56,662	55,734
Mandarin	101	156	136	165	139	116	101
Wigeon	16,791	124,384	144,411	210,857	236,794	126,798	130,283
American Wigeon	0	0	0	0	0	0	2
Gadwall	5,310	7,316	7,598	7,770	7,408	6,828	3,818
Teal	47,360	63,766	76,089	89,110	81,200	64,223	32,302
Mallard	116,498	113,722	123,877	131,255	116,886	79,959	52,662
Pintail	4,524	18,737	13,993	18,075	17,246	11,067	4,982
Garganey	25	2	0	1	3	2	12
Shoveler	6,815	6,792	6,750	7,317	5,813	6,347	5,435
Red-crested Pochard	51	78	134	84	127	74	102
Pochard	11,036	19,225	27,112	28,053	31,416	27,072	10,645
Ferruginous Duck	0	0	2	1	1	1	0
Ring-necked Duck	0	1	2	2	5	0	2
Tufted Duck	27,436	31,568	37,056	41,806	39,939	34,675	29,661
Scaup	63	148	340	202	252	658	289
Eider	8,577	10,510	10,546	4,511	4,489	4,055	10,060
Long-tailed Duck	0	12	98	114	58	98	135
Common Scoter	278	551	536	1,014	462	105	637
Velvet Scoter	2	57	30	60	6	0	4
Goldeneye	20	837	4,654	5,624	6,636	6,701	6,030
Smew	0	0	9	39	78	95	13
Red-breasted Merganser	504	1,198	1,981	1,829	1,565	1,592	1,984
Goosander	320	516	1,094	1,675	1,989	1,586	1,470
Ruddy Duck	1,452	1,899	1,793	2,215	1,917	1,825	1,924
Water Rail	64	142	156	137	107	123	136
Moorhen	5,862	7,000	6,779	5,907	6,950	6,691	7,125
Coot	70,716	79,806	86,342	79,949	75,601	50,298	37,742
TOTAL WILDFOWL**	**436,511**	**703,436**	**823,337**	**931,521**	**908,580**	**687,563**	**568,940**

Waders at estuarine/coastal sites			Nov	Dec	Jan	Feb	Mar
Number of sites counted			86	87	85	87	85
Oystercatcher			244,577	205,017	235,769	141,314	127,194
Avocet			1,769	1,950	1,851	2,137	1,392
Ringed Plover			8,646	7,803	6,302	7,280	5,330
Kentish Plover			0	1	1	1	0
Golden Plover			50,949	98,863	43,533	67,993	45,515
Grey Plover			35,813	37,120	36,490	33,747	37,142
Lapwing			163,134	344,036	115,416	199,473	74,430
Knot			285,892	303,674	282,557	151,441	157,887
Sanderling			3,879	5,951	4,503	3,288	4,314
Little Stint			3	3	1	0	0
Curlew Sandpiper			1	0	0	0	0
Purple Sandpiper			783	813	1,022	1,200	1,281
Dunlin			334,359	418,034	374,193	328,440	295,726
Ruff			115	134	45	148	161
Jack Snipe			31	18	18	23	11
Snipe			2,349	1,823	1,049	1,204	1,198
Woodcock			5	0	2	0	0
Black-tailed Godwit			9,740	8,720	6,178	5,862	7,954
Bar-tailed Godwit			37,412	30,972	31,443	24,094	32,273
Whimbrel			0	4	5	2	8
Curlew			48,274	62,235	44,351	46,363	47,952
Spotted Redshank			63	57	44	48	59
Redshank			55,273	56,120	50,628	44,285	47,233
Greenshank			118	161	99	120	92
Green Sandpiper			36	29	22	41	33
Common Sandpiper			18	11	19	17	12
Turnstone			12,665	11,301	11,883	10,207	10,906
TOTAL WADERS			**1,295,904**	**1,594,850**	**1,247,424**	**1,068,728**	**898,103**
TOTAL WATERFOWL* **			**2,121,282**	**2,528,316**	**2,157,750**	**1,758,284**	**1,469,162**
Kingfisher (all sites)	263	255	200	163	122	148	190

\+ Counts include data from the following goose censuses: national census of Pink-footed in October and November; December census of Dark-bellied Brent Geese; November census of Light-bellied Brent Geese on Lindisfarne; *See Progress and Developments* and *Species Accounts* for more details.

* Comprises mainly feral birds, and small numbers of the Icelandic breeding population.

** Total wildfowl represents numbers of all divers, grebes, Cormorant, swans, geese, ducks and rails.

*** Total waterfowl represents numbers of all wildfowl (as above), waders at estuarine/coastal sites and Grey Heron.

Footnote: Presentation of wildfowl and wader totals differ slightly in this Appendix. Where a WeBS site crosses a country boundary (e.g. The Severn Estuary), only wildfowl within the English part of the site are included in the above table. However, for waders, the total counts of birds on the site, in both England and the adjacent country, are included in the above table.

Appendix 4. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN SCOTLAND DURING WINTER 1992-93

Wildfowl at all sites	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites counted	379	450	403	431	426	459	396
Red-throated Diver	851	201	256	266	204	151	
Black-throated Diver	0	3	20	14	3	14	27
Great Northern Diver	5	9	16	20	17	33	20
Little Grebe	343	244	146	139	99	142	140
Great Crested Grebe	1,089	716	397	449	375	1,183	502
Red-necked Grebe	14	5	6	2	9	22	4
Slavonian Grebe	16	47	49	60	50	92	88
Black-necked Grebe	1	0	0	2	2	2	6
Cormorant	2,446	3,054	2,341	2,490	2,166	2,915	1,611
Grey Heron	415	539	369	394	237	303	218
Mute Swan	2,368	2,790	2,408	2,616	2,352	2,463	1,897
Bewick's Swan	0	9	15	14	0	5	0
Whooper Swan	7	1,116	1,739	1,171	916	933	1,028
Bean Goose	0	2	0	0	0	1	3
Pink-footed Goose	12,641	+181,413	+130,486	67,735	54,630	75,736	50,084
European White-fronted Goose	15	19	15	6	1	12	13
Greenland White-fronted Goose	0	871	+13,846	268	70	400	+15,097
Greylag Goose*	1,007	+88,533	+91,680	45,356	30,183	22,070	16,578
Snow Goose	2	2	3	2	6	7	5
Canada Goose	618	125	146	245	177	127	82
Barnacle Goose	11	5,081	2,679	+39,150	1,381	4,195	+27,733
Dark-bellied Brent Goose	0	0	0	0	1	0	4
Light-bellied Brent Goose	2	6	5	4	8	4	7
Shelduck	5,393	2,040	3,092	4,518	5,459	7,350	3,914
Mandarin	0	3	5	4	2	3	2
Wigeon	7,125	55,976	32,979	62,172	48,158	38,173	18,406
American Wigeon	0	1	3	1	2	1	0
Gadwall	309	157	76	71	25	65	55
Teal	8,258	12,490	10,918	13,465	10,678	9,594	3,812
Mallard	18,872	28,716	27,302	32,672	26,531	21,005	10,607
Pintail	647	1,335	772	739	922	1,024	242
Shoveler	661	887	561	209	84	113	168
Red-crested Pochard	2	0	0	1	0	0	0
Pochard	3,077	5,093	5,161	4,740	4,178	2,982	1,097
Ring-necked Duck	0	0	2	2	0	0	0
Tufted Duck	9,312	8,516	8,503	9,422	9,393	7,890	5,659
Scaup	217	1,167	1,647	2,078	3,083	3,070	2,095
Eider	18,990	10,905	11,222	10,053	12,315	16,957	15,249
King Eider	0	1	0	0	0	0	0
Long-tailed Duck	5	404	584	854	1,140	1,098	893
Common Scoter	1,180	1,467	673	669	1,744	2,087	869
Velvet Scoter	28	58	175	202	184	265	290
Surf Scoter	0	0	3	1	6	2	2
Goldeneye	222	2,177	4,192	6,336	7,862	9,159	6,763
Smew	0	0	4	9	6	6	5
Red-breasted Merganser	1,554	1,872	1,153	1,184	1,078	2,222	1,147
Goosander	543	934	732	654	841	765	400
Ruddy Duck	21	22	4	1	10	1	12
Water Rail	9	8	8	5	0	3	10
Moorhen	551	736	631	496	386	516	554
Coot	5,992	7,143	7,345	6,468	5,824	4,030	3,226
TOTAL WILDFOWL**	**104,746**	**427,748**	**365,110**	**317,899**	**233,211**	**240,143**	**191,647**

Waders at estuarine/coastal sites			Nov	Dec	Jan	Feb	Mar
Number of sites counted			40	44	40	43	32
Oystercatcher			56,209	59,335	57,197	66,248	37,739
Ringed Plover			1,562	1,621	1,795	1,825	851
Golden Plover			10,072	16,688	4,686	7,271	4,934
Grey Plover			1,846	1,700	2,647	1,827	1,854
Lapwing			21,177	28,554	17,236	18,824	3,632
Knot			6,437	9,594	27,889	17,831	9,053
Sanderling			312	224	419	482	194
Purple Sandpiper			659	638	585	437	438
Dunlin			16,697	29,644	37,516	31,284	17,495
Ruff			1	1	7	1	0
Jack Snipe			5	2	1	1	1
Snipe			210	74	73	99	73
Black-tailed Godwit			152	176	176	175	145
Bar-tailed Godwit			4,213	7,850	10,219	11,323	3,930
Curlew			10,220	16,930	13,131	21,905	10,038
Spotted Redshank			1	0	0	0	0
Redshank			14,875	15,958	15,472	17,791	13,649
Greenshank			17	26	14	22	17
Green Sandpiper			0	1	0	0	0
Turnstone			2,491	2,688	3,764	3,022	2,614
Grey Phalarope			0	0	1	0	0
TOTAL WADERS			**147,156**	**191,704**	**192,828**	**200,368**	**106,657**
TOTAL WATERFOWL* **			**512,635**	**509,997**	**426,276**	**440,814**	**298,522**
Kingfisher (at all sites)	8	4	6	6	4	3	5

+ Counts include data from the following goose censuses: national census of Pink-footed and Greylag Geese in October and November; December and March censuses of Barnacle Geese on Islay; December census of Barnacle Geese on the Solway; international censuses of Greenland White-fronted Geese in November/December and March/April. See *Progress and Developments* and *Species Accounts* for more details.

* Comprises mainly birds from the Icelandic breeding population, with up to 2,340 feral birds (Delany 1992).
** Total wildfowl represents numbers of all divers, grebes, Cormorant, swans, geese, ducks and rails.
*** Total waterfowl represents numbers of all wildfowl (as above), waders at estuarine/coastal sites and Grey Heron.

Footnote: Presentation of wildfowl and wader totals differs slightly in this Appendix. Where a WeBS site crosses a country boundary (e.g. The Solway Estuary), only wildfowl within the Scottish part of the site are included in the above table. However, for waders, the total counts of birds on the site, in both Scotland and the adjacent country, are included in the above table.

Appendix 5. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN WALES DURING WINTER 1992-93

Wildfowl at all sites	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites counted	125	133	146	140	159	163	158
Red-throated Diver	0	15	6	4	1	4	72
Great Northern Diver	0	0	1	0	2	1	2
Little Grebe	97	151	172	134	121	130	105
Great Crested Grebe	138	98	158	107	68	141	186
Red-necked Grebe	0	2	1	1	1	0	1
Slavonian Grebe	0	0	0	0	3	2	0
Black-necked Grebe	0	0	1	0	0	0	0
Cormorant	770	675	481	479	445	530	460
Grey Heron	142	159	106	103	76	172	141
Mute Swan	385	285	310	251	277	192	287
Bewick's Swan	0	0	11	5	11	15	0
Whooper Swan	0	5	85	66	62	53	103
Pink-footed Goose	0	0	2	1	2	2	1
Greenland White-fronted Goose	0	67	122	122	134	124	124
Greylag Goose: feral	232	169	139	365	433	357	350
Canada Goose	643	407	763	802	1,193	744	435
Barnacle Goose	0	0	5	1	1	9	1
Dark-bellied Brent Goose	36	351	536	500	364	554	974
Light-bellied Bent Goose	84	9	23	17	27	26	10
Egyptian Goose	0	0	1	0	1	0	1
Shelduck	195	1,462	3,521	4,562	4,339	4,899	4,477
Mandarin	1	0	0	1	1	0	4
Wigeon	1,190	7,673	10,884	12,677	14,304	5,686	3,649
American Wigeon	0	0	0	0	0	0	1
Gadwall	44	61	88	62	55	75	70
Teal	819	4,093	5,911	7,352	7,232	4,479	1,612
Mallard	6,560	6,975	7,126	6,577	5,882	4,260	2,686
Pintail	77	377	767	2,179	1,404	1,117	256
Shoveler	60	106	219	347	285	365	178
Red-crested Pochard	1	0	0	1	2	2	2
Pochard	318	836	1,245	1,103	881	1,255	452
Tufted Duck	765	1,005	1,195	1,401	757	1,262	629
Scaup	8	4	8	11	125	6	0
Eider	0	1	22	0	5	3	5
Long-tailed Duck	0	0	0	1	0	1	0
Common Scoter	81	160	101	172	69	101	157
Goldeneye	831	310	269	343	528	381	
Smew	0	0	1	1	8	7	15
Red-breasted Merganser	133	273	192	124	135	219	286
Goosander	43	64	144	81	81	129	301
Ruddy Duck	118	144	115	37	79	171	105
Water Rail	4	11	6	22	7	7	18
Moorhen	161	146	156	159	126	145	177
Coot	2,736	2,192	1,615	1,981	2,221	1,644	1,117
TOTAL WILDFOWL*	**16,023**	**28,196**	**36,729**	**42,275**	**41,710**	**29,586**	**20,123**

Waders at estuarine/coastal sites			Nov	Dec	Jan	Feb	Mar
Number of sites counted			22	23	22	25	24
Oystercatcher			97,736	61,244	91,970	29,835	19,493
Avocet			7	0	0	0	0
Ringed Plover			860	869	612	856	369
Golden Plover			8,449	3,327	9,373	7,145	3,463
Grey Plover			1,766	1,051	2,532	1,339	950
Lapwing			17,066	13,201	22,207	11,365	4,131
Knot			15,077	4,358	37,954	9,356	8,367
Sanderling			592	214	609	506	496
Little Stint			3	1	0	0	0
Purple Sandpiper			27	54	42	4	49
Dunlin			50,937	65,041	42,858	57,756	18,857
Ruff			1	0	4	1	6
Jack Snipe			17	8	9	10	8
Snipe			484	338	206	131	91
Woodcock			0	0	0	0	1
Black-tailed Godwit			1,837	1,552	1,744	109	632
Bar-tailed Godwit			361	410	1,379	1,541	187
Whimbrel			0	0	15	0	0
Curlew			11,076	15,779	13,916	11,710	9,894
Spotted Redshank			13	7	10	5	12
Redshank			12,247	11,905	8,002	4,337	7,389
Greenshank			38	43	26	38	14
Green Sandpiper			2	4	2	5	1
Common Sandpiper			3	3	2	2	1
Turnstone			1,659	1,381	871	1,438	1,360
TOTAL WADERS			**220,258**	**180,790**	**234,343**	**137,489**	**75,771**
TOTAL WATERFOWL**			**257,093**	**223,168**	**276,129**	**167,247**	**96,035**
Kingfisher (at all sites)	8	15	8	10	4	8	18

* Total wildfowl represents numbers of all divers, grebes, Cormorant, swans, geese, ducks and rails.

** Total waterfowl represents numbers of all wildfowl (as above), waders at estuarine/coastal sites and Grey Heron.

Footnote: Presentation of wildfowl and wader totals differs slightly in this Appendix. Where a WeBS site crosses a country boundary (e.g. the Severn Estuary), only wildfowl within the Welsh part of the site are included in the above table. However, for waders, the total counts of birds on the site, in both Wales and the adjacent country, are included in the above table.

Appendix 6. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN THE ISLE OF MAN DURING WINTER 1992-93.

Wildfowl at all sites	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites counted	9	10	10	10	10	10	9
Little Grebe	0	1	0	0	0	1	0
Cormorant	0	0	0	1	0	0	0
Grey Heron	3	1	1	1	1	1	0
Whooper Swan	0	0	1	14	23	24	21
Pink-footed Goose	0	1	0	0	0	0	0
Greylag Goose	0	0	1	4	0	0	1
Canada Goose	0	0	11	11	4	3	6
Shelduck	0	0	0	0	7	4	5
Wigeon	14	86	127	162	410	295	4
Teal	15	52	77	121	141	30	37
Mallard	330	423	557	450	453	230	113
Pintail	0	0	0	0	0	0	1
Shoveler	0	0	0	0	4	12	2
Pochard	2	1	4	5	15	9	3
Tufted Duck	13	14	10	10	16	8	3
Scaup	1	0	0	0	0	0	0
Goldeneye	0	4	7	1	3	0	0
Moorhen	1	2	2	18	6	9	10
Coot	16	17	17	18	22	33	36
TOTAL WILDFOWL*	**396**	**604**	**817**	**834**	**1,111**	**668**	**252**

* Total wildfowl represents numbers of all divers, grebes, Cormorant, swans, geese, ducks and rails.

Footnote: No counts of waders at estuarine/coastal sites (under the BoEE) were made on the Isle of Man in 1992-93.

Appendix 7. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN THE CHANNEL ISLANDS DURING WINTER 1992-93.

Wildfowl at all sites	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
Number of sites counted	1	10	10	9	10	9	10
Little Grebe	0	2	0	3	3	2	2
Great Crested Grebe	0	0	0	0	1	0	3
Slavonian Grebe	0	0	0	0	0	2	0
Cormorant	22	15	28	11	15	6	17
Grey Heron	17	82	6	16	35	16	7
Mute Swan	0	1	1	1	0	0	0
Pink-footed Goose	0	2	0	0	2	0	2
Dark-bellied Brent Goose	1	4	18	10	2	52	85
Mandarin	0	0	1	2	0	0	0
Wigeon	0	0	1	1	2	0	0
Gadwall	0	0	0	0	2	5	2
Teal	0	23	22	20	127	79	25
Mallard	0	201	229	274	228	192	151
Pintail	0	0	0	0	2	1	0
Shoveler	0	2	9	0	31	23	32
Pochard	0	0	10	0	10	8	7
Tufted Duck	0	94	94	83	106	27	68
Red-breasted Merganser	0	0	0	0	0	1	0
Water Rail	0	13	26	13	14	10	2
Moorhen	0	102	59	79	103	81	85
Coot	0	66	69	40	71	27	20
TOTAL WILDFOWL*	**40**	**722**	**658**	**645**	**873**	**625**	**595**
Waders at estuarine/coastal sites							
Number of sites counted			1	1	2	2	1
Oystercatcher			431	2,370	1,864	1,347	400
Ringed Plover			247	558	315	576	48
Golden Plover			0	2	0	0	0
Grey Plover			83	497	425	777	103
Lapwing			0	1	100	0	0
Sanderling			38	257	282	248	6
Dunlin			525	3,862	2,962	2,227	132
Common Snipe			0	0	7	0	0
Bar-tailed Godwit			0	92	193	191	2
Curlew			88	374	484	308	72
Redshank			71	255	409	192	27
Greenshank			0	16	8	5	0
Common Sandpiper			0	1	0	0	0
Turnstone			562	460	702	786	565
TOTAL WADERS			**2,045**	**8,745**	**7,751**	**6,657**	**1,355**
TOTAL WATERFOWL**			**2,709**	**9,390**	**8,624**	**7,282**	**1,950**
Kingfisher (at all sites)	0	0	0	0	2	0	0

* Total wildfowl represents numbers of all divers, grebes, Cormorant, swans, geese, ducks and rails.

** Total waterfowl represents numbers of all wildfowl (as above), waders at estuarine/coastal sites and Grey Heron.

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