WeBS Low Tide Counts

AIMS

Despite involving only a relatively small number of sites, estuaries collectively represent the most important habitat for wintering waterfowl in the UK. They are also inherently different from the thousands of inland sites counted for WeBS. The influence of the tide means that the birds have to be much more mobile, both within and between sites. WeBS Core Counts on estuaries have, in general, been based around high tide roosts. Although important in themselves, roost sites are usually secondary in importance to the manner in which waterfowl make use of a site for feeding. Therefore, information gathered about these sites at high tide will only provide part of the picture. The WeBS Low Tide Counts scheme, which was initiated in the winter of 1992-93, aims to monitor, assess and regularly update information on the relative importance of intertidal feeding areas of UK estuaries for wintering waterfowl and thus to complement the information gathered by WeBS Core Counts on estuaries.

WeBS 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, such as dock developments, proposals for recreational activities, tidal power barrages, marinas and housing schemes. The data gathered contribute greatly to the conservation of waterfowl by providing supporting information for the establishment and management of the UK network of Ramsar sites and Special Protection Areas (SPAs), other site designations and estuary conservation plans. In addition, WeBS Low Tide Counts enhance our knowledge of the low water distribution of waterfowl and provide the data that highlight regional variations in habitat use. In particular, low tide counts should help us to understand, predict and possibly plan for compensation for the effects of sea-level rise on the UK's internationally important waterfowl populations.

METHODS

The scheme provides information on the numbers of waterfowl feeding on subdivisions of the intertidal habitat within estuaries. Given the extra work that Low Tide Counts entail, often to the same counters that carry out the Core Counts, WeBS aims to cover most individual estuaries about once every six years, although on some sites more frequent counts are made. 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.

DATA PRESENTATION

Tabulated statistics

Table 5 presents three statistics for 18 of the more numerous waterfowl species present on the estuaries covered during the 1997-98 winter: the peak number of a species over the whole site counted in any one month; an estimate of the mean number present over the winter for the whole site (obtained by summing the mean counts of each species for each count section) and the mean density over the site (in birds per hectare), which is the mean number divided by the total area surveyed (in hectares). The statistics differ from those presented in previous years' reports, with the aim of making them more useful and more comparable with the WeBS Core Counts.

Dot density maps

In a change to previous years' reports, WeBS Low Tide Count data are now presented as dot density maps. The maps display the mean number of birds in each count section as dots spread randomly across that count section, thus providing an indication of both numbers and density. It is important to note that individual dots do not represent the precise position of individual birds; dots are randomly placed within the count section. No information about the

distribution of birds at a finer scale than the count sector level should be inferred from the dot density maps. In most cases, one dot is equivalent to one bird but for some very dense populations, a scale of one dot per ten birds has been employed. The size of individual dots has no relevance other than for clarity. Additionally, any count sections which were not counted during the 1997-98 winter are marked with an asterisk. The dot density maps enable us to depict a clearer picture of actual bird density, instead of the arbitrary grouping into bands of densities that was presented in previous years. It is hoped that this style of map presentation will lead to an easier and fuller appreciation of low tide estuarine waterfowl distribution. More detailed information concerning WeBS Low Tide Counts can be obtained from the National Organiser (WeBS Low Tide Counts) at the BTO.

ACKNOWLEDGEMENTS

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ESTUARY ACCOUNTS

The following accounts describe the results of the WeBS Low Tide Counts carried out on 20 estuaries during the 1997-98 winter, namely the Alde Complex, the Alt Estuary, Belfast Lough, the Blyth Estuary, the Cleddau Estuary, Chichester Harbour, the Dee Estuary (North Wirral shore only), Hamford Water, the Mersey Estuary, Montrose Basin, the North Norfolk Coast, the North-west Solent, the Orwell Estuary, Pagham Harbour, Portsmouth Harbour, the Ribble Estuary, Southampton Water, Strangford Lough, the Tamar Complex and the Ythan Estuary were covered. Unfortunately, data from the Alde Estuary and the Orwell Estuary were not received in time for incorporation into this report. Data for each of the estuaries covers the period November to February inclusive. In each case, a list of species present in nationally and internationally important numbers, based on Core Counts, and a description of the estuary are given. This is followed by an outline of the key results. For most of the estuaries, distribution maps are presented for two species for which that site is of particular importance or interest. In the case of Strangford Lough, which is a particularly large and complex site, only one map is presented for clarity.

Species	Alt Estuary			Belfast Lough			Blyth Estuary		
	Peak No.	Mean No.	Mean Dns.	Peak No.	Mean No.	Mean Dns.	Peak No.	Mean No.	Mean Dns.
Brent Goose	0	0	0	1	1	+	1	0	+
Shelduck	322	175	0.11	232	163	0.28	757	605	2.08
Wigeon	0	0	0	133	107	0.19	2,034	1,201	4.13
Teal	0	0	0	414	285	0.49	1,159	490	1.68
Mallard	97	54	0.03	314	272	0.47	113	80	0.27
Pintail	0	0	0	0	0	0	177	111	0.38
Oystercatcher	478	419	0.25	6,974	6,014	10.4	53	34	0.12
Ringed Plover	3	2	+	48	46	0.08	13	6	0.02
Golden Plover	700	454	0.28	450	294	0.51	2,760	1,213	4.17
Grey Plover	1,130	588	0.36	0	0	0	30	21	0.07
Lapwing	729	411	0.25	1,224	1,167	2.02	2,270	958	3.29
Knot	713	298	0.18	300	216	0.37	38	17	0.06
Dunlin	2,650	2,344	1.42	1,906	1,469	2.54	2,893	1,738	5.97
Black-tailed Godwit	0	0	0	163	162	0.28	215	175	0.6
Bar-tailed Godwit	1,800	1,157	0.7	101	56	0.1	22	10	0.03
Curlew	1,202	772	0.47	950	861	1.44	126	76	0.26
Redshank	379	231	0.14	2,148	2,083	3.6	775	665	2.29
Turnstone	13	5	+	250	235	0.41	1	0	+

Species	Chichester Harbour			Cleddau Estuary			Dee Estuary (N. Wirral)		
	Peak No.	Mean No.	Mean Dns.	Peak No.	Mean No.	Mean Dns.	Peak No.	Mean No.	Mean Dns.
Brent Goose	6,530	4,192	1.66	1	1	+	0	0	0
Shelduck	1,063	678	0.27	732	543	0.4	20	18	0.01
Wigeon	896	546	0.22	2,993	1,933	1.43	0	0	0
Teal	763	505	0.2	1,355	1,130	0.84	0	0	0
Mallard	261	225	0.09	295	178	0.13	2	1	+
Pintail	136	53	0.02	0	0	0	0	0	0
Oystercatcher	831	682	0.27	346	328	0.24	3,098	2,354	1.01
Ringed Plover	138	63	0.02	53	29	0.02	98	52	0.02
Golden Plover	1,931	991	0.39	1,272	359	0.27	39	10	+
Grey Plover	720	490	0.19	47	46	0.03	3,143	965	0.41
Lapwing	3,268	1,651	0.65	2,204	1,348	1	800	299	0.13
Knot	1,040	458	0.18	12	5	+	12,132	5,075	2.18
Dunlin	12,555	9,655	3.81	2,516	2,057	1.52	17,738	8,702	3.73
Black-tailed Godwit	413	351	0.14	0	0	0	8	2	+
Bar-tailed Godwit	693	367	0.15	21	14	0.01	5,464	2,643	1.13
Curlew	590	566	0.22	1,071	867	0.64	231	181	0.08
Redshank	726	577	0.23	413	388	0.29	1,848	1,079	0.46
Turnstone	41	27	0.01	52	34	0.03	223	135	0.06

Table 5i. Peak and mean counts, and mean density (birds per hectare), of 18 waterfowl species present on estuaries covered by the 1997/98 WeBS Low Tide Counts. "+" indicates densities of less than 0.01 birds per hectare.

Species	Hamford Water			Mersey Estuary			Montrose Basin		
	Peak No.	Mean No.	Mean Dns.	Peak No.	Mean No.	Mean Dns.	Peak No.	Mean No.	Mean Dns.
Brent Goose	1,831	937	3.75	0	0	0	0	0	0
Shelduck	1,862	822	3.29	4,346	3,235	0.96	1,174	1,287	1.73
Wigeon	1,424	524	2.1	3,428	2,169	0.65	1,797	1,984	2.67
Teal	1,842	552	2.21	8,060	5,534	1.65	95	65	0.09
Mallard	71	26	0.1	1,288	855	0.25	272	222	0.3
Pintail	37	16	0.06	537	375	0.11	161	121	0.16
Oystercatcher	948	399	1.6	2,096	1,700	0.51	1,225	1,132	1.52
Ringed Plover	58	18	0.07	110	80	0.02	0	0	0
Golden Plover	936	172	0.69	1,145	965	0.29	2,306	1,499	2.02
Grey Plover	1,965	477	1.91	4,330	3,058	0.91	0	0	0
Lapwing	5,777	1,924	7.7	10,599	8,834	2.63	688	881	1.19
Knot	957	252	1.01	1,500	571	0.17	2,200	1,550	2.09
Dunlin	5,850	2,141	8.56	48,476	41,218	12.26	1,530	1,463	1.97
Black-tailed Godwit	206	63	0.25	2,655	2,128	0.63	83	34	0.05
Bar-tailed Godwit	424	110	0.44	6	4	+	75	72	0.1
Curlew	222	96	0.38	2,117	1,599	0.48	176	179	0.24
Redshank	769	446	1.78	6,973	4,116	1.22	1,166	1,067	1.44
Turnstone	49	21	0.08	1,188	883	0.26	11	8	0.01

Species	North Norfolk Coast			North-west Solent			Pagham Harbour		
	Peak No.	Mean No.	Mean Dns.	Peak No.	Mean No.	Mean Dns.	Peak No.	Mean No.	Mean Dns.
Brent Goose	8,939	7,036	1.15	1,852	1,325	1.8	538	177	0.46
Shelduck	1,876	1,327	0.22	243	188	0.26	177	131	0.34
Wigeon	6,785	2,337	0.38	511	399	0.54	450	348	0.89
Teal	1,988	1,248	0.2	284	208	0.28	525	273	0.7
Mallard	1,098	888	0.15	81	40	0.05	172	144	0.37
Pintail	142	95	0.02	33	20	0.03	391	292	0.75
Oystercatcher	2,972	2,341	0.38	233	163	0.22	141	78	0.2
Ringed Plover	503	347	0.06	46	21	0.03	46	23	0.06
Golden Plover	2,810	1,992	0.33	148	63	0.09	171	91	0.23
Grey Plover	1,620	1,398	0.23	226	206	0.28	381	248	0.64
Lapwing	9,400	5,401	0.88	895	354	0.48	527	267	0.69
Knot	3,949	1,729	0.28	24	8	0.01	147	52	0.13
Dunlin	6,074	4,458	0.73	5,645	4,024	5.46	2,383	1,658	4.26
Black-tailed Godwit	60	38	0.01	378	193	0.26	124	42	0.11
Bar-tailed Godwit	1,858	1,373	0.22	38	23	0.03	6	3	0.01
Curlew	1,467	1,307	0.21	204	179	0.24	465	295	0.76
Redshank	3,542	3,048	0.5	94	90	0.12	150	123	0.32
Turnstone	587	512	0.08	51	33	0.04	91	62	0.16

Table 5ii. Peak and mean counts, and mean density (birds per hectare), of 18 waterfowl species present on estuaries covered by the 1997/98 WeBS Low Tide Counts. "+" indicates densities of less than 0.01 birds per hectare.

Species	Portsmouth Harbour			Ribble Estuary			Southampton Water		
	Peak No.	Mean No.	Mean Dns.	Peak No.	Mean No.	Mean Dns.	Peak No.	Mean No.	Mean Dns.
Brent Goose	2,505	2,126	2	0	0	0	1,165	1,080	1
Shelduck	120	76	0	2,861	1,822	0	252	151	0
Wigeon	131	100	0	46,465	20,278	3	1,696	1,359	1
Teal	62	29	0	1,375	642	0	1,645	1,145	1
Mallard	96	50	0	219	118	0	209	155	0
Pintail	0	0	0	955	843	0	67	31	0
Oystercatcher	551	519	1	22,860	13,625	2	1,212	1,138	1
Ringed Plover	47	28	0	60	18	+	159	130	0
Golden Plover	44	13	0	2,902	1,051	0	791	386	0
Grey Plover	173	166	0	5,408	2,891	0	408	228	0
Lapwing	465	369	0	8,110	6,162	1	1,227	980	1
Knot	11	3	+	8,905	5,958	1	1	0	+
Dunlin	8,889	7,707	8	45,039	34,863	5	7,088	5,283	3
Black-tailed Godwit	358	217	0	154	45	0	132	69	0
Bar-tailed Godwit	1	0	+	10,431	5,161	1	3	2	+
Curlew	410	390	0	905	754	0	639	519	0
Redshank	372	344	0	1,651	956	0	519	418	0
Turnstone	70	58	0	7	3	+	237	207	0

Species	Strangford Lough			Tamar Complex			Ythan Estuary		
	Peak No.	Mean No.	Mean Dns.	Peak No.	Mean No.	Mean Dns.	Peak No.	Mean No.	Mean Dns.
Brent Goose	7,813	4,438	2	0	0	0	0	0	0
Shelduck	4,111	3,025	1	72	79	0	74	45	0
Wigeon	1,122	727	0	91	64	0	284	222	1
Teal	624	463	0	2	1	+	0	0	0
Mallard	209	167	0	99	73	0	4	3	0
Pintail	242	182	0	0	0	0	0	0	0
Oystercatcher	6,560	5,893	2	97	96	0	305	244	1
Ringed Plover	171	121	0	0	0	0	13	8	0
Golden Plover	12,000	8,945	4	500	294	0	600	201	1
Grey Plover	185	145	0	1	1	+	3	1	0
Lapwing	11,951	6,121	2	221	145	0	4,099	1,837	9
Knot	7,997	4,630	2	1	1	+	190	141	1
Dunlin	8,025	6,434	3	92	92	0	255	191	1
Black-tailed Godwit	436	222	0	80	32	0	0	0	0
Bar-tailed Godwit	1,632	1,203	0	0	0	0	45	26	0
Curlew	1,560	1,237	0	182	199	0	1,571	703	4
Redshank	2,191	2,008	1	180	196	0	475	366	2
Turnstone	152	89	0	11	8	0	44	19	0

Table 5iii. Peak and mean counts, and mean density (birds per hectare), of 18 waterfowl species present on estuaries covered by the 1997/98 WeBS Low Tide Counts. "+" indicates densities of less than 0.01 birds per hectare.

ALT ESTUARY

Merseyside

Internationally important: Knot, Bar-tailed Godwit, Redshank, Turnstone
Nationally important: Cormorant, Common Scoter, Grey Plover, Sanderling

Site description

The River Alt emerges as a creek on the shoreline of Liverpool Bay, between the Ribble and the Mersey Estuaries. The majority of the site is sandy in character, although somewhat muddier around the river mouth where there are also some rocky areas. A large area of saltmarsh used to be present at the mouth of the Alt but has mostly been lost to land claim, principally in the early 19th century. The whole site is backed by one of the most important dune systems in the country, although much of the southern part of this has been lost to housing and dock development at Crosby (Pritchard *et al.* 1992, Davidson 1996a).

Bird distribution

The distributions of Knot and Bar-tailed Godwit were depicted in *Wildfowl and Wader Counts 1996-97* and were essentially the same during the 1997-98 winter, with both species widespread but Knot favouring the Formby Channel (FC) area and Bar-tailed Godwits preferring the flats to the north of here, west of Formby, as well as immediately south of the Alt mouth. Numbers of both of these species were much lower at low tide than high tide, as was noted last winter, and birds presumably continue to roost at the Alt but cross over to feed on the North Wirral shore. Most Redshank were concentrated along the line of the River Alt at low tide, as well as along the shore immediately north and south of the river mouth, with fewer birds elsewhere (Figure 69). Numbers noted at low tide were considerably fewer than those roosting here. Unlike the previous two species, a comparison of Low Tide Count data from adjoining sites suggests that many Redshank may have been moving to Egremont on the western shore of the mouth of the Mersey to feed. The same movement of birds is even more pronounced for Turnstone; despite a peak of over 450 birds roosting at the Alt Estuary during the winter of 1997-98, the maximum number noted at low tide was only 13 with the shortfall apparently made up by the large numbers of Turnstones found feeding at Egremont at low tide.

Figure 69 depicts the distribution of Sanderling along the Alt shoreline and shows how the birds are present along all of the outer parts if the site, with the notable exception of Taylor's Bank (TB) (perhaps due to the distance creating difficulties for shore-base observation?) The distribution on the northern sand flats continues onto the southern parts of the adjoining Ribble Estuary site, although the highest densities on either of these two sites do appear to be just south of the mouth of the River Alt. Unlike many other species, Sanderling do not occur in any great numbers on the adjoining North Wirral or Egremont shores. Both Dunlin and Oystercatcher were widespread although both showed a preference for the outer parts of the site. Curlew were also widespread but had their main concentrations immediately north and south of the Alt mouth. The low tide distribution of Grey Plover was similar to that for Bar-tailed Godwit. Both Lapwings and Golden Plovers favoured the Formby Bank (FB) area, with the latter species also occurring along the inner parts of the Alt. Only a few Ringed Plovers were noted.

The Alt is not particularly important for estuarine wildfowl. The nationally important numbers of Common Scoters frequenting the area were incompletely covered by the WeBS Low Tide Counts, although 182 were noted during the January count (compared with 811 on the January Core Count). As was noted during the previous winter, Cormorants favoured the long spit of Taylor's Bank. Both Mallard and Shelduck occurred along the channel of the River Alt, with the latter species also to be found on Formby Bank. A small number of Great Crested Grebes and Pink-footed Geese were also noted.

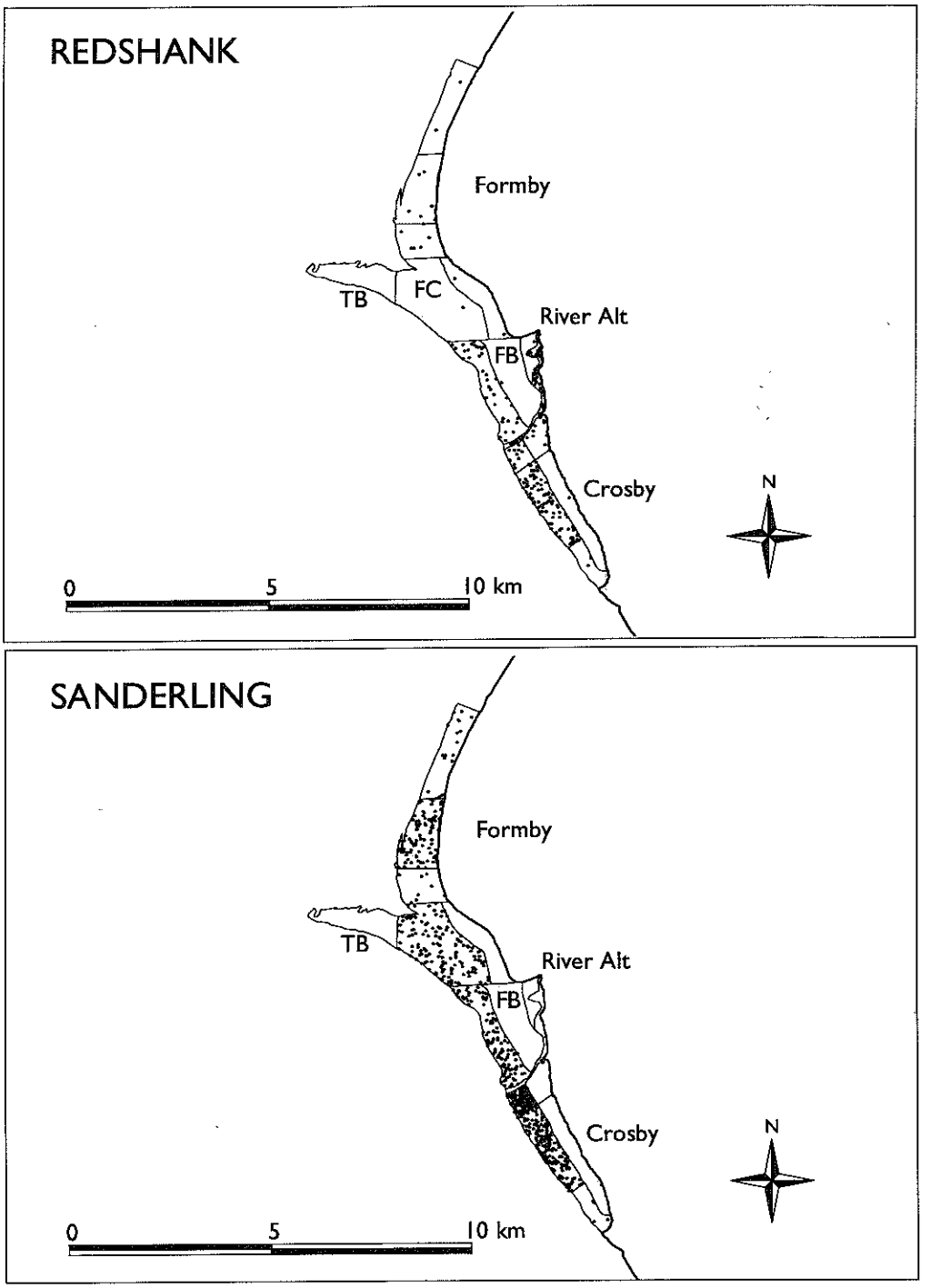


Figure 69. WeBS Low Tide Counts of Redshank and Sanderling on the Alt Estuary, winter 1997-98. (TB=Taylor's Bank, FC=Formby Channel, FB=Formby Bank)

BELFAST LOUGH

Co. Antrim / Co. Down

Internationally important: Great Crested Grebe, Redshank, Turnstone
Nationally important: Shelduck, Scaup, Eider, Goldeneye, Red-breasted Merganser, Oystercatcher, Ringed Plover, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit

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 1997-98 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 although more extensive areas of intertidal mud are found toward Belfast. Industrial land claim has, however, reduced the area of the mudflats over the last 150 years, and Belfast has become the main port in Northern Ireland for heavy cargo. More recently, some of the area, including the important Belfast Harbour 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, Buck 1997b).

Bird distribution

A peak of almost 7,000 Oystercatchers was recorded at low tide during the 1997-98 winter, corresponding well with the Core Counts for the same period. The species was very widespread but the highest concentrations were on the mudflats in the south-west corner of the lough. The same area was also favoured by a number of other wader species, such as Knot (which was found here exclusively), Dunlin, Curlew, Redshank, both godwits (although Black-tailed Godwits favoured Victoria Park and the BP pools also) and a Greenshank. The December count of 1,906 Dunlin was much higher than the peak winter Core Count of 1,070. The BP pools were used by Golden Plover for roosting but although Lapwing favoured this area too, they occurred somewhat more widely with Whitehouse Lake and Victoria Park also favoured. Small numbers of Ruff and Snipe were also found in the inner estuary. Three species of wader, predictably, showed more of a preference for the outer parts of the site. Turnstone were widespread but favoured the rocky shores of the outer lough, with highest densities to the west of Carrickfergus marina. Purple Sandpipers were more localised between Helen's Bay and Ballymacormick Point. Ringed Plovers were also quite localised, favouring Holywood Flats and the Bangor shore.

An outer estuary distribution was also exhibited by Eider, widespread from the north end of Holywood (on the south shore) and from Green Island (on the north shore) outwards. The highest densities were found between Bangor and Grey Point and at Carrickfergus. Many other sea-duck, however, preferred the inner estuary, including Goldeneye, Red-breasted Merganser and Scaup. All of these ducks were counted in lower numbers at low tide than during Core Counts, possibly due to birds being further away and feeding more actively at low tide. The internationally important numbers of Great Crested Grebes, which at low tide peaked at 1,662 in November, were widespread but also concentrated in the inner estuary, principally along the north shore from Green Island southwards. This count was also substantially lower than the corresponding exceptional November Core Count of 2,403. Little Grebes were restricted to the BP pools. Cormorants were numerous (with 162 counted in December) and widespread but preferred the outer estuary, particularly the Grey Point to Swineley Point stretch, but Victoria Park was also favoured.

Belfast Lough is not of great importance to dabbling ducks and most Wigeon, Gadwall, Teal, Mallard and Shoveler made use of the BP pools, along with small numbers of Pochards and a Common Scoter. Shelduck were restricted to the inner mudflats, along with a single Light-bellied Brent Goose. Victoria Park was favoured by less coastal waterfowl species such as Mute Swan and Coot. Most gulls favoured the inner parts of the lough with Black-headed Gulls very widespread but Common Gulls relatively localised. Interestingly, there was a difference in distribution between the Herring and Great Black-backed Gulls, which favoured the western part of the inner lough (including Whitehouse Lake), and the (admittedly rather small numbers of) Lesser Black-backed Gulls to be found around the BP pools and on the mudflats at Holywood. Single Glaucous and Ring-billed Gulls were also noted in December at Whitehouse Lake.

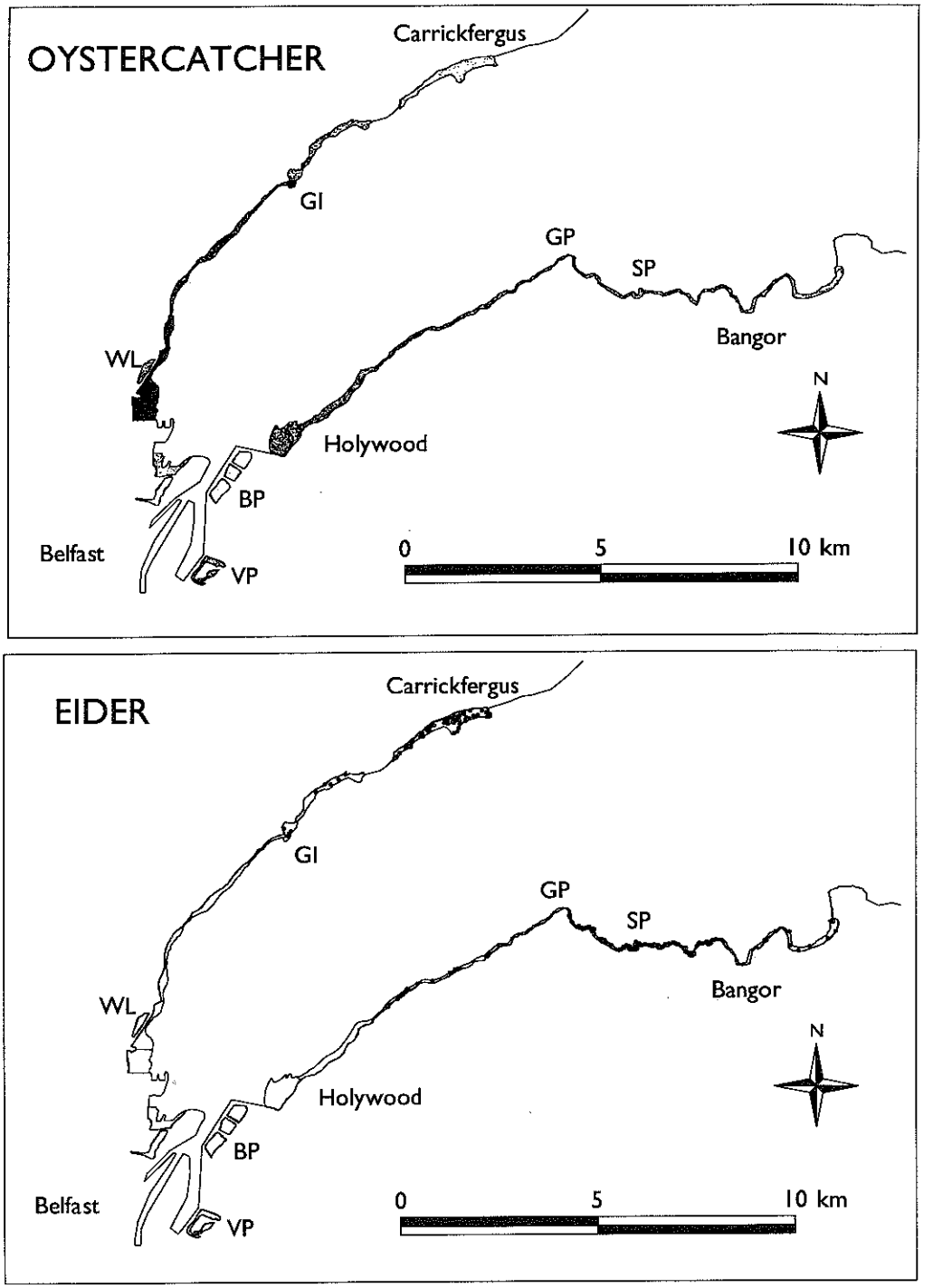


Figure 70. WeBS Low Tide Counts of Oystercatcher and Eider on Belfast Lough, winter 1997-98. (GI=Green Island, WL=Whitehouse Lake, VP=Victoria Park, BP=Belfast Harbour Pools, GP=Grey Point, SP=Swineley Point)

BLYTH ESTUARY

Suffolk

Internationally important: None
Nationally important: Avocet, Black-tailed Godwit, Redshank

Site description

The Blyth is a small estuary, situated immediately inland from Southwold in Suffolk. The inner estuary is a small, muddy basin but the lower reaches have been canalised since the early 19th century and have little in the way of intertidal substrate. The River Blyth finally enters the sea between Southwold and Walberswick. Flanking the narrow lower river channel are a sizeable area of marshes: Tinker's Marshes to the south of the channel and Reydon Marshes and Town Marshes to the north. There have been numerous attempts in the past to 'reclaim' the mudflats and saltmarshes but all have failed which has left a mosaic of breached bunds. There are few threats currently facing the estuary, although the beach at the mouth of the Blyth is frequented by sailors and holiday-makers. The Blyth Estuary forms the northern part of the Walberswick National Nature Reserve (Prater 1981, Pritchard *et al.* 1992, Davidson 1998b).

Bird distribution

The Blyth Estuary supports approximately 11,000 wintering waterfowl and since it is a relatively small site, no species occurs in internationally important numbers. Figure 71 illustrates the low tide distribution of Avocets at the Blyth Estuary and shows that they tend to avoid the eastern end of the site. A peak of 422 birds was recorded in January which was somewhat higher than the peak winter Core Count of 350 Avocets. The distribution of another species occurring in nationally important numbers, the Redshank, is shown in Figure 71. This species does occur in all count sections but it also shows a relative avoidance of the eastern end of the site. The same distribution pattern was shown by Dunlin, the most numerous wader species present. Peak numbers of Redshanks were lower for the Low Tide Counts (775) than for the Core Counts (1,300). The third waterfowl species wintering on the Blyth in nationally important numbers, the Black-tailed Godwit, peaked at 215 birds during the Low Tide Counts (compared with a winter peak of 250 for the Core Counts) and was distributed fairly evenly around the site. Peaks of over 2,000 of both Lapwing and Golden Plover were recorded at low tide with both species widespread although the latter species showed an avoidance of the north-west quarter of the estuary. Other waders were relatively few in number with Curlew, Bar-tailed Godwit and Grey Plover distributed quite evenly and Knot and Oystercatcher occurring throughout but favouring the north-east corner of the site. Small numbers of Ringed Plover, Snipe, Spotted Redshank and Turnstone were also noted.

The most numerous wildfowl species present was Wigeon, with a peak of over 2,000 birds noted throughout the estuary although the north-west corner was less favoured. Teal were also numerous and favoured the eastern end of the estuary. A peak of over 750 Shelduck was noted at low tide; this species was distributed fairly evenly around the estuary although occurred slightly more densely in the north-east corner of the site. The peak of 177 Pintail was quite notable for the size of the site; this species was also evenly distributed, as was Mallard. Peak counts of 61 Gadwall and 41 Shoveler occurred, mostly at the eastern end of the site (i.e. adjacent to Tinker's Marsh). Small numbers of other wildfowl species were also recorded, with Egyptian Goose and Water Rail of most note. A Mediterranean Gull was noted in January, along with the five common species of gull.

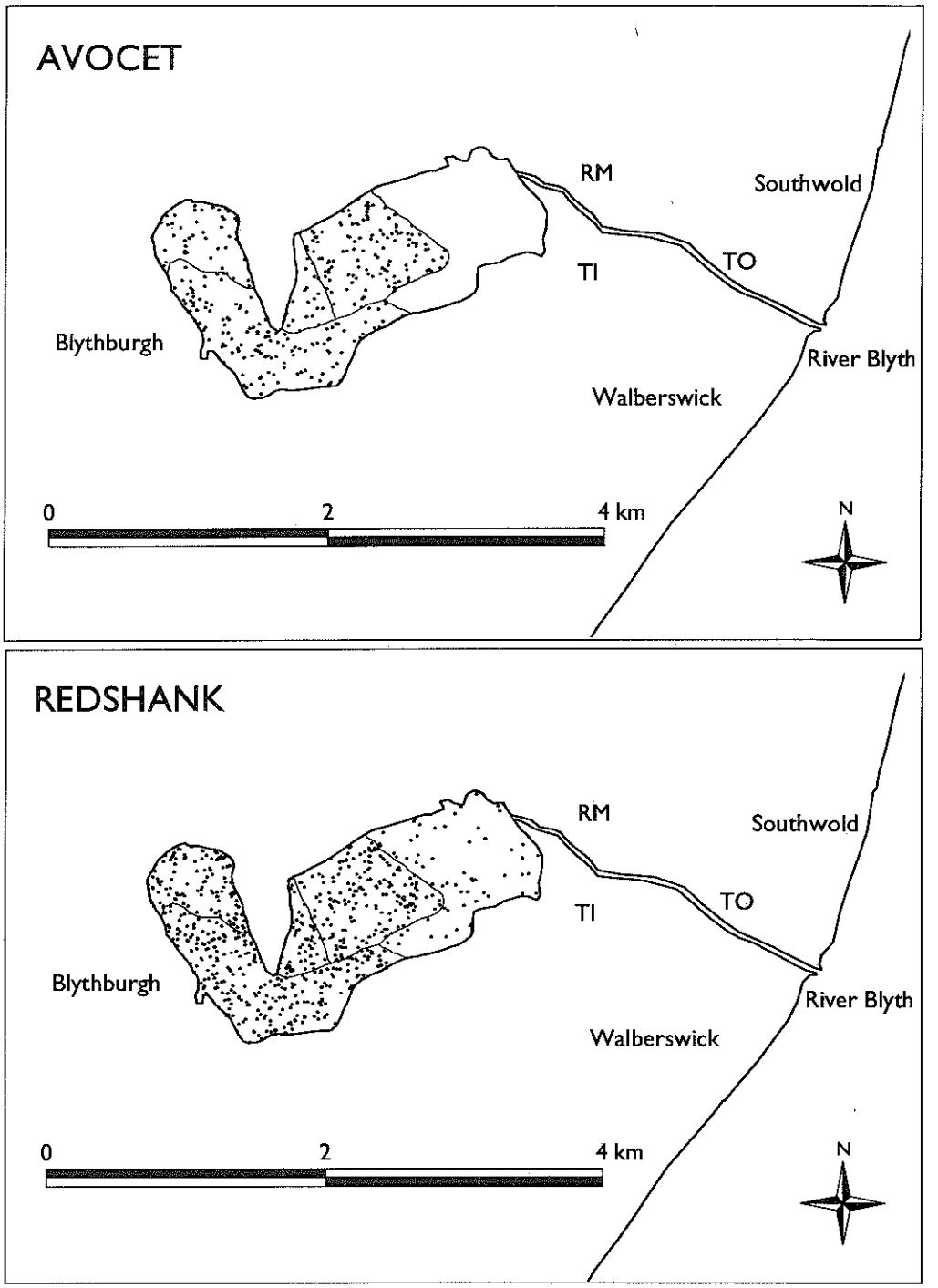


Figure 71. WeBS Low Tide Counts of Avocet and Redshank on the Blyth Estuary, winter 1997-98. (RM=Reydon Marshes, TI=Tinker's Marshes, TO=Town Marshes)

CHICHESTER HARBOUR

West Sussex / Hampshire

Internationally important: Dark-bellied Brent Goose, Grey Plover, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Redshank

Nationally important: Little Grebe, Shelduck, Teal, Red-breasted Merganser, Ringed Plover, Curlew

Site description

Chichester Harbour is a large and complex site situated between Chichester and Havant and is linked to Langstone Harbour to the west by a channel along the north side of Hayling Island. There are four major arms, Chichester Channel, Bosham Channel, Thorney Channel and Emsworth Channel, originally formed by land sinking along four small river valleys. These run into a wider area near the mouth of the estuary and there is a fairly wide opening to the eastern Solent. The river channels are muddy whereas the intertidal areas south of Thorney Island are much sandier, and also support extensive areas of eelgrass and algae. The estuary is extremely popular with watersports enthusiasts so, although the majority of the shoreline is undeveloped with restricted access, those areas with public access are heavily used. There is always the potential for pressure for further marinas and slipways. Wildfowling also occurs, as does commercial dredging for oysters, hand-gathering of cockles and winkles and bait digging (Prater 1981, Buck 1997a, Pritchard *et al.* 1992, Davidson 1997a, A. de Potier pers. comm.)

Bird distribution

Chichester Harbour is the most important single site on the south coast of England for wintering waterfowl, supporting an average of about 55,000 birds, including six species in internationally important numbers. As has been discussed in previous reports, Bar-tailed Godwits show an obvious preference for outer parts of the estuary, particularly the wide sandy flats south of Thorney Island, but also the adjacent eastern and western shores. The peak Low Tide Count of 693 birds equated relatively well to the peak winter Core Count of 820. Black-tailed Godwit numbers also corresponded well between the two sets of counts, with peaks of 464 at high tide and 413 at low tide. However, the Black-tailed Godwit distribution map shows this species' preference for the muddier tops of creeks and it is possible that some birds may have been missed whilst feeding in creeks or saltmarsh; birds could also have been feeding on nearby non-tidal habitats.

Redshank were very widespread although Chichester Channel held slightly higher densities than average. Dunlin were numerous, although in slightly smaller numbers than during Core Counts, and widespread with Thorney Channel holding many birds. Grey Plovers were somewhat more concentrated around the estuary mouth. Ringed Plovers were particularly concentrated in the southwest corner of the harbour east of Selsmore. Oystercatcher and Curlew were widespread but the latter was especially concentrated at the top of Chichester and Bosham Channels. Most Knot were found in the western half of the harbour, with the intertidal flats southwest of Thorney Island holding the majority of the birds. Lapwing were widespread but Golden Plovers more localised at various points around the harbour. Up to 200 Sanderling were noted at low tide, almost all of which were found on Pilsey Sands south of Thorney Island. Small numbers of Turnstones were widespread and other wader species noted were Avocet, Snipe, Spotted Redshank and Greenshank.

Dark-bellied Brent Geese were found almost everywhere in the harbour, with the highest concentration along the Rookwood shore. A maximum count of 6,530 was noted at low tide. Shelduck were also widespread although occurring slightly more densely in Chichester Channel. Teal had their main concentrations on the western shore as well as at Bosham Hoe. Wigeon and Pintail both favoured the north ends of Bosham and Chichester Channels and Thorney Great Deep. Mallard preferred the Emsworth and Langstone mill ponds and around Bosham, and Mute Swans were also found at high densities at Emsworth mill pond as well as along Chichester Channel. Goldeneyes and Red-breasted Mergansers were both widespread along the channels. Both Little and Great Crested Grebes were widespread but favoured Chichester Channel and up to nine Slavonian Grebes were also noted. Small numbers of Eider were found at Pilsey Sands and other ducks noted were Mandarin, Common Scoter and Smew. Cormorants and Grey Herons were widespread in small numbers. The latter species was outnumbered every month by Little Egret, with up to 23 noted widely around the harbour.

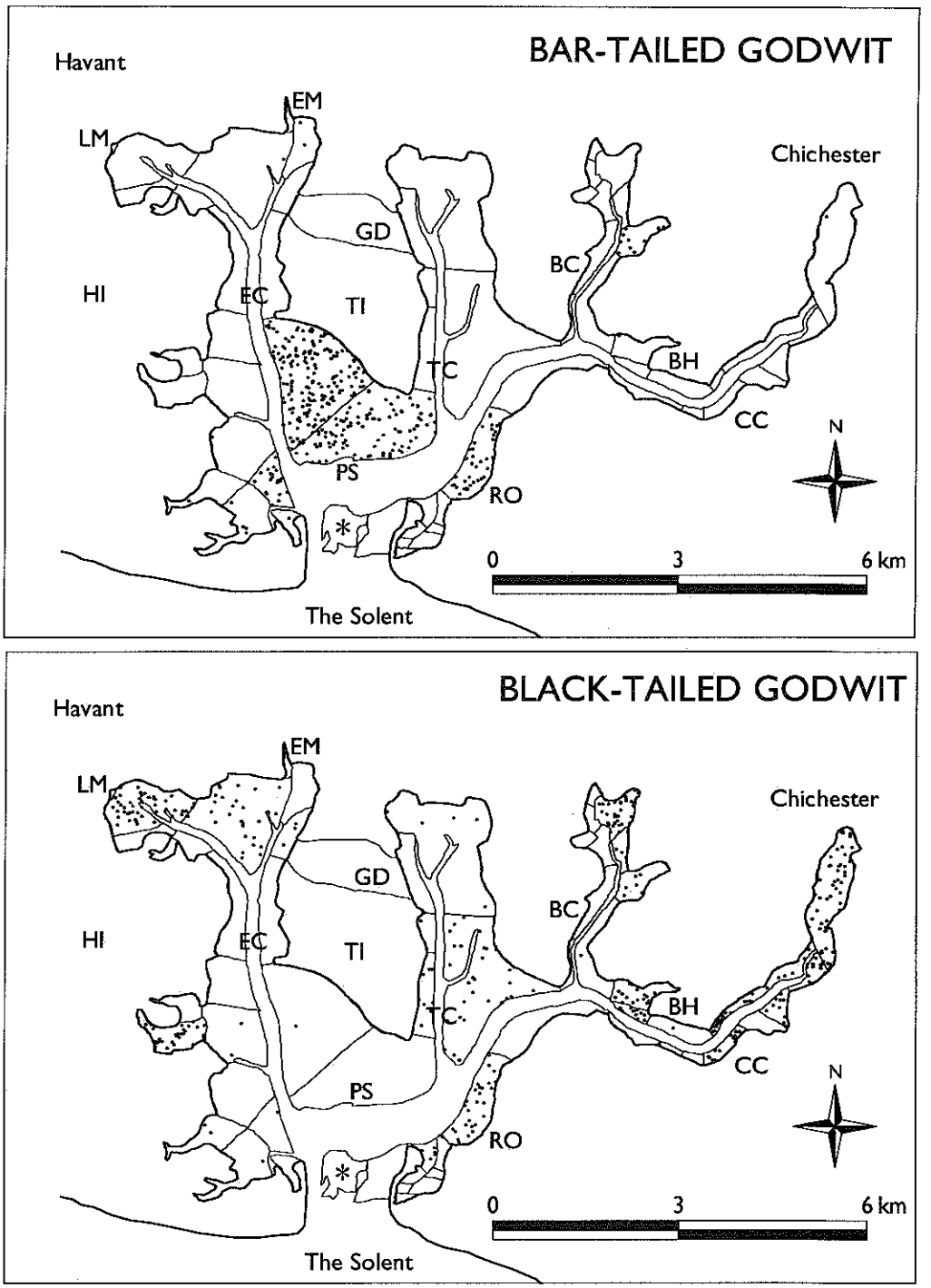


Figure 72. WeBS Low Tide Counts of Bar-tailed Godwit and Black-tailed Godwit at Chichester Harbour, winter 1997-98. (LM=Langstone Mill Pond, EM=Emsworth Mill Pond, GD=Thorney Great Deep, TI=Thorney Island, BC=Bosham Channel, BH=Bosham Hoe, CC=Chichester Channel, RO=Rookwood, PS=Pilsey Sands, HI=Hayling Island, EC=Emsworth Channel, TC=Thorney Channel, *=not counted)

CLEDDAU ESTUARY

Pembrokeshire

Internationally important: None
Nationally important: Little Grebe, Shelduck, Wigeon, Teal, Dunlin, Curlew

Site description

The WeBS site known as the Cleddau Estuary is in reality a series of small estuaries all opening into the sheltered waters of Milford Haven in south-west Wales. In character, the complex is similar to the Fal and Tamar in south-west England, all of these sites being drowned river valleys (or rias) in which mudflats and some areas of saltmarsh have later developed. Most of the main intertidal areas were covered for the WeBS Low Tide Counts, although some of the intervening stretches of rocky coast, as well as the open waters of Milford Haven, were not covered. The *Sea Empress* oil spillage of early 1996 illustrates extremely well one of the principal threats to the area, which is a major centre for oil transport and refining (Prater 1981, Pritchard *et al.* 1992, Davidson 1995a).

Bird distribution

Since this site lacks wide expanses of intertidal habitat, and since there is little other estuarine habitat nearby, it was unsurprising that the overall numbers of birds recorded on Low Tide Counts equated very well to those on the Core Counts, with the sum of the peak counts of all wildfowl and waders at low tide being almost 14,000 birds. The five-year peak mean from Core Counts is about 15,000 birds.

Wigeon were widespread on the Cleddau but highest densities occurred at the western end of the Pembroke River. The overall peak of almost 3,000 birds in November equated very well to the Core Counts. Teal were also recorded in high numbers and were most numerous on the inner parts of the site, especially on the western Cleddau, Sprinkle Pill, Landshipping and on Millin Pill. Mallard were widespread, especially along the western Cleddau and at Millin Pill, and Shelduck were also widespread but favoured Pembroke River and the opposite shore of the Cleddau from Landshipping. Of small numbers of other wildfowl present, Goldeneye were widespread but more concentrated on the pools at the Gann and at the top end of the western Cleddau, with a few Red-breasted Mergansers also present at the latter site. A single Brent Goose wintered in Angle Bay with Canada Geese found around Landshipping and Llangwm. Little Grebes were widespread, but especially favoured pools at the Gann Estuary. Great Crested Grebes, on the other hand, favoured the open water of Angle Bay and two Great Northern Divers were found on the Pembroke River. Cormorants and Grey Herons favoured the Cleddau Rivers but Little Egrets, of which up to 11 were counted at low tide, were somewhat more widespread.

Dunlin, the most numerous wader species present, was found widely but avoided the upper reaches of the estuary and the highest densities were to be found on Pembroke River. Curlew were distributed more evenly with the highest densities occurring in Sandy Haven Pill. Golden Plovers were virtually absent except in February, when birds were largely to be found at Beggars Reach and on the Carew River; Lapwings numbers were fairly high on all counts and were widespread with the highest densities to be found at Landshipping and along the Cresswell River. Redshank were very widespread with the highest densities at Sprinkle Pill and on the western Cleddau. Oystercatchers, on the other hand, were more numerous towards the lower reaches of the estuarine complex, especially at Angle Bay, Pembroke River, Sandy Haven Pill and the Gann Estuary. Ringed Plovers occurred in small numbers in various localised areas such as the western end of Pembroke River, the lower part of the western Cleddau and the southeast corner of Angle Bay. Turnstone were most widespread on the outer parts of the estuary, such as at the Gann and at Llandstadwell, as well as some parts of Angle Bay and the Pembroke River. Small numbers of Grey Plovers and Bar-tailed Godwits were mostly found on Angle Bay and Pembroke River. In common with estuaries in southwest England, small numbers of Greenshanks and Spotted Redshanks were found around the site. Of the other waders, a few Knot and Sanderling, along with a Green Sandpiper, were noted, but numbers of Snipe were especially notable in the early winter with a peak count of 81 in November; the highest numbers of these were along the western Cleddau. All five common gull species were present with, as usual, Black-headed Gull being the most numerous species but over 300 Lesser Black-backed Gulls in January were also noteworthy.

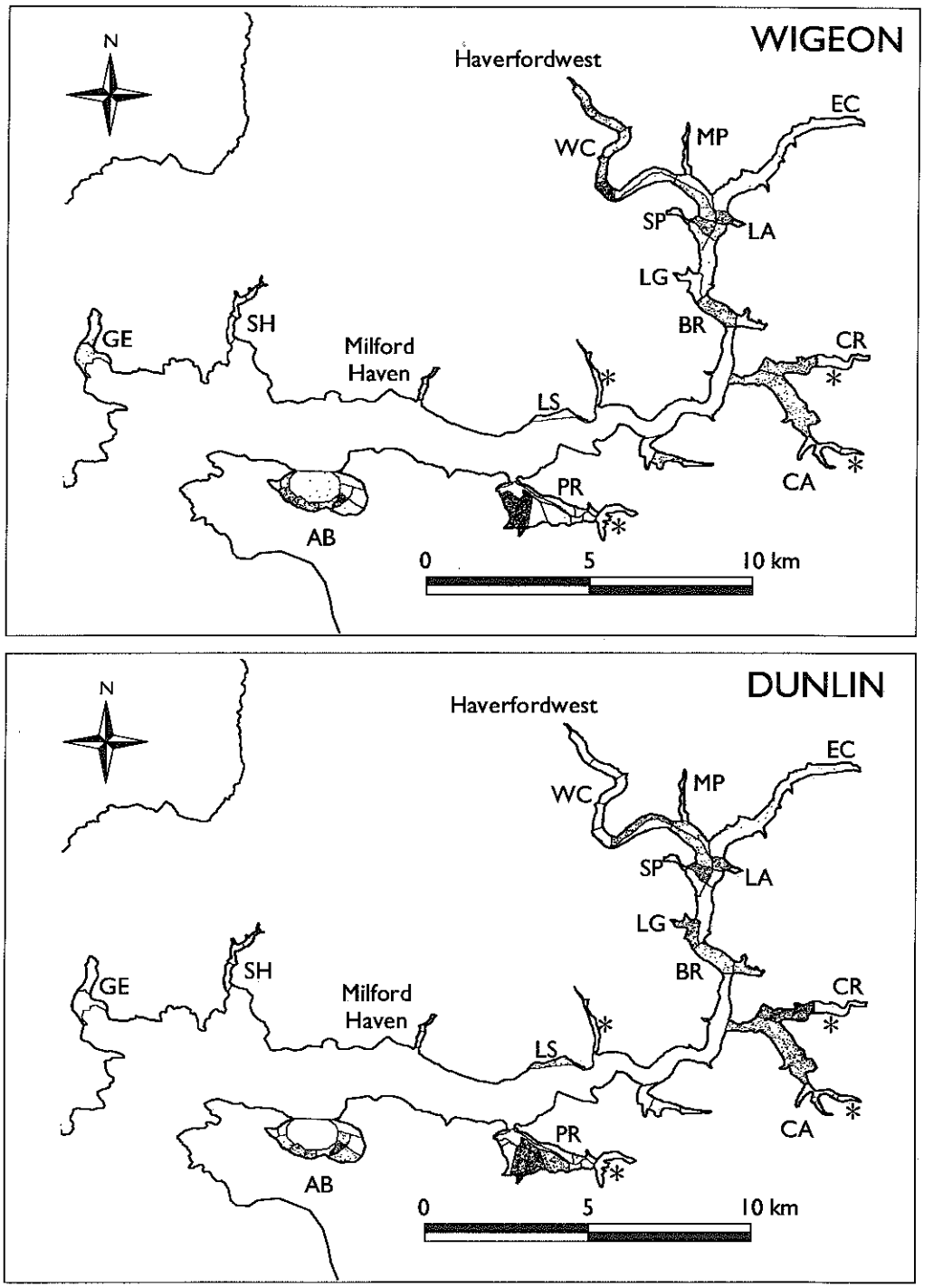


Figure 73. WeBS Low Tide Counts of Wigeon and Dunlin on the Cleddau Estuary, winter 1997-98. (GE=Gann Estuary, SH=Sandy Haven Pill, LS=Llanstadwell, BR=Beggars Reach, LG=Llangwm,SP=Sprinkle Pill, WC=Western Cleddau, MP=Millin Pill, EC=Eastern Cleddau, LA=Landshipping, CR=Cresswell River, CA=Carew River, PR=Pembroke River, AB=Angle Bay, *=not counted)

DEE ESTUARY: NORTH WIRRAL SHORE

Merseyside

Internationally important (whole Dee): Shelduck, Teal, Pintail, Oystercatcher, Grey Plover, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone

Nationally important (whole Dee): Great Crested Grebe, Cormorant, Wigeon, Sanderling

Site description

The Dee Estuary is one of the most important estuaries in the UK for wintering waterfowl and the whole site was covered as part of the WeBS Low Tide Count scheme during winter 1996-97. One of the most important parts of the Dee, particularly for waders, was confirmed to be the North Wirral Shore, stretching from Red Rocks at the western end to Perch Rock at the mouth of the Mersey. This stretch of coast forms an area of intertidal sand, mudflats and developing saltmarsh approximately 13 km long and about 2 km wide. An important point to note is the proximity of two other WeBS sites: the Mersey Estuary is immediately adjacent to the eastern end of the North Wirral Shore, and this junction of two sites is itself only about 2 km away from the southern flats of the Alt Estuary. There is much interchange between these sites, as discussed below and in the sections describing the Alt and Mersey Estuaries.

Bird distribution

During winter 1997-98, this small stretch of coast, which is at present not part of any SPA or Ramsar site, held low tide peaks of 3,000 Grey Plover, 12,000 Knot, 18,000 Dunlin, 5,000 Bar-tailed Godwit and 2,000 Redshank. All of these counts exceed the level for international importance. In recognition of the critical importance of the area, therefore, it is being proposed as an extension to the existing Dee Estuary Ramsar/SPA site by English Nature.

Many of the most numerous species showed similarities in their distribution along the North Wirral shore. Figure 74 shows the low tide distribution of Dunlin at this site. A two-centred pattern can be seen, with birds favouring Mockbeggar Wharf and East Hoyle Bank, but with very few birds at either the western or eastern ends. There was also a gap between the main two concentrations where very few birds were feeding. The feeding distributions of both Knot and Grey Plover were very similar to that seen for Dunlin. For all three of these species, the birds occurred more densely on Mockbeggar Wharf than on East Hoyle Bank. Several other common species, such as Oystercatcher, Curlew and Redshank, had a more evenly spread distribution, but all still displayed a tendency towards higher densities on Mockbeggar Wharf.

Bar-tailed Godwits were more unusual, however, in that they showed no interest in East Hoyle Bank at all, being confined exclusively to Mockbeggar Wharf (Figure 74). Lapwings, however, were distributed in a completely different way, roosting almost exclusively in the 'gap' between Mockbeggar and East Hoyle, i.e. away from the feeding concentrations. This may suggest that the feeding distribution of the other species is determined mostly by the food supply and not by excessive disturbance in the central region. Less numerous waders included Ringed Plovers (which were widespread although favouring the western half of the site) and Turnstones. Despite the Dee apparently holding internationally important numbers of Turnstones, with over 900 recorded on Core Counts during winter 1997-98, a peak of only 223 were to be found on the North Wirral shore at low tide during the same winter, mostly towards the eastern end (and last winter's counts showed that the birds were not to be found elsewhere on the Dee apart from about 60 birds on Hilbre). It seems likely that, as with the birds from the Alt, many of the Turnstones roosting on the Dee feed on the adjacent shore at Egremont at the mouth of the Mersey Estuary. Other waders recorded included small numbers of Golden Plover, Sanderling, Black-tailed Godwit and Greenshank.

Despite the major importance of the Dee Estuary as a whole for wintering wildfowl such as Shelduck, Wigeon, Teal and Pintail, very few ducks were to be found on the North Wirral Shore, with just a small number of Shelduck which were largely restricted to the western end. Additionally, small numbers of Mallard, Goldeneye, Red-breasted Merganser and Cormorant were also noted.

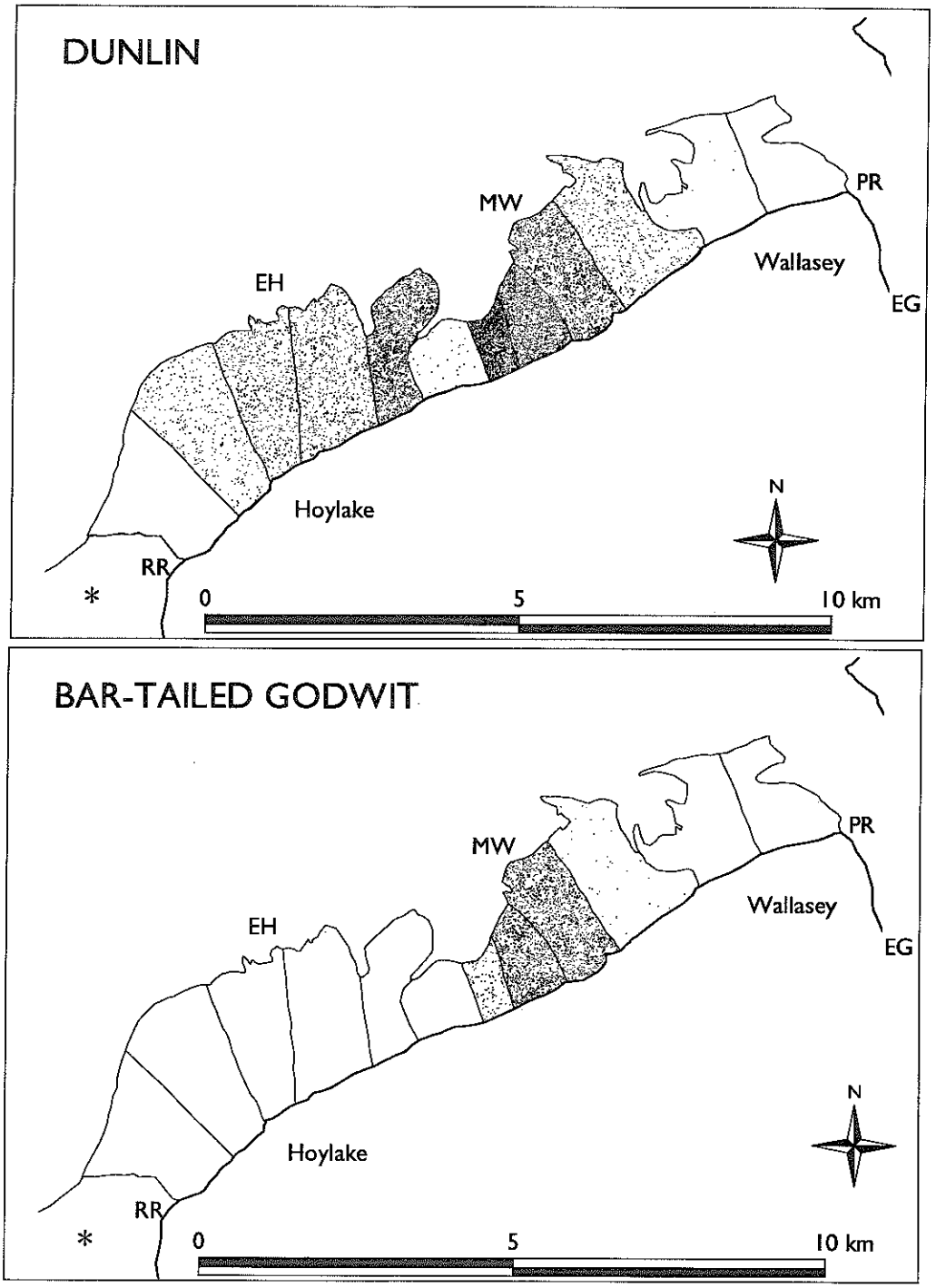


Figure 74. WeBS Low Tide Counts of Dunlin and Bar-tailed Godwit on the North Wirral Shore, winter 1997-98. (RR=Red Rocks, EH=East Hoyle Bank, MW=Mockbeggar Wharf, PR=Perch Rock, EG=Egremont, *=not counted)

HAMFORD WATER

Essex

Internationally important: Dark-bellied Brent Goose, Teal, Grey Plover, Black-tailed Godwit, Redshank
Nationally important: Shelduck, Wigeon, Pintail, Avocet, Ringed Plover, Golden Plover, Dunlin, Bar-tailed Godwit

Site description

Hamford Water is a large, shallow, estuarine basin with an extremely diverse mix of habitat types. The whole site is a mosaic of dissected saltmarshes, islands, channels and mudflats backed by a range of brackish, fresh and reed-fringed marshes. Many of the islands are former saltmarshes embanked and converted to wet grassland, but some have reverted to saltmarsh after sea walls were breached around the end of the 19th century; saltmarsh comprises one third of the whole site. The mouth of the main channel into Pennyhole Bay is flanked on either side by dune-topped shingle spits. The principal causes of disturbance to waterfowl at Hamford Water are light aircraft (more so in the summer months), military helicopter training and explosives testing at a site on the north shore. Much of the surrounding marshland has been converted to arable farmland. As with other sites along this stretch of coast, saltmarsh erosion from rising sea-levels is also a concern (Prater 1981, Pritchard *et al.* 1992, Davidson 1998b).

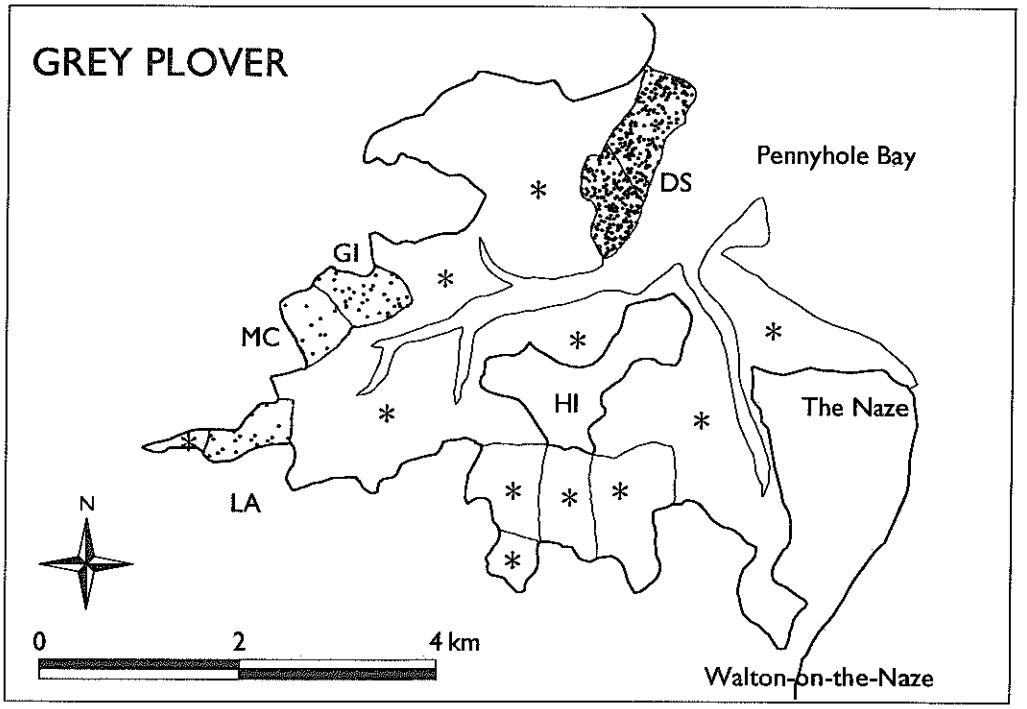
Bird distribution

Hamford Water is a very important site for wintering waterfowl, supporting an average of about 45,000 birds. WeBS Low Tide Counts were carried out at this site during winter 1992-93 when only very partial coverage was achieved. During 1997-98, coverage was again very patchy (approximately 13% of the intertidal area was covered) primarily because much of the site is difficult to access or view. Consequently, the numbers recorded from the Low Tide Counts were expected to be much lower than from the Core Counts which are made at high tide roosts. However, some of the birds roosting at Hamford do move to the nearby Stour Estuary to feed at low tide (J. Novorol pers. comm.)

The peak winter Core Count of Grey Plovers at Hamford was 3,270 birds whereas the peak Low Tide Count was 1,965. All of the counted areas recorded this species but Dugmore Sands was particularly favoured. This area was also the favoured low tide feeding or roosting area (of those surveyed) for Lapwing, Golden Plover, Bar-tailed Godwit, Oystercatcher, Ringed Plover, Turnstone and Avocet. Sanderling were found exclusively on Dugmore Sands. Knot favoured the northern parts of Dugmore Sands and Garnham's Island. Dunlin, the most numerous species, was found commonly on all count sections although it displayed a relative avoidance of the Moze Creek area and Dugmore. Curlew were typically evenly distributed. Only two waders, Redshank and Black-tailed Godwit, favoured the inner parts of the site at Landermere, with many Redshank also at Garnham's Island but very few on Dugmore Sands. A count of 28 Ruff in February at Moze Creek was of note. A few Snipe were also found.

A peak of 1,842 Teal was noted in November (although much lower numbers were recorded during the other three months) which is much lower than the Core Count peak of 2,633. Although Teal were found commonly on all covered sections there was a notable concentration at Moze Creek. Wigeon were also widespread although fewer were found on the northern half of Dugmore Sands, an area which was also less favoured by Shelduck; the latter species was found in its highest densities on the southern half of Dugmore Sands. Many Wigeon and Shelduck congregate around shallow pools on this section to preen and roost at low tide (J. Novorol pers. comm.) Very few Pintail were recorded at low tide, with most of those at Garnham's Island, but Pintail numbers were low at Hamford Water on the Core Counts during this winter also. Small numbers of Mallard, Shoveler and Eider were also noted.

Internationally important numbers of Dark-bellied Brent Geese wintering at Hamford Water, although the Core Count winter peak of 4,194 was relatively low for this site. Low Tide Counts found a peak of only 1,829 birds as well as up to two Light-bellied Brents; most of the Brent Geese were presumably elsewhere in the large area of saltmarsh and grazing marsh; they occurred fairly evenly across the recorded parts of the site. Feral Canada and Greylag Geese were also noted (on the southern part of Dugmore Sands) and a flock of 40 Barnacle Geese was recorded in February. No other waterfowl species occurred in noteworthy numbers.



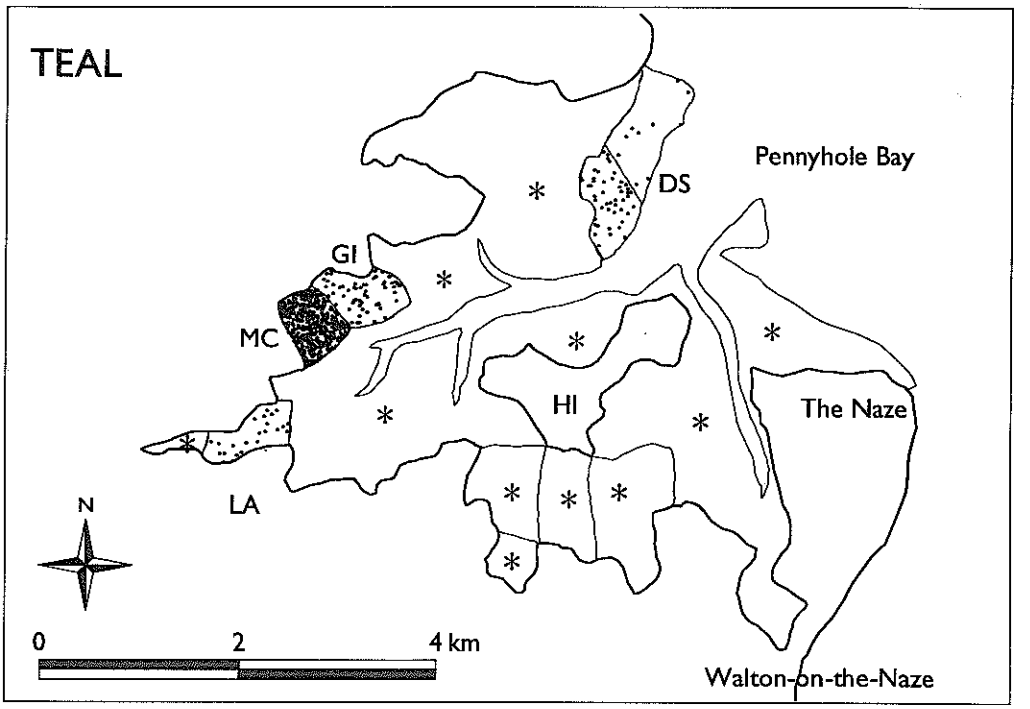


Figure 75. WeBS Low Tide Counts of Grey Plover and Teal at Hamford Water, winter 1997-98. (DS=Dugmore Sands, GI=Garnham's Island, MC=Moze Creek, LA=Landermere, HI=Horsey Island, *=not counted)

MERSEY ESTUARY

Merseyside / Cheshire

Internationally important: Shelduck, Teal, Pintail, Dunlin, Black-tailed Godwit, Redshank
Nationally important: Great Crested Grebe, Wigeon, Golden Plover, Grey Plover, Curlew

Site description

The Mersey is one of the most heavily developed and polluted estuaries in the UK (although pollution levels have lessened somewhat in recent years), with the outer sections of the estuary in particular infringed upon by Liverpool and Birkenhead. The large towns of Widnes, Runcorn and Ellesmere Port are also adjacent to the site. An extensive area of saltmarsh on the southern shore, as well as the important Ince and Stanlow Banks, are protected from disturbance to some degree by the Manchester Ship Canal. The large pools at Frodsham on the south side of the estuary are extremely important as one of the roosts for birds feeding on the estuary. As well as the usual problems which occur on heavily industrialised estuaries, such as pollution and disturbance, a more specific issue which could be detrimental to wintering waterfowl is a proposed second runway for Liverpool Airport to be built on land claimed from the estuary. Additionally, there has been a proposal in recent years for a barrage to generate power from tidal energy, which could resurface in the event of the economics of tidal power being considered more realistic by energy producers (Prater 1981, Pritchard *et al.* 1992, Davidson 1996a).

Bird distribution

The peak Core Count of 52,015 Dunlin during the 1997-98 winter was well matched by a peak Low Tide Count of 48,476. The feeding distribution illustrates clearly the vital importance of the Stanlow Banks to the north of Ellesmere Port for this species. The Dungeon Banks area is also of great importance to Dunlin, but the species was relatively scarce elsewhere in the estuary. Knot similarly favoured Stanlow Banks, but made less use of Dungeon Banks than did Dunlin. There was, however, a concentration of the species at Rock Ferry. Grey Plover also favoured Stanlow Banks, but made greater use of the southern parts of the Ince Banks also. Interestingly, the peak numbers of Grey Plovers noted at low tide were roughly three times higher than those on the Core Counts. Were birds moving into the estuary from outside to feed, or were birds being missed in difficult to view roosts?

Peak numbers of Black-tailed Godwit, Redshank and Curlew were also higher at low tide than at high tide. Black-tailed Godwits, which peaked at 2,655 in February, were quite widespread in the central parts of the estuary, but favoured Dungeon Banks and the flats to the north of Mount Manisty. Curlew were typically widespread around the site although with higher densities at Ellesmere Port. Redshank occurred throughout the site, but the highest densities were to be found on the Egremont and Rock Ferry shores, towards the mouth of the Mersey. It is likely that the Low Tide Counts of Redshank on the Mersey, which peaked at almost 7,000, included some birds which roost on the Alt. Oystercatcher, Turnstone, Sanderling and Ringed Plover were all principally found at Rock Ferry and Egremont. As has been mentioned in the sections on the Alt Estuary and the North Wirral Shore, the numbers of Turnstone feeding at the mouth of the Mersey (peaking at 1,188 in February) were far in excess of the numbers recorded for the Mersey Estuary on WeBS Core Counts (never reaching double figures in the last five years), and it is clear that birds recorded on WeBS Core Counts for the Alt and Dee Estuaries are in fact feeding on the outer Mersey at low tide. Both Lapwing and Golden Plover showed a general preference for the inner parts of the estuary. Only a small number of Bar-tailed Godwits were noted.

Teal were widely distributed in the central parts of the estuary with no single main concentration. For a species which can easily be missed within saltmarshes at low tide, the peak of 8,060 compared quite well with the Core Count peak of 12,065. A peak of over 500 Pintail was noted at low tide, somewhat less than during the Core Counts, with birds quite widespread in the central parts of the estuary but the highest densities to be found at the southern end of the Rock Ferry stretch of mudflats. Wigeon favoured Mount Manisty and Ellesmere Port but Shelduck were somewhat more widespread although still reaching highest densities at Ellesmere Port. Mallard favoured Dungeon Banks, Hill Head and Mount Manisty. Cormorants were widespread but very few Great Crested Grebes were noted at low tide despite the national importance of the site for this species.

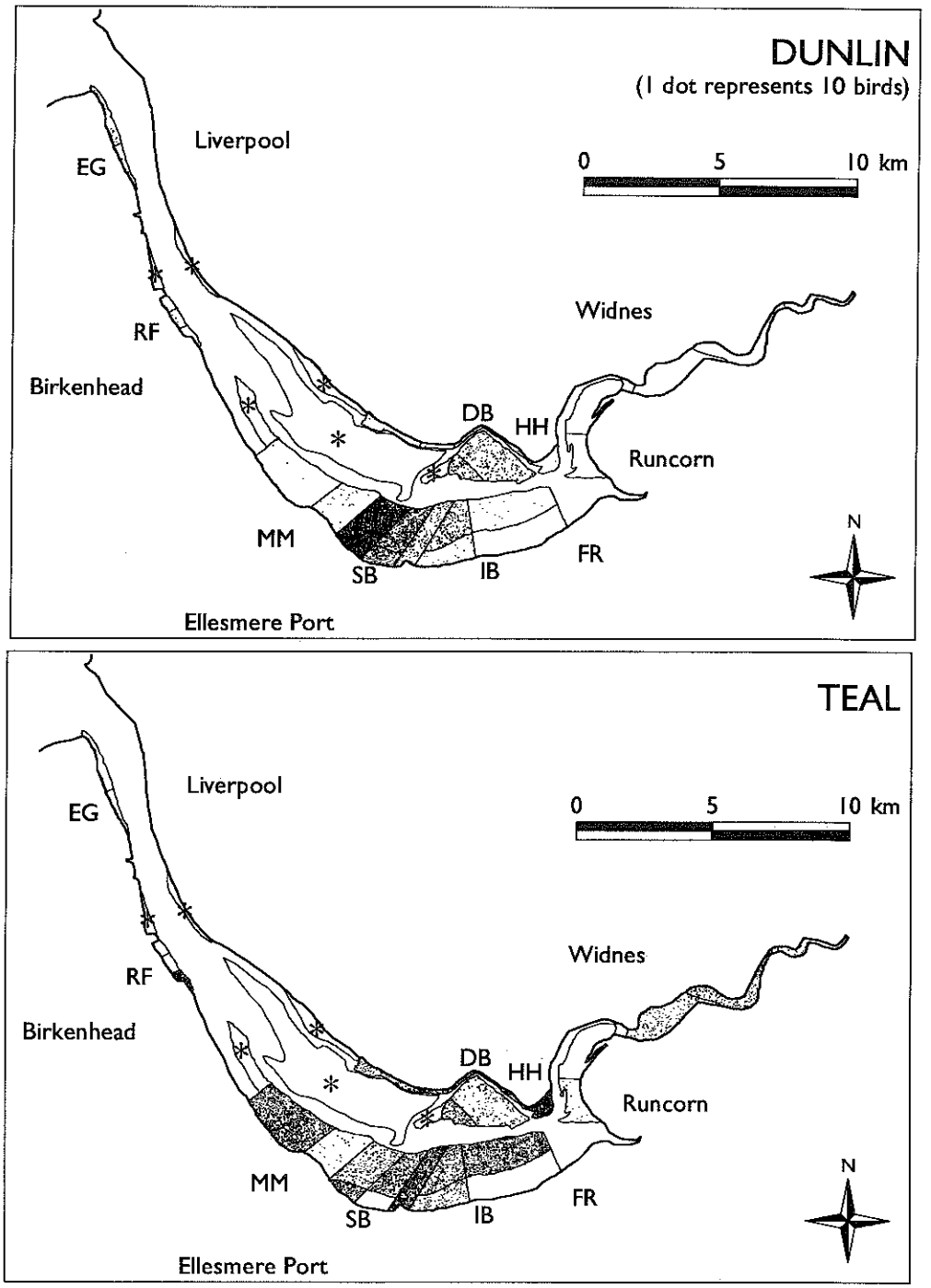


Figure 76. WeBS Low Tide Counts of Dunlin and Teal on the Mersey Estuary, winter 1997-98. (EG=Egremont, RF=Rock Ferry, MM=Mount Manisty, SB=Stanlow Banks, IB=Ince Banks, FR=Frodsham, HH=Hill Head, DB=Dungeon Banks, *=not counted)

MONTROSE BASIN

Angus

Internationally important: Pink-footed Goose, Knot, Redshank
Nationally important: Mute Swan, Shelduck, Wigeon, Eider, Red-breasted Merganser, Goosander

Site description

Montrose Basin, the estuary of the South Esk River, is an almost circular basin about 3 km across. The basin is separated from the sea by a broad spit on which the town of Montrose is situated; the river discharges to the sea through a narrow channel at the southern end of this spit. The intertidal flats range from sand to mud and shingle and there are also extensive mussel beds. Eelgrass and algae are also present on the basin, providing a food source for some of the waterfowl. There are areas of saltmarsh on the inner edge of the basin and freshwater grazing fields nearby. Pressure from wildfowling used to be heavy on this site but has been restricted since 1981 when a Local Nature Reserve was created; this led to a dramatic rise in the numbers of waterfowl using the site, particularly Pink-footed Geese. There has also been land-claim for industry and waste disposal during this century (Prater 1981, Pritchard *et al.* 1992, Davidson 1997b).

Bird distribution

Montrose Basin supports an average of about 54,000 wintering waterfowl, of which a large proportion are Pink-footed Geese which roost at the basin in internationally important numbers. Since the geese feed mostly on surrounding farmland, they are not well represented by WeBS Low Tide Counts with over 15,000 noted in November but less than 50 in any other month. Figure 77 shows the low tide distribution of Knot on Montrose Basin with, as can be seen, the birds concentrated into three discrete areas. Peak counts of Knot were about a third lower at low tide than on the WeBS Core Counts on Montrose Basin during the 1997-98 winter. Similarly, Redshank were noted at low tide in about half the numbers recorded at high tide; the species was widespread and fairly evenly distributed although with more of a concentration towards the middle southern sections (Figure 77). Golden Plover were very concentrated in the north-east and south-east corners of the basin, but Lapwing were much more widespread. Dunlin were also widespread, favouring the more open parts of the basin in the north-east and the middle southern sections. Although Oystercatchers were distributed fairly evenly around the basin, there were relatively few at the western end. Curlew were typically distributed very evenly indeed. Both species of godwit peaked at about 80 birds, both favouring southern parts of the estuary, and small numbers of Turnstone were noted around the basin mouth.

Six species of wildfowl occur on Montrose Basin in nationally important numbers. The most numerous, Wigeon, had its main concentrations around Stick's Burn and to the south of the main channel, although smaller numbers were also widespread in the east of the basin. Up to 103 Mute Swans were noted, mostly along the main channel and especially at the western side of the basin. A peak of 1,174 Shelduck at low tide corresponded very well to the core peak of 1,100 with birds found widely but concentrated in the north-east corner. Over 1,000 Eider were found along the lower reaches of the main channel with small numbers of Red-breasted Mergansers. Both this latter species and Goosander (and Eider to a lesser extent) were found in very much lower numbers at low tide than at high tide, probably due to birds moving out of the estuary to feed.

The most numerous other wildfowl species were Mallard (which was mostly found in the south and east of the site), Pintail (in the middle southern parts of the site) and Tufted Duck (with up to 120 in the lower stretches of the main channel). Smaller numbers of Teal and Shoveler were mostly found in the same area as the Pintail and up to 52 Goldeneye and 23 Scaup were found along the main channel. Cormorants were widespread but mostly on the wide flats in the east of the basin. Small numbers of Great Crested Grebes, Grey Herons and Gadwall were also noted, but a Red-throated Diver and two Smew were of particular note. Four species of gull were recorded but there were no Lesser Black-backed Gulls.

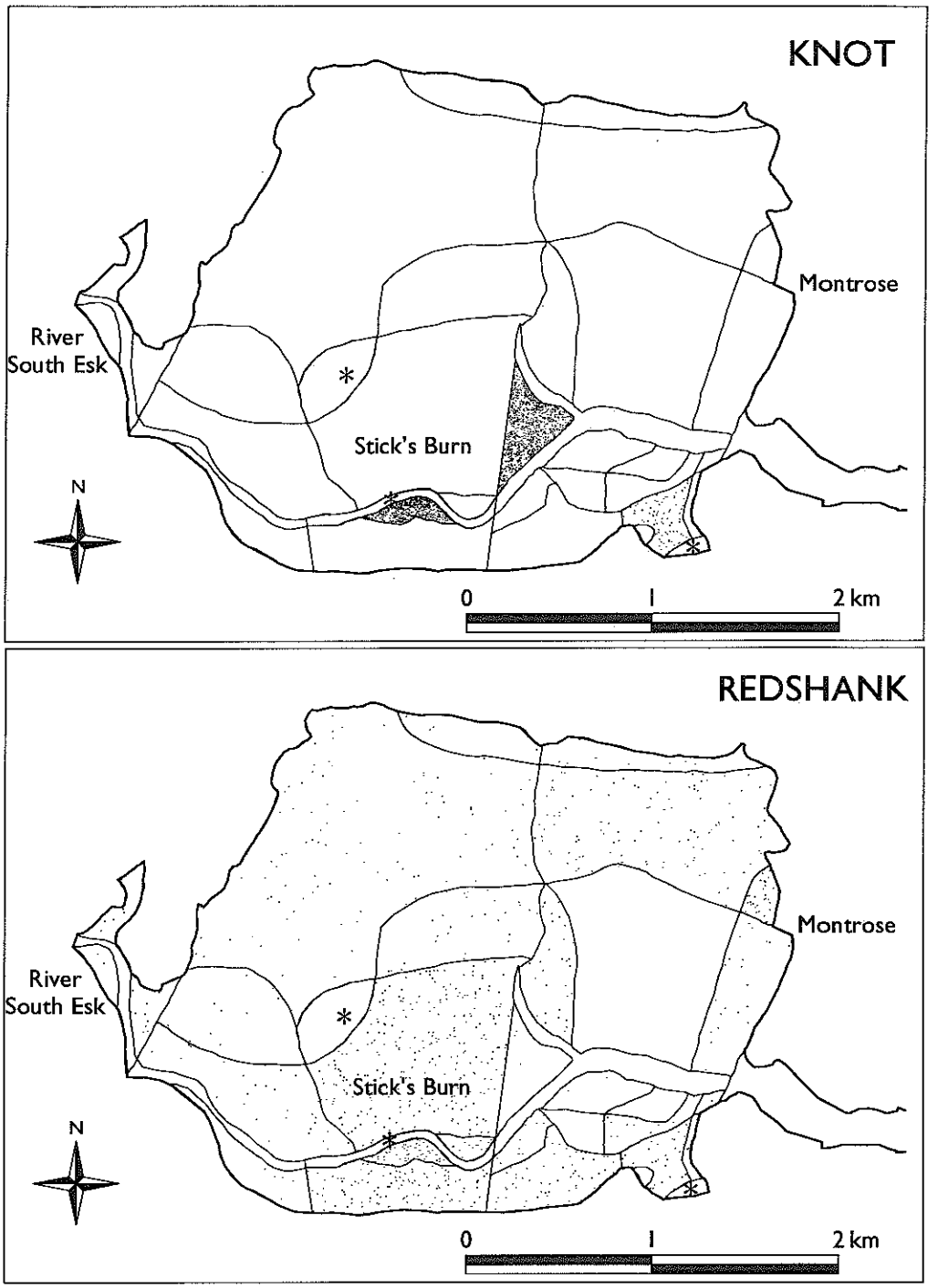


Figure 77. WeBS Low Tide Counts of Knot and Redshank on Montrose Basin, winter 1997-98. (*=not counted)

NORTH NORFOLK COAST

Norfolk

Internationally important: Pink-footed Goose, Dark-bellied Brent Goose, Wigeon, Pintail, Grey Plover, Knot, Bar-tailed Godwit

Nationally important: Red-throated Diver, Little Grebe, Cormorant, European White-fronted Goose, Shelduck, Gadwall, Teal, Shoveler, Scaup, Common Scoter, Goldeneye, Red-breasted Merganser, Avocet, Ringed Plover, Golden Plover, Sanderling, Black-tailed Godwit, Redshank

Site description

The North Norfolk Coast comprises the coastline from the northern edge of Hunstanton in the west to Salthouse Marshes in the east and forms what is arguably the most diverse and complex estuarine system in the UK. There is no single principal river, but several small streams enter the sea here. The coast is the most extensive example of a barrier beach system in the UK, and the large areas of saltmarsh (over 2,000 hectares) are the most diverse in the UK in terms of geomorphology and biology. There is virtually no direct industrial influence on the site, with the main pressures being recreation and exploitation of natural resources. Longer-term threats from sea-level rise may be a more serious problem in the future however (Prater 1981, Pritchard *et al.* 1992, Davidson 1995b, M. Rooney pers. comm.)

Bird distribution

Although Brent Geese are widespread along the coast, they show a clear preference for saltmarsh away from the sea, with highest densities in Blakeney Harbour and north of Burnham Overy Staithe. Few Pink-footed Geese were noted at low tide except for 5,500 in Brancaster Harbour in December; this species uses intertidal habitat principally as a nocturnal roost. No White-fronted Geese were noted, as these birds favour fields at Holkham not covered by the survey. Wigeon showed a similar distribution to Brent Geese, with densest concentrations in Blakeney Harbour. Most Pintail were found in Brancaster and Blakeney Harbours. Teal were numerous in the saltmarshes, particularly near Titchwell, and Mallard were widespread but most concentrated in the harbours. Shelduck numbers exceeded Core Count totals, concentrated in Brancaster and Blakeney Harbours and at Burnham Overy Staithe. Goldeneye and Red-breasted Merganser were both present in similar numbers to Core Counts and favoured the harbours. Up to 70 Little Grebes within the saltmarsh creeks were a significant find, since most birds noted on Core Counts were found on freshwater habitats not covered by this survey. For the size of the site, the peak of only 16 Grey Herons was low, though up to eight Little Egrets, a Great White Egret and a Bittern were recorded. Cormorants, peaking at 60, were widespread.

Almost all of the Knot occurred on Bob Hall's Sands north of Wells, with smaller numbers in Blakeney Harbour and west of Holme. Bar-tailed Godwits were widespread along the coast, with concentrations at the mouth of Wells channel, on Stiffkey flats and in Blakeney Harbour. Grey Plovers were also widespread, although, as with many other waders, they seemed to avoid Holkham Bay. Whether this is due to the habitat or human disturbance (the area is popular with the public, at least in summer) is uncertain. Relatively few Avocets were noted at low tide, most in Blakeney Harbour. Black-tailed Godwits were similarly few in number, found mostly northeast of Brancaster, in Blakeney Harbour and at Salthouse. Sanderling were spread fairly evenly along all seaward sections and Redshank throughout the whole site, except Holkham Bay and the outer areas at Wells and Stiffkey. Low tide counts of Redshank far exceeded Core Counts and, if maintained over a five year period, suggest not only that the site supports internationally important numbers, but that it may be the sixth most important site in the UK.

Both Turnstones and Ringed Plovers were widespread but favoured Brancaster Harbour and inner Blakeney Harbour. Golden Plover were widespread with particular concentrations on Cockle Bight (north of Brancaster Staithe) and on the inner parts of Blakeney Harbour; the latter was also favoured by Lapwings which were widespread on saltmarsh areas. Oystercatchers and Dunlin were widespread, favouring outer parts of the site, but Curlew favoured areas closer to land, particularly Blakeney Harbour and north of Burnham Deepdale. There was a very high peak of 611 Snipe in January; the size of this saltmarsh population was previously unknown with most birds on Core Counts found on grazing marshes. Less numerous wader species included Spotted Redshank, Greenshank, Purple Sandpiper, Jack Snipe, Woodcock, Whimbrel, Ruff and the long-staying Black-winged Stilt.

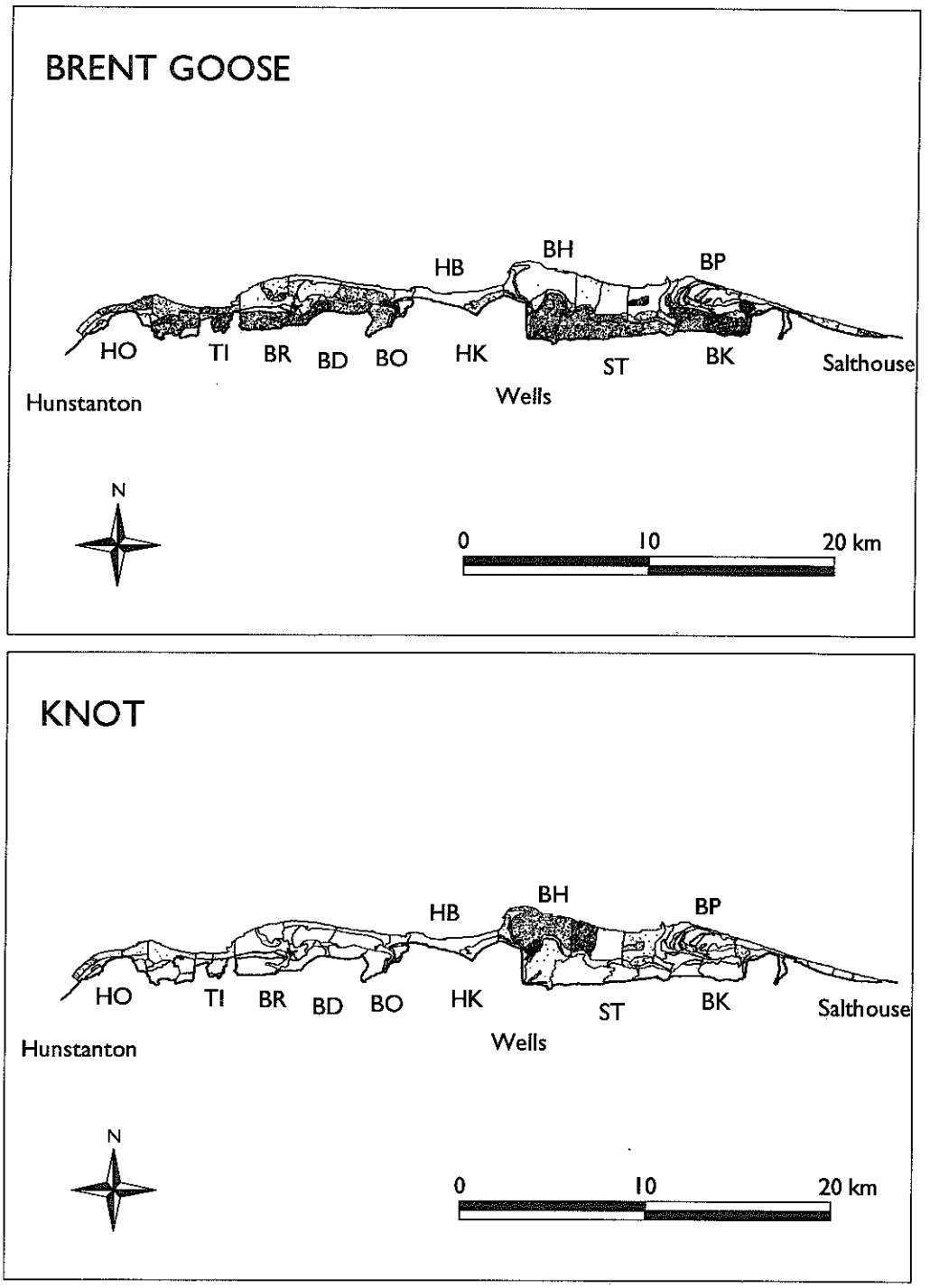


Figure 78. WeBS Low Tide Counts of Brent Goose and Knot on the North Norfolk Coast, winter 1997-98. (HO=Holme, TI=Titchwell, BR=Brancaster, BD=Burnham Deepdale, BO=Burnham Overy Staithe, HK=Holkham, HB=Holkham Bay, BH=Bob Hall's Sands, ST=Stiffkey, BK=Blakeney, BP=Blakeney Point. A total of five small sections were not counted.)

NORTH-WEST SOLENT

Hampshire

Internationally important: None
Nationally important: Dark-bellied Brent Goose, Black-tailed Godwit

Site description

The area known collectively as the North-west Solent includes all of the intertidal parts of the north shore of the Solent from the shingle of Hurst Spit in the west to the shoreline south of Sowley Pond in the east. To the east of here there is only a relatively narrow beach as far as Needs Oar Point and the Beaulieu Estuary (which was described in *Wildfowl and Wader Counts 1996-97*). The site is not far from the Isle of Wight; the birds at Hurst Spit are closer to the Yar Estuary across the Solent than they are to the birds at Pitts Deep. For the purposes of the WeBS Low Tide Counts, no data were received for the brackish lagoons and marshes at Pennington Marshes and Keyhaven Marshes. Although large areas of saltmarsh remain, much of the introduced *Spartina anglica* growth has now died back which, followed by erosion, has increased the area of intertidal flats. There are also areas of *Enteromorpha* which are a favoured food of the Brent Geese. The main threats to the area are from recreational disturbance such as sailing, shooting and walking, and from land-claim for marinas (Prater 1981, Pritchard *et al.* 1992, Davidson 1996c).

Bird distribution

This area of the Solent supports an average of approximately 15,000 wintering waterfowl. Figure 79 depicts the low tide distribution of the nationally important numbers of Black-tailed Godwits in the area. The majority of the godwits were found on the marshes to the south of Keyhaven, although small numbers were also present along the inner parts of the Lymington River and at Oxey Lake. The peak count of 378 Black-tailed Godwits at low tide in December 1997 was far higher than any winter Core Count of this species during the last five years. Bar-tailed Godwits were rather few in number and restricted to the Oxey Lake area. Dunlin, the most numerous wader at low tide with a peak of 5,645 recorded in January, were widespread on muddier parts of the site and also favoured Oxey Lake as well as the area to the south of Keyhaven. The marshes to the south of Keyhaven were the only location where roosting Golden Plover were located and Lapwing were also concentrated here, as well as on the inner part of the Lymington River. Redshank, Curlew, Oystercatcher and Grey Plover were all widespread although Curlew were somewhat more concentrated around the inner Lymington River and there was a concentration of Grey Plovers in Keyhaven Harbour. The few Knot present were to the east of Pitts Deep and most of the Turnstone were recorded at Hurst and south of Keyhaven. Ringed Plover were widespread in small numbers and there were also up to ten Greenshank, two Green Sandpipers and an Avocet recorded.

Numbers of Brent Geese recorded at low tide peaked at 1,852 in February. The species was very widespread but most concentrated to the south of Keyhaven (Figure 79). Shelduck and Wigeon were also widespread but Teal and Pintail were more restricted to the marshes to the south of Keyhaven and the lower Lymington River and marshes to the east of here. Mallard were found mostly along the Lymington River. Most Red-breasted Mergansers and the few Goldeneye recorded were around Hurst Spit. Most of the Cormorants were found to the east of Pitts Deep. Only a single Grey Heron was recorded, in December, compared to widely scattered records of up to five Little Egrets per month. Little Grebes showed a preference for Keyhaven Harbour but there were relatively few Great Crested Grebes noted. Other species of note included single Slavonian Grebe and Long-tailed Duck.

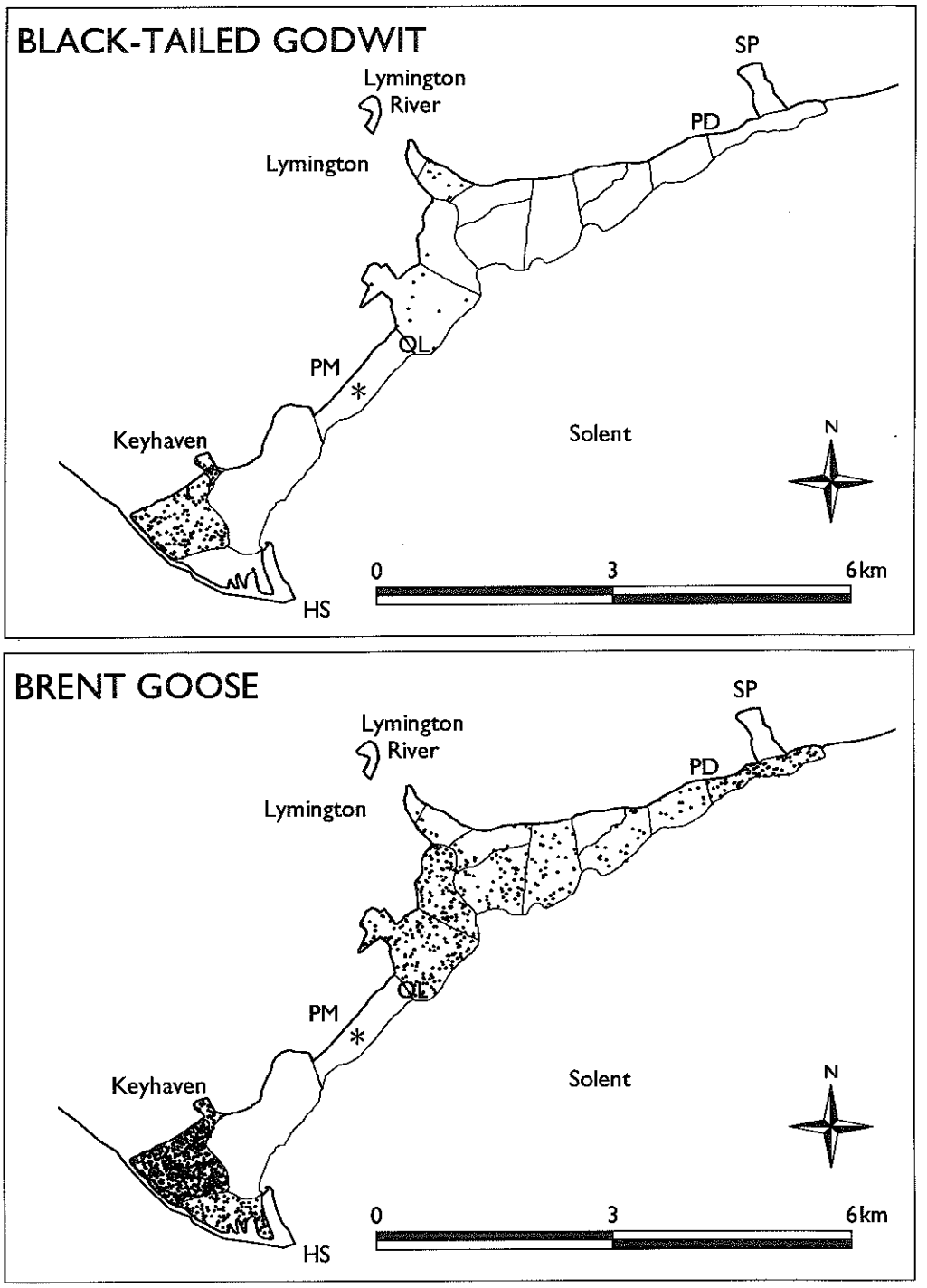


Figure 79. WeBS Low Tide Counts of Black-tailed Godwit and Brent Goose at the North-west Solent, winter 1997-98. (HS=Hurst Spit, PM=Pennington Marshes, PD=Pitts Deep, SP=Sowley Pond, *=not counted)

PAGHAM HARBOUR

West Sussex

Internationally important: Pintail
Nationally important: Cormorant, Dark-bellied Brent Goose, Teal, 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 claimed as agricultural land but was flooded again early in the 20th century. The harbour is now a designated SPA and Ramsar site. Only a limited amount of sailing takes place in the harbour and fishing is strictly regulated. There are no pressing conservation concerns (Pritchard *et al.* 1992, Buck 1997a, Davidson 1997a).

Bird distribution

Pagham Harbour supports, for its small size, a high number and variety of wintering waterfowl, with roughly 17,000 birds present. The harbour is internationally important for Pintail, with the peak Core Count for winter 1997-98 being 1,087 birds. During the 1997-98 WeBS Low Tide Counts, a peak of 391 was noted (in November) and thus it would appear that a considerable proportion of the wintering Pintail was missed by the Low Tide Counts. This is presumably because, as Figure 80 shows, Pintail favour the inner parts of the harbour where it is relatively easy for them to remain concealed. Another dabbling duck, Teal, which winters on the harbour in nationally important numbers, was similarly counted in fewer numbers at low tide (peak of 525 in December) than at high tide (peak of 969 also in December). Teal were widespread at low tide, especially along the south-west shores. Wigeon were concentrated around the middle parts of the harbour, particularly around the lower parts of White's Creek. Mallard were widespread with highest numbers on Pagham Lagoon and small numbers of Shoveler and Gadwall were also widespread. Brent Geese were recorded in relatively low numbers at low tide, with a peak of only 538 recorded, compared to a peak winter Core Count of 1,071. As was noted in *Wildfowl and Wader Counts 1996-97*, the fields to the north of Pagham Wall were favoured at low tide, with a few birds scattered about the harbour. Small numbers of Shelduck were fairly widespread in the harbour. Cormorants were mostly found in the outer half of the harbour and both Little and Great Crested Grebes favoured Pagham Lagoon. Seven Slavonian Grebes were recorded in the outer parts of the harbour in November. Up to four Little Egrets and seven Grey Herons were also noted, along with small numbers of Mute Swan, Canada Goose, Red-breasted Merganser and Goldeneye.

Grey Plovers were widespread but obviously favour the southern half of the site. Numbers recorded at low tide were much lower than on the Core Counts, with a peak of only 381 at low tide compared with a Core Count peak of almost 2,500 during the same winter. Some birds were probably moving out of the estuary to feed at low tide but the discrepancy seems large and it may have been that the Core Count peak was due to a relatively short-lived influx into the site which was not recorded by the Low Tide Counts. Black-tailed Godwit, the other nationally important wader wintering at Pagham, was mostly found immediately south of Pagham Wall. Unlike the previous two winters, during the 1997-98 winter the peak Low Tide Count of 124 birds was greater than the peak Core Count of 46. By far the most numerous species of wader in the harbour was Dunlin. This species was widespread but the highest concentrations were along the south-western parts of the site and on the outer shingle bar (where all of the Knot were found); many of the central parts of the harbour were avoided. The outer sections of the harbour were also favoured by Oystercatcher, Ringed Plover, Turnstone and the few Bar-tailed Godwits which were present. Curlew and Redshank were both widespread, although the latter species showed a slight bias towards the inner parts of the harbour. Golden Plover were found in two main concentrations, just to the south of Pagham Wall and to the east of the lower part of White's Creek; Lapwing were a little more widespread. Counts of Avocets at low tide peaked this winter at 14 in January, with the birds favouring the south-west side of the harbour. An high February count of 13 Spotted Redshank was achieved and up to 22 Snipe were also counted, but only a single Sanderling was recorded at low tide.

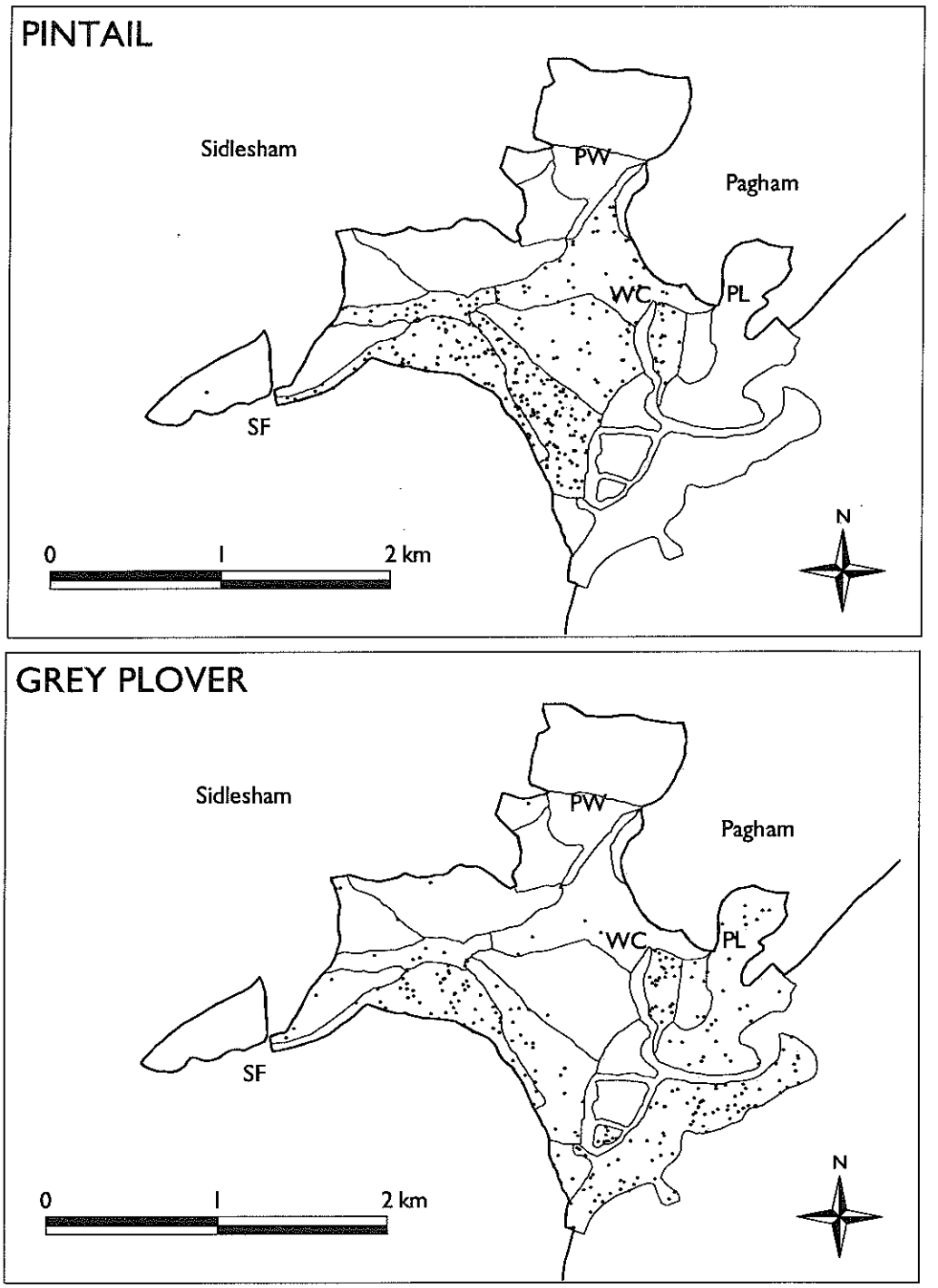


Figure 80. WeBS Low Tide Counts of Pintail and Grey Plover at Pagham Harbour, winter 1997-98. (SF=Sidlesham Ferry, PW=Pagham Wall, WC=White's Creek, PL=Pagham Lake)

PORTSMOUTH HARBOUR

Hampshire

Internationally important: None
Nationally important: Dark-bellied Brent Goose, Black-tailed Godwit

Site description

This large harbour on the Solent lies between Portsmouth to the east and Gosport and Fareham to the west. The main freshwater input is the fairly small Wallington River in the north-west which becomes Fareham Lake; the harbour receives relatively little freshwater. The connection to the sea, via the Solent, is only 200 metres wide at its narrowest point. There is relatively little in the way of saltmarsh but there are extensive areas of eelgrass and algae on the mudflats. The shores of the harbour are highly industrialised with extensive port and housing developments and major naval docks and installations. There have also been problems with land-claim for refuse disposal (Prater 1981, Pritchard *et al.* 1992, Davidson 1996c).

Bird distribution

The numbers of waterfowl wintering on Portsmouth Harbour (recent Core Counts of about 12,000 birds) are relatively low for an estuary of its size, presumably due in part to the built-up nature of the site. A peak of 2,505 Brent Geese was noted at low tide (corresponding very well to the Core Count peak) and the species was widespread around the site with lower densities noted on the outer mudflats and at the top of Fareham Lake (Figure 81). The other species present in nationally important numbers, Black-tailed Godwit, was noted in higher numbers at low tide (peak of 358 birds) than at high tide (peak of 100 birds in 1997-98), implying either movement of birds in and out of the estuary, or birds being hidden when roosting at high tide. Recent colour-ringing studies have shown that many Black-tailed Godwits feeding in the harbour at low tide actually roost at Farlington Marshes, in Langstone Harbour, at high tide (Solent Shorebird Study Group pers. comm.) The main concentration was at Paulsgrove Lake but significant numbers were also present around the upper parts of Fareham Lake (Figure 81).

The most numerous species noted at low tide was the Dunlin, with almost 9,000 counted. The species was widespread but with the main concentrations on the wider flats, particularly at Whale Island. Both Curlew and Grey Plover were evenly distributed around the harbour. Oystercatcher and Redshank were also both widespread but Oystercatchers occurred in higher densities in the northern part of the harbour and Redshank were more concentrated around the edges of the site, avoiding the centre of the harbour. Lapwings were concentrated in two areas; at Fareham Lake (where small numbers of Golden Plovers were also present) and at Tipner Lake. Turnstone favoured the north-east and north-west corners of the harbour and Ringed Plovers were widespread in small numbers. Knot have decreased greatly on Portsmouth Harbour, with just 11 recorded in February; Prater (1981) reported that Portsmouth Harbour was the third most important site for the species in southern England and peak winter Core Counts of over 1,000 were noted during several winters, but numbers crashed during the 1987-88 winter and have never recovered. The most notable other wader was a single Whimbrel recorded in January and February; this is a very scarce species in the winter in the UK.

With the exception of Brent Geese, wildfowl were not present in large numbers. There were about 100 each of Shelduck, Wigeon and Mallard. Shelduck were widespread, Mallard more confined to the edges of the harbour and the Wigeon were very much confined to Cams Bay, where most of the Teal were also found. Red-breasted Mergansers were relatively common, however, with up to 79 noted at low tide. Both this species and Goldeneye were widespread in the harbour. Mute Swans were also widespread. Of the other species present, Cormorants and Little Grebes were quite common but Great Crested Grebes less so. Little Egrets were roughly as common as Grey Herons and other species noted included Black-throated Diver and Slavonian Grebe. Two Mediterranean Gulls were noted in January, in addition to the five common gull species.

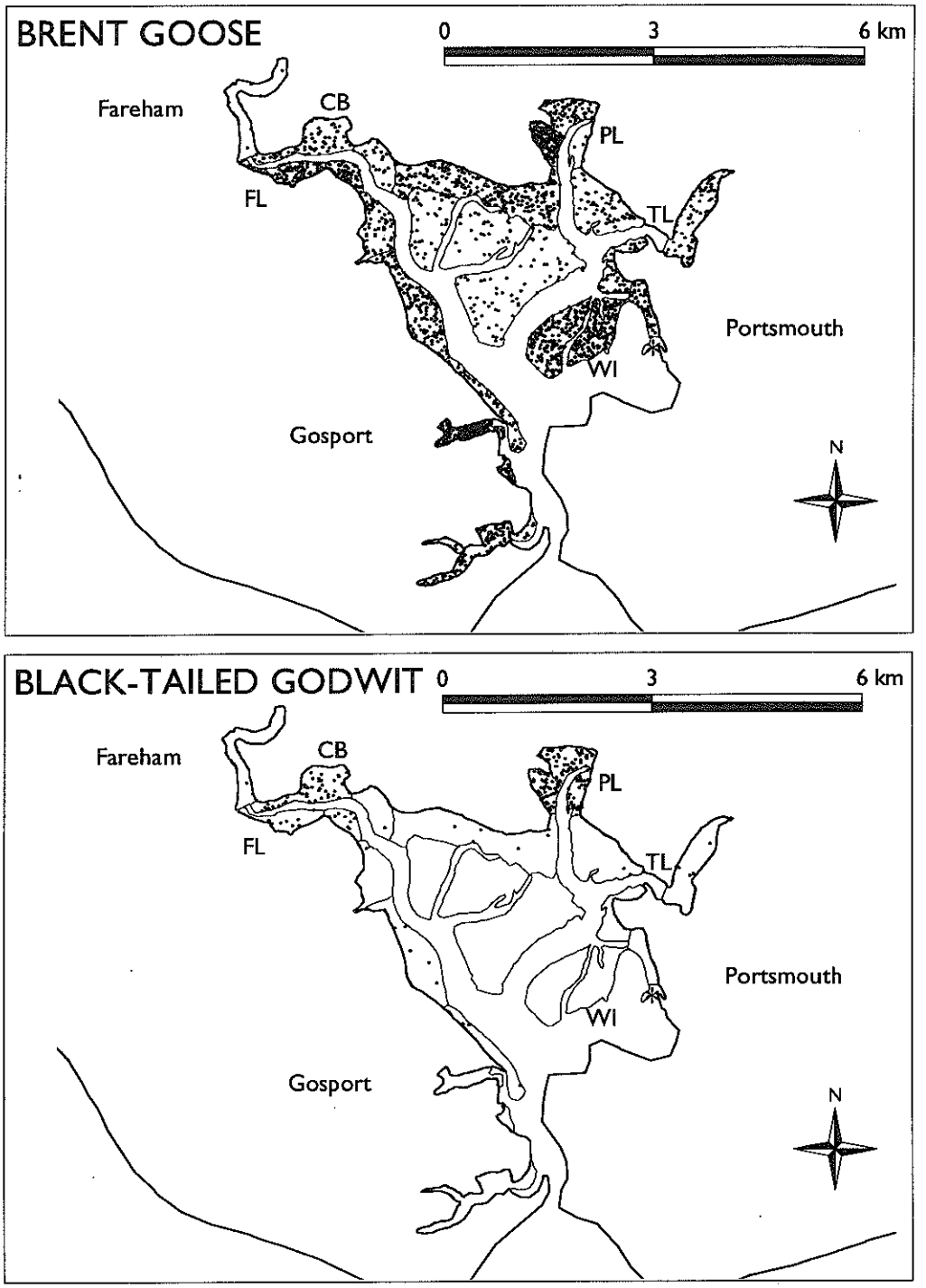


Figure 81. WeBS Low Tide Counts of Brent Goose and Black-tailed Godwit at Portsmouth Harbour, winter 1997-98. (FL=Fareham Lake, CB=Cams Bay, PL=Paulsgrove Lake, TL=Tipner Lake, WI=Whale Island, *=not counted)

RIBBLE ESTUARY

Lancashire / Merseyside

Internationally important: Bewick's Swan, Whooper Swan, Pink-footed Goose, Shelduck, Wigeon, Teal, Pintail, Oystercatcher, Grey Plover, Lapwing, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Redshank

Nationally important: Cormorant, Golden Plover, Curlew

Site description

The Ribble Estuary comprises a long, relatively narrow inner estuary, flanked by very large areas of saltmarsh, and a huge area of intertidal flats as the outer regions of the estuary. These flats run south as a wide, sandy shore, past Southport and merge into the area treated above as the Alt Estuary; on the northern side the area extends to the southern outskirts of Blackpool. Current issues concerning the Ribble include the level of sand winning and the use of vehicles on the flats by fisherman. There have also been recent proposals for a landfill site at Hesketh Out Marsh and for a hovercraft service across the estuary, whilst more general disturbance comes from holiday-makers, wildfowlers and the presence of the Warton aerodrome on the north shore. However, disturbance levels are generally low and development pressures are currently light (Prater 1981, Pritchard *et al.* 1992, Davidson 1996a, R.Lambert pers. comm.)

Bird distribution

With the exception of the Wash (which is three times larger), no other UK site holds as many wintering waterfowl as the Ribble. The site also holds internationally important numbers of more species than any other in the UK. The challenge of conducting Low Tide Counts on such a major site was met fairly successfully with the principal exception that the saltmarsh areas were not counted. The intertidal flats were mostly covered using a wide-tyred motorbike. Count sections were much larger than for most other estuaries and consequently the distributional information gathered is of only the broadest nature. As with all low tide counts, but particularly on very large sites, there is a danger that the low tide counts under-represent the importance of some parts of the site which hold very large numbers of feeding waterfowl during the mid-tide period. This was particularly the case for Marshside Sands (R. Lambert pers. comm.) Not surprisingly, the totals of birds counted at low tide were less than those at the high tide roosts, but with a mean Low Tide Count of almost 100,000 birds this was a major advance in our knowledge of this site.

The Ribble is of key significance for Wigeon, with a peak winter Core Count in 1997-98 of 66,197. Up to 46,000 were noted during Low Tide Counts. The highest concentrations were found on Banks Sands but Foulnaze and Southport Sands were also favoured. The main roosting flock, depicted across Banks Sands in Figure 82, was in reality mostly found along the channel separating Banks Sands and Marshside Sands (R. Lambert pers. comm.) Numbers of Teal, peaking at about 1,400, were far fewer than noted on Core Counts, presumably as a result of birds favouring the inner estuary and being missed in the saltmarsh. Most Pintail (peaking at 955 in December) were found on Salter's Bank, with smaller numbers on Banks Sands and Marshside Sands; most are found in the immediate vicinity of the river channel at low tide (R. Lambert pers. comm.) Shelduck occurred at highest densities in the inner estuary and on Banks Sands, but were not found on the sandy shore from Southport southwards. The other three species present in internationally important numbers (the two winter swans and Pink-footed Goose) do no make great use of intertidal areas at low tide and so numbers recorded by the survey were fairly low, but 174 Bewick's Swans on the inner Ribble in February were worthy of note. The nationally important numbers of Cormorants were distributed fairly evenly across the site.

The Ribble Estuary is the most important wintering site in the UK for Bar-tailed Godwits and a peak of over 10,000 were counted at low tide in December. The highest densities occurred on Foulnaze, with large numbers also on Salter's Bank and on Southport and Birkdale Sands. Numbers of Black-tailed Godwits recorded at low tide, however, were much lower than those known to be present from WeBS Core Counts, and occurred mostly on Ainsdale Sands and in the inner estuary. Other important wader species which favoured the inner estuary were Redshank, Curlew, Lapwing and Golden Plover, whereas the distributions of Dunlin, Grey Plover, Knot, Oystercatcher and Sanderling were more concentrated on the outer parts of the site, with Foulnaze particularly important for Dunlin, Knot and Oystercatcher. The Ribble is the only internationally important UK site for wintering Sanderling; these birds favoured Salter's Bank and the Ainsdale/Birkdale Sands stretches. Of the less numerous waterfowl species, a maximum count of 70 Snipe in November was notable.

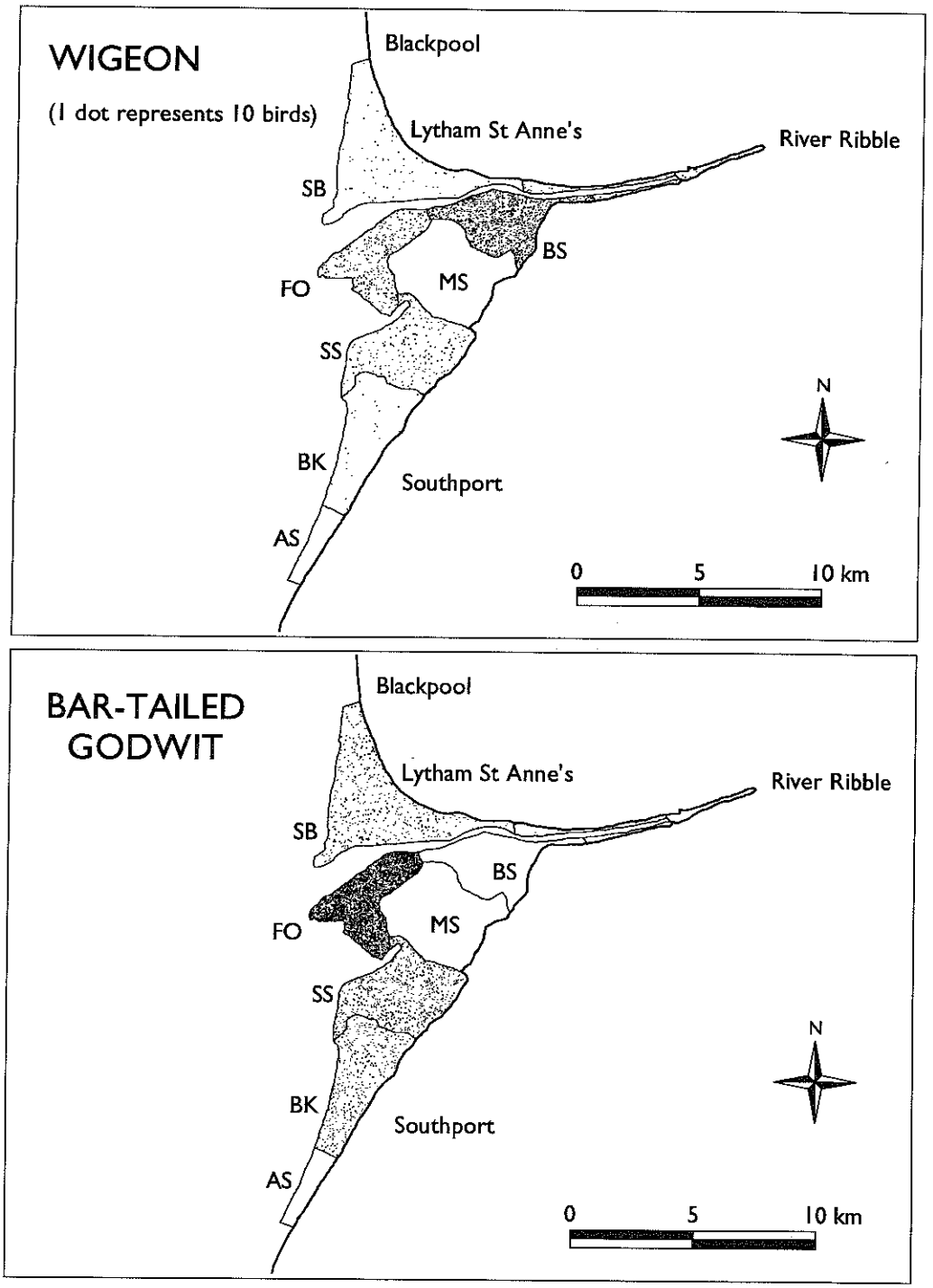


Figure 82. WeBS Low Tide Counts of Wigeon and Bar-tailed Godwit on the Ribble Estuary, winter 1997-98. (SB=Salter's Bank, FO=Foulnaze, SS=Southport Sands, BK=Birkdale Sands, AS=Ainsdale Sands, MS=Marshside Sands, BS=Banks Sands)

SOUTHAMPTON WATER

Hampshire

Internationally important: None
Nationally important: Great Crested Grebe, Dark-bellied Brent Goose, Teal, Black-tailed Godwit

Site description

Southampton Water is 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. 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 current 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 (Buck 1997a, Pritchard *et al.* 1992, Davidson 1996c).

Bird distribution

During the 1997-98 winter, Teal were quite widespread but with major concentrations at Cadland Creek and at Bury and Eling Marshes, with smaller numbers at Fawley and on the lower Hamble, an almost exact replica of the distribution noted in 1996-97. Numbers of Wigeon were similar to those of Teal (peaking at about 1,600 each) and occurred in broadly similar areas except for an absence from the Hamble and a separate concentration immediately east of Hythe. All of the Pintail were at Cadland Creek. Mallard were concentrated along the Itchen and on the shore by Titchfield Haven. Small numbers of Gadwall were located along the Fawley to Calshot shore. Brent Geese, peaking at 1,165 in November, were widespread with a general preference for the outer estuary although there were high numbers at Dibden Bay also. The highest densities were found to the north of Calshot and along the Hook to Hill Head stretch. Shelduck occurred principally at Eling Marsh and along the Fawley to Calshot shore. Numbers of other wildfowl species were unremarkable except for a maximum of 104 Mute Swans, concentrated along the Itchen in Southampton.

Dunlin were widespread at low tide but with their highest concentrations at Dibden Bay, on the opposite shore at Weston and at the Hamble Spit. This is the most numerous wader wintering at Southampton Water with a peak of over 7,000 birds at low tide in February. The peak 1997-98 winter Core Count was of only 1,972 and the highest Core Count from the last five winters was of 4,814 in December 1995, whereas similarly high numbers of Dunlin have been recorded at low tide during the previous three winters also. It appears that either the Core Counts are missing some of the Dunlin at the site or that there is immigration into the site at low tide, perhaps from the Beaulieu Estuary. Black-tailed Godwits peaked at 132 during the 1997-98 Low Tide Counts, although comparison with Core Counts is not possible due to a lack of recent core data from the preferred site of Titchfield Haven. The species was most concentrated in the Eling/Bury/Cracknore area with smaller numbers on the lower Hamble and to the east of Fawley. Very few Bar-tailed Godwits were recorded. Curlew were widespread with the highest concentrations at Dibden Bay where there were also held high densities of Grey Plovers and Oystercatchers. Grey Plovers also favoured the east shore at Weston. Lapwing were widespread along the western shore but with concentrations at Eling/Bury Marshes as well as on the lower Hamble. Golden Plovers were virtually all found on the lower Hamble. Redshank and Turnstone were both very widespread and Ringed Plover had concentrations on the Itchen and at Hythe. Only single Knot, Sanderling and Snipe were recorded but there were up to five Greenshank each month and a Common Sandpiper was present all winter.

Among the other species recorded, peak low tide counts of 33 Little Grebes (concentrated along the Itchen), 84 Great Crested Grebes (with the highest concentrations off Dibden and east of Hythe) and 125 Cormorants (quite evenly spread) were notable and up to three Little Egrets were present in the Fawley to Calshot area. All three rarer grebes were recorded as were both Red-throated and Great Northern Divers. Eight species of gull were noted, with maxima of almost 10,000 Black-headed Gulls, six Yellow-legged Gulls and two Mediterranean Gulls.

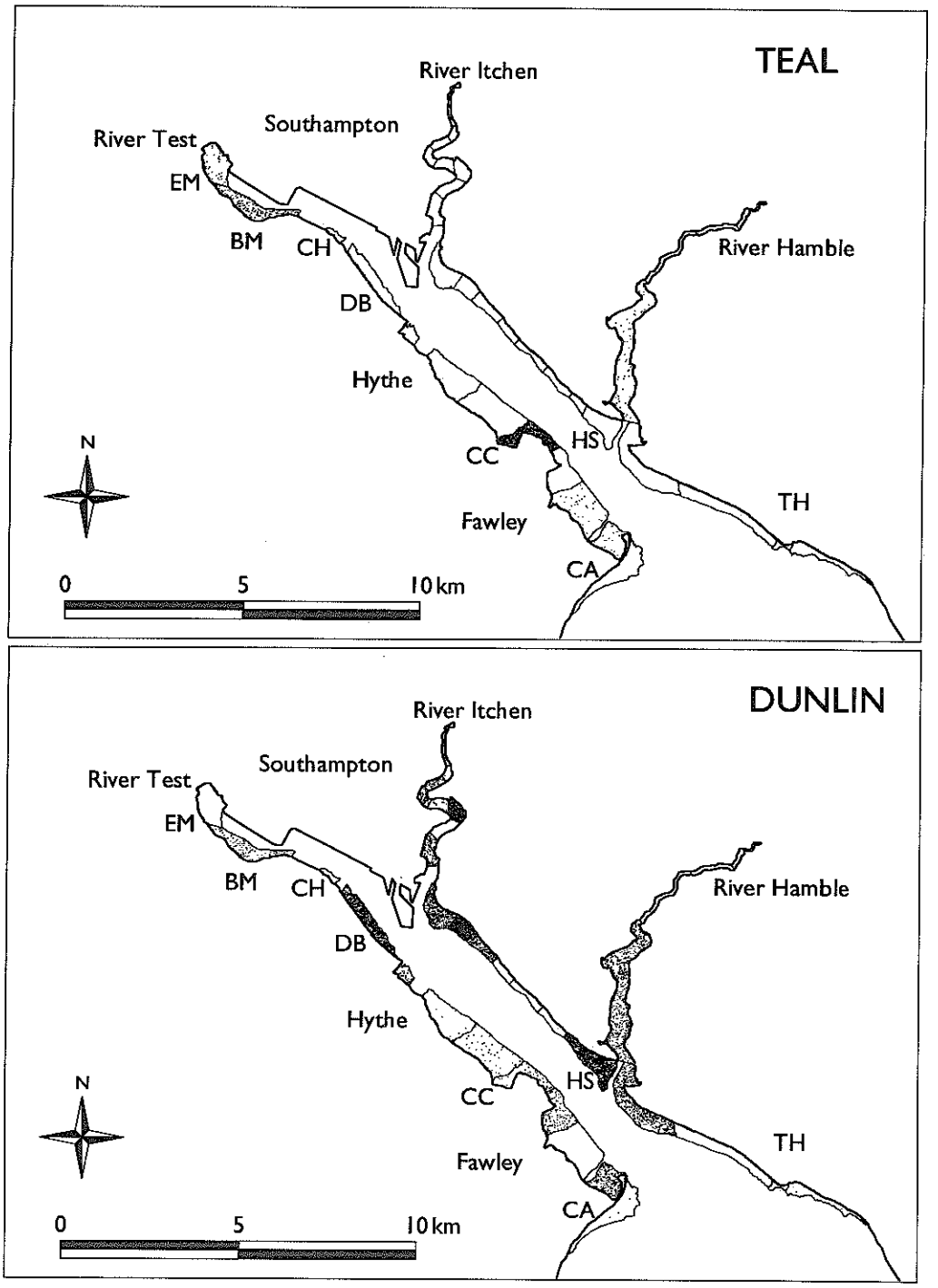


Figure 83. WeBS Low Tide Counts of Teal and Dunlin on Southampton Water, winter 1997-98. (EM=Eling Marsh, BM=Bury Marsh, CH=Cracknore Hard, DB=Dibden Bay, CC=Cadland Creek, CA=Calshot, TH=Titchfield Haven, HS=Hamble Spit)

STRANGFORD LOUGH

Co. Down

Internationally important: Light-bellied Brent Goose, Knot, Bar-tailed Godwit, Redshank
Nationally important: Little Grebe, 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, Black-tailed Godwit, Curlew, Turnstone

Site description

Strangford Lough is a large, almost land-locked sea lough situated to the southeast of Belfast. It encompasses extensive tidal flats at the northern end, smaller bays and creeks throughout and numerous small drumlin islands, particularly along the western shore. 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. The Wildfowl & Wetlands Trust also has a reserve at Castle Espie near Comber (Pritchard *et al.* 1992, Buck & Donaghy 1996, Buck 1997b).

Bird distribution

Bar-tailed Godwits were concentrated in three principal areas in 1997-98, all in the north of the lough. Numbers recorded at low tide were only about two-thirds of the winter Core Count peak. Redshank were much more evenly distributed around the lough although they too were recorded in lower numbers at low tide than at high tide. Knot were concentrated in the northern part of the lough also, with the Ogilby Island area of the northern flats particularly favoured as well as areas around Reagh and Mahee Islands and Greyabbey Bay. Black-tailed Godwits were mostly found on the Newtownards Flats (although higher up the shore than the Bar-tailed Godwits) and in Ardmillan Bay. The peak count of 436 in December was far in excess of the peak winter Core Count. Grey Plover were restricted to the northern mudflats and the Castle Espie area. Golden Plover (which peaked at 12,000 birds in February) also made use of this area as well as the Mahee Island and Greyabbey Bay areas. Lapwing also reached their highest densities in the Greyabbey area but were widespread around the lough. Oystercatcher and Curlew occurred very widely around the site but were found in highest densities in the north of the lough. The highest densities of Dunlin, which were also widespread, were to the south of Gores Island and in the Ballymoran/Quarterland area. Ringed Plover, Turnstone and smaller numbers of Purple Sandpipers favoured the outer channel in the south of the site but Turnstone were also found east of Castle Espie and Ringed Plovers also occurred south of Greyabbey and around Kircubbin. Of the other wader species, up to 40 Ruff, 24 Greenshank, 11 Snipe and five Common Sandpipers were also recorded.

Light-bellied Brent Geese arrive at the lough in early winter but then disperse to other sites further south. This was reflected in the Low Tide Counts, with 7,813 birds in November decreasing to 2,091 by February. Although widespread, the highest concentrations occurred along the north-east shore from Greyabbey to Newtownards. Shelduck peaked at over 4,000 birds; recorded numbers are typically higher at low tide than high tide at Strangford Lough. Significantly, using Low Tide Counts suggests Strangford Lough qualifies as internationally important for Shelduck with a five-year peak mean of 3,721 birds. The species was widespread but mostly found on the northern mudflats. Wigeon were widespread but quite localised, particularly at the Comber Estuary and to the north of Chapel Island. Teal were also widespread but Mallard were more localised. Most of the Pintail were around the outer parts of the Newtownards mudflats and to the west of Patterson's Hill. Shoveler favoured the Comber Estuary and Mahee Island. Goldeneye showed a preference for the Mahee/Ardmillan area but Red-breasted Mergansers were more widely scattered. Little Grebes were widespread but Great Crested Grebes were more concentrated in the Ringdufferin area. All three divers were recorded as well as a Black-necked Grebe and high count of 11 Slavonian Grebes. Most of the Mute Swans were in Ardmillan Bay and along the north-east shore. Up to 166 Whooper Swans and six Bewick's Swans were present in the Comber Estuary area. Cormorants peaked at 149 in December with the majority in the outer channel from Portaferry/Strangford southwards.

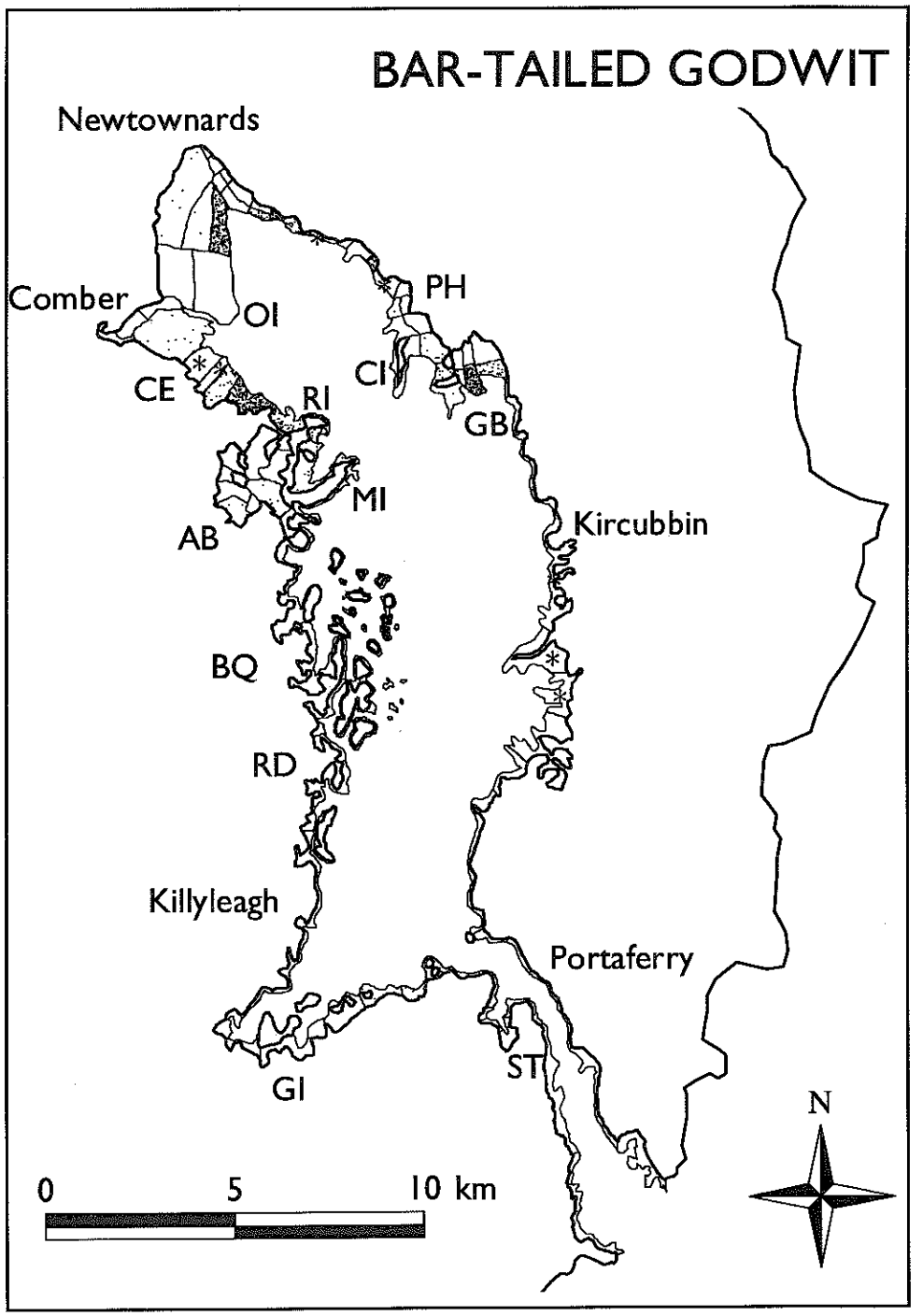


Figure 84. WeBS Low Tide Counts of Bar-tailed Godwit on Strangford Lough, winter 1997-98. (ST=Strangford, GI=Gores Island, BQ=Ballymorran/Quarterland, AB=Ardmillan Bay, MI=Mahee Island, RI=Reagh Island, CE=Castle Espie, OI=Ogilby Island, PH=Patterson's Hill, CI=Chapel Island, GB=Greyabbey Bay, *=not counted)

TAMAR COMPLEX

Cornwall / Devon

Internationally important: None
Nationally important: Avocet, Black-tailed Godwit

Site description

The Tamar Complex is the name given to the group of river estuaries (with the exception of the Plym) which reach the sea through Plymouth Sound. The estuaries are the drowned river valleys of the Tamar, Lynher and Tavy, which collectively drain a large area of Devon and Cornwall. The wide area of intertidal flats to the south of Torpoint known as St. John's Lake is also included in the site. The east shore of the lower parts of the complex are adjacent to the city of Plymouth, which has extensive dockyards and naval bases. Apart from the towns of Torpoint and Saltash, most of the west side of the estuary, as well as the upper estuary, is rural in nature. Areas of saltmarsh occur throughout even to the upstream reaches, and stretches of rocky shore also occur unusually far inland. Apart from the Plymouth area, most potential pressures on estuarine waterfowl are concerned with recreational disturbance and there are several proposals for new marinas (Prater 1981, Pritchard *et al.* 1992, Davidson 1996b).

Bird distribution

The Tamar complex was only partially covered for the 1997-98 WeBS Low Tide Counts and this must be taken into account when considering the following details on waterfowl distribution. However, a more detailed study of the site was made by Simon Geary as part of his M.Sc. work (Geary 1997) and his work has been useful in interpreting the results of the current survey.

The complex supports an average of about 13,000 wintering waterfowl based on WeBS Core Counts. In 1997-98, Avocets were restricted to the eastern side of the Tamar between the Tavy and the Tamar Bridges at low tide. However, since the peak count (180) was much lower than the Core Count peak (595) in winter 1997-98, it seems that many birds were feeding in the unsurveyed sections, probably mostly on the Tamar upstream of Saltash (Geary 1997). Black-tailed Godwits showed a similar pattern of occurrence although the Low Tide and Core Count totals for this species corresponded much more closely; Geary found that the Kingsmill Lake and Millbrook areas were also important for this species in the winter (although the Lynher was used by the species during autumn migration). Oystercatchers were widespread in small numbers as were Curlew although this latter species occurred in higher densities on the Lynher at Sheviock. Dunlin, though widespread, were present in very low numbers on the sections covered, with a peak of less than 100 (compared to a peak of over 3,000 during Core Counts over the same period). The majority of the missing birds will have been on St John's Lake (Geary 1997). Both Golden Plover and Lapwing were concentrated at Sheviock and on the Tavy, with Lapwing also present on Tamerton Lake. Geary also found many Lapwing and Golden Plover on the upper reaches of the Tamar. Redshank were widespread with concentrations on Tamerton Lake and at St Germans. Most other waders were present in small numbers although up to 20 Snipe and three Jack Snipe on the Tavy, as well as up to six Common Sandpipers there, were noteworthy.

The most numerous wildfowl species noted was Canada Goose, present on the Tavy and Lynher but, had the whole site been covered, Shelduck, Wigeon, Teal and Mallard would no doubt have been found to be more abundant. Wigeon were found on the Tamar and Lynher (note that the mid-Lynher, which was not covered, was found to be the most important area for Wigeon by Geary) but Mallard were more widespread with the highest concentration at Polbathic Creek. Mallard were found by Geary to be common also on the upper reaches of the Tamar. Shelduck were distributed quite evenly throughout (note that Geary found many on St John's Lake and mid-Lynher) but most of the Mute Swans were located at Saltash. Despite the fact that several hundred Teal winter on the Tamar, a peak of only two was recorded during the present survey; Geary found most birds on the upper reaches of the Tamar, Kingsmill Lake, the mid-Lynher and Millbrook Lake, none of which were covered during 1997-98. Of the other species present, a peak of 22 Little Egrets was only just exceeded by the peak of 23 Grey Herons. A Spoonbill which had been wintering on the Lynher for several winters was recorded in February. Two Mediterranean Gulls were noted along with the five more common species.

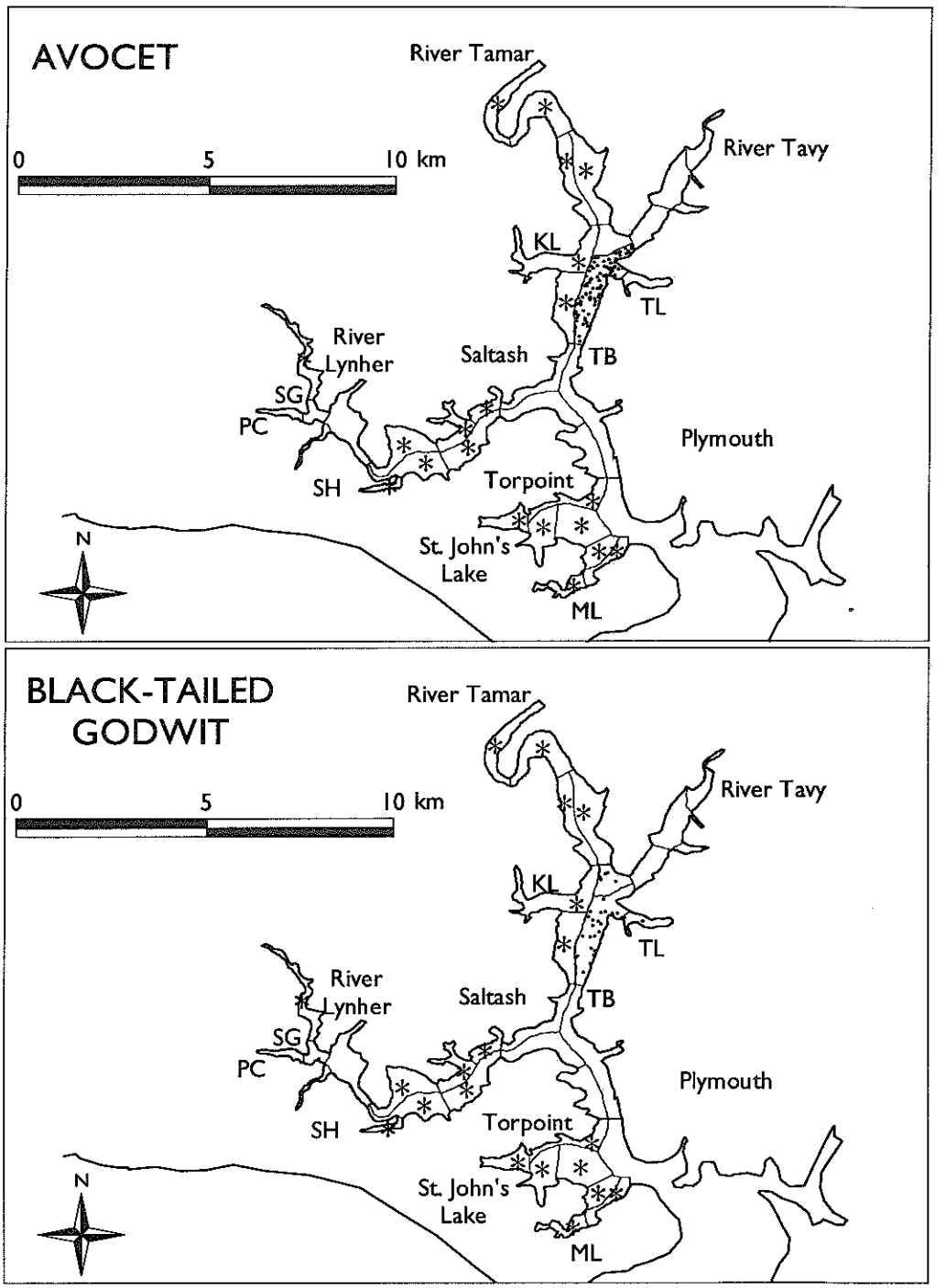


Figure 85. WeBS Low Tide Counts of Avocet and Black-tailed Godwit on the Tamar Complex, winter 1997-98. (KL=Kingsmill Lake, SG=St Germans, PC=Polbathic Creek, SH=Sheviock, ML=Millbrook Lake, TB=Tamar Bridge, TL=Tamerton Lake, *=not counted)

YTHAN ESTUARY

Aberdeenshire

Internationally important: Pink-footed Goose
Nationally important: Eider, Redshank

Site description

The Ythan is a relatively small estuary in north-east Scotland, about ten miles north of Aberdeen. Despite its small size, it is the largest estuary on the coast between Montrose Basin and the Moray Firth and as such is important in a local context. The estuary has a narrow shape and is about 10 km in length. The estuary is shielded from the sea by the nationally important sand dune system known as the Sands of Forvie. The inner estuary is muddy and the outer stretches more sandy, but there is relatively little in the way of saltmarsh. The main human influences on the estuary are through recreation, particularly wildfowling, and through eutrophication of the lower part of the estuary (Prater 1981, Pritchard *et al.* 1992, Davidson 1996d).

Bird distribution

The Ythan Estuary holds a mean winter peak of about 23,000 waterfowl, principally wildfowl. A large proportion of this total is, however, made up of the internationally important numbers of Pink-footed Geese which sometimes roost here, and sometimes at Slains Loch. Since they generally only use the estuary for nocturnal roosting, it was no surprise that no Pink-footed Geese were recorded on the Low Tide Counts.

The estuary is well known for its much-studied Eider flock which is concentrated at low tide around the mouth of the estuary, not reaching much further upstream than the north end of Newburgh (Figure 86). Up to 1,448 Eider were noted during the WeBS Low Tide Counts, approximately half of the corresponding Core Count peak. This is presumably due to birds moving out onto the open coast to feed as the tides goes out. Other wildfowl were noted in smaller numbers with a few hundred Wigeon the next most numerous species; Wigeon occurred widely although relatively few were found in the northern part of the estuary. Small numbers of Tufted Ducks were found with the Eider flock but Goldeneyes and Red-breasted Mergansers occurred more widely. Shelduck favoured the middle stretches of the estuary around Waterside but Mute Swans were more common at the northern end of the site. Grey Herons were widely scattered throughout but Cormorants favoured the lower stretches. A small number of Mallards and a Little Grebe were also noted. Unfortunately, no King Eiders were noted during the counts at what is probably their most frequented British haunt.

Of the relatively small numbers of waders present, Redshank is the only species for which the site qualifies as nationally important. At low tide, much smaller numbers of this species were noted, with a peak of only 475 birds. Since the estuary is fairly small and does not have extensive areas of saltmarsh for birds to hide in, it seems possible that many birds may move out to the adjacent areas of open coast to feed at low tide. The species was found to be widespread although slightly more numerous at the northern end and around the middle stretches near Waterside (Figure 86).

Of the other waders, most of the Lapwings and all of the Golden Plovers favoured the northern end of the estuary for roosting. Curlews were numerous, especially in February when over 1,500 were present; the greatest concentrations were found around the centre of the estuary. Knot were found exclusively around the mouth of the estuary with the greatest concentration of Oystercatchers, although this species occurred widely. Bar-tailed Godwits and the few Grey Plovers and Turnstones preferred the mouth of the estuary. Dunlin occurred principally in two areas; at the northern end of the estuary and also roughly level with Newburgh. More unusual species included two Greenshanks and a Common Sandpiper, the latter being a rather northerly record for February. Small numbers of Ringed Plover and Snipe were also noted. Four species of gulls were present but no Lesser Black-backed Gulls were recorded.

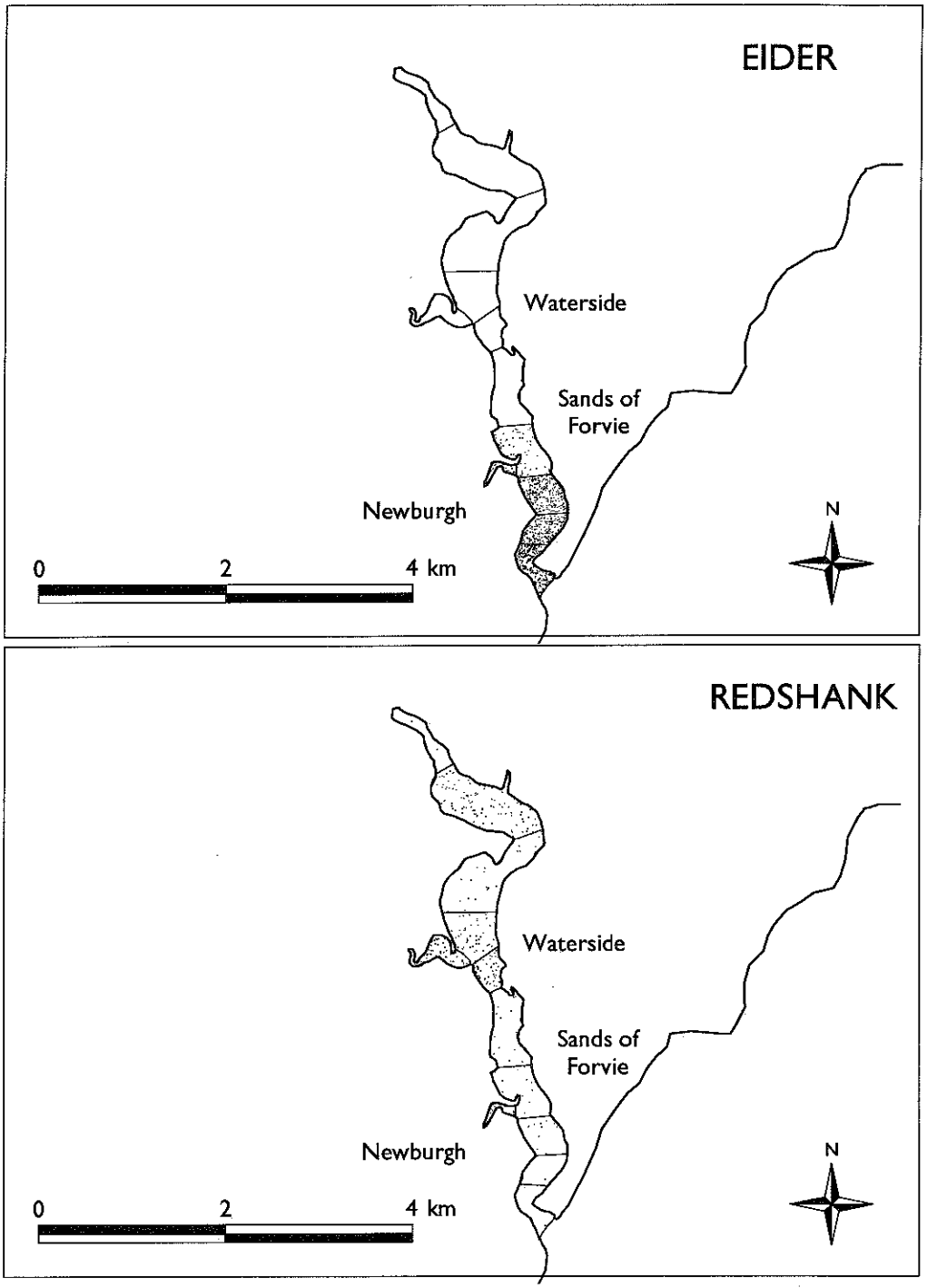


Figure 86. WeBS Low Tide Counts of Eider and Redshank on the Ythan Estuary, winter 1997-98.

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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 DESIGNATIONS

The Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat requires each Contracting Party to designate suitable wetlands, selected on account of their international significance in terms of ecology, botany, zoology, limnology or hydrology, for inclusion in a List of Wetlands of International Importance (known as Ramsar sites) (Carp 1972). The Directive on the Conservation of Wild Birds (EC/79/409) lays emphasis on the need to conserve bird habitats as a means of maintaining populations and that this, in part, should be achieved by the establishment of a network of protected areas termed Special Protection Areas (SPAs) (Stroud *et al.* 1990). Ramsar Sites and SPAs may be identified using a number of criteria, including a number of numeric selection critieria (see Appendix 2) which draw heavily upon waterfowl counts, especially WeBS and the other data presented in this report.

Between 1 January 1998 and 31 March 1999, a total of 38 SPAs and 23 Ramsar sites were designated by the UK, with 17 of these sites receiving dual designation. These new designations are indicated in Table A1 by 'N'.

This represents excellent progress during the period. By 31 March 1999, 137 Ramsar sites and 199 SPAs had been designated in the UK, with a further three UK Ramsar sites in Dependent Territories. The total area designated as Ramsar sites has reached 661,217.27 ha, and that as SPAs is 943,584.23 ha. Since many sites are designated as both a Ramsar site and SPA, this represents a total area designated of just under one million square kilometres.

Table A1. Ramsar Sites and SPAs designated in the UK as of 31 March 1999. (R) = Ramsar site only; (S) = SPA only; the remainder have dual designation. Sites designated during the period 1 January 1998 to 31 March 1999 are denoted by 'N'.

Abberton Reservoir
Abernethy Forest (S)
Achanalt Marshes (S)
Ailsa Craig (S)
Alde-Ore Estuary
Alt Estuary
Ashdown Forest (S)
N Auskerry (S)
N Avon Valley
N Ballochbuie (S)
N Ballynahone Bog (R)
N Beinn Dearg (S)
N Belfast Lough
N Ben Wyvis (S)
Benacre to Easton Bavents (S)
Benfleet and Southend Marshes
N Berwyn (S)
Blackwater Estuary (Mid-Essex Coast Phase 4)
Bowland Fells (S)
Breydon Water
Bridgend Flats, Islay
Bridgwater Bay (part of Severn Estuary) (R)
N Broadland
N Buchan Ness to Collieston Coast (S)
Bure Marshes (part of Broadland) (R)
Burry Inlet
Caenlochan (S)
Cairngorm Lochs (R)
Cairngorms (S)
N Caithness and Sutherland Peatlands
N Caithness Lochs
N Calf of Eday (S)
Cameron Reservoir
N Canna and Sanday (S)
Cape Wrath (S)
N Carlingford Lough
Castle Loch, Lochmaben
Castlemartin Coast (S)
Chesil Beach and The Fleet
Chew Valley Lake (S)
Chichester and 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 and Dyfi (R)
N Corsydd Môn a Llyn /Anglesey and Llyn Fens (R)
N Creag Meagaidh (S)
N Cromarty Firth (Moray Basin Firths and Bays)
N Crouch and Roach Estuaries (Mid-Essex Coast Phase 3)
Crymlyn Bog (R)
N Cuilcagh Mountain (R)
Deben Estuary
Dengie (Mid-Essex Coast Phase 1)
Dersingham Bog (R)
Derwent Ings (part of Lower Derwent Valley)
Din Moss - Hoselaw Loch
Dornoch Firth and Loch Fleet
N Dorset Heathlands
Drumochter Hills (S)
N Duddon Estuary
East Caithness Cliffs (S)
N East Devon Heaths (S)
East Sanday Coast
Eilean na Muice Duibhe (Duich Moss) Islay
Elenydd-Mallaen (S)
N Eoligarry (S)
Esthwaite Water (R)
Exe Estuary
Fair Isle (S)
Fala Flow
Farne Islands (S)
Fetlar (S)
Feur Lochain (part of Rinns of Islay)
Firth of Forth Islands (S)
Flamborough Head and Bempton Cliffs (S)
Flannan Isles (S)
Foula (S)
Foulness (Mid-Essex Coast Phase 5)
Fowlsheugh (S)
N Garron Plateau (R)
Gibraltar Point
Glac na Criche (part of Rinns of Islay)
Gladhouse Reservoir
Glannau Aberdaron and Ynys Enlli/Aberdaron Coast and Bardsey Island (S)
Glannau Ynys Gybi /Holy Island Coast (S)
N Glas Eileanan (S)
Glen Tanar (S)
Grassholm (S)
Great Yarmouth North Denes (S)
Greenlaw Moor
Gruinart Flats, Islay
Hamford Water
Handa (S)
Hermaness and Saxa Vord (S)
Hickling Broad and Horsey Mere (part of Broadland) (R)
Holburn Lake and Moss
Hornsea Mere (S)

Humber Flats, Marshes and Coast (Phase 1)
N Inner Moray Firth (Moray Basin Firths and Bays)
Irthinghead Mires (R)
N Kilpheder to Smerclate, South Uist (S)
N Kintyre Goose Roosts
Laggan, Islay (S)
Larne Lough
Leighton Moss
Lindisfarne
Llyn Idwal (R)
Llyn Tegid (R)
Loch an Duin (R)
Loch Ashie (S)
Loch Druidibeg, Loch a' Machair and Loch Stilligarry (R)
Loch Eye
Loch Flemington (S)
Loch Ken and River Dee Marshes
Loch Knockie and Nearby Lochs (S)
Loch Leven (R)
Loch Lomond
Loch Maree
N Loch of Inch and Torrs Warren
Loch of Kinnordy
Loch of Lintrathen
Loch of Skene
Loch of Strathbeg
Loch Ruthven
Loch Spynie
Loch Vaa (S)
N Lochnagar (S)
Lochs Druidibeg, a' Machair (S)
Lochs of Spiggie and Brow (S)
N Lough Foyle
Lough Neagh and Lough Beg
Lower Derwent Valley
Malham Tarn (R)
Martin Mere
Marwick Head (S)
Medway Estuary and Marshes
Mersey Estuary
Midland Meres and Mosses Phase 0
Midland Meres and Mosses Phase 2 (R)
Mingulay and Berneray (S)
Minsmere - Walberswick
N Mointeach Scadabhaigh (S)
Monach Isles (S)
Montrose Basin
Moor House (S)
Moray and Nairn Coast
Morecambe Bay
Mousa (S)
Nene Washes
N Ness & Barvas, Lewis (S)
New Forest
North Caithness Cliffs (S)
North Colonsay and Western Cliffs (S)
North Harris Mountains (S)
North Inverness Lochs (S)
North Norfolk Coast
N North Sutherland Coastal Islands (S)
N North Uist Machair and Islands
Noss (S)
Old Hall Marshes (part of Blackwater Estuary)
Orfordness-Havergate (part of Alde-Ore Estuary) (S)
Ouse Washes
Pagham Harbour
Papa Westray (North Hill and Holm) (S)
Pentland Firth Islands (S)
Pettigoe Plateau
N Pevensey Levels (R)
N Poole Harbour
Porton Down (S)
Portsmouth Harbour
Priest Island (Summer Isles) (S)
Ramna Stacks and Gruney (S)
Ramsey and St David's Peninsula Coast (S)
Rannoch Moor (R)
N Rathlin Island (S)
Redgrave and South Lopham Fens (R)
Ribble and Alt Estuaries (Phase 2)
Ribble Estuary (S)
Rinns of Islay
River Spey - Insh Marshes
Rockcliffe Marsh (part of Upper Solway Flats and Marshes)
Ronas Hill - North Roe and Tingon
Rostherne Mere (R)
Roydon Common (R)
Rum (S)
Rutland Water
Salisbury Plain (S)
Severn Estuary
Sheep Island (S)
Shiant Isles (S)
Silver Flowe (R)
Skomer (S)
N Solent and Southampton Water
Somerset Levels and Moors
South Pennine Moors Phase 1 (S)
South Pennine Moors Phase 2 (S)
South Tayside Goose Roosts
South Uist Machair and Lochs
St Abb's Head to Fast Castle (S)
St Kilda (S)
Stodmarsh
Stour and Orwell Estuaries
N Strangford Lough
Sule Skerry and Sule Stack (S)
Sumburgh Head (S)
Swan Island (S)
Tamar Estuaries Complex (S)
Teesmouth and Cleveland Coast
Thanet Coast and Sandwich Bay
The Dee Estuary
The Swale
The Wash
Thursley and Ockley Bog (R)
Thursley, Hankley and Frensham Commons (Wealden Heaths Phase 1) (S)
Traeth Lafan/Lavan Sands, Conway Bay (S)
Treshnish Isles (S)
Troup, Pennan and Lion's Heads (S)
Upper Lough Erne
Upper Severn Estuary (part of Severn Estuary)
Upper Solway Flats and Marshes
Walmore Common
N Wealden Heaths Phase 2 (S)
West Westray (S)
Westwater
Wicken Fen (R)
Woodwalton Fen (R)
Ynys Feurig, Cemlyn Bay and The Skerries (S)
N Ythan Estuary and Meikle Loch (R)
N Ythan Estuary, Sands of Forvie and Meikle Loch (S)

APPENDIX 2. INTERNATIONAL AND NATIONAL IMPORTANCE

Any site recognised as being or international ornithological importance is considered for classification as a Special Protection Area (SPA) under the EC Directive on the Conservation of Wild Birds (EC/79/409), whilst a site recognised as an internationally important wetland qualifies for designation as a Ramsar site under the Convention on Wetlands of International Importance especially as Waterfowl Habitat. 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, in most cases, to the northwest 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.

The 1% thresholds for British, all-Ireland and international waterfowl populations, where known, are listed in Table A2. Thus, any site regularly supporting at least this number of birds potentially qualifies for designation under national legislation, or the EC Bird's Directive or Ramsar Convention. The international population for each species and subspecies 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 or international importance.

1% thresholds have not been derived for introduced species 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; Ramsar Resolution VI.4).

The third edition of *Waterfowl Population Estimates*, presented to the Seventh Meeting of the Contracting Parties to the Ramsar Convention in Costa Rica in May 1999, includes revisions for a number of goose populations (following Madsen *et al.* 1999) and of a number of east Atlantic flyway wader populations (see Davidson 1998a). The next revision of British population sizes will be undertaken in the year 2000.

Table A2. 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

	Great Britain	all-Ireland	International	Population
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	+ *	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
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 (win)
Avocet	10 *	+ *	700	Europe/NW Africa (bre)
Little Ringed Plover	?	?	?	Europe/W Africa
Ringed Plover	290	125	500	Europe/NW Africa (win)
passage	300			
Golden Plover	2,500	2,000	18,000	NW Europe (bre)
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(win)
Purple Sandpiper	210	10 *	500	E Atlantic
Dunlin *C. a. arctica*			150	Greenland (bre)
C. a. schinzii (Icelandic)			8,000	Iceland/Greenland (bre)
C. a. schinzii (temperate)			200	UK/Ireland/Baltic
C. a. alpina	5,300	1,250	14,000	Europe (bre)
passage	2,000			
Ruff	7 *	+ *	10,000	W Africa (win)
Jack Snipe	?	250	?	Europe/W Africa (win)
Snipe	?	?	10,000	Europe/W Africa (bre)
Woodcock	?	?	20,000 **	Africa/Europe
Black-tailed Godwit	70	90	700	Iceland (bre)
Bar-tailed Godwit	530	175	1,000	W Europe (win)
Whimbrel	+ *	+ *	6,500	Europe/W Africa (win)
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 (win)
T. t. robusta	1,100		1,500	NW Europe (win)
passage	1,200			
Greenshank	+ *	9 *	3,000	Europe/W Africa
Green Sandpiper	?	?	?	Europe (bre)

	Great Britain	all-Ireland	International	Population
Common Sandpiper	?	?	?	Europe (bre)
Turnstone	640	225	700	Europe (win)
Little Gull	?	?	750	Cent/E Europe (bre)
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 3. ANALYSES

This appendix provides additional detail about the analyses used in this report to that presented in *Analyses* and lists the index values used to produce the graphs of annual and monthly indices in the species accounts.

Data availability

The count scheme first begun in 1947 has developed considerably over time (see Cranswick *et al.* 1997). In particular, coverage of species and area has expanded during this time. The first year for which data for certain species or areas are available for use in analyses are given below:

Table A3. First year of availability of WeBS Core Count data for different species and areas

Wildfowl in GB	1960 on computer (collected since 1947)
Waders in UK	1969-70
Great Crested Grebe	1982-83
Coot	1982-83
Little Grebe	1985-86
Comorant	1986-87
Wildfowl in Northern Ireland	1986-87
Rare grebes, divers, rarities	1993-94

National totals for goose populations

Figures presented in Tables 1 & 2 and in Appendices 4-9 for total counts of the various goose populations are derived initially from WeBS Core Counts, but are replaced by results of dedicated censuses (see *Survey Methods, Analyses* and *Coverage* for appropriate references, methods and dates) where these provide better counts. Several goose populations are identified according to location (and totals derived by summing counts from particular WeBS regions) where they cannot be separated in the field by appearance.

Table A4. Use of WeBS Core Count and goose census data to compile national totals for goose populations in 1997-98.

Bean Goose	WeBS Core Counts in all months
Pink-footed Goose	October and November counts replaced by summed counts from the co-ordinated national censuses
European White-fronted Goose	WeBS Core Counts in all months
Greenland White-fronted Goose	November and March counts replaced by summed counts from the co-ordinated late autumn and late spring international censuses, respectively
Greylag Goose:	
Iceland	WeBS Core Counts from all WeBS regions in Scotland except those on the west coast (see NW Scotland population) plus Northumberland and North Cumbria. October and November counts replaced by summed counts from the co-ordinated national censuses.
NW Scotland	WeBS Core Counts from WeBS regions Islay/Jura/Colonsay, Mull/Lismore/Coll/Tiree Skye, Highland Southwest and North and South Outer Hebrides. August and February counts replaced by summed counts from co-ordinated censuses of Outer Hebrides. August 1997 count replaced by total from full national survey
naturalised	WeBS Core Counts for all sites in Wales and England, except for Northumberland and North Cumbria

Note that Icelandic and NW Scotland populations overlap in WeBS regions Orkney and North Highland. NW Scotland birds counted by WeBS in these regions will be included Icelandic population totals. Note also that up to 2,340 naturalised birds occur in Scotland (Delany 1992) and others in Northumberland and North Cumbria which are therefore incorrectly included in totals of Icelandic birds in Appendices 4-9

Canada Goose	WeBS Core Counts in all months
Barnacle Goose:	
Greenland	WeBS Core Counts from all WeBS regions on Scottish west coast, plus Shetland and Orkney. November and March counts replaced by summed counts from the co-ordinated late autumn and late spring censuses in Argyll plus the monthly maximum count from Hoy, Orkney.
Svalbard	WeBS Core Counts from WeBS regions Dumfries & Galloway, North Cumbria, Northumberland, Borders, Lothians, Central, Fife, Perth & Kinross, Angus, Grampian, Moray and SE Highland. Dumfries & Galloway and North Cumbria WeBS Core Counts replaced by Solway-wide counts and censuses between October and March.
naturalised	WeBS Core Counts for all WeBS regions in Wales and England, except for Northumberland and North Cumbria
Dark-bellied Brent Goose	WeBS Core Counts, plus additional counts of inland areas in January and February
Light-bellied Brent Goose:	

Canada	WeBS Core Counts for sites in Northern Ireland, Wales and WeBS regions Shetland, Orkney, Highland North, Western Isles, Skye, Higland Southwest, Islay/Jura/Colonsay, Argyll West Mainland, Mull/Lismore/Coll/Tiree, Dumbarton/SE Argyll, Renfrew, Lanarkshire/Strathkelvin, Ayrshire & Arran, Dumfries & Galloway West, Cornwall, Devon and the Channel Islands. October count in Northern Ireland replaced by counts in Northern Ireland made during all-Ireland census.
Svalbard	WeBS Core Counts from regions not used to compile Canada population totals (see above)

Annual indices

Underhill index values are derived from sites where at least 50% of the maximum possible number of counts, bearing in mind that different months are used for different species, were complete. Index values provided extend back to 1966-67 for wildfowl and 1971-72 for waders, representing the first years in which coverage was deemed sufficient for data to be included in the calculation of the index. A number of species were only first included in WeBS in the 1980s, whilst counts of wildfowl in Northern Ireland only began in earnest in 1985-86.

Underhill (1989) recommends that, where possible, the index is based on counts from more than one month. The months chosen for each species are given below. The most appropriate grouping of months on which to base the annual index for waders is December, January and February, the period when the wintering population in Britain and Northern Ireland is most stable (Prŷs-Jones *et al.* 1994). However, the peak abundance of different wildfowl occur in different months according to species, and thus different months and different numbers of months were selected for each (Kirby *et al.* 1995).

The selection of months for calculating indices for wildfowl and their allies was made by first calculating monthly index values for all months September to March, and selecting that with the highest index value and any adjacent months with overlapping consistency intervals. Data from all years from 1966-67 onwards were used for calculating the index for each of these species, as recommended in Kirby *et al.* (1995), or from the years in which data were first available for species added to the scheme subsequently (see above). Caution is urged in particular regarding the first few years' index values for these species only recently included in the scheme; missing counts may have been incorrectly recorded as nil counts, giving rise to anomalous index values. The parameters used for indexing each species follow Kirby *et al.* (1995).

Due to more stable populations of waders during the winter, the months December to February are chosen for calculation of index values for all waders for which there are suitable data. Due to the small number of sites in Northern Ireland, data are combined for analysis at the UK level.

Table A5. Months used in calculating indices for wildfowl species in Great Britain and Northern Ireland (indicated using the first letter of the months September to March)

Species	GB	NI	Species	GB	NI
Little Grebe	SO	SON	Shelduck	JF	DJFM
Great Crested Grebe	SON	SONDJFM	Wigeon	J	SONDJFM
Cormorant	SONDJFM	SOND	Gadwall	SONDJFM	SONDJ
Mute Swan	SONDJFM	SONDJ	Teal	D	DJ
Bewick's Swan	JF	NDJF	Mallard	D	SO
Whooper Swan	ND	ONDJFM	Pintail	ONDJ	ONDJFM
Pink-footed Goose	O or N	-	Shoveler	SO	SONDJFM
European Whitefront	JF	-	Pochard	NDJ	NDJF
Greenland Whitefront	N or M	N or M	Tufted Duck	NDJF	ONDJFM
Greylag Goose: Icelandic	O or N	-	Goldeneye	F	DJFM
naturalised	S	-	Red-breasted Merganser	ONDJFM	SONDJFM
Canada Goose	S	-	Goosander	DJF	-
Barnacle Goose: Svalbard	any month	-	Ruddy Duck	SONDJFM	-
Dark-bellied Brent	DJF	-	Coot	SONDJ	SONDJFM
Light-bellied Brent	-	SONDJFM			

Table A6. Great Britain annual index values for wildfowl

Year	LG	GG	CA	MS	BS	WS	PG	EW	NW	I-GJ	N-GJ	CG	DB	SU	WN	GA	T.	MA	PT	SV	PO	TU	GN	RM	GD	RY	CO
1966-67				64	40	85	32	117		76	3	18	22	67	67	5	25	163	32	45	127	71	83	27	41	0	
1967-68				64	43	46	28	223		67	3	16	27	78	77	4	18	142	45	49	134	75	71	24	45	0	
1968-69				58	33	54	28	303		76	2	22	22	73	67	6	31	146	55	68	117	80	86	76	52	1	
1969-70				59	32	81	31	328		78	2	25	25	102	70	5	35	118	50	55	106	80	59	52	68	1	
1970-71				55	70	55	31	263		81	3	31	30	87	73	12	32	172	73	48	105	90	86	56	52	1	
1971-72				56	50	85	28	110		80	5	27	30	92	57	14	36	147	69	73	127	101	103	42	61	1	
1972-73				58	30	82	29	69		92	6	38	34	80	64	13	38	144	90	70	142	110	108	38	46	2	
1973-74				56	49	63	35	202		96	5	33	45	81	65	11	47	133	154	83	136	109	133	43	103	3	
1974-75				56	38	96	38	55		87	6	33	38	77	57	14	43	143	134	62	152	105	129	55	88	3	
1975-76				53	53	75	31	112		79	5	25	53	93	53	12	53	128	126	52	154	111	78	49	64	6	
1976-77				51	78	59	30	143		70	8	37	49	87	72	14	50	145	118	67	120	89	80	56	57	12	
1977-78				51	89	89	29	98		84	12	39	52	76	54	21	54	112	142	78	136	96	85	58	50	11	
1978-79				54	96	67	33	186		96	12	47	62	118	81	21	65	139	100	81	114	95	84	61	91	13	
1979-80				55	94	97	34	97		102	14	52	78	99	66	25	62	138	130	83	112	103	89	59	75	20	
1980-81				54	123	86	41	116		113	16	56	63	112	64	28	74	141	159	74	110	106	75	68	100	34	
1981-82				59	119	60	38	140		120	20	61	69	124	74	33	94	137	138	74	96	94	96	76	114	30	
1982-83		62		60	105	99	38	117	35	101	25	70	92	94	48	36	79	148	151	81	109	95	79	74	110	33	90
1983-84		71		54	125	74	43	107	40	103	30	67	94	102	46	40	82	157	150	78	116	91	80	67	90	44	98
1984-85		84		54	188	75	36	145	46	78	40	81	92	96	116	39	65	134	184	85	114	93	94	76	81	49	103
1985-86	19	72		57	162	107	54	138	55	134	40	86	98	114	95	43	67	165	143	90	101	96	83	108	116	50	99
1986-87	29	71	29	61	210	122	58	125	56	128	41	92	98	119	105	47	64	144	100	82	112	101	108	118	128	53	98
1987-88	26	73	63	69	96	112	73	157	59	132	49	104	95	100	80	53	69	166	152	78	103	93	92	94	130	57	93
1988-89	70	79	87	74	128	160	75	140	62	137	52	124	108	100	80	60	78	147	138	80	119	109	91	96	124	62	106
1989-90	76	94	88	78	174	152	78	122	70	105	55	93	85	104	77	57	98	139	136	92	111	87	86	66	79	64	107
1990-91	81	93	101	88	193	170	81	98	74	144	61	106	115	112	76	63	86	135	118	103	110	97	115	82	101	66	93
1991-92	74	90	92	83	205	118	99	136	79	111	58	117	141	116	99	57	82	129	141	100	105	91	108	77	89	68	92
1992-93	70	101	91	81	140	114	84	33	74	123	65	107	96	100	95	58	71	127	107	77	100	93	107	82	86	64	96
1993-94	88	99	106	87	124	102	95	115	83	125	67	111	122	110	97	70	88	116	99	82	111	103	109	94	82	68	109
1994-95	103	100	114	92	98	121	111	83	94	108	80	99	98	95	108	79	85	115	106	86	124	99	111	114	81	65	110
1995-96	124	99	116	93	193	107	85	88	105	104	88	115	92	111	111	87	91	115	115	107	124	95	101	88	131	76	113
1996-97	103	96	105	96	185	151	99	102	102	100	104	127	99	114	130	87	81	110	119	102	104	104	145	89	162	93	112
1997-98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Wildfowl species codes

LG	Little Grebe	EW	European White-fronted Goose	SU	Shelduck	PO	Pochard
GG	Great Crested Grebe	NW	Greenland White-fronted Goose	WN	Wigeon	TU	Tufted Duck
CA	Cormorant	I-GJ	Icelandic Greylag Goose	GA	Gadwall	GN	Goldeneye
MS	Mute Swan	N-GJ	Naturalised Greylag Goose	T.	Teal	RM	Red-breasted Merganser
BS	Bewick's Swan	CG	Canada Goose	MA	Mallard	GD	Goosander
WS	Whooper Swan	DB	Dark-bellied Brent Goose	PT	Pintail	RY	Ruddy Duck
PG	Pink-footed Goose	PB	Light-bellied Brent Goose	SV	Shoveler	CO	Coot

Table A7. Northern Ireland annual index values for wildfowl

Year	LG	GG	CA	MS	BS	WS	PB	SU	WN	GA	T.	MA	PT	SV	PO	TU	GN	RM	CO
1986-87	48	44	3	64	351	98	38	68	108	80	68	118	153	197	110	54	186	57	75
1987-88	20	55	32	71	519	130	89	60	114	113	112	86	80	133	117	104	212	96	90
1988-89	112	68	72	78	498	134	85	103	145	117	110	104	117	152	167	110	177	110	85
1989-90	114	53	84	86	889	103	87	70	103	169	120	123	63	129	151	116	164	104	114
1990-91	87	47	60	82	976	118	105	82	130	133	138	116	101	110	154	109	209	101	105
1991-92	97	54	50	85	485	107	108	67	120	155	103	115	128	141	164	123	226	81	104
1992-93	110	68	71	90	235	111	77	61	92	183	71	97	97	104	119	114	199	105	115
1993-94	118	43	64	80	398	97	70	72	74	146	73	106	95	170	105	116	137	78	62
1994-95	139	95	68	96	130	108	86	78	84	192	76	118	64	137	100	116	147	98	99
1995-96	148	85	76	100	189	93	85	93	76	141	82	145	70	141	142	138	151	110	138
1996-97	106	68	67	85	329	116	88	86	84	143	89	102	97	127	109	111	119	82	97
1997-98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table A8. UK annual index values for waders

Year	OC	AV	RP	GV	KN	SS	DN	BW	BA	CU	RK	TT
1970-71	68	4	79	16	127	80	82	17	113	56	60	86
1971-72	74	4	77	17	155	115	98	22	104	67	89	109
1972-73	72	3	94	20	121	104	110	34	96	62	91	99
1973-74	76	4	107	29	120	124	131	26	113	69	94	103
1974-75	77	3	109	31	92	147	125	36	90	84	102	98
1975-76	99	3	119	30	92	131	129	31	99	78	101	115
1976-77	96	1	101	34	92	95	132	31	121	69	92	120
1977-78	87	4	101	23	62	107	99	33	98	59	79	117
1978-79	86	3	96	31	75	132	102	34	111	59	85	115
1979-80	95	4	99	37	85	145	101	34	130	75	90	113
1980-81	102	3	91	51	96	108	98	33	105	68	82	101
1981-82	101	8	78	41	83	90	86	28	137	66	73	100
1982-83	92	9	89	44	96	102	85	38	116	68	71	98
1983-84	96	7	93	48	83	99	89	41	104	65	79	122
1984-85	99	13	98	56	89	92	81	36	128	68	80	124
1985-86	111	15	100	61	116	109	85	50	130	73	86	148
1986-87	107	13	101	63	98	102	74	37	133	79	85	137
1987-88	117	15	106	86	106	118	77	45	109	83	108	159
1988-89	113	23	135	91	111	114	96	60	106	78	104	135
1989-90	112	25	123	83	104	95	98	66	104	82	105	141
1990-91	119	32	113	92	105	102	116	51	126	76	90	130
1991-92	109	34	98	96	110	122	109	60	101	91	97	143
1992-93	105	48	107	90	118	100	95	63	101	93	92	126
1993-94	96	60	102	104	94	77	96	83	91	83	92	123
1994-95	101	78	106	126	102	112	108	90	90	102	108	125
1995-96	93	65	108	109	95	86	98	83	117	74	85	107
1996-97	120	61	96	128	111	157	127	105	163	80	94	106
1997-98	100	100	100	100	100	100	100	100	100	100	100	100

Wader species codes

OC	Oystercathcer
AV	Avocet
RP	Ringed Plover
GV	Grey Plover
KN	Knot
SS	Sanderling
DN	Dunlin
BW	Black-tailed Godwit
BA	Bar-tailed Godwit
CU	Curlew
RK	Redshank
TT	Turnstone

Table A10. Great Britain monthly index values for wildfowl.

	Sep	Oct	Nov	Dec	Jan	Feb	Mar
BS	0.0	5.9	23.9	97.1	96.7	100.0	1.7
CA	100.0	94.3	96.9	81.8	84.5	84.5	76.9
CO	88.7	90.2	100.0	93.9	71.1	58.7	39.2
DB	0.3	65.6	88.9	100.0	99.2	82.9	50.1
EW	0.1	1.3	10.1	49.3	89.7	100.0	14.0
GA	58.1	65.2	100.0	93.1	75.5	70.5	43.7
GD	24.7	21.9	52.6	91.5	95.4	100.0	55.7
GG	100.0	94.1	96.5	90.6	76.8	79.2	81.1
GN	2.3	19.0	54.0	92.9	83.2	100.0	90.1
LG	100.0	88.8	74.8	76.2	61.9	59.3	60.4
MA	85.9	88.1	100.0	91.5	79.6	56.3	35.9
PO	32.7	45.5	73.0	90.1	100.0	75.3	29.8
PT	36.7	71.2	60.4	100.0	54.1	47.2	17.0
SU	55.7	92.9	91.0	100.0	78.5	80.8	66.5
SV	83.7	100.0	81.7	72.5	69.1	69.7	66.5
T.	46.4	68.1	100.0	97.0	70.7	48.0	29.3
TU	80.3	77.2	93.8	100.0	85.6	78.7	69.8
WN	15.7	66.1	95.0	95.0	100.0	86.6	58.6
WS	2.3	42.6	100.0	92.9	78.8	90.9	76.6

Table A11. Northern Ireland monthly index values for wildfowl.

	Sep	Oct	Nov	Dec	Jan	Feb	Mar
BS	0.0	13.2	34.9	53.5	86.6	90.5	36.7
CA	86.7	100.0	70.6	67.3	47.3	58.5	43.1
CO	84.2	89.5	100.0	79.0	44.4	41.0	42.7
GA	84.9	50.0	66.5	81.6	60.5	78.3	100.0
GG	100.0	42.9	33.8	27.1	33.2	29.2	74.5
GN	1.2	9.3	100.0	72.4	74.4	75.5	92.5
LG	99.1	66.5	100.0	93.1	51.3	38.4	27.5
MA	100.0	79.6	75.0	70.4	43.8	39.9	23.6
PB	85.9	100.0	62.4	37.9	20.9	23.0	15.0
PO	1.0	8.8	47.9	100.0	97.7	41.4	10.5
PT	2.8	8.1	7.3	88.8	33.2	100.0	29.6
SP	38.7	0.1	36.1	13.3	85.4	100.0	60.1
SU	2.2	19.4	61.5	80.1	100.0	83.3	56.3
SV	10.8	48.7	37.8	100.0	49.7	35.7	31.9
T.	16.0	45.2	54.4	100.0	75.9	66.8	52.1
TU	30.4	38.1	100.0	87.8	85.6	68.9	44.9
WN	18.9	100.0	88.1	87.2	29.6	33.4	31.2
WS	2.0	50.5	58.3	32.3	71.6	59.7	100.0

APPENDIX 4. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN ENGLAND, 1997-98

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sectors	*1,081*	*904*	*817*	*856*	*950*	*1,330*	*1,624*	*1,704*	*1,717*	*1,787*	*1,774*	*1,713*
Sites	*595*	*563*	*522*	*544*	*559*	*768*	*934*	*981*	*983*	*1018*	*999*	*957*
Red-t. Diver	89	15	0	26	4	47	82	168	182	193	161	226
Black-t. Diver	2	0	0	0	0	0	6	8	12	5	4	5
Great N. Diver	2	0	0	0	0	0	1	8	29	30	17	21
Pied-billed Grebe	0	0	1	0	0	0	0	0	0	0	0	0
Little Grebe	807	464	500	707	1,388	2,471	2,507	2,425	2,385	1,873	1,859	1,933
Great C. Grebe	3,571	2,710	2,785	3,116	4,533	6,171	7,050	7,415	6,797	6,187	6,576	6,527
Red-n. Grebe	2	1	2	3	6	6	20	13	31	28	21	10
Slavonian Grebe	5	1	0	0	0	11	13	27	90	104	50	72
Black-n. Grebe	5	10	7	4	15	23	23	31	47	48	13	28
Cormorant	5,003	3,547	2,416	3,349	5,755	9,105	10,343	10,072	9,412	9,271	9,046	8,080
Bittern	1	0	0	1	0	0	8	7	14	12	10	6
Little Bittern	0	0	1	0	0	0	0	0	0	0	0	0
Little Egret	146	21	47	189	405	373	408	259	255	259	250	299
Great White Egret	1	0	0	0	0	0	0	0	0	2	0	1
Grey Heron	1,346	1,033	1,245	1,648	2,177	2,765	2,742	2,517	2,392	2,174	2,222	2,186
White Stork	1	1	1	1	1	1	3	3	3	3	2	2
Spoonbill	0	2	2	4	2	1	5	5	11	7	12	6
Chilean Flamingo	1	0	1	0	0	0	0	0	0	0	0	0
Lesser Flamingo	0	0	0	0	1	1	1	1	1	1	0	1
Greater Flamingo	1	1	1	0	1	1	1	2	1	1	0	0
Fulv. Whist. Duck	0	0	0	0	0	2	0	0	0	0	0	1
Mute Swan	6,825	5,209	6,499	7,869	9,288	10,673	12,241	14,187	13,207	12,782	11,856	11,308
Black Swan	11	6	11	9	12	18	15	21	23	12	11	21
Trumpeter Swan	0	0	0	0	0	3	3	3	3	2	3	2
Bewick's Swan	4	0	0	3	0	0	127	370	5,409	4,099	4,883	100
Whooper Swan	181	5	4	5	3	6	454	691	1,599	863	2,389	1,578
Swan Goose	0	0	11	13	14	16	33	34	26	38	30	25
Bean Goose	2	1	1	1	0	0	1	5	49	41	34	3
Pink-f. Goose	1,247	90	10	9	11	3,862	25,263	39,683	87,543	50,066	29,431	18,360
White-f. Goose	0	0	1	0	0	0	0	0	0	0	0	0
Euro. Whitefront	3	0	0	1	1	2	52	474	2,150	4,091	5,341	659
Greenl. Whitefront	0	0	0	0	0	0	0	1	1	2	6	0
Lesser WF Goose	0	0	1	1	1	0	1	1	1	0	2	0
Greylag (Iceland)	141	107	597	616	244	634	1210	2,083	1,842	769	978	1,328
Greylag (natur.)	4,426	3,092	5,661	6,386	11,810	15,175	16,697	15,206	15,356	12,815	12,869	9,911
Bar-headed Goose	5	4	5	7	8	15	7	14	14	6	9	14
Snow Goose	27	10	24	25	4	14	67	63	32	44	62	64
Ross's Goose	1	0	0	0	5	0	0	1	1	1	0	0
Emperor Goose	0	0	1	1	2	2	3	4	6	5	3	3
Canada Goose	10,576	8,751	17,942	18,112	26,336	38,125	38,839	41,330	36,630	34,708	28,832	21,940
Barnacle (natur.)	83	43	31	98	144	332	609	548	268	388	362	433
Brent Goose	0	0	0	0	0	0	0	0	2	10	0	0
Dark-b. Brent	16,667	2,012	41	26	41	260	52,178	83,603	98,792	92,112	77,862	51,644
Black Brant	0	0	0	0	0	0	0	1	0	1	1	0
Light-b. Brent (Sva)	5	0	0	0	0	1,659	2,383	2,576	2,495	729	429	29
Light-b. Brent (Canada)	0	0	0	0	0	0	0	1	1	1	0	2
Red-b. Goose	0	0	0	0	0	0	0	0	0	0	0	1
Egyptian Goose	27	17	29	93	373	219	232	167	163	152	163	101
Feral/hybrid Goose	32	42	45	56	39	47	169	159	250	361	242	194
Unidentified Goose	14	0	0	0	0	0	0	0	0	0	0	0
Ruddy Shelduck	3	0	2	6	2	9	7	6	8	8	5	7
Cape Shelduck	0	2	2	4	0	0	1	0	0	0	0	0
Paradise Shelduck	0	0	1	0	0	0	1	0	0	1	0	0
Shelduck	25,179	11,906	11,162	14,817	25,063	29,480	50,499	53,656	65,247	56,887	56,135	44,044
Muscovy Duck	10	13	11	15	12	20	101	116	127	99	93	35
Wood Duck	3	0	0	1	1	0	4	8	8	2	5	9
Mandarin	76	52	120	72	47	155	174	314	258	227	170	179
Wigeon	9,356	178	112	1,040	552	28,282	136,663	213,676	247,170	268,598	224,884	160,192
Am. Wigeon	0	0	0	0	0	0	0	1	1	0	1	3
Chiloe Wigeon	0	0	0	1	0	0	2	4	1	3	4	4
Falcated Duck	0	0	0	0	0	0	0	0	0	0	0	1
Gadwall	2,176	1,143	1,203	1,030	3,728	6,483	7,937	12,749	12,438	10,720	10,640	6,680
Teal	13,522	274	353	1,606	11,502	43,547	64,932	104,632	112,235	94,341	64,046	41,266
Speckled Teal	0	1	0	1	1	1	0	0	0	0	1	2

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Mallard	21,806	16,818	25,454	32,137	58,735	74,648	86,930	108,284	99,486	90,778	65,029	43,003
Chestnut Teal	0	0	0	0	0	0	0	1	0	0	0	0
Pintail	602	10	13	63	105	6,029	11,717	14,467	18,780	12,460	12,969	7,304
Bahama Pintail	0	0	0	0	0	1	0	0	0	0	0	0
Cape Teal	0	0	0	0	0	0	1	1	1	0	0	0
Garganey	12	25	6	19	37	17	4	4	0	0	1	5
Shoveler	2,607	308	270	598	3,109	6,997	8,363	7,840	7,064	6,400	7,051	6,689
Ringed Teal	0	0	0	0	1	0	0	0	0	0	0	0
Red-c. Pochard	0	1	2	0	6	15	46	94	70	82	39	44
Pochard	984	431	745	1,796	6,252	6,935	10,570	17,687	23,672	35,379	25,573	9,586
Ring-necked Duck	0	0	0	0	1	1	0	1	1	1	2	3
Ferruginous Duck	1	1	0	0	1	1	2	1	2	1	2	1
Tufted Duck	16,094	5,627	6,454	13,936	24,975	27,543	29,769	38,945	43,013	40,588	37,301	31,688
Scaup	832	20	2	3	11	42	50	100	101	189	800	529
Lesser Scaup	1	0	0	0	0	0	0	0	0	0	0	0
Eider	6,570	3,006	3,627	4,303	5,499	6,783	9,993	3,989	6,074	3,183	3,492	5,097
Long-tailed Duck	0	0	0	1	0	0	14	14	86	63	48	19
Common Scoter	1,058	80	54	47	70	544	493	1,615	2,502	1,637	1,062	646
Velvet Scoter	0	0	0	0	0	0	22	2	11	4	0	0
Unid. scoter sp.	0	0	0	0	0	0	0	1	0	0	0	0
Goldeneye	1,816	23	5	8	12	71	761	3,166	5,829	6,549	6,907	5,363
Hooded Merganser	0	0	0	0	1	1	0	0	0	0	0	0
Smew	5	0	0	0	0	0	2	11	138	278	214	63
Red-b. Merganser	779	143	250	109	142	590	979	1,670	2,225	2,465	2,316	2,664
Goosander	270	82	69	160	184	196	207	819	2,156	2,467	2,655	1,383
Ruddy Duck	1,194	520	442	493	1,164	1,766	2,183	2,513	3,259	2,668	2,902	2,517
Feral/hybrid duck	59	116	110	90	90	136	131	137	129	162	129	102
Hybrid Aythya	1	0	0	0	0	1	0	1	1	0	1	1
Water Rail	82	45	34	41	54	103	167	223	276	212	231	212
Spotted Crake	0	0	2	0	1	2	0	0	0	0	0	0
Moorhen	4,226	2,749	2,311	3,760	5,333	7,574	9,243	10,345	9,597	9,449	10,530	9,697
Coot	18,109	10,524	15,990	22,510	41,185	64,552	76,027	91,144	85,403	70,387	58,140	40,410
Crane	0	0	0	0	0	0	0	6	4	6	6	0
Oystercatcher	55,394	28,250	23,880	40,421	121,197	171,640	161,287	187,903	157,448	133,140	151,180	97,137
Black-winged Stilt	0	0	0	0	1	0	0	1	1	1	1	1
Avocet	1,035	227	237	453	819	1,550	2,554	2,409	3,859	3,464	3,232	2,469
Black-w. Pratincole	0	0	0	0	1	0	0	0	0	0	0	0
Little R. Plover	192	278	249	139	52	17	5	0	0	0	0	9
Ringed Plover	3,154	6,864	793	1,262	19,874	9,984	6,357	7,378	6,130	5,051	5,556	4,063
Kentish Plover	1	0	0	0	0	0	0	0	0	0	0	0
Dotterel	1	4	0	0	0	0	0	0	1	0	0	0
Golden Plover	7,650	387	140	1,781	25,367	31,462	52,824	149,119	162,598	126,829	131,645	40,375
Grey Plover	32,886	16,269	947	4,776	26,256	34,431	31,367	43,249	32,330	42,938	44,680	40,997
Unid. wader	0	0	0	0	0	0	0	0	0	0	1	0
Lapwing	8,623	3,325	12,098	47,746	57,422	81,510	145,399	360,853	416,469	404,283	309,958	31,186
Knot	70,113	8,217	3,079	12,738	70,088	134,362	182,062	286,487	241,799	154,199	211,009	128,648
Sanderling	7,368	11,089	131	9,113	7,146	7,670	7,552	5,512	5,749	5,228	4,634	6,639
Little Stint	1	12	5	8	28	41	15	5	2	1	1	2
Pectoral Sandpiper	0	0	0	0	0	3	0	0	0	0	0	0
Curlew Sandpiper	0	7	2	16	39	93	36	1	0	0	1	0
Purple Sandpiper	512	12	0	12	38	34	161	257	379	553	349	562
Dunlin	94,790	83,189	1,212	43,027	75,522	79,633	218,289	343,674	401,699	379,789	351,978	162,524
Ruff	276	93	4	136	418	498	211	182	261	380	420	395
Jack Snipe	9	1	0	0	0	3	56	42	52	47	90	64
Snipe	753	113	33	90	817	1,245	3,513	4,487	5,948	3,639	4,339	3,057
Great Snipe	0	0	0	0	1	0	0	0	0	0	0	0
Long-b. Dowitcher	0	0	0	1	0	0	1	1	0	0	0	0
Woodcock	2	2	0	0	0	1	10	17	38	18	15	5
Black-t Godwit	9,983	1,473	1,264	3,240	16,578	16,019	12,796	11,997	12,368	11,108	10,498	14,180
Bar-t Godwit	3,612	1,055	1,078	7,807	16,594	25,922	18,216	37,666	30,779	39,954	36,733	14,805
Whimbrel	111	1,343	128	620	550	281	41	11	2	1	4	9
Curlew	26,671	3,823	9,406	41,546	59,179	67,032	63,359	45,138	54,003	54,549	59,548	49,466
Spot. Redshank	67	22	14	160	205	178	125	174	90	48	129	52
Redshank	31,400	2,656	2,961	14,306	40,523	54,582	58,523	54,354	52,108	51,658	61,649	57,183
Greenshank	89	93	14	628	1,617	1,435	575	204	127	465	94	121
Lesser Yellowlegs	0	0	0	0	0	0	0	0	0	0	2	0
Green Sandpiper	55	5	37	212	447	241	150	156	123	72	97	84
Wood Sandpiper	3	1	1	12	43	16	1	0	0	0	0	0
Common Sand.	42	323	235	707	1,217	272	40	27	24	18	43	39

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Turnstone	6,589	2,008	237	1,057	4,219	7,745	10,694	9,918	9,023	7,917	7,638	8,913
Grey Phalarope	0	0	0	1	1	1	3	0	0	2	0	0
Mediterranean Gull	17	8	6	28	30	15	48	29	15	69	59	46
Little Gull	47	26	5	21	28	9	17	15	0	4	0	1
Sabine's Gull	0	0	0	0	1	3	0	0	0	0	0	0
Black-h. Gull	48,713	25,917	30,942	65,680	97,271	110,095	109,268	216,106	217,789	204,935	163,136	133,797
Ring-b. Gull	0	0	0	0	0	1	2	1	3	2	5	3
Common Gull	4,075	2,184	1,750	2,727	9,246	11,155	10,193	46,049	48,359	42,522	50,999	23,617
Lesser B-b Gull	33,731	37,573	46,545	56,750	19,505	10,800	9,025	19,001	7,245	5,029	17,108	28,996
Herring Gull	27,283	26,021	28,260	29,148	18,748	29,040	31,378	47,583	35,233	46,276	45,655	39,168
Iceland Gull	1	2	0	0	0	0	0	0	0	2	2	3
Glaucous Gull	3	0	0	0	0	1	0	0	1	5	7	2
Great B-b Gull	1,164	1,250	1,335	1,600	3,669	4,850	4,783	11,062	7,173	8,135	3,552	1,794
Kittiwake	884	787	308	580	1,257	164	297	42	31	108	15	325
Unidentified gull	0	0	0	0	3,500	1,260	1,017	499	4,165	990	280	480
Sandwich Tern	347	1,326	684	2,154	2,739	652	51	3	0	1	0	6
Roseate Tern	0	0	0	0	2	0	0	0	0	0	0	0
Common Tern	118	1,575	2,235	2,888	3,038	597	16	1	0	0	0	0
Arctic Tern	6	112	131	170	50	23	8	2	0	0	0	0
Little Tern	3	267	216	84	65	23	0	0	0	0	0	0
Black Tern	0	23	2	0	21	4	1	0	0	0	0	0
White-w Black Tern	0	0	0	0	2	0	0	0	0	0	0	0
Unidentified tern	0	16	16	31	63	20	0	0	0	0	0	0
Kingfisher	58	61	78	117	145	225	243	180	188	119	162	166
TOTALS												
WATERFOWL	540,558	252,434	163,914	373,061	796,759	1,132,466	1,658,374	2,463,652	2,628,308	2,375,942	2,185,269	1,219,557
GULLS	115,918	93,768	109,151	156,534	153,255	167,393	166,028	340,387	320,014	308,077	280,818	228,232
TERNS	474	3,319	3,284	5,327	5,980	1,319	76	6	0	1	0	6

APPENDIX 5. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN SCOTLAND, 1997-98

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sectors	*277*	*233*	*201*	*209*	*212*	*482*	*657*	*624*	*641*	*651*	*661*	*638*
Sites	*230*	*190*	*163*	*175*	*170*	*417*	*541*	*540*	*532*	*539*	*550*	*554*
Red-t. Diver	232	48	4	114	23	192	129	210	360	235	339	135
Black-t. Diver	14	14	0	0	3	1	22	29	18	8	14	17
Great N. Diver	32	20	2	2	1	16	19	15	43	11	13	22
Little Grebe	110	83	94	123	254	656	551	350	309	345	290	281
Great C. Grebe	249	147	152	300	586	910	812	435	592	544	555	740
Red-n. Grebe	10	2	0	18	64	29	27	18	10	8	17	17
Slavonian Grebe	46	3	1	1	3	25	116	118	219	136	139	81
Black-n. Grebe	1	3	3	4	3	1	1	0	0	0	1	0
Cormorant	800	513	544	688	978	1,521	2,578	2,128	1,925	2,364	1,678	1,539
Grey Heron	178	108	185	259	329	524	706	458	677	654	537	479
Mute Swan	1,282	1,053	1,375	1,500	1,636	2,698	3,941	3,515	3,580	3,534	3,169	2,634
Black Swan	0	0	2	1	1	1	5	4	7	3	4	4
Bewick's Swan	0	0	2	0	0	0	0	3	0	10	0	0
Whooper Swan	224	7	6	4	2	41	1,144	1,614	1,515	1,524	1,340	1,441
Bean Goose	2	0	0	0	0	0	35	159	0	4	21	0
Pink-f. Goose	18,071	554	5	10	249	60,127	209,936	142,449	32,831	17,909	42,915	35,811
White-f. Goose	0	0	0	0	0	1	0	0	0	0	0	0
Euro. Whitefront	230	0	0	0	0	0	0	0	5	4	4	5
Greenl. Whitefront	79	0	0	0	0	0	497	20,572	525	587	100	19,647
Greylag (Iceland)	5,330	209	341	462	488	2,505	38,189	77,394	26,393	15,556	12,869	11,684
Greylag (NW Scot)	52	4	7	9	9,793	242	228	183	129	229	2,535	293
Snow Goose	0	0	0	0	0	1	3	5	3	5	2	5
Canada Goose	139	188	379	472	624	1,292	1,192	624	611	435	472	423
Barnacle (Greenland)	0	0	0	0	3	37	85	35,123	34	48	28	33,841
Barnacle (Svalbard)	3599	1	1	1	1	631	19,882	22,244	15,719	18,138	21,777	23,863
Dark-b. Brent	0	0	0	0	0	2	7	0	0	1	1	0
Light-b. Brent (Svalbard)	1	0	0	0	0	1	2	7	12	24	2	1
Light-b. Brent (Canada)	0	0	0	0	0	0	10	3	11	3	10	7
Feral/hybrid Goose	0	0	0	0	0	112	107	102	88	78	68	65
Unid. goose	65	0	0	0	0	0	0	9	0	0	0	0
Shelduck	2,688	1,852	3,350	744	5,824	3,349	5,212	6,442	5,871	5,875	5,508	3,734
Muscovy Duck	7	6	5	0	0	0	0	0	0	0	0	1
Mandarin	0	1	1	0	2	1	5	0	7	7	2	2
Wigeon	1,802	249	98	63	318	6,266	62,361	30,453	54,226	48,262	35,576	18,873
Am. Wigeon	0	0	0	0	0	0	0	0	0	0	2	1
Falcated Duck	0	0	0	0	0	0	0	0	0	0	0	1
Gadwall	24	11	4	3	15	445	503	167	112	61	110	145
Teal	1,109	89	111	113	1,685	6,110	18,103	11,412	17,581	15,554	10,509	5,565
Mallard	2,738	2,354	3,316	4,508	7,722	20,444	29,755	26,397	29,919	27,317	19,493	9,678
Pintail	105	6	0	4	57	1,002	2,024	1,419	3,771	1,608	1,660	466
Shoveler	78	19	15	16	86	647	560	249	250	173	165	198
Pochard	89	22	46	161	236	927	4,392	5,091	4,520	5,081	3,072	1,353
Ring-n. Duck	0	0	0	0	0	1	0	0	0	0	0	0
Tufted Duck	2,538	977	1,061	2,610	3,225	8,970	8,038	7,630	7,476	8,339	7,219	7,402
Scaup	905	5	3	6	26	167	1,004	1,303	7,411	4,182	3,364	778
Eider	13,467	11,198	11,814	11,891	16,048	16,124	14,542	15,087	13,223	12,135	10,991	10,809
King Eider	0	0	0	0	0	1	1	0	0	0	0	0
Long-tailed Duck	1,186	22	0	0	0	1	362	656	1,705	1,451	683	807
Common Scoter	2,988	1,186	482	454	805	2,889	3,227	3,529	4,637	2,914	2,185	1,365
Surf Scoter	3	0	0	0	0	0	1	3	6	3	2	3
Velvet Scoter	576	172	101	18	84	61	289	742	781	386	454	528
Goldeneye	2,163	139	77	124	88	169	2,624	4,875	10,156	7,548	7,674	7,381
Smew	1	2	0	0	0	0	1	4	6	13	13	7
Red-b. Merganser	1,322	484	493	523	846	1,193	1,520	1,180	1,759	1,434	1,395	1,368
Goosander	221	372	356	822	845	610	741	1,220	1,017	975	903	724
Ruddy Duck	47	54	61	62	61	151	156	97	69	60	35	42
Feral/hybrid duck	2	2	2	2	1	3	4	11	6	2	3	6
Unid. duck	0	0	0	0	0	2	3	0	0	0	0	0
Water Rail	14	0	10	6	18	11	12	21	29	21	21	8
Moorhen	295	180	149	205	354	897	984	890	925	924	852	791
Coot	1,290	793	957	1,794	2,368	6,254	7,579	7,907	6,899	6,407	6,260	3,802
Oystercatcher	17,044	7,260	6,797	13,759	29,005	29,952	52,242	43,474	57,625	58,874	55,429	37,539
Little R. Plover	0	6	0	0	0	0	0	1	0	0	0	0
Ringed Plover	883	2,358	340	270	2,220	1,767	2,525	1,661	1,991	1,810	1,521	527

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Golden Plover	843	7	26	579	2,435	5,149	16,322	11,786	11,728	9,895	10,886	2,480
Grey Plover	1,058	527	87	80	1,029	1,058	1,637	1,350	1,663	2,292	1,806	1,537
Lapwing	882	424	871	6,113	10,620	17,345	24,729	30,509	27,016	21,916	29,346	5,627
Knot	1,211	72	27	15	442	1,529	2,261	7,001	13,428	23,353	13,323	2,475
Sanderling	238	202	0	74	153	521	762	185	656	489	444	475
Western Sandpiper	0	0	0	0	1	0	0	0	0	0	0	0
Little Stint	0	0	0	0	0	2	0	0	0	0	0	0
Curlew Sandpiper	0	0	0	0	2	9	3	0	0	0	0	0
Purple Sandpiper	190	10	0	0	2	18	67	288	621	506	303	55
Dunlin	2,620	8,495	476	1,269	2,950	5,209	11,633	18,023	40,347	48,437	35,916	5,452
Ruff	6	1	0	1	59	88	4	1	1	4	4	4
Jack Snipe	3	0	0	0	0	0	7	10	23	11	10	4
Snipe	86	23	12	50	115	237	1,100	972	662	368	428	323
Woodcock	0	0	1	0	1	0	0	1	1	2	3	4
Black-t. Godwit	292	102	89	120	180	360	497	413	202	185	265	147
Bar-t. Godwit	638	239	233	1,177	627	2,957	2,719	2,922	5,290	7,984	5,743	1,538
Whimbrel	5	102	11	5	14	3	2	0	0	0	0	0
Curlew	3,797	832	1,091	6,035	8,866	11,253	14,527	10,040	18,827	21,992	23,227	13,638
Spot. Redshank	0	0	0	1	3	3	2	2	0	1	1	1
Redshank	6,919	851	690	2,898	7,977	11,624	20,171	14,842	19,439	17,153	14,906	12,062
Greenshank	9	4	11	42	101	181	60	32	34	34	39	29
Green Sandpiper	0	1	0	1	4	1	0	2	3	2	1	1
Wood Sandpiper	0	2	0	0	2	0	0	0	0	0	0	0
Common Sand.	1	108	78	133	38	9	0	2	0	0	0	0
Turnstone	1,305	415	114	208	1,065	1,555	2,915	2,575	3,266	2,395	2,186	1,905
Mediterranean Gull	0	0	0	0	0	0	1	0	0	3	0	0
Little Gull	0	4	0	18	0	0	1	0	0	4	0	0
Black-h. Gull	3,242	4,589	2,416	5,523	10,072	13,879	18,803	24,562	17,805	17,993	16,574	16,112
Ring-b. Gull	0	0	0	0	0	0	0	0	0	0	0	1
Common Gull	4,068	1,088	1,333	2,079	2,827	10,869	22,532	23,721	20,197	25,563	33,787	14,529
Lesser B-b Gull	1,439	686	1,851	1,735	1,502	2,029	1,668	751	134	107	220	1,007
Herring Gull	5,685	4,225	4,876	6,984	11,381	13,038	9,640	15,067	11,292	11,892	12,186	6,655
Iceland Gull	0	0	0	0	0	0	0	2	0	1	3	0
Glaucous Gull	1	0	0	0	0	1	0	1	0	3	1	2
Great B-b Gull	431	319	234	853	1,337	1,200	1,346	2,264	1,581	1,202	794	856
Kittiwake	413	290	77	513	2,864	728	591	195	167	73	1	12
Unid. gull	19	310	53	305	242	356	370	431	2,330	2,252	5,480	120
Sandwich Tern	25	807	171	1,100	2,553	1,803	36	0	0	0	0	0
Common Tern	6	495	220	1,078	643	297	20	0	0	0	0	0
Arctic Tern	1	137	254	837	1,287	54	0	0	0	0	0	0
Little Tern	0	90	55	32	70	0	1	0	0	0	0	0
Black Tern	0	0	0	0	1	2	0	0	0	0	0	0
Unid. tern	0	2	0	414	1	0	0	0	0	0	0	0
Kingfisher	3	5	3	4	3	18	17	14	11	9	9	15
TOTALS												
WATERFOWL	104,481	45,193	36,569	60,927	123,667	239,091	598,412	580,698	460,901	430,832	402,838	294,696
GULLS	15,298	11,511	10,840	18,010	30,225	42,100	54,952	66,994	53,506	59,093	69,046	39,294
TERNS	32	1,531	700	3,461	4,555	2,156	57	0	0	0	0	0

APPENDIX 6. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN WALES, 1997-98

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sectors	*111*	*108*	*105*	*108*	*99*	*173*	*202*	*191*	*195*	*194*	*187*	*194*
Sites	*66*	*69*	*64*	*64*	*65*	*102*	*115*	*113*	*115*	*115*	*108*	*110*
Red-t. Diver	2	0	0	0	0	1	27	17	29	3	1	1
Black-t. Diver	0	0	0	0	0	1	0	2	5	2	3	2
Great N. Diver	0	0	0	0	0	0	0	1	1	2	5	1
Little Grebe	33	22	22	44	69	194	215	248	309	229	204	155
Great C. Grebe	117	82	81	120	118	173	129	128	312	168	169	152
Red-n. Grebe	0	0	0	0	0	0	0	0	0	0	0	2
Slavonian Grebe	4	0	0	0	0	0	0	1	6	2	3	3
Black-n. Grebe	2	0	0	0	0	1	0	1	0	0	0	0
Cormorant	173	188	468	296	563	730	730	626	594	541	414	392
Bittern	0	0	0	0	0	0	0	0	0	0	0	1
Little Egret	3	2	3	5	9	16	22	18	34	19	22	25
Grey Heron	82	47	90	131	175	270	232	148	219	127	168	156
Spoonbill	0	0	0	0	0	1	0	0	0	1	0	0
Mute Swan	209	181	231	293	294	471	501	468	577	447	388	422
Black Swan	0	0	0	0	1	1	1	1	1	1	0	1
Bewick's Swan	16	0	0	0	0	0	0	0	32	1	17	4
Whooper Swan	0	1	0	0	0	0	21	50	57	63	52	46
Bean Goose	0	0	0	0	0	1	0	0	0	0	0	0
Pink-f. Goose	0	0	0	0	0	0	0	0	1	4	55	0
Euro. Whitefront	0	0	0	0	1	1	0	0	0	0	0	0
Greenl. Whitefront	110	0	0	0	0	8	48	81	74	3	97	109
Greylag (naturalised)	236	250	734	563	596	802	600	216	377	135	193	157
Bar-headed Goose	0	0	0	0	2	0	2	0	0	0	2	2
Snow Goose	0	0	0	0	0	1	0	0	0	0	0	0
Ross's Goose	1	1	1	0	1	0	0	1	1	0	1	1
Canada Goose	270	189	1,062	934	985	978	1,755	1,271	2,401	1,878	1,160	617
Barnacle (naturalised)	0	0	0	0	3	4	10	36	36	0	32	2
Brent Goose	0	0	0	0	0	2	2	1	1	1	0	1
Dark-bellied Brent	6	0	0	0	0	0	8	800	253	456	1,165	438
Light-b. Brent (Canada)	4	0	0	0	0	0	3	11	11	18	25	17
Feral/hybrid Goose	1	0	9	7	5	8	3	2	1	0	0	1
Ruddy Shelduck	0	0	0	1	1	1	1	1	1	1	0	0
Shelduck	2,191	1,316	1,230	313	125	936	2,249	3,041	3,226	3,762	4,150	3,906
Muscovy Duck	8	10	12	12	1	12	0	0	0	0	0	0
Mandarin	1	1	1	0	0	0	1	1	1	1	1	0
Wigeon	128	7	1	2	148	2,648	9,010	13,844	13,316	10,173	8,141	4,035
Chiloe Wigeon	0	0	0	0	0	0	1	0	0	0	0	0
Gadwall	53	23	38	23	91	85	84	157	189	175	106	71
Teal	346	11	2	21	278	1,927	3,627	6,913	7,938	7,054	5,610	2,240
Mallard	1,024	831	1,651	1,175	3,468	5,928	6,374	5,524	5,228	4,842	3,633	1,996
Pintail	26	0	0	0	0	190	756	1,586	1,966	766	1,133	226
Garganey	0	1	0	0	0	0	0	0	0	0	0	0
Blue-winged Teal	0	0	0	0	0	0	0	0	0	0	0	0
Shoveler	109	17	6	0	47	126	345	541	544	837	524	370
Red-c. Pochard	0	1	1	1	2	1	0	0	1	3	2	2
Pochard	138	61	94	78	148	240	553	1,298	1,540	1,631	1,233	376
Tufted Duck	606	200	240	611	945	1,244	982	1,379	1,515	1,610	1,038	1,025
Scaup	0	0	0	1	0	6	2	6	17	26	9	7
Eider	20	17	43	33	30	58	43	61	52	63	86	72
Long-tailed Duck	0	0	0	0	0	0	0	0	2	0	1	0
Common Scoter	10	2	0	0	14	0	151	96	1,426	937	170	260
Goldeneye	137	4	0	0	1	1	70	194	370	421	478	395
Smew	0	0	0	0	0	0	0	0	5	9	9	2
Red-b. Merganser	239	77	128	69	44	181	264	184	184	117	186	238
Goosander	28	1	6	4	2	11	7	40	72	71	70	59
Ruddy Duck	85	54	49	90	107	270	164	177	257	264	168	97
Feral/hybrid duck	30	17	26	24	53	29	35	17	23	17	0	23
Hybrid Aythya	0	0	0	0	0	0	0	0	0	0	0	1
Water Rail	1	2	0	1	0	10	21	26	40	23	15	19
Moorhen	232	190	170	175	237	399	483	566	592	446	461	400
Coot	789	503	880	1,428	2,523	3,303	3,586	3,456	3,090	2,098	1,605	1,176
Oystercatcher	8,113	5,689	4,042	8,600	21,700	24,450	22,778	19,999	24,434	21,194	20,462	14,189
Little R. Plover	2	4	0	1	0	1	0	0	0	0	0	0
Ringed Plover	299	127	58	70	1,069	829	484	567	428	447	257	191

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Golden Plover	0	1	0	0	0	2	1,504	3,772	1,119	1,437	4,397	1,380
Grey Plover	11	12	0	0	90	30	208	485	546	462	290	125
Lapwing	183	181	143	770	727	1,360	2,659	7,374	20,981	9,289	7,972	478
Knot	0	3	0	0	25	210	224	537	2,170	1,665	678	8
Sanderling	143	38	6	31	310	240	709	785	308	199	195	174
Little Stint	0	0	0	0	0	4	0	0	0	0	0	0
Curlew Sandpiper	0	0	0	0	9	14	3	0	0	0	0	0
Purple Sandpiper	5	0	0	0	0	3	0	0	3	2	6	5
Dunlin	166	567	26	503	1,638	2,995	2,541	14,881	20,536	20,569	17,196	1,221
Ruff	0	0	0	2	3	1	0	0	1	0	0	0
Jack Snipe	0	0	0	0	0	0	2	3	3	2	3	6
Snipe	25	2	3	0	16	47	214	567	793	614	271	161
Long-b. Dowitcher	0	0	0	0	0	0	1	0	0	0	0	0
Woodcock	0	0	0	0	0	0	0	1	1	9	7	0
Black-t. Godwit	241	133	249	119	186	333	1,755	1,538	629	954	1,759	1,134
Bar-t. Godwit	21	12	1	0	6	119	111	93	337	375	285	82
Whimbrel	1	290	84	87	36	12	1	1	1	2	1	0
Curlew	2,047	469	1,126	4,564	5,376	8,013	7,733	6,759	8,702	9,141	8,845	5,068
Spot. Redshank	4	1	0	5	13	24	20	3	8	6	12	7
Redshank	2,045	78	430	1,626	3,256	5,237	5,961	4,408	4,185	3,979	4,064	3,173
Greenshank	7	2	1	42	112	169	78	25	31	28	25	30
Green Sandpiper	0	0	0	3	1	3	7	3	6	4	2	3
Wood Sandpiper	0	0	0	0	1	1	0	0	0	0	0	0
Common Sand.	4	30	11	72	81	21	3	0	2	2	1	2
Turnstone	150	20	2	2	199	412	477	430	431	432	439	532
Mediterranean Gull	0	3	7	2	0	4	1	6	0	1	6	2
Little Gull	0	0	0	0	0	0	0	1	0	1	0	0
Black-h. Gull	1,519	1,746	1,775	11,043	13,429	16,859	9,884	10,797	18,164	9,430	10,239	4,408
Ring-b. Gull	1	0	1	0	0	0	0	0	0	0	0	0
Common Gull	556	223	124	308	1,507	1,719	385	1,907	4,393	2,004	1,740	2,061
Lesser B-b Gull	689	562	715	600	2,404	2,072	1,777	2,176	1,122	1,095	3,240	6,963
Herring Gull	2,197	2,041	3,265	3,801	2,641	6,937	4,648	4,571	4,590	4,999	3,747	3,718
Iceland Gull	1	0	0	0	0	0	0	0	0	0	0	0
Great B-b Gull	116	86	237	351	229	406	201	498	260	162	101	145
Kittiwake	0	0	18	13	30	1	6	0	0	2	0	0
Sandwich Tern	14	88	21	603	426	220	0	0	0	0	0	0
Common Tern	100	22	39	57	15	10	4	0	0	0	0	1
Arctic Tern	0	0	0	0	0	1	0	0	0	0	0	0
Little Tern	0	100	161	120	3	0	0	0	0	0	0	0
Black Tern	0	0	0	0	2	0	0	0	0	0	0	0
Kingfisher	2	0	0	2	5	17	20	16	11	11	7	7
TOTALS												
WATERFOWL	20,937	11,968	13,461	22,952	45,941	65,800	80,591	105,467	132,582	110,260	100,172	47,645
GULLS	5,079	4,661	6,142	16,118	20,240	27,998	16,902	19,956	28,529	17,694	19,073	17,297
TERNS	114	210	221	780	446	231	4	0	0	0	0	1

APPENDIX 7. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN THE ISLE OF MAN, 1997-98

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sectors	*0*	*0*	*0*	*0*	*0*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
Sites	*0*	*0*	*0*	*0*	*0*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
Cormorant	0	0	0	0	0	3	7	4	1	1	2	0
Grey Heron	0	0	0	0	0	0	4	0	6	1	2	6
Mute Swan	0	0	0	0	0	0	0	0	0	0	0	4
Shelduck	0	0	0	0	0	1	0	0	8	10	26	32
Wigeon	0	0	0	0	0	0	65	57	109	66	65	0
Mallard	0	0	0	0	0	16	11	8	42	18	13	6
Eider	0	0	0	0	0	0	1	0	0	0	0	3
Goldeneye	0	0	0	0	0	0	0	0	0	0	3	2
Oystercatcher	0	0	0	0	0	57	88	34	73	70	125	39
Ringed Plover	0	0	0	0	0	0	1	52	0	63	6	0
Grey Plover	0	0	0	0	0	0	0	0	4	4	0	0
Lapwing	0	0	0	0	0	0	7	0	0	0	2	0
Dunlin	0	0	0	0	0	0	1	10	0	25	0	0
Snipe	0	0	0	0	0	0	0	0	1	0	0	0
Curlew	0	0	0	0	0	60	2	23	35	10	17	19
Redshank	0	0	0	0	0	7	4	7	19	10	4	4
Greenshank	0	0	0	0	0	0	0	1	0	0	0	0
Turnstone	0	0	0	0	0	0	13	3	20	10	0	0
Black-h. Gull	0	0	0	0	0	89	74	109	163	109	84	5
Common Gull	0	0	0	0	0	1	1	0	1	1	2	0
Lesser B-b Gull	0	0	0	0	0	0	0	0	0	0	1	0
Herring Gull	0	0	0	0	0	149	500	209	279	78	202	293
Great B-b Gull	0	0	0	0	0	43	12	26	34	7	9	10
Kittiwake	0	0	0	0	0	1	0	0	0	0	0	0
TOTALS												
WATERFOWL	0	0	0	0	0	144	204	19	318	288	265	115
GULLS	0	0	0	0	0	283	587	344	477	195	198	308

APPENDIX 8. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS IN THE CHANNEL ISLANDS, 1997-98

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sectors	*0*	*0*	*0*	*0*	*0*	*2*	*9*	*9*	*24*	*24*	*24*	*7*
Sites	*0*	*0*	*0*	*0*	*0*	*2*	*9*	*9*	*11*	*11*	*11*	*7*
Little Grebe	0	0	0	0	0	0	10	10	15	5	11	2
Great Crested Grebe	0	0	0	0	0	0	1	2	10	2	9	2
Slavonian Grebe	0	0	0	0	0	0	0	0	3	0	0	0
Cormorant	0	0	0	0	0	0	7	13	3	1	3	4
Bittern	0	0	0	0	0	0	0	1	1	1	1	0
Little Egret	0	0	0	0	0	40	91	98	15	56	38	0
Grey Heron	0	0	0	0	0	5	27	41	13	20	5	3
Mute Swan	0	0	0	0	0	0	5	3	9	6	3	0
Dark-bellied Brent	0	0	0	0	0	0	0	1	79	9	73	8
Light-b. Brent (Canada)	0	0	0	0	0	0	0	0	29	4	5	0
Feral/hybrid Goose	0	0	0	0	0	0	0	12	12	0	12	12
Wigeon	0	0	0	0	0	0	0	3	0	0	0	0
Teal	0	0	0	0	0	1	23	54	65	45	41	11
Mallard	0	0	0	0	0	6	212	254	162	216	273	57
Shoveler	0	0	0	0	0	0	12	19	21	23	20	28
Pochard	0	0	0	0	0	0	10	14	19	30	16	14
Tufted Duck	0	0	0	0	0	0	110	50	90	48	80	21
Red-b. Merganser	0	0	0	0	0	0	0	0	14	0	4	0
Water Rail	0	0	0	0	0	4	25	22	19	25	15	0
Moorhen	0	0	0	0	0	30	105	100	152	173	156	40
Coot	0	0	0	0	0	0	91	36	69	58	226	65
Oystercatcher	0	0	0	0	0	0	0	0	1,842	1,472	1,623	0
Ringed Plover	0	0	0	0	0	0	0	0	195	259	264	0
Golden Plover	0	0	0	0	0	0	21	33	83	294	59	0
Grey Plover	0	0	0	0	0	0	0	0	464	326	393	0
Lapwing	0	0	0	0	0	0	95	207	438	1064	244	28
Sanderling	0	0	0	0	0	0	0	0	247	189	304	0
Purple Sandpiper	0	0	0	0	0	0	0	0	0	0	5	0
Dunlin	0	0	0	0	0	0	0	0	2,319	1,015	1,990	0
Snipe	0	0	0	0	0	3	36	65	77	75	84	5
Woodcock	0	0	0	0	0	0	0	4	13	18	12	0
Bar-tailed Godwit	0	0	0	0	0	0	0	0	106	139	133	0
Curlew	0	0	0	0	0	0	0	0	214	329	168	0
Redshank	0	0	0	0	0	0	0	0	280	213	186	1
Greenshank	0	0	0	0	0	0	0	1	11	17	23	0
Common Sandpiper	0	0	0	0	0	0	0	1	0	0	0	0
Turnstone	0	0	0	0	0	0	0	0	316	266	415	0
Black-h. Gull	0	0	0	0	0	0	11	176	127	80	39	0
Common Gull	0	0	0	0	0	0	1	0	0	1	0	0
Lesser B-b Gull	0	0	0	0	0	0	0	0	2	1	0	0
Herring Gull	0	0	0	0	0	0	127	230	150	195	113	63
Great B-b Gull	0	0	0	0	0	0	8	50	12	37	44	16
TOTALS												
WATERFOWL	0	0	0	0	0	89	881	1,044	7,405	6,398	6.894	301
GULLS	0	0	0	0	0	0	147	456	291	314	196	79

APPENDIX 9. TOTAL NUMBERS OF WATERFOWL RECORDED BY WeBS AT INLAND AND COASTAL SITES, 1997-98

GREAT BRITAIN: COASTAL SITES

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sectors	*532*	*404*	*347*	*363*	*452*	*623*	*712*	*667*	*719*	*722*	*726*	*688*
Sites	*127*	*97*	*85*	*96*	*102*	*160*	*181*	*170*	*180*	*182*	*174*	*173*
Red-t. Diver	320	58	3	135	24	239	230	391	564	396	496	345
Black-t. Diver	11	12	0	0	0	1	27	39	34	12	19	20
Great N. Diver	34	20	2	2	1	16	15	19	58	34	27	37
Little Grebe	173	106	76	106	277	560	775	1,046	1,128	890	760	621
Great C. Grebe	622	167	137	343	819	1,155	1,627	1,642	2,097	1,776	1,720	1,353
Red-n. Grebe	10	2	0	19	68	31	44	26	34	29	37	26
Slavonian Grebe	43	3	0	0	3	27	105	113	296	211	175	132
Black-n. Grebe	1	1	1	1	2	1	5	19	45	43	9	16
Cormorant	2,705	1,973	2,026	2,491	4,828	6,742	7,104	5,985	5,531	5,315	5,057	4,271
Bittern	0	0	0	0	0	0	0	0	1	0	0	0
Little Egret	143	21	47	185	410	381	424	270	272	268	242	311
Great White Egret	0	0	0	0	0	0	0	0	0	1	0	1
Grey Heron	522	370	553	854	1,188	1,778	1,704	1,211	1,306	1,030	984	934
Spoonbill	0	2	2	3	2	2	5	5	11	8	12	6
Lesser Flamingo	0	0	0	0	1	1	1	1	1	1	0	1
Ful. Whist. Duck	0	0	0	0	0	0	0	0	0	0	0	1
Mute Swan	2,052	1,356	1,485	2,152	2,098	2,744	3,486	3,144	3,863	3,807	3,761	3,385
Black Swan	0	1	1	1	2	2	3	2	5	4	1	6
Bewick's Swan	2	0	2	0	0	0	40	197	890	665	892	23
Whooper Swan	21	2	4	3	1	2	240	137	208	243	252	305
Bean Goose	0	0	0	0	0	0	0	2	2	7	4	0
Pink-f. Goose	3,508	214	7	5	3	4,486	26,454	60,920	104,789	41,322	18,984	22,406
Euro. Whitefront	230	0	0	1	1	1	50	356	1,892	2,892	3,984	113
Greenl. Whitefront	110	0	0	0	0	8	48	62	178	1	111	95
Lssr White-f. Goose	0	0	0	0	0	0	0	0	0	0	1	0
Greylag Goose	1,455	826	386	942	1,914	3,507	9,287	3,619	9,083	5,283	5,399	2,840
Bar-headed Goose	0	0	1	3	1	1	0	1	1	0	0	0
Snow Goose	0	0	0	0	0	1	0	2	0	1	10	3
Ross's Goose	0	0	0	0	4	0	0	1	1	1	0	0
Emperor Goose	0	0	0	0	1	1	0	1	0	0	0	0
Canada Goose	1,708	929	1,546	1,774	4,682	5,759	7,308	7,453	6,461	6,122	4,791	3,312
Barnacle Goose	3,563	7,513	3	1	6	369	6,623	1,641	2,948	10,534	5,518	20,242
Brent Goose	0	0	0	0	0	1	2	1	3	11	0	1
Dark-b. Brent	16,651	2,012	40	26	41	261	49,598	76,058	95,627	88,497	77,350	51,634
Black Brant	0	0	0	0	0	0	0	1	0	1	1	0
Light-b. Brent	9	0	0	0	0	1,660	2,397	2,598	2,527	773	466	56
Egyptian Goose	0	1	0	0	6	18	8	3	1	2	2	5
Feral/hybrid Goose	1	1	2	0	0	5	6	3	2	10	8	6
Unidentified Goose	79	0	0	0	0	0	0	9	0	0	0	0
Ruddy Shelduck	0	0	0	0	0	0	3	4	7	6	4	4
Shelduck	27,125	13,462	14,838	15,570	30,758	33,551	57,675	62,482	73,318	64,534	62,665	48,478
Muscovy Duck	0	1	1	1	0	1	42	46	52	33	33	0
Wood Duck	0	0	0	0	0	0	1	1	0	0	0	1
Mandarin	1	0	0	0	0	1	11	40	30	38	11	0
Wigeon	2,824	321	123	59	449	24,799	154,796	167,388	186,719	163,208	129,777	71,273
American Wigeon	0	0	0	0	0	0	0	0	0	0	2	2
Chiloe Wigeon	0	0	0	0	0	0	1	1	0	0	0	0
Falcated Duck	0	0	0	0	0	0	0	0	0	0	0	1
Gadwall	214	88	52	41	129	315	375	807	870	854	1,079	774
Teal	5,345	150	130	314	6,300	22,641	38,057	54,652	64,491	47,441	30,650	15,826
Mallard	5,451	3,562	6,117	5,673	16,953	25,188	31,569	31,320	35,022	32,193	22,497	10,479
Pintail	393	12	11	6	125	6,303	12,978	15,790	21,233	10,622	10,410	4,215
Garganey	2	3	2	0	8	1	0	0	0	0	0	3
Blue-winged Teal	0	0	0	0	0	0	0	0	0	0	0	0
Shoveler	538	70	59	100	427	841	1,376	1,574	1,968	2,073	1,666	1,688
Red-c. Pochard	0	0	0	0	0	0	0	0	1	0	0	1
Pochard	281	104	67	103	153	220	414	1,257	2,217	2,953	2,192	718
Tufted Duck	1,060	432	263	359	535	914	1,452	1,432	2,436	2,277	2,269	1,754
Scaup	1,718	17	4	9	34	185	717	1,131	7,242	4,268	3,692	1,276
Eider	19,997	14,190	15,460	16,199	21,566	22,913	24,546	19,094	19,323	15,377	14,566	15,910
King Eider	0	0	0	0	0	1	1	0	0	0	0	0

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Long-tailed Duck	1,186	22	0	1	0	1	345	610	1,736	1,453	709	779
Common Scoter	4,053	1,268	530	501	889	3,433	3,869	5,239	8,560	5,434	3,413	2,267
Surf Scoter	3	0	0	0	0	0	1	3	6	3	2	3
Velvet Scoter	576	172	101	18	84	61	308	742	790	390	454	528
Unid. scoter sp.	0	0	0	0	0	0	0	1	0	0	0	0
Goldeneye	1,029	82	5	6	11	90	1,203	3,053	9,422	6,826	6,195	4,853
Smew	0	0	0	0	0	0	0	2	10	13	12	5
Red-b. Merganser	1,995	476	604	583	871	1,523	2,342	2,712	3,780	3,691	3,324	3,769
Goosander	67	88	173	491	564	232	130	136	151	202	222	99
Ruddy Duck	43	34	22	39	70	77	58	63	33	26	49	64
Unidentified duck	0	0	0	0	0	0	3	0	0	0	0	0
Water Rail	54	2	0	2	10	25	34	39	56	38	34	35
Spotted Crake	0	0	0	0	1	2	0	0	0	0	0	0
Moorhen	739	368	290	439	572	933	1,155	1,420	1,451	1,319	1,384	1,438
Coot	1,563	711	911	1,311	2,362	2,895	3,015	3,494	3,736	4,027	3,849	3,275
Oystercatcher	78,088	40,103	33,560	61,758	171,417	225,839	235,759	250,161	238,519	211,557	219,651	136,744
Black-winged Stilt	0	0	0	0	1	0	0	1	1	1	1	1
Avocet	607	96	147	452	787	1,534	2,472	2,345	3,852	3,458	3,190	2,125
Little R. Plover	13	22	14	22	17	5	3	0	0	0	0	0
Ringed Plover	4,147	9,115	1,023	1,482	22,468	12,158	8,993	8,816	8,210	7,044	7,072	4,550
Kentish Plover	1	0	0	0	0	0	0	0	0	0	0	0
Dotterel	0	4	0	0	0	0	0	0	1	0	0	0
Golden Plover	6,391	378	129	2,293	27,101	33,132	53,504	121,006	114,403	93,628	101,805	30,529
Grey Plover	33,948	16,790	1,034	4,856	27,104	35,517	33,144	44,902	34,383	45,690	46,758	42,653
Lapwing	5,543	2,177	6,805	33,616	41,569	58,703	107,212	255,602	295,250	259,649	208,542	16,445
Knot	71,324	8,291	3,106	12,751	70,539	136,086	184,523	294,024	257,329	179,211	225,010	131,116
Sanderling	7,749	11,322	136	9,218	7,529	8,427	8,982	6,481	6,713	5,884	5,251	7,252
Western Sandpiper	0	0	0	0	1	0	0	0	0	0	0	0
Little Stint	1	10	5	7	25	36	6	4	0	1	1	2
Pectoral Sandpiper	0	0	0	0	0	2	0	0	0	0	0	0
Curlew Sandpiper	0	5	2	11	38	89	20	0	0	0	1	0
Purple Sandpiper	706	22	0	12	40	55	225	473	1,000	1,056	653	622
Dunlin	97,237	91,877	1,691	44,498	79,006	87,401	230,212	371,322	458,657	446,250	402,016	166,983
Ruff	96	90	2	38	268	357	104	71	72	125	128	110
Jack Snipe	1	0	0	0	0	2	19	26	45	30	52	43
Snipe	257	29	9	33	376	478	1,129	1,839	2,603	1,647	1,298	905
Great Snipe	0	0	0	0	1	0	0	0	0	0	0	0
Long-b. Dowitcher	0	0	0	1	0	0	1	1	0	0	0	0
Woodcock	0	0	0	0	0	0	3	1	3	11	11	0
Black-t. Godwit	8,556	1,603	1,549	3,154	16,447	14,771	13,729	13,378	13,154	12,062	11,785	13,617
Bar-t. Godwit	4,265	1,302	1,312	8,981	17,218	28,996	21,044	40,681	36,399	48,312	42,721	16,419
Whimbrel	109	1,615	222	697	584	290	43	12	3	3	5	9
Curlew	31,582	4,804	11,405	51,671	72,720	84,389	83,006	57,400	75,088	77,848	83,490	60,873
Spot. Redshank	59	19	9	163	212	143	131	179	98	53	140	59
Redshank	37,385	2,997	3,542	18,055	49,854	69,975	82,421	71,353	73,336	70,887	78,820	69,202
Greenshank	97	82	17	658	1,543	1,538	619	236	176	518	138	153
Lesser Yellowlegs	0	0	0	0	0	0	0	0	0	0	2	0
Green Sandpiper	8	3	5	47	171	87	53	42	21	17	25	22
Wood Sandpiper	1	1	0	5	24	9	1	0	0	0	0	0
Common Sand.	10	104	57	480	729	134	25	20	20	16	37	28
Turnstone	7,918	2,381	353	1,263	5,438	9,659	13,821	12,687	12,588	10,684	10,203	11,253
Grey Phalarope	0	0	0	1	1	0	1	0	0	0	0	0
Mediterranean Gull	8	9	10	23	30	14	21	29	9	65	54	40
Little Gull	46	29	5	37	19	7	18	14	0	7	0	0
Sabine's Gull	0	0	0	0	1	1	0	0	0	0	0	0
Black-h. Gull	25,333	8,751	15,196	65,824	103,005	92,622	71,067	71,717	96,299	77,480	77,005	54,964
Ring-b. Gull	1	0	1	0	0	1	2	1	2	1	3	0
Common Gull	5,013	3,023	2,943	4,038	12,503	11,113	8,757	7,881	11,139	16,485	15,587	11,100
Lesser B-b Gull	33,251	37,428	47,299	56,081	15,939	3,703	3,518	3,776	2,633	3,214	17,235	33,423
Herring Gull	31,448	29,831	34,421	35,637	29,853	40,235	37,303	54,733	39,355	50,728	53,172	44,536
Iceland Gull	1	2	0	0	0	0	0	2	0	1	1	2
Glaucous Gull	2	0	0	0	0	1	0	1	0	2	1	1
Great B-b Gull	1,397	1,432	1,637	2,524	4,254	5,727	5,008	10,010	5,470	4,977	2,975	1,668
Kittiwake	1,296	1,077	401	856	3,151	888	894	235	197	175	15	336
Unid. gull	12	120	0	0	3,505	1,266	986	500	4,165	2,490	280	480
Sandwich Tern	223	697	428	3,402	4,939	2,633	80	2	0	1	0	6
Roseate Tern	0	0	0	0	2	0	0	0	0	0	0	0
Common Tern	172	1,249	1,299	2,800	3,102	863	40	1	0	0	0	0
Arctic Tern	5	244	302	983	1,321	70	5	1	0	0	0	0

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Little Tern	3	357	364	232	137	23	1	0	0	0	0	0
Black Tern	0	11	0	0	19	5	1	0	0	0	0	0
Unid. tern	0	2	0	416	2	20	0	0	0	0	0	0
Kingfisher	1	0	2	5	17	42	37	30	36	24	22	10

GREAT BRITAIN: INLAND SITES

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sectors	*933*	*837*	*771*	*804*	*804*	*1352*	*1760*	*1841*	*1823*	*1889*	*1886*	*1839*
Sites	*764*	*725*	*664*	*687*	*692*	*1128*	*1410*	*1465*	*1451*	*1491*	*1484*	*1449*
Red-t. Diver	3	5	1	5	3	1	8	4	7	35	5	17
Black-t. Diver	5	2	0	0	3	1	1	0	1	3	2	4
Great N. Diver	0	0	0	0	0	0	5	5	15	9	8	7
Pied-billed Grebe	0	0	1	0	0	0	0	0	0	0	0	0
Little Grebe	777	463	540	768	1,434	2,761	2,498	1,977	1,875	1,557	1,593	1,748
Great C. Grebe	3,315	2,772	2,881	3,193	4,418	6,099	6,364	6,336	5,604	5,123	5,580	6,066
Red-n. Grebe	2	1	2	2	2	4	3	5	7	7	1	3
Slavonian Grebe	12	1	1	1	0	9	24	33	19	31	17	24
Black-n. Grebe	7	12	9	7	16	24	19	13	2	5	5	12
Cormorant	3,271	2,275	1,402	1,842	2,468	4,617	6,554	6,845	6,401	6,862	6,083	5,740
Bittern	1	0	0	1	0	0	8	7	13	12	10	7
Little Bittern	0	0	1	0	0	0	0	0	0	0	0	0
Little Egret	6	2	3	9	4	8	6	7	17	10	30	13
Great White Egret	1	0	0	0	0	0	0	0	0	1	0	0
Grey Heron	1,084	818	967	1,184	1,493	1,781	1,980	1,912	1,988	1,926	1,945	1,893
White Stork	1	1	1	1	1	1	3	3	3	3	2	2
Spoonbill	0	0	0	1	0	0	0	0	0	0	0	0
Chilean Flamingo	1	0	1	0	0	0	0	0	0	0	0	0
Greater Flamingo	1	1	1	0	1	1	1	2	1	1	0	0
Fulv. Whist. Duck	0	0	0	0	0	2	0	0	0	0	0	0
Mute Swan	6,264	5,087	6,620	7,510	9,120	11,098	13,197	15,026	13,501	12,956	11,652	10,983
Black Swan	11	5	12	9	12	18	18	24	26	12	14	20
Trumpeter Swan	0	0	0	0	0	3	3	3	3	2	3	2
Bewick's Swan	18	0	0	3	0	0	87	176	4,551	3,445	4,008	81
Whooper Swan	384	11	6	6	4	45	1,379	2,218	2,963	2,207	3,529	2,760
Swan Goose	0	0	11	13	14	16	33	34	26	38	30	25
Bean Goose	4	1	1	1	0	1	36	162	47	38	51	3
Pink-f. Goose	15,810	430	8	14	257	59,503	95,844	31,615	15,586	26,657	53,417	31,765
White-f. Goose	0	0	1	0	0	1	0	0	0	0	0	0
Euro. Whitefront	3	0	0	0	1	2	2	118	263	1,203	1,361	551
Green. Whitefront	79	0	0	0	0	0	497	615	422	591	92	365
Lser White-f. Goose	0	0	1	1	1	0	1	1	1	0	1	0
Greylag Goose	8,730	2,836	6,954	7,094	11,264	15,851	44,082	30,034	35,014	24,221	21,597	20,533
Bar-headed Goose	5	4	4	4	9	14	9	13	13	6	11	16
Snow Goose	27	10	24	25	4	15	70	66	35	48	54	66
Ross's Goose	2	1	1	0	2	0	0	1	1	0	1	1
Emperor Goose	0	0	1	1	1	1	3	3	6	5	3	3
Canada Goose	9,277	8,199	17,837	17,744	23,263	34,636	34,478	35,772	33,181	30,899	25,673	19,668
Barnacle Goose	190	44	29	106	147	667	10,298	7,838	1,159	5,133	8,557	3,441
Brent Goose	0	0	0	0	0	1	0	0	0	0	0	0
Dark-bellied Brent	22	0	1	0	0	1	2,595	8,345	3,418	4,072	1,678	448
Light-bellied Brent	1	0	0	0	0	0	1	0	3	2	0	0
Red-b. Goose	0	0	0	0	0	0	0	0	0	0	0	1
Egyptian Goose	27	16	29	93	367	201	224	164	162	150	161	96
Feral/hybrid Goose	32	41	52	63	44	162	273	260	337	429	302	254
Ruddy Shelduck	3	0	2	7	3	10	5	3	2	3	1	3
Cape Shelduck	0	2	2	4	0	0	1	0	0	0	0	0
Paradise Shelduck	0	0	1	0	0	0	1	0	0	1	0	0
Shelduck	2,933	1,612	904	304	254	215	285	657	1,034	2,000	3,154	3,238
Muscovy Duck	25	28	27	26	13	31	59	70	75	66	60	36
Wood Duck	3	0	0	1	1	0	3	7	8	2	5	8
Mandarin	76	54	122	72	49	155	169	275	236	197	162	181
Wigeon	8,462	113	88	1,046	569	12,397	53,303	90,642	128,102	163,891	138,889	111,827
Am. Wigeon	0	0	0	0	0	0	0	1	1	0	1	2
Chiloe Wigeon	0	0	0	1	0	0	2	3	1	3	4	4
Falcated Duck	0	0	0	0	0	0	0	0	0	0	0	1

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Gadwall	2,039	1,089	1,193	1,015	3,705	6,698	8,149	12,266	11,869	10,102	9,777	6,122
Teal	9,632	224	336	1,426	7,165	28,943	48,605	68,305	73,263	69,508	49,515	33,245
Speckled Teal	0	1	0	1	1	1	0	0	0	0	1	2
Mallard	20,117	16,441	24,304	32,147	52,972	75,848	91,501	108,893	99,653	90,762	65,671	44,204
Chestnut Teal	0	0	0	0	0	0	0	1	0	0	0	0
Pintail	340	4	2	61	37	918	1,519	1,682	3,284	4,212	5,352	3,781
Bahama Pintail	0	0	0	0	0	1	0	0	0	0	0	0
Cape Teal	0	0	0	0	0	0	1	1	1	0	0	0
Garganey	10	23	4	19	29	16	4	4	0	0	1	2
Shoveler	2,256	274	232	514	2,815	6,929	7,892	7,056	5,890	5,337	6,074	5,569
Ringed Teal	0	0	0	0	1	0	0	0	0	0	0	0
Red-c. Pochard	0	2	3	1	8	16	46	94	70	85	41	45
Pochard	930	410	818	1,932	6,483	7,882	15,101	22,819	27,515	39,138	27,686	10,597
Ring-necked Duck	0	0	0	0	1	2	0	1	1	1	2	3
Ferruginous Duck	1	1	0	0	1	1	2	1	2	1	2	1
Tufted Duck	18,178	6,372	7,492	16,798	28,610	36,843	37,337	46,522	49,568	48,260	43,289	38,361
Scaup	19	8	1	1	3	30	339	278	287	129	481	38
Lesser Scaup	1	0	0	0	0	0	0	0	0	0	0	0
Eider	60	31	24	28	11	52	33	43	26	4	3	71
Long-tailed Duck	0	0	0	0	0	0	31	60	57	61	23	47
Common Scoter	3	0	6	0	0	0	2	1	5	54	4	4
Velvet Scoter	0	0	0	0	0	0	3	2	2	0	0	0
Goldeneye	3,087	84	77	126	90	151	2,252	5,182	6,933	7,692	8,867	8,288
Hooded Merganser	0	0	0	0	1	1	0	0	0	0	0	0
Smew	6	2	0	0	0	0	3	13	139	287	224	67
Red-b. Merganser	345	228	267	118	161	441	421	322	388	325	573	501
Goosander	452	367	258	495	467	585	825	1,943	3,094	3,311	3,406	2,067
Ruddy Duck	1,283	594	530	606	1,262	2,110	2,445	2,724	3,552	2,966	3,056	2,592
Feral/hybrid duck	91	135	138	116	144	168	170	165	158	181	132	131
Hybrid Aythya	1	0	0	0	0	1	0	1	1	0	1	2
Unidentified duck	0	0	0	0	0	2	0	0	0	0	0	0
Water Rail	43	45	44	46	62	99	166	231	289	218	233	204
Spotted Crake	0	0	2	0	0	0	0	0	0	0	0	0
Moorhen	4,014	2,751	2,340	3,701	5,352	7,937	9,555	10,381	9,663	9,500	10,459	9,450
Coot	18,625	11,109	16,916	24,421	43,714	71,214	84,177	99,013	91,656	74,865	62,156	42,113
Crane	0	0	0	0	0	0	0	6	4	6	6	0
Oystercatcher	2,463	1,096	1,159	1,022	485	260	636	1,249	1,061	1,721	7,545	12,160
Avocet	428	131	90	1	32	16	82	64	7	6	42	344
Black-w. Pratincole	0	0	0	0	1	0	0	0	0	0	0	0
Little R. Plover	181	266	235	118	35	13	2	1	0	0	0	9
Ringed Plover	189	234	168	120	695	422	374	842	339	327	268	231
Dotterel	1	0	0	0	0	0	0	0	0	0	0	0
Golden Plover	2,102	17	37	67	701	3,481	17,146	43,671	61,042	44,533	45,123	13,706
Grey Plover	7	18	0	0	271	2	68	182	160	6	18	6
Unid. wader	0	0	0	0	0	0	0	0	0	0	1	0
Lapwing	4,145	1,753	6,307	21,013	27,200	41,512	65,582	143,134	169,216	175,839	138,736	20,846
Knot	0	1	0	2	16	15	24	1	68	6	0	15
Sanderling	0	7	1	0	80	4	41	1	0	32	22	36
Little Stint	0	2	0	1	3	11	9	1	2	0	0	0
Pectoral Sandpiper	0	0	0	0	0	1	0	0	0	0	0	0
Curlew Sandpiper	0	2	0	5	12	27	22	1	0	0	0	0
Purple Sandpiper	1	0	0	0	0	0	3	72	3	5	5	0
Dunlin	339	374	23	301	1,104	436	2,252	5,266	3,925	2,570	3,074	2,214
Ruff	186	4	2	101	212	230	111	112	191	259	296	289
Jack Snipe	11	1	0	0	0	1	46	29	33	30	51	31
Snipe	607	109	39	107	572	1,051	3,698	4,187	4,801	2,974	3,740	2,636
Long-b. Dowitcher	0	0	0	0	0	0	1	0	0	0	0	0
Woodcock	2	2	1	0	1	1	7	18	37	18	14	9
Black-t. Godwit	1,960	105	53	325	497	1,941	1,319	570	45	185	737	1,844
Bar-t. Godwit	6	4	0	3	9	2	2	0	7	1	40	6
Whimbrel	8	120	1	15	16	6	1	0	0	0	0	0
Curlew	933	320	218	474	701	1,969	2,615	4,560	6,479	7,844	8,147	7,318
Spot. Redshank	12	4	5	3	9	62	16	0	0	2	2	1
Redshank	2,979	588	539	775	1,902	1,475	2,238	2,258	2,415	1,913	1,803	3,220
Greenshank	8	17	9	54	287	247	94	26	16	9	20	27
Green Sandpiper	47	3	32	169	281	158	104	119	111	61	75	66
Wood Sandpiper	2	2	1	7	22	8	0	0	0	0	0	0
Common Sand.	37	357	267	432	607	168	18	9	6	4	7	13
Turnstone	126	62	0	4	45	53	278	239	152	70	60	97

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Grey Phalarope	0	0	0	0	0	1	2	0	0	2	0	0
Mediterranean Gull	9	2	3	7	0	5	29	6	6	8	11	8
Little Gull	1	1	0	2	9	2	0	2	0	2	0	1
Sabine's Gull	0	0	0	0	0	2	0	0	0	0	0	0
Black-h. Gull	28,141	23,501	19,937	16,422	17,767	48,300	66,962	179,857	157,622	154,987	113,028	99,358
Ring-b. Gull	0	0	0	0	0	0	0	0	1	1	2	4
Common Gull	3,686	472	264	1,076	1,077	12,631	24,354	63,796	61,811	53,605	70,941	29,107
Lesser B-b Gull	2,608	1,393	1,812	3,004	7,472	11,198	8,952	18,152	5,868	3,017	3,334	3,543
Herring Gull	3,717	2,456	1,980	4,296	2,917	8,929	8,863	12,697	12,039	12,517	8,618	5,298
Iceland Gull	1	0	0	0	0	0	0	0	0	2	4	1
Glaucous Gull	2	0	0	0	0	1	0	0	1	6	7	3
Great B-b Gull	314	223	169	280	981	772	1,334	3,840	3,578	4,529	1,481	1,137
Kittiwake	1	0	2	250	1,000	6	0	2	1	8	1	1
Unid. gull	7	190	53	305	237	350	401	430	2,330	752	5,480	120
Sandwich Tern	163	1,524	448	455	779	42	7	1	0	0	0	0
Common Tern	52	843	1,195	1,223	594	41	0	0	0	0	0	1
Arctic Tern	2	5	83	24	16	8	3	1	0	0	0	0
Little Tern	0	100	68	4	1	0	0	0	0	0	0	0
Black Tern	0	12	2	0	5	1	0	0	0	0	0	0
White-w. Black Tern	0	0	0	0	2	0	0	0	0	0	0	0
Unid. tern	0	16	16	29	62	0	0	0	0	0	0	0
Kingfisher	62	66	79	118	136	218	243	180	174	115	156	178

NORTHERN IRELAND: COASTAL SITES

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sectors	*15*	*15*	*15*	*15*	*15*	*23*	*23*	*51*	*64*	*66*	*56*	*24*
Sites	*3*	*3*	*3*	*3*	*3*	*6*	*6*	*7*	*8*	*8*	*7*	*7*
Red-t. Diver	0	0	0	0	0	2	4	16	19	21	0	42
Great N. Diver	0	1	0	0	0	0	0	2	2	6	1	4
Little Grebe	1	2	0	0	0	105	78	101	129	112	74	35
Great C. Grebe	2	5	0	3	39	1,700	2,021	2,466	2,350	1,468	154	2,382
Slavonian Grebe	0	0	0	0	0	2	5	2	2	7	1	0
Black-n. Grebe	0	0	0	0	0	0	1	0	0	0	0	0
Cormorant	80	104	59	123	126	732	751	813	852	500	367	445
Grey Heron	16	35	24	48	43	168	182	102	172	150	66	58
Mute Swan	166	116	74	56	52	231	258	217	321	218	201	199
Bewick's Swan	3	0	0	0	0	0	0	0	5	16	0	2
Whooper Swan	67	3	0	0	0	0	362	445	76	337	151	566
Bean Goose	0	0	0	0	0	0	1	0	0	0	0	0
Pink-footed Goose	0	0	0	0	0	30	2	0	0	0	0	0
Greenl. Whitefront	36	0	0	0	0	0	111	8	0	19	3	37
Greylag Goose	88	0	0	0	0	115	100	86	379	34	357	581
Canada Goose	0	0	0	0	0	38	70	4	57	23	183	105
Barnacle Goose	2	0	0	0	0	148	134	123	130	131	126	117
Dark-bellied Brent	0	0	0	0	0	0	0	0	0	6	66	0
Light-bellied Brent	198	0	0	0	0	12,805	14,910	9,303	5,675	3,323	3,727	2,580
Shelduck	264	148	80	69	22	84	777	2,463	3,310	4,336	3,391	2,153
Mandarin	3	2	5	0	0	0	0	2	0	0	0	0
Wigeon	82	3	0	1	0	1,958	10,367	6,843	7,049	2,370	1,795	1,642
Gadwall	0	0	0	0	0	63	44	47	53	37	55	43
Teal	44	11	0	0	29	360	1,445	1,133	2,314	2,677	1,516	905
Mallard	75	96	184	126	810	3,599	2,913	2,227	3,185	2,120	1,273	599
Pintail	0	0	0	0	0	8	24	26	304	119	350	79
Shoveler	0	0	0	0	0	18	83	70	101	89	54	34
Pochard	0	0	0	0	0	17	35	101	69	161	116	48
Tufted Duck	0	2	0	0	1	81	113	240	162	232	236	245
Scaup	0	0	0	0	0	0	9	0	389	656	77	6
Eider	19	58	23	125	162	421	797	981	1,088	521	413	293
Long-tailed Duck	0	0	0	0	0	0	0	10	20	8	11	18
Common Scoter	0	0	0	0	0	0	0	0	0	1	0	1
Velvet Scoter	0	0	0	0	2	0	0	4	1	0	0	1
Goldeneye	25	0	0	0	0	0	59	498	940	683	578	776
Smew	0	0	0	0	0	0	0	0	0	1	1	1
Red-b. Merganser	12	6	15	11	296	381	559	449	585	402	258	550
Moorhen	1	3	2	1	1	7	6	0	4	1	1	2

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Coot	0	0	0	0	0	197	263	415	340	334	202	142
Oystercatcher	1,192	925	583	2,220	3,881	11,454	13,979	13,714	16,308	17,249	11,256	7,982
Ringed Plover	63	7	3	5	8	233	200	396	601	525	290	29
Golden Plover	1,614	0	0	0	1	815	1,874	8,809	10,772	9,756	8,915	6,514
Grey Plover	2	0	0	0	2	82	67	153	278	352	285	179
Lapwing	40	95	63	275	782	1,091	4,298	9,121	20,561	18,165	13,315	302
Knot	0	0	0	0	2	144	92	3,602	8,184	9,655	4,426	493
Sanderling	43	37	0	0	0	55	0	15	41	1	46	0
Curlew Sandpiper	0	0	0	0	0	6	3	0	0	0	0	0
Purple Sandpiper	0	0	0	0	0	0	10	44	76	70	20	29
Dunlin	45	55	16	50	113	842	1,018	11,708	16,748	13,198	14,236	1,324
Ruff	0	0	0	1	0	0	0	0	0	0	0	0
Jack Snipe	0	0	0	0	0	0	0	2	4	0	0	0
Snipe	5	0	0	0	0	0	22	135	119	56	104	51
Black-tailed Godwit	30	0	2	6	21	83	76	54	163	243	236	263
Bar-tailed Godwit	3	4	11	66	25	282	262	482	2,983	3,343	857	320
Whimbrel	0	331	1	14	2	5	0	0	0	0	0	0
Curlew	611	159	649	2,044	1,922	4,448	3,291	3,175	5,070	6,768	5,786	2,982
Spotted Redshank	2	0	0	0	0	4	1	2	1	1	0	1
Redshank	940	76	50	386	1,076	6,355	6,896	7,020	7,098	6,072	5,780	5,910
Greenshank	4	0	5	27	35	89	92	56	92	65	57	62
Green Sandpiper	0	0	0	0	0	9	0	0	0	0	0	0
Common Sandpiper	0	2	1	3	1	1	0	0	0	0	0	0
Turnstone	85	1	0	0	74	754	1,070	1,515	1,384	1,573	932	825
Little Gull	0	0	0	0	0	0	0	0	0	1	0	0
Black-h. Gull	149	110	375	1,518	1,960	7,610	6,238	6,204	7,276	9,848	6,245	5,947
Ring-b. Gull	0	0	0	0	0	0	0	0	0	1	0	0
Common Gull	81	119	109	469	1,515	2,911	2,226	1,337	1,149	1,825	3,104	233
Lesser B-b Gull	44	4	1	30	11	26	13	9	18	15	17	59
Herring Gull	96	230	210	287	460	3,419	2,746	3,575	2,472	3,712	1,665	3,131
Iceland Gull	0	0	0	0	0	0	0	0	0	4	0	1
Glaucous Gull	0	0	0	0	0	0	0	0	0	6	0	0
Great B-b Gull	110	482	114	126	173	471	335	285	221	449	119	296
Kittiwake	0	0	0	0	76	0	0	1	0	3	0	0
Sandwich Tern	26	69	130	296	606	479	6	0	0	0	0	0
Common Tern	0	10	0	0	0	0	0	0	0	0	0	0
Black Tern	0	0	0	0	1	2	1	0	0	0	0	0
Unid. tern	0	0	0	43	7	0	0	0	0	0	0	0
Kingfisher	0	0	0	0	0	0	1	1	0	1	0	0

NORTHERN IRELAND: INLAND SITES

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Sectors	*1*	*0*	*0*	*0*	*87*	*110*	*120*	*123*	*127*	*129*	*131*	*127*
Sites	*1*	*0*	*0*	*0*	*2*	*7*	*18*	*18*	*22*	*24*	*27*	*21*
Little Grebe	0	0	0	0	212	390	299	428	383	203	199	134
Great Crested Grebe	0	0	0	0	864	728	169	229	107	111	517	612
Slavonian Grebe	0	0	0	0	0	0	0	0	1	1	0	0
Cormorant	0	0	0	0	991	994	1,226	903	870	633	834	498
Grey Heron	0	0	0	0	217	166	101	77	113	122	122	89
Mute Swan	0	0	0	0	1,495	1,642	1,708	1,916	1,729	1,531	1,747	1,642
Bewick's Swan	0	0	0	0	0	0	0	47	41	117	75	44
Whooper Swan	87	0	0	0	1	34	502	697	600	1,233	1,976	1,251
Greenl. Whitefront	0	0	0	0	0	0	0	0	0	0	88	0
Greylag Goose	0	0	0	0	0	76	17	105	218	283	42	578
Canada Goose	0	0	0	0	0	3	3	2	0	0	273	13
Shelduck	0	0	0	0	12	61	32	101	135	349	177	348
Wigeon	0	0	0	0	2	201	911	3,130	3,011	1,195	2,944	2,096
Gadwall	0	0	0	0	61	66	36	69	89	70	71	111
Teal	0	0	0	0	47	405	625	1,284	2,509	1,120	2,202	1,438
Mallard	0	0	0	0	5,463	5,024	4,258	4,554	3,671	2,183	2,610	1,573
Pintail	0	0	0	0	0	2	5	0	14	0	8	27
Shoveler	0	0	0	0	14	18	29	28	106	18	27	46
Pochard	0	0	0	0	359	277	1,667	9,155	19,240	18,760	8,180	1,966
Tufted Duck	0	0	0	0	2,910	5,757	7,082	18,781	16,639	16,163	13,632	8,661
Scaup	0	0	0	0	0	1,427	3	1,330	493	3,160	3,671	2,244

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Eider	0	0	0	0	0	0	0	0	3	0	0	0
Goldeneye	0	0	0	0	21	69	497	5,609	3,839	4,205	4,214	4,918
Red-b. Merganser	0	0	0	0	23	103	47	52	24	23	1	27
Goosander	0	0	0	0	0	0	0	0	1	1	0	1
Ruddy Duck	0	0	0	0	23	24	8	7	23	0	28	14
Water Rail	0	0	0	0	0	0	0	1	1	0	2	0
Moorhen	0	0	0	0	132	226	206	266	185	168	257	262
Coot	0	0	0	0	3,023	5,303	5,548	6,230	5,005	2,806	3,093	2,793
Oystercatcher	0	0	0	0	6	1,521	1,340	1,903	1,320	550	0	494
Ringed Plover	0	0	0	0	0	0	32	0	58	0	0	12
Golden Plover	0	0	0	0	0	5	2,251	2,433	3,608	4,337	3,080	1,170
Grey Plover	0	0	0	0	0	0	0	0	2	0	0	2
Lapwing	0	0	0	0	628	1,478	1,580	4,355	8,375	10,098	1,876	299
Knot	0	0	0	0	0	22	45	170	0	0	0	19
Dunlin	0	0	0	0	2	3	43	121	55	498	77	10
Ruff	0	0	0	0	0	2	1	0	0	0	0	0
Jack Snipe	0	0	0	0	0	0	0	0	1	0	0	0
Snipe	0	0	0	0	8	12	31	75	70	79	69	128
Black-tailed Godwit	0	0	0	0	0	303	298	165	130	161	0	133
Bar-tailed Godwit	0	0	0	0	0	18	22	32	28	10	0	133
Curlew	0	0	0	0	82	714	670	576	902	861	859	1,114
Spotted Redshank	0	0	0	0	0	1	1	0	1	1	0	0
Redshank	0	0	0	0	0	75	213	139	31	22	11	64
Greenshank	0	0	0	0	0	2	1	1	1	0	0	0
Black-h. Gull	0	0	0	0	2,963	2,719	2,203	1,017	1,380	1,989	2,287	1,833
Ring-b. Gull	0	0	0	0	0	0	1	0	0	0	0	0
Common Gull	0	0	0	0	55	181	232	380	341	395	363	946
Lesser B-b Gull	0	0	0	0	706	998	586	266	19	160	63	143
Herring Gull	0	0	0	0	3	442	413	71	10	38	8	10
Iceland Gull	0	0	0	0	0	0	0	0	0	0	0	1
Glaucous Gull	0	0	0	0	0	0	0	0	0	0	0	1
Great B-b Gull	0	0	0	0	38	125	75	85	31	88	31	12
Sandwich Tern	0	0	0	0	0	58	7	0	0	0	0	0
Kingfisher	0	0	0	0	0	0	0	0	1	0	0	0

APPENDIX 10. LOCATIONS OF WEBS COUNT SITES MENTIONED IN THIS REPORT

The location of all counts sites or areas mentioned in this report are given here. Sites are listed alphabetically, with the 1km 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 1997-98, simply those mentioned by name in this report. Figure A1 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	TL9818	R	Essex
Aberlady Bay	NT4581	E	Lothian
Alaw Reservoir	SH3968	R	Gwynedd
Alde Complex	TM4257	E	Suffolk
Aldford Brook & Eaton Park	SJ4059	V	Cheshire
Alloa Inch	NS8792	N	Central
Alt Estuary	SD2903	E	Merseyside
Altofts Ings	SE3624	L	W Yorkshire
Alton Water	TM1356	R	Essex
Alvecote Pools	SK2504	L	Warwickshire
Ampton Water	TL8770	L	Suffolk
Appin/Erriska/Benderloch	NM9043	O	Strathclyde
Aqualate Mere	SJ7720	L	Staffordshire
Ardleigh Reservoir	TM0328	R	Essex
Arlington Reservoir	TQ5307	R	Sussex
Arran	NR9535	O	Strathclyde
Arun Valley	TQ0314	V	West Sussex
Ashford Common Waterworks	TQ0869	S	Surrey
Ash Levels	TR3162	M	Kent
Attenborough Gravel Pits	SK5234	P	Notts
Avon Estuary	SX6745	E	Devon
Avon Valley (Lower)	SZ1499	M	Hampshire
Avon Valley (Mid)	SU1510	M	Hampshire
Ayr to Troon	NS3425	O	Strathclyde
Ballyroney Lake	J229382	L	Down
Ballysaggart Lough	H7961	L	Tyrone
Balranald RSPB Reserve	NF7169	L	Western Isles
Bann Estuary	C7935	E	Londonderry
Bardney Pits	TF1168	P	Lincolnshire
Barleycroft Gravel Pits	TL3672	P	Cambs
Barn Elms Reservoir	TQ2277	R	Gtr London
Barnstone Pool	SK7334	P	Notts
Baron's Haugh	NS7555	L	Strathclyde
Barton Pits	SK2017	P	Staffordshire
Baston/Langtoft Gravel Pits	TF1212	P	Lincolnshire
Bayfield Loch	NH8271	L	Highland
Beadnell to Seahouses	NU2231	O	N'th'mberland
Beaulieu Estuary	SZ4298	E	Hampshire
Beauly Firth	NH5848	E	Highland
Beddington Sewage Farm	TQ2966	S	Gtr London
Bedfont & Ashford Gravel Pits	TQ0872	P	Gtr London
Beesands Ley	SX8141	L	Devon
Belfast Lough	J4083	E	Down
Belvide Reservoir	SJ8610	R	Staffordshire
Benacre Broad	TM5383	L	Suffolk
Benbecula	NF8150	N	Western Isles
Besthorpe & Girton Gravel Pits	SK8165	P	Notts
Bewl Water	TQ6733	R	Sussex
Bicton Reservoir	SM8407	R	Dyfed
Black Cart Water	NS4767	M	Borders
Blackmoorfoot Reservoir	SE0912	R	W Yorkshire
Blackwater Estuary	TL9307	E	Essex
Blagdon Lake	ST5150	R	Avon
Blenheim Park Lake	SP4316	L	Oxfordshire
Blickling Lake	TG1729	L	Norfolk
Blithfield Reservoir	SK0524	R	Staffordshire
Blunham Gravel Pits	TL1551	P	Bedfordshire
Blyth Estuary (Suffolk)	TM4675	E	Suffolk
Blyth to Newbiggin	NZ3084	O	N'th'mberland
Bolton-on-Swale Gravel Pits	SE2498	P	N Yorkshire
Bough Beech Reservoir	TQ4947	R	Kent
Brading Harbour	SZ6388	E	Isle of Wight
Bramshill Park	SK7560	L	Hampshire
Brent Reservoir	TQ2287	R	Gtr London
Breydon Water & Berney Marshes	TG4907	E	Norfolk
Bridge of Earn	NO1417	N	Tayside
Broad Water Canal	J1462	C	Antrim
Buckden/Stirtloe Gravel Pits	TL2066	P	Cambs
Buckenham Marshes	TG3505	M	Norfolk
Burghfield Gravel Pits	SU6870	P	Berkshire
Burry Inlet	SS5096	E	W Glamorgan, Dyfed
Busbridge Lakes	SU9742	L	Surrey
Bush River: Deepstown	C9434	V	Antrim
Bute	NS0761	L	Strathclyde
Caerlaverock WWT	NY0565	E	Dumfries & Galloway
Caistron Quarry	NU0001	P	N'th'mberland
Caithness Lochs	ND1859	L	Highland
Calf Hey Reservoir	SD7522	R	Lancashire
Cambois to Newbiggin	NZ3084	O	N'th'mberland
Camel Estuary	SW9474	E	Cornwall
Cameron Reservoir	NO4711	R	Fife
Canary Road	H8755	M	Armagh
Cardigan Bay	SH5020	O	Gwynedd, Dyfed
Carlingford Lough	J2013	E	Down
Carmarthen Bay	SN2501	E	Dyfed
Carsebreck/Rhynd Lochs	NN8609	L	Tayside
Castlecaldwell Refuge Area	H0060	L	Fermanagh
Castle Howard Lake	SE7170	L	N Yorkshire
Castle Loch, Lochmaben	NY0881	L	Dumfries & Galloway
Cefni Reservoir	SH4475	R	Anglesey
Cemlyn Bay	SH3393	O	Gwynedd
Chasewater	SK0307	R	W Midlands
Chatsworth Park Lake	SK2670	L	Derbyshire
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 & Chartham Gravel Pits	TR0954	P	Kent
Chillington Hall Pool	SJ8550	L	Staffordshire
Chorlton Water Park	SJ8291	P	Greater Manchester
Christchurch Harbour	SZ1792	E	Dorset
Church Wilne Reservoir	SK4632	R	Derbyshire
Clachan	NR7656	N	Strathclyde
Clarydale Water	SN0417	L	Dyfed
Clea Lake 1	J506557	L	Down
Cleddau Estuary	SN0005	E	Dyfed
Clifford Hill Gravel Pits	SP8061	P	Northants
Clumber Park Lake	SK6374	L	Notts
Clwyd Estuary	SJ0079	E	Clwyd
Clyde Est.	NS3576	E	Strathclyde
Coll	NM2055	N	Strathclyde
Colliford Reservoir	SX1871	R	Cornwall
Colne Estuary	TM0614	E	Essex
Colne Valley Gravel Pits	TQ0489	P	Gtr London
Colonsay/Oronsay	NR3896	N	Strathclyde

Site	1 km sq	H	County
Colwick Country Park	SK6039	L	Notts
Colwyn Bay	SH9079	O	Clwyd
Combermere	SJ5884	L	Cheshire
Connaught Water	TQ4095	L	Essex
Conwy Estuary	SH7877	E	Caernarvon
Coombe Pool	SP3979	L	Warwickshire
Coquet Estuary	NU2706	E	Gwynedd
Corby Loch	NJ9214	L	Grampian
Cotswold Water Park (East)	SU1999	P	Glos, Oxon
Cotswold Water Park (West)	SU0595	P	Glos, Wilts
Cowgill Reservoirs	NT0327	R	Strathclyde
Craigalea to Newcastle	J704337	O	Down
Cresswell to Chevington Burn	NZ2895	O	N'th'mberland
Crichel Lake	ST9907	L	Dorset
Criddling Stubbs Quarry Pool	SE5120	P	W Yorkshire
Cromarty Firth	NH7771	E	Highland
Crombie Reservoir	NO5240	R	Tayside
Cropston Reservoir	SK5410	R	Leicestershire
Crouch/Roach Estuary	TQ8496	E	Essex
Crowdy Reservoir	SX1483	R	Cornwall
Croxall Pits	SK1814	P	Staffordshire
Cults Reservoir	NJ9002	R	Grampian
Cuttmil Ponds	SU9145	L	Surrey
Danna/Keills Peninsula	NR7383	O	Strathclyde
Daventry Reservoir	SP5763	R	Northants
Deben Estuary	TM2942	E	Suffolk
Dee Estuary (England/Wales)	SJ2675	E	Merseyside, Cheshire, Clwyd
Dee Estuary (Scotland)	NJ9505	E	Grampian
Deene Lake	SP9492	L	Northants
Deeping St James Gravel Pits	TF1808	P	Lincolnshire
Dengie Flats	TM0300	E	Essex
Derwent Reservoir	NZ0251	R	Durham
Derwent Water	NY2621	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	Northants
Doddington Pool	SJ7146	L	Cheshire
Don Mouth to Ythan Mouth	NJ9815	O	Grampian
Doon Estuary	NS3219	O	Strathclyde
Dorchester Gravel Pits	SU5795	P	Oxfordshire
Dornoch Firth	NH7384	E	Highland
Dowlaw Dam	NT8569	R	Borders
Doxey Marshes	SJ9024	M	Staffordshire
Draycote Water	SP4469	R	Warwickshire
Drumgay Lough	H2448	L	Fermanagh
Drummond Pond	NN8518	L	Tayside
Druridge Pool	NZ2796	L	N'th'mberland
Duddon Estuary	SD2081	E	Cumbria
Dundrum Bay	J4235	E	Down
Dungeness Gravel Pits	TR0619	P	Kent
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	Northants
Earlsferry to Anstruther	NO5302	O	Fife
Easterloch/Uyeasound	HP5901	O	Shetland
East Fortune Ponds	NT5580	L	Lothian
East Sanday Coast	HY7241	O	Orkney
Eccup Reservoir	SE2941	R	W Yorkshire
Eden Estuary	NO4719	E	Fife
Eglwys Nunydd Reservoir	SS7984	R	W Glamorgan
Ellesmere Lakes	SJ4035	L	Shropshire
Emberton Gravel Pits	SP8850	P	Bucks
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	N 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	Cambs
Ferry Meadows	TL1497	P	Cambs
Fiddlers Ferry Power Station Lagoons	SJ5585	P	Cheshire
Filey Bay	TA1279	O	N Yorkshire
Fillingham Lake	SK9485	L	Lincolnshire
Fincastle Loch	NN8762	L	Tayside
Findhorn Bay	NJ0462	E	Grampian
Fisherwick & Elford Gravel Pits	SK1710	P	Staffordshire
Fleet/Wey	SY6976	E	Dorset
Fleet Pond	SU8255	L	Hampshire
Fonthill Lake	ST9331	L	Wiltshire
Fordwich & Westbere Gravel Pits	TR1860	P	Kent
Foreland	SZ6584	O	Isle of Wight
Foremark Reservoir	SK3224	R	Derbyshire
Fort Henry Ponds & Exton Park Lake	SK9412	L	Leicestershire
Forth Estuary	NT2080	E	Lothians, Central, Fife
Forth/Teith Valley	NS7595	N	Central
Foryd Bay	SH4559	E	Gwynedd
Fowey Estuary	SX1254	E	Cornwall
Frainslake to Freshwater West	SR8898	O	Dyfed
Frenchess Road Pond	TO2851	L	Surrey
Girvan to Turnberry	NS2002	O	Strathclyde
Gladhouse Reservoir	NT2953	R	Lothian
Glenfarg Reservoir	NO1011	R	Tayside
Grafham Water	TL1568	R	Cambs
Great Cumbrae	NS1656	O	Strathclyde
Great Pool Westwood Park	SO8763	L	Hereford & Worcester
Grimsthorpe Lake	TF0222	L	Lincolnshire
Grouville Marsh	WV6949	M	Channel Isles
Guernsey Shore	WV27	O	Channel Isles
Gun Knowe Loch	NT5135	L	Borders
Gunton Park Lake	TG2234	L	Norfolk
Haddo House Lakes	NJ8734	L	Grampian
Hamford Water	TM2225	E	Essex
Hamilton Low Parks	NS7257	L	Strathclyde
Hammer Wood Pond	SU8423	L	West Sussex
Hampton & Kempton Reservoirs	TQ1269	R	Gtr London
Hanningfield Reservoir	TQ7398	R	Essex
Hardley Flood	TM3899	M	Norfolk
Harewood Lake	SE3144	L	W Yorkshire
Hay-a-Park Gravel Pits	SE3658	P	N Yorkshire
Hayle Estuary	SW5537	E	Cornwall
Headley Mill Pond	SU8138	L	Hampshire
Heaton Park Reservoir	SD8205	R	Greater Manchester
Heigham Holmes	TG4420	M	Norfolk
Herne Bay	TR1768	O	Kent
Hilfield Park Reservoir	TQ1596	R	Hertfordshire
Hill Ridware Lake	SK0717	L	Staffordshire
Hillsborough Main Lake	J2458	L	Down
Hirsel Lake	NT8240	L	Borders
Hogganfield Loch	NS6467	L	Strathclyde
Holburn Moss	NU0536	L	N'th'mberland
Holden Wood Reservoir	SD7722	R	Lancashire
Holkham	TF8845	E	Norfolk
Holland Haven	TM2117	M	Essex
Hollowell Reservoir	SP6872	R	Northants
Holme Pierrepoint Gravel Pits	SK6239	P	Notts
Hornsea Mere	TA1947	L	Humberside
Horsey Mere	TG4422	L	Norfolk
Houghton Green Pool	SJ6292	L	Cheshire
Hule Moss	NT7149	L	Borders
Humber Estuary	TA2020	E	Humberside, Lincolnshire
Hurleston Reservoir	SJ6255	R	Cheshire
Inland Sea	SH2779	E	Gwynedd
Inner Clyde Estuary	NS3576	E	Strathclyde
Inner Moray Firth	NH6752	E	Highland

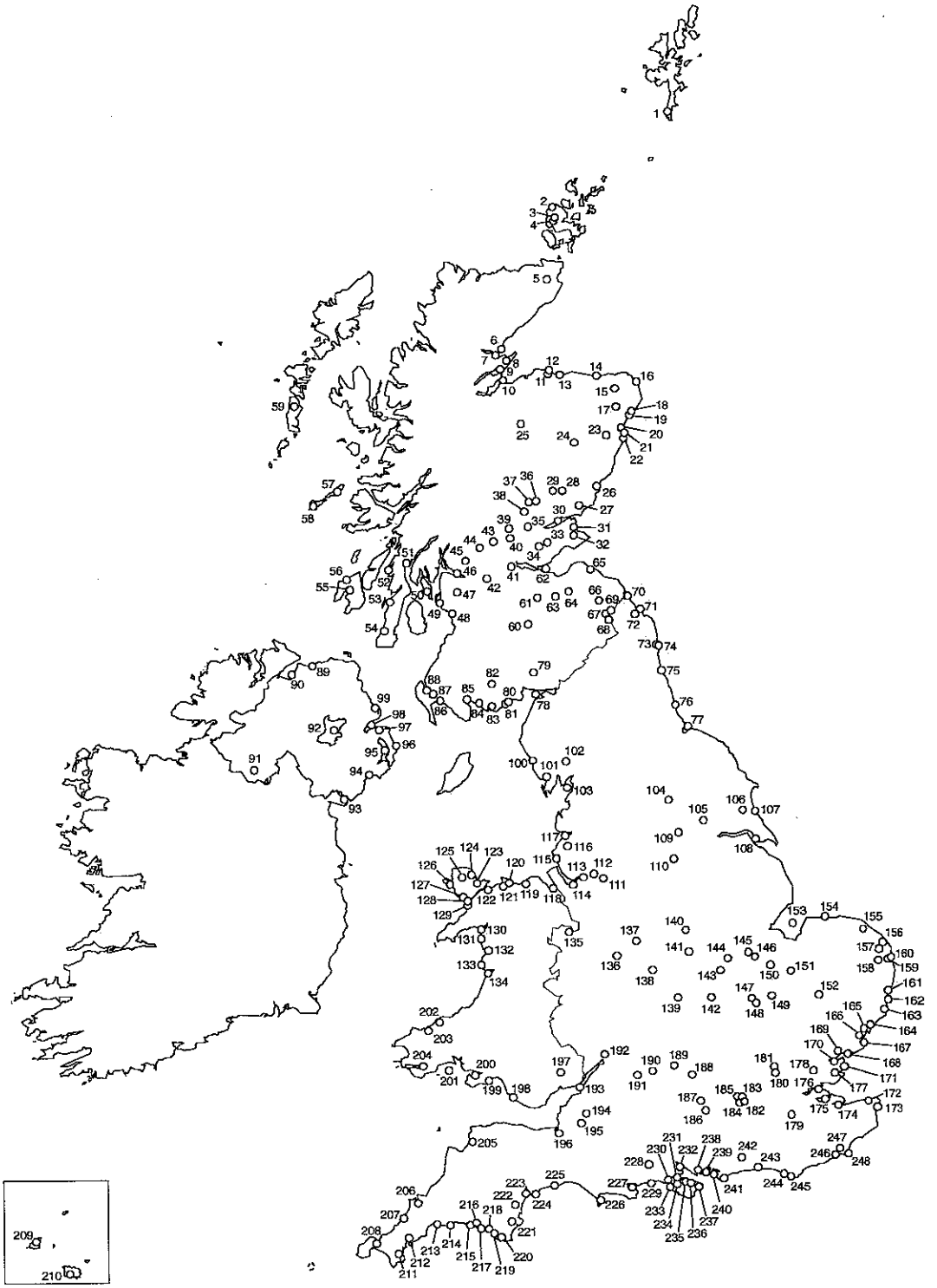
Site	1 km sq	H	County
Irvine/Garnock Estuary	NS3038	E	Strathclyde
Irvine to Saltcoats	NS2839	E	Strathclyde
Islay	NR3560	N	Strathclyde
Islesteps	NX9772	V	Dumfries & Galloway
Jersey Shore	WV6249	O	Channel Isles
Jura	NR5672	N	Strathclyde
Kedleston Park Lake	SK3141	L	Derbyshire
Kenfig Pool	SS7981	L	Glamorgan
Kentra Moss/Lower Loch Shiel	NM6668	L	Highland
Kessingland Levels	TM5185	L	Suffolk
Kilconquhar Loch	NO4801	L	Fife
Kilkeel to Lee Stone Point	J3214	O	Down
Killimster Loch	ND3056	L	Caithness
Killough Harbour	J5437	O	Down
King George VI Reservoir	TQ0473	R	Surrey
King George V Reservoir	TQ3796	R	Gtr London
Kingsbridge Estuary	SX7411	E	Devon
Kings Bromley Gravel Pits	SK1116	P	Staffordshire
King's Dyke Pits	TL2397	P	Cambs
Kings Mill Reservoir	SK5159	R	Notts
Kirkby-on-Bain Gravel Pits	TF2360	P	Lincolnshire
Kislingbury Gravel Pits	SP7158	P	Northants
Knight & Bessborough Reservoirs	TQ1268	R	Surrey
Knockshinnock Lagoons	NS6013	L	Strathclyde
Lackford Gravel Pits	TL7971	P	Suffolk
Lade Sands	TR0921	O	Kent
Lancaster Canal	SD4766	C	Lancashire
Landbeach Gravel Pits	TL4865	P	Suffolk
Langstone Harbour	SU6902	E	Hampshire
Langtoft West End Gravel Pits	TF1111	P	Lincolnshire
Larne Lough	D4200	E	Antrim
Lavan Sands	SH6474	E	Gwynedd
Lee Valley Gravel Pits	TL3702	P	Hertfordshire, Essex
Leighton Moss	SD4875	L	Lancashire
Leighton & Roundhill Reservoirs	SE1577	R	N Yorkshire
Leventhorpe Flood Meadows	SE3629	M	W Yorkshire
Lindisfarne	NU1041	E	N'th'mberland
Linford Gravel Pits	SP8442	P	Bucks
Linne Mhuirich & Loch Na Cille	NR7080	O	Strathclyde
Little Paxton Gravel Pits	TL1963	P	Cambs
Little Stour Valley	TR2056	M	Kent
Livermere	TL8771	L	Suffolk
Llangorse Lake	SO1326	L	Powys
Llyn Penrhyn	SH3077	L	Gwynedd
Llyn Traffwll	SH3276	L	Gwynedd
Llysyfran Reservoir	SN0324	R	Dyfed
Loch Branahuie & Aignish	NB4732	L	Western Isles
Loch Calder	ND0760	L	Highland
Loch Clunie	NO1144	L	Tayside
Loch Etive	NM9434	L	Strathclyde
Loch Ewe: Aultbea	NG8788	L	Highland
Loch Eye	NH8379	L	Highland
Loch Fleet Complex	NH7896	E	Highland
Loch Garten & Mallachie	NH9718	L	Highland
Loch Gelly	NT2092	L	Fife
Lochs Heilen & Mey	ND2568	L	Highland
Loch Indaal	NR3261	E	Strathclyde
Loch Insh & Spey Marshes	NH8304	L	Highland
Loch Ken	NX7168	R	Dumfries & Galloway
Loch Leven	NO1401	L	Tayside
Loch Lomond	NS4388	L	Strathclyde
Loch Mahaick	NN7006	L	Central
Loch Mullion	NN9833	L	Tayside
Loch of Boardhouse	HY2725	L	Orkney
Loch of Harray	HY2915	L	Orkney
Loch of Hempriggs	ND3447	L	Caithness
Loch of Hundland	HY2926	L	Orkney
Loch of Isbister	HY2523	L	Orkney
Loch of Kinnordy	NO3655	L	Tayside
Loch of Lintrathen	NO2754	L	Tayside
Loch of Skaill	HY2418	L	Orkney
Loch of Skene	NJ7807	L	Grampian
Loch of Spiggie	HU3716	L	Shetland
Loch of Stenness	NY2812	L	Orkney
Loch of Strathbeg	NK0758	L	Grampian
Loch of Swannay	HY3127	L	Orkney
Loch of the Lowes	NO0443	L	Tayside
Loch of Wester	ND3259	L	Highland
Loch Ryan	NX0565	E	Dumfries & Galloway
Lochs Beg & Scridain	NM5027	L	Strathclyde
Loch Spynie	NJ2366	L	Grampian
Loch Tullybelton	NO0034	L	Tayside
Loch Watten	ND2256	L	Highland
Loe Pool	SW6424	L	Cornwall
Longnewton Reservoir	NZ3616	R	Cleveland
Longside Lake	TQ0168	P	Surrey
Longueville Marsh	WV6748	M	Channel Isles
Lossie Estuary	NJ2470	E	Grampian
Lothing Lake & Oulton Broad	TM5292	E	Suffolk
Lough Aghery	J2853	L	Down
Lough Foyle	C6025	E	Londonderry
Lough Money	J5345	L	Down
Loughs Neagh & Beg	J0575	L	Down, Antrim, Londonderry, Tyrone, Armagh
Lowbank Gravel Pit	NN9417	P	Tayside
Lower Bogrotten	NJ4861	N	Grampian
Lower Derwent Valley	SE6938	M	Humberside
Lower Windrush Valley GPs	SP4004	P	Oxfordshire
Lurgashall Mill Pond	SU9326	L	West Sussex
Lynford Gravel Pit	TL8194	P	Norfolk
Machrihanish	NR6522	N	Strathclyde
Maer Lake	SK2070	M	Cornwall
Marsh Lane Gravel Pits	TL3069	P	Cambs
Martin Mere	SD4105	L	Lancashire
Marton Mere	SD3435	L	Lancashire
Meadow Lane Gravel Pits	TL3270	P	Cambs
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 Valley	TG3504	M	Norfolk
Milldam & Balfour Mains Pools	HY4817	L	Orkney
Minsmere	TM4666	L	Suffolk
Moorgreen Reservoir	SK4849	R	Notts
Monach Isles	NF6262	O	Western Isles
Monikie Reservoir	NO5038	R	Tayside
Montrose Basin	NO6958	E	Tayside
Moray Coast	NJ3067	O	Grampian
Moray Firth	NH8060	E	Highland
Morecambe Bay	SD4070	E	Lancashire, Cumbria
Nafferton Mere	TA0558	L	Humberside
N-E Glamorgan Moorland Pools	SO0808	L	Glamorgan
Nene Washes	TF3300	M	Cambs
Netherfield Gravel Pits	SK6339	P	Notts
Newark Bay	ND4689	O	Orkney
Newgale Beach	SM8421	O	Dyfed
New Road Pits	TL1549	P	Bedfordshire
Newtown Estuary	SZ4291	E	Isle of Wight
North Killingholme Haven Pits	TA1619	P	Humberside
North Mainland Orkney	HY2915	O	Orkney
North Norfolk Marshes	TF8546	E	Norfolk
North Ronaldsay	HY7655	N	Orkney
North Uist	NF8370	N	Western Isles
North Warren & Thorpeness Mere	TM4658	L	Suffolk
North West Solent	SZ3395	E	Hampshire
Nosterfield Gravel Pits	SE2880	P	N Yorkshire
Nunnery Lakes	TL8781	L	Norfolk
Ogden Reservoir	SD7622	R	Lancashire
Orkney	HY4010	N	Orkney
Orwell Estuary	TM2238	E	Suffolk
Osterley Park Lakes	TL1478	L	Gtr London
Ouse/Lairo Water	HY5019	L	Orkney

Site	1 km sq	H	County
Ouse Washes	TL5394	M	Cambs
Outer Ards	J6663	O	Down
Overstone Park Lakes	SP8065	L	Northants
Pagham Harbour	SZ8796	E	West Sussex
Pannel Valley	TQ8815	M	East Sussex
Panshanger Estate	TL2812	L	Hertfordshire
Par Sands Pools	SX0853	L	Cornwall
Passfield Lake	SU8234	L	Hampshire
Paultons Bird Park	SU3116	L	Hampshire
Pegwell Bay	TR3563	E	Kent
Pennington Flash	SJ6499	L	Greater Manchester
Pen Ponds	TQ1972	L	Gtr London
Pentney Gravel Pits	TF7013	P	Norfolk
Pirton Pool	SO8847	L	Hereford & Worcester
Pitsford Reservoir	SP7669	R	Northants
Poole Harbour	SY9988	E	Dorset
Portavo Lake	J5582	L	Down
Port Meadow	SP4908	M	Oxfordshire
Portsmouth Harbour	SU6204	E	Hampshire
Portworthy Mica Dam	SX5660	P	Devon
Possil Loch	NS5870	L	Strathclyde
Pugney Water	SE3218	P	W Yorkshire
Queen Elizabeth II Reservoir	TQ1167	R	Surrey
Queen Mary Reservoir	TQ0769	R	Surrey
Queen Mother Reservoir	TQ0076	R	Berkshire
Ramsbury Lake	SU2671	L	Wiltshire
Ranworth & Cockshoot Broads	TG2515	L	Norfolk
Revesby Reservoir	TF3067	R	Lincolnshire
Rhunahaorine	NR7049	N	Argyll
Ribble Estuary	SD3825	E	Lancashire
Ringstead Gravel Pits	SP9775	P	Northants
R Arrow/R Lugg Floodplain	SO5057	R	Hereford & Worcester
R Avon: Britford Water Meadows	SU1628	M	Wiltshire
River Avon: West Amesbury	SU1541	V	Wiltshire
River Clyde: Carstairs Junction	NS9744	V	Strathclyde
River Clyde: Lamington	NS9833	V	Strathclyde
River Derwent: Chatsworth	SK2569	V	Derbyshire
R Eamont:Watersmeet to Pooley Bridge	NY5329	V	Cumbria
Rivers Eamont & Eden: Honeypot to Edenhall	NY5631	V	Cumbria
R. Forth: W Carse Farm - R. Teith	NS7693	V	Central
River Foyle: Grange	C3606	V	Tyrone
River Frome: Wareham to Wool	SY8487	V	Dorset
River Idle: Bawtry to Miserton	SK7195	V	Notts
River Lagan: Flatfield	J1961	V	Down
River Nith: Keltonbank to Nutholm	NX9774	V	Dumfries & Galloway
River Soar: Leicester	SK5805	V	Leicestershire
River Spey: Boat of Balliefirth	NH9922	V	Highland
River Tay: Dunkeld	NO0042	V	Tayside
River Tay: Scone	NO1026	V	Tayside
R Test: Fullerton to Stockbridge	SU3535	V	Hampshire
R Teviot:Kalemouth to Roxborough	NT7030	V	Borders
R Teviot: Nisbet to Kalemouth	NT6925	V	Borders
R Tweed: Kelso to Coldstream	NT7737	V	Borders
River Tweed: Magdalenehall	NT6331	V	Borders
River Usk: Pencelli	SO0925	R	Powys
R Wensum: F'knh'm to G't Ryburgh	TF9428	V	Norfolk
River Wye: Bakewell to Haddon	SK2366	V	Derbyshire
River Wye: Putson	SO5138	V	Hereford
Rostherne Mere	SJ7484	L	Cheshire
Rough Firth	NX8453	E	Dumfries & Galloway
Rufford Lake	SK6465	L	Notts
Rutherford	NT6431	V	Borders
Rutland Water	SK9207	R	Leicestershire
Ryde Pier to Puckpool Point	SZ6092	O	Isles of Wight
Rye Harbour/Pett Level	TQ9418	E	East Sussex
Salford Docks	SJ8097	C	Greater Manchester
Sandbach Flashes	SJ7259	L	Cheshire
Scolt Head	TF8046	E	Norfolk
S-E Deerness	HY5606	N	Orkney
Seahouses to Budle Point	NU2231	O	N'th'mberland
Seaton Gravel Pits	TR2258	P	Kent
Sennowe Park Lakes	TF9825	L	Norfolk
S-E Stronsay	HY6822	N	Orkney
Severn Estuary	ST5058	E	Glos, Avon, Somerset, Gwent, Mid Glam, South Glam
Shell Pond (Carrington)	SJ7591	L	Greater Manchester
Shipton-on-Cherwell Quarry	SP4717	P	Oxfordshire
Shrigley Lake	J518544	L	Down
Shustoke Reservoir	SP2391	R	Warwickshire
Skelton Lake	SE3430	L	W Yorkshire
Skinflats	NS9284	E	Central
Slains Lochs	NK0230	L	Grampian
Slamannan Plateau	NS8474	N	Central
Slapton Ley	SX8243	L	Devon
S Muskham & N Newark GPs	SK7956	P	Notts
Snettisham	TF6535	E	Norfolk
Solway Estuary	NY1060	E	Cumbria
Somerset Levels	ST4040	M	Somerset
Sonning Gravel Pits	SU7475	P	Oxfordshire
Sound of Harris	NF9788	O	Western Isles
Sound of Tarransay	NG0498	O	Western Isles
Southampton Water	SU4507	E	Hampshire
South Down	J5036	O	Down
South Ford	NF7747	O	Western Isles
South Iver Gravel Pits	TQ0377	P	Bucks
South Milton Ley	SX6842	M	Devon
South Stoke	TQ0210	V	West Sussex
South Uist	NF8032	N	Western Isles
South Walls	ND3089	N	Orkney
South West Lancashire	SD4015	N	Lancashire
South Westray	HY4646	N	Orkney
Spade Oak Gravel Pit	SU8887	P	Bucks
Spey Mouth	NJ3465	E	Grampian
Sprotbrough Flash	SE5300	L	S Yorkshire
Staines Reservoir	TQ0575	R	Surrey
Staines Moor Gravel Pits	TQ0373	P	Surrey
Stainhill Reservoir	TQ1269	R	Gtr London
St Andrews Bay	NO5121	O	Fife
Stanford Reservoir	SP6080	R	Leicestershire
Stanford Training Area	TL8695	L	Norfolk
Stanwick Gravel Pits	SP9772	P	Northants
St Benets Levels	TG3815	M	Norfolk
St Mary's Island	NZ3475	O	N'th'mberland
Stodmarsh	TR2061	L	Kent
Stoke Newington Reservoirs	TQ3287	R	Gtr London
Stour Estuary	TM1732	E	Essex, Suffolk
Strangford Lough	J5560	E	Down
Stranraer Lochs	NX1161	L	Dumfries & Galloway
Stratfield Saye	SU6759	R	Hampshire
Strathearn	NN8819	N	Tayside
Strinesdale	SD9506	R	Greater Manchester
Studland Bay	SZ0383	O	Dorset
Summerleaze Gravel Pits	SU8982	P	Berkshire
Summerston	NS5771	V	Strathclyde
Sutton/Lound Gravel Pits	SK6985	P	Notts
Swale Estuary	TQ9765	E	Kent
Swanbourne Lake	TQ0108	L	West Sussex
Swanholme Lake	SK9468	L	Lincolnshire
Swanpool (Falmouth)	SW8031	L	Cornwall
Swansea Bay	SS6391	O	Glamorgan
Swillington Ings	SE3828	P	W Yorkshire
Swithland Reservoir	SK5513	R	Leicestershire
Tabley Mere	SJ7276	L	Cheshire
Tamar Complex	SX4363	E	Devon, Cornwall
Tattershall Pits	TF2057	P	Linconshire
Taw/Torridge Estuary	SS4733	E	Devon
Tay/Isla Valley	NO1438	L	Tayside

Site	1 km sq	H	County
Tay Estuary	NO3225	E	Fife, Tayside
Tees Estuary	NZ5528	E	Cleveland
Teign Estuary	SX8772	E	Devon
Temple Water	J5750	L	Down
Thames Estuary	TQ7880	E	Kent, Essex, Gtr London
Thanet Coast	TR2669	O	Kent
Theale Gravel Pits	SU6570	P	Berkshire
Thoresby Lake	SK6370	L	Notts
Thorpe Water Park	TQ0268	P	Surrey
Thrapston Gravel Pit	SP9979	P	Northants
Threave Estate	NX7362	V	Dumfries & Galloway
Thursley Lake	SU9239	L	Surrey
Timsbury Gravel Pits	SU3624	P	Hampshire
Tiree	NL9741	N	Strathclyde
Tophill Low Reservoirs	TA0748	R	Humberside
Tottenhill Gravel Pits	TF6311	P	Norfolk
Traeth Coch	SH5480	E	Anglesey
Traighear	NF8276	N	Western Isles
Traigh Luskentyre	NG0798	E	Western Isles
Tring Reservoirs	SP9113	R	Hertfordshire
Trinity Broads	TG4614	L	Norfolk
Tullynagee Lough	J4763	L	Down
Tundry Pond	SU7752	L	Hampshire
Tweed Estuary	NT9853	E	N'th'mberland
Twyford Gravel Pits	SU7875	P	Berkshire
Tyninghame Estuary	NT6379	E	Lothian
Tyrella	J4735	O	Down
Tyttenhanger Gravel Pits	TL1804	P	Hertfordshire
Upper Lough Erne	H3231	L	Fermanagh
Upper Quoile	J4745	V	Down
Upper Tay	NN9557	N	Tayside
Upton Warren LNR	SO9367	L	Hereford
Virginia Water	SU9769	L	Berkshire
Walland Marsh	TQ9824	M	Kent
Walmore Common	SO7425	M	Glos
Walthamstow Reservoir	TQ3589	R	Gtr London
Walton Lock	SJ6086	C	Cheshire
Wanstead Park Ponds	TQ4187	L	Gtr London
Wantsum Marshes	TR2366	M	Kent
Wash	TF5540	E	Lincolnshire, Norfolk
Water Sound	ND4394	O	Ornkey
Wath Main Ings	SE4302	P	S Yorkshire
Weirwood Reservoir	TQ3934	R	Sussex
Wellington Country Park	SU7362	L	Hampshire
Wemyss Bay to Fairlie	NS2059	O	Strathclyde
Westfield Marshes	ND0664	M	Highland
Westport Lake	SJ8550	L	Staffordshire
West Water Reservoir	NT1252	R	Borders
Whisby Gravel Pits	SK9167	P	Lincolnshire
Whittlesford Gravel Pits	TL4649	P	Cambs
Whitton Loch	NT7419	L	Borders
Widewall Bay	ND4292	O	Orkney
Wigtown Bay	NX4456	E	Dumfries & Galloway
Wilderness Pond	SS8277	L	Glamorgan
Willen Lake	SP8741	R	Bucks
William Girling Reservoir	TQ3694	R	Gtr London
Windermere	SD3995	L	Cumbria
Wintersett Country Park Lake	SE3716	P	W Yorkshire
Woburn Park Lakes	SP9632	L	Bedfordshire
Woodford River		V	Fermanagh
Woolston Eyes	SJ6588	P	Cheshire
Worsborough Reservoir	SE3403	R	Greater Manchester
Wraysbury Gravel Pits	TQ0073	P	Berkshire
Wraysbury Reservoir	TQ0274	R	Surrey
Wynyard Lake	NZ4224	L	Cleveland
Yarnton Gravel Pits	SP4710	P	Oxfordshire
Yarwell Gravel Pits	TL0797	P	Northants
Ythan Estuary	NK0026	E	Grampian
Ythan to Collieston	NK0226	O	Grampian

Key to Figure A1

Figure A1. Location of important WeBS sites. Circles show the central position of 248 key WeBS sites, including all estuaries, in the UK and the Channel Islands. Sites chosen include most internationally important sites, but also sites of regional importance in areas with few wetlands or few sites counted by WeBS. Thus, inclusion of a site does not imply any measure of relative conservation importance.



WeBS is the monitoring scheme for non-breeding waterfowl in the UK which aims to provide the principal data for the conservation of their populations and wetland habitats. The data collected are used to assess the size of waterfowl populations, determine trends in numbers and distribution, and assess the importance of individual sites for waterfowl, in line with the requirements of international conservation Conventions and Directives. A programme of research underpins and enhances these objectives.

Continuing a tradition begun in 1947, around 3,000 volunteer counters participate in synchronised monthly counts at wetlands of all habitat types, mainly during the winter period. WeBS is a partnership between the British Trust for Ornithology, The Wildfowl & Wetlands Trust, Royal Society for the Protection of Birds and the Joint Nature Conservation Committee (the last on behalf of English Nature, Scottish Natural Heritage, the Countryside Council for Wales and the Environment and Heritage Service in Northern Ireland).

This report presents the results of WeBS in 1997-98 and includes data from other national and local waterfowl monitoring schemes. It provides a single, comprehensive source of information on the current status and distribution of waterfowl in the UK for those interested in the conservation of the populations of these species and the wetland sites they use.

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