

Wildfowl Counts in the UK, 1991-92

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In 1947, a scheme to monitor wildfowl in Britain was instigated by the British Section of the International Wildfowl Inquiry Committee. Since that time the scheme has grown under The Wildfowl & Wetlands Trust, as the National Wildfowl Counts, monitoring numbers of grebes, Cormorant, swans, geese, ducks and Coot throughout the UK. The 1991-92 season saw the change of the scheme to the National **Waterfowl** Counts (NWC) as a result of the increase in the number of species monitored by the core activity of the programme, the once-monthly counts. In addition to the wildfowl and associated species counted previously, the scheme now also monitors waders at inland sites and several other species primarily dependent on wetlands such as divers, Grey Heron, Moorhen and Kingfisher. Counts are conducted at a wide variety of wetlands including lakes, lochs/loughs, ponds, reservoirs, gravel pits, rivers, freshwater marshes, canals, estuaries and other coastal habitats and focus on the period from September to March inclusive, although data from other times of the year are also received. Additional surveys of species, principally geese and swans, that are difficult to monitor accurately by the once-monthly counts alone, are also conducted, while Special Surveys, usually of just one or a few species, are made during the breeding and moulting periods. The scheme receives financial support from the Joint Nature Conservation Committee (on behalf of English Nature, Scottish Natural Heritage and the Countryside Council for Wales), the Royal Society for the Protection of Birds and the Department of the Environment for Northern Ireland. The success of the NWC reflects accurately the enthusiasm and dedication of the many thousands of participating volunteer ornithologists throughout the UK.

The results presented below provide a

summary of the findings of the NWC, and the Birds of Estuaries Enquiry (BoEE), organised by the British Trust for Ornithology, which monitors waterfowl at coastal sites including the major UK estuaries. More information is available in the annual report of the NWC and BoEE schemes, *Wildfowl and Wader Counts 1991-92* (Cranswick *et al.* 1992).

Waterfowl were counted at a total of 2173 wetland sites in the UK in 1991-92 (Fig. 1), the 45th consecutive season of monthly counts. With the exception of January, the number of sites counted in each month of 1991-92 was higher than in 1990-91 by about 100. In addition, there were specific surveys of the following populations of geese: Pink-footed and Icelandic Greylag Geese and of native Greylag Geese in the Uists, full censuses of Greenland White-fronted Geese including birds in Ireland, Greenland Barnacle Geese on Islay, Svalbard Barnacle Geese on the Solway Firth, Dark-bellied Brent Geese in Britain and fortnightly counts of Light-bellied Brent Geese at Lindisfarne. The summer of 1992 also saw the first ever comprehensive survey of breeding Shelducks in the UK with up to six visits at different times of the breeding season to assess the numbers of territorial pairs, non-breeding birds young.

The map indicates some gaps in coverage, such as parts of the southwest, Hereford and central Wales, upland and northwest areas of Scotland, that are largely a result of the sparseness of the human population. The absence of data from an area running north from Essex to Yorkshire reflects the paucity of wetland habitat in this part of eastern England.

Table 1 shows the highest total number of each species of wildfowl, divers, grebes, Cormorant, rails, Heron and Kingfisher recorded in September to March of 1991-92 for Britain (including the Isle of Man but excluding the

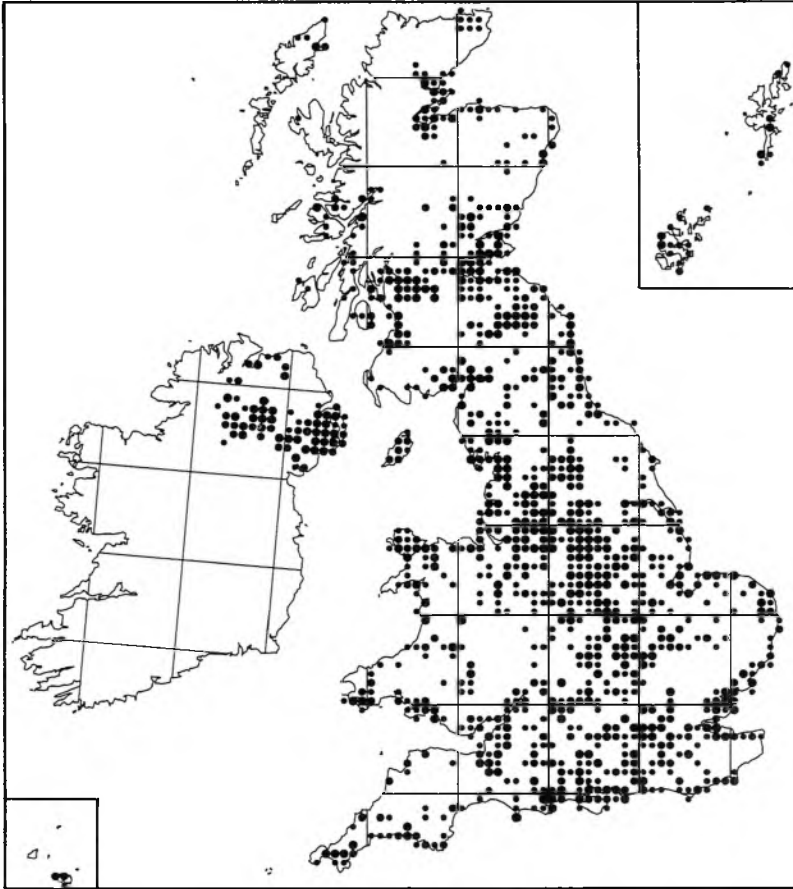


Figure 1. Coverage by 10 km grid squares for the National Waterfowl Counts in the UK, 1991-92. Small dots represent one count area, medium dots represent two count areas and large dots represent three or more such areas.

Channel Isles) and Northern Ireland respectively. Figures in these tables are derived from the NWC monthly counts and goose censuses only. Higher totals for certain species (e.g. some seaducks) can be calculated by including counts from special surveys made by other organisations, and these are highlighted in the text below. The top ten sites for wildfowl in the UK in 1991-92 are listed in Table 2.

Only small proportions of the estimated British populations of divers were recorded by the NWC. The largest flocks of Red-throated Divers were found at Minsmere (213 birds), the Dengie (150) and the Forth Estuary (101) while RSPB/BP counts in the Moray Firth recorded 248, well below the more normal 400-550 believed to use this area (Evans 1992). The 495 birds in Cardigan Bay were also considerably fewer than the 994 record-

ed there in 1990-91 (Green 1992). As a consequence of their less gregarious nature, Black-throated Divers were found in smaller numbers, and the peak of 20 in the Moray Firth was the only count of more than ten birds. Favouring deeper, offshore waters, Great Northern Divers present obvious recording difficulties, and the largest concentrations were recorded on spring passage, notably at Loch Na Keal (27) and Loch Indaal (22).

The habitat choice and inconspicuous behaviour of Little Grebes results in only a small proportion of the population being recorded by the NWC scheme, although some of the largest counts were made on estuaries, with counts at the Thames Estuary (108) and Strangford Lough (105) only exceeded, as ever, by Loughs Neagh and Beg (324). However, the number of Great Crested Grebes at the latter site has fallen in recent years, with

Table 1. Maximum total numbers of divers, grebes, Cormorant, Grey Heron, wildfowl, rails and Kingfisher recorded by the NWC in Great Britain (GB) and Northern Ireland (NI) during winter 1991-92. An asterisk is used to denote species for which data are presented for the first time in 1991-92.

	GB	NI
Red-throated Diver <i>Gavia stellata</i> *	604	28
Black-throated Diver <i>Gavia arctica</i> *	21	0
Great Northern Diver <i>Gavia immer</i> *	72	20
Little Grebe <i>Tachybaptus ruficollis</i>	2597	806
Great Crested Grebe <i>Podiceps cristatus</i>	8121	1791
Red-necked Grebe <i>Podiceps grisegena</i> *	39	0
Slavonian Grebe <i>Podiceps auritus</i> *	104	10
Black-necked Grebe <i>Podiceps nigricollis</i> *	28	0
Cormorant <i>Phalacrocorax carbo</i>	13034	1207
Grey Heron <i>Ardea cinerea</i> *	3160	341
Mute Swan <i>Cygnus olor</i>	13632	2278
Bewick's Swan <i>C. columbianus bewickii</i>	9118	436
Whooper Swan <i>C. cygnus</i>	3549	1647
Bean Goose <i>Anser fabalis</i>	195	0
Pink-footed Goose <i>A. brachyrhynchus</i>	232962	0
European White-fronted Goose <i>A. a. albifrons</i>	6804	0
Greenland White-fronted Goose <i>A. a. flavirostris</i>	15670	57
Lesser White-fronted Goose <i>A. erythropus</i> *	3	0
Greylag Goose <i>A. anser</i> (Icelandic)	88272	-
(feral) [†]	13697	776
Snow Goose* <i>A. caerulescens</i>	11	0
Canada Goose <i>Branta canadensis</i>	42308	282
Barnacle Goose <i>B. leucopsis</i> ^{††}	38647	79
Dark-bellied Brent Goose <i>B. b. bernicla</i>	137944	0
Light-bellied Brent Goose <i>B. b. hrota</i>	1534	15412
Red-breasted Goose <i>B. ruficollis</i> *	1	0
Egyptian Goose <i>Alopochen aegyptiacus</i> *	246	0
Shelduck <i>Tadorna tadorna</i>	84017	2687
Mandarin Aix <i>galericulata</i>	240	0
Wigeon <i>Anas penelope</i>	342412	19676
American Wigeon <i>A. americana</i> *	1	0
Gadwall <i>A. strepera</i>	7696	231
Teal <i>A. crecca</i>	116732	4849
Mallard <i>A. platyrhynchos</i>	171617	11240
Pintail <i>A. acuta</i>	27505	369
Garganey <i>A. querquedula</i>	49	0
Shoveler <i>A. clypeata</i>	10480	208
Red-crested Pochard <i>Netta rufina</i> *	80	0
Pochard <i>Aythya ferina</i>	38227	39953
Ring-necked Duck <i>A. collaris</i> *	3	0
Tufted Duck <i>A. fuligula</i>	50527	26177
Scaup <i>A. marila</i>	3595	3573
Eider <i>Somateria mollissima</i>	36522	1146
King Eider <i>S. spectabilis</i> *	2	0
Common/Velvet Scoter <i>Melanitta</i> sp. ^{†††}	7224	2963
Surf Scoter <i>M. perspicillata</i> *	2	0
Long-tailed Duck <i>Clangula hyemalis</i>	2441	53
Goldeneye <i>Bucephala clangula</i>	16039	14641
Smew <i>Mergus albellus</i>	84	0
Red-breasted Merganser <i>M. serrator</i>	3611	513
Goosander <i>M. merganser</i>	3276	1
Ruddy Duck <i>Oxyura jamaicensis</i>	3060	58
Water Rail <i>Rallus aquaticus</i> *	240	5
Moorhen <i>Gallinula chloropus</i> *	8324	712
Coot <i>Fulica atra</i>	85165	7978
Kingfisher <i>Alcedo atthis</i> *	171	1

[†]In all months except September, the feral component of this species is approximated by totalling counts from English (excl. Northumberland) and Welsh sites only and 1500 (after Shimmings *et al.* 1989) for the feral birds in Dumfries & Galloway. Feral and Icelandic birds are inseparable in Northern Ireland.

^{††}Includes mainly birds from the Greenlandic and Svalbard breeding populations, with a few feral birds also.

^{†††}These species are indistinguishable under certain weather conditions.

Table 2. The peak count of grebes, Cormorant, wildfowl and coot at top ten sites in the UK, 1991-92.

	Peak Count 1991-92
Ribble Estuary	134548
Loughs Neagh/Beg Wash	104249
Ouse Washes	84408
Dupplin Lochs	59863
North Norfolk Marshes	57500
Mersey Estuary	52963
Morecambe Bay	40309
Solway Estuary	39177
Dee Estuary (Eng/Wales)	38795
	37343

only 753 in 1991-92, while Belfast Lough (1141) and Rutland Water (878) have increased markedly in significance. Red-necked Grebes favour sheltered coastal waters and the Forth Estuary (32) was the only site to hold more than five birds. As might be expected from a distribution concentrated in Scottish coastal waters, the largest numbers of Slavonian Grebe were recorded in the Moray Firth (57), Loch Indaal (36), Loch of Harray (29) and Loch Na Keal (24). By contrast, the Black-necked Grebe is concentrated in more southerly waters, with Langstone Harbour (20) being the principal site in 1991-92.

Despite the British population of Cormorants having increased markedly in recent years, numbers at most sites showed a reduction in 1991-92, perhaps indicating that numbers are reaching capacity in some areas. Morecambe Bay (976), the Inner Clyde (810), the Forth Estuary (684) and the Solway Estuary (606) supported the principal concentrations. With a large proportion of the population favouring quiet backwaters, the NWC recorded generally small numbers of Grey Herons. The largest counts were made mainly on estuaries, such as Loughs Neagh and Beg (208), the Thames Estuary (177), Holme Pierrepont Gravel Pits (128) and Morecambe Bay (99).

National indices show the Mute Swan population to have decreased slightly in 1991-92, suggesting that a plateau may have been reached after the recent increase. Numbers at Loughs Neagh and Beg (1601) again exceeded those at any other site by a considerable margin, although those on the Fleet/Wey (1173) and Upper Lough Erne (520) continued to rise. Conversely, numbers at Loch Harray (564) and the Ouse Washes (365) were much reduced. Abberton Reservoir (562) also held a significant population. Despite a poor

breeding season, with only 10-12% young, the total of Bewick's Swans in Britain reached an all-time record, with correspondingly large numbers recorded at the principal sites - Ouse Washes (5542), Nene Washes (1189) and Martin Mere/Ribble Estuary (848). Almost the exact opposite was true of Whooper Swans, with a marked reduction in the national total, though, curiously, the 22-25% young recorded at the principal WWT centres for this species indicated a relatively good breeding season. It is assumed that many birds used other countries during 1991-92, resulting in very low numbers at some sites, e.g. Loch Eye (83, compared with over 1500 in recent years) and Loch Harray (32, compared with over 800 in the last three years), or remained in Iceland. Numbers at Loughs Neagh and Beg (1182), Upper Lough Erne (889) and the Ouse Washes (707) remained much as expected.

The principal site for Bean Geese in the UK remains the Yare Valley, although only 405 birds were recorded in 1991-92. Observations of neck-collared birds showed this to result from some birds having overwintered on the staging grounds in Jutland, Denmark (Parslow-Otsu 1992). The other key UK site is at Fannyside, which, since the mid 1980s, has held 23-32% of the national total, usually between 100 and 120 birds (Simpson 1991). In 1990-91 this rose to 147 and a maximum of at least 146 was recorded in 1991-92. These birds have been identified as a separate sub-population from that using the Yare. The numbers of Pink-footed Geese wintering in Britain increased for the seventh consecutive year, in part due to the more thorough coverage achieved in the autumn census. Breeding success in 1991 was moderate compared with recent years, with 18.1% young and a brood size of 2.2 young per pair from overall observations on autumn flocks. Peak counts are usually made during migration in October. A staggering 57,500 were recorded at Dupplin Lochs, while southwest Lancashire (38,240), West Water Reservoir (32,636), Montrose Basin (25,000) and Loch of Strathbeg (23,350) maintain their status as some of the most spectacular places for wildfowl watching in the UK. Numbers of European White-fronted Geese were generally lower than expected, with the exception of the key site of Slimbridge where the peak of 5100 exceeded the 1990-91 national total by 27%. Numbers of Greenland White-fronted Geese showed a large increase on the principal site,

Islay (10,676), representing the largest count to date. Age counts showed variation between different locations, with between 10% and 33% young. The slump in the total of Icelandic Greylag Geese exceeds that which would be expected from the only moderately poor breeding success of 14.9% young and there is concern that the mortality rate, which results largely from shooting, is greater than has been suggested (e.g. Fox *et al.* 1989). The key sites were Dinnet Lochs (18,400), the Inner Moray Firth (7000), Loch Spynie (6600) and Haddo House Lake (6000). Loch Skene (5298) and Loch Eye (4659) both supported less than half the normal number found at these sites. The 1991 summer census of re-introduced geese (Delany 1992) found 18,914 Greylag Geese in Britain, concentrated in Norfolk and adjacent counties. The population had increased at a rate of 5.5% per annum since in 1985-86, having slowed from the 13% per annum increase observed at that time. Snow Geese, undoubtedly of feral origin, were recorded at 12 sites by the NWC, with the Medway Estuary (13) supporting the largest flock. Despite the introduction of control measures in some areas, the population of Canada Geese continues to grow. The 1991 summer survey of introduced geese (Delany 1992) revealed 60,834 birds. The population has grown at an increasing rate of 6.8% to 8.0% per annum between the national surveys of 1953, 1967-68, 1975-76 and 1991, and has more than tripled in number from the 19,190 birds in the previous survey. The 2350 birds recorded at Stratfield Saye in 1991-92 was over double the number at any other site, although only 263 were recorded there during the summer survey. The numbers of Greenland Barnacle Geese, found largely on Islay, returned to more normal levels in 1991-92 as a result of the worst breeding season on record, with only 4.6% young. The Svalbard population, wintering almost entirely in the Solway Firth, fared better, with 12%, and reached a record total of 12,700 in 1991-92, although the population is not thought to be increasing. Numbers of Dark-bellied Brent Geese reached record levels in 1991-92, as a result of good breeding success, with 31.2% young. Average brood size was 2.9 birds, although, as in previous years, there was much variation between sites. The Wash (27,742) and the Thames Estuary (17,211) remain by far the most important sites. The total of Light-bellied Brent Geese in Britain, which almost wholly occurs at Lindisfarne, was only

around half the normal number as a result of birds having remained at Danish sites throughout the winter. Numbers at the key site of Strangford Lough (10,359) were lower than expected, while those at Lough Foyle (5395) point to a continued increase. Remaining concentrated, as it has done for the last 200 years, in East Anglia, principal concentrations of Egyptian Geese were recorded at Pentney Gravel Pits (88) and the North Norfolk Marshes (71).

The Shelduck is numerous on nearly all of the major British Estuaries, although numbers on the Wash (20,194) remain around three times higher than the next most important sites for this species. Woburn Park (53) remained the principal site for the small population of Mandarin in the UK. Wigeon broke several NWC records in 1991-92, with the largest single species count of wildfowl in Britain, well in excess of previous totals for this species, and over 100,000 more than in 1990-91. Both the October and December indices showed increases of over 20%. Numbers on the Ribble have continued their meteoric rise, and an astonishing 88,612 undoubtedly represents the largest count of any single wildfowl species ever recorded at a site in the UK. This is 60% percent larger than the peak count of all wildfowl combined at this site from just five years ago. Large numbers were also recorded at the Ouse Washes (37,007), the Dornoch Firth (17,637), Martin Mere (16,630) and the North Norfolk Marshes (14,898). Northern Ireland supports very few birds by comparison, with most occurring at Lough Foyle (16,662). Numbers of Gadwall were slightly less than expected. Rutland Water (1369) continued to support a significant component of the population, with Gunton Park Lake (450), a particularly high count at Chew Valley Lake (425), and the River Avon at Blashford (416) being other notable concentrations. The mid-winter index for Teal showed a large decrease in 1991-92, although the estuaries of northwest England that form the stronghold for this species held unusually high numbers: the Mersey Estuary (13,450), the Dee Estuary (10,715) and the Ribble Estuary (9500). Gilburn & Kirby (1992) estimated the current British winter population to number at least 164,000 birds, having increased at an average of 3.1% per annum since 1960, in line with that of northwest Europe. National indices showed the population of Mallard to have declined in 1991-92 and the count at Loughs Neagh and Beg (5499) made

this site the most important in the UK, ahead of the Humber Estuary, where numbers have fallen in recent years. As for Teal, the estuaries of northwest England support the vast majority of the UK's total of Pintail, accounting for around one quarter of the northwest European population, notably the Dee Estuary (10,001), the Mersey Estuary (6089), Morecambe Bay (3979) and the Ribble Estuary (6507). Peak counts of Garganey occurred in late summer, with a remarkable 12 birds at Chew Valley. The total count of Shoveler was the first in Great Britain to exceed 10,000 birds, with large counts at Chew Valley Lake (630), Abberton Reservoir (608), Loch Leven (576) and the Ouse Washes (567). Kirby & Mitchell (in press) found numbers of Shoveler wintering in Britain to have declined in the early to mid 1960s, risen sharply to a peak in the early 1970s and have since shown a shallow but steady decline.

Numbers of Red-crested Pochard have increased gradually in recent years as a result of localised breeding. Pensthorpe Lakes (33) and Cotswold Water Park West (31) supported the principal concentrations. Numbers of Pochard at Loughs Neagh and Beg represent over 10% of the total northwest European population, with 38,998 there in 1991-92. Other sites generally held less birds than expected. Loughs Neagh and Beg also supported by far the largest number of Tufted Duck (25,283), and there was a particularly large count at Loch Leven (4064). The UK population of Scaup remains at a much lower level than in the 1960s, with recent estimates suggesting 11,000 birds for Britain and Ireland (Kirby *et al.* 1993). A total of 3516 was recorded on Loughs Neagh and Beg, while additional observations to the standard monthly counts showed there to be 5400 birds on the Solway Firth. The Eider is the commonest seaduck in British waters, with a population of around 77,500 birds (Kirby *et al.* 1993). Unfortunately, a complete count was not possible at the principal site, the Tay Estuary. A total of 8089 was recorded at Morecambe Bay and 6129 on the Forth Estuary. The Long-tailed Duck is notoriously difficult to monitor, and only a small proportion of the estimated British population of 23,500 birds (Kirby *et al.* 1993) was recorded by the NWC. RSPB/BP studies recorded 9300 birds in the Moray Firth in 1991-92. Current estimates suggest 34,500 Common Scoter and 3000 Velvet Scoter to winter in British waters (Kirby *et al.* 1993). Specific surveys of seaduck generally record

greater numbers than monthly NWC counts: 10,397 Common Scoter were recorded during a boat-based survey of Cardigan Bay (Green 1992), 4250 were identified in the Moray Firth, and Holkham Bay held an exceptional 3000. Numbers of Velvet Scoter were much smaller, with counts in the Moray Firth (478) and Holkham Bay (160) being notable. Loughs Neagh and Beg is the only UK site to support international significant numbers of Goldeneye (13,565), although the Forth Estuary (2451) and the Inner Moray Firth (1101) held higher than average numbers.

1991-92 was a comparatively poor season for Smew, with the highest UK count being 17 at Wraysbury Gravel Pits. The British wintering population of Red-breasted Merganser was estimated at 10,000 (Kirby *et al.* 1993), having increased in the 1960s and 1970s, remaining relatively constant since (Starling *et al.* 1992). The Inner Moray Firth remains the key UK site for this species, with 1789 birds in 1991-92. The British wintering population of Goosanders was estimated at 5500 birds (Starling *et al.* 1992), having exhibited an overall increase during the 1970s, but relatively little change since. The Inner Moray Firth remains the principal UK resort, although the 291 recorded in 1991-92 was much less than average for recent years. Although the national total of Ruddy Ducks in 1991-92 was smaller than in 1990-91, all other data point to a continuing increase in the numbers of this species, with serious consequences for the globally threatened White-headed Duck *Oxyura leucocephala*, as highlighted in the national press. Chew Valley Lake (760), Rutland Water (756) and Blithfield Reservoir (402) remain the key winter sites in the UK.

The highly secretive nature of Water Rails results in a mixture of counts and estimated numbers for the NWC. By far the highest number recorded/estimated was at Stodmarsh (100), while records from the individual moors of the Somerset Levels showed that area to support a significant total of birds also. Moorhens also present recording difficulties, although large numbers were recorded at several sites: Slimbridge (750), Martin Mere (250) and Loughs Neagh and Beg (209) being the key resorts. The key concentrations of Coot are found at Abberton Reservoir (7817) and Loughs Neagh and Beg (7097), although the former has shown a marked decline in recent years, and the latter an increase.

A number of wildfowl species that do not

occur regularly in Britain, and which are classified as rarities by the British Birds Rarities Committee, were recorded by the NWC and BoEE schemes in 1991-92. Numbers of these species are naturally small, although the au-

thenticity of these records has not been checked. Total numbers, plus the records for Kingfishers, are given in Table 1 for the sake of completeness.

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