WeBS Low Tide Counts

INTRODUCTION

WeBS Low Tide Counts aim to monitor, assess and regularly update information on the relative importance of intertidal feeding areas of UK estuaries for wintering waterfowl. They provide information on the numbers of waterfowl feeding on individual sections of intertidal habitat within estuaries. Co-ordinated counts of feeding and roosting waterfowl are made by volunteers each month between November and February on pre-established subdivisions of the intertidal habitat in the period two hours either side of low tide. The counts are thus complementary to the long-established Core Counts, which provide accurate counts of whole estuary populations and should generally be used in any assessment of the national and international importance of a site. Low Tide Counts provide the crucial information needed to assess the potential effects on waterfowl populations of a variety of human activities which affect the extent or value of intertidal habitats. Proposals for recreational and tidal power barrages, marinas and housing schemes comprise more than half of the present land claim proposals in Britain. Land claim has been widespread, cumulative and piecemeal and has affected 88% of British estuaries (Davidson & Evans 1986, Davidson *et al.* 1991, pg 358). The data provided by the scheme will greatly contribute to the conservation of waterfowl through the network of Special Protection Areas (SPAs), other site designations and whole estuary conservation plans. In addition, Low Tide Counts enhance our knowledge of the low water distribution of waterfowl and provide the data that highlight regional variations in phenology and habitat use.

DATA INTERPRETATION AND PRESENTATION

In 1995-96, Belfast Lough, the Crouch and Roach Estuaries, the Fal Estuary, the Fowey Estuary, the Inland Sea, Lavan Sands, the Medina Estuary, the Orwell Estuary, Pagham Harbour, Southampton Water, Strangford Lough and the Wear Estuary were covered. In addition, some counts were carried out at Findhorn Bay and at the Duddon Estuary, but these data are not included due to incomplete coverage. Data from the Duddon Estuary have been presented in previous WeBS reports and Findhorn Bay will be covered in the report for the 1996-97 season. Data for each of the estuaries covers the period November to February inclusive. Densities are used, rather than numbers, because the methodological differences between the Low Tide Counts and the Core Counts do not necessarily make them comparable. Low Tide Counts, which provide a "snapshot" of feeding distribution at low tide during the winter, are designed to give an indication of the relative importance of each mudflat to each species present within individual estuaries in the winter period. As with the Core Counts, the results are presented in summary form, the primary aim being to provide feedback to WeBS counters and to inform others of the data that are available.

Tables 71 & 72 tabulate three statistics for the 18 most numerous waterfowl species present on the estuaries covered during the 1995-96 winter. Two measures of mean density are presented for each species. The first, the mean density for the whole site, is the sum of the mean counts for every mudflat, divided by the total surveyed intertidal area. The second, the mean density for the occupied mudflats, is the sum of the mean counts divided by the combined area of only those mudflats on which the species was recorded. The maximum density on any mudflat is also given for each species.

It is important to note that this presentation of statistics is different to that presented in the two previous WeBS reports.

ESTUARY ACCOUNTS

The following accounts describe the results of the Low Tide Counts carried out on 12 estuaries during the 1995-96 winter. Individual species accounts are not given both because results are available from relatively few estuaries and so as to highlight the difference in the aims of this scheme compared to the Core Counts. In each case, a list of nationally and internationally important species present, based on Core Counts, and a description of the estuary are given. This is followed by an outline of the key results. Distribution maps are given for the two most significant species present on each estuary. In deciding which maps to present, internationally important species were ranked above nationally important species, which were in turn ranked above species present in numbers less than those required for national importance. In the case of equal levels of importance, the species with the greatest percentages of their national populations were usually chosen. However, maps are not presented for grebes or sea-ducks which are not adequately counted by WeBS Low Tide Counts.

Species	Belfast Lough			Crouch/Roach			Fal		
	Density (whole)	Density (occ.)	Max. density	Density (whole)	Density (occ.)	Max. density	Density (whole)	Density (occ.)	Max. density
Brent Goose	+	+	+	1.7	3.7	14.3	+	+	+
Shelduck	0.8	3.5	13.8	1.1	1.3	4.4	0.4	0.6	1.5
Wigeon	+	2.3	2.3	1.3	1.9	8.8	0.4	1.8	2.0
Teal	0.6	4.8	9.5	0.7	1.4	6.4	+	0.2	0.6
Mallard	0.6	2.4	8.6	0.3	0.7	6.0	0.1	0.2	0.5
Pintail	-	-	-	+	0.1	0.2	-	-	-
Oystercatcher	9.7	10.4	112.0	+	0.1	2.5	0.2	0.3	0.9
Ringed Plover	+	0.2	0.3	+	0.2	0.7	+	+	+
Golden Plover	+	0.2	0.3	0.3	1.0	4.1	0.5	3.5	3.5
Grey Plover	-	-	-	0.2	0.2	1.3	+	+	+
Lapwing	1.0	3.4	14.8	0.9	2.0	14.9	1.8	6.2	8.3
Knot	0.3	1.0	2.5	-	-	-	-	-	-
Dunlin	2.7	4.0	37.7	4.5	5.4	28.8	1.7	2.8	23.8
Black-tailed Godwit	0.4	1.1	4.5	+	0.3	1.2	0.2	0.4	1.9
Bar-tailed Godwit	+	0.2	2.0	+	+	0.1	+	+	+
Curlew	1.0	1.2	4.8	0.2	0.3	1.1	1.2	1.2	2.9
Redshank	3.8	4.1	19.0	1.0	1.0	7.3	0.5	0.5	2.8
Turnstone	0.5	0.7	3.2	+	0.1	0.2	+	0.1	0.1

Species	Fowey			Inland Sea			Lavan Sands		
	Density (whole)	Density (occ.)	Max. density	Density (whole)	Density (occ.)	Max. density	Density (whole)	Density (occ.)	Max. density
Brent Goose	-	-	-	+	0.1	0.2	-	-	-
Shelduck	+	0.1	0.1	0.2	0.3	0.8	+	+	0.4
Wigeon	+	+	+	0.8	0.9	1.7	0.3	1.1	6.1
Teal	+	+	+	+	0.2	0.2	+	+	+
Mallard	0.8	0.8	0.8	+	0.1	0.3	+	0.2	0.6
Pintail	-	-	-	+	0.2	0.4	-	-	-
Oystercatcher	+	+	+	0.3	0.3	0.6	1.5	1.5	9.2
Ringed Plover	-	-	-	0.3	0.3	0.7	+	+	0.1
Golden Plover	-	-	-	+	+	+	-	-	-
Grey Plover	-	-	-	+	+	0.1	-	-	-
Lapwing	0.5	1.0	1.0	0.3	0.4	1.4	+	0.2	0.2
Knot	-	-	-	+	0.1	0.1	-	-	-
Dunlin	+	+	+	2.0	2.0	7.2	0.7	1.2	3.4
Black-tailed Godwit	-	-	-	-	-	-	-	-	-
Bar-tailed Godwit	+	+	+	0.1	0.2	0.6	+	+	+
Curlew	0.5	0.5	1.1	0.5	0.5	1.0	0.3	0.3	1.5
Redshank	0.2	0.2	0.2	0.3	0.3	0.7	+	0.1	0.8
Turnstone	-	-	-	+	0.2	1.0	-	-	-

Table 71. Mean density for whole site, mean density for occupied mudflats and maximum densities (birds ha^{-1}) for each of the 18 most numerous waterfowl species present on the estuaries covered during the 1995-96 winter. "+" indicates densities of less than 0.1 birds ha^{-1}. "-" indicates that no birds were noted.

Species	Medina			Orwell			Pagham Harbour		
	Density (whole)	Density (occ.)	Max. density	Density (whole)	Density (occ.)	Max. density	Density (whole)	Density (occ.)	Max. density
Brent Goose	0.8	0.8	1.5	0.6	0.9	4.2	7.0	13.5	50.0
Shelduck	0.5	0.5	0.9	1.5	1.5	5.6	0.5	0.6	2.8
Wigeon	1.1	1.1	2.3	1.5	1.5	6.2	1.5	2.6	12.5
Teal	0.2	0.2	0.3	0.5	1.5	2.8	1.7	3.3	13.5
Mallard	1.2	1.2	1.7	0.7	0.7	5.4	0.2	0.4	2.0
Pintail	-	-	-	0.4	0.5	2.2	1.0	3.9	10.0
Oystercatcher	1.3	1.3	2.3	0.8	0.9	1.8	0.5	0.7	1.5
Ringed Plover	+	0.3	0.3	0.2	0.3	1.9	0.4	0.8	3.1
Golden Plover	-	-	-	0.1	0.4	0.5	1.8	6.8	17.1
Grey Plover	0.3	0.3	0.8	0.4	0.4	1.8	2.2	3.9	9.1
Lapwing	1.4	1.4	1.8	2.0	2.3	14.4	4.1	10.7	23.2
Knot	-	-	-	1.4	3.0	8.6	0.4	1.3	2.8
Dunlin	3.9	6.3	11.2	11.9	12.1	62.1	7.7	13.4	32.0
Black-tailed Godwit	0.4	0.4	0.7	0.7	0.8	4.7	0.1	0.4	0.9
Bar-tailed Godwit	-	-	-	+	+	+	+	0.1	0.3
Curlew	0.7	0.7	1.7	0.6	0.6	1.5	0.8	0.9	3.7
Redshank	0.8	0.8	0.9	2.1	2.1	30.2	0.9	1.2	5.4
Turnstone	+	0.1	0.2	+	0.1	0.3	0.9	1.8	3.4

Species	Southampton Water			Strangford Lough			Wear		
	Density (whole)	Density (occ.)	Max. density	Density (whole)	Density (occ.)	Max. density	Density (whole)	Density (occ.)	Max. density
Brent Goose	0.9	1.2	17.1	0.7	0.8	13.3	-	-	-
Shelduck	0.1	0.2	1.3	1.4	1.7	58.7	0.1	0.5	0.7
Wigeon	0.7	1.0	6.4	0.3	0.9	9.1	-	-	-
Teal	0.7	1.4	11.2	0.4	1.2	15.5	+	1.0	1.0
Mallard	0.1	0.2	3.8	0.1	0.5	8.5	0.2	0.8	2.0
Pintail	+	+	0.3	+	0.3	8.3	-	-	-
Oystercatcher	0.8	0.8	4.0	2.4	2.4	180.3	-	-	-
Ringed Plover	+	0.1	0.3	+	0.3	3.1	+	0.3	0.3
Golden Plover	0.2	2.9	2.9	1.9	4.5	86.4	-	-	-
Grey Plover	0.2	0.3	1.5	+	0.2	3.0	-	-	-
Lapwing	0.7	1.4	5.7	1.8	2.6	58.0	2.3	4.3	18.0
Knot	+	0.1	0.1	3.4	10.2	235.5	-	-	-
Dunlin	3.4	3.5	18.4	3.8	4.7	160.0	1.4	3.6	6.3
Black-tailed Godwit	+	+	0.3	+	0.2	1.6	-	-	-
Bar-tailed Godwit	+	+	1.7	0.4	0.9	63.0	-	-	-
Curlew	0.4	0.4	3.8	0.7	0.7	16.7	0.6	1.2	2.3
Redshank	0.2	0.3	2.2	1.1	1.1	22.0	2.1	2.4	7.0
Turnstone	0.2	0.3	2.2	+	0.1	0.5	-	-	-

Table 72. Mean density for whole site, mean density for occupied mudflats and maximum densities (birds ha^{-1}) for each of the 18 most numerous waterfowl species present on the estuaries covered during the 1995-96 winter. "+" indicates densities of less than 0.1 birds ha^{-1}. "-" indicates that no birds were noted.

BELFAST LOUGH
Co. Antrim/Co. Down

Internationally important species: Redshank, Turnstone

Nationally important species: Great Crested Grebe, Shelduck, Mallard, Scaup, Eider, Goldeneye, Red-breasted Merganser, Oystercatcher, Ringed Plover, Lapwing, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew.

Site description

Belfast Lough is a large sea lough in the north-east of Ireland, with the city of Belfast at its head. The area surveyed for the 1995-96 low tide counts comprised the coast from Carrickfergus on the north shore around to the eastern end of Bangor on the south shore. The outer parts of the lough's shore are generally rocky with some sandy bays, whereas more extensive areas of intertidal mud are found towards Belfast. Industrial land claim has, however, reduced the area of the mudflats over the last 150 years. More recently, some of the area, including the important Belfast Harbour pools (or "BP pools"), has been given a degree of protection. There are also problems of refuse disposal, pollution and general disturbance (Pritchard *et al.* 1992, Buck & Donaghy 1996).

Bird distribution

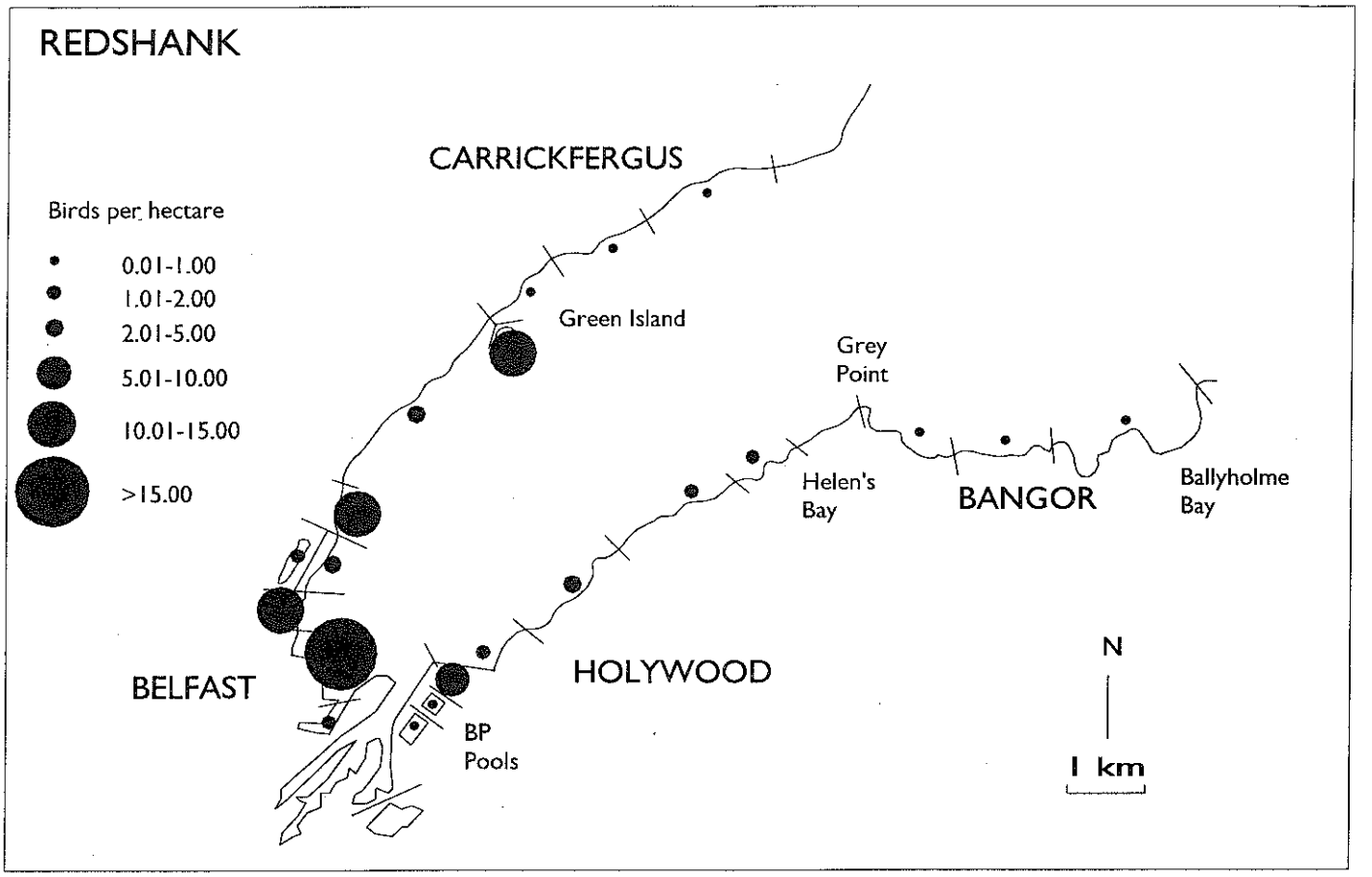
Overall, higher densities of waterfowl within Belfast Lough occurred towards the southern end of the west shore, close to the city of Belfast itself. This general pattern is mirrored by that seen for the internationally important population of Redshanks on the lough (see opposite), of which a mean of over 2000 were recorded during the low tide counts. Although the species was concentrated in this area, Redshanks were typically widespread with smaller numbers occurring along the whole shore.

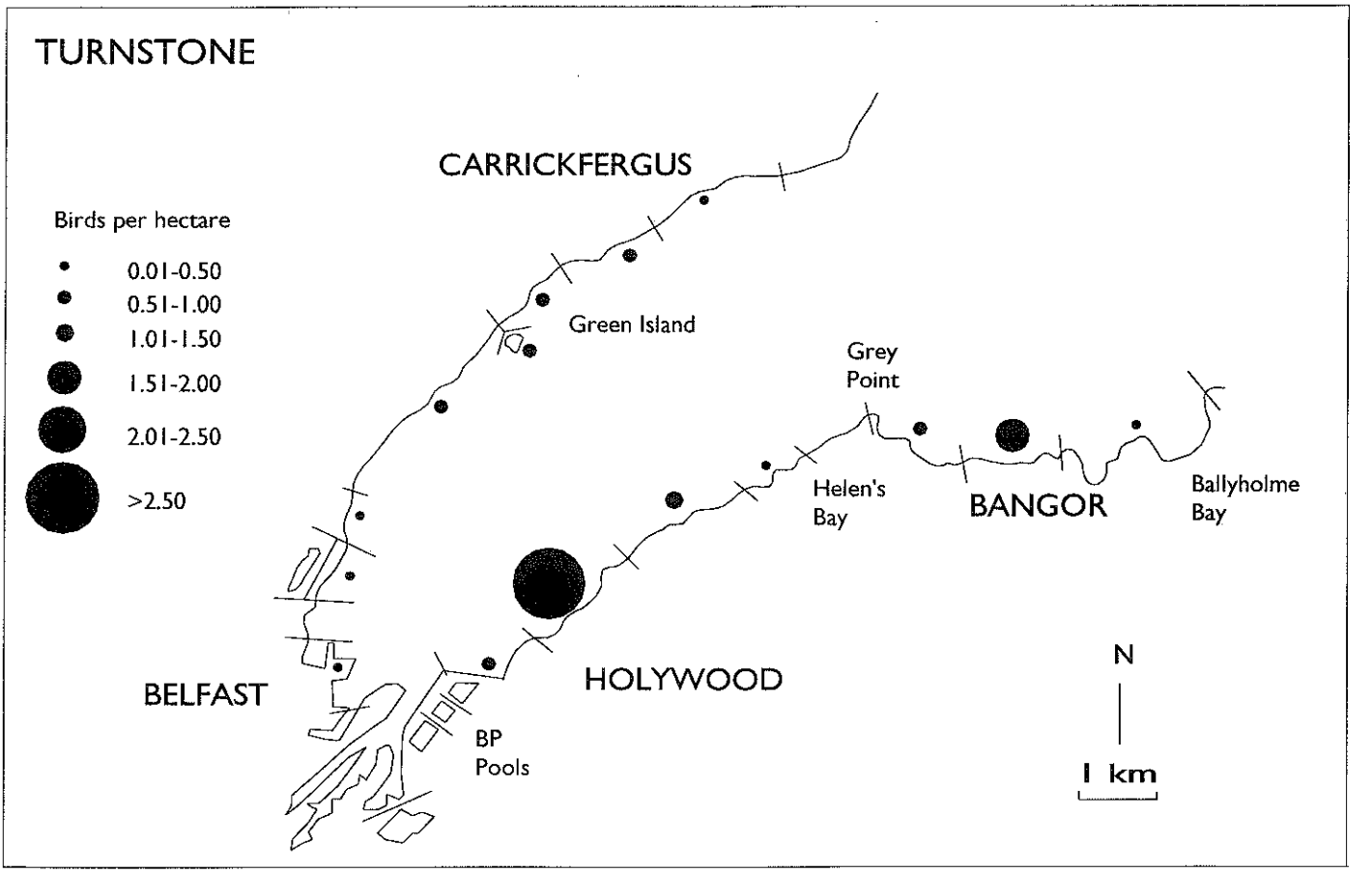
A similar distribution was noted for the Oystercatcher. However, for this species, the east shore between Holywood and Helen's Bay was more important. Oystercatcher was the most abundant species noted, with a mean total of 5600 which agreed well with the numbers noted by WeBS Core Counts. Belfast Lough is the second most important site in Ireland for Oystercatcher, after Dundalk Bay in the Republic (Delany 1996).

Present in rather lower (albeit internationally important) numbers, the low tide counts revealed a rather different distribution for the Turnstone (see opposite). Although this was another widely distributed species, the highest concentrations were found in count sections off Holywood and the western side of Bangor. It was notable that, unlike the previous two species, the numbers of Turnstones counted at low tide were very much lower than the during the core counts, presumably due to their cryptic plumage and secretive nature which makes them increasingly difficult to see at greater distances. The same observation was noted for Ringed Plover, which although recorded quite widely in the lough at low tide (with the greatest numbers to the west of Holywood), was noted in numbers only about one-quarter of those recorded at high tide.

Of the other waders, most of the Lapwings roosted at the BP pools (although virtually no Golden Plovers were recorded). Dunlin were also numerous on the BP pools, as well as on the mudflats on the west shore, where most of the Knot and Black-tailed Godwits were also present. There was also a smaller concentration of Dunlin at Ballyholme Bay, east of Bangor. Typically, Curlews were fairly evenly distributed around the lough, although this species was strangely absent to the east of Grey Point. A small number of Bar-tailed Godwits were noted around the inner lough and in the vicinity of Green Island. A handful of Purple Sandpipers and Snipe were also noted.

The surface-feeding wildfowl were present in relatively small numbers in Belfast Lough, with most occurring around the BP pools. Reasonable numbers of Shelduck and Teal were, however, noted on the mudflats in the south-west corner of the lough. However, the site is much more significant for sea-duck and, most importantly, for Great Crested Grebes; Belfast Lough is one of the most important wintering sites for this species in the British Isles. Low tide counts are not the best method for surveying these species but in February 1996, totals of 1112 Great Crested Grebes, 169 Scaup, 481 Eider, 20 Long-tailed Ducks, 260 Goldeneye and 173 Red-breasted Mergansers were counted on the WeBS Low Tide Count.


REDSHANK
Birds per hectare
0.01-1.00
1.01-2.00
2.01-5.00
5.01-10.00
10.01-15.00
>15.00
CARRICKFERGUS
Green Island
Grey Point
Helen's Bay
BANGOR
Ballyholme Bay
BELFAST
HOLYWOOD
BP Pools
N
1 km


TURNSTONE
Birds per hectare
0.01-0.50
0.51-1.00
1.01-1.50
1.51-2.00
2.01-2.50
>2.50
CARRICKFERGUS
Green Island
Grey Point
Helen's Bay
BANGOR
Ballyholme Bay
BELFAST
HOLYWOOD
BP Pools
N
1 km

CROUCH & ROACH ESTUARIES
Essex

Internationally important species: Dark-bellied Brent Goose

Nationally important species: Shelduck, Black-tailed Godwit

Site description

The Crouch Estuary and its southern tributary, the Roach, are both long, narrow, muddy estuaries which reach the Essex coast at the northern end of Foulness Island. The estuaries are largely flanked by farmland, much of it reclaimed, although there are some areas of saltmarsh also, especially at Bridgemarsh Island (a SSSI), Brandy Hole Creek and Stow Creek. The nature of the site means that the area of intertidal substrate is relatively small in comparison to the apparent size of the estuary. The southern parts of the Roach Estuary degenerate into a tangle of creeks, some of which extend through to Maplin Sands. The main conservation problem in the area has been land reclamation; 64% of grazing marsh around the Crouch, Roach and Foulness was lost between 1933 and 1980. There has also been an increase in recreational disturbance (Prater 1981, Pritchard *et al.* 1992).

Bird distribution

The Crouch & Roach Estuaries, along with many of the other estuaries along the Essex coast, is of international importance for Dark-bellied Brent Geese. The map opposite shows the low tide distribution of this species at the site, with notable concentrations at Brandy Hole Creek, the west end of Bridgemarsh Island and the confluence of the Crouch and Roach rivers. It should be noted, however, that many birds have been missed by the WeBS Low Tide Counts. The average maximum count during WeBS Core Counts over the last five winters was almost 5000 birds, compared with a mean of only 1820 at low tide. This discrepancy is presumably due to many geese feeding in fields which were not counted at low tide. The geese which were noted on the estuary at low tide were largely birds which were bathing and preening (D.Wood pers. comm.) Up to three Pale-bellied Brent Geese and a Black Brant were noted amongst the flocks.

Black-tailed Godwits were also recorded in rather lower numbers than would be expected from the Core Counts, with a mean total of only 50 birds noted at low tide. This was probably partly due to poor coverage of the upper reaches of the Roach which, from the limited information available, appeared to be the favoured area, as illustrated in the map. The species does, however, move around the site a good deal and birds are easily missed at Bridgemarsh Island (D.Wood pers. comm.)

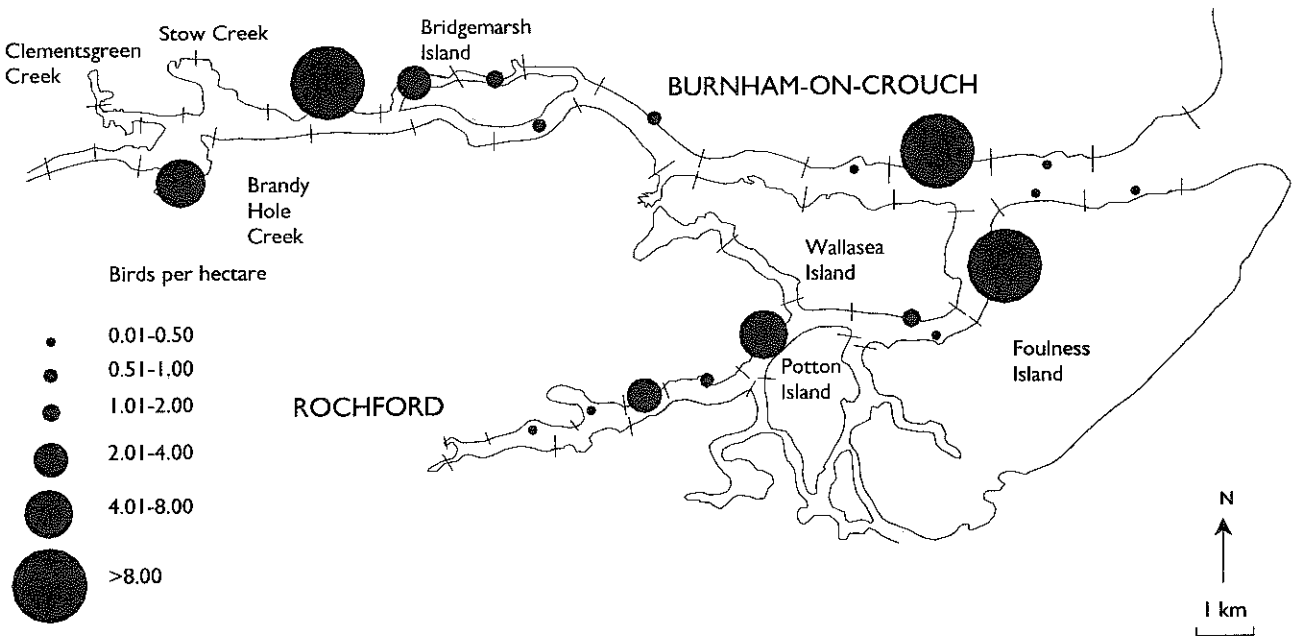
Shelduck were very widely distributed, but especially high densities were noted around much of Bridgemarsh Island, at Clementsgreen Creek and along much of the Roach. This species is surveyed well by WeBS Low Tide Counts, with counts being comparable to those obtained by Core Counts. Most of the Wigeon noted were along the north shore of the Crouch upstream from Bridgemarsh Island. Teal were also most numerous in this area, particularly at North Fambridge, but additional concentrations were to be found on the upper Roach, where the largest numbers of Mallard were also to be found. Only small numbers of Pintail were noted on the WeBS Low Tide Counts, all around Bridgemarsh Island, although larger numbers do use the site in hard weather (D.Wood pers. comm.)

As recently as the 1993-94 WeBS report, Shoveler was listed as occurring at the Crouch/Roach in nationally important numbers. However, this species was not well represented on the Low Tide Counts, when the only record was of two birds during December. Although numbers of Shovelers noted on the Core Counts during 1995-96 were not particularly high, there were certainly more than were recorded at low tide; differences in the areas covered were probably to blame for this discrepancy.

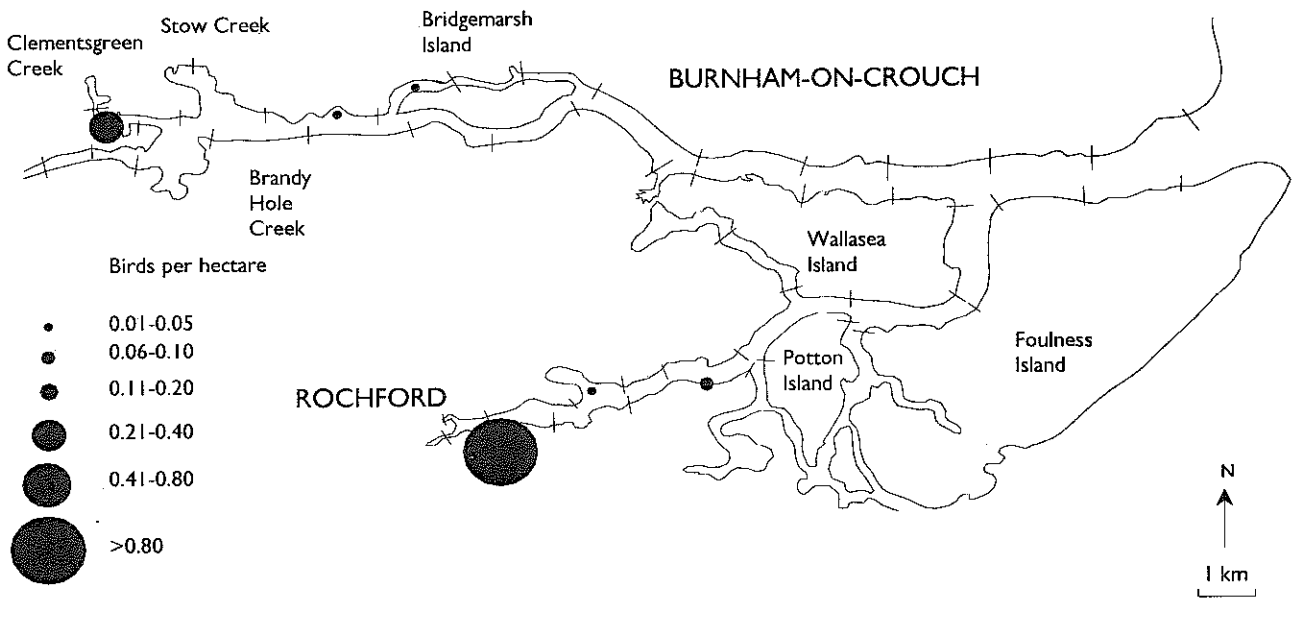
The most numerous species noted on the Low Tide Counts was the Dunlin, with a mean total of almost 5000 birds. The species was widely distributed with the largest numbers to the south of Bridgemarsh Island. Curlews were widespread but appeared to favour the Roach Estuary, as did Redshanks. Although widespread, Oystercatchers and Ringed Plovers were only noted in small numbers. Flocks of Lapwings mostly roosted west of Bridgemarsh Island. Golden Plovers were also regular in the same area, with another roost site on the north side of Foulness Island. Grey Plovers were widespread in reasonable numbers but with no concentrations of note.

Not surprisingly, for a narrow, muddy estuary such as this, records of Bar-tailed Godwits and Turnstones were scarce, and no Knot were recorded at all. The five common gull species were all noted, with over 100 Great Black-backed Gulls perhaps worthy of note. Other species noted included Green and Common Sandpipers, Jack Snipe and Smew.

BRENT GOOSE



BLACK-TAILED GODWIT



FAL ESTUARY
Cornwall

Internationally important species: None

Nationally important species: Black-tailed Godwit

Site description

Although the Fal Estuary is treated as a single site, it is really a complex of a number of smaller estuaries which flow into the broad channel known as Carrick Roads. In common with most of the estuaries in the south-west of England, the whole complex can be defined as a ria, or drowned river valley. As such, the estuary shores are mostly steep-sided. The relatively small areas of intertidal substrate are found within the narrower stretches of the smaller estuarine units. Most of these areas are very muddy, with only small areas of saltmarsh. The Fal is heavily used for sailing, although this is mainly within Carrick Roads. Other human pressures on the estuary include pollution (from tin extraction upstream), dredging and fish processing (Prater 1981).

Bird distribution

The figure opposite shows the low tide distribution of Black-tailed Godwit within the Fal complex. It is immediately apparent that the Truro river is by far the favoured site for this species. In fact, the nationally important numbers of godwits were almost exclusively found in this area. Dunlin showed a similar preference for the Truro river but were somewhat more widespread, with reasonable densities occurring at Penryn.

Curlews occurred over the whole of the surveyed area, with concentrations along the Truro and Tresillian rivers, but surprisingly few were noted at Ruan Lanihorne (see opposite). Redshanks were also widespread, but there was a noticeable tendency for this species to be concentrated towards the narrower tops of inlets (particularly along the Tresillian river and Restronguet Creek).

Of the wildfowl species, the largest numbers of Shelduck were also found on the Truro river, and to a lesser extent along the Tresillian river. Wigeon, on the other hand, were mostly concentrated at Ruan Lanihorne. Teal occurred more widely, although in small numbers, and Mallard were fairly ubiquitous.

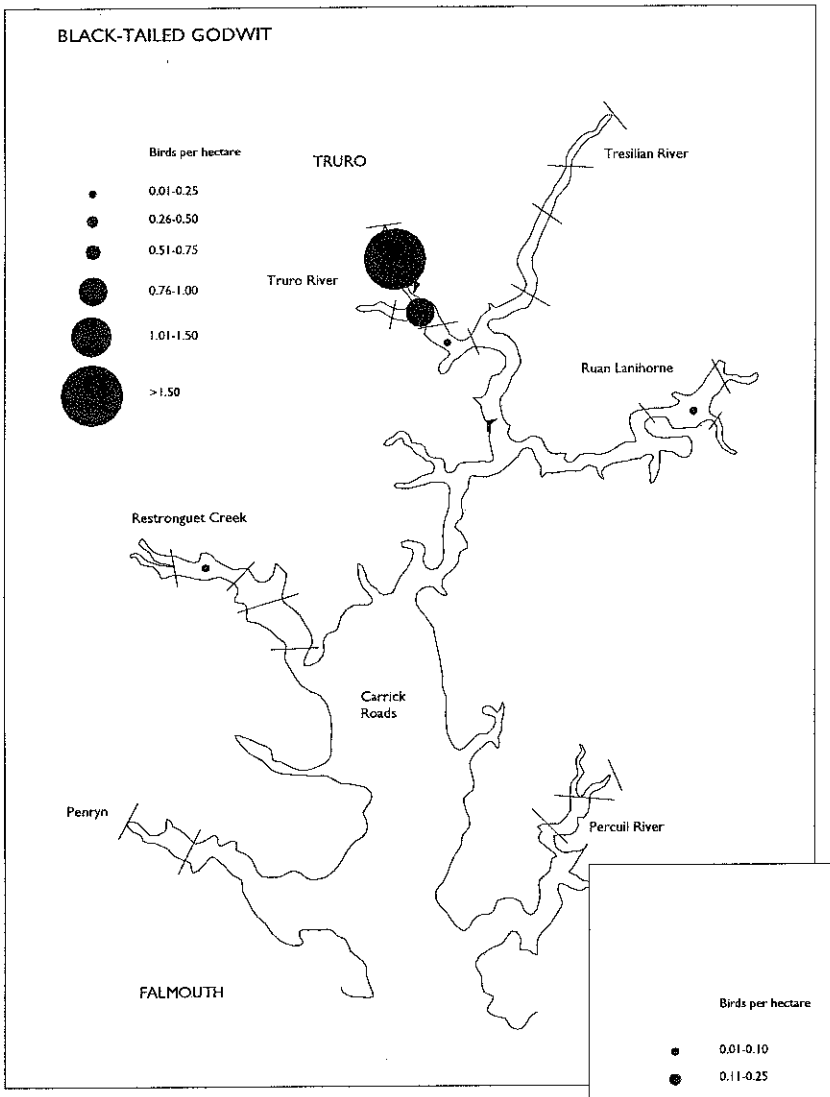
Oystercatchers were quite widespread in the northern parts of the Fal complex, with the main concentration being along the Truro river. A few Turnstones were noted on the Truro river and at Restronguet Creek. It seems likely that rather more may have been present along the rocky shoreline of the Carrick Roads which was not covered by the survey.

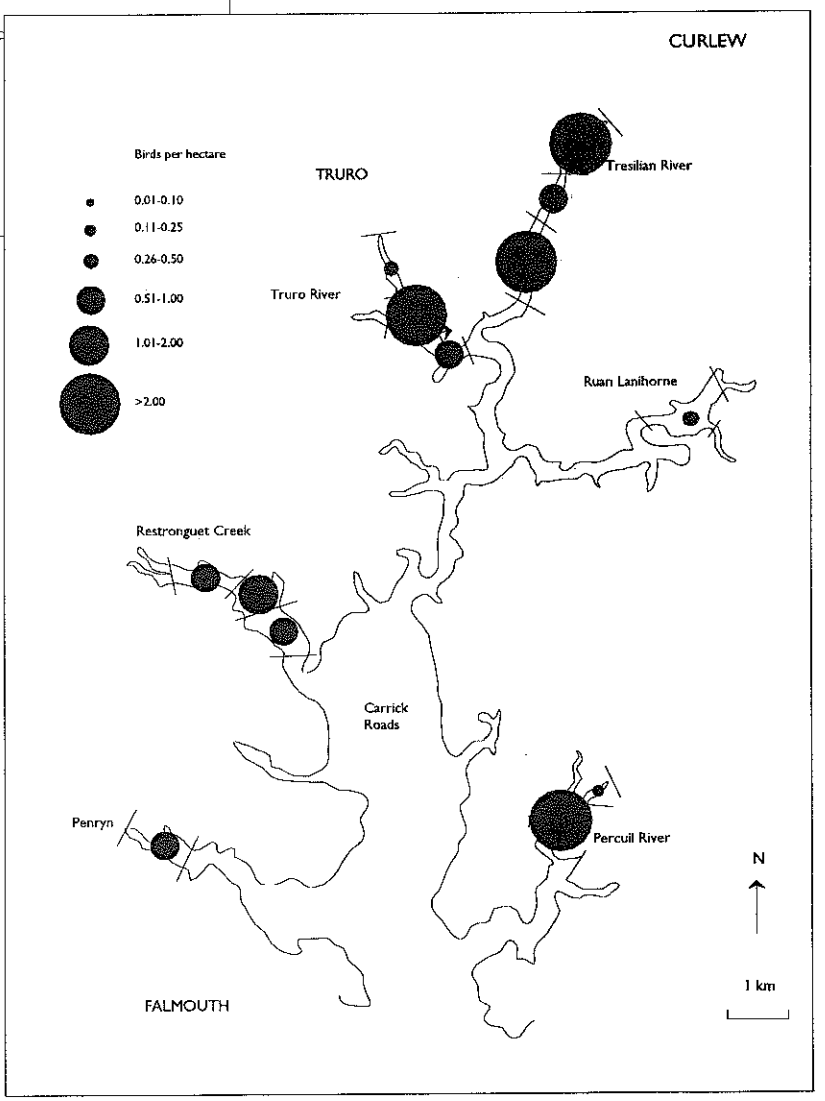
Golden Plovers were restricted to Ruan Lanihorne, where a large flock was noted in November, but not subsequently. Lapwings were also noted in this part of the estuary in large numbers, but were present more regularly throughout the winter. In addition, Lapwings were found in good numbers along the Truro river.

In addition to these principal species, very small numbers of Ringed Plovers, Grey Plovers, Sanderlings and Bar-tailed Godwits were also noted. However, Greenshanks and Little Egrets were both quite widespread, each being noted on nine of the 13 surveyed mudflats. Spotted Redshanks and Common Sandpipers were also present as wintering species. The Fal complex is the most southerly estuary in Britain and its mild climate is a major factor in the occurrence of these more unusual wintering species.

All five of the commoner gull species were present with Black-headed Gull being the most numerous species recorded on the Low Tide Counts. More notable, however, was the concentration of Great Black-backed Gulls at Ruan Lanihorne, with a peak here of 240 birds. The Fal complex was listed in the 1993-94 WeBS report as the site with the third highest count in the country for this species.

The sheltered waters of the Carrick Roads are important in a Cornish context in that they hold the largest concentration of Goldeneyes and Red-breasted Mergansers in the county, as well as good numbers of divers and the rarer grebes (Conway 1996). Apart from a handful of Red-breasted Mergansers, these birds did not feature in the Low Tide Counts, largely because most of the Carrick Roads was not surveyed.


BLACK-TAILED GODWIT
Birds per hectare
0.01-0.25
0.26-0.50
0.51-0.75
0.76-1.00
1.01-1.50
>1.50
TRURO
Tresilian River
Truro River
Ruan Lanihorne
Restronguet Creek
Carrick Roads
Penryn
Percuil River
FALMOUTH


CURLEW
Birds per hectare
0.01-0.10
0.11-0.25
0.26-0.50
0.51-1.00
1.01-2.00
>2.00
TRURO
Tresilian River
Truro River
Ruan Lanihorne
Restronguet Creek
Carrick Roads
Penryn
Percuil River
N
1 km
FALMOUTH

FOWEY ESTUARY
Cornwall

Internationally important species: None

Nationally important species: None

Site description

The Fowey is a small estuary in south-east Cornwall, and like the Fal, has the typical steep-sided profile of a ria. Towards the mouth of the estuary, around the town of Fowey, the shores are rocky, but a little further upstream, the estuary widens somewhat which results in a reasonable expanse of mud. Although the town of Fowey itself is an important port, the intertidal area appears to be relatively disturbance free, although bait-diggers were noted throughout the course of the Low Tide Counts.

Bird distribution

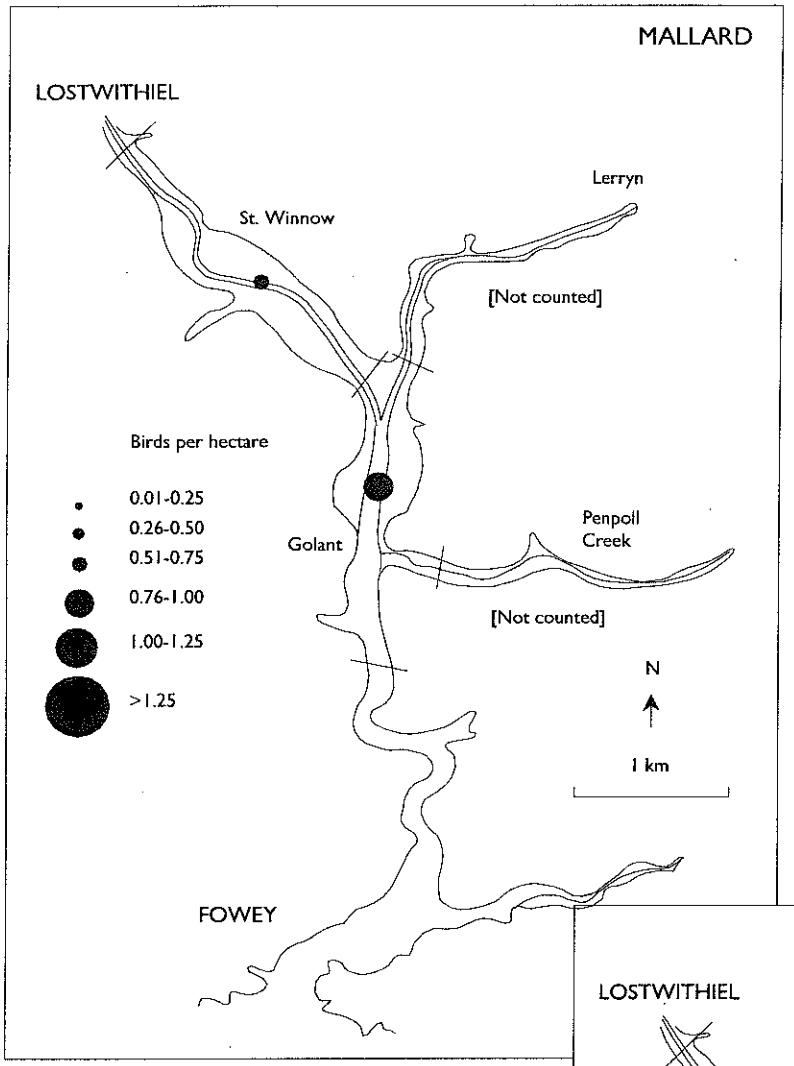
Because of its small size, the principal area of intertidal mud on the Fowey, as shown on the distribution maps, was divided into only two sections. The two smaller creeks, at Lerryn and Penpoll, were not counted, resulting in a total surveyed area of 137 ha. The Fowey does not support particularly large numbers of waterfowl, but in general, the more northerly section contained the greater density of birds.

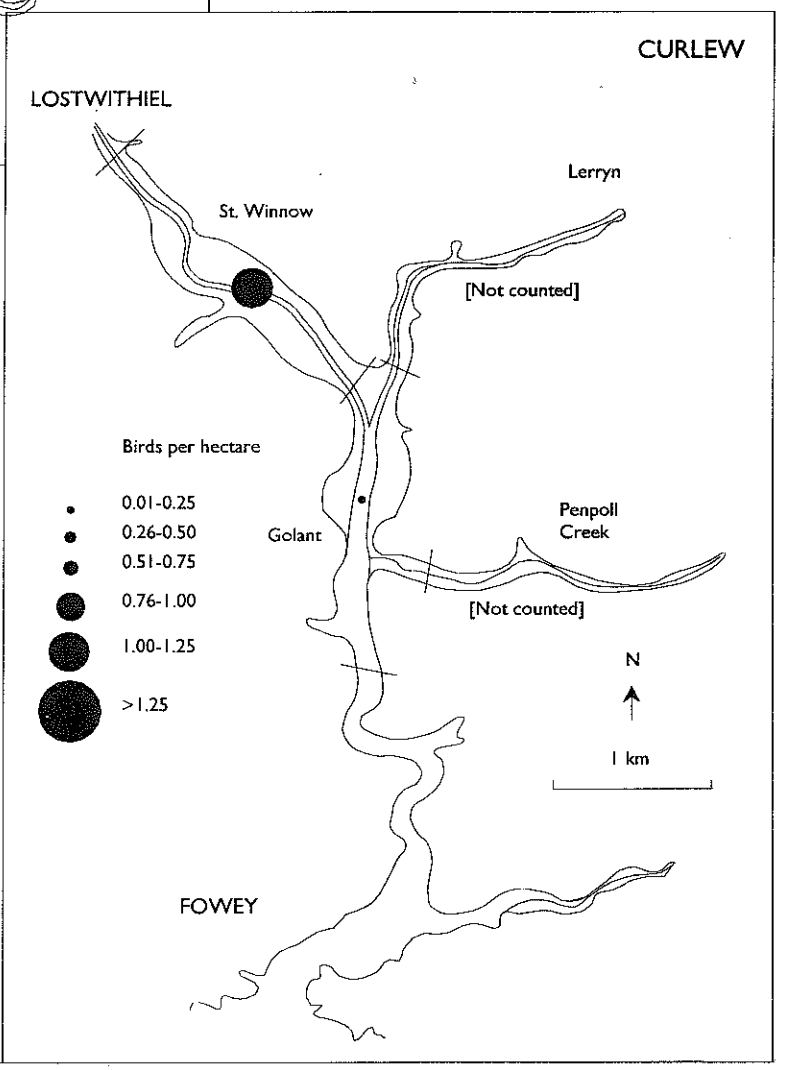
Mallard was the only wildfowl species for which the mean count was over 100. A slightly higher density was noted towards the south of the estuary (see map). Curlew were also fairly numerous, but were present at a much higher density in the northern part of the estuary (see map). The only other species present in any numbers was Lapwing, which was recorded exclusively on the northern section of the estuary. The relatively high mean count in this area was mostly due to a large flock seen during the February count; apart from small numbers in January, no other Lapwings were noted. Counts of up to 42 Mute Swans, almost exclusively on the southern mudflat, were also notable for a relatively small estuary.

In view of the continuing increase in Little Egret numbers in southern Britain, the presence of this species on the Fowey came as no surprise. However, the November count revealed no less than 30 birds, spread evenly between the two count sections. Numbers decreased to 12 in December, and then down to one in January and two in February. This pattern of occurrence was in line with that noted elsewhere in Cornwall (Conway 1996). On average, there were more than twice as many Little Egrets as Grey Herons present on the Fowey during the 1995-96 WeBS Low Tide Counts.

A few other waterfowl species were noted in very small numbers. Teal, Oystercatchers, Redshanks and Greenshanks were noted on both of the surveyed sections, whereas Shelduck, Wigeon, Goldeneye, Red-breasted Mergansers, Dunlin and Bar-tailed Godwits were confined to the north of the estuary.

Gulls were present in rather higher numbers than either wildfowl or waders, with densities for all five of the commoner species higher on the northern mudflat than the southern one. In addition, a single Mediterranean Gull was noted in February.


MALLARD
LOSTWITHIEL
Lerryn
St. Winnow
[Not counted]
Birds per hectare
0.01-0.25
0.26-0.50
0.51-0.75
0.76-1.00
1.00-1.25
>1.25
Golant
Penpoll
Creek
[Not counted]
N
1 km
FOWEY


CURLEW
LOSTWITHIEL
Lerryn
St. Winnow
[Not counted]
Birds per hectare
0.01-0.25
0.26-0.50
0.51-0.75
0.76-1.00
1.00-1.25
>1.25
Golant
Penpoll
Creek
[Not counted]
N
1 km
FOWEY

INLAND SEA / ALAW ESTUARY
Gwynedd

Internationally important species: None

Nationally important species: None

Site description

The Inland Sea lies between Anglesey and the smaller Holy Island, and is bordered to north and south by two road bridges; the Stanley Embankment and the Four Mile Bridge. To the north of the Stanley Embankment is the small estuary of the Afon Alaw which empties into Holyhead Bay past the sands of Traeth y Gribin. For the Low Tide Counts, the whole intertidal area from Porth Dryw on the east shore and Gorsedd-y-penrhyn on the west shore south to Four Mile Bridge was counted. The sandy creek running south from Four Mile Bridge to the sea at Cymyran Bay was not included in the survey area. The shore is largely rocky, with a small area of sand dunes at the mouth of the Afon Alaw (Prater 1981).

Bird distribution

A good selection of species were noted at this site, but numbers were relatively low for its size. No species even reaches the level of national importance. Overall, waterfowl densities were relatively even throughout the area, with Beddmanarch Bay and the southern end of the Inland Sea being the most densely occupied, followed by the Alaw estuary.

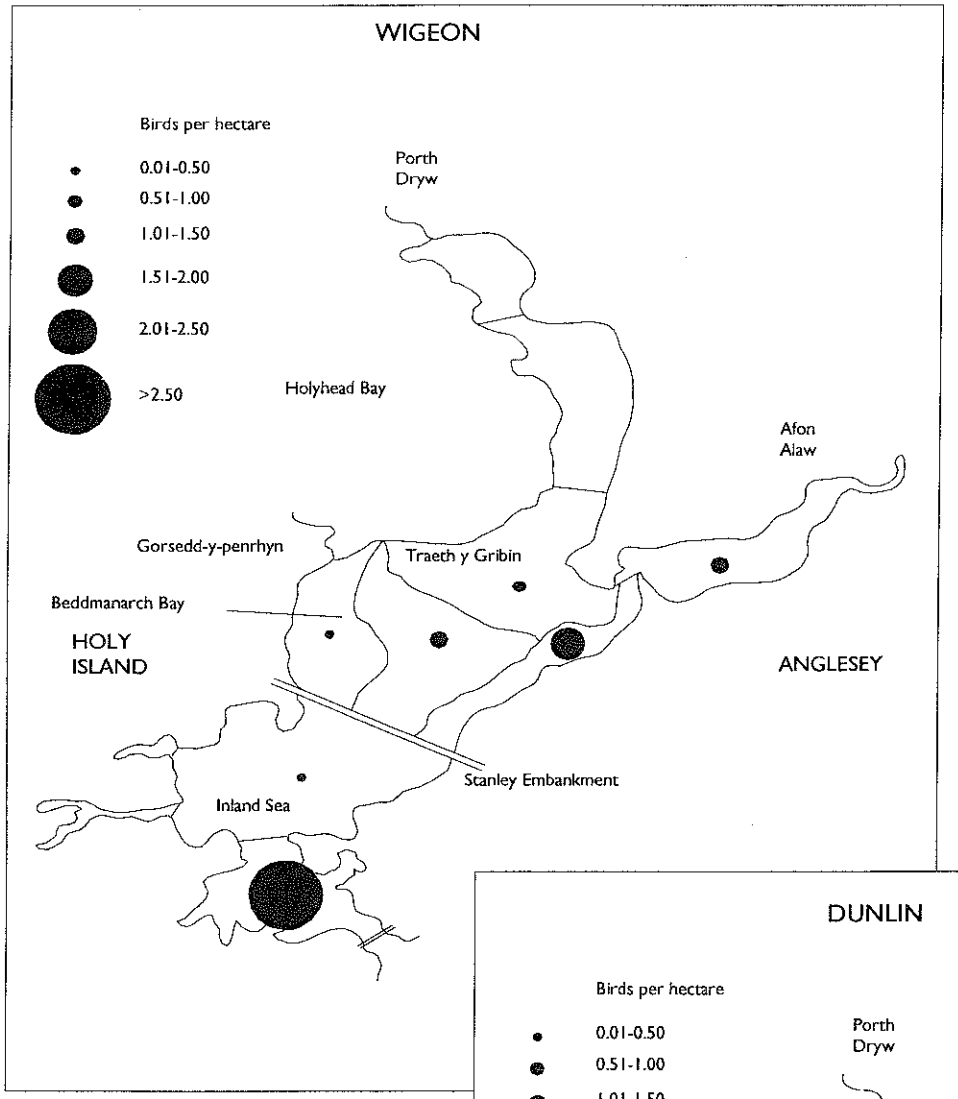
The most abundant species was the Dunlin. An average of over 1000 were noted during the counts, with the peak counts in December and January. The highest densities (although fairly low in comparison with other estuaries) were at the southern end of the Inland Sea, and at Beddmanarch Bay, although Dunlin were noted throughout the entire area (see opposite).

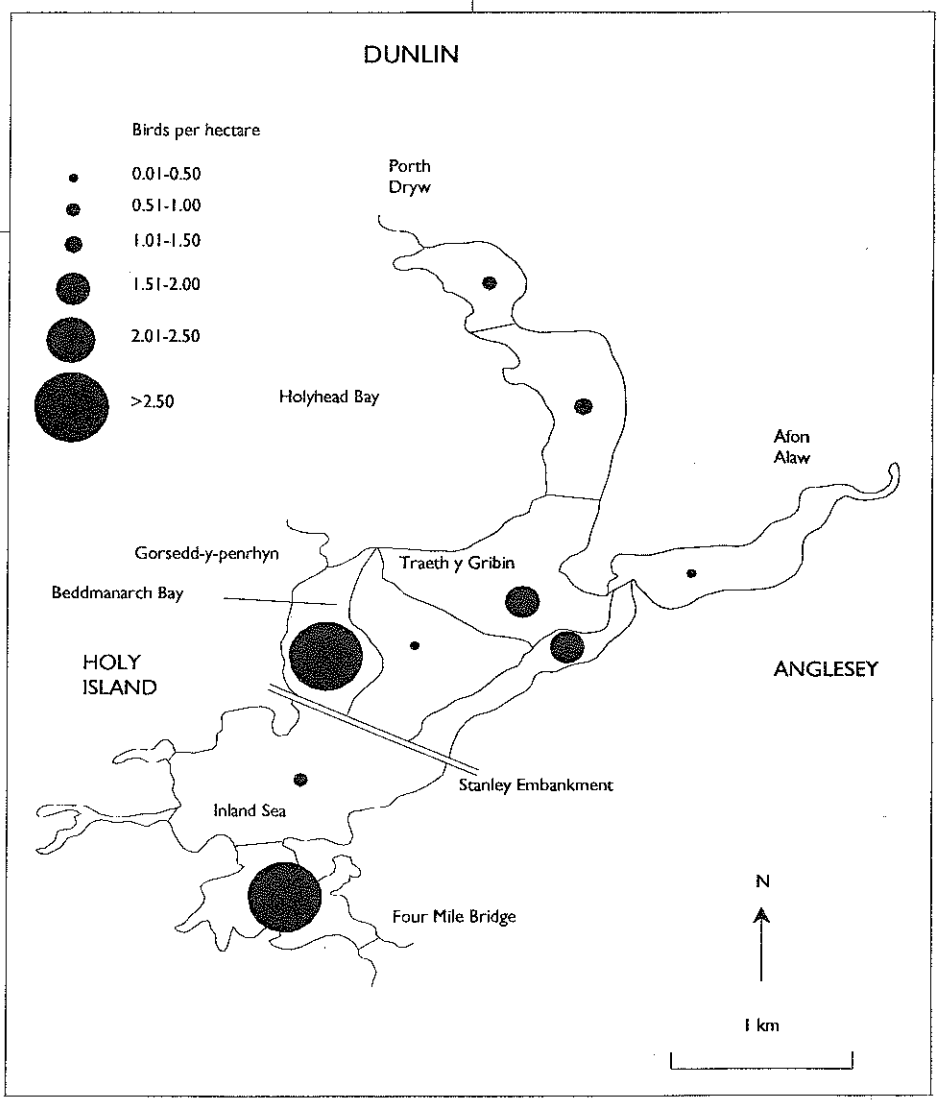
Wigeon were the most numerous of the wildfowl at this site, with 790 counted in November although numbers dropped off somewhat after this. Densities were also rather low for this species, and although the map shows that numbers were greatest in the southern Inland Sea, the species was also fairly widespread (although it avoided the sandy beaches to the north).

Perhaps the most interesting species here is the Brent Goose. Brent Geese are rather scarce in Wales, except for a flock of Dark-bellied Brents on the Burry Inlet in the south. Although the numbers noted at the Inland Sea (up to 46) were minute in comparison with the estuaries of south-east England, these were Pale-bellied Brent Geese and were almost certainly from the Greenland and Canadian breeding population which winters almost exclusively across the water in Ireland. The increasingly regular occurrence of this species here is a fairly recent phenomenon. During the Low Tide Counts, the geese were usually to be found within the Inland Sea.

Shelduck were the only other wildfowl species present in any numbers, with birds favouring the southern Inland Sea and the sandy flats of Traeth y Gribin. Other surface-feeding ducks were fairly scarce although there was a flock of up to 46 Pintail which used the Alaw estuary. However, the site, particularly the Inland Sea, held reasonable numbers of Goldeneye and Red-breasted Mergansers (with mean counts of 45 and 36 respectively). Additionally, two Black-necked Grebes in Beddmanarch Bay in February were a bonus for the counter.

One of the more significant wader species present was the Ringed Plover, with a mean of 144 birds noted; this is a species which is well known for favouring rocky and sandy coasts, and the species was found throughout the area. Given this number of Ringed Plovers, it was perhaps surprising how few Turnstones (with a mean count of 46 birds) were noted. Both of these species favoured the rocky east shore just north of the Stanley Embankment. Oystercatchers, Curlews and Redshanks were fairly common throughout the estuary, although Oystercatchers showed a preference for Traeth y Gribin, as did the Bar-tailed Godwits, Grey Plovers and the few Knots which were present. Small numbers of Lapwings (but almost no Golden Plovers) roosted on the estuary. Wintering Greenshanks favoured the Alaw estuary and the northern Inland Sea.


WIGEON
Birds per hectare
0.01-0.50
0.51-1.00
1.01-1.50
1.51-2.00
2.01-2.50
>2.50
Porth
Dryw
Holyhead Bay
Afon
Alaw
Gorsedd-y-penrhyn
Traeth y Gribin
Beddmanarch Bay
HOLY
ISLAND
ANGLESEY
Stanley Embankment
Inland Sea


DUNLIN
Birds per hectare
0.01-0.50
0.51-1.00
1.01-1.50
1.51-2.00
2.01-2.50
>2.50
Porth
Dryw
Holyhead Bay
Afon
Alaw
Gorsedd-y-penrhyn
Traeth y Gribin
Beddmanarch Bay
HOLY
ISLAND
ANGLESEY
Stanley Embankment
Inland Sea
Four Mile Bridge
N
1 km

LAVAN SANDS (TRAETH LAFAN)
Gwynedd

Internationally important species: None

Nationally important species: Great Crested Grebe, Goldeneye, Red-breasted Merganser, Oystercatcher, Curlew

Site description

Lavan Sands is an extensive intertidal area on the south side of the Menai Straits whose shoreline stretches from Bangor east to Llanfairfechan. The northern shore of the Straits, along the coast of Anglesey, was not surveyed, nor was the offshore area known as Dutchman's Bank. The mudflats are almost unbroken except for the freshwater streams of the Afon Ogwen in the west and the smaller Afon Aber to the east. The flats are muddy close to the shore but become sandier further out. Although a major oil spill occurred here in the 1970's, disturbance by commercial cocklers is likely to be more of a problem at the present time (Pritchard *et al.* 1992). The Low Tide Count data was provided as part of a study being carried out by the Countryside Council for Wales looking at cockling.

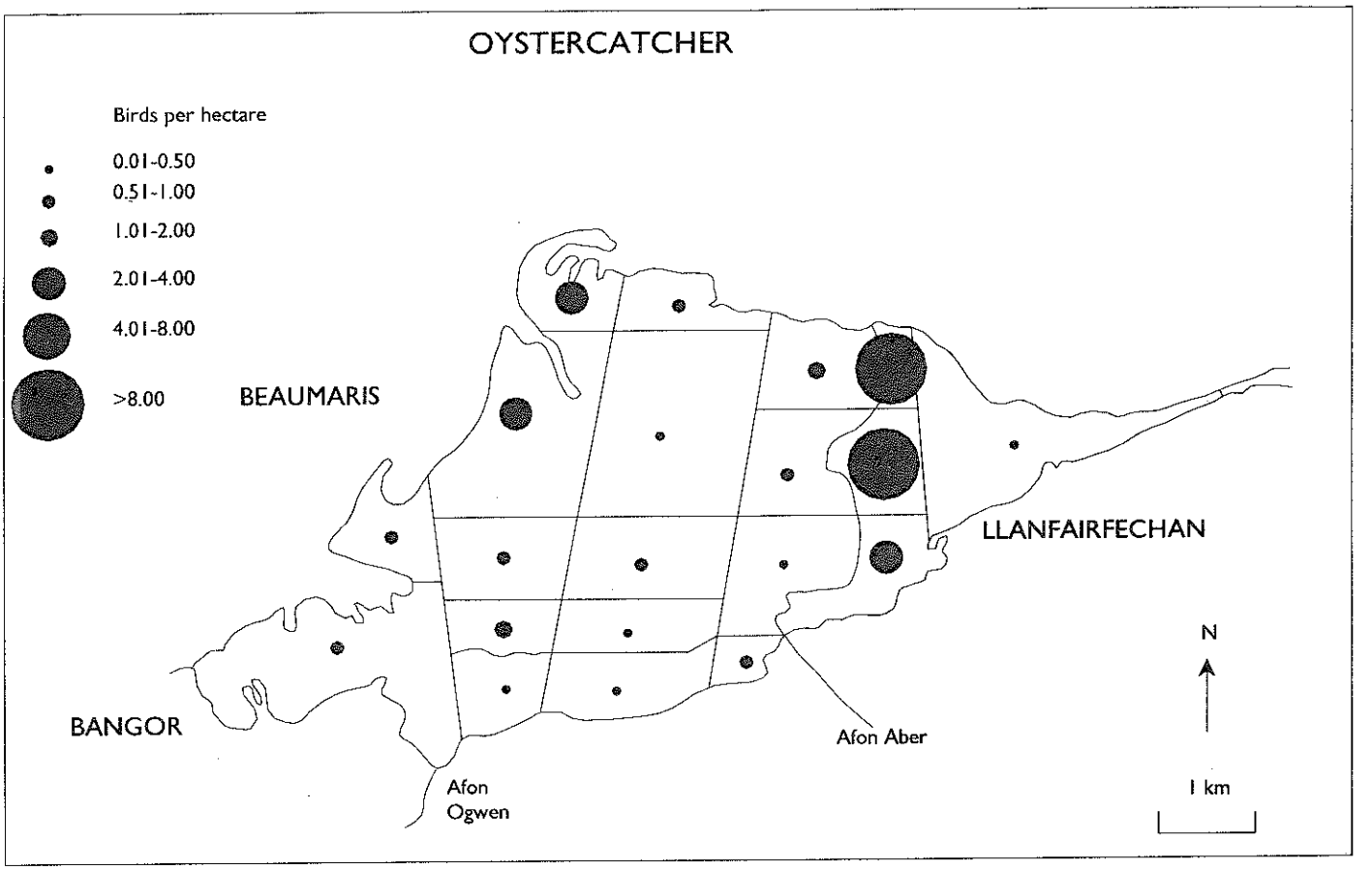
Bird distribution

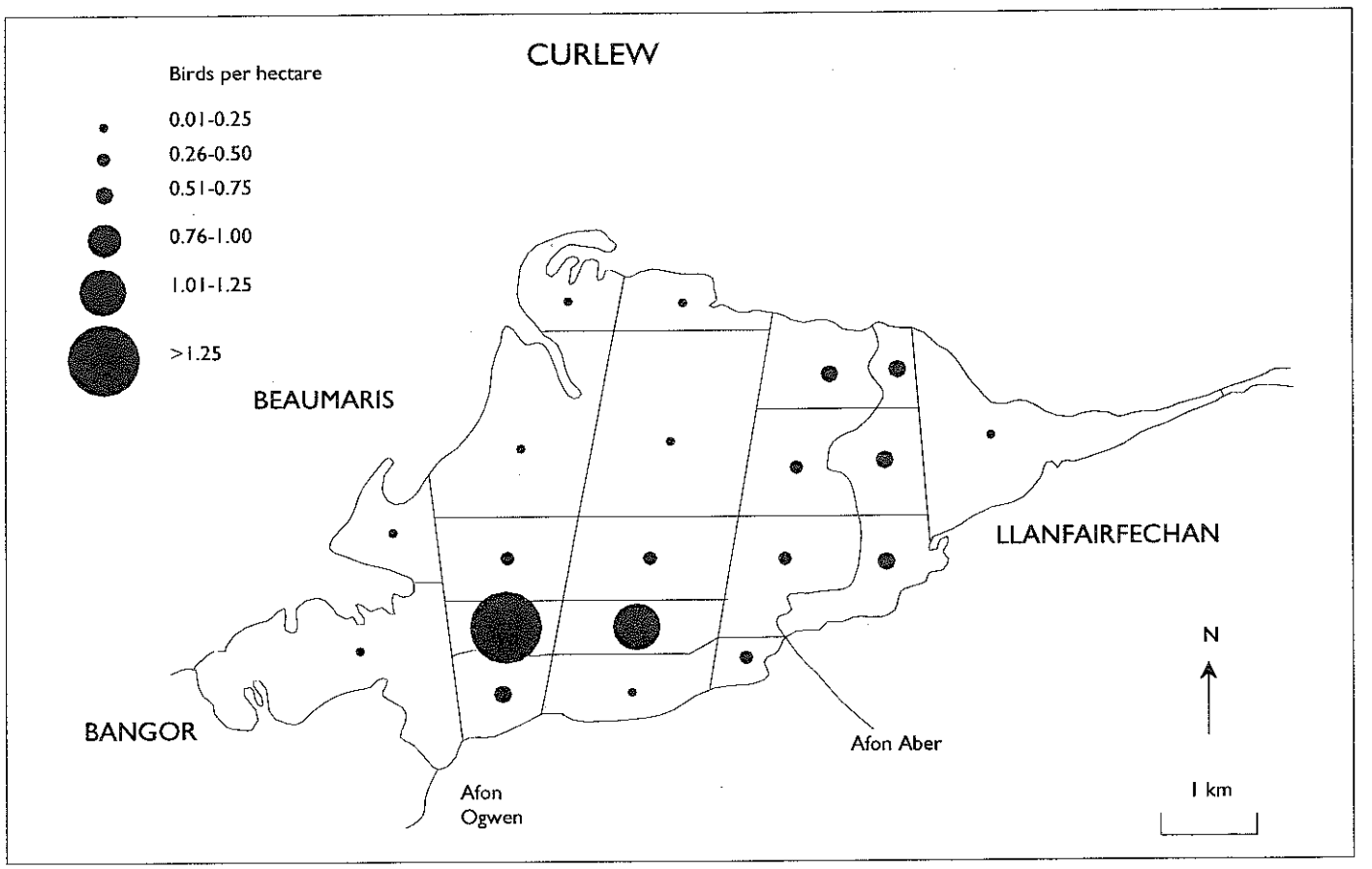
The most numerous species on Lavan Sands was the Oystercatcher, with a mean count of over 4000 at low tide (see map). This figure compared well with the Core Counts. The highest densities were away from the shore, and found particularly along the east side of the Afon Aber and on the north-western part of the mudflats, opposite Beaumaris. The overall density of 1.5 Oystercatchers per hectare was the highest recorded for any British estuary during the 1995-96 low tide counts, although it was exceeded at both Belfast Lough and Strangford Lough in Northern Ireland.

Dunlin were also numerous, with a mean low tide count of about 2000 birds. This species was more localised than the Oystercatcher, with most birds occurring in the north-west quarter of the site. Unlike the figures for Oystercatcher, the density over the whole site of 0.7 Dunlin per hectare was one of the lowest seen on all of the estuaries covered at low tide during the 1995-96 winter.

Curlew were widespread at Lavan Sands with a fairly even distribution although the highest densities were relatively close to the shore. A mean of over 900 Curlews were counted at low tide. Redshanks were very much concentrated on the mudflats adjacent to the shoreline, particularly at the Afon Ogwen and Afon Aber. A few Ringed Plovers were present in the same areas. Other waders were scarce, with just a handful of Lapwings, Bar-tailed Godwits, Greenshanks and a Spotted Redshank noted. The lack of any records of Grey Plovers, Knot and Turnstones was surprising; only small numbers of these species are recorded at high tide also.

The most numerous wildfowl species was the Wigeon, with a mean count of over 800 noted. Almost all of these birds were in the west of the site, on Bangor Flats and the mud to the north of this (south of Beaumaris). The same area held most of the Mallards, although both species were also present in small numbers around the Afon Aber further east. Shelduck were widely distributed across the southern half of the mudflats, but only in small numbers. Other wildfowl were scarce, with (for example) a maximum of only three Teal noted. The offshore waters are nationally important for Great Crested Grebes, Goldeneye and Red-breasted Mergansers (with recent mean peak counts of *ca* 200 birds for each of these species). However, at low tide these birds are too distant to count accurately. The only other species of note were a Little Egret and a flock of 11 White-fronted Geese during January.


OYSTERCATCHER
Birds per hectare
0.01-0.50
0.51-1.00
1.01-2.00
2.01-4.00
4.01-8.00
>8.00
BEAUMARIS
LLANFAIRFECHAN
BANGOR
Afon Aber
Afon Ogwen
N
1 km


CURLEW
Birds per hectare
0.01-0.25
0.26-0.50
0.51-0.75
0.76-1.00
1.01-1.25
>1.25
BEAUMARIS
LLANFAIRFECHAN
BANGOR
Afon Aber
Afon Ogwen
N
1 km

MEDINA ESTUARY
Isle of Wight

Internationally important species: None

Nationally important species: None

Site description

The long, narrow Medina Estuary runs almost due south from Cowes to Newport, cutting a channel about five miles long into the Isle of Wight. Despite its length, the mudflats along its banks are relatively narrow. Of approximately 15,000 waterfowl wintering on the Isle of Wight's five small estuaries, only about 10% are to be found on the Medina. Part of the estuary is an SSSI but potential problems exist with disturbance and pollution from sailing interests (Prater 1981).

Bird distribution

Despite the relatively low numbers of waterfowl recorded on the Medina, a good selection of birds were noted. The most numerous species (not including gulls) was the Dunlin, as on many other estuaries (see map). Dunlins were concentrated in the middle stretches of the estuary, where the mudflats are marginally wider than elsewhere. Smaller numbers occurred upstream, but surprisingly, none were noted lower down the estuary, perhaps because of the rockier nature of the intertidal substrate.

Similar preferences for the central part of the estuary were seen for Shelducks, Grey Plovers and Curlews, although for all of these species, small numbers were noted on the lower reaches of the estuary also. Although only small numbers of each occurred, both Ringed Plovers and Turnstones also favoured the middle section of the estuary.

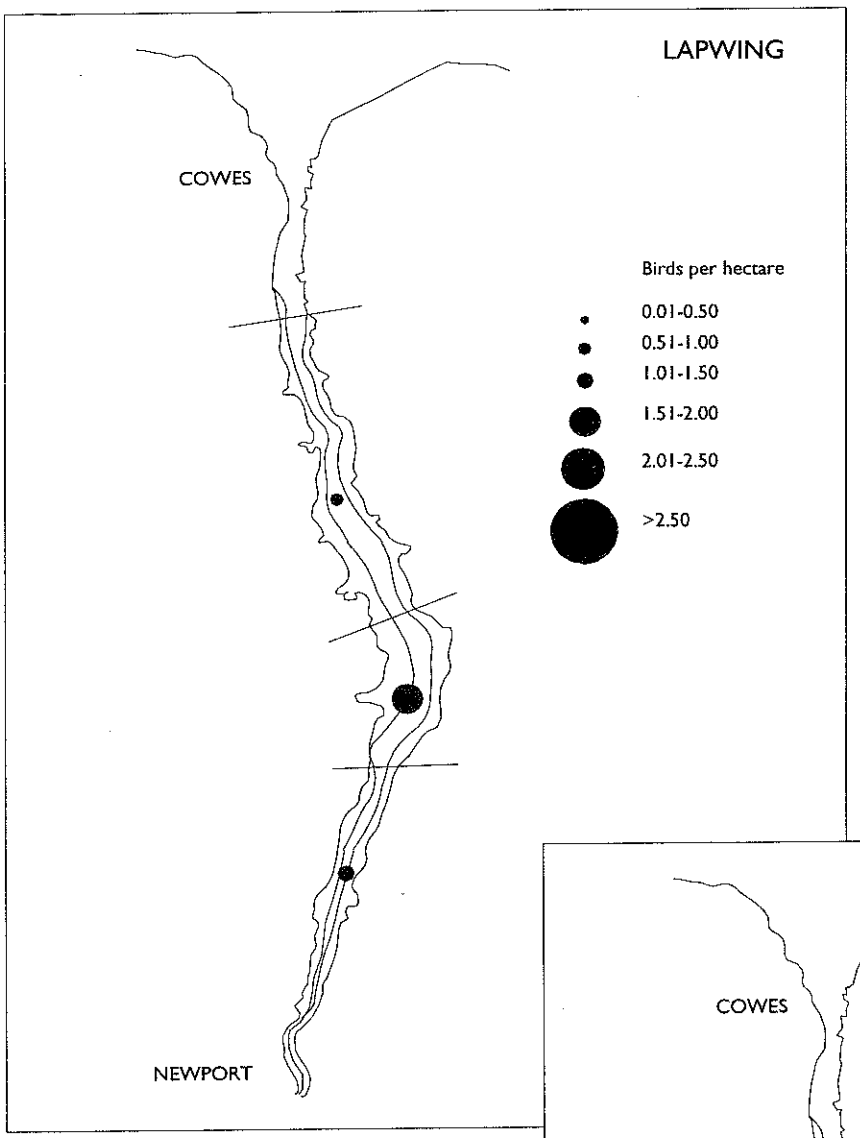
Lapwings (see opposite) also occurred at their highest densities in the middle reaches of the Medina, although Lapwing noted on estuarine habitats are often roosting, not feeding. It may be, therefore, that the slightly wider mudflats provided a somewhat more secure roost site.

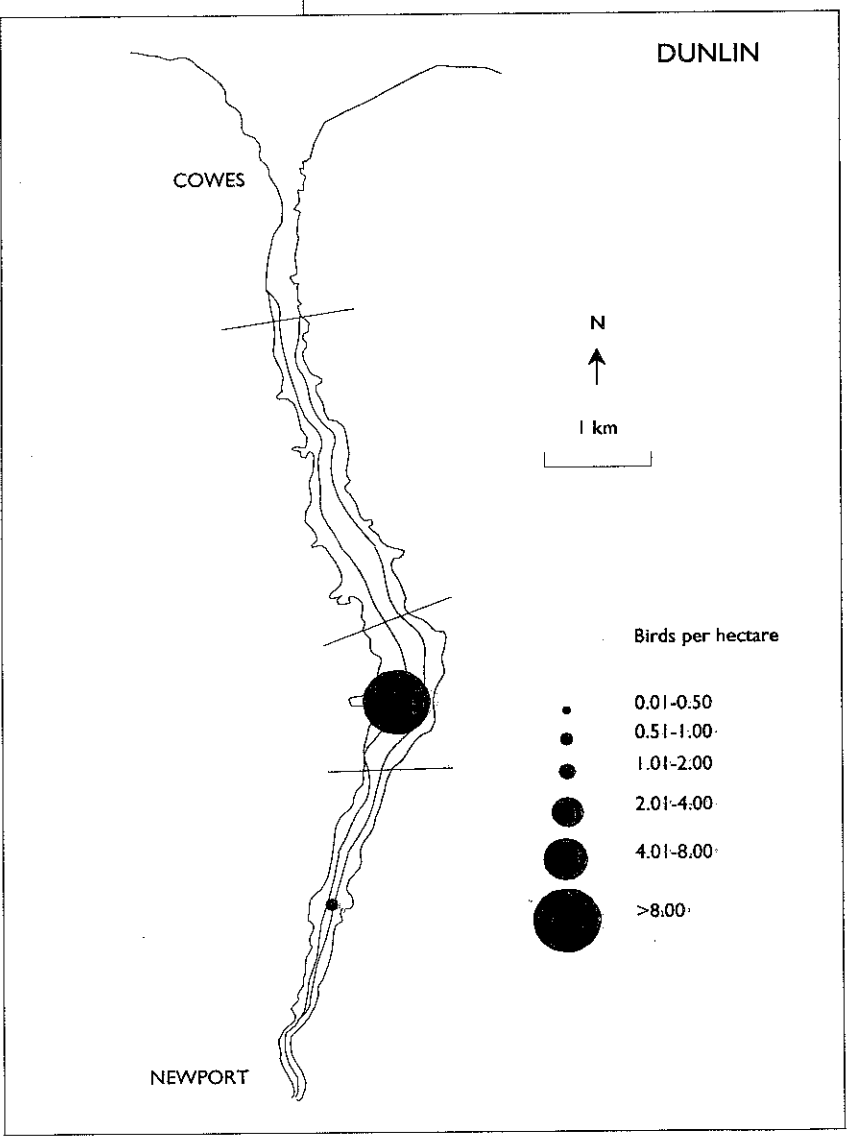
Two wildfowl species which regularly occur together on estuaries are Brent Goose and Wigeon. The two species did display a similarity in distribution on the Medina. As with the species already discussed, the central section of the mudflats was preferred. However, both Brent Geese and Wigeon were also found in appreciable numbers lower down the estuary. Teal followed the same pattern, but in very low numbers.

Another pattern of occurrence was displayed by Mallard, Oystercatcher and Black-tailed Godwit. Each of these species occurred along the whole of the surveyed area, but higher numbers of Oystercatchers occurred on the southern section of the estuary and Black-tailed Godwits similarly exhibited a decrease from south to north. Mallards were found quite evenly throughout, although they too showed a bias to the upper stretches.

The only species which occurred at all evenly throughout the estuary was the Redshank, a species which often prefers muddy areas with creeks. Since much of the site is able to provide this type of habitat, there is ample opportunity for birds to set up feeding territories quite evenly.

In common with many other southern estuaries, Little Egrets were present on the Medina throughout the winter, with a maximum count of five in November. The narrower upper section of the estuary was favoured.


LAPWING
COWES
Birds per hectare
0.01-0.50
0.51-1.00
1.01-1.50
1.51-2.00
2.01-2.50
>2.50
NEWPORT


DUNLIN
COWES
N
1 km
Birds per hectare
0.01-0.50
0.51-1.00
1.01-2.00
2.01-4.00
4.01-8.00
>8.00
NEWPORT

ORWELL ESTUARY
Suffolk

Internationally important species: Redshank

Nationally important species: Dark-bellied Brent Goose, Shelduck, Pintail, Ringed Plover, Dunlin, Black-tailed Godwit

Site description

The long, narrow intertidal reaches of the Orwell Estuary extend from Ipswich to the Port of Felixstowe where it joins the Stour Estuary (with the Stour holding a much higher number of waterfowl than the Orwell). Inter-estuarine movement involving several species of birds regularly occurs and is especially noticeable on a flooding tide. Much of the intertidal substrate is fairly muddy but it becomes sandier towards the mouth. In the past, the main conservation concerns were about dockland expansion schemes and marina developments. Dockland expansion at Felixstowe, since around 1964, has claimed all the lower reaches of the Orwell's northern shore. As a result of the last development and as mitigation for the loss of an important inter-tidal habitat, the Felixstowe Dock and Railway Company had to lease an area of land and provide the finances to establish a nature reserve at Trimley marshes. The reserve, established in 1989, has been managed by the Suffolk Wildlife Trust. Although the reserve does not replace the lost estuarine habitat it does provide a roost and safe refuge site for several thousand waterfowl during the winter period. Other problems confronting the Orwell are pollution and heavy disturbance from sailing and other leisure activities (M. Wright pers. comm., Beecroft 1990, Pritchard *et al.* 1992).

Bird distribution

During the winter of 1995/96, the WeBS Low Tide Counts found the largest ever recorded gathering of waterfowl on the Orwell. The total of 32,701 birds in February included the highest ever site-total of Dunlin (17,634).

The map of Redshank densities (see map) reveals that the higher densities are to be found upstream, although the species is widespread. Considering the international importance of the Orwell for this species, the effective conservation of these upper mudflats is all the more imperative, considering that a good deal of infilling for dock development has taken place recently. However, it might be that upper estuary development may not reduce the Redshanks' feeding area, but simply move it down-river; this is something that could be investigated in more detail.

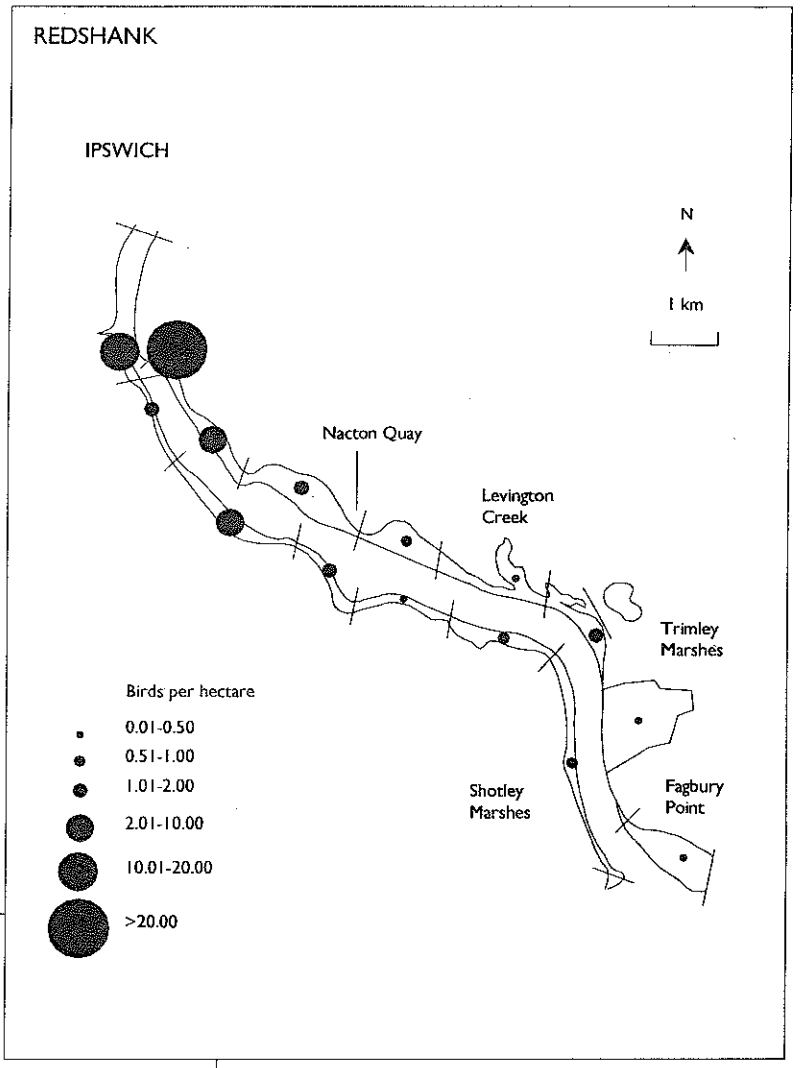
The map opposite illustrates the low tide distribution of the Black-tailed Godwit on the Orwell. This species also has a preference for the upper estuary, although its centre of occurrence is a little further downstream along the southern shore. Upper estuary distributions are typical for this species when compared to its close relative, the Bar-tailed Godwit; unfortunately, there were too few of the latter species recorded for effective comparison on the Orwell, presumably because the whole estuary is too muddy for them.

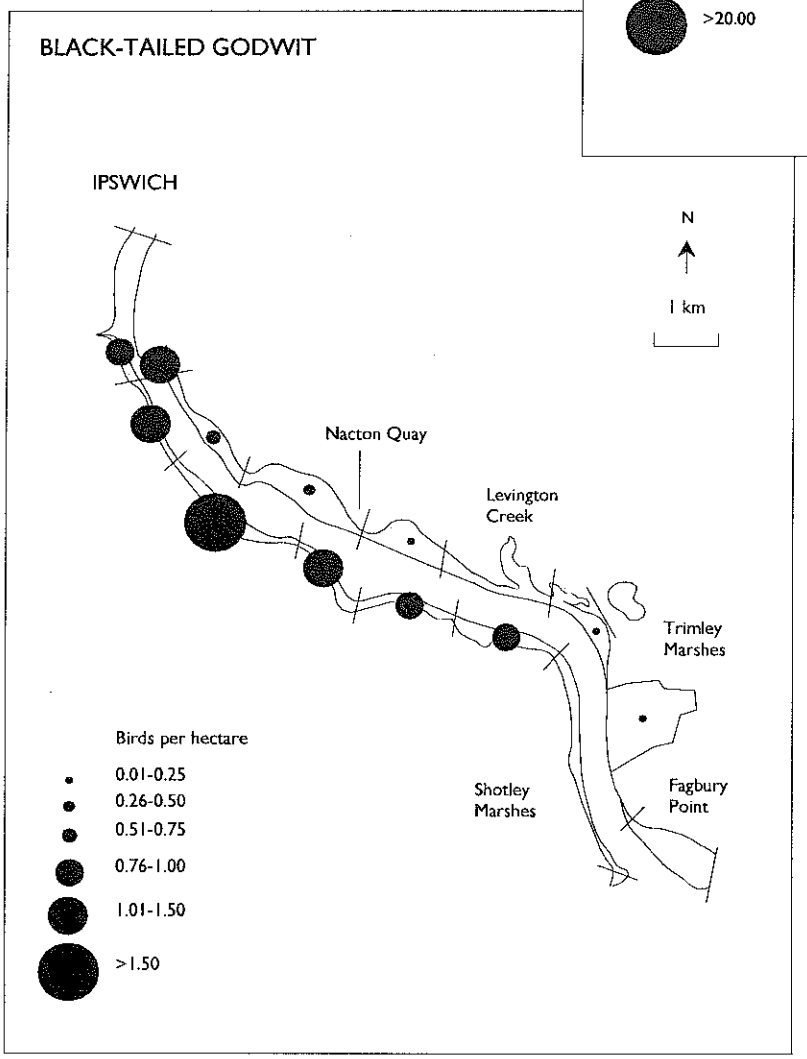
The low tide distributions of three other species present in nationally important numbers are concentrated around the upper reaches of the estuary. Pintail were mostly to be found on the eastern shore to the north of Nacton Quay. Dunlin occurred mostly in the same area although there were reasonable numbers on the adjacent southern shore. Ringed Plovers were found in similar areas to Dunlin (although numbers were typically much smaller), although there was also a concentration a little further downstream near Levington Creek.

Brent Geese were found much further down the estuary, on both shores below Nacton Quay. Trimley Marshes were also favoured, as they were for Wigeon which were more generally distributed along the estuary. Teal were found almost exclusively at Trimley but Mallard were ubiquitous, with the highest numbers close to Ipswich. Another nationally important species, the Shelduck, was distributed widely, with good numbers found throughout the whole estuary.

Of the other waders, the low tide distribution of Knot was rather similar to that seen for Dunlin. Oystercatchers, Grey Plovers and Curlews were more evenly distributed, although they all favoured the central parts of the eastern shore. Turnstones were widespread but only in small numbers. Flocks of Golden Plovers were highly localised to Trimley and Levington Creek. Lapwings were found throughout most of the Orwell, but were concentrated in two areas; close to the Orwell Bridge and to the south around Trimley, Levington and Shotley.

Of the scarcer species, mean counts of 67 Goldeneyes were notable, and other species included Slavonian Grebe, Smew and Long-tailed Duck.


REDSHANK
IPSWICH
N
1 km
Nacton Quay
Levington Creek
Trimley Marshes
Shotley Marshes
Fagbury Point
Birds per hectare
0.01-0.50
0.51-1.00
1.01-2.00
2.01-10.00
10.01-20.00
>20.00


BLACK-TAILED GODWIT
IPSWICH
N
1 km
Nacton Quay
Levington Creek
Trimley Marshes
Shotley Marshes
Fagbury Point
Birds per hectare
0.01-0.25
0.26-0.50
0.51-0.75
0.76-1.00
1.01-1.50
>1.50

PAGHAM HARBOUR
West Sussex

Internationally important species: Pintail

Nationally important species: Cormorant, Dark-bellied Brent Goose, Grey Plover, Black-tailed Godwit

Site description

Pagham Harbour is a relatively small estuary located just east of Selsey Bill in Sussex. A central area of mudflats and saltmarsh is flanked by brackish marsh and damp pastures. The outlet to the sea is a narrow channel flowing through a shingle beach. There is a brackish lagoon at Pagham and a small pool at Sidlesham Ferry. The area was once reclaimed as agricultural land but was flooded again early in the 20th century. The harbour is now a designated SPA and Ramsar site. No sailing or fishing takes place in the harbour and there are no pressing conservation concerns (Pritchard *et al.* 1992).

Bird distribution

Despite its small size, Pagham Harbour is an extremely important site for wintering wildfowl. Pagham had the highest overall densities of waterfowl of any of the 12 sites covered by the WeBS Low Tide Counts during the winter of 1995-96 (a mean of over 30 birds ha^{-1}, about four times as high as nearby Southampton Water). The species diversity for the site is also remarkably high.

The internationally important numbers of Pintail were concentrated mostly along the lower section of the Ferry Channel, with good numbers along White's Creek also; only very small numbers were noted elsewhere (see map). Wigeon showed a very similar pattern of occurrence and Teal matched it fairly closely but Mallard were simply scattered in small numbers. Shelduck were more widely scattered with their highest numbers were to the north of Pagham Wall.

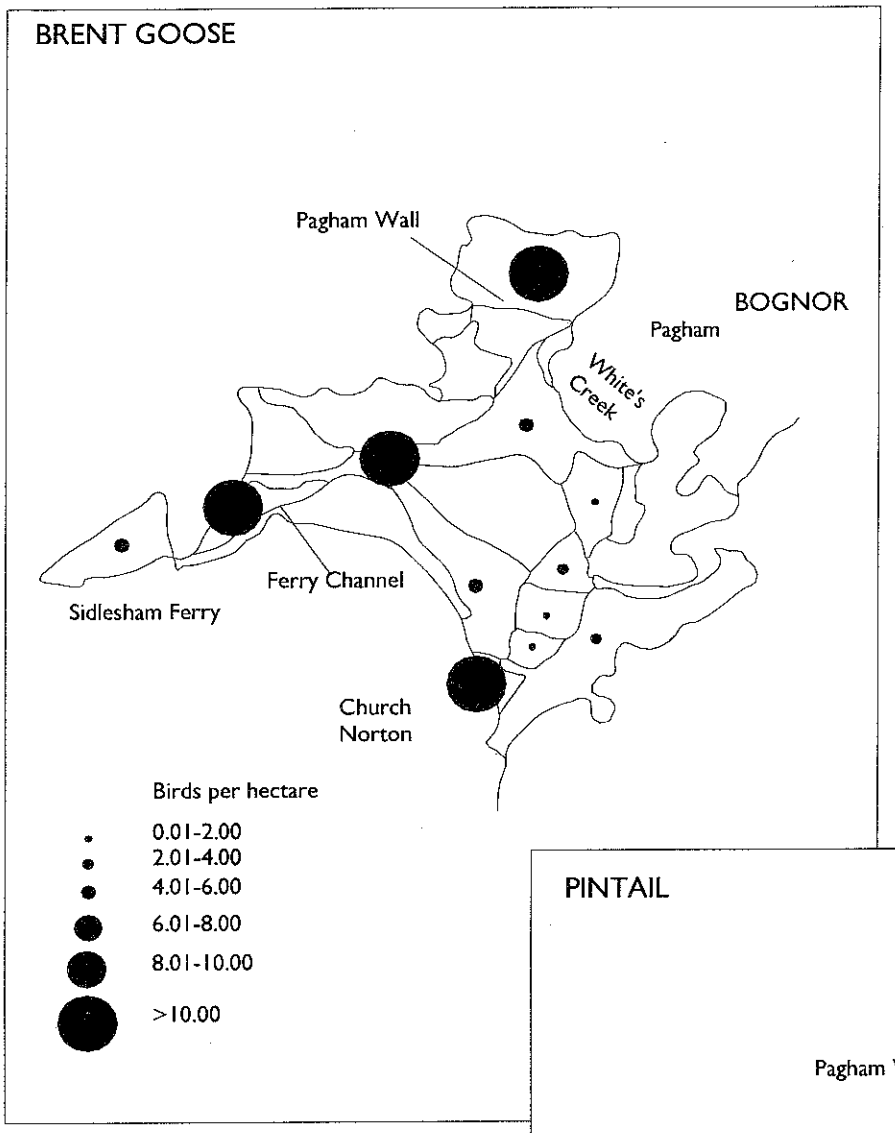
The map shows the low tide distribution of the nationally important population of approximately 3000 Brent Geese in the harbour. Although the geese are quite widespread, there are three main centres of concentration. By far the largest numbers feed in the (non-tidal) fields to the north of Pagham Wall. Elsewhere, the highest densities are to be found along the Ferry Channel, and at the saltmarsh off Church Norton. Good numbers do occur elsewhere, but are not so concentrated.

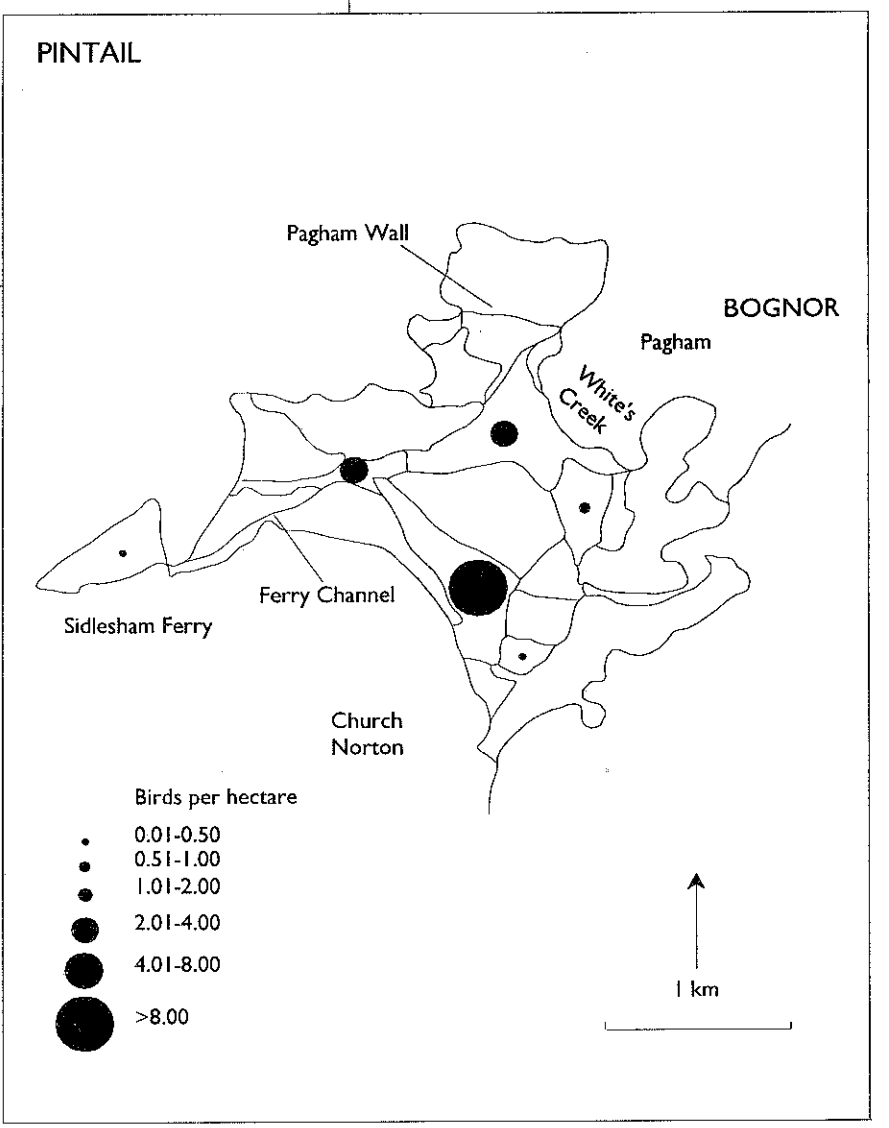
The numbers of Grey Plovers at Pagham Harbour have, in line with elsewhere in the UK, been rising substantially over the last few years. The preference for the outer estuary was notable. By far the largest numbers were to be found along the shingle beach to the south of the estuary mouth, with a maximum of 630 counted here during February. However, these birds were roosting and considering only the birds recorded as feeding increases the importance of areas a little further into the estuary. The outer banks do, however, remain important.

Many of the other common waders were found mostly towards the estuary mouth, including Oystercatchers, Ringed Plovers and Turnstones. Dunlin fed more widely within the estuary, and although the most favoured site at low tide appeared to be the outer shingle banks, this was largely biased by large counts of roosting birds on the February count as was seen for Grey Plovers. Knot displayed a similar pattern for the same reason.

Black-tailed Godwits are classified as nationally important at Pagham, although counts have declined in recent years. Additionally, numbers peak here earlier in the autumn before the birds move off to winter elsewhere upon completion of their moult (James 1996). The species was highly localised at low tide in 1995-96 to the damp fields north of Pagham Wall, although numbers were not particularly high. Bar-tailed Godwits were even less numerous and although some occurred with the Black-tailed Godwits, others were found towards the estuary mouth. The fields north of Pagham Wall were also the favoured site for Golden Plovers, Lapwings and Curlews, although the latter two species were rather more widespread. Redshanks were typically widespread throughout the estuary.

As well as these commoner species, Pagham was noteworthy for the number of scarcer species noted, which included Ruff, Whimbrel, Green Sandpiper and up to seven Avocets (which given the increase in other south-eastern estuaries should be monitored in the future). The site is also well known for its wintering Slavonian Grebes, of which 26 were counted in December, when seven Little Egrets were also recorded.


BRENT GOOSE
Pagham Wall
BOGNOR
Pagham
White's Creek
Ferry Channel
Sidlesham Ferry
Church Norton
Birds per hectare
0.01-2.00
2.01-4.00
4.01-6.00
6.01-8.00
8.01-10.00
>10.00


PINTAIL
Pagham Wall
BOGNOR
Pagham
White's Creek
Ferry Channel
Sidlesham Ferry
Church Norton
Birds per hectare
0.01-0.50
0.51-1.00
1.01-2.00
2.01-4.00
4.01-8.00
>8.00
1 km

SOUTHAMPTON WATER
Hampshire

Internationally important species: Black-tailed Godwit

Nationally important species: Cormorant, Dark-bellied Brent Goose, Teal

Site description

Southampton Water is a part of the Solent complex, and lies between the city of Southampton and the New Forest. The three principal rivers entering Southampton Water are the Test, Itchen and Hamble. There are extensive areas of mud on both shores of the estuary, with a large area of *Spartina* saltmarsh along the southern shore. In addition, an important area of river valley consisting of water meadows, reedbeds and lagoons exists at Titchfield Haven, at the south-eastern corner of the site.

Southampton Water is one of the most heavily developed estuaries in Britain, and as well as being adjacent to a large city, also has important docks, an oil refinery and a power station along its shores. The area is also extremely heavily used by sailing enthusiasts. One of the most significant present development issues is at Dibden Bay, which is actually no longer a bay since dredgings were pumped onto the land here. This area has now dried out and there are plans for further development, which may result in the loss of the remaining intertidal mud. For this reason, WeBS Low Tide Counts, which were carried out at Southampton Water during the winter of 1994-95, have been repeated in 1995-96 and 1996-97.

Bird distribution

The map displays the low tide distribution of Black-tailed Godwit. The species occurs in two principal areas; along the intertidal section of the river Hamble, and at Calshot marshes south of Fawley. The distribution was fairly similar to that seen in 1994-95. It is notable that although Southampton Water qualifies for international importance for this species, with a maximum count of 1450 on the Core Counts during the 1995-96 winter, the overall numbers were much lower at low tide, with a maximum count of only 134 birds. A closer look at the data, however, reveals that the high numbers recorded by the Core Counts are almost entirely due to the presence of the large flock at Titchfield Haven. However, data for Titchfield Haven are not supplied for the Low Tide Counts, thus accounting for the discrepancy.

The distribution of Dark-bellied Brent Geese in 1995-96 is shown opposite (and a similar pattern was noted during 1994-95). The geese occur widely but the highest densities are found to the south of Titchfield Haven.

Teal also winter at the site in nationally important numbers. This species was rather localised in distribution in 1995-96, with most occurring north of Fawley and on Bury marsh, along with smaller numbers elsewhere. During the previous winter, the species was more concentrated at Bury marsh. Good numbers do occur at Titchfield Haven also, but this was not included in the present study. Wigeon were also numerous, and most common at Bury and Eling marshes, with smaller numbers between Fawley and Hythe. Small numbers of Pintail were to be found north of Fawley. Mallard were, predictably, most common on the more built-up areas of the Itchen and Hamble rivers. Shelduck were concentrated in the area around Fawley.

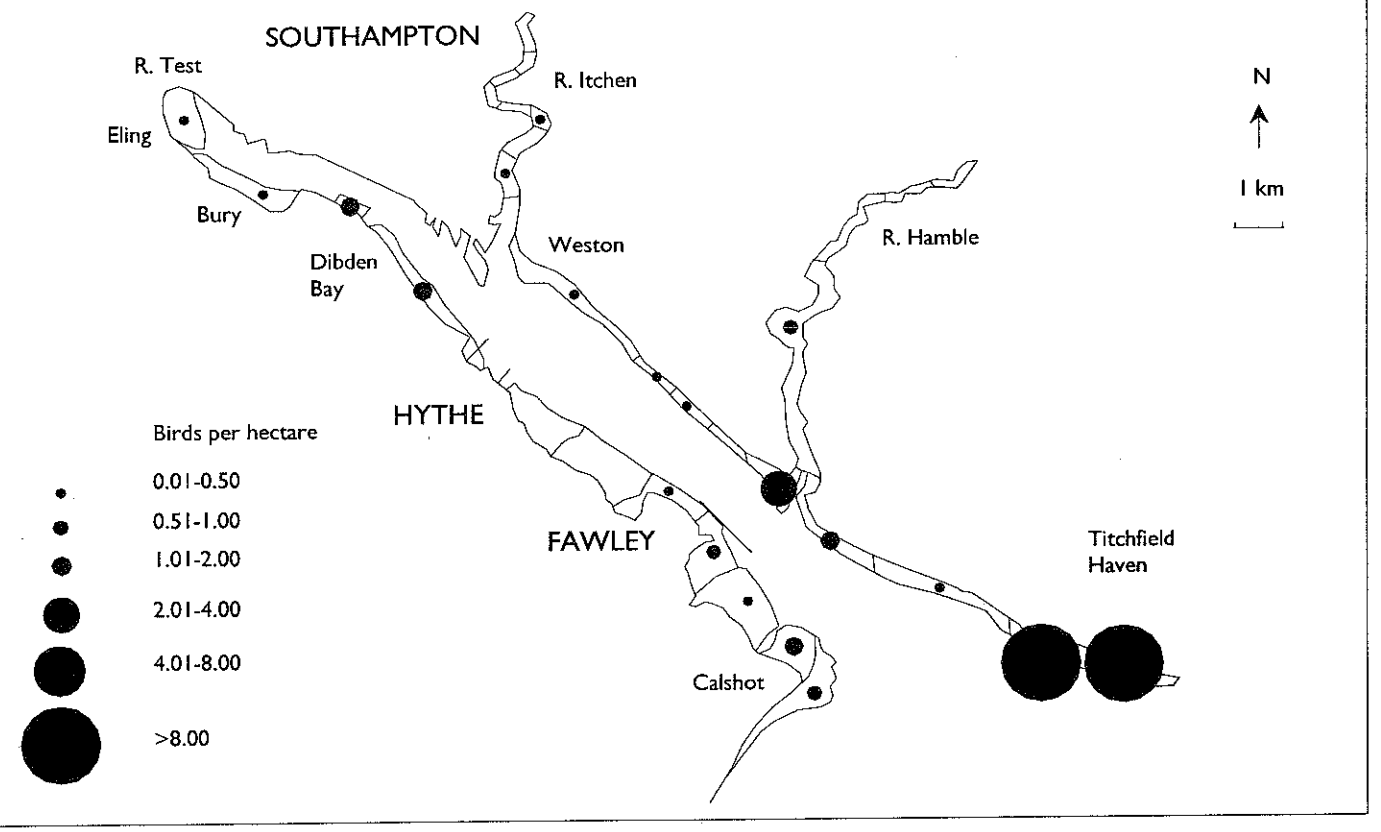
The other nationally important species, the Ringed Plover, is fairly widespread in small numbers but most common at the mouth of the Itchen. The numbers recorded at low tide are much lower than those recorded on the Core Counts, as would be expected for this small, cryptic species.

Oystercatchers occurred widely around Southampton Water, and in good numbers, being the second most numerous wader present. Grey Plovers were also widespread, but were concentrated around Dibden Bay and at Weston shore. Lapwings were most numerous at Eling Marsh and on the Hamble, with a large flock of Golden Plovers at the latter site also.

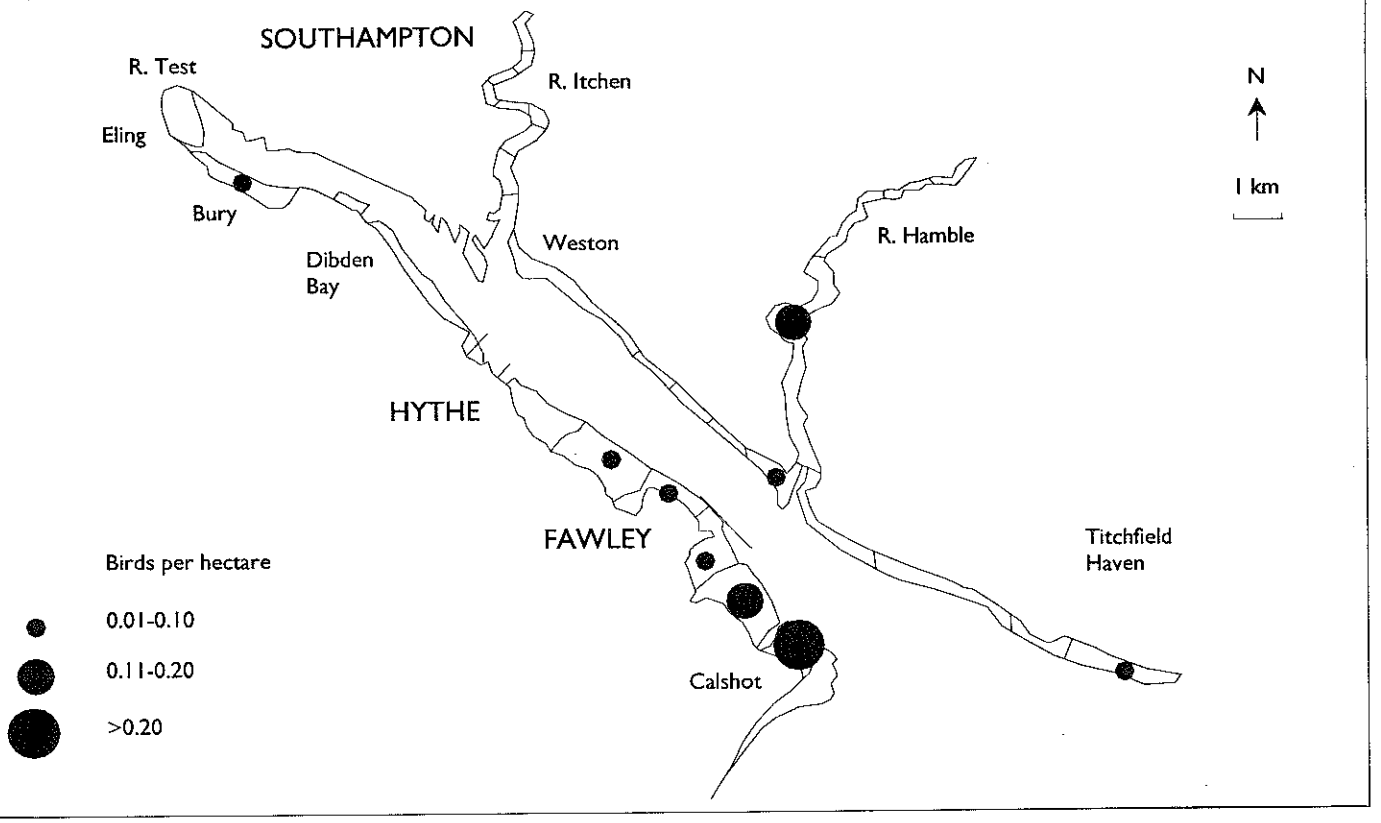
Dunlin, the most numerous species of wader, are widespread with particularly high numbers south of Fawley during the 1995-96 winter. This area also supported high densities of Curlews and Redshanks, although the latter species was typically also found in high densities along the Hamble, Itchen and at Eling. Turnstones favoured the rocky areas at Calshot spit, and east of the Itchen, but were otherwise quite widespread.

The most numerous species counted at low tide at Southampton Water was Black-headed Gull, with a mean of over 7000 birds recorded. A good selection of other species (including Great Northern Diver, Slavonian Grebe, Little Egret, Common Sandpiper and Mediterranean Gull) were also noted.

BRENT GOOSE



BLACK-TAILED GODWIT



STRANGFORD LOUGH
Co. Down

Internationally important species: Pale-bellied Brent Goose, Knot, Redshank

Nationally important species: Great Crested Grebe, Mute Swan, Shelduck, Wigeon, Teal, Mallard, Pintail, Shoveler, Goldeneye, Red-breasted Merganser, Coot, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Lapwing, Dunlin, Bar-tailed Godwit, Curlew, Turnstone

Site description

Strangford Lough was described fully in the WeBS report for 1993-94, but in brief, the estuary is a large, almost land-locked sea lough which encompasses extensive tidal flats at the northern end, smaller bays and creeks throughout and numerous small drumlin islands, particularly along the west shore. The east shore has relatively smaller intertidal areas and is rockier in character. The principal conservation issues concern large scale recreational use, human population growth around the lough (with resulting increases in eutrophication of the water) and increasing intensification of agriculture. A recent proposal for a tidal barrage at the mouth of the lough was rejected. Much of the lough is managed by the National Trust, which also manages the wildfowling which takes place (Pritchard *et al.* 1992, Buck & Donaghy 1996).

Bird distribution

Strangford Lough is the single most important wintering site in the world for the population of Pale-bellied Brent Geese which breed in Greenland and eastern Canada, and can at times hold over 14000 birds, or about two-thirds of this population. During the low tide counts, however, the mean count of these geese from November to February was only 1623. The discrepancy in numbers is explained by the fact that Brent Geese peak at Strangford earlier in the autumn, and then many move south to wintering sites in the Republic; the peak counts at the principal wintering sites, such as Wexford Harbour and Dublin Bay, are in January and February (Delany 1995). Fortunately, the Strangford Lough counters carried out low tide counts in September, October and March in addition to the standard four months. The totals of geese agreed well with the previously established pattern, with 2512 in September increasing to a huge 14489 in October, then decreasing again to 2490 in November. From December to March, numbers remained in the range 800-1500.

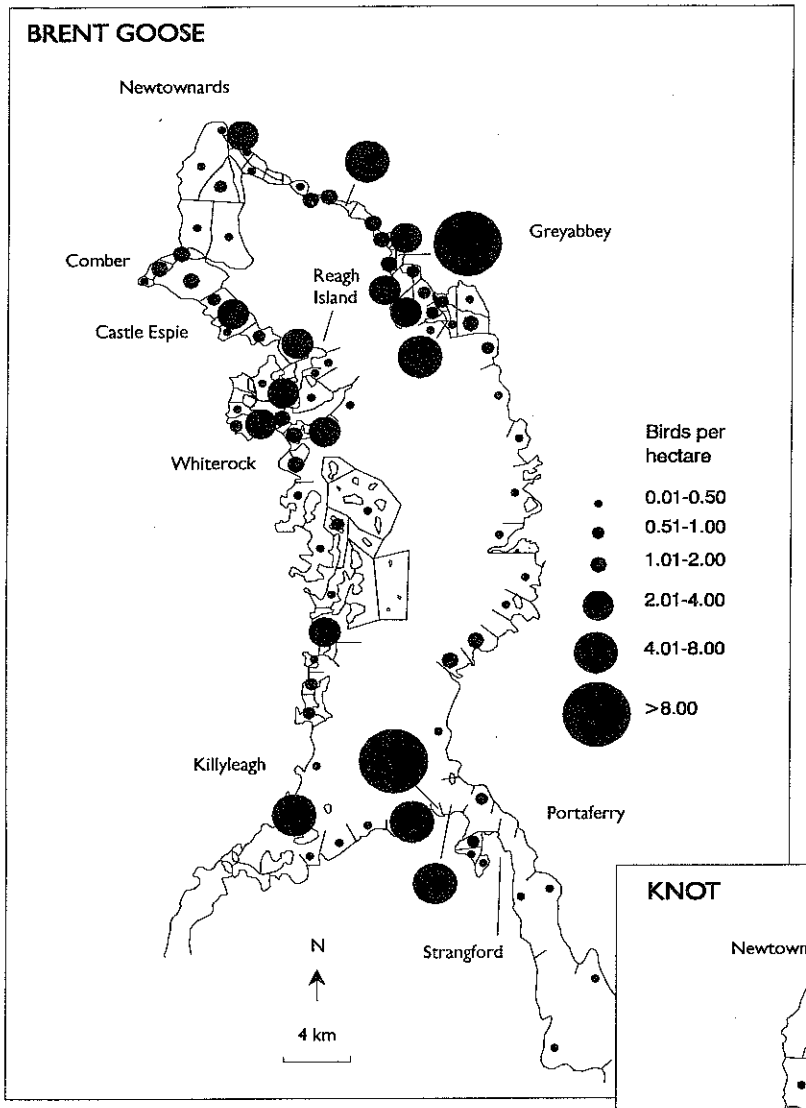
The distribution of the geese is shown opposite, although this is of course a composite over the months November to February; birds tend to move south within the Lough as the winter progresses. Nonetheless, it is clear that the geese favour the northeast shore around Greyabbey, the west shore between Whiterock and Comber, and the south shore west of Strangford.

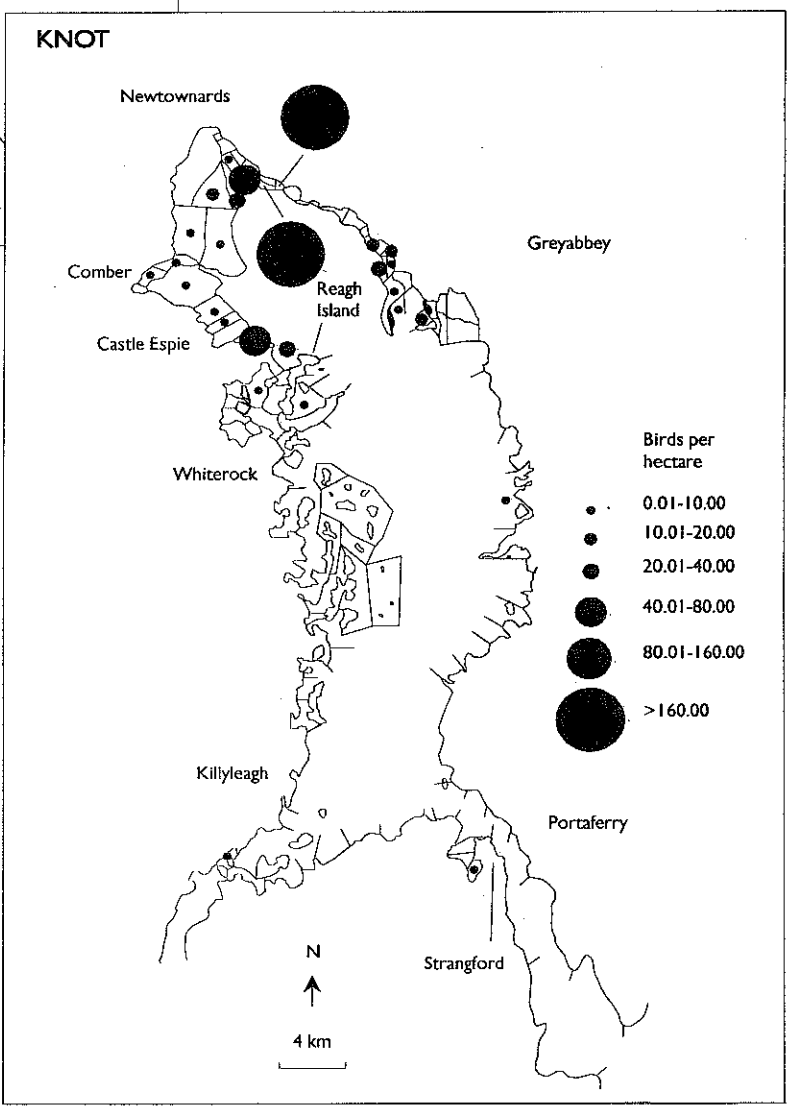
Other wildfowl displayed differing patterns of distribution. Shelduck favoured the wide mudflats at the northern end of the lough, whilst Wigeon were present in their highest densities around the western islands and by the mouth of the Comber river. Teal showed a similar distribution to Wigeon although they were a little more widespread. Mallard were also found mostly along the western shore. The majority of the Pintail were found at the northernmost point of the estuary, just south of Newtownards.

The Knot is a species which is well-known for occurring in a relatively small number of localised sites. Strangford Lough is the most important site for this species in Northern Ireland (with other Irish concentrations at Dundalk Bay and Dublin Bay in the Republic). The map depicts the low tide distribution of Knot within Strangford Lough, which is typical of this species. Although the second most numerous species counted at low tide (slightly behind Dunlin), Knot were found in only a relatively small section of the total area, *i.e.* the extensive mudflats which occur between Reagh Island on the west shore and Greyabbey on the east shore. Over 97% of the Knot were recorded in this area. Dunlin showed similar habitat preferences to Knot, but were much more widespread.

Oystercatchers were very widespread but clearly favoured the northern mudflats, where the few Grey Plovers using the lough were also to be found. Both Lapwings and Golden Plovers also favoured the north of the lough, although the former were somewhat more widespread. Ringed Plovers, however, were more common along the rocky eastern shore. Turnstones were widely scattered in small numbers.

Black-tailed Godwits were largely restricted to the west shore of the lough, with the highest densities at Whiterock and east of Castle Espie. Bar-tailed Godwits, on the other hand, preferred the northern mudflats, with small numbers also to be found along the northern half of the east shore. Curlews were very widespread as were Redshanks, another internationally important species. The mean low tide count total of about 2400 Redshanks agreed fairly well with the Core Counts.


BRENT GOOSE
Newtownards
Greyabbey
Comber
Reagh Island
Castle Espie
Whiterock
Killyleagh
Portaferry
Strangford
Birds per hectare
0.01-0.50
0.51-1.00
1.01-2.00
2.01-4.00
4.01-8.00
>8.00
N
4 km


KNOT
Newtownards
Greyabbey
Comber
Reagh Island
Castle Espie
Whiterock
Killyleagh
Portaferry
Strangford
Birds per hectare
0.01-10.00
10.01-20.00
20.01-40.00
40.01-80.00
80.01-160.00
>160.00
N
4 km

WEAR ESTUARY
Tyne & Wear

Internationally important species: None

Nationally important species: None

Site description

The river Wear flows down from the northern Pennines through the county of Durham before entering the North Sea at the port of Sunderland. The river is estuarine in character up to about as far as the Wildfowl and Wetlands Trust (WWT) centre at Washington. The estuary is very narrow and no mudflats of appreciable size are present. Around Washington WWT reserve, the estuary is flanked by parkland and farmland, but it soon enters the highly industrialised city of Sunderland, where pollution and general disturbance are likely to be major problems. Having said this, however, the Wear Estuary is never likely to be particularly important for waterfowl simply due to its physical shape and size. The WWT reserve was not included in the WeBS Low Tide Counts.

Bird distribution

The Low Tide Counts for the Wear Estuary revealed that it was rather poor for waterfowl, as would be expected for a site of only 30 ha. Not including gulls, the mean count for the whole estuary totalled just over 200 birds. It should be noted that in the following discussion, since mudflats were all in the range 1-3 ha, and only integer values were used for mudflat areas, densities may not be a good way of comparing the different parts of the estuary.

The map details the low tide distribution of the Lapwing on the Wear Estuary. Birds occurred quite widely but the principal area was on the south shore to the north of Pallion. There were, however, no birds here (or almost anywhere else on the estuary) in February, perhaps indicating an early dispersal to breeding areas.

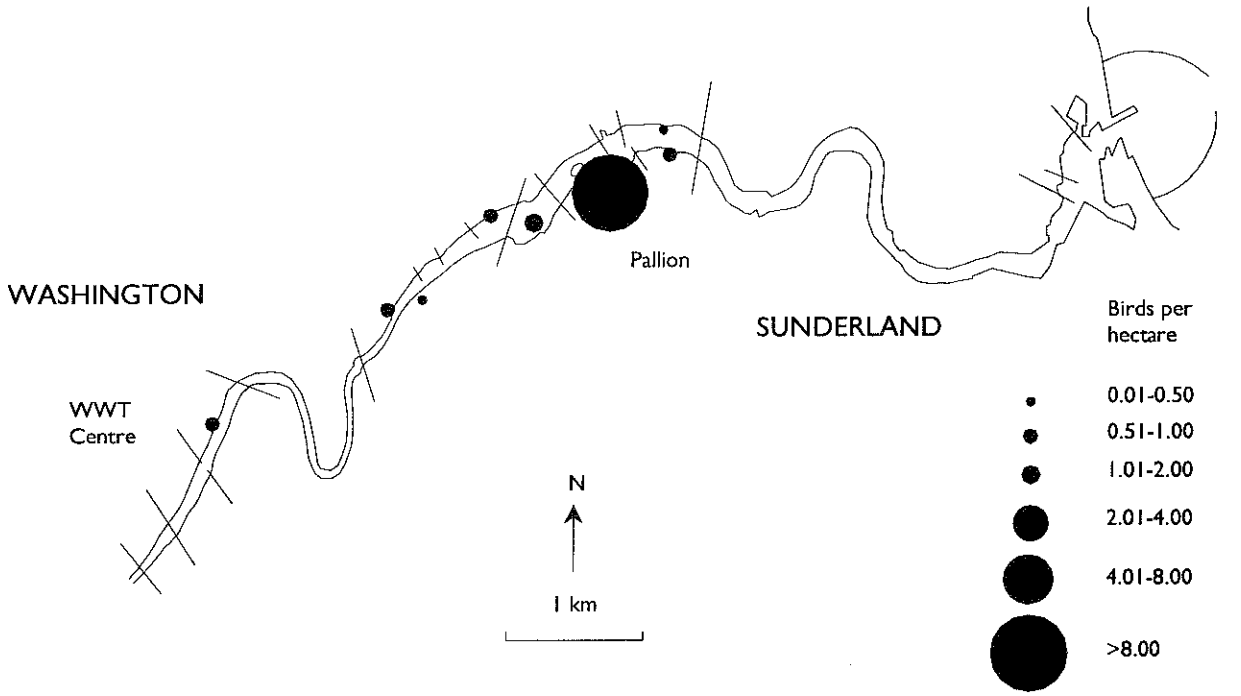
Redshanks (see opposite) were much more widely distributed along the estuary. The favoured site for this species was a short way upstream from that for the Lapwing, on the "widest" mudflat on the estuary (about 70 m wide). Redshank numbers peaked in November at almost 100, then declined to less than 40 by the late winter.

Dunlin favoured the same areas as Redshanks, although they were not so regularly present, with no birds noted on the estuary at all during November or February. It is possible that there was movement to and from the adjacent rocky shores, with Dunlin perhaps feeding on the Wear during poor weather.

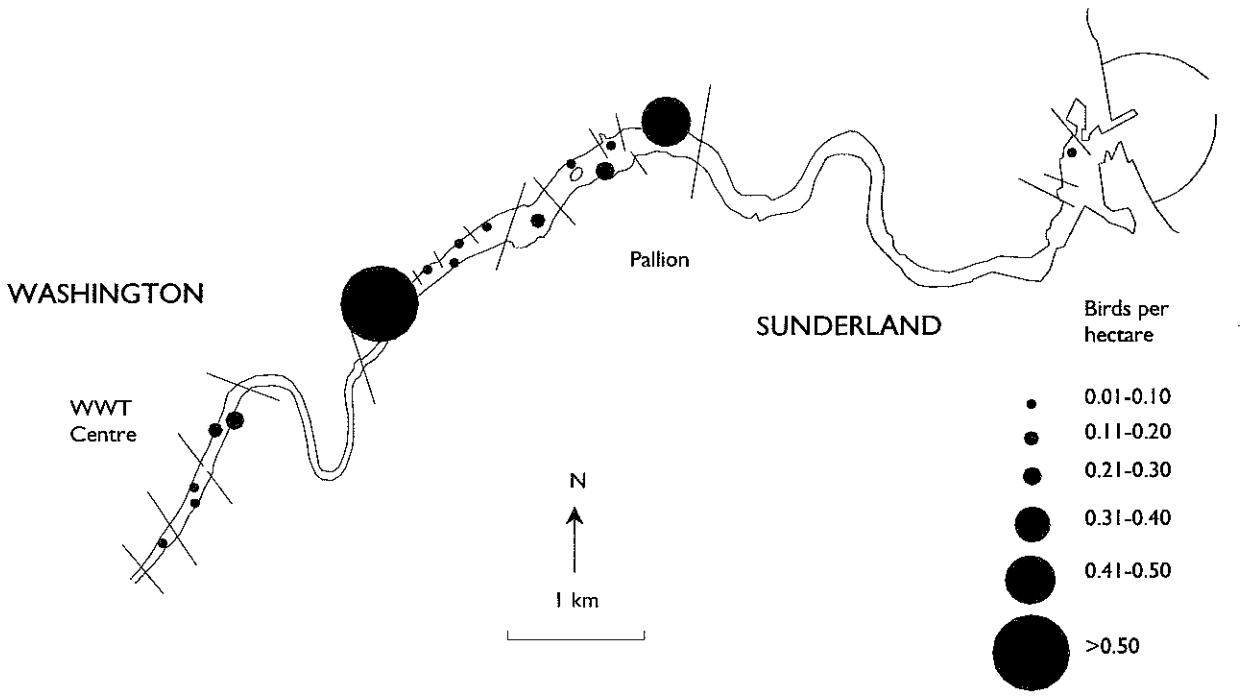
A small number of Curlews were regularly recorded on the central section of the Wear also, with numbers fairly constant throughout. Three Ringed Plovers were only noted in December, when a handful of Snipes were also recorded.

The most numerous wildfowl species noted was the Goldeneye, which occurred both on the river adjacent to the WWT centre (where a maximum of 11 was counted in January) and also further downstream in Sunderland, with a massive 62 noted in December. Six Goosanders were noted on the river near Washington during December. A handful of Shelduck were noted on the central mudflats. Numbers of dabbling ducks were tiny, with most probably preferring to frequent the WWT grounds.

LAPWING



REDSHANK



I-WeBS

The Irish Wetland Bird Survey (I-WeBS) was launched in November 1994 as a joint partnership between BirdWatch Ireland, National Parks and Wildlife Service of the Department of Arts, Culture and the Gaeltacht (Ireland), and The Wildfowl & Wetlands Trust, supported by the Heritage Council and WWF UK (World Wide Fund for Nature). The scheme is similar to and compatible with WeBS in the UK, with the main aim being to monitor waterfowl in the Republic of Ireland during the winter. Day-to-day organisation of the scheme is the responsibility of the I-WeBS National Organiser, based at BirdWatch Ireland.

Total counts for 1995-96, the second season of I-WeBS counts, are presented in Table 73. Although a few important sites were known to be only partly counted, coverage is comprehensive and is believed to provide a reasonable picture of waterfowl numbers and distribution in Ireland (Figure 2). Full details and results are provided in Delany (1996).

Table 73. TOTAL NUMBERS OF WATERFOWL RECORDED BY I-WeBS IN THE REPUBLIC OF IRELAND DURING 1995-96

	Sep	Oct	Nov	Dec	Jan	Feb	Mar
No. of sites covered	*81*	*150*	*194*	*231*	*306*	*240*	*188*
No. of count units covered	*122*	*207*	*304*	*332*	*642*	*406*	*267*
Red-throated Diver	8	136	103	182	197	414	56
Black-throated Diver	0	0	4	10	27	11	39
Great Northern Diver	4	4	83	45	157	602	115
Little Grebe	414	542	581	344	491	333	270
Great Crested Grebe	172	177	640	495	703	775	425
Slavonian Grebe	0	1	11	2	6	16	1
Black-necked Grebe	0	0	0	0	3	4	2
Cormorant	1,299	1,905	2,699	2,412	2,865	1,386	1,720
Grey Heron	368	397	772	425	632	310	181
Little Egret	18	20	22	15	26	23	16
Mute Swan	2,020	2,441	2,836	1,861	3,831	2,487	1,414
Bewick's Swan	0	0	238	579	942	1,011	130
Whooper Swan	1	404	3,408	2,373	4,339	3,335	2,224
Bean Goose	0	0	0	6	6	0	0
Pink-footed Goose	2	6	7	7	8	13	16
European White-fronted Goose	0	0	0	0	0	3	0
Greenland White-fronted Goose	13	2,459	10,122	9,788	11,553	10,294	9,358
Greylag Goose	564	145	2,542	1,062	2,971	3,263	2,317
Canada Goose	95	28	113	68	93	53	24
Barnacle Goose	5	101	1,798	203	1,353	2,231	2,171
Dark-bellied Brent Goose	0	0	0	0	1	0	1
Light-bellied Brent Goose	0	2,191	3,908	5,346	9,622	9,611	4,787
Feral/hybrid Goose	10	10	75	5	80	71	24
Shelduck	97	476	3,366	5,452	8,130	6,165	5,282
Wigeon	2,779	11,293	29,522	41,891	70,642	26,942	14,274
American Wigeon	0	0	0	1	2	1	1
Gadwall	100	150	210	222	210	108	60
Teal	3,927	5,390	15,816	17,389	26,155	10,960	6,543
Mallard	9,575	10,201	12,658	11,639	14,750	6,648	3,071
Pintail	54	96	583	906	1,036	614	292
Garganey	1	0	0	0	0	0	0
Blue-winged Teal	0	0	1	0	0	0	0
Shoveler	154	244	905	1,063	2,221	887	474
Red-crested Pochard	0	0	0	0	2	1	0
Pochard	2,064	250	1,617	2,724	9,214	16,968	6,476
Ring-necked Duck	0	0	1	1	2	1	0
Ferruginous Duck	0	0	1	1	1	1	1
Tufted Duck	2,211	500	1,928	2,906	10,556	9,593	4,754
Scaup	2	30	60	311	678	1,452	51
Eider	3	0	19	315	16	36	6
Long-tailed Duck	0	4	24	51	159	129	41
Common Scoter	990	1,234	2,822	443	9,052	8,902	697
Surf Scoter	0	0	0	0	0	4	0
Velvet Scoter	0	0	3	0	1	0	0
Goldeneye	1	5	838	1,027	2,308	1,636	792
Smew	0	0	3	1	1	7	0

	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Red-breasted Merganser	24	100	906	623	1,215	823	652
Goosander	0	0	4	2	2	0	0
Ruddy Duck	3	2	1	1	1	3	1
Hybrid/Feral Mallard	0	0	0	0	2	0	0
Hybrid Aythya	0	0	0	0	1	0	0
Water Rail	34	30	45	24	21	14	23
Moorhen	431	444	492	479	394	504	446
Coot	2,219	2,681	6,192	4,583	7,169	28,927	1,789
Total wildfowl & allies	**29,662**	**44,097**	**107,987**	**117,283**	**203,846**	**157,572**	**71,016**
Oystercatcher	6,742	9,840	10,265	14,272	14,731	14,249	5,769
Avocet	0	0	0	2	0	0	0
Ringed Plover	664	1,807	2,161	2,011	3,196	2,300	578
Golden Plover	136	33,143	52,800	66,337	83,994	48,617	44,061
Grey Plover	786	661	1,200	1,681	4,058	3,543	3,219
Lapwing	2,338	7,363	56,726	79,730	121,813	81,740	11,713
Knot	527	440	1,346	9,619	7,767	9,270	2,660
Sanderling	556	718	516	570	934	398	751
Little Stint	52	1	4	0	0	0	0
Baird's Sandpiper	0	0	1	0	0	0	0
Curlew Sandpiper	32	10	1	0	0	0	0
Purple Sandpiper	14	7	210	103	78	97	148
Dunlin	4,857	8,197	42,636	49,721	76,504	60,031	23,217
Buff-breasted Sandpiper	1	0	0	0	0	0	0
Ruff	33	10	1	1	14	6	5
Jack Snipe	0	1	6	16	16	31	7
Snipe	204	363	1,215	1,230	2,529	1,480	572
Woodcock	0	2	5	10	4	21	2
Black-tailed Godwit	3,474	5,366	4,591	3,884	8,329	1,803	3,249
Bar-tailed Godwit	1,497	3,518	4,159	5,431	7,015	6,861	3,709
Whimbrel	15	0	2	3	3	3	2
Curlew	5,606	8,172	12,253	13,426	19,573	19,619	8,758
Spotted Redshank	6	14	7	4	11	10	10
Redshank	4,235	6,802	10,422	6,533	9,752	7,290	5,187
Greenshank	159	207	314	187	256	189	132
Green Sandpiper	10	3	17	4	6	5	1
Common Sandpiper	6	0	3	4	2	2	1
Turnstone	698	1,532	1,904	1,971	2,219	2,004	1,604
Grey Phalarope	0	1	0	0	1	0	0
Total waders	**32,648**	**88,178**	**202,765**	**256,750**	**362,805**	**259,569**	**115,355**
Lapwing & Golden Plover subtotals	2,474	40,506	109,526	146,067	205,807	130,357	55,774
Mediterranean Gull	1	0	0	0	1	1	1
Little Gull	2	0	0	0	11	10	8
Sabine's Gull	1	0	0	0	0	0	0
Black-headed Gull	5,131	7,658	21,077	20,148	41,424	23,435	8,703
Ring-billed Gull	0	0	3	0	5	2	1
Common Gull	1,030	263	2,266	6,932	7,305	2,003	907
Lesser Black-backed Gull	1,045	2,549	5,163	3,607	2,048	956	1,675
Herring Gull	1,232	4,445	4,039	1,582	4,898	2,893	382
Iceland Gull	0	0	0	1	2	3	1
Glaucous Gull	0	0	0	0	2	2	2
Great Black-backed Gull	892	924	1,015	562	1,461	692	477
Kittiwake	12	67	11	0	497	196	11
Total gulls	**9,346**	**15,906**	**33,574**	**32,832**	**57,654**	**30,193**	**12,168**
Sandwich Tern	130	14	1	0	0	0	18
Common Tern	2	0	0	0	0	0	0
Arctic Tern	20	0	0	0	0	0	1
Forster's Tern	0	0	0	0	0	0	1
Little Tern	0	0	0	0	0	0	0
Kingfisher	8	13	18	9	13	14	12
TOTAL WATERFOWL	**71,816**	**148,208**	**344,345**	**406,874**	**624,318**	**447,348**	**198,571**

REFERENCES

Baatsen, R.G. 1990. Red-crested Pochard *Netta rufina* in the Cotswold Water Park. Pp. 64-67 In: *Hobby 1990*, Wiltshire Ornithological Society, Salisbury.

Beecroft, R. 1990. Trimley Marshes Nature Reserve. In: Piotrowski, S.H. (Ed.) *Suffolk Birds 1990*. The Suffolk Naturalists' Society, Ipswich.

Bibby, C.J., Burgess, N.D. & Hill, D.A. 1992. *Bird Census Techniques*. Academic Press, London.

Black, J.M. in prep. *Action plan for Svalbard Barnacle Geese, Second Draft.* SNH (English version) and Directorate for Nature Management, Trondheim, Norway (Norwegian version).

Blackledge, D., Carrier, M. & Holton, N. 1996. Wader Populations on the Solway Estuary. Cumbrian Bird Club News 7: no.4.

Boele, A., van Roomen, M.W.J. & van Winden, E.A.J. 1996. Midwintertelling van watervogels in Nederland, januari 1995. SOVON-monitoringrapport 96/05, RIZA-rapport BM95.28, IKC Natuurbeherr coproduktie 11. SOVON, Beek-Ubbergen.

Boudewijn, T.J. & Ebbinge, B.S. 1994. General review. Pp. 39-49. In: van Nugteren, J. (Ed.) *Brent Geese in the Wadden Sea.* Proceedings of the international workshop 'Brent Geese in the Wadden Sea', Leeuwarden, The Netherlands, 22-23 September 1994.

BOURC. 1997. British Ornithologists' Union Records Committee: Twenty-third Report (July 1996). *Ibis* 139: 197-201.

Bowler, J.M., Butler, L., Liggett, C. & Rees, E.C. 1994. Bewick's and Whooper Swans *Cygnus columbianus bewickii* and *C. cygnus*: the 1993-94 season. *Wildfowl* 45: 269-275.

Browne, S.J., Austin, G.E. & Rehfisch, M.M. 1996. Evidence of decline in the United Kingdom's non-estuarine coastal waders. *Wader Study Group Bulletin 80: 25-27.*

Buck, A.L. & Donaghy, A. 1996. *An inventory of UK estuaries. Volume 7. Northern Ireland.* JNCC, Peterborough.

Cayford, J.T. & Waters R.J. 1996. Population estimates for waders Charadrii wintering in Great Britain, 1987/88-1991/92. *Biol. Conserv.* 77: 7-17.

Conway, G. (Ed.) 1996. *Birds in Cornwall 1995*. Cornwall Birdwatching and Preservation Society.

Cranswick, P.A., Waters, R.J., Evans, J. & Pollitt, M.S. 1995. *The Wetland Bird Survey 1993-94: Wildfowl and Wader Counts.* BTO/WWT/RSPB/JNCC, Slimbridge.

Cranswick, P.A., Kirby, J.S., Salmon, D.G., Atkinson-Willes, G.L, Pollitt, M.S. & Owen, M. 1997a. A history of wildfowl counts by WWT. *Wildfowl* 47: 217-230.

Cranswick, P.A., Bowler, J.M., Delany, S.N., Einarsson, O., Gardarsson, A., McElwaine, J.G., Merne, O.J., Rees, E.C. & Wells, J.H. 1997b. Numbers of Whooper Swans *Cygnus cygnus* in Iceland, Ireland and Britain in January 1995: results of the international Whooper Swan census. *Wildfowl* 47: 17-30.

Danielsen, F., Skov, H. & Durnick, J. 1993. Estimates of the wintering population of Red-throated Diver *Gavia stellata* and Black-throated Diver *Gavia arctica* in northwest Europe. *Proc. 7th Nordic Congress of Ornithology, 1990.* pp. 18-24.

Davidson, N.C., Laffoley, D.d'A., Doody, J.P., Way, L.S., Key, R., Drake, C.M., Pienkowski, M.W., Mitchell, R. & Duff, K.L. 1991. *Nature conservation and estuaries in Great Britain.* Nature Conservancy Council, Northminster House, Peterborough.

Davidson, N.C. & Evans, P.R. 1986. The role and potential of man-made and man-modified wetlands in the enhancement of the survival of overwintering shorebirds. *Colonial Waterbirds* 9: 176-188.

Debout, G., Røv, N. & Sellers, R.M. 1995. Status and population development of Cormorants *Phalacrocorax carbo carbo* breeding on the Atlantic coast of Europe. *Ardea* 83: 47-59.

Delany, S.N. 1992. *Survey of introduced geese in Britain, summer 1991: provisional results.* WWT report to JNCC, MAFF & the National Trust. Slimbridge, 38 pp.

Delany, S. 1995. The 1991 survey of introduced geese. In: Carter, S. (Ed.) *Britain's Birds in 1991-92: the conservation and monitoring review.* BTO/JNCC, Thetford.

Delany, S. 1996. *Irish Wetland Bird Survey, 1994/95. Results from the first winter of the Irish Wetland Bird Survey.* BirdWatch Ireland, Dublin.

Delany, S. & Ogilvie, M.A. 1994. *Greenland Barnacle Geese in Scotland, March 1994.* WWT report to JNCC, Slimbridge.

DoE 1996. *Fifth report by the United Kingdom under Article 12: Triennial report on the implementation of national provisions.* Department of the Environment, London. 26 pp.

Durinck, J., Skov, H., Jensen, F.P. & Pihl, S. 1994. *Important marine areas for wintering birds in the Baltic Sea.* EU DG XI research contract no. 224/90-09-01, Ornis Consult Report, Copenhagen, pp. 110.

Ebbinge, B.S. & St Joseph, A.K.M. 1992. The brent goose colour-ringing scheme: unravelling annual migratory movements from high arctic Siberia to the coasts of western Europe. Pp. 93-104. In: Ebbinge, B.S. *Population limitation in Arctic-breeding geese.* PhD thesis, University of Groningen.

Evans, C., Street, L., Benstead, P., Cadbury, J. Hirons, G., Self, M. & Wallace, H. 1995. Water and sward management for nature conservation: a case study of the RSPB's West Sedgemoor Reserve. *RSPB Conservation Review No.* 9: 60-72.

Evans, R.J. 1992. *Moray Firth Monitoring: Winter 1991/2.* Unpubl. RSPB report to BP Petroleum Development Ltd.

Forshaw, W.D. 1996. *Report on wild geese and swans in Lancashire, 1995/96.* Unpubl. report, 12 pp.

Fox, A.D. 1996. *Zostera* exploitation by Brent Geese and Wigeon on the Exe Estuary, southern England. *Bird Study* 43: 257-268.

Fox, A.D. & Francis, I. 1996. *Report of the 1995/96 national census of Greenland White-fronted Geese in Britain.* GWGS, Kalø, 8 pp.

Fox, A.D., Bell, M.C., Brown, R.A., Mackie, P. & Madsen, J. 1994. An analysis of the abundance and distribution of Brent Geese and Wigeon at Strangford Lough, 1965/6-1988/9. *Irish Birds* 5: 139-150.

Flegg, J.J.M. 1996. Water Rail. Pp. 172-173. In: Lack, P. (Ed). *The Atlas of Wintering Birds in Britain and Ireland.* Poyser, London.

Glue, D.E. 1993. Water Rail. Pp. 146-147. In: Gibbons, D.W., Reid, J.B. & Chapman, R. (Eds) 1993. *The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991.* Poyser, London.

Green, M. & Elliott, D. 1993. *Surveys of wintering birds and cetaceans in northern Cardigan Bay, 1990-93.* Report by Friends of Cardigan Bay, 32 pp.

Gregory, R.D., Carter, S.P. & Baillie, S.R. 1997. Abundance, distribution and habitat use of breeding Goosanders *Mergus*

merganser and Red-breasted Mergansers *Mergus serrator* on British rivers. *Bird Study* 44: 1-12.

Heredia, B., Rose, L. & Painter, M. (Eds.) 1996. *Globally threatened birds in Europe: action plans.* Council of Europe Publishing, Strasbourg.

Holmes, J.S. & Stroud, D.A. 1995. Naturalised birds: feral, exotic, introduced or alien? *Brit. Birds* 88: 602-603.

Horsfall, J.A. 1986. Coot. Pp. 176-177. In: Lack, P. (Ed). *The Atlas of Wintering Birds in Britain and Ireland.* Poyser, London.

Hughes, B. 1996. The feasibility of control measures for North American Ruddy Ducks *Oxyura jamaicensis* in the United Kingdom. Report to the Department of the Environment. 153 pp.

Hughes, B., Stewart, B., Brown, M.J. & Hearn, R.D. 1996. *Biometric and gut contents analyses of Common Scoter* Melanitta nigra nigra. Wetlands Advisory Service preliminary report to SEEEC, 22 pp.

Hunter, J.M. & Black, J.M. 1996. International action plan for the Red-breasted Goose *Branta ruficollis*. Pp. 79-98. In: Heredia, B., Rose, L. & Painter, M. (Eds.) 1996. *Globally threatened birds in Europe: action plans.* Council of Europe Publishing, Strasbourg.

James, P. (Ed.) 1996. *Birds of Sussex.* Sussex Ornithological Society.

Lear, J. 1990. *Man and Wildfowl.* T & AD Poyser, London.

Lirby, J.S. 1993. Garganey. Pp 76-77. In: Gibbons, D.W., Reid, J.B. & Chapman, R. (Eds) 1993. *The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991.* Poyser, London.

Lirby, J.S. 1995. Winter population estimates for selected waterfowl species in Britain. *Biol. Cons.* 73: 189-198.

Lirby, J.S., Salmon, D.G. & Atkinson-Willes, G.L. & Cranswick, P.A. 1995. Index numbers for waterbird populations, III. Long-term trends in the abundance of wintering wildfowl in Great Britain, 1966/67 to 1991/2. *J. Appl. Ecol.* 32: 536-551.

Macdonald, R.A., 1987. The breeding population and distribution of the Cormorant in Ireland. *Irish Birds* 3: 405-416.

Madsen, F.J. 1954. On the food habits of the diving ducks in Denmark. *Dan. Rev. Game. Biol.* 2: 157-266.

Marchant, J. & Wilson, A. 1996. Waterways Bird Survey: 1994-95 population changes. *BTO News* 205: 12-14.

McElwaine, J.G., Wells, J.H. & Bowler, J.M. 1995. Winter movements of Whooper Swans visiting Ireland: preliminary results. *Irish Birds* 5: 265-278.

Mead, C.J. 1993. Spotted Crake. Pp. 148-149. In: Gibbons, D.W., Reid, J.B. & Chapman, R. (Eds) 1993. *The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991.* Poyser, London.

Merne, O.J. 1986. Greylag Geese in Ireland, March 1986. *Irish Birds* 3: 207-214.

Mitchell, C.R. 1996. *The 1995 national census of Pink-footed and Greylag Geese in Britain.* WWT report to JNCC, Slimbridge, 15 pp.

Mitchell, C.R., MacDonald, R. & Boyer, P.R. 1995. *Greylag Geese on the Uists.* WWT report to JNCC, Slimbridge, 6 pp.

Mitchell, C.R. & King, R. 1996. *An assessment of breeding success in the Dark-bellied Brent Goose* Branta b. bernicla *in 1995.* WWT report to JNCC, Slimbridge, 4 pp.

Mitchell, C.R., Stenhouse, I., Patterson, D. & Hearn, R.D. 1996. *Monitoring of Pink-footed and Greylag Goose populations in Scotland: 1995-96.* WWT report to SNH, Slimbridge, 50 pp.

Moss, D. & Moss, G.M. 1993. Breeding biology of the Little Grebe *Tachybaptus ruficollis* in Britain and Ireland. *Bird Study* 40:107-114.

Nehls, G., Kempf, N. & Thiel, M. 1992. Bestand und Verteilung mausernder Brandentem (*Tadorna tadorna*) im deutschen Wattenmeer. *Die Vogelwarte* 36: 221-232.

Owen, M. & Norderhaug, M. 1977. Population dynamics of Barnacle Geese *Branta leucopsis* breeding in Svalbard, 1948-1976. *Ornis Scand.* 8: 161-174.

Owen, M., Atkinson-Willes, G.L. & Salmon, D.G. 1986. *Wildfowl in Great Britain*. 2nd Edition. University Press, Cambridge.

Parrack, J.D. 1986. Black-throated Diver. Pp 36-37 In: Lack, P. (Ed). *The Atlas of Wintering Birds in Britain and Ireland.* Poyser, London.

Pashby, B.S. 1992. The Humber Wildfowl Refuge: an experiment in wildfowl conservation. *Naturalist* 117: 81-98.

Pennycuick, C.J., Einarsson, O., Bradbury, T.A.M. & Owen, M. 1996. Migrating Whooper Swans *Cygnus cygnus*: satellite tracks and flight performance calculations. *J. Avian Biol.* 27: 118-134.

Pettifor, R.A. & Kershaw, M. 1996. *Shelduck (*Tadorna tadorna L.) *numbers wintering on British Estuaries 1960 to 1993: density dependency, carrying capacity and estuary characteristics.* WWT report to WeBS partners, Slimbridge, 89 pp.

Pirot, J.-Y., Laursen, K., Madsen, J. & Monval, J.-Y. 1989. Population estimates of swans, geese, ducks and Eurasian Coot *Fulica atra* in the Western Palearctic and Sahelian Africa. In: Boyd, H. & Pirot, J.-Y. (Eds). Flyways and Reserve Networks for Water Birds. *IWRB Spec. Publ. 9*, IWRB, Slimbridge: 12-23.

Prater, A.J. 1993. Egyptian Goose. Pp. 54-55. In: Gibbons, D.W., Reid, J.B. & Chapman, R. (Eds) 1993. *The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991.* Poyser, London.

Prater, A.J. 1981. *Estuary birds of Britain and Ireland.* T. & A.D. Poyser, Carlton.

Pritchard, D.E., Housden, S.D., Mudge, G.P., Galbraith, C.A. & Pienkowski, M.W. (Eds.) 1992. *Important Bird Areas in the UK including the Channel Islands and the Isle of Man.* RSPB.

Quinn, J.L., Still, L., Carrier, M.C., Kirby, J.S. & Lambdon, P. 1996. Scaup *Aythya marila* numbers and the Cockle *Cardium edule* fishery on the Solway Firth: are they related?. Wildfowl 47: 186-193.

Ramsar Convention Bureau 1998. *Convention on Wetlands of International Importance especially as Waterfowl Habitat.* Proceedings of the third meeting of the Conference of the Contracting Partiles, Regina, Canada, 1987. Ramsar, Switzerland.

Reay, P. 1996. *The Tamar and the Exe Avocets.* Supplement 8 (1995/96), Department of Biological Sciences, Polytechnic South West.

Ridgill, S.C. & Fox, A.D. 1990. Hard weather movements of waterfowl in the western Palearctic. *IWRB Spec. Publ.* 13. IWRB, Slimbridge.

Rogers, M.J. & the Rarities Committee. 1996. Report on rare birds in Great Britain in 1995. *Brit. Birds* 89: 481-531.

Rose, P.M. (Ed) 1995. Western Palaearctic and South-West Asia Waterfowl Census 1994. *IWRB Publ. 35*, IWRB, Slimbridge.

Rose, P.M. & Scott, D.A. 1994. Waterfowl population estimates. *IWRB Spec. Publ. 29*, IWRB, Slimbridge.

Rose, P.M. & Stroud, D.A. 1994. Estimating international waterfowl populations: current activity and future directions. *Wader Study Group Bull.* 73: 19-26.

Rowcliffe, J.M. & Mitchell, C.R. 1996. *The conservation management of Brent Geese in the UK.* WWT report to JNCC, Slimbridge.

Ruger, A., Prentice, C. & Owen, M. 1996. Results of the IWRB International Waterfowl Census 1967-1983. *IWRB Spec. Publ.* 6, Slimbridge, UK.

Salmon, D.G. (Ed). 1982. *Wildfowl and Wader Counts 1981-82.* The Wildfowl Trust, Slimbridge.

Salmon, D.G., Prys-Jones, R.P. & Kirby, J.S. 1988. *Wildfowl and Wader Counts 1987-88.* The Wildfowl Trust, Slimbridge.

Scott, D.A. & Rose, P.M. 1996. *Atlas of Anatidae Populations in Africa and Western Eurasia.* Wetlands International Publ. No. 41, Wetlands International, Wageningen, The Netherlands.

SEEEC 1996. *Sea Empress Environmental Evaluation Committee: Initial Report*, SEEEC, 27 pp.

Sheppard, R. 1996. *Ireland's Wetland Wealth.* BIRDWATCH IRELAND, Dublin, 152 pp.

Skov, H., Durinck, J., Leopold, M.F. & Tasker, M.L. 1995. *Important Bird Areas for seabirds in the North Sea.* BirdLife International, Cambridge.

Slade, G. 1996. *Nearshore winter seabird survey of south west England, 1994/95.* RSPB report, 85 pp.

Smiddy, P. & O'Sullivan, O. 1995. Forty-second Irish Bird Report, 1994. *Irish Birds* 5: 325-351.

Smit, C.J. & Piersma, T. 1989. Numbers, midwinter distribution and migration of wader populations using the East Atlantic flyway. In: Boyd, H. & Pirot, J.-Y. (Eds.) Flyways and reserve networks for waterbirds. *IWRB Spec. Publ. 9*, Slimbridge: 24-64.

Smith, T., Bainbridge, I. & O'Brien, M. 1994. *Distribution and habitat use by Bean Geese in the Slamannan area.* RSPB report to SNH, 71 pp.

Stenning, J. 1994. *Moray Firth Monitoring: winter 1993-94.* RSPB report, 36 pp.

Stewart, B. 1996. *Common Scoters in Carmarthen Bay.* Unpubl. report to CCW, 7 pp.

Summers, R.W. & Mavor, R.A. 1995. Occupation patterns of lochs by Slavonian Grebes in Scotland. *Scott. Birds* 18: 65-70.

Swennen, C. & Mulder, T.H. 1995. Ruiende Bergeenden *Tadorna tadorna* in de Nederlandse Waddenzee. *Limosa* 68: 15-20.

Taylor, K. 1996. Moorhen. Pp. 174-175. In: Lack, P. (Ed). *The Atlas of Wintering Birds in Britain and Ireland.* Poyser, London.

Van Impe, J.1996. Long-term reproductive performance in White-fronted Geese *Anser a. albifrons* and Tundra Bean Geese *A. fabalis rossicus* wintering in Zeeland (The Netherlands). *Bird Study* 43: 280-289.

Vinicombe, K.E. & Chandler, R.J. 1982. Movements of Ruddy Ducks during the hard winter of 1978/79. *Brit. Birds* 75: 1-11.

Vinicombe, K., Marchant, J. & Know, A. 1993. Review of status and categorization of feral birds on the British List. *Brit. Birds* 86: 605-614.

Wells, J.H. & Smiddy, P. 1995. The status of the Ruddy Duck in Ireland. *Irish Birds* 5: 279-284.

Way, L.S., Grice, P., MacKay, A., Galbraith, C.A., Stroud, D.A. & Pienkowski, M.W. 1993. *Ireland's internationally important bird sites: a review of sites for the EC Special Protection Area network*. JNCC, Peterborough, 231 pp.

Wilson, J. 1993. Barnacle Goose. Pp. 440-441. In: Gibbons, D.W., Reid, J.B. & Chapman, R. (Eds) 1993. *The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991.* Poyser, London.

GLOSSARY

The terms listed below are generally restricted to those that have been adopted specifically for use within WeBS or more widely for monitoring.

Autumn For waders, autumn comprises July to October inclusive. Due to differences in seasonality between species (see *Monthly Fluctuations*), a strict definition of autumn is not used for wildfowl.

British Trust for Ornithology (BTO) The BTO is a well respected organisation, combining the skills of professional scientists and volunteer birdwatchers to carry out research on birds in all habitats and throughout the year. Data collected by the various surveys form the basis of extensive and unique databases which enable the BTO to objectively advise conservation bodies, government agencies, planners and scientists on a diverse range of issues involving birds.

Complex site A *WeBS site* that consists of two or more *sectors*.

Core Counts The basic WeBS counts that monitor all wetlands throughout the UK once per month on priority dates. Used to determine population estimates and trends and identify important sites.

Local Organiser Person responsible for co-ordinating counters and counts at a local level, normally a county or large estuary, and the usual point of contact with WeBS partner HQs.

Incomplete counts When presenting counts of an individual species, a large proportion of the number of birds was suspected to have been missed, e.g. due to part coverage of the site or poor counting conditions, or when presenting the total number of birds of all species on the site, a significant proportion of the total number was missed.

I-WeBS An independent but complementary scheme operating in the Republic of Ireland to monitor non-breeding waterfowl, organised by the IWC Birdwatch Ireland, the National Parks and Wildlife Service (Ireland) and The Wildfowl & Wetlands Trust.

Joint Nature Conservation Committee (JNCC) JNCC is the statutory body constituted by the Environmental Protection Act 1990 to be responsible for research and advice on nature conservation at both UK and international levels. The committee is established by English Nature, Scottish Natural Heritage and the Countryside Council for Wales, together with independent members and representatives from the Countryside Commission and Northern Ireland, and is supported by specialist staff.

Low Tide Counts (LTC) WeBS counts made at low tide to assess the relative importance of different parts of individual estuaries as feeding areas for intertidal waterfowl.

Royal Society for the Protection of Birds (RSPB) The RSPB is the charity that takes action for wild birds and the environment in the UK. The RSPB is the national BirdLife partner in the UK.

Spring For waders, spring comprises April to June inclusive. Due to differences in seasonality between species (see *Monthly Fluctuations*), a strict definition of spring is not used for wildfowl.

Waterfowl WeBS follows the definition adopted by Wetlands International. This includes a large number of families, those occurring regularly in the UK being divers, grebes, cormorants, herons, storks, ibises and spoonbills, wildfowl, cranes, rails, waders and gulls and terns. Note that, due to differences in coverage, not all families may be included in the 'waterfowl totals' given in this report, although the species excluded and the reasons for this will be given in each case.

WeBS count sector The unit of division of large *sites* into areas which can be counted by one person in a reasonable time period. They are often demarcated by geographic features to facilitate recognition of the boundary by counters. The finest level at which data are recorded.

WeBS count site A biologically meaningful area that represents a discrete area used by waterfowl such that birds regularly move within but only occasionally between sites. The highest level at which count data are stored.

WeBS count sub-site A grouping of *sectors* within a *site* to facilitate co-ordination. In most cases, sub-sites also relate to biologically meaningful units for describing waterfowl distribution.

WeBS count unit The area/boundary within which a count is made. The generic term for *sites*, *sub-sites* and *sectors*.

Wetland Advisory Service (WAS) The environmental consultancy wing of The Wildfowl & Wetlands Trust.

The Wildfowl & Wetlands Trust (WWT) Founded by Sir Peter Scott in 1946, WWT is the only wildlife conservation charity specialising in wetlands and the wildlife they support. It has pioneered the bringing together of people and wildlife for the benefit of both and seeks to raise awareness of the value of wetlands, the threats they face and the actions needed to save them. To this end, WWT has eight centres throughout the UK and is dedicated to saving wetlands for wildlife and people.

Winter For waders, winter comprises November to March inclusive. Due to differences in seasonality between species (see *Monthly Fluctuations*), a strict definition of winter is not used for wildfowl.

Winter (five-year) peak mean Calculated by averaging the peak count in each season for a particular species at an individual site (i.e. the right hand column of figures in the table in each species account). Normally calculated using the most recent five years' data, this figure is compared with the respective *1% thresholds* to determine if the site qualifies as nationally or internationally important.

1% criterion The Ramsar Convention has established site selection criteria. One such criterion (currently numbered Criterion 3c) indicates that a site is identified as being of international importance if it holds 1% or more of a population of waterfowl A change in the 1% criterion would be if the selection threshold changes to, say, 2% of a population (the 2% criterion) or 0.5% of a population (0.5% criterion). The term thus relates to the proportion (1%) that is used as a criterion for internationally important site selection.

1% threshold This logically derives from the *1% criterion* and relates to the number of birds that are used as the nominal 1% of the population for the purposes of site selection. Thus, an international population of 75,215 Shelduck has a derived 1% threshold (adopting rounding conventions) of 750.

Appendix 1. INTERNATIONAL AND NATIONAL IMPORTANCE

Site designations

Criteria for assessing the international importance of wetlands 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 at least 1% of the individuals in a population of one species or subspecies of waterfowl, while any site regularly holding a total of 20,000 or more 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% or more 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% or more of the estimated all-Ireland population (see Table 74).

Between 1 May 1996 and 31 December 1996, ten SPAs and five Ramsar sites were designated by the UK, all the Ramsar sites having been designated as SPA also. Again, this period saw the designation of further large and complex estuarine areas, such as Morecambe Bay and Foulness (the fifth and final phase of the Mid-Essex Coast SPA and Ramsar site).

After The Wash and the Ribble Estuary, Morecambe Bay holds greater numbers of wintering wildfowl than any other estuary in Great Britain and supports internationally important numbers of 11 species of migratory waterfowl: Pink-footed Goose, Shelduck, Pintail, Oystercatcher, Grey Plover, Knot, Dunlin, Bar-tailed Godwit, Curlew, Redshank and Turnstone. Two areas on the Suffolk coast were designated: Benacre to Easton Bavents SPA and Alde-Ore Estuary SPA and Ramsar site. Four Scottish SPAs and one Welsh SPA were also designated, one of the Scottish sites (Loch Ruthven) also being designated a Ramsar site. Pettigoe Plateau in Northern Ireland was also designated as both a Ramsar site and a SPA in view of its holding a breeding population of Golden Plover important in an all-Ireland context.

We look forward to further progress on site designations by government in 1997.

Ramsar designation only
None.

SPA designation only
Ramsey and St David's Peninsula Coast (Pembrokeshire Cliffs), Noss (Shetland), West Westray (Orkney), North Caithness Cliffs (Caithness) and Benacre to Easton Bavents (Suffolk).

SPA and Ramsar designation
Loch Ruthven (Inverness), Foulness (Essex), Alde-Ore Estuary (Suffolk), Morecambe Bay (Cumbria and Lancashire) and Pettigoe Plateau (Northern Ireland).

By 1 December 1996, 105 Ramsar sites and 137 SPAs have been designated in the UK, with a further three UK Ramsar sites in Dependent Territories.

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

Abberton Reservoir
Abernethy Forest (S)
Ailsa Craig (S)
Alde-Ore Estuary
Alt Estuary
Ashdown Forest (S)
Benacre to Easton Bavents (S)
Benfleet & Southend
Blackwater Estuary (mid-Essex Coast Phase 4)
Bowland Fells (S)
Breydon Water
Bridgend Flats
Bridgwater Bay (R)
Broadland
Bure Marshes (R)
Burry Inlet
Cairngorm Lochs (R)
Cameron Reservoir
Cape Wrath (S)
Castle Loch, Lochmaben
Castlemark Coast (S)
Chesil Beach/Fleet
Chew Valley Lake (S)
Chichester/Langstone Harbours
Chippenham Fen (R)
Claish Moss (R)
Coll
Colne Estuary (Mid-Essex Coast Phase 2)
Copinsay (S)
Coquet Island (S)
Cors Caron (R)
Cors Fochno/Dyfi (R)
Crymlyn Bog (R)
Deben Estuary
Dee Estuary
Dengie (Mid-Essex Coast Phase 1)
Dersingham Bog (R)
Derwent Ings
East Caithness Cliffs (S)
Eilean na Muice Duibhe (Duich Moss)
Elenydd Mallaen (S)
Esthwaite Water (R)
Exe Estuary
Fair Isle (S)
Fala Flow
Farne Islands (S)
Fetlar (S)
Feur Lochain
Flamborough Head & Bempton Cliffs (S)
Flannan Isles (S)
Forth Islands (S)
Foula (S)
Foulness
Fowlsheugh (S)
Gibraltar Point/The Wash (Phase 2)
Glac-na-Criche
Gladhouse Reservoir
Glannau Aberdaron (S)
Glannau Ynys Gybi (S)
Glen Tanar (S)
Grassholm (S)
Great Yarmouth North Denes (S)
Greenlaw Moor
Gruinart Flats
Hamford Water
Handa Island (S)
Hermaness & Saxa Vord (S)
Hickling Broad/Horsey Mere (R)
Holburn Lake and Moss
Hornsea Mere (S)
Hoselaw Loch
Humber Flats & Marshes
Irtinghead Mires (R)
Laggan Peninsula (S)
Leighton Moss
Lindisfarne
Llyn Idwal (R)
Llyn Tegid (R)
Loch An Duin (R)
Loch Eye
Loch Ken/Dee Marshes
Loch Leven (R)
Loch Lomond (R)
Loch of Lintrathen
Loch of Kinnordy
Loch of Skene
Loch of Strathbeg
Loch Maree
Loch Ruthven
Loch Spynie
Loch Vaa (S)
Lochs Druidibeg/ a'Machair/ Stillgary
Lough Neagh and Lough Beg (R)
Lower Derwent Valley
Malham Tarn (R)
Martin Mere
Marwick Head (S)
Medway Estuary and Marshes
Mersey Estuary
Midland Meres and Mosses (R)
Mingulay & Berneray (S)
Minsmere/Walberswick
Monach Isles (S)
Montrose Basin
Moor House (S)
Morecambe Bay
Mousa (S)
Nene Washes
North Caithness Cliffs (S)
North Norfolk Coast
Noss (S)
Old Hall Marshes
Orfordness/Havergate (S)
Ouse Washes
Pagham Harbour
Papa Westray (S)
Pettigoe Plateau
Porton Down (S)
Portsmouth Harbour

Priest Island (S)
Ramna Stacks and Gruney (S)
Ramsey and St David's Peninsula Coast (S)
Rannoch Moor (R)
Redgrave and South Lopham Fens (R)
Rhins of Islay
Rhum (S)
Ribble Estuary (part) (S)
Ribble and Alt Estuaries (Phase 2)
River Crouch Marshes (Mid-Essex Coast Phase 3)
Rockcliffe Marshes
Rostherne Mere (R)
Roydon Common (R)
Rutland Water
Salisbury Plain (S)
Severn Estuary
Sheep Island (S)
Shiant Isles (S)
Silver Flowe (R)
Skokholm and Skomer Islands (S)
South Penines (Phase 1) (S)
South Tayside Goose Roosts
St Kilda (S)
Stodmarsh
Stour and Orwell
Sule Skerry & Sule Stack (S)
Sumburgh Head (S)
Swan Island (S)
Teesmouth and Cleveland Coast
Thanet Coast & Sandwich Bay
The New Forest
The Wash
The Swale
Thursley, Hankley and Frensham (S)
Thursley & Ockley Bogs (R)
(the above two sites overlap)
Traeth Lafan (S)
Treshnish Isles (S)
Upper Solway
Upper Severn Estuary
Walmore Common
West Water
West Westray (S)
Wicken Fen (R)
Woodwalton Fen (R)
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 at least 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% or more 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 74 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 at least this number of birds potentially qualifies for designation under national legislation or international Directives or Conventions. The international population for each species and sub-species is also specified 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 threshold for the designation of sites of national importance. 1% thresholds have not been derived for introduced since, for these species, protected sites (e.g. SSSIs) would not be identified on the basis of numbers for these birds. Sources of qualifying levels represent the most up-to-date figures following recent reviews: for British wildfowl see Kirby (1995); for British waders see Cayford & Waters (1996); 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). International criteria follow Smit & Piersma (1989) or Scott & Rose (1996). It was agreed at the meeting of the Ramsar Convention in Brisbane that population estimates will be reviewed by Wetlands International every three years and 1% thresholds revised every nine years (Rose & Stroud 1994). Note the revision of several international thresholds following Scott & Rose (1996) (see *Conservation and Management*).

Table 74. 1% THRESHOLDS 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 *	?	330	NW Europe
Slavonian Grebe	4 *	?	50	NW Europe
Black-necked Grebe	1 *	?	1,000	W Palaearctic
Cormorant	130	?	1,200	NW Europe
Little Egret	?	?	800	W Mediterranean
Grey Heron	?	?	4,500	Europe/N Africa
Mute Swan	260	55	2,400	NW Europe
Bewick's Swan	70	25 *	170	W Siberia/NW Europe
Whooper Swan	55	100	160	Iceland/UK/Ireland
Bean Goose	4 *	+ *	800	NE & NW Europe
Pink-footed Goose: Iceland/Greenland	1,900	+ *	2,250	E Greenland/Iceland/UK
European White-fronted Goose	60	+ *	6,000	NW Siberia/NE & NW Europe
Greenland White-fronted Goose	140	140	300	Greenland/Ireland/UK
Greylag Goose: Iceland	1,000	40 *	1,000	Iceland/UK/Ireland
Hebrides/N Scotland	50	n/a	50	NW Scotland
Barnacle Goose: Greenland	270	75	320	E Greenland/Ireland/Scotland
Svalbard	120	+ *	120	Svalbard/SW Scotland
Dark-bellied Brent Goose	1,000	+ *	3,000	*bernicla*
Light-bellied Brent Goose: Canada/Greenland	+ *	200	200	Canada/Ireland
Svalbard	25 *	+ *	50	Svalbard/Denmark/UK
Shelduck	750	70	3,000	NW Europe
Wigeon	2,800	1,250	12,500	NW Europe
Gadwall	80	+ *	300	NW Europe
Teal	1,400	650	4,000	NW Europe
Mallard	5,000	500	20,000 **	NW Europe
Pintail	280	60	600	NW Europe

	Great Britain	all-Ireland	International	Population
Garganey	+ *	+ *	20,000 **	Europe/W Africa
Shoveler	100	65	400	NW Europe/Central Europe
Red-crested Pochard	+ *	+ *	250	C & SW Europe/W Mediterranean
Pochard	440	400	3,500	NW Europe
Tufted Duck	600	400	10,000	NW Europe
Scaup	110	30 *	3,100	NW Europe
Eider	750	20 *	20,000 **	Europe
Long-tailed Duck	230	+ *	20,000 **	Iceland/Greenland/NW Europe
Common Scoter	350	40 *	16,000	W Siberia/W Europe/NW Africa
Velvet Scoter	30 *	+ *	10,000	W Siberia/NW Europe
Goldeneye	170	110	3,000	NW & Central Europe
Smew	2 *	+ *	250	NW & Central Europe
Red-breasted Merganser	100	20 *	1,250	NW & Central Europe
Goosander	90	+ *	2,000	NW & Central 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)
Little Ringed Plover	?	?	?	Europe/W Africa
Ringed Plover	290	125	500	Europe/NW Africa (wintering)
passage	300			
Golden Plover	2,500	2,000	18,000	NW Europe (breeding)
Grey Plover	430	40 *	1,500	E Atlantic
Lapwing	20,000 **	2,500	20,000 **	Europe/W Africa
Knot *C. c. islandica*	2,900	375	3,500	W Europe/Canada
C. c. canutus			5,000	W Africa/W Siberia
Sanderling	230	35 *	1,000	E Atlantic
passage	300			
Little Stint	?	?	2,100	W Africa/Europe
Curlew Sandpiper	?	?	4,500	W Africa/SW Europe (wintering)
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)
passage	2,000			
Ruff	7 *	+ *	10,000	W Africa (wintering)
Jack Snipe	?	250	?	Europe/W Africa (wintering)
Snipe	?	?	10,000	Europe/W Africa (breeding)
Woodcock	?	?	20,000 **	Africa/Europe
Black-tailed Godwit	70	90	700	Iceland (breeding)
Bar-tailed Godwit	530	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	1,100		1,500	NW Europe (wintering)
passage	1,200			
Greenshank	+ *	9 *	3,000	Europe/W Africa
Green Sandpiper	?	?	?	Europe (breeding)
Common Sandpiper	?	?	?	Europe (breeding)
Turnstone	640	225	700	Europe (wintering)
Little Gull	?	?	750	Cent/E Europe (breeding)
Black-headed Gull	?	?	20,000 **	NW Europe
Common Gull	?	?	16,000	NW Europe
Lesser Black-backed Gull	?	?	4,500	W Europe
Herring Gull	?	?	13,000	W Europe/Iceland
Great Black-backed Gull	?	?	4,800	W Atlantic
Kittiwake	?	?	20,000 **	E Atlantic
Sandwich Tern	?	?	1,500	W Europe/W Africa
Common Tern	?	?	6,000	N/E Europe
Little Tern	?	?	340	E Atlantic
Black Tern	?	?	2,000	Europe/Asia

? *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 counts sites or areas mentioned in this report are given here. Sites are listed alphabetically, with the 1 km square OS grid reference for the centre of the site, the habitat (H) and the county or district. Note that this is not an exhaustive list of WeBS sites counted in 1995-96, simply those mentioned by name in this report. Figure 3 shows the location of many of the more important sites for waterfowl.

Habitat codes
The predominant habitat type is given for complex sites containing many different habitats

L	Lake	M	Marsh
R	Reservoir	S	Sewage treatment works
P	Gravel or sand pit	E	Estuary
V	River	O	Open coast
C	Canal	N	Non-wetland

Site	1 km sq	H	County
Abberton Reservoir	NT4581	R	Essex
Abbots Moss	NY5142	L	Cumbria
Aberlady Bay	NT4581	E	Lothian
Adur Estuary	TQ2006	E	West Sussex
Afan Estuary	SS7488	E	West Glamorgan
Aignish Bay	NB4932	O	Western Isles
Alaw Reservoir	SH3968	R	Gwynedd
Alde Complex	TM4257	E	Suffolk
Alnmouth	NU2410	E	Northumberland
Alnmouth to Boulmer	NU2511	O	Northumberland
Alt Estuary	SD2903	E	Merseyside
Altofts Ings	SE3624	P	West Yorkshire
Alton Water	TM1356	R	Essex
Alvecote Pools	SK2504	L	Warwickshire
Anstruther Harbour	NO5603	O	Fife
Appin/Erriska/Benderloch	NM9043	O	Strathclyde
Aqualate Mere	SJ7720	L	Staffordshire
Ardoch Loch	NN8409	L	Central
Arran	NR9535	O	Strathclyde
Artro Estuary	SH5727	E	Gwynedd
Ashford Common Waterworks	TQ0869	S	Surrey
Ash Levels	TR3162	M	Kent
Attenborough Gravel Pits	SK5234	P	Nottinghamshire
Auchencairn Bay	NX8252	E	Dumfries & Galloway
Avon Estuary	SX6745	E	Devon
Avon Valley (Lower)	SZ1499	M	Hampshire
Avon Valley (Mid)	SU1510	M	Hampshire
Axe Estuary	SY2590	E	Devon
Ayr to Troon	NS3425	O	Strathclyde
Balgray Reservoir	NS5157	R	Strathclyde
Ballo Reservoir	NO2205	R	Fife
Ballysaggart Lough	H7961	L	Tyrone
Bann Estuary	C7935	E	Londonderry
Barcombe Mills Reservoir	TQ4314	R	Sussex
Barleycroft Gravel Pits	TL3672	P	Cambridgeshire
Barleycroft Gravel Pits	TL3672	P	Cambridgeshire
Barn Elms Reservoir	TQ2277	R	Greater London
Barton Pool	SK1918	L	Staffordshire
Baston/Langtoft Gravel Pits	TF1212	P	Lincolnshire
Beaulieu Estuary	SZ4298	E	Hampshire
Belfast Lough	J4083	E	Down
Belvide Reservoir	SJ8610	R	Staffordshire
Bemersyde Moss	NT6133	M	Borders
Benacre Broad	TF5383	L	Suffolk
Berwick Little Beach	NU0053	O	Northumberland
Bewl Water	TQ6733	R	Sussex
Black Cart Water	NS4767	M	Borders
Blackmoorfoot Reservoir	SE0912	R	West Yorkshire
Blackwater Estuary	TL9307	E	Essex
Blagdon Lake	ST5150	R	Avon
Blickling Lake	TG1729	L	Norfolk
Blithfield Reservoir	SK0524	R	Staffordshire
Blyth Estuary (Northumberland)	NZ3082	E	Northumberland
Blyth Estuary (Suffolk)	TM4675	E	Suffolk
Blyth to Newbiggin	NZ3084	O	Northumberland
Boghill Fields	C8734	N	Londonderry
Bolton-on-Swale Gravel Pits	SE2498	P	North Yorkshire
Bosherston Lake	SR9794	L	Dyfed
Bough Beech Reservoir	TQ4947	R	Kent
Brading Harbour	SZ6388	E	Isle of Wight
Braint Estuary	SH4463	E	Gwynedd
Bramshill Park	SK7560	L	Hampshire
Brandesburton Gravel Pits	TA1346	P	Humberside
Brent Reservoir	TQ2287	R	Greater London
Breydon Water	TG4907	E	Norfolk
Broad Bay	NB4733	O	Western Isles
Broad Water Canal	J1462	C	Antrim
Buckden/Stirtloe Gravel Pits	TL2066	P	Cambridgeshire
Buckden/Stirtloe Gravel Pits	TL2066	P	Cambridgeshire
Budle Point to Seahouses	NU2231	O	Northumberland
Burghfield Gravel Pits	SU6870	P	Berkshire
Burry Inlet	SS5096	E	West Glamorgan, Dyfed
Busbridge Lakes	SU9742	L	Surrey
Bute	NS0761	L	Strathclyde
Caistron Quarry	NU0001	P	Northumberland
Caithness Lochs	ND1859	L	Highland
Calf Hey Reservoir	SD7522	R	Lancashire
Camel Estuary	SW9474	E	Cornwall
Cameron Reservoir	NO4711	R	Fife
Canary Road	H8755	M	Armagh
Cannop Ponds	SO6010	L	Gloucestershire
Cardigan Bay	SH5020	O	Gwynedd, Dyfed
Cargen Water: Islesteps	NX9772	V	Dumfries & Galloway
Carlhurlie Bay	NO3904	O	Fife
Carlingford Lough	J2013	E	Down
Carmarthen Bay	SN2501	E	Dyfed
Carron Valley Reservoir	NS6884	R	Central
Carsebreck/Rhynd Lochs	NN8609	L	Tayside
Castle Loch, Lochmaben	NY0881	L	Dumfries & Galloway
Cefni Estuary	SH4067	E	Anglesey
Cemlyn Bay	SH3393	O	Gwynedd
Chasewater	SK0307	R	West Midlands
Cheddar Reservoir	ST4454	R	Somerset
Chew Valley Lake	ST5659	R	Avon
Chichester Gravel Pits	SU8703	P	West Sussex
Chichester Harbour	SU7700	E	West Sussex
Chilham to Chartham Gravel Pits	TR0954	P	Kent
Chorlton Water Park	SJ8291	P	Greater Manchester
Christchurch Harbour	SZ1792	E	Dorset
Church Wilne Reservoir	SK4632	R	Derbyshire
Cleddau Estuary	SN0005	E	Dyfed
Clifford Hill Gravel Pits	SP8061	P	Northamptonshire
Clumber Park Lake	SK6374	L	Nottinghamshire
Clumber Park Lake	SK6374	L	Nottinghamshire
Clwyd Estuary	SJ0079	E	Clwyd
Coll	NM2055	N	Strathclyde
College Reservoir	SW7633	R	Cornwall
Colne Estuary	TM0614	E	Essex
Colne Valley Gravel Pits	TQ0489	P	Greater London
Colonsay/Oronsay	NR3896	N	Strathclyde
Colwick Country Park	SK6039	L	Nottinghamshire
Colwyn Bay	SH9079	O	Clwyd
Combermere	SJ5884	L	Cheshire

Site	1 km sq	H	County
Conwy Estuary	SH7877	E	Gwynedd
Coquet Estuary	NU2706	E	Gwynedd
Corby Loch	NJ9214	L	Grampian
Cotswold Water Park (East)	SU1999	P	Glos, Oxon
Cotswold Water Park (West)	SU0595	P	Glous, Wilts
Coul Reservoir	NO2603	R	Fife
Cowgill Reservoirs	NT0327	R	Strathclyde
Cresswell Pond	NZ2894	L	Northumberland
Cromarty Firth	NH7771	E	Highland
Crombie Loch	NO5240	L	Tayside
Cropston Reservoir	SK5410	R	Leicestershire
Crouch/Roach Estuary	TQ8496	E	Essex
Crowdy Reservoir	SX1483	R	Cornwall
Croxall Gravel Pits	SK1914	P	Staffordshire
Cuckmere Estuary	TV5197	E	East Sussex
Cuttmill Ponds	SU9145	L	Surrey
Danna/Keills Peninsula	NR7383	O	Strathclyde
Dart Estuary	SX8258	E	Devon
Deben Estuary	TM2942	E	Suffolk
Dee Estuary (England/Wales)	SJ2675	E	Merseyside, Cheshire, Clwyd
Dee Estuary (Scotland)	NJ9505	E	Grampian
Deeping St James Gravel Pits	TF1808	P	Lincolnshire
Dengie Flats	TM0300	E	Essex
Derwent Water	NY2520	L	Cumbria
Deveron Estuary	NJ6964	E	Grampian
Didlington	TL7796	P	Norfolk
Dinnet Lochs	NJ4800	L	Grampian
Dinton Pastures	SU7872	M	Berkshire
Ditchford Gravel Pits	SP9468	P	Northamptonshire
Don Estuary	NJ9509	E	Grampian
Don Mouth to Ythan Mouth	NJ9815	O	Grampian
Doon Estuary	NS3219	O	Strathclyde
Dorchester Gravel Pits	SU5795	P	Oxfordshire
Dornoch Firth	NH7384	E	Highland
Drakelow Gravel Pit	SK2320	P	Derbyshire
Drakelow Gravel Pits	SK2320	P	Derbyshire
Draycote Water	SP4469	R	Warwickshire
Drumgay Lough	H2448	L	Fermanagh
Drummond Pond	NN8518	L	Tayside
Duddon Estuary	SD2081	E	Cumbria
Dulas Bay	Sh4888	E	Gwynedd
Dundrum Bay	J4235	E	Down
Dungeness Gravel Pits	TR0619	P	Kent
Dunstable Sewage Treatment Works	TL0124	S	Bedfordshire
Dupplin Loch	NO0320	L	Tayside
Durham Coast	NZ4349	O	Durham
Dyfi Estuary	SN6394	E	Dyfed
Dysynni Estuary	SH5702	E	Gwynedd
Earls Barton Gravel Pits	SP8966	P	Northamptonshire
Earlsferry to Anstruther	NNO5302	O	Fife
Eastersound/Uyeasound	HP5901	O	Shetland
East Fortune Ponds	NT5580	L	Lothian
Eccup Reservoir	SE2941	R	West Yorkshire
Eden Estuary	NO4719	E	Fife
Eglwys Nunydd Reservoir	SS7984	R	West Glamorgan
Ellesmere	SJ4035	L	Shropshire
Erme Estuary	SX6249	E	Devon
Esthwaite Water	SD3596	L	Cumbria
Etherow Country Park	SJ9791	L	Greater Manchester
Eversley Cross & Yateley GPs	SU8601	P	Hampshire
Exe Estuary	SX9883	E	Devon
Eyebrook Reservoir	SP8595	R	Leicestershire
Fairburn Ings	SE4627	P	North Yorkshire
Fala Flow	NT4258	L	Lothian
Fal Complex	SW8541	E	Cornwall
Farmoor Reservoirs	SP4406	R	Oxfordshire
Farmwood Pool	SJ8173	L	Cheshire
Fen Drayton Gravel Pits	TL3470	P	Cambridgeshire
Fiddlers Ferry Power Satation Lagoons	SJ5585	P	Cheshire
Fincastle Loch	NN8762	L	Tayside
Findhorn Bay	NJ0462	E	Grampian
Fisherwick & Elford Gravel Pits	SK1710	P	Staffordshire
Fleet/Wey	SY6976	E	Dorset
Fleet Bay	NX5652	E	Dumfries & Galloway
Fleet Pond	SU8255	L	Hampshire
Fonthill Lake	ST9331	L	Wiltshire
Fort Henry Ponds & Exton Park Lake	SK9412	L	Leicestershire
Forth Estuary	NT2080	E	Lothians, Central, Fife
Foryd Bay	SH4559	E	Gwynedd
Fowey Estuary	SX1254	E	Cornwall
Frampton Pools	SO7507	P	Gloucestershire
Gadloch	NS6471	L	Borders
Gannel Estuary	SW8060	E	Cornwall
Girvan to Turnberry	NS2002	O	Strathclyde
Gladhouse Reservoir	NT2953	R	Lothian
Glenfarg Reservoir	NO1011	R	Tayside
Grafham Water	TL1568	R	Cambridgeshire
Graig Ddu	SH5237	O	Gwynedd
Great Cumbrae	NS1656	O	Strathclyde
Gresford Flash	SJ3654	L	Clwyd
Grouville Marsh	WV6949	M	Channel Islands
Gunton Park Lake	TG2234	L	Norfolk
Haddo House Lakes	NJ8734	L	Grampain
Hamford Water	TM2225	E	Essex
Hamilton Low Parks	NS7257	L	Strathclyde
Hampton & Kempton Reservoirs	TQ1269	R	Greater London
Hanningfeild Reservoir	TQ7398	R	Essex
Hardley Flood	TM3899	M	Norfolk
Hauxley Haven	NU2802	L	Northumberland
Haverton Hole	NZ4923	L	Cleveland
Hay-a-Park Gravel Pits	SE3658	P	North Yorkshire
Hayle Estuary	SW5537	E	Cornwall
Heaton Park Reservoir	SD8205	R	Greater Manchester
Heigham Holmes	TG4420	M	Norfolk
Helford Estuary	SW7526	E	Cornwall
Hickling Broad	TG4121	L	Norfolk
Hightae Loch	NY0880	L	Dumfries & Galloway
Hilfield Park Reservoir	TQ1596	R	Hertfordshire
Hirsel Lake	NT8240	L	Borders
Holbeach St Matthew	TF4134	E	Lincolnshire
Holburn Moss	NU0536	L	Northumberland
Holden Wood Reservoir	Sd7722	R	Lancashire
Holkham	TF8845	E	Norfolk
Hollowell Reservoir	SP6872	R	Northamptonshire
Holme Pierrepoint Gravel Pits	SK6239	P	Nottinghamshire
Hornsea Mere	TA1947	L	Humberside
Hoselaw Loch	NT8031	L	Borders
Hule Moss	NT7149	L	Borders
Humber Estuary	TA2020	E	Humberside, Lincs
Hunterston Estuary	NS1848	E	Strathclyde
Hurworth Burn Reservoir	NZ4033	R	Durham
Inland Sea	SH2779	E	Gwynedd
Inner Clyde Estuary	NS3576	E	Strathclyde
Inner Moray Firth	NH6752	E	Highland
Irt/Mite/Esk Estuary	SD0796	E	Cumbria
Irvine/Garnock Estuary	NS3038	E	Strathclyde
Irvine to Saltcoats	NS2839	E	Strathclyde
Islay	NR3560	N	Strathclyde
Jersey Shore	WV6249	O	Channel Islands
Kedleston Park Lake	SK3141	L	Derbyshire
Kenwith Nature Reserve	SS4427	L	Cornwall
Kilconquhar Loch	NO4801	L	Fife
Killington Reservoir	SD5991	R	Cunbria
Killough Harbour	J5437	O	Down
King George VI Reservoir	TQ0473	R	Surrey
King George V Reservoir	TQ3796	R	Greater London
Kingsbridge Estuary	SX7411	E	Devon
Kings Bromley Gravel Pits	SK1116	P	Staffordshire
Kings Dyke Pits	TL2397	P	Cambrideshire
Kings Mill Reservoir	SK5159	R	Nottinghamshire
Kirkudbright Bay	NX6849	E	Dumfries & Galloway
Knight & Bessborough Reservoirs	TQ1268	R	Surrey

ite	1 km sq	H	County
nockshinnock Lagoons	NS6013	L	Strathclyde
ackford Gravel Pits	TL7971	P	Suffolk
ade Sands	TR0921	O	Kent
ancaster Canal	SD4766	C	Lancashire
angstone Harbour	SU6902	E	Hampshire
angtoft West End Gravel Pits	TF1111	P	Lincolnshire
arne Lough	D4200	E	Antrim
avan Sands	SH6474	E	Gwynedd
ee Valley Gravel Pits	TL3702	P	Hertfordshire/Essex
eighton Moss	SD4875	L	Lancashire
eybourne/New Hythe GPs	TQ6959	P	Kent
indisfarne	NU1041	E	Northumberland
inford Gravel Pits	SP8442	P	Buckinghamshire
inne Mhuirich & Loch Na Cille	NR7080	O	Strathclyde
inton Pond Reservoir	NZ2590	R	Northumberland
ittle Paxton Gravel Pits	TL1963	P	Cambridgeshire
ittle Stour Valley	TR2056	M	Kent
ivermere	TL8771	L	Suffolk
lyn Coron	SH3770	L	Gwynedd
lyn Penrhyn	SH3077	L	Gwynedd
lyn Traffwll	SH3276	L	Gwynedd
och An Tiumpan/Loch An Duin	NB5637	L	Western Isles
och Eye	NH8379	L	Highland
och Fleet Complex	NH7896	E	Highland
och Flemington	NH8152	L	Highland
och Garten	NH9718	L	Highland
och Gilp	NR8686	E	Strathclyde
och Gruinart	NR2971	E	Strathclyde
och Heilen	ND2568	L	Highland
och Indaal	NR3261	E	Strathclyde
och Ken	NX6870	L	Dumfries & Galloway
och Kindar	NX9664	L	Dumfries & Galloway
och Leven	NO1401	L	Tayside
och Lomond	NS4388	L	Strathclyde
och Mullion	NN9833	L	Tayside
och Na Keal	NM5038	O	Strathclyde
och of Ayre	HY4601	L	Orkney
och of Boardhouse	HY2725	L	Orkney
och of Harray	HY2915	L	Orkney
och of Hundland	HY2926	L	Orkney
och of Kinnordy	NO3655	L	Tayside
och of Lintrathen	NO2754	L	Tayside
och of Skaill	HY2418	L	Orkney
och of Skene	NJ7807	L	Grampian
och of Spiggie	HU3716	L	Shetland
och of Stenness	NY2812	L	Orkney
och of Strathbeg	NK0758	L	Grampian
och of Swannay	HY3127	L	Orkney
och of Tankerness	HY5109	L	Orkney
och Ore	NT1695	L	Fife
och Ryan	NX0565	E	Dumfries & Galloway
ochs Beg & Scridain	NM5027	L	Strathclyde
och Spynie	NJ2366	L	Grampian
och Stiapavat	NB5264	L	Western Isles
och Tullybelton	NO0034	L	Tayside
och Ussie	NH5057	L	Highland
och Watten	ND2256	L	Highland
ongeaton Gravel Pits	SK5032	P	Derbyshire
ongside Lake	TQ0168	L	Surrey
ongueville Marsh	WV6748	M	Channel Islands
ooe Estuary	SX2553	E	Cornwall
oons/Loch of Isbister	HY2523	L	Orkney
ossie Estuary	NJ2470	E	Grampian
othing Lake & Oulton Broad	TM5292	E	Suffolk
ough Foyle	C6025	E	Londonderry
ough Money	J5345	L	Down
oughs Neagh & Beg	J0575	L	Down, Antrim, Londonderry, Tyrone, Armagh
ower Bogrotten	NJ4861	N	Grampian
ower Derwent Valley	SE6938	M	Humberside
ower Lough McNean	H1138	L	Fermanagh

Site	1 km sq	H	County
Lower Windrush Valley GPs	SP4004	P	Oxfordshire
Luce Bay	NX1855	E	Dumfries & Galloway
Lullingstone Castle Lake	TQ5264	L	Kent
Machrihanish	NR6522	N	Strathclyde
Maer Marsh	SK2070	M	Cornwall
Manchester Ship Canal: Walton Docks	SJ6086	C	Cheshire
Manchester Ship Canal: Salford Docks	SJ8097	C	Greater Manchester
Marsh Lane Gravel Pits	TL3069	P	Cambridgeshire
Martin Mere	SD4105	L	Lancashire
Martnaham Loch	NS3917	L	Strathclyde
Marton Mere	SD3435	R	Lancashire
Mawddach Estuary	SH6416	E	Gwynedd
Meadow Lane Gravel Pits	TL3270	P	Cambridgeshire
Meadownay Farm Pools	NS2912	L	Strathclyde
Medina Estuary	SZ5093	E	Isle of Wight
Medway Estuary	TQ8471	E	Kent
Mere Sands Wood	SD4415	L	Lancashire
Merryton Ponds	NS7654	L	Strathclyde
Mersey Estuary	SJ4578	E	Cheshire
Middle Tame Valley Gravel Pits	SP2096	P	Staffordshire, Warwickshire
Middle Yare Marshes	TG3504	M	Norfolk
Minsmere	TM4666	L	Suffolk
Montrose Basin	NO6958	E	Tayside
Moray Coast	NJ3067	O	Grampian
Moray Firth	NH8060	E	Highland
Morecambe Bay	SD4070	E	Lancashire, Cumbria
Mouth of River Lochy	NN1175	V	Highland
Naseby Reservoir	SP6778	R	Northamptonshire
Nene Washes	TF3300	M	Cambridgeshire
Netherfield Gravel Pits	SK6339	P	Nottinghamshire
Netherfield Gravel Pit	SK6399	P	Nottinghamshire
Newbiggin to Cresswell	NZ3091	O	Cumbria
Newhaven Estuary	TQ4400	E	East Sussex
New Road Gravel Pits	TL1549	P	Bedfordshire
Newtown Estuary	SZ4291	E	Isle of Wight
Nocton/Dunston Fen	TF1065	M	Lincolnshire
North Berwick Shore	NT5586	O	Lothian
North Norfolk Marshes	TF8546	E	Norfolk
North Ronaldsay	HY7655	N	Orkney
North Warren & Thorpeness Mere	TM4658	L	Suffolk
North West Solent	SZ3395	E	Hampshire
Nunnery Lakes	TL8781	L	Norfolk
Nyfer Estuary	SN0539	E	Dyfed
Ogmore Estuary	SS8675	E	Mid Glamorgan
Orkney Mainland	HY4010	N	Orkney
Orwell Estuary	TM2238	E	Suffolk
Osterley Park Lakes	TL1478	L	Greater London
Otter Estuary	SY0872	E	Cornwall
Ouse Washes	TL5394	M	Cambridgeshire
Outer Ards	J6663	O	Down
Pagham Harbour	SZ8796	E	West Sussex
Pannel Valley	TQ8815	M	East Sussex
Paultons Bird Park	SU3116	L	Hampshire
Pegwell Bay	TR3563	E	Kent
Pennington Flash	SJ6499	P	Greater Manchester
Pen Ponds	TQ1972	L	Greater London
Pentney Gravel Pits	TF7013	P	Norfolk
Pirton Pool	SO8847	L	Hereford & Worcestershire
Pitsford Reservoir	SP7669	R	Northamptonshire
Plym Estuary	SX5055	E	Devon
Poole Harbour	SY9988	E	Dorset
Portavo Lake	J5582	L	Down
Portsmouth Harbour	SU6204	E	Hampshire
Priory Water	SK7118	P	Leicestershire
Pugney Water	SE3218	P	West Yorkshire
Queen Elizabeth II Reservoir	TQ1167	R	Surrey
Queen Mary Reservoir	TQ0769	R	Surrey

Site	1 km sq	H	County
Queens Park, Chesterfield	SK3770	L	Derbyshire
Ranworth & Cockshoot Broads	TG2515	L	Norfolk
Ravensthorpe Reservoir	SP6770	R	Northamptonshire
Reddish Vale Visitors Centre	SJ9390	L	Greater Manchester
Red Wharf Bay	SH4893	E	Gwynedd
Rhunahaorine	NR7049	N	Argyll
Ribble Estuary	SD3825	E	Lancashire
Ringstead Gravel Pits	SP9775	P	Northamptonshire
River Dee: Aldford/Eaton	SJ4059	M	Cheshire
River Derwent: Chatsworth	SK2569	V	Derbyshire
River Forth: Gargunnock	NS9175	V	Central
River Foyle: Grange	C3606	V	Tyrone
River Lagan: Flatfield	J1961	V	Down
River Soar: Leicester	SK5805	V	Leicestershire
River Spey: Boat of Balliefirth	NH9922	V	Highland
R Test: Fullerton to Stockbridge	SU3535	V	Hampshire
River Trent: Shardlow to Sawley	SK4530	V	Derbyshire
R Trent: Burton Joyce to Stoke Ferry	SK6541	V	Nottinghamshire
R Tweed: Kelso to Coldstream	NT7737	V	Borders
R Welland: Spalding to Borough Fen	TS2516	V	Lincolnshire
R Wensum: F'knh'm to G't Ryb'rgh	TF9428	V	Norfolk
River Wye: Bakewell to Haddon	SK2366	V	Derbyshire
Rostherne Mere	SJ7484	L	Cheshire
Rough Firth	NX8453	E	Dumfries & Galloway
Rutland Water	SK9207	R	Leicestershire
Rye Harbour/Pett Level	TQ9418	E	East Sussex
Saintear Loch	HY4347	L	Orkney
Salhouse Broad	TG3115	L	Norfolk
Sandbach Flashes	SJ7259	L	Cheshire
Scolt Head	TF8046	E	Norfolk
Seahouses to Budle Point	NU2231	O	Northumberland
Seaton Gravel Pits	TR2258	P	Kent
Sennowe Park Lakes	TF9825	L	Norfolk
Severn Estuary	ST5058	E	Glos, Avon, Somerset, Gwent, Mid Glam, South Glam
Sir Edwards Lake	NZ0379	R	Northumberland
Skinflats	NS9284	E	Central
Slains Lochs	NK0230	L	Grampian
S Muskham & N Newark GPs	SK7956	P	Nottinghamshire
Snettisham	TF6535	E	Norfolk
Solway Estuary	NY1060	E	Cumbria
Somerset Levels	ST4040	M	Somerset
Sonning Gravel Pits	SU7475	P	Oxfordshire
Sound of Tarransay	NG0498	O	Western Isles
Southampton Water	SU4507	E	Hampshire
South Down	J5036	O	Down
South Ford	NF7747	O	Western Isles
South Milton Ley	SX6842	L	Devon
South Walls	ND3089	N	Orkney
South West Lancashire	SD4015	N	Lancashire
Spey Estuary	NJ3465	E	Grampian
Staines Reservoir	TQ0575	R	Surrey
St Andrews Bay	NO5121	O	Fife
Stanford Reservoir	SP6080	R	Leicestershire
Stanford Training Area	TL8695	L	Norfolk
Station Fields	TM0954	L	Suffolk
St Benets Levels	TG3815	M	Norfolk
Stenhouse Reservoir	NT2187	R	Fife
Stevenston	NS2839	O	Strathclyde
Stodmarsh	TR2061	L	Kent
Stoke Newington Reservoirs	TQ3287	R	Greater London
Stour Estuary	TM1732	E	Essex, Suffolk
Strangford Lough	J5560	E	Down
Stranraer Lochs	NX1161	L	Dumfries & Galloway
Stratfield Saye	SU7061	L	Hampshire
Studland Bay	SZ0383	O	Dorset
Sutton/Lound Gravel Pits	SK6985	P	Nottinghamshire
Swale Estuary	TQ9765	E	Kent
Swanbourne Lake	TQ0108	L	West Sussex
Swanholme Lake	SK9468	L	Lincolnshire
Swanpool (Falmouth)	SW8031	L	Cornwall
Swansea Bay	SS6391	E	West Glamorgan
Swillington Ings	SE3828	P	West Yorkshire
Swithland Reservoir	SK5513	R	Leicestershire
Sywell Reservoir	SP8365	R	Northamtonshire
Tabley Mere	SJ7276	L	Cheshire
Tamar Complex	SX4363	E	Devon, Cornwall
Tansor Gravel Pits	TL0592	P	Northamptonshire
Tattershall Pits	TF2057	P	Linconshire
Taw/Torridge Estuary	SS4733	E	Devon
Tay/Isla Valley	NO1438	L	Tayside
Tay Estuary	NO3225	E	Fife, Tayside
Tees Estuary	NZ5528	E	Cleveland
Teifi Estuary	SN1647	E	Dyfed
Teign Estuary	SX9272	E	Devon
Temple Water	J5750	L	Down
Thames Estuary	TQ7880	E	Kent, Essex, Greater London
Thanet Coast	TR2669	O	Kent
Thorpe Water Park	TQ0268	P	Surrey
Thrapston Gravel Pit	SP9979	P	Northamptonshire
Tiree	NL9741	N	Strathclyde
Tophill Low Reservoirs	TA0748	R	Humberside
Tottenhill Gravel Pits	TF6311	P	Norfolk
Traeth Bach	SH5736	E	Gwynedd
Traigh Luskentyre	NG0798	E	Western Isles
Tresco Great Pool	SV8914	L	Isles of Scilly
Tring Reservoirs	SP9113	R	Hertfordshire
Trinity Broads	TG4614	L	Norfolk
Tweed Estuary	NT9853	E	Northumberland
Twyford Gravel Pits	SU7875	P	Berkshire
Tyne Estuary	NZ3768	E	Tyne & Wear
Tyninghame Estuary	NT6379	E	Lothian
Upper Lough Erne	H3231	L	Fermanagh
Upper Quoile	J4745	V	Down
Virginia Water	SU9769	L	Berkshire
Walland Marsh	TQ9824	M	Kent
Walmore Common	SO7425	M	Gloucestershire
Walthamstow Reservoir	TQ3589	R	Greater London
Wash	TF5540	E	Lincolnshire, Norfolk
Water Sound	ND4394	O	Ornkey
Wath/Broomhill Ings	SE4102	P	South Yorkshire
Weirwood Reservoir	TQ3934	R	Sussex
Welbeck Great Lake	SK5773	L	Nottinghamshire
Wellington Country Park	SU7362	L	Hampshire
Westbere Lakes	TR1960	L	Kent
Westfield Marshes	ND0664	M	Highland
West Freugh	NX1055	N	Dumfries & Galloway
West Water Reservoir	NT1252	R	Borders
Whinfell Tarn	SD5598	L	Cumbria
Whisby Gravel Pits	SK9167	P	Lincolnshire
Whitton Loch	NT7519	L	Borders
Widewall Bay	ND4292	O	Orkney
Wigtown Bay	NX4456	E	Dumfries & Galloway
William Girling Reservoir	TQ3694	R	Greater London
Windermere	SD3995	L	Cumbria
Witley Park	SU9239	L	Surrey
Woburn Park Lakes	SP9632	L	Bedfordshire
Woolston Eyes	SJ6588	P	Cheshire
Wootton Estuary	SZ5592	E	Isle of Wight
Worsborough Reservoir	SE3403	R	Greater Manchester
Wraysbury Gravel Pits	TQ0073	P	Berkshire
Wraysbury Reservoir	TQ0274	R	Surrey
Yar Estuary	SZ3588	E	Isle of Wight
Yealm Estuary	SX5450	E	Devon
Ythan Estuary	NK0026	E	Grampian

Appendix 3. TOTAL NUMBERS OF WADERS RECORDED BY WeBS AT COASTAL AND INLAND SITES, 1995-96.

GREAT BRITAIN

Waders at estuarine/ coastal sites	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites counted	*118*	*105*	*92*	*89*	*105*	*160*	*174*	*161*	*183*	*180*	*175*	*159*
Oystercatcher	57,088	32,402	31,003	63,143	147,993	211,232	224,648	190,477	196,257	215,687	199,240	134,313
Black-winged Stilt	0	0	0	0	0	1	1	1	1	0	1	1
Avocet	693	197	193	510	694	1,312	1,208	1,976	1,958	1,806	1,297	1,320
Stone Curlew	0	0	0	0	0	1	0	0	0	0	0	0
Little Ringed Plover	22	13	14	21	35	9	8	0	1	0	0	6
Ringed Plover	4,577	9,702	1,227	1,790	14,713	18,476	13,845	9,656	10,082	9,457	8,053	5,645
Kentish Plover	0	0	1	0	0	1	0	0	1	1	1	0
Dotterel	0	0	0	0	0	2	0	0	0	0	0	0
American Golden Plover	0	0	1	0	0	0	0	0	0	0	0	0
Pacific Golden Plover	0	0	0	0	1	0	0	0	0	0	0	0
Golden Plover	4,462	37	52	2,660	12,090	37,153	71,491	104,421	77,918	71,799	28,210	34,907
Grey Plover	15,598	9,741	1,405	2,386	30,788	40,036	39,175	39,689	32,148	45,823	43,896	40,181
Lapwing	3,723	2,638	5,349	20,632	22,984	71,433	110,035	249,804	197,504	161,392	93,400	63,674
Knot	34,482	13,161	8,893	9,260	100,730	78,650	122,064	163,852	167,662	205,118	231,775	157,319
Sanderling	5,961	15,145	468	963	8,719	5,845	7,626	4,846	6,583	4,708	4,598	5,365
Little Stint	8	12	3	4	18	382	51	44	6	4	0	1
Temminck's Stint	0	3	0	0	0	1	0	0	0	0	0	0
White-rumped Sandpiper	0	0	0	0	2	0	0	0	0	0	0	0
Pectoral Sandpiper	0	0	0	0	1	1	1	0	0	0	0	0
Curlew Sandpiper	0	11	1	19	39	202	29	7	1	0	0	0
Purple Sandpiper	626	87	0	6	27	107	175	977	1,050	1,149	999	519
Dunlin	94,770	105,152	2,313	32,441	96,981	101,083	163,971	367,875	353,238	475,680	425,393	303,302
Ruff	210	17	15	140	281	658	315	75	75	195	231	227
Jack Snipe	5	0	0	0	0	0	19	50	44	44	29	50
Snipe	301	35	15	94	737	1,021	2,014	2,633	2,506	3,140	1,479	1,287
Great Snipe	0	0	0	0	0	0	0	0	0	0	0	1
Long-billed Dowitcher	0	0	0	0	0	0	0	0	0	0	1	0
Woodcock	0	0	0	0	0	0	1	11	3	18	6	7
Black-tailed Godwit	4,693	913	427	3,158	11,219	12,557	11,878	10,350	5,404	11,384	10,514	6,640
Hudsonian Godwit	0	0	0	0	0	1	0	0	0	0	0	0
Bar-tailed Godwit	2,019	1,791	2,596	9,064	23,970	28,479	29,244	24,638	36,113	46,103	56,136	44,841
Whimbrel	188	1,052	189	1,110	2,005	634	65	11	12	3	4	15
Curlew	23,282	3,531	6,043	49,878	74,941	100,193	89,320	58,613	53,301	57,364	57,854	59,493
Spotted Redshank	50	4	5	104	192	302	872	90	53	74	87	54
Redshank	39,212	3,691	2,921	20,880	59,957	84,399	79,357	77,838	64,970	62,994	51,814	48,326
Greenshank	108	54	10	660	1,184	1,927	1,065	303	195	137	165	125
Green Sandpiper	24	0	14	88	219	128	56	41	23	30	20	18
Wood Sandpiper	0	4	2	5	15	14	0	0	0	0	0	0
Common Sandpiper	43	137	49	501	602	321	68	26	16	22	14	15
Spotted Sandpiper	0	0	0	0	0	0	0	1	1	0	1	1
Turnstone	9,751	2,707	500	1,594	11,036	11,844	11,730	13,613	12,075	13,555	11,752	11,449
Red-necked Phalarope	0	0	0	0	0	1	0	0	0	0	0	0
Grey Phalarope	0	0	0	0	0	0	0	0	0	0	1	0
TOTAL	301,896	202,237	63,709	221,111	622,173	808,406	980,332	1,321,945	1,219,201	1,387,724	1,226,971	919,126

Waders at inland sites	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites counted	*603*	*575*	*545*	*568*	*592*	*951*	*1129*	*1228*	*1095*	*1190*	*1161*	*1145*
Oystercatcher	1,618	755	669	1,015	235	614	627	244	614	1,339	3,665	9,099
Avocet	10	245	104	100	0	1	0	7	2	0	2	11
Little Ringed Plover	174	198	186	320	83	48	3	0	0	0	0	6
Ringed Plover	198	200	127	176	138	282	158	17	25	26	130	190
Dotterel	0	3	0	0	3	0	0	0	0	0	0	0
Golden Plover	1,950	82	4	31	851	2,554	10,354	43,487	18,327	20,021	10,511	12,133
Grey Plover	1	4	0	0	2	27	15	5	5	9	66	2
Lapwing	3,282	2,106	3,727	17,511	23,995	44,633	61,796	156,734	83,722	100,359	69,708	70,750
Knot	1	0	0	0	36	28	69	64	15	10	8	52
Sanderling	0	0	0	0	0	1	5	0	0	5	0	2
Little Stint	1	0	0	0	1	163	20	0	1	1	0	0
Pectoral Sandpiper	0	0	0	0	1	0	0	0	0	0	0	0
Curlew Sandpiper	1	0	0	0	4	15	11	0	0	1	0	0
Purple Sandpiper	0	0	0	1	0	1	0	2	0	0	53	0
Dunlin	426	219	8	91	123	469	205	529	862	1,644	1,122	1,980
Ruff	186	4	0	74	185	477	334	337	153	252	132	212
Jack Snipe	14	1	0	0	0	2	43	66	50	62	46	60

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Snipe	792	405	42	121	890	2,002	3,012	4,462	4,892	3,572	2,743	3,662
Long-billed Dowitcher	0	0	0	0	0	0	1	1	1	0	0	0
Woodcock	4	1	0	0	2	1	2	38	48	53	44	30
Black-tailed Godwit	1,062	78	6	27	196	309	556	739	234	35	232	919
Bar-tailed Godwit	0	5	0	1	0	4	19	2	0	3	0	0
Whimbrel	13	165	0	33	5	16	0	0	0	1	0	4
Curlew	701	224	140	910	997	2,428	5,349	3,486	4,641	3,198	6,668	4,745
Spotted Redshank	3	2	0	26	6	46	40	6	1	0	0	0
Redshank	1,151	865	485	166	69	256	362	764	1,043	858	800	805
Greenshank	11	11	2	55	102	223	84	8	4	1	3	3
Lesser Yellowlegs	0	0	0	0	0	0	0	0	1	0	0	0
Green Sandpiper	58	5	12	223	332	240	146	100	58	54	53	50
Wood Sandpiper	0	5	3	3	23	10	2	0	0	0	0	0
Common Sandpiper	89	333	222	497	504	299	37	7	12	9	5	32
Spotted Sandpiper	0	0	0	0	0	0	0	1	0	0	0	0
Turnstone	4	29	0	4	4	76	17	34	29	64	117	82
Red-necked Phalarope	0	0	0	0	0	1	0	0	0	0	0	0
Grey Phalarope	0	0	0	0	0	0	1	0	0	0	0	0
TOTAL	11,750	5,945	5,737	21,385	28,787	55,226	83,268	211,140	114,740	131,577	96,108	104,829

NORTHERN IRELAND

Waders at estuarine/ coastal sites	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites counted	*4*	*4*	*4*	*3*	*3*	*6*	*7*	*7*	*8*	*8*	*7*	*7*
Oystercatcher	859	632	622	1,153	3,433	15,660	18,079	16,118	16,218	12,077	14,554	8,438
Ringed Plover	82	114	5	11	95	314	708	704	615	590	205	245
Golden Plover	516	0	0	0	11	3,302	13,920	11,414	12,730	9,572	6,506	8,542
Grey Plover	1	0	0	1	1	13	291	183	250	174	147	204
Lapwing	150	69	104	227	296	1,408	3,348	24,944	24,254	13,679	9,157	1,655
Knot	0	0	0	0	12	193	1,375	5,730	5,123	7,177	15,322	3,549
Sanderling	0	7	0	0	14	1	0	0	0	27	0	12
Little Stint	0	0	0	0	0	5	0	0	0	0	0	0
Curlew Sandpiper	0	0	0	0	0	26	1	0	0	0	0	0
Purple Sandpiper	0	0	0	0	0	7	17	25	58	71	29	61
Dunlin	73	505	24	29	192	359	2,813	11,565	12,807	10,018	19,957	8,806
Ruff	1	0	0	0	0	3	2	1	0	0	0	0
Jack Snipe	0	0	0	0	0	0	0	1	0	1	0	2
Snipe	1	2	0	0	0	26	47	153	273	45	87	75
Black-tailed Godwit	7	1	0	1	11	661	301	109	100	236	208	202
Bar-tailed Godwit	0	1	1	2	1	222	1,364	1,493	1,759	2,211	2,712	906
Whimbrel	68	50	0	11	3	1	0	2	0	0	0	0
Curlew	199	58	517	1,755	2,444	4,693	5,309	4,699	4,556	5,257	4,469	4,123
Spotted Redshank	1	0	0	0	0	1	1	1	1	1	0	0
Redshank	852	45	30	484	1,074	7,630	7,179	7,980	7,349	4,838	4,751	5,507
Greenshank	0	1	0	15	6	73	131	74	95	64	78	46
Common Sandpiper	0	2	0	7	1	0	0	0	0	0	0	0
Turnstone	94	0	0	0	30	946	1,316	1,312	1,537	1,931	875	1,448
TOTAL	2,904	1,487	1,303	3,696	7,624	35,544	56,202	86,508	87,725	67,969	79,057	43,821

Waders at inland sites	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites counted	*1*	*1*	*1*	*1*	*1*	*2*	*17*	*19*	*23*	*16*	*25*	*23*
Oystercatcher	0	6	0	0	2	1	2	1	0	23	0	3
Golden Plover	0	0	0	0	0	14	1,187	4,945	5,615	3,538	3,325	2,720
Lapwing	0	104	0	0	705	1,106	1,533	8,088	9,522	5,354	4,702	849
Dunlin	0	57	0	0	1	33	28	51	116	193	304	155
Snipe	0	3	0	0	24	16	36	27	177	30	82	69
Black-tailed Godwit	0	0	0	0	0	0	0	0	0	51	126	0
Bar-tailed Godwit	0	0	0	0	0	0	0	8	0	0	0	0
Curlew	0	50	0	0	62	85	243	728	978	202	727	332
Redshank	0	35	0	0	17	19	2	4	10	11	15	22
TOTAL	0	255	0	0	811	1,274	3,031	13,852	16,418	9,402	9,281	4,150

Appendix 4. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN ENGLAND, 1995-96.

Wildfowl at all sites	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites visited	*590*	*563*	*538*	*541*	*569*	*769*	*915*	*945*	*928*	*979*	*932*	*892*
Number of count units visited	*925*	*848*	*778*	*800*	*919*	*1272*	*1466*	*1562*	*1430*	*1577*	*1530*	*1439*
Red-throated Diver	24	17	2	0	1	20	59	162	159	118	190	142
Black-throated Diver	1	0	0	0	0	1	0	5	8	4	3	1
Great Northern Diver	2	1	1	1	1	1	1	9	12	24	13	9
Unidentifed diver	1	0	0	0	0	0	0	0	0	1	0	0
Little Grebe	755	655	520	990	1,901	3,389	3,376	3,538	3,188	2,413	1,949	1,857
Great Crested Grebe	3,971	3,705	3,237	4,851	5,811	7,701	7,850	8,163	6,760	5,975	5,427	6,317
Red-necked Grebe	5	0	1	0	2	3	1	16	35	9	30	42
Slavonian Grebe	2	0	0	0	0	2	3	36	155	104	114	111
Black-necked Grebe	8	3	5	9	10	20	24	35	48	41	62	29
Cormorant	3,957	3,176	2,764	3,972	6,864	10,406	10,461	11,207	10,556	9,136	8,597	8,640
Mute Swan	5,924	5,011	5,108	6,223	7,354	10,794	11,712	12,234	11,289	11,692	9,609	9,093
Black Swan	7	5	5	5	10	4	11	14	12	15	12	12
Trumpeter Swan	0	0	0	0	0	0	0	0	0	0	2	0
Bewick's Swan	3	0	0	0	0	1	5	2,667	4,564	3,097	3,317	2,432
Whooper Swan	27	5	5	3	3	9	64	1,234	1,470	917	857	1,666
Magpie Goose	0	0	0	0	0	0	0	0	0	0	0	1
Swan Goose	0	11	12	0	13	19	13	22	10	26	18	23
Bean Goose	0	0	0	0	0	1	39	221	19	80	223	44
Pink-footed Goose	775	35	27	14	16	31	30,190	62,380	34,356	45,356	26,169	17,719
White-fronted Goose	0	0	0	0	0	0	0	0	2	0	9	0
European Whitefront[1]	1	1	1	3	2	14	16	286	1,090	5,563	6,808	3,952
Greenland Whitefront	0	0	0	0	0	0	1	1	35	13	0	58
Lesser White-fronted Goose	0	0	1	1	0	0	2	0	0	0	3	0
Greylag Goose[2]	3,906	2,684	4,046	5,217	8,358	13,516	13,863	15,467	13,017	13,743	12,597	10,969
Bar-headed Goose	10	5	8	2	2	9	12	10	8	16	11	11
Snow Goose	29	2	25	29	29	57	95	58	29	59	65	55
Ross's Goose	1	1	1	1	1	1	0	1	1	1	2	1
Emperor Goose	0	0	0	0	0	1	1	1	1	0	1	1
Canada Goose	9,719	9,450	16,416	18,759	25,232	32,748	36,197	35,021	32,575	32,939	26,558	19,462
Barnacle Goose	5,716	3,956	137	257	94	354	448	4,798	330	3,702	13,838	296
Brent Goose[1]	0	0	0	0	0	0	0	0	0	8	1	0
Dark-bellied Brent	2,800	587	25	60	67	145	20,582	80,059	77,307	86,879	87,063	100,578
Light-bellied Brent	23	6	0	1	0	560	50	2,475	2,376	1,259	164	345
Red-breasted Goose	0	0	0	0	0	1	0	0	0	0	0	0
Egyptian Goose	34	35	61	67	119	228	113	125	84	95	96	61
Feral/hybrid Goose	34	43	37	56	48	44	254	284	227	255	203	138
Ruddy Shelduck	5	2	2	10	6	2	9	11	2	4	4	4
Cape Shelduck	1	0	0	0	0	0	0	0	1	0	0	0
Paradise Shelduck	0	0	0	1	1	0	0	0	0	0	0	1
Shelduck	22,051	13,655	13,066	13,379	13,256	19,905	34,260	53,638	50,950	67,741	59,988	51,524
Muscovy Duck	7	6	8	6	5	69	79	100	64	95	81	17
Wood Duck	0	2	0	3	0	1	1	2	4	3	4	1
Mandarin	19	32	17	53	32	47	77	199	185	174	122	49
Wigeon	3,085	169	80	128	395	25,263	108,289	161,706	257,063	288,646	249,817	186,931
American Wigeon	0	0	1	0	0	0	0	0	1	1	0	0
Chiloe Wigeon	0	0	0	2	0	1	1	0	1	0	0	0
Gadwall	1,832	1,255	1,199	1,043	3,002	6,242	6,784	9,706	10,410	9,705	8,070	5,961
Teal	5,681	178	284	978	10,256	46,914	62,809	99,726	104,217	104,108	72,563	46,436
Speckled Teal	0	0	0	0	0	0	0	0	0	1	0	0
Mallard	20,010	20,470	25,909	34,623	63,726	94,986	99,805	111,807	110,790	98,622	67,112	44,132
Black Duck	0	0	0	0	0	0	1	0	0	0	0	0
Pintail	130	18	10	10	36	4,089	12,931	16,397	16,941	19,771	13,310	8,562
Bahama Pintail	2	0	0	0	0	0	1	1	0	1	0	0
Garganey	13	28	4	8	65	30	16	1	1	0	1	2
Shoveler	1,182	411	228	301	2,771	7,025	8,657	10,769	8,498	6,558	5,062	5,563
Ringed Teal	1	0	0	0	0	0	2	0	0	0	0	0
Maned Duck	0	0	0	0	0	0	0	4	0	0	0	0
Red-crested Pochard	3	8	8	7	14	11	47	109	43	56	63	63
Pochard	835	533	642	2,779	8,735	10,758	20,662	28,017	34,554	35,267	33,655	24,349
Ring-necked Duck	3	2	2	0	0	0	0	0	0	1	0	1
Ferruginous Duck	0	0	0	0	0	1	1	1	1	2	1	0
Tufted Duck	14,518	6,710	5,906	15,481	26,755	29,543	30,643	37,271	38,994	35,419	32,585	28,727
Scaup	50	56	9	5	6	10	66	60	247	1,339	2,090	1,270

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Eider	4,508	4,669	5,542	6,345	6,966	6,994	6,568	5,706	5,111	4,474	5,653	5,904
Long-tailed Duck	4	5	1	1	0	5	2	34	79	39	75	57
Common Scoter	353	41	32	20	12	1,187	1,127	2,117	3,185	413	4,981	5,737
Velvet Scoter	0	0	0	0	0	0	4	30	115	6	39	0
Goldeneye	1,524	19	12	11	26	27	205	4,063	4,587	6,305	6,922	6,983
Smew	2	0	2	0	0	0	2	10	121	198	290	99
Red-breasted Merganser	813	228	269	505	418	274	578	1,973	2,168	2,011	2,105	2,116
Goosander	319	86	66	156	179	207	279	858	1,969	2,841	3,394	2,122
Ruddy Duck	899	473	416	490	902	1,888	1,900	2,853	2,890	3,002	2,579	2,395
White-headed Duck	0	0	0	0	0	0	0	0	1	0	0	0
Feral/hybrid Mallard type	24	31	42	43	48	76	89	78	91	77	87	68
Hybrid Aythya	1	1	0	0	0	1	1	0	2	1	3	0
Water Rail	29	35	18	26	76	129	166	341	369	268	179	184
Spotted Crake	0	0	0	0	2	4	4	0	0	0	0	0
Moorhen	3,846	3,225	2,850	4,042	6,868	9,136	9,687	10,380	9,746	9,965	8,677	8,115
Coot	15,890	12,459	16,258	28,771	51,174	73,085	82,196	96,516	83,438	83,567	69,268	47,218
TOTAL WILDFOWL[3]	135,375	94,201	105,328	149,748	251,670	417,990	623,392	895,013	946,562	1,004,221	852,791	668,656

Waders at estuarine/ coastal sites	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites counted	*61*	*52*	*45*	*46*	*57*	*54*	*88*	*91*	*92*	*91*	*90*	*87*
Oystercatcher	33,791	20,784	18,214	43,406	105,476	138,329	137,899	110,288	113,203	126,106	123,265	98,414
Black-winged Stilt	0	0	0	0	0	1	1	1	1	0	1	1
Avocet	693	197	193	510	694	1,312	1,208	1,976	1,957	1,806	1,296	1,320
Stone Curlew	0	0	0	0	0	1	0	0	0	0	0	0
Little Ringed Plover	22	13	11	19	30	9	8	0	1	0	0	0
Ringed Plover	3,024	6,932	967	1,270	12,152	15,865	10,361	6,557	6,084	6,641	5,701	4,118
Kentish Plover	0	0	1	0	0	1	0	0	1	1	1	0
Dotterel	0	0	0	0	0	2	0	0	0	0	0	0
American Golden Plover	0	0	1	0	0	0	0	0	0	0	0	0
Pacific Golden Plover	0	0	0	0	1	0	0	0	0	0	0	0
Golden Plover	3,352	34	19	1,994	10,169	32,072	57,378	79,857	64,798	64,584	26,080	30,772
Grey Plover	14,679	9,202	1,325	2,148	30,089	38,711	36,929	38,004	29,785	41,753	41,306	38,092
Lapwing	3,067	2,082	4,285	15,743	17,415	53,166	87,125	211,700	169,691	140,675	82,005	60,211
Knot	33,282	12,921	8,842	9,067	99,376	76,724	114,767	149,860	145,582	170,170	195,528	49,809
Sanderling	5,222	14,948	458	866	8,449	5,284	6,751	3,901	5,711	3,601	3,824	4,196
Little Stint	7	12	3	4	18	339	47	44	6	4	0	1
Temminck's Stint	0	3	0	0	0	1	0	0	0	0	0	0
White-rumped Sandpiper	0	0	0	0	2	0	0	0	0	0	0	0
Pectoral Sandpiper	0	0	0	0	1	1	1	0	0	0	0	0
Curlew Sandpiper	0	10	1	19	36	170	19	1	0	0	0	0
Purple Sandpiper	354	82	0	0	24	38	62	668	337	297	431	334
Dunlin	91,180	101,046	1,948	30,912	93,035	91,178	148,246	337,088	294,674	397,256	350,733	281,144
Ruff	208	17	13	139	270	587	243	69	64	190	224	216
Jack Snipe	5	0	0	0	0	0	14	34	30	35	21	46
Snipe	257	13	8	93	698	822	1,457	1,807	1,871	2,588	1,163	1,088
Great Snipe	0	0	0	0	0	0	0	0	0	0	0	1
Long-billed Dowitcher	0	0	0	0	0	0	0	0	0	0	1	0
Woodcock	0	0	0	0	0	0	1	8	3	14	5	6
Black-tailed Godwit	4,401	889	418	3,092	11,045	12,278	10,447	10,090	5,170	11,138	9,787	6,508
Hudsonian Godwit	0	0	0	0	0	1	0	0	0	0	0	0
Bar-tailed Godwit	1,378	1,112	2,402	7,609	23,082	26,574	23,349	21,582	28,204	36,358	46,599	41,934
Whimbrel	144	734	28	1,021	1,765	589	17	9	4	3	4	15
Curlew	20,384	2,423	4,697	40,106	60,038	78,695	62,641	41,635	33,976	38,818	38,523	46,466
Spotted Redshank	43	4	5	93	169	280	854	58	47	66	39	45
Redshank	28,894	2,212	2,502	16,246	47,015	64,116	56,734	58,498	40,555	47,442	38,535	39,349
Greenshank	97	51	9	627	1,097	1,687	891	229	129	90	95	85
Green Sandpiper	23	0	11	86	215	125	53	36	20	27	20	16
Wood Sandpiper	0	4	1	5	13	14	0	0	0	0	0	0
Common Sandpiper	34	81	24	346	495	254	59	17	8	18	13	14
Spotted Sandpiper	0	0	0	0	0	0	0	1	1	0	1	1
Turnstone	7,493	1,991	374	1,356	8,644	9,046	7,920	9,565	7,439	8,817	7,350	8,954
Red-necked Phalarope	0	0	0	0	0	1	0	0	0	0	0	0
TOTAL	252,034	17,797	46,760	176,777	531,513	648,273	765,482	1,083,604	949,352	1,098,498	972,551	813,156

Waders at inland sites	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
Number of sites counted	*61*	*52*	*45*	*46*	*57*	*54*	*88*	*91*	*92*	*91*	*90*	*87*
Oystercatcher	1,014	454	456	373	54	524	558	25	494	705	1,371	1,737
Avocet	10	245	104	100	0	1	0	7	2	0	2	11
Little Ringed Plover	174	198	186	320	80	48	3	0	0	0	0	6
Ringed Plover	150	126	123	158	112	272	140	17	7	8	100	184
Dotterel	0	3	0	0	3	0	0	0	0	0	0	0
Golden Plover	1,945	78	4	24	766	2,138	7,183	42,495	13,399	19,557	9,865	11,960
Grey Plover	1	4	0	0	2	23	12	4	5	8	66	2
Lapwing	3,054	1,995	3,523	16,557	21,058	39,600	55,922	148,647	74,646	97,642	63,668	66,272
Knot	1	0	0	0	5	20	68	0	15	7	7	52
Sanderling	0	0	0	0	0	1	0	0	0	5	0	2
Little Stint	1	0	0	0	1	157	20	0	1	1	0	0
Pectoral Sandpiper	0	0	0	0	1	0	0	0	0	0	0	0
Curlew Sandpiper	1	0	0	0	4	15	11	0	0	0	0	0
Purple Sandpiper	0	0	0	0	0	1	0	2	0	0	0	0
Dunlin	426	181	7	81	96	393	140	479	812	1,510	945	1,945
Ruff	184	4	0	74	169	412	330	332	151	251	127	211
Jack Snipe	12	1	0	0	0	1	40	46	39	51	38	57
Snipe	723	397	32	82	648	1,405	2,386	3,337	4,181	2,993	2,305	3,205
Long-billed Dowitcher	0	0	0	0	0	0	1	1	1	0	0	0
Woodcock	4	1	0	0	2	1	2	17	17	12	14	16
Black-tailed Godwit	1,019	78	6	25	195	308	531	739	233	35	232	917
Bar-tailed Godwit	0	5	0	1	0	3	12	1	0	3	0	0
Whimbrel	13	129	0	31	5	16	0	0	0	1	0	4
Curlew	146	104	95	87	245	523	464	647	626	819	1,349	2,529
Spotted Redshank	3	2	0	26	6	41	39	6	1	0	0	0
Redshank	1,009	823	445	110	30	136	178	334	433	430	483	558
Greenshank	4	10	0	47	90	196	80	5	0	0	0	2
Lesser Yellowlegs	0	0	0	0	0	0	0	0	1	0	0	0
Green Sandpiper	58	5	12	223	325	227	142	98	55	53	51	48
Wood Sandpiper	0	4	3	1	22	10	2	0	0	0	0	0
Common Sandpiper	83	284	155	406	480	281	34	6	11	9	5	32
Spotted Sandpiper	0	0	0	0	0	0	0	1	0	0	0	0
Turnstone	4	29	0	4	4	76	15	10	18	22	11	30
Red-necked Phalarope	0	0	0	0	0	1	0	0	0	0	0	0
TOTAL	10,039	5,160	5,151	18,730	24,403	46,830	68,313	197,256	95,148	124,122	80,639	89,780

Counts include data from the following goose censuses: national census of Pink-footed and Greylag Geese in October and November; January and February census of Dark-bellied Brent Geese. See Surveys and Projects *for more details.*

1 *Indicates White-fronted or Brent Geese which were not identified to subspecies.*
2 *Comprises mainly feral birds, and small numbers of the Icelandic breeding population.*
3 *Total wildfowl represents numbers of all divers, grebes, Cormorant, swans, geese, ducks and rails.*

Footnote: Where a WeBS site crosses a country boundary (e.g. The Severn Estuary), only waterfowl within the English part of the site are included in the above table.

Appendix 5. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN SCOTLAND, 1995-96.

Wildfowl at all sites	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites visited	*146*	*139*	*117*	*131*	*146*	*367*	*466*	*549*	*440*	*480*	*480*	*475*
Number of count units visited	*191*	*176*	*159*	*166*	*188*	*424*	*561*	*618*	*524*	*575*	*570*	*533*
Red-throated Diver	45	20	2	9	11	28	88	209	296	154	125	284
Black-throated Diver	8	4	2	1	5	10	5	18	35	23	3	16
Great Northern Diver	4	23	1	0	2	1	10	31	34	14	21	35
Unidentifed diver	0	0	0	0	1	0	0	0	0	1	1	2
Little Grebe	80	73	79	98	201	468	493	295	259	170	141	180
Great Crested Grebe	156	117	121	255	400	786	727	598	582	242	341	428
Red-necked Grebe	18	8	2	4	9	29	18	9	19	20	7	34
Slavonian Grebe	24	17	2	2	1	40	47	50	100	31	42	147
Black-necked Grebe	4	4	4	5	2	4	1	3	0	1	0	3
Cormorant	618	468	555	635	938	1,952	2,997	3,796	3,011	1,987	1,946	1,574
Mute Swan	735	917	959	1,090	943	2,111	3,466	2,845	2,888	2,642	2,456	1,919
Black Swan	1	0	0	0	0	1	2	2	3	2	2	2
Bewick's Swan	0	2	0	0	0	0	6	8	36	10	7	0
Whooper Swan	155	22	10	6	9	11	353	1,608	1,595	1,173	1,152	790
Bean Goose	0	0	0	0	0	0	32	0	1	0	1	0
Pink-footed Goose	22,837	287	21	13	29	18,345	170,153	119,433	56,718	27,738	9,771	31,188
European Whitefront	0	0	0	0	0	0	0	0	42	41	90	2
Greenland Whitefront	30	2	0	0	0	0	163	21,311	323	220	95	19,719
Greylag Goose[1]	637	84	147	179	552	1,101	45,768	79,089	20,501	18,677	20,644	9,843
naturalised	-	-	-	-	2,587	-	-	1,879	-	-	2,580	-
Bar-headed Goose	0	0	0	1	0	0	0	0	0	0	0	0
Snow Goose	0	0	0	0	0	0	0	1	4	0	0	0
Emperor Goose	0	1	0	0	0	0	0	0	0	0	0	0
Canada Goose	15	29	57	59	134	1,123	351	557	276	267	241	254
Barnacle Goose	4,002	4	1	0	2	8	8,719	41,893	7,751	43,574	3,388	5,988
Dark-bellied Brent	0	1	0	0	1	0	7	0	6	13	14	2
Light-bellied Brent	5	0	0	0	0	28	20	35	21	104	54	53
Red-breasted Goose	0	0	0	0	0	1	0	0	0	0	0	0
Feral/hybrid Goose	1	1	1	1	9	0	0	0	0	0	0	1
Shelduck	2,027	1,901	2,928	1,429	3,911	6,080	5,774	5,562	5,108	5,061	4,292	2,965
Muscovy Duck	0	0	0	0	0	0	0	0	1	0	0	0
Mandarin	2	0	0	3	0	3	1	0	2	0	0	0
Wigeon	1,158	130	71	73	184	6,477	56,015	35,744	63,716	41,815	40,150	18,191
American Wigeon	0	0	0	0	0	0	1	3	1	2	2	1
Gadwall	25	17	15	10	48	274	313	194	58	54	83	127
Teal	543	55	30	89	988	6,333	16,240	14,670	16,091	9,608	10,557	4,024
Mallard	1,616	1,512	2,835	4,074	9,320	21,152	33,228	29,584	29,253	27,398	20,147	9,444
Pintail	6	13	2	0	4	1,809	4,917	1,820	2,020	2,171	1,530	219
Shoveler	33	27	5	17	76	657	961	755	385	145	133	111
Red-crested Pochard	0	0	0	0	0	2	0	0	0	0	0	0
Pochard	47	48	20	90	156	1,561	5,510	7,896	7,809	4,527	5,239	2,626
Ring-necked Duck	0	0	0	0	0	1	1	1	1	0	0	1
Tufted Duck	1,649	782	1,023	2,110	2,979	7,959	10,955	10,087	8,722	6,248	7,108	5,936
Scaup	1,447	17	0	0	13	51	1,002	1,646	2,161	3,035	2,237	1,610
Eider	8,554	8,025	15,348	18,415	16,655	16,055	16,749	15,124	13,722	13,839	10,813	12,624
King Eider	1	0	0	0	1	2	0	0	0	0	0	0
Long-tailed Duck	265	205	2	0	0	2	46	933	1,129	1,288	622	563
Common Scoter	1,750	521	435	125	151	784	1,760	3,114	2,584	2,083	954	2,079
Surf Scoter	3	0	0	0	0	0	0	7	2	8	4	5
Velvet Scoter	328	341	154	105	180	44	341	1,082	801	439	386	292
Goldeneye	1,454	68	22	38	121	168	779	5,777	6,938	6,549	7,623	5,444
Smew	0	0	0	0	0	0	0	2	5	4	14	11
Red-breasted Merganser	764	328	578	545	611	1,296	1,813	1,572	1,757	1,195	1,408	1,390
Goosander	53	109	223	452	631	518	601	803	1,473	721	787	585
Ruddy Duck	40	44	27	40	58	91	89	95	22	8	1	29
Feral/hybrid Mallard type	0	0	0	1	0	0	0	1	0	0	0	1
Hybrid Aythya	0	0	0	0	0	0	1	0	0	0	1	0
Water Rail	4	1	6	2	9	43	14	25	26	4	5	7
Moorhen	196	136	135	254	390	636	659	584	606	398	438	472
Coot	627	534	694	1,449	2,289	5,053	7,835	7,987	6,562	4,498	5,144	3,697
TOTAL WILDFOWL[2]	26,615	14,850	24,612	29,382	38,921	78,211	174,702	187,554	179,013	175,056	123,375	78,752

Waders at estuarine/ coastal sites	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites counted	*31*	*29*	*24*	*23*	*27*	*43*	*53*	*59*	*53*	*60*	*56*	*44*
Oystercatcher	13,801	7,308	7,875	13,873	18,131	37,572	54,150	51,401	50,223	55,761	46,722	22,701
Avocet	0	0	0	0	0	0	0	0	1	0	1	0
Ringed Plover	1,255	2,390	219	415	1,536	1,599	2,540	2,089	2,622	2,040	1,733	1,077
Golden Plover	1,023	3	29	666	1,908	5,035	13,823	21,022	11,409	5,629	1,784	1,608
Grey Plover	869	531	74	237	559	1,191	1,955	1,400	1,348	2,700	1,441	1,457
Lapwing	542	415	720	3,677	3,901	15,810	18,925	22,986	18,694	8,134	5,770	1,398
Knot	1,145	240	50	188	1,348	1,747	6,853	13,107	19,735	31,294	24,986	7,256
Sanderling	451	159	4	56	246	375	349	247	254	362	236	258
Little Stint	0	0	0	0	0	27	3	0	0	0	0	0
Curlew Sandpiper	0	0	0	0	1	28	10	0	0	0	0	0
Purple Sandpiper	264	3	0	6	3	69	112	301	701	845	562	172
Dunlin	2,850	3,215	342	1,272	2,945	6,985	13,483	19,089	34,095	44,772	36,482	9,348
Ruff	1	0	1	1	11	61	72	5	10	5	7	10
Jack Snipe	0	0	0	0	0	0	4	5	8	3	8	1
Snipe	28	22	7	1	33	168	516	361	381	203	122	29
Woodcock	0	0	0	0	0	0	0	3	0	0	1	1
Black-tailed Godwit	227	0	8	29	68	176	227	174	148	154	130	45
Bar-tailed Godwit	561	572	170	1,427	886	1,774	5,825	2,963	7,577	9,280	8,616	2,638
Whimbrel	11	27	2	24	46	9	28	1	8	0	0	0
Curlew	1,460	813	987	5,435	9,768	12,772	17,861	9,021	12,761	12,012	10,914	7,296
Spotted Redshank	0	0	0	0	0	8	1	0	0	0	0	0
Redshank	8,771	1,404	335	2,697	8,734	15,185	17,418	13,762	19,319	11,819	9,548	6,377
Greenshank	3	1	1	10	30	50	65	35	32	21	34	16
Green Sandpiper	0	0	0	0	0	2	1	0	0	0	0	0
Wood Sandpiper	0	0	0	0	1	0	0	0	0	0	0	0
Common Sandpiper	2	32	23	90	50	22	0	4	2	0	0	0
Turnstone	1,923	502	79	173	1,463	2,150	2,911	3,053	2,968	3,693	2,994	1,683
Grey Phalarope	0	0	0	0	0	0	0	0	0	0	1	0
TOTAL	35,187	17,637	10,926	30,277	51,668	102,815	157,132	161,029	182,296	188,764	152,092	63,371

Waders at inland sites	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites counted	*66*	*46*	*40*	*36*	*65*	*55*	*59*	*59*	*56*	*71*	*125*	*191*
Oystercatcher	535	278	196	629	181	84	66	208	104	499	2,015	7,310
Ringed Plover	48	74	4	18	26	9	18	0	18	18	30	6
Golden Plover	5	4	0	7	85	416	3,170	986	4,901	274	416	54
Grey Plover	0	0	0	0	0	4	3	1	0	1	0	0
Lapwing	213	80	123	809	2,895	4,797	5,529	6,417	6,209	948	3,222	4,048
Knot		0	0	0	0	31	0	1	11	0	3	10
Sanderling	0	0	0	0	0	0	5	0	0	0	0	0
Little Stint	0	0	0	0	0	3	0	0	0	0	0	0
Curlew Sandpiper	0	0	0	0	0	0	0	0	0	1	0	0
Purple Sandpiper	0	0	0	0	0	0	0	0	0	0	53	0
Dunlin	0	35	1	10	24	61	64	37	33	134	54	15
Ruff	2	0	0	0	16	65	3	4	2	0	0	0
Jack Snipe	2	0	0	0	0	1	2	3	1	4	2	2
Snipe	59	8	10	29	228	564	519	661	326	192	119	141
Woodcock	0	0	0	0	0	0	0	8	6	2	0	1
Black-tailed Godwit	43	0	0	2	1	0	25	0	1	0	0	0
Bar-tailed Godwit	0	0	0	0	0	1	6	1	0	0	0	0
Whimbrel	0	15	0	0	0	0	0	0	0	0	0	0
Curlew	529	103	38	822	720	1,681	4,643	2,100	3,368	1,686	4,351	2,076
Spotted Redshank	0	0	0	0	0	4	1	0	0	0	0	0
Redshank	140	42	40	53	39	111	181	394	394	234	174	158
Greenshank	7	1	2	8	12	16	2	3	4	1	0	1
Green Sandpiper	0	0	0	0	7	8	0	2	3	0	0	0
Wood Sandpiper	0	1	0	2	1	0	0	0	0	0	0	0
Common Sandpiper	2	39	50	58	12	9	1	0	0	0	0	0
Turnstone	0	0	0	0	0	0	2	24	11	42	106	52
TOTAL	1,585	680	464	2,447	4,278	7,834	14,241	10,860	15,381	4,039	10,543	13,864

Counts include data from the following goose censuses: national census of Pink-footed and Greylag Geese in October and November; international censuses of Greenland White-fronted Geese in November/December and March/April; and November and January censuses of Greelandic Barnacle Geese on Islay. See Surveys and Projects *for more details.*

1 *Comprises mainly birds from the Icelandic breeding population, with up to 2,340 feral birds (Delany 1992)*
2 *Total wildfowl represents numbers of all divers, grebes, Cormorant, swans, geese, ducks and rails*

Footnote: Where a WeBS site crosses a country boundary (e.g. The Solway Estuary), only waterfowl within the Scottish part of the site are included in the above table.

Appendix 6. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN WALES, 1995-96.

Wildfowl at all sites	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Number of sites visited	*56*	*50*	*47*	*50*	*48*	*102*	*94*	*102*	*111*	*99*	*95*	*91*
Number of count units visited	*92*	*77*	*77*	*80*	*79*	*163*	*166*	*182*	*194*	*172*	*168*	*160*
Red-throated Diver	2	1	0	0	0	5	11	15	906	6	30	8
Black-throated Diver	0	0	0	0	0	0	0	0	0	0	1	0
Great Northern Diver	0	0	0	0	0	0	0	0	1	3	0	1
Little Grebe	32	28	31	36	99	203	192	295	297	197	165	114
Great Crested Grebe	86	53	58	83	58	84	124	97	228	56	92	114
Red-necked Grebe	0	0	0	0	0	0	1	0	0	0	3	4
Slavonian Grebe	0	0	0	0	0	0	0	0	0	2	1	0
Black-necked Grebe	0	0	0	0	1	2	0	0	0	0	0	0
Cormorant	397	236	479	324	512	1,178	758	738	670	429	330	305
Mute Swan	89	170	236	221	164	445	468	404	421	269	353	241
Bewick's Swan	2	0	0	0	0	0	0	4	42	55	47	20
Whooper Swan	11	0	0	0	0	0	0	37	90	99	72	45
Swan Goose	0	0	0	0	0	0	1	0	1	1	0	0
Pink-footed Goose	2	0	0	0	0	0	0	0	0	52	122	29
European Whitefront	0	0	0	0	0	0	0	0	0	0	5	0
Greenland Whitefront	148	0	0	0	0	0	56	187	173	128	156	192
Greylag Goose	106	99	571	480	612	190	197	67	474	423	237	172
Bar-headed Goose	0	0	0	0	0	0	0	1	0	1	0	0
Canada Goose	212	176	717	720	320	1,249	1,087	2,230	1,801	1,989	1,630	628
Barnacle Goose	0	0	0	0	0	0	0	16	18	0	15	18
Brent Goose	0	0	0	0	0	0	0	0	40	40	60	0
Dark-bellied Brent	2	0	0	0	0	0	36	377	324	955	507	496
Light-bellied Brent	1	0	0	0	0	0	0	8	9	33	86	34
Egyptian Goose	0	0	0	0	0	0	0	0	0	0	4	0
Feral/hybrid Goose	5	4	5	6	0	2	0	2	2	1	0	0
Ruddy Shelduck	0	0	0	0	0	0	0	0	1	1	0	0
Shelduck	1,527	1,233	1,447	322	179	189	1,098	3,092	4,653	5,050	4,823	3,859
Mandarin	0	0	0	0	0	0	0	0	0	1	0	0
Wigeon	44	4	7	6	30	1,024	7,493	13,298	18,355	16,727	8,460	3,761
American Wigeon	0	0	0	0	0	0	0	1	0	0	1	1
Gadwall	13	4	6	2	4	35	7	38	58	99	62	54
Teal	71	6	13	22	146	1,659	3,550	5,040	8,092	6,534	4,486	2,407
Mallard	559	867	1,506	1,400	2,257	7,495	7,566	6,886	6,660	5,367	3,816	1,801
Pintail	6	0	0	0	0	56	326	1,248	1,735	4,786	2,086	503
Garganey	1	0	0	0	1	2	0	0	0	0	0	0
Shoveler	11	10	6	3	7	89	282	629	513	1,062	382	256
Pochard	25	12	19	40	60	138	362	1,212	1,363	1,753	1,319	725
Tufted Duck	311	207	235	554	963	830	721	944	1,075	1,129	1,125	542
Scaup	0	0	0	0	1	0	8	274	310	45	20	3
Eider	80	9	0	0	25	10	29	47	2	34	57	3
Long-tailed Duck	1	1	0	1	1	0	0	0	0	0	1	0
Common Scoter	10	16	0	0	0	9	766	6,143	12,854	8	322	630
Velvet Scoter	0	0	0	0	0	0	0	0	0	2	0	0
Goldeneye	51	2	0	0	0	1	15	325	425	451	516	444
Smew	0	0	0	0	0	0	0	0	5	6	9	6
Red-breasted Merganser	134	68	65	20	16	252	471	247	209	141	215	190
Goosander	1	4	2	14	13	29	18	45	53	61	79	55
Ruddy Duck	33	8	12	18	38	126	40	104	119	97	23	41
Feral/hybrid Mallard type	13	12	12	18	30	30	3	30	43	17	24	19
Water Rail	0	0	2	1	0	5	17	21	35	22	4	12
Moorhen	92	127	85	105	176	387	305	465	375	305	315	308
Coot	549	389	707	1,090	1,558	3,001	2,455	2,873	3,009	2,470	1,642	1,227
TOTAL WILDFOWL[1]	4,627	3,746	6,221	5,486	7,271	18,725	28,463	47,440	65,441	50,907	33,703	19,268

Waders at estuarine/ coastal sites	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
Number of sites counted	*24*	*22*	*21*	*17*	*18*	*30*	*30*	*28*	*34*	*25*	*25*	*25*
Oystercatcher	9,131	3,981	4,585	5,346	23,522	34,468	31,898	27,546	30,239	31,759	26,619	12,463
Little Ringed Plover	0	0	3	2	0	0	0	0	0	0	0	6
Ringed Plover	296	327	35	62	898	926	737	736	715	524	387	355
Golden Plover	1	0	2	0	13	25	178	2,949	1,463	1,220	346	2,510
Grey Plover	31	6	6	0	116	118	246	175	456	781	723	375
Lapwing	110	135	342	1,197	1,656	2,454	3,985	14,856	9,022	12,473	5,625	2,058
Knot	55	0	1	4	6	171	444	884	2,345	3,651	11,257	253
Sanderling	288	27	0	41	12	177	526	673	465	592	459	896
Little Stint	1	0	0	0	0	15	1	0	0	0	0	0
Curlew Sandpiper	0	1	0	0	2	4	0	6	1	0	0	0
Purple Sandpiper	3	0	0	0	0	0	1	3	6	0	2	5
Dunlin	717	852	23	242	969	2,889	2,239	11,551	22,257	31,481	35,550	12,299
Ruff	1	0	1	0	0	10	0	1	1	0	0	1
Jack Snipe	0	0	0	0	0	0	1	11	6	6	0	3
Snipe	16	0	0	0	5	29	41	452	248	348	191	170
Woodcock	0	0	0	0	0	0	0	0	0	4	0	0
Black-tailed Godwit	65	24	1	37	106	103	1,204	86	85	92	597	87
Bar-tailed Godwit	80	52	24	28	2	130	69	90	199	241	492	262
Whimbrel	33	284	144	62	194	36	20	1	0	0	0	0
Curlew	1,426	277	346	4,081	4,940	8,123	8,751	7,307	5,865	5,673	7,584	5,505
Spotted Redshank	7	0	0	11	23	14	17	32	6	8	48	9
Redshank	1,539	73	82	1,919	4,174	5,068	5,163	5,480	4,889	3,504	3,329	2,522
Greenshank	8	2	0	23	57	188	107	39	32	26	27	24
Green Sandpiper	1	0	0	2	4	1	2	5	3	3	0	2
Wood Sandpiper	0	0	1	0	1	0	0	0	0	0	0	0
Common Sandpiper	7	24	2	62	55	44	9	5	6	4	1	1
Turnstone	107	45	15	27	515	277	454	620	747	484	614	387
TOTAL	13,923	6,110	5,613	13,146	37,270	55,270	56,093	73,514	79,056	92,874	93,851	40,217

Waders at inland sites	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
Number of sites counted	*12*	*9*	*8*	*7*	*9*	*11*	*10*	*14*	*17*	*21*	*20*	*15*
Oystercatcher	69	23	17	13	0	6	3	11	16	135	279	52
Little Ringed Plover	0	0	0	0	3	0	0	0	0	0	0	0
Ringed Plover	0	0	0	0	0	1	0	0	0	0	0	0
Golden Plover	0	0	0	0	0	0	1	6	27	61	70	9
Lapwing	15	31	81	145	42	236	345	1,670	2,817	1,563	2,563	333
Knot	0	0	0	0	0	8	0	53	0	0	0	0
Little Stint	0	0	0	0	0	3	0	0	0	0	0	0
Purple Sandpiper	0	0	0	1	0	0	0	0	0	0	0	0
Dunlin	0	3	0	0	3	15	1	13	17	0	123	20
Ruff	0	0	0	0	0	0	1	1	0	1	5	0
Jack Snipe	0	0	0	0	0	0	0	15	10	5	4	0
Snipe	10	0	0	10	14	33	57	404	300	202	158	170
Woodcock	0	0	0	0	0	0	0	6	0	2	0	0
Black-tailed Godwit	0	0	0	0	0	1	0	0	0	0	0	2
Bar-tailed Godwit	0	0	0	0	0	0	1	0	0	0	0	0
Whimbrel	0	21	0	2	0	0	0	0	0	0	0	0
Curlew	26	17	7	1	32	224	242	739	647	691	968	140
Spotted Redshank	0	0	0	0	0	1	0	0	0	0	0	0
Redshank	2	0	0	3	0	9	3	36	216	192	143	87
Greenshank	0	0	0	0	0	11	2	0	0	0	1	0
Green Sandpiper	0	0	0	0	0	5	4	0	0	1	2	2
Common Sandpiper	4	10	17	33	12	9	2	1	1	0	0	0
Grey Phalarope	0	0	0	0	0	0	1	0	0	0	0	0
TOTAL	126	105	122	208	106	562	663	2,955	4,051	2,853	4,316	815

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

Footnote: Where a WeBS site crosses a country boundary (e.g. The Severn Estuary), only waterfowl within the Welsh part of the site are included in the above table.

Appendix 7. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN THE ISLE OF MAN DURING 1995-96.

Wildfowl at all sites	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
Number of sites visited	*1*	*1*	*1*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*
Number of count units visited	*1*	*1*	*1*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*
Cormorant	2	1	5	5	10	4	5	11	6	9	1	0
Mute Swan	5	6	2	0	0	0	0	0	0	5	0	6
Shelduck	31	16	14	26	4	2	0	2	12	38	47	63
Wigeon	0	0	0	0	0	0	35	89	185	364	203	288
Teal	20	0	0	0	1	0	25	145	169	244	97	92
Mallard	33	25	41	25	63	73	94	182	101	244	74	58
Eider	0	0	0	0	0	0	0	0	2	0	0	0
Goldeneye	0	0	0	0	0	0	0	0	3	2	2	2
Red-breasted Merganser	0	0	0	0	0	0	0	6	1	0	0	0
Coot	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL WILDFOWL[1]	91	48	62	56	78	79	159	435	479	906	424	510

Waders at estuarine/ coastal sites	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
Number of sites counted	*1*	*1*	*1*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*
Oystercatcher	52	26	43	141	193	215	44	60	271	330	138	194
Ringed Plover	2	42	2	5	10	17	18	60	89	49	31	7
Golden Plover	85	0	0	0	0	20	110	565	200	270	0	0
Grey Plover	0	0	0	0	0	0	1	0	1	4	4	0
Lapwing	4	6	2	15	12	3	0	180	37	50	0	7
Knot	0	0	0	1	0	8	0	1	0	3	4	1
Sanderling	0	9	0	0	0	0	0	0	0	0	0	0
Dunlin	0	31	0	9	12	13	1	28	40	44	30	30
Snipe	0	0	0	0	0	0	0	1	0	0	0	0
Bar-tailed Godwit	0	0	0	0	0	1	1	2	1	0	6	7
Whimbrel	0	2	0	3	0	0	0	0	0	0	0	0
Curlew	4	8	8	196	189	520	5	511	622	671	342	67
Redshank	2	2	2	2	9	3	4	39	32	24	11	26
Common Sandpiper	0	0	0	3	1	1	0	0	0	0	0	0
Turnstone	16	1	0	0	4	0	0	5	48	25	15	52
TOTAL	165	127	57	375	430	801	184	1,452	1,341	1,470	581	391

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

Footnote: No counts of waders at estuarine/coastal sites were made on the Isle of Man in 1995-96.

Appendix 8. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN THE CHANNEL ISLANDS, 1995-96.

Wildfowl at all sites	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
Number of sites visited	*1*	*1*	*1*	*1*	*1*	*1*	*5*	*5*	*6*	*11*	*9*	*9*
Number of count units visited	*5*	*6*	*6*	*6*	*5*	*6*	*9*	*10*	*23*	*28*	*27*	*14*
Black-throated Diver	1	0	0	0	0	0	0	0	0	0	0	0
Great Northern Diver	0	0	0	0	0	0	0	0	3	0	0	1
Little Grebe	0	0	0	0	0	0	0	0	0	3	5	1
Great Crested Grebe	0	0	0	0	0	0	0	0	2	7	13	25
Slavonian Grebe	2	0	0	0	0	0	0	0	1	0	2	1
Cormorant	5	12	3	13	15	11	9	11	17	18	17	11
Mute Swan	0	0	0	0	0	0	2	0	0	7	7	8
European Whitefront	0	0	0	0	0	0	0	0	0	0	0	4
Dark-bellied Brent	14	30	1	0	0	0	0	44	43	125	330	77
Shelduck	0	0	0	0	0	0	0	0	0	2	0	0
Wigeon	0	0	0	0	0	0	7	0	0	0	18	3
Gadwall	0	0	0	0	0	0	0	0	0	0	4	0
Teal	0	0	0	0	0	1	13	70	99	126	47	54
Mallard	8	4	0	0	0	90	63	75	65	350	398	299
Pintail	0	0	0	0	0	0	1	0	0	0	0	0
Garganey	0	0	0	0	0	0	0	0	0	0	0	1
Shoveler	0	0	0	0	0	0	0	0	5	57	50	45
Pochard	0	0	0	0	0	0	0	0	0	2	7	0
Tufted Duck	0	0	0	0	0	0	4	6	4	71	62	66
Red-breasted Merganser	0	0	0	0	0	0	0	0	3	0	68	0
Feral/hybrid Mallard type	0	0	0	0	0	0	8	7	0	10	0	0
Water Rail	0	0	0	1	0	3	40	40	45	51	50	32
Moorhen	0	4	1	6	4	14	130	149	158	207	221	101
Coot	0	0	1	0	4	3	8	3	2	54	53	34
TOTAL WILDFOWL	30	50	6	20	23	122	285	405	447	1,090	1,352	763

Waders at estuarine/ coastal sites	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
Number of sites counted	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*2*	*2*	*2*	*1*
Oystercatcher	313	303	286	377	671	648	657	1,182	2,321	1,731	2,496	541
Little Ringed Plover	0	0	0	0	5	0	0	0	0	0	0	0
Ringed Plover	0	11	4	38	117	69	189	214	572	203	201	88
Golden Plover	1	0	2	0	0	1	2	28	48	96	0	17
Grey Plover	19	2	0	1	24	16	44	110	558	585	422	257
Lapwing	0	0	0	0	0	0	0	82	60	60	0	0
Sanderling	0	2	6	0	12	9	0	25	153	153	79	15
Little Stint	0	0	0	0	0	1	0	0	0	0	0	0
Purple Sandpiper	5	2	0	0	0	0	0	5	6	7	4	8
Dunlin	23	8	0	6	20	18	2	119	2,172	2,127	2,598	481
Snipe	0	0	0	0	1	2	0	12	6	1	3	0
Black-tailed Godwit	0	0	0	0	0	0	0	0	1	0	0	0
Bar-tailed Godwit	0	55	0	0	0	0	0	1	132	224	423	0
Whimbrel	0	5	15	0	0	0	0	0	0	0	0	0
Curlew	8	10	5	60	6	83	62	139	77	190	491	159
Redshank	6	0	0	16	25	27	38	59	175	205	391	52
Greenshank	0	0	0	0	0	2	2	0	2	0	9	0
Green Sandpiper	0	0	3	0	0	0	0	0	0	0	0	0
Common Sandpiper	0	0	0	0	1	0	0	0	0	0	0	0
Turnstone	212	168	32	38	410	371	445	370	873	536	779	373
TOTAL	587	566	353	536	1,292	1,247	1,441	2,346	7,156	6,118	7,896	1,991

Waders at inland sites	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
Number of sites counted	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*2*	*2*	*2*	*1*
Golden Plover	0	0	0	0	0	0	0	0	0	129	160	110
Lapwing	0	0	0	0	0	0	0	0	50	206	255	97
Ruff	0	0	0	0	0	0	0	0	0	0	0	1
Jack Snipe	0	0	0	0	0	0	1	2	0	2	2	1
Snipe	0	0	0	0	0	0	50	60	85	185	161	146
Woodcock	0	0	0	0	0	0	0	7	25	37	30	13
Curlew	0	0	0	0	0	0	0	0	0	2	0	0
Redshank	0	0	0	0	0	0	0	0	0	2	0	2
Greenshank	0	0	0	0	0	0	0	0	0	0	2	0
TOTAL	0	0	0	0	0	0	51	69	160	563	610	370