

MUSCOVY DUCK

Cairina moschata

Escape
Native range: South America

GB max: 127 Dec
NI max: 0

The increase in records of this species continued in 1997-98, with counts from 35 sites (*cf.* a maximum of 20 previously), although the peak count fell slightly. This trend, however, is likely to

reflect better reporting by the counter network, rather than a genuine expansion of the species' distribution.

Sites with more than five birds in 1997-98

Lothing Lake & Oulton Broad	52	Dec
Nafferton Mere	30	Dec
Rufford Lake	16	Oct-Dec
Wilderness Pond	12	Jul/Sep

Lancaster Canal	8	Jan
Derwent Water	8	Oct/Dec
Gun Knowe Loch	7	Apr

WOOD DUCK

Aix sponsa

Escape
Native range: Norther America

Records were received from 15 sites, double the previous number, with summed maxima suggesting up to 19 birds. Most were in south or southeast England, but there was a small

concentration in the Manchester area also. All records were of singles except for three at Busbridge Lakes and two each at Strinesdale and Wellington Country Park.

MANDARIN

Aix galericulata

Naturalised introduction†
Native range: Eastern Asia

GB max: 315 Nov
NI max: 5 Jun

Despite their gaudy colouration, Mandarin are surprisingly elusive and are probably the most poorly monitored of all inland duck species by WeBS. Numbers in winter 1997-98 exceeded all previous totals, surpassing 300 for the first time. Birds were recorded at 84 sites, the majority in south-eastern England, but also one in Wales and five in Scotland. Dundrum Bay, the only site in Northern Ireland where Mandarin has been

recorded during WeBS counts to date, held up to five birds during summer.

Few sites held exceptional numbers, though several new sites joined the table below due to more regular occurrence or detection of the species on count days, with counts at Bramshill Park Lake and Overstone Park Lakes being particularly noteworthy.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Severn Estuary	79	78	40	113	40	Nov	70
Cuttmil Ponds	84	32	51	106	44	Jun	63
Virginia Water	32	74	-	-	-		53
Arun Valley	27	40	51	48	59	Mar	45
Panshanger Estate	-	-	18	51	-		35
Connaught Water	-	-	-	28	39	Jan	34
Passfield Lake	-	-	-	48	15	Sep	32
Paultons Bird Park	26	37	-	-	-		32
Aldford Brook & Eaton Park	-	3	34	34	32	Oct	26 ▲
Bramshill Park Lake	-	1	16	7	60	Nov	21 ▲
Osterley Park Lakes	-	-	19	24	20	Mar	21
Overstone Park Lakes	0	10	20	18	32	Sep	16 ▲
Thursley Lake	3	17	35	8	6	Aug	14

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Swanbourne Lake	34	15	-	2	2	Jan/Mar	13
Busbridge Lakes	23	17	0	0	22	Mar	12
Fonthill Lake	14	5	10	18	12	Feb	12
Fleet Pond	8	14	1	20	10	Nov	11 ▲
R Wensum: Fakenham - Gt Ryburgh	14	7	-	-	-		11 ▲
Headley Mill Pond	-	-	-	4	16	Jan	10 ▲

Internationally or nationally important sites not counted in last five years

Frenchess Road Pond
Hammer Wood Pond

Sites no longer meeting table qualifying levels

Woburn Park Lakes
Lurgashall Mill Pond

Other sites surpassing table qualifying levels in 1997-98

Chillington Hall Pool 14 Dec/Feb/Jan
Weirwood Reservoir 14 Jun

† as site designation does not occur and the 1% criterion is not applied, a qualifying level of 10 has been chosen to select sites for presentation in this report

WIGEON

Anas penelope

GB max: 327,099 Jan
NI max: 11,278 Oct

International threshold: 12,500

Great Britain threshold: 2,800

All-Ireland threshold: 1,250

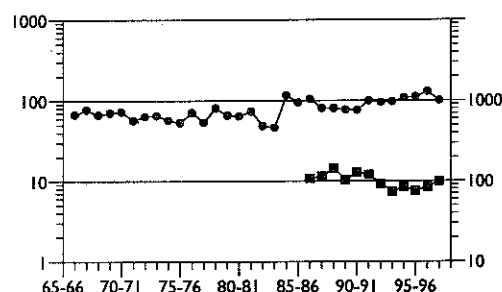


Figure 30. Annual indices for Wigeon in GB (circles, left axis) and squares (right axis)

Numbers wintering in Great Britain in 1997-98 dropped markedly after exceptionally high counts in the previous year, and annual indices fell for the first time, by 24%, since 1992-93. Conversely, the January peak in Northern Ireland was the highest since October 1991, a rise mirrored in the annual indices.

Monthly indices revealed that, whilst peaks occurred, as usual, in January in Britain, and in October in Northern Ireland, much higher numbers were present in both regions in November and December. These patterns are surprising given the generally mild weather, with most winds from the southwest, during these months.

In line with the relatively low national total, numbers at many sites were below average,

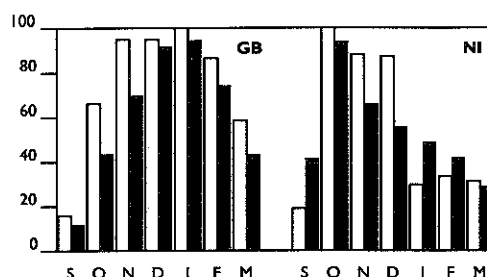


Figure 31. Monthly indices for Wigeon in GB and NI (white bars 1997-98; black bars 1992-93 to 1996-97)

notably the Dyfi and Thames Estuaries, Lower Derwent Valley and Upper Lough Erne, whilst the peak on the Ribble Estuary, which has held up to one third of the national total, was almost 20% below the average peak for the previous five year period. High counts were recorded on the Dornoch Firth, consolidating its position as an internationally important site, at Breydon Water & Berney Marshes, more than double the average for this site, and Loch of Harray. The count at Lough Foyle hinted that numbers may return to the levels of the early 1990s, when five figure counts were recorded.

Mayhew & Houston (1999) have shown that grazing by Wigeon, when returning repeatedly throughout the winter to a small number of feeding areas, results in a 52% increase in leaf

production over the winter and, at the end of the winter, 4.75% higher protein levels compared to ungrazed plants. The growth of plants is stimulated by defoliation and not caused by a fertiliser effect from the birds' droppings. They suggest that selectively grazing patches of grassland is a deliberate feeding strategy used by Wigeon to obtain improved dietary quality in late winter and early spring, as has previously been shown for some goose species.

Numbers of Wigeon wintering at Strangford Lough have declined drastically from peaks of up to 20,000 in the early 1970s but, as this decline is not mirrored in the UK population, it was thought that the reasons were intrinsic to the lough. Mathers *et al.* (1998) concluded that this may result from an indirect interaction with Pale-bellied Brent Geese through depletion of *Zostera*, a common food source. The geese, which dig for

the rhizomes, may alter plant regrowth in future years, thereby affecting Wigeon which feed on the shoots. The earlier arrival of peak numbers of both Wigeon and Brent Geese in recent years may eat out the *Zostera* beds before they reach peak biomass, thereby reducing future growth. Anecdotal data also suggest a change to sandier sediments in the lough, which may allow Brents easier access to *Zostera*, thereby offsetting in the short term the decline in food. The effect of successively earlier and greater exploitation of *Zostera* on its potential for recovery is part of an ongoing study. Human activity, which has also increased through the provision of several car parks and walkways, may also play a part in the changing wildfowl numbers since Brent Geese are much more tolerant of disturbance than Wigeon.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Ribble Estuary	92,465	110,278	83,922	74,068	66,197	Nov	85,386
Ouse Washes	23,791	28,284	30,545	28,223	26,922	Dec	27,553
Swale Estuary	10,116	15,039	15,906	40,090	13,292	Feb	18,889
Somerset Levels	8,880	21,455	24,302	11,000	16,010	Jan	16,329
North Norfolk Marshes	13,631	16,471	14,377	14,247	12,423	Nov	14,230
Dornoch Firth	14,501	10,911	12,540	11,615	17,240	Oct	13,361
Great Britain							
Mersey Estuary	9,121	17,650	11,254	10,885	10,520	Nov	11,886
Lower Derwent Valley	11,650	14,140	13,060	10,600	7,900	Jan	11,470
Nene Washes	11,909	11,302	11,526	8,090	12,699	Jan	11,105
Cromarty Firth	9,603	8,629	11,973	8,516	11,199	Oct	9,984
Inner Moray Firth	9,417	8,962	8,200	9,305	7,964	Dec	8,770
Walland Marsh	-	-	-	8,600	5,400	Jan	7,000
Lindisfarne	6,724	13,476	3,662	4,368	5,600	Oct	6,766
Morecambe Bay	6,684	7,494	7,045	6,432	6,002	Nov	6,731
Severn Estuary	3,947	5,689	6,267	11,548	5,304	Dec	6,551
Middle Yare Valley	7,460	4,335	6,223	7,189	6,306	Dec	6,303
Breydon Water/Berney Marshes	5,100	4,900	4,300	6,500	10,200	Dec	6,200
Alde Complex	3,473	6,345	5,827	8,181	6,810	Jan	6,127
Humber Estuary	5,789	7,502	3,000	5,802	7,668	Nov	5,952
Martin Mere	2,600	5,580	9,280	2,460	3,620	Mar	4,708
Rutland Water	4,160	3,859	5,014	4,968	4,669	Feb	4,534
Arun Valley	2,538	4,804	5,138	4,411	5,155	Jan	4,409
Dee Estuary (Eng/Wal)	1,866	8,091	2,191	3,682	5,366	Dec	4,239
Dyfi Estuary	4,831	3,665	4,363	4,681	2,911	Dec	4,090
Medway Estuary	3,883	4,705	5,131	2,951	3,736	Jan	4,081
Hamford Water	1,499	2,593	3,785	9,511	2,668	Dec	4,011
Montrose Basin	3,600	4,233	4,856	2,735	3,170	Nov	3,719
Fleet/Wey	4,783	5,013	2,957	3,021	2,637	Nov	3,682
Thames Estuary	2,359	3,537	3,690	5,146	1,223	Oct	3,191
Loch of Harray	3,105	2,145	3,222	2,384	5,070	Nov	3,185
Stour Estuary	3,027	3,951	1,958	3,046	3,628	Dec	3,122
Exe Estuary	3,073	2,173	2,263	3,184	4,344	Oct	3,007 ▲
Avon Valley (Lower)	5,000	3,113	2,120	1,570	3,000	Jan	2,961
Blackwater Estuary	3,999	2,732	2,080	2,534	3,031	Feb	2,875
Cleddau Estuary	2,088	2,403	3,455	3,351	3,058	Dec	2,871 ▲

Nationally Important Northern Ireland Sites

Lough Foyle	3,513	6,094	8,438	6,850	9,440	Oct	6,867
Lo. Neagh/Beg	2,633,669		3,229	2,398	3,052	Nov	2,996
Strangford Lough	1,870	1,747	2,457	1,900	1,937	Nov	1,982
Upper Lough Erne	1,744	1,707	1,692	1,252	619	Feb	1,403

Sites no longer meeting table qualifying levels

Wash

Other sites surpassing table qualifying levels in 1997-98

Tophill Low Reservoirs	3,200	Feb	Beaulieu Estuary	2,947	Feb
Burry Inlet	3,144	Nov	North Warren/Thorpe Mere	2,800	Feb

AMERICAN WIGEON

Anas americana

Vagrant

Native range: North and Central America

Singles were found on the Fleet/Way, North Norfolk Marshes, and the Dee (Eng/Wales) and Lossie Estuaries.

CHILOE WIGEON

Anas sibilatrix

Escape

Native range: South America

A notable increase, with records from 11 sites and summed site maxima of 14 birds. Swanpool (Falmouth), Ramsbury Lake and Lower Windrush Valley Gravel Pits each held two birds,

with singles at the remaining sites. Only one of the four sites with Chiloe Wigeon in the previous winter matched those at which it was noted in 1997-98.

FALCATED DUCK

Anas falcata

Escape

Native range: Eastern Asia

Singles were found on the Dee Estuary (Eng/Wales) and Merryton Ponds, both in March.

GADWALL

Anas strepera

International threshold: 300

Great Britain threshold: 80

All-Ireland threshold: +†

GB max: 13,073 Nov

NI max: 154 Mar

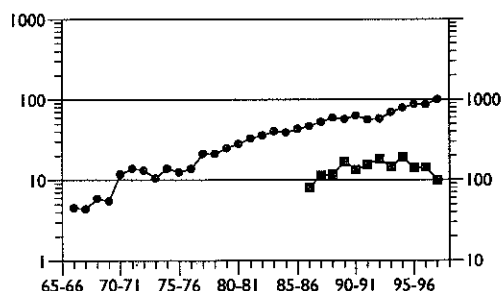


Figure 32. Annual indices for Gadwall in GB (circles, left axis) and NI (squares, right axis)

The seemingly inexorable rise in Gadwall numbers in Great Britain continued in 1997-98:

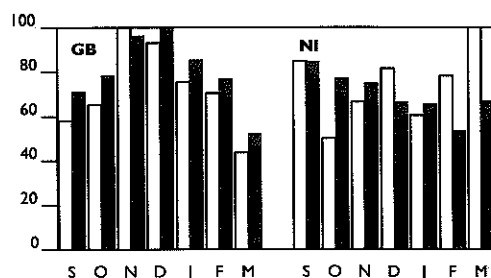


Figure 33. Monthly indices for Gadwall in GB and NI (white bars 1997-98; black bars 1992-93-1996-97)

the peak surpassed 13,000 for the first time, having exceeded counts of 5,000 in the mid

1980s and 10,000 only three years ago. Gadwall are the fastest growing 'natural' wildfowl population in Great Britain; only naturalised populations of Greylag Geese and Ruddy Duck are increasing at a greater rate. However, no similar pattern is evident in Northern Ireland where the peak was the lowest this decade.

The peak count at Rutland Water represents by far the largest gathering of Gadwall yet recorded in the UK, and is the only site to have held over 1,000 birds. Sustained high counts saw the Ouse Washes rise to second place in the table and those at Thrapston Gravel Pit pushed the five year average above the threshold for international importance for the first time.

Atkinson-Willes (1963) noted only 12 sites holding 25 or more birds during the 1950s, only two of which surpassed 100 birds. In contrast, 50 sites currently support average peaks in excess of 100 birds. The growth in the national population

is manifested by increases at sites previously holding relatively small numbers of Gadwall: almost one quarter of the nationally important sites held peak counts of less than fifty birds only four or five years ago. Fourteen new sites attained nationally important status following the 1997-98 counts, all in the species' stronghold of central, southern and eastern England.

However, the national population estimate of 8,000 birds, based on data up to 1991-92 (Kirby 1995), is clearly a considerable underestimate of the current picture. The average national total for the last five years is 11,167 birds, and it is likely that the revision of national population estimates in 2000 will result in a figure of at least 12,500 for Gadwall. This would mean only 34 sites qualify as nationally important, compared with the 68 listed below. Consequently, perhaps the most remarkable figure in the table below was the especially low count at Abberton Reservoir.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Rutland Water	933	1,671	1,306	733	2,181	Nov	1,365
Ouse Washes	455	378	273	942	783	Feb	566
Avon Valley (Mid)	488	584	491	421	580	Feb	513
Abberton Reservoir	517	668	829	338	120	Sep	494
Wraysbury Gravel Pits	426	307	389	528	734	Feb	477
Lee Valley Gravel Pits	400	393	219	576	609	Nov	439
Pitsford Reservoir	82	627	471	362	355	Sep	379
Thrapston Gravel Pit	54	149	139	895	567	Nov	361 ▲
Great Britain							
Hornsea Mere	338	300	-	-	(10)	Mar	319
Severn Estuary	252	270	265	281	250	Dec	264
Somerset Levels	206	97	293	342	369	Feb	261
Fen Drayton Gravel Pit	133	276	194	251	388	Dec	248
Loch Leven	262	252	230	235	248	Oct	245
Eversley Cross/Yateley Gravel Pits	151	193	184	376	236	Feb	228
North Norfolk Marshes	260	267	193	163	232	Nov	223
Colne Valley Gravel Pits	66	173	237	434	141	Nov	210
Thames Estuary	228	179	252	190	198	Feb	209
Burghfield Gravel Pits	121	112	393	209	178	Dec	203
Buckden/Stirtdoe Pits	133	147	236	163	277	Nov	191
Nene Washes	311	168	250	63	151	Feb	189
Fairburn Ings	128	168	239	202	191	Aug	186
Gunton Park	186	-	-	-	-		186
Cotswold WP West	208	162	170	217	147	Jan	181
Little Paxton Gravel Pits	178	196	69	287	132	Dec	172
Chew Valley Lake	155	140	180	175	-		163
Seaton Gravel Pits	293	194	12	201	109	Dec	162
Chichester Gravel Pits	27	142	161	284	188	Nov	160
Hampton & Kempton Reservoirs	48	253	145	153	198	Jan	159
Hollowell Reservoir	212	281	245	45	12	Feb	159
Hanningfield Reservoir	90	130	157	156	216	Sep	150
Sutton/Lound Gravel Pits	-	152	191	96	150	Feb	147
Alton Water	16	127	197	80	312	Dec	146
Lower Derwent Valley	36	71	67	271	283	Feb	146
North Warren/Thorpness Mere	103	131	130	141	200	Feb	141
Stodmarsh	86	142	71	274	122	Sep/Jan	139
Hardley Flood	360	15	37	-	-		137
Minsmere Levels	99	141	68	240	130	Oct	136
Tophill Low Reservoirs	193	90	160	40	190	Sep	135
Cotswold WVP East	101	102	235	125	92	Dec	131
Dungeness Gravel Pits	58	165	260	76	85	Nov	129

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Bowl Water	60	222	173	120	72	Nov	129
Earls Barton Gravel Pits	27	71	154	121	264	Dec	127 ▲
Ditchford Gravel Pit	58	129	187	115	118	Jan	121
Langtoft West End Gravel Pits	59	115	152	166	87	Dec	116
Thorpe Water Park	149	164	60	96	102	Feb	114
Fleet/Wey	211	171	96	24	70	Jan	114
Sonning GP	-	71	101	127	143	Jan	111 ▲
Middle Tame Valley GP	70	48	135	196	108	Feb	111
Twyford Gravel Pits	77	94	110	156	89	Jan	105
Stanford Reservoir	24	10	120	267	100	Dec	104
Meadow Lane Gravel Pits	22	57	149	157	111	Dec	99
Wellington Country Park	1	0	174	154	152	Feb	96 ▲
Stanford Training Area	119	67	135	32	126	Dec	96
Swale Estuary	104	167	50	52	106	Feb	96
Grafham Water	27	27	114	82	223	Mar	95 ▲
Fordwich/Westbere GPs	44	163	199	13	57	Nov	95
Marsh Lane Gravel Pits	165	32	125	100	55	Nov	95
Rye Harbour/Pett Level	55	82	143	113	69	Dec	92
Breydon Water & Berney Marshes	67	54	46	129	161	Feb	91 ▲
Dinton Pastures	95	102	101	-	64	Dec	91
Rostherne Mere	22	92	156	134	49	Aug	91
Swanholme Lake	86	82	79	105	99	Feb	90
Tattershall Pits	160	96	-	62	35	Oct	88
Tabley Mere	54	12	150	80	140	Oct	87 ▲
Linford Gravel Pits	77	74	102	134	48	Dec	87
Holme Pierrepont Gravel Pits	13	47	108	152	110	Dec	86 ▲
Wash	133	48	94	53	100	Feb	86 ▲
Ampton Water	-	-	-	-	86	Mar	86 ▲
Middle Yare Valley	61	88	62	85	129	Jan	85 ▲
Fort Henry Ponds/Exton Park Lake	44	13	106	179	85	Jan	85
Blunham Gravel Pit	85	-	-	-	-	-	85 ▲
Lower Windrush Valley Gravel Pits	69	64	63	82	130	Jan	82 ▲
Swillington Ings	91	91	54	113	54	Sep	81
Stoke Newington Reservoirs	90	80	102	-	52	Sep	81
Tring Reservoirs	59	42	74	79	146	Nov	80 ▲
Hilfield Park Reservoir	102	140	80	41	38	Dec	80 ▲

Northern Ireland†

Lo. Neagh/Beg	144	301	120	124	108	Mar	159
Strangford Lough	112	124	82	118	63	Sep	100
Upper Quoile	10	6	19	58	4	Dec	19

Internationally or nationally important sites not counted in last five years

Lackford Gravel Pits	Clea Lakes
South Iwer Gravel Pits	Shrigley Lake
Sennowe Park Lakes	

Sites no longer meeting table qualifying levels

Stainhill Reservoirs	Hillsborough Main Lake
Blagdon Lake	Upper Lough Erne
Pen Ponds	

Other sites surpassing table qualifying levels in 1997-98

Solway Estuary	220	Dec	Whisby Gravel Pits	98	Sep
Barons Haugh	166	Sep	Leighton Moss	96	Nov
Longside Lake	123	Jan/Feb	Bedfont/Ashford Gravel Pits	94	Dec
Brent Reservoir	121	Oct	Arun Valley	93	Jan
Landbeach Gravel Pits	112	Jan	Kislingbury Gravel Pits	90	Feb
Walland Marsh	111	Feb	Blyth Estuary (Suffolk)	89	Mar
Yarwell Gravel Pits	111	Jan	Besthorpe/Girton Gravel Pits	85	Nov
Leventhorpe Flood Meadows	110	Aug	Ranworth/Cockshoot Broads	83	Jan
Blackwater Estuary	110	Mar	Mere Sands Wood	82	Jan
Crichel Lake	100	Feb	Theale Gravel Pits	81	Dec
Summerleaze Gravel Pits	98	Jan			

† as no all-Ireland threshold has been set, a qualifying level of 10 has been chosen to select sites for presentation in this report

TEAL

Anas crecca

GB max: 137,754 Dec
NI max: 4,823 Dec

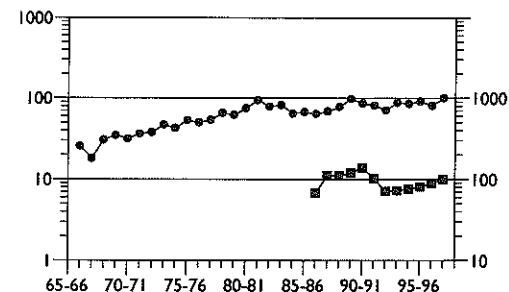


Figure 34. Annual indices for Teal in GB (circles, left axis) and NI (squares, right axis)

Peak counts in Great Britain in recent years have fluctuated around the 130,000 mark, and whilst the peak in 1997-98 was therefore seemingly unremarkable, it represents the highest total yet recorded by the scheme. The annual index of the British population also reached its highest ever level, though not notably greater than several peaks during the past 15 years.

In Northern Ireland, counts and annual indices have risen steadily over the past five winters though still remain around 30% below those in the late 1980s and early 1990s. Monthly indices indicate an early peak in November in Great Britain and more typical December peak in

International threshold: 4,000
Great Britain threshold: 1,400
All-Ireland threshold: 650

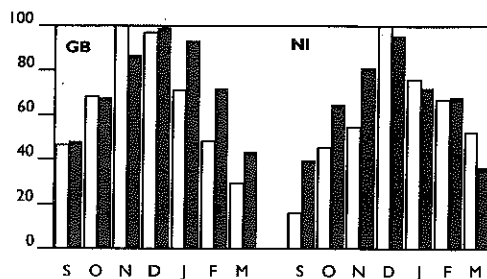


Figure 35. Monthly indices for Teal in GB and NI (white bars 1997-98; black bars 1992-93 to 1996-97)

Northern Ireland. Numbers in the second half of the winter were low in Great Britain.

Numbers on the Somerset Levels returned to more typical levels following the unusually low counts in winter 1996-97. Abberton Reservoir joined the six other sites holding internationally important numbers thanks to an exceptional peak count, some 140% above the previous average at the site, and continuing the sustained, large increase over the last five winters. Large counts were also noted at Martin Mere, North Norfolk Marshes, Inner Moray Firth and on Loughs Neagh & Beg.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Somerset Levels	15,256	13,197	24,792	3,305	16,156	Jan	14,541
Mersey Estuary	13,034	12,098	7,734	14,120	12,065	Nov	11,810
Ribble Estuary	8,876	5,859	7,343	7,833	6,209	Oct	7,224
Lower Derwent Valley	8,231	7,050	4,432	3,875	5,900	Feb	5,898
Abberton Reservoir	1,656	3,022	5,816	6,756	9,381	Nov	5,326 ▲
Dee Estuary (Eng/Wal)	3,742	4,085	4,867	6,545	6,254	Nov	5,099
Hamford Water	3,807	2,746	5,283	6,563	2,633	Dec	4,206
Great Britain							
Martin Mere	2,760	3,560	4,020	2,560	5,750	Nov	3,730
Severn Estuary	3,743	4,288	3,806	2,665	2,880	Jan	3,476
Swale Estuary	5,248	4,278	2,174	2,868	2,457	Jan	3,405
Ouse Washes	2,349	3,614	2,218	3,661	3,721	Dec	3,113
North Norfolk Marshes	2,698	2,888	2,665	2,668	3,992	Nov	2,982
Inner Moray Firth	2,128	2,100	2,873	3,346	3,428	Dec	2,775
Loch Leven	1,233	2,200	3,884	3,250	3,288	Oct	2,771
Blackwater Estuary	3,509	3,213	1,825	2,593	2,522	Dec	2,732
Nene Washes	2,438	3,748	2,602	1,648	2,054	Feb	2,498
Horsely Mere	-	-	-	-	2,400	Nov	2,400 ▲
Thames Estuary	1,654	3,176	2,393	2,575	1,497	Oct	2,259
Cleddau Estuary	1,787	1,226	2,948	2,220	2,637	Dec	2,164
Southampton Water	1,437	1,705	2,700	2,356	(1,590)	Dec	2,050
Alde Complex	2,054	1,497	2,306	1,793	2,078	Jan	1,946

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Dornoch Firth	1,782	2,303	1,759	1,476	2,073	Dec	1,879
Morecambe Bay	1,334	1,967	2,127	1,439	2,114	Nov	1,796
Arun Valley	2,615	2,886	1,277	655	1,385	Nov	1,764
Medway Estuary	1,649	1,767	1,901	1,549	1,466	Jan	1,666
Mere Sands Wood	2,131	884	1,075	2,525	1,025	Dec	1,528
Rutland Water	978	805	2,491	1,954	1,402	Dec	1,526
Chichester Harbour	1,345	1,377	1,172	2,037	1,649	Dec	1,516
Woolston Eyes	1,500	2,500	1,150	900	1,500	Jan	1,510 ▲
Poole Harbour	1,399	1,094	1,661	2,297	972	Feb	1,485
Pagham Harbour	1,636	1,311	1,870	1,617	969	Dec	1,481
Tees Estuary	1,558	1,582	1,657	1,059	1,219	Dec	1,415 ▲
Northern Ireland							
Strangford Lough	1,363	1,617	1,681	2,302	1,978	Jan	1,788
Lo. Neagh/Beg	1,481	1,801	1,227	1,076	2,270	Dec	1,571
Lough Foyle	403	1,007	852	837	575	Oct	735

Sites no longer meeting table qualifying levels

Loch of Strathbeg

Other sites surpassing table qualifying levels in 1997-98

Minsmere Levels	2,336	Oct	Humber Estuary	1,497	Nov
Pitsford Reservoir	1,538	Dec	Loch Eye	1,465	Feb
Fiddlers Ferry PS Lagoons	1,500	Oct	Forth Estuary	1,411	Jan

SPECKLED TEAL

Anas flavirostris

Escape

Native range: South America

Two were seen at Bramshill Park Lake in March, and singles at Whittlesford Gravel Pits and on the

River Derwent at Chatsworth during the summer.

MALLARD

Anas platyrhynchos

International threshold: 20,000**

Great Britain threshold: 5,000†

All-Ireland threshold: 500

GB max: 140,213 Nov

NI max: 8,623 Sep

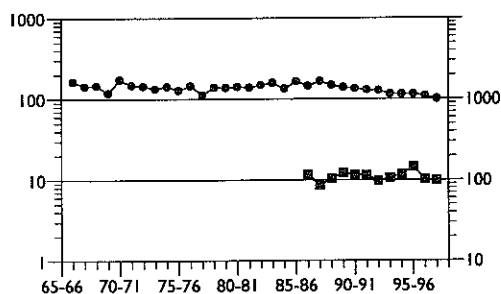


Figure 36. Annual indices for Mallard in GB (circles, left axis) and NI (squares, right axis)

The downward trend in numbers of what is traditionally regarded as the UK's commonest species of wildfowl continued in 1997-98 with a further fall of 10% in the British annual index values. Both the peak count and annual index were the lowest recorded since counts began and suggest that the population has fallen by 40%

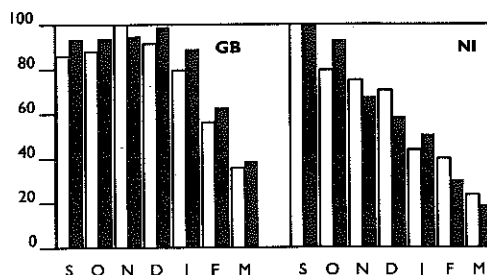


Figure 37. Monthly indices for Mallard in GB and NI (white bars 1997-98; black bars 1992-93 to 1996-97)

in the last 10 years. Although the absence of national statistics on released stock for hunting and on shooting bags clouds the picture, a decline of this magnitude in several other birds has triggered considerable concern in the conservation community.

The peak count in Northern Ireland was on a

par with those in recent years. No clear trend is apparent in the annual indices, where monitoring of smaller waterbodies away from the major sites is relatively poor and significant numbers of this highly dispersed species undoubtedly go unrecorded.

Patterns in monthly indices for Great Britain and Northern Ireland differ significantly. In the latter, peak numbers occur early in the winter (usually in September) and decline steadily thereafter whilst in Great Britain, values remain high from September through to January, falling only in the last months of winters. The pattern in Great Britain probably reflects a balance between high shooting mortality during autumn and newly arrived immigrants from continental Europe which make up more than one third of the winter

population (Owen *et al.* 1986)

Due to the species dispersed distribution, no Great Britain sites support nationally, let alone internationally, important numbers. Indeed, throughout NW Europe, only three sites support more than 1% of the NW European population estimated at five million birds (Scott & Rose 1996).

In line with national trends, most key sites held below average numbers in 1997-98: counts on the Lower Derwent Valley and Solway Estuary were particularly reduced, numbers on the Forth Estuary have declined in each of the last four winters and counts on the Ouse Washes have almost halved in recent years. Amongst key sites, only the count at Strangford Lough exceeded its five year mean.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain†							
Morecambe Bay	3,563	4,456	3,798	3,116	3,615	Oct	3,710
Ouse Washes	5,693	4,511	2,868	2,149	2,582	Dec	3,561
Lower Derwent Valley	4,000	3,100	3,200	3,655	2,400	Feb	3,271
Wash	3,518	3,379	3,512	2,636	2,771	Jan	3,163
Tring Reservoirs	2,736	3,250	4,000	2,956	2,200	Aug	3,028
Martin Mere	3,210	3,400	3,100	2,885	2,520	Nov	3,023
Severn Estuary	3,145	2,870	2,383	3,088	2,076	Nov	2,712
Humber Estuary	3,055	3,184	2,621	2,112	2,211	Nov	2,637
Solway Estuary	2,988	2,624	2,637	2,011	1,419	Nov	2,336
Forth Est.	2,717	2,648	2,003	1,672	1,435	Dec	2,095
Northern Ireland							
Lo. Neagh/Beg	3,699	5,713	8,791	5,399	5,463	Aug	5,813
Lough Foyle	2,166	1,699	1,755	1,795	1,592	Dec	1,801
Strangford Lough	1,780	1,886	1,503	1,238	1,753	Sep	1,632

Sites no longer meeting table qualifying levels

Belfast Lough
Upper Lough Erne

Internationally or nationally important sites not counted in last five years

Ballysaggart Lough

Other sites surpassing table qualifying levels in 1997-98

Inner Moray Firth 2,044 Dec
Livermere 2,000 Aug

† as no site in Great Britain is of national importance, a qualifying level of 2,000 has been chosen to select sites for presentation in this report

CHESTNUT TEAL

Anas castanea

Escape

Native range: Australia

One was seen on the Lower Windrush Valley
Gravel Pits in November.

PINTAIL
Anas acuta

GB max: 24,517 Dec
NI max: 358 Feb

International threshold: 600
Great Britain threshold: 280
All-Ireland threshold: 60

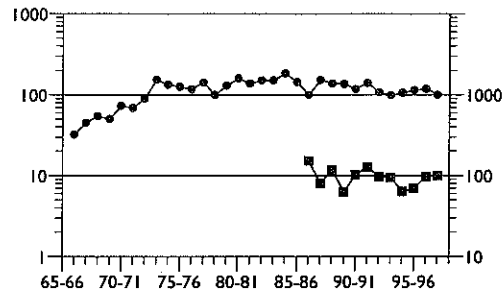


Figure 38. Annual indices for Pintail in GB (circles, left axis) and NI (squares, right axis)

In Great Britain, the peak total was around 3,000 below that of the previous winter. Whilst this is still 2-4,000 higher than counts during most of the early 1990s, annual indices suggest the population is near the lower end of recent fluctuations, the figure for 1997-98 being the second lowest for 25 years. Only small numbers of birds occur in Northern Ireland and on very few sites. Consequently, annual indices are quite variable with no clear pattern evident. The peak count, however, was the highest in the province since 1991-92.

Great Britain monthly indices showed a double peak, in October and December, in 1997-98. This unusual phenomenon has occurred on several previous occasions, particularly in the late 1980s and early 1990s, but not since 1992-93. One hypothesis is that the timing of movements of different sub-populations away from the breeding grounds differs. Icelandic birds, for example, may arrive in early winter and rapidly disperse to areas within and beyond the UK, followed by a later arrival of continental birds when suitable weather systems push birds further west. However, insufficient ringing data are currently available to support this suggestion.

Peak 1997-98 counts at many of the 14 sites of international importance were well below their usual levels: those on the Ribble, Medway, Swale and Duddon Estuaries and the Burry Inlet were all 40% or more below their recent averages, whilst continued low counts at Martin Mere saw the site lose its internationally important status for Pintail. Counts were also markedly lower than normal at six nationally important sites, though, somewhat surprisingly, three new sites attained this status in 1997-98.

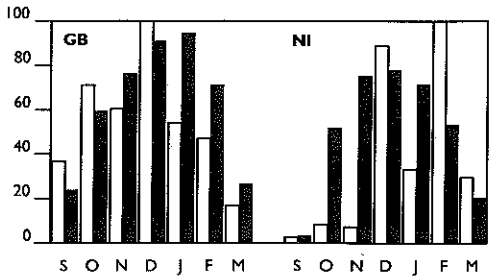


Figure 39. Monthly indices for Pintail in GB and NI (white bars 1997-98; black bars 1992-93 to 1996-97)

Pintail is one of only two wildfowl species for which the international 1% threshold for Northwest Europe was reduced in the last review (Rose & Scott 1997), and has an 'unfavourable conservation status' in Europe due to large declines on the breeding grounds in many countries and in wintering areas. This has prompted the drafting of an EU Action Plan to restore the population to a more favourable conservation status, whilst an analysis of wintering trends in Britain has also been undertaken (Kershaw 1998).

Britain supports almost half the Northwest European wintering population, the highest proportion of any duck species. The overall pattern is of an increase up to the early 1980s, with numbers reaching a plateau and possibly declining slightly thereafter, although perceived changes in both Great Britain and Northwest European populations were not statistically significant.

Within Great Britain, there have been significantly different trends between regions, habitats and sites. Northwest England/North Wales is by far the most important region, holding three times the number of birds in the second most important region, East Central England. However, numbers appear to have reached a plateau and are declining in both regions, as well as Southwest England/South Wales. Only in Southeast England and in Cumbria/Southwest Scotland are they still increasing.

Whilst at present, there appears to be no significant decline nationally, there have been large declines on some of the traditionally most important sites, notably the Dee and Mersey

Estuaries. Although the species appears to be highly mobile and able to adapt to changing conditions, given their highly concentrated distribution within Europe, the more serious

declines in breeding numbers in Russia/Finland and in wintering numbers in the east Mediterranean, it is important that numbers in Britain are monitored closely.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Dee Estuary (Eng/Wal)	4,566	4,891	5,425	5,749	5,954	Dec	5,317
Morecambe Bay	2,027	3,427	2,575	3,207	4,411	Oct	3,129
Solway Estuary	2,356	2,567	4,016	3,852	2,677	Dec	3,094
Ribble Estuary	1,795	1,587	4,926	4,073	1,271	Nov	2,730
Ouse Washes	1,082	1,601	2,376	2,055	3,271	Feb	2,077
Burby Inlet	1,585	942	3,541	2,889	1,093	Dec	2,010
Nene Washes	2,313	2,569	1,342	264	1,668	Jan	1,631
Duddon Estuary	2,194	2,261	1,275	1,349	464	Dec	1,509
North Norfolk Marshes	1,443	923	1,036	1,177	1,668	Dec	1,249
Mersey Estuary	1,636	1,620	873	904	813	Jan	1,169
Medway Estuary	399	622	1,214	2,047	489	Jan	954
Swale Estuary	1,349	1,310	1,029	277	570	Dec	907
Pagham Harbour	596	604	990	1,210	1,087	Dec	897
Severn Estuary	664	465	539	698	709	Feb	615
Great Britain							
Stour Estuary	811	425	397	507	638	Dec	556
Martin Mere	424	416	499	231	239	Jan	362 ▼
Hamford Water	162	116	330	1,117	54	Feb	356
Tottenham Gravel Pits	-	108	486	415	397	Oct	352 ▲
Orwell Estuary	321	282	821	214	94	Jan	346
Blackwater Estuary	639	214	362	280	139	Nov	327
Arun Valley	450	421	211	167	359	Jan	322
Fleet/Wey	352	270	245	414	276	Feb	311
Cromarty Firth	228	460	367	370	130	Jan	311
Poole Harbour	186	231	301	375	451	Feb	309 ▲
Somerset Levels	286	611	433	76	118	Feb	305
Abberton Reservoir	225	242	316	283	430	Nov	299
Thames Estuary	263	593	398	149	50	Feb	291
Alde Complex	317	439	203	147	340	Jan	289 ▲
Nationally Important Northern Ireland Sites							
Strangford Lough	269	180	159	242	304	Dec	231
Sites no longer meeting table qualifying levels							
Wash							
Other sites surpassing table qualifying levels in 1997-98							
Lower Derwent Valley	337	Mar					
Bayfield Loch	290	Dec					
Lough Foyle	67	Feb					

BAHAMA PINTAIL

Anas bahamensis

Escape

Native range: South America

One was found on the Fleet/Wey in September.

CAPE TEAL

Anas capensis

Escape

Native range: Africa

A single frequented Beddington Sewage Farm in October and November, and presumably the

same bird was at Staines Reservoirs in December.

GARGANEY
Anas querquedula

GB max: 37 Aug
NI max: 0

International threshold: 20,000**
Great Britain threshold: ?†
All-Ireland threshold: ?†

The typical August peak was well below that of the last two years, though the secondary peak in May was near normal. As expected, most records were from southern and southeastern England, with no records from Scotland or Northern Ireland and only one from Wales. The customary hot-spot in northern England, Fairburn

Ings, held no birds in August, and no counts were available for another regular site, Chew Valley Lake. Unusually, small numbers were recorded in most winter months involving birds at ten different sites, stragglers perhaps taking advantage of the mild winter.

Sites with four or more birds in 1997-98

Dungeness Gravel Pits	7 Aug	Nene Washes	4 May
Minsmere Levels	6 May	Walland Marsh	4 Jul
Rye Harbour/Pett Level	5 Aug	Blithfield Reservoir	4 Aug

SHOVELER
Anas clypeata

GB max: 9,268 Oct
NI max: 207 Dec

International threshold: 400
Great Britain threshold: 100
All-Ireland threshold: 65

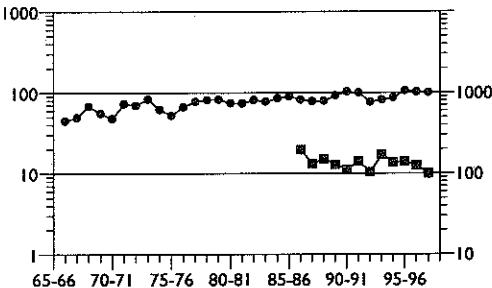


Figure 40. Annual indices for Shoveler in GB (circles, left axis) and NI (squares, right axis)

The Great Britain peak was around average for recent winters, though well below the exceptional count of over 12,000 birds in late autumn 1995. However, the total does not include counts from one key site, Chew Valley Lake. Annual indices appear to show a long term increase, though this is less obvious for the last decade. Monthly indices show the normal autumn peak was relatively short lived in 1997-98, with many birds moving on to winter further south in France and Spain.

Annual indices in Northern Ireland reached their lowest level since regular monitoring began in the mid 1980s, although the small numbers involved at just a handful of sites results in large fluctuations for this species. As in Great Britain, numbers in Ireland are usually boosted in November, though monthly indices suggest

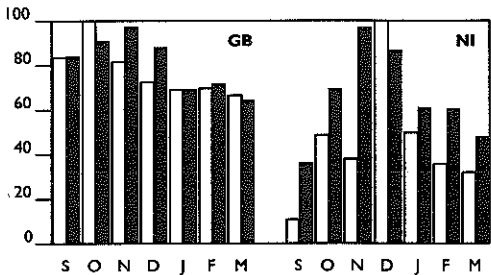


Figure 41. Monthly indices for Shoveler in GB and NI (white bars 1997-98; black bars 1992-93 to 1996-97)

unusually low numbers in 1997-98.

Peak counts at most sites occur during the autumn period. Due to the large movements of Shoveler through the country at this time, these peaks can fluctuate widely at individual sites and are more variable than for almost any other species of non-maritime wildfowl. High counts on the Nene Washes (104% higher than the previous average) saw the site added to the list of internationally important sites, though all except one other site with this status held below average numbers. Notably high counts were also made at Staines Reservoirs (+395%) and Blithfield Reservoir (+197%), whilst Hollowell Reservoir, Blagdon Lake and Aqualate Mere recorded peak counts well below their respective norms. Peaks at both key sites in Northern Ireland were the lowest of the last five years.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Ouse Washes	1,066	837	212	663	540	Dec	664
Abberton Reservoir	606	598	937	628	541	Sep	662
Somerset Levels	373	931	839	435	504	Feb	616
Rutland Water	701	513	562	704	531	Sep	602
Loch Leven	458	570	550	541	426	Sep	509
Swale Estuary	473	530	357	411	551	Dec	464
Burry Inlet	193	395	745	490	363	Jan	437
Chew Valley Lake	475	100	875	225	-		419
King George VI Reservoir	153	246	1,134	310	248	Feb	418
Nene Washes	367	517	347	143	689	Mar	413 ▲
Great Britain							
Walland Marsh	-	-	-	359	325	Feb	342
Dungeness Gravel Pits	320	163	252	421	260	Oct	283
Lee Valley Gravel Pits	225	248	178	291	283	Nov	245
Lower Derwent Valley	251	163	257	221	310	Feb	240
Fairburn Ings	74	134	303	352	272	Oct	227
Arun Valley	218	319	268	146	176	Nov	225
Hanningfield Reservoir	110	242	254	211	304	Sep	224
Knight/Bessborough Reservoirs	90	434	245	185	160	Sep	223
Stodmarsh	71	199	240	265	328	Nov	221
Stanford Reservoir	61	117	500	145	276	Nov	220
Wraysbury Gravel Pits	221	214	341	157	169	Sep	220
Blythfield Reservoir	329	172	11	77	436	Sep	205
Thames Estuary	187	264	202	197	173	Feb	205
Fleet/Wey	223	296	183	133	107	Feb	188
Blagdon Lake	195	160	115	404	64	Nov	188
Staines Reservoirs	126	29	74	210	490	Oct	186 ▲
Severn Estuary	160	168	270	169	150	Jan	183
North Norfolk Marshes	162	279	206	135	121	Nov	181
Tees Estuary	108	122	232	202	201	Nov	173
Pitsford Reservoir	20	239	196	236	157	Sep	170
Aqualate Mere	114	97	225	358	50	Sep	169
Grafham Water	74	73	240	290	160	Jan	167
Ringstead Gravel Pits	283	262	151	0	86	Nov	156
North Warren/Thorpe Mere	190	220	110	108	138	Mar	153
Wraysbury Reservoir	132	138	238	184	69	Oct	152
Thrapston Gravel Pit	128	258	173	108	88	Sep	151
Rye Harbour/Pett Level	55	155	164	238	135	Nov	149
Breydon Water & Berney Marshes	120	213	46	172	183	Feb	147
Walthamstow Reservoirs	186	116	118	144	143	Jan	141
Poole Harbour	263	117	156	64	103	Jan	141
Leighton Moss	92	120	205	188	95	Sep	140
Swillington Ings	94	204	70	155	141	Sep	133
Middle Tame Valley GP	168	91	97	186	116	Feb	132
Alde Complex	40	164	214	120	119	Jan	131
Hampton & Kempton Reservoirs	49	142	123	234	88	Jan	127
Fiddlers Ferry Lagoons	180	156	126	50	100	Sep	122
Woolston Eyes	25	126	152	152	152	Sep	121 ▲
Barn Elms Reservoirs	135	197	108	26	-		117
Rostherne Mere	156	52	103	103	157	Oct	114 ▲
Minsmere Levels	108	173	83	69	128	Oct	112 ▲
Colne Valley Gravel Pits	93	110	142	123	94	Dec	112
Swithland Reservoir	65	147	104	98	116	Sep	106
Blackwater Estuary	100	128	101	122	60	Dec	102
Hollowell Reservoir	137	106	124	129	16	Nov	102
Marton Mere	-	142	104	83	77	Nov	102 ▲
Nationally Important Northern Ireland Sites							
Lo. Neagh/Beg	319	103	150	89	84	Dec	149
Strangford Lough	144	104	213	108	101	Dec	134

Internationally or nationally important sites not counted in last five years

Lackford Gravel Pits
Ashford Common Waterworks

Sites no longer meeting table qualifying levels

Tophill Low Reservoirs
Avon Valley (Mid)
North West Solent

Attenborough Gravel Pits
Beddington Sewage Farm

Other sites surpassing table qualifying levels in 1997-98

Mersey Estuary	214	Nov	Little Paxton Gravel Pits	115	Nov
Llyn Penrhyn	191	Dec	Wanstead Park Ponds	106	Dec
Lower Windrush Valley Gravel Pits	170	Feb	Middle Yare Valley	106	Feb
Willen Lake	138	Nov	Brent Reservoir	103	Oct

RINGED TEAL

Callonetta leucophrys

Escape

Native range: South America

One was at Thrapston Gravel Pits in August.

RED-CRESTED POCHARD

Netta rufina

Vagrant and escape[†]

Native range: Europe and Asia

GB max: 94 Nov
NI max: 0

The peak count was similar to that of recent years, given the absence of data for two sites which have formerly held significant numbers of this sedentary species. A total of 36 sites held birds in 1997-98, mainly in southern and eastern

England, though most refer to small numbers of individuals and only six sites held five or more birds. The count at Cotswold WP West was the highest recorded at any site to date by WeBS.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Cotswold WP West	50	49	59	54	62	Jan	55
R Wensum: Fakenham - Gt Ryburgh	41	44	-	-	-		43
Paultons Bird Park	36	0	-	-	-		18
Cotswold WP East	8	20	26	15	12	Nov	16

[†] as site designation does not occur and the 1% criterion is not applied, a qualifying level of 10 has been chosen to select sites for presentation in this report

POCHARD

Aythya ferina

International threshold: 3,500

Great Britain threshold: 440

All-Ireland threshold: 400

GB max: 42,091 Jan
NI max: 19,309 Dec

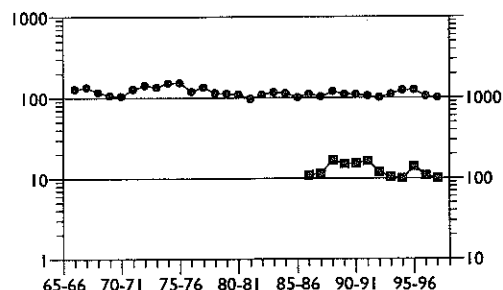


Figure 42. Annual indices for Pochard in GB (circles, left axis) and NI (squares, right axis)

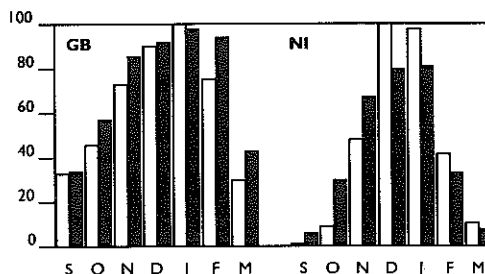


Figure 43. Monthly indices for Pochard in GB and NI (white bars 1997-98; black bars 1992-93 to 1996-97)

The peak count in Great Britain increased markedly from that recorded in the previous winter, and was around average for recent years. However, annual indices, which take account of variations in site coverage between winters, show a different tale, with the 1997-98 figure being the second lowest for over thirty years. Over the last twenty years, the population has shown a degree of fluctuation and the current winter index falls within, albeit at the lower end of, these natural variations.

As for most other species of diving duck, numbers in Northern Ireland are largely

equivalent to counts at Loughs Neagh & Beg. The peak for 1997-98 was the lowest since the mid 1980s and just half the numbers occurring in the late 1980s and early 1990s. Consequently annual indices for the province equalled their lowest value ever.

The most noteworthy high count in 1997-98 was that on the Ouse Washes, where record numbers, perhaps attracted by the high water levels at the site, raised the five year average to above the threshold for international importance. Particularly low counts were made on the Humber Estuary and Rostherne Mere.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Lo. Neagh/Beg	21,332	19,908	28,601	25,230	19,205	Dec	22,855
Ouse Washes	3,087	3,786	3,929	1,413	5,737	Feb	3,590 ▲
Great Britain							
Abberton Reservoir	3,240	2,014	3,247	3,079	2,518	Aug	2,820
Lower Derwent Valley	2,785	5,184	1,020	750	2,350	Jan	2,418
Severn Estuary	1,470	1,681	1,676	1,576	1,248	Jan	1,530
Cotswold WVP East	1,988	1,690	1,394	1,235	1,151	Jan	1,492
Salford Docks	-	-	2,042	816	(3)	Oct	1,429
Walton Lock	-	-	1,400	-	-		1,400
Rostherne Mere	749	1,186	2,200	2,616	152	Feb	1,381
Humber Estuary	2,029	700	1,000	2,503	183	Jan	1,283
Rutland Water	250	2,346	1,776	855	680	Jan	1,181
Middle Tame Valley GP	898	743	1,036	1,899	1,236	Feb	1,162
Loch of Boardhouse	2,090	1,375	789	913	613	Oct	1,156
Loch Leven	536	1,123	1,000	1,692	1,125	Jan	1,095
Loch of Harray	298	1,081	2,070	1,119	506	Nov	1,015
Nene Washes	1,675	2,094	528	185	435	Jan	983
Cotswold WVP West	1,151	1,086	1,163	562	922	Jan	977
Fleet/Wey	949	1,232	913	853	848	Dec	959
Chew Valley Lake	830	730	1,130	865	-		889
Lower Windrush Valley Gravel Pits	952	699	1,331	622	780	Jan	877
Poole Harbour	570	477	946	1,386	298	Jan	735
Martin Mere	513	508	786	1,111	747	Feb	733
Dungeness Gravel Pits	713	801	456	633	836	Dec	688
Chorlton Water Park	1,153	750	417	218	589	Feb	625
Cheddar Reservoir	1,204	689	632	428	140	Sep\Dec	619
Kilconquhar Loch	712	412	646	761	468	Nov	600
Wraysbury Gravel Pits	352	917	488	513	697	Dec	593
Loch of Hundland	160	1,540	308	193	491	Jan	538
Hanningfield Reservoir	367	359	1,084	467	377	Dec	531
Loch Gelly	110	55	475	1,518	490	Oct	530
Alton Water	236	916	826	370	174	Jan	504
Baston/Langtoft Gravel Pits	754	396	573	322	456	Dec	500 ▲
Staines Reservoirs	70	669	1,285	237	231	Dec	498
Thames Estuary	576	472	515	539	207	Oct	462
Fen Drayton Gravel Pit	244	592	975	195	274	Aug	456
Little Paxton Gravel Pits	240	577	520	330	586	Dec	451 ▲
Loch Watten	432	309	296	580	606	Dec	445 ▲

Sites no longer meeting table qualifying levels

Eyebrook Reservoir
Avon Valley (Mid)
Arun Valley

Other sites surpassing table qualifying levels in 1997-98

Shustoke Reservoir	685	Jan	Kenfig Pool	498	Dec
Moorgreen Reservoir	527	Jan	Lee Valley Gravel Pits	461	Jan

1 B. Martin (in litt.)

RING-NECKED DUCK
Aythya collaris

Singles were seen at Rutland Water, Kilconquhar Loch, Timsbury Gravel Pits, Pugney Water, Altofts Ings and Swillington Ings. Birds at Rutland, in

August, and Kilconquhar, in September, were unseasonally early.

Vagrant
Native range: North America

FERRUGINOUS DUCK
Aythya nyroca

One was at Beesands Ley throughout the year, with singles also recorded at Hanningfield

Reservoir and on the North Norfolk Marshes.

Vagrant and escape
Native range: Europe, N Africa and Asia

TUFTED DUCK
Aythya fuligula

GB max: 52,004 Dec
NI max: 19,021 Nov

International threshold: 10,000
Great Britain threshold: 600
All-Ireland threshold: 400

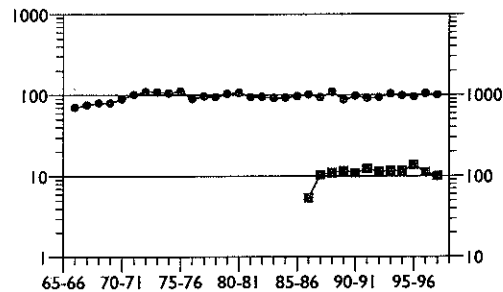


Figure 44. Annual indices for Tufted Duck in GB (circles, left axis) and squares (right axis)

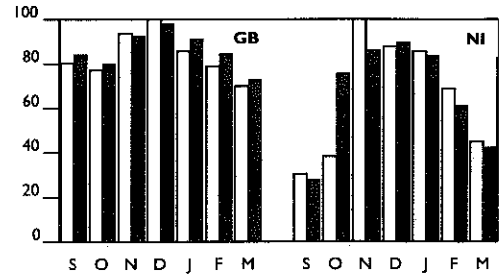


Figure 45. Monthly indices for Tufted Duck in GB and NI (white bars 1997-98; black bars 1992-93 to 1996-97)

Wintering Tufted Duck numbers in Great Britain are the most stable of any wildfowl species: the peak in 1997-98 was, predictably, around average for recent years. By contrast, numbers in Northern Ireland are subject to significant annual variations, influenced strongly by numbers at Loughs Neagh & Beg. Though the relatively low peak count appears to represent a significant fall, it is still well within the bounds of previous fluctuations. Monthly indices suggest that the arrival of birds in Northern Ireland was initially slow, but followed by a large and earlier than usual influx.

The distribution of sites holding important

numbers of Tufted Duck is widespread, though concentrated in lowland areas. As with national counts, numbers at individual sites are more consistent than for many other wildfowl species. Large counts at Wraysbury Gravel Pits, Walthamstow Reservoirs and the Ouse Washes, the last coinciding with increased Pochard numbers at this site also, were thus notable, whilst numbers have increased steadily on the Middle Tame Valley Gravel Pits in recent years. It is also worth highlighting that peak counts from several sites in the table below, predominantly in southeast England, occurred in August, presumably gatherings of moulting birds.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Lo. Neagh/Beg	22,470	21,101	25,340	27,368	18,697	Nov	22,995
Great Britain							
Loch Leven	3,481	3,800	3,000	4,589	3,310	Sep	3,636
Rutland Water	2,500	2,448	3,775	3,159	3,557	Aug	3,088
Abberton Reservoir	2,126	1,803	1,356	3,218	2,268	Sep	2,154
Middle Tame Valley GP	1,411	1,162	2,018	2,384	2,422	Jan	1,879

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Wraysbury Gravel Pits	1,140	1,678	844	1,709	2,868	Dec	1,648
Hanningfield Reservoir	1,624	1,213	1,594	1,600	1,747	Aug	1,556
Staines Reservoirs	977	382	3,332	1,405	1,283	Aug	1,476
Pitsford Reservoir	1,428	1,616	854	2,034	1,129	Feb	1,412
Alton Water	463	1,682	1,331	1,536	783	Jan	1,159
Ouse Washes	1,737	761	811	391	1,165	Feb	973
Loch of Harray	774	1,202	1,625	524	713	Oct	968
Walthamstow Reservoirs	781	868	722	1,083	1,368	Aug	964
Lee Valley Gravel Pits	863	1,069	726	1,163	935	Nov	951
William Girling Reservoir	534	1,331	1,300	738	807	Aug	942
Thames Estuary	914	812	1,055	769	434	Feb	797
South Muskham/North Newark GP	760	782	1,075	740	592	Nov	790
Chasewater	792	855	723	-	-		790
Besthorpe/Girton Gravel Pits	452	635	913	1,122	637	Feb	752
King George V Reservoirs	780	500	678	1,020	700	Aug	736
Windermere	802	682	727	565	-		694
Draycote Water	638	630	925	475	645	Nov	663
Severn Estuary	571	662	1,004	610	382	Feb	646
Cotswold WP East	564	559	711	647	707	Nov	638 ▲
Little Paxton Gravel Pits	382	666	696	852	489	Nov	617 ▲
Dungeness Gravel Pits	583	608	493	558	760	Nov	600 ▲

Nationally Important Northern Ireland Sites

Upper Lough Erne	381	293	349	644	509	Feb	435
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Sites no longer meeting table qualifying levels

Inner Moray Firth
Cotswold WP West

Other sites surpassing table qualifying levels in 1997-98

Loch Watten	941	Dec	Fen Drayton Gravel Pit	679	Dec
Fairburn Ings	774	Aug	Chichester Gravel Pits	639	Jan
Blithfield Reservoir	769	Jul	Lower Windrush Valley Gravel Pits	624	Feb

SCAUP

Aythya marila

GB max: 7,529 Dec
NI max: 3,816 Jan

International threshold: 3,100

Great Britain threshold: 110

All-Ireland threshold: 30*

* 50 is normally used as a minimum threshold

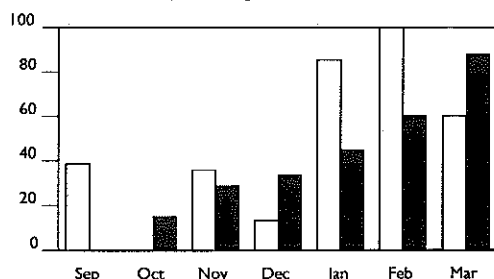


Figure 46. Monthly indices for Scaup in NI (white bars 1997-98; black bars 1992-93 to 1996-97)

Even following the incorporation of late data for 1996-97, elevating the maximum for that winter to almost 6,900 birds, the most recent British peak represents a further notable increase in numbers and, with the exception of that in 1988-89, is the highest total since large numbers frequented the Forth Estuary in the mid 1970s. Conversely, the

peak in Northern Ireland fell slightly, and is more than 20% lower than counts in the mid 1990s. Although numbers in the province were much higher than normal in most months, the count in March, when the peak usually occurs, was very low, perhaps simply as result of the premigratory gathering of birds at Loughs Neagh & Beg falling between the WeBS count dates.

UK totals for December, January and February were consistently around 8,000. The particularly high peak on the Solway in December corresponded with low numbers on Loughs Neagh & Beg, strongly suggesting interchange between these two key sites.

The table below illustrates the large fluctuations that occur at some sites. Whilst some of this will be due to the inherent problems involved in counting sea-ducks, Scaup often occur relatively close inshore, enabling counts to be made with some degree of success; that

record numbers were recorded at the top three sites in Great Britain during WeBS counts is perhaps a demonstration of this.

Whilst the very low counts on the Humber Estuary and the North Norfolk Marshes might at first suggest that counts of sea-ducks at these sites were hampered in 1997-98, counts of Common Scoter and Long-tailed Ducks at the latter were about average. Further, there is a remarkable similarity in the pattern of numbers at both sites, with large numbers in 1995-96 and 1996-97 but a virtual absence in other years. Given the close proximity of these sites, this suggests that counts indicate a genuine change in numbers of wintering Scaup in the area. It is

possible that this phenomenon also affects use of the Forth, the only other important site on the east coast, given the similar pattern of numbers at this site also. Unlike 1996-97, when many additional east coast sites held large numbers, counts at only one further site exceeded 110 birds in 1997-98, despite the large national total.

No such patterns are obvious at other sites, although there is some suggestion of redistribution between the various firths around the Moray. Around 20 years since detailed studies of birds on the Forth, it appears that much remains to be learned about current movements and site use by Scaup.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Lo. Neagh/Beg	2,632	4,934	4,022	4,222	3,671	Feb	3,896
Great Britain							
Solway Estuary	2,084	2,007	(484)	2,341	4,533	Dec	2,741
Loch Indaal	699	969	661	732	1,110	Jan	834
Loch Ryan	350	¹ 622	¹ 916	600	1,249	Dec	600
Forth Est.	135	77	² 753	1,031	145	Jan	381
Loch of Stenness	317	267	361	318	258	Feb	304
Cromarty Firth	³ 381	406	279	115	45	Oct	229
North Norfolk Marshes	4	11	517	482	1	Oct	203
Humber Estuary	32	12	353	594	21	Jan	202
Inner Moray Firth	14	90	120	332	⁴ 416	Jan	180
Loch of Harray	175	194	191	16	208	Oct	157
Irvine to Saltcoats	70	158	160	57	-		111
Dornoch Firth	³ 42	³ 85	219	122	36	Jan	101
Northern Ireland							
Carlingford Lough	877	472	800	404	572	Jan	625
Belfast Lough	103	186	247	243	95	Jan	174

Other sites surpassing table qualifying levels in 1997-98

Clyde Estuary 111 Mar

1 P. Collin (in litt.)

2 SNH funded surveys of SE Scotland (WWT, unpubl. data)

3 RSPB/BP studies (e.g. Stenning 1994)

4 Stenning (1998) RSPB report to Talisman Energy

LESSER SCAUP

Aythya affinis

Vagrant

Native range: North America

A single was at Tophill Low Reservoirs in April.

EIDER

Somateria mollissima

International threshold: 20,000**

Great Britain threshold: 750

All-Ireland threshold: 20*

GB max: 24,579 Oct

NI max: 1,091 Dec

* 50 is normally used as a minimum threshold

Whilst the 1997-98 maximum in Great Britain was the smallest for 10 years, it was only fractionally

below the recent average and was consistent with the relatively high and stable numbers

counted by WeBS over the last six years. The peak in Northern Ireland fell in the middle of the normal range of fluctuations for the same period.

The WeBS count on the Tay Estuary was particularly impressive in view of the considerable problems of counting Eider at this site. The number in Morecambe Bay rose markedly but those on the Forth and Clyde Estuaries fell sharply. Counts at most other sites were generally very similar to their five year means. It should be noted, however, that low counts at some sites in recent years might be better classified as undercounts. Consequently, average counts, particularly for sites on the Ayrshire Coast, may in reality be much higher than indicated in the table. The need to determine what areas constitute a 'site' for Eider and to ensure that coverage is co-ordinated will be one aspect considered in the sea-duck monitoring feasibility study being undertaken by WWT for JNCC.

Also of importance for Eider will be coverage of sites in Orkney and Shetland, particularly if the

suggestion by Wetlands International that these constitute a separate population (Rose & Scott 1997) is adopted by the UK Government.

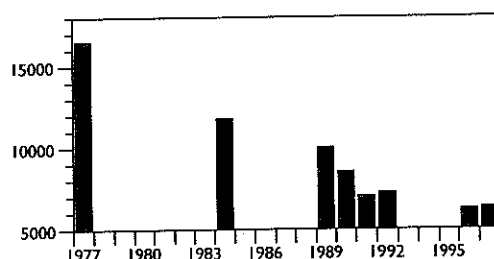


Figure 47. Counts of moulting Eider in Shetland, 1977-1997. Only results from the most thorough surveys are included (from Heubeck 1998)

Biometrics and the apparently sedentary nature of Shetland birds (M. Heubeck 1993, pers. comm.) support this suggestion, whilst the dramatic decline in the last 20 years (Figure 47) from 16,500 to just over 6,000 (Heubeck 1998) gives real cause for concern, irrespective of the population limits.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Tay Estuary ¹	(4)	(4,200)	¹ 12,250	(2,500)	9,500	Jan	10,875
Forth Est.	9,698	8,964	¹ 9,764	9,166	6,937	Sep	8,460
Morecambe Bay	6,886	6,708	4,882	6,073	8,200	Oct	6,550
Clyde Est.	3,450	3,638	4,238	5,779	3,299	Oct	4,081
Ayr to Troon	775	4,332	8,000	705	3,767	Aug	3,516
Ythan Estuary	3,150	2,420	3,700	3,216	3,366	Jul	3,170
Montrose Basin	1,537	2,120	2,100	2,100	2,163	Nov	2,004
Don Mouth to Ythan Mouth	3,500	3,000	107	1,215	2,159	Sep	1,996
Girvan to Turnberry	250	1,797	1,846	2,835	2,645	Dec	1,875
Lindisfarne	2,055	1,233	2,474	1,255	1,209	Sep	1,645
Lo. Ryan	(93)	³ 893	³ 1,606	(26)	(228)	Jan	1,250
Seahouses to Budle Point	1,520	527	1,221	903	671	Mar	968
Lo. Fleet	² 1,363	² 569	(376)	(174)	(33)	Jan	966
Great Cumbrae	679	797	1,077	941	833	Feb	865
Wash	200	231	1,639	1,569	638	Jan	855
Irvine/Garnock Estuary	845	800	1,200	500	-		836
Dee Estuary (Scotland)	620	652	639	1,492	677	Aug	816
Irvine to Saltcoats	1,200	600	600	790	-		798
Northern Ireland							
Belfast Lough	952	695	1,020	448	922	Nov	807
Outer Ards	362	360	255	709	470	Dec	431
Lough Foyle	57	74	83	452	161	Aug	165
Larne Lough	16	61	157	96	39	Sep	74
Strangford Lough	33	26	34	61	52	Mar	41

Internationally or nationally important sites not counted in last five years
Blyth to Newbiggin

Other sites surpassing table qualifying levels in 1997-98
Wemyss Bay to Fairlie 991 Oct

- 1 SNH funded surveys of SE Scotland (WWT, unpubl. data)
- 2 RSPB/BP studies (e.g. Stenning 1994)
- 3 P. Collin (in litt.)

KING EIDER

Somateria spectabilis

Vagrant

Native range: Circumpolar Arctic

A single was on the Forth Estuary in September and October.

LONG-TAILED DUCK

Clangula hyemalis

International threshold: 20,000**

Great Britain threshold: 230†

All-Ireland threshold: +†

GB max: 1,793 Dec

NI max: 20 Dec

This species is the most pelagic in nature of all UK wildfowl and, consequently, the most difficult to monitor accurately. Thus, WeBS annual maxima, which have continued to fluctuate at around 2,000 birds in recent years, are much lower than the known population.

The resumption of dedicated monitoring of sea-ducks in the Moray Firth enabled a much better assessment of this area in 1997-98 (Stenning 1998). However, this is still likely to be a considerable under-count of Long-tailed Duck for the site, since many birds remain out of sight of land during the day and are best recorded as they flight to roosts. In the absence of data collected using this method, there seems little reason to suppose that numbers have declined since regular records of 10,000 birds in the early

1990s, but proper surveys are now of high priority to confirm the true picture. A feasibility study for national surveys of sea-ducks is currently being undertaken by WWT for JNCC.

Counts at most other sites were relatively low in 1997-98 and only one count exceeded 100 birds away from nationally important sites. The species' occurrence in more remote parts of Scotland is illustrated by non-WeBS counts, e.g. 700 in Orkney in October (Murray 1998) and counts from the two Shetland sites (Yell Sound and Hascosay, Bluemull and Colgrave Sounds) in the table below, obtained during dedicated land and boat-based surveys (Heubeck 1998). Proper survey of these areas is essential to determine the true size of the British wintering population.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain†							
Moray Firth	¹ 10,115	¹ 3,742	(660)	(734)	² 2,006	Dec	5,288
Forth Est.	942	1,057	461	975	660	Mar	819
Loch Branahue & Aignish	400	-	-	-	-		400
Hascosay, Bluemull & Colgrave S ³	483	147	-	421	383	Jan	359
St Andrews Bay	⁴ 341	(47)	⁵ 265	106	(29)	Dec	237
South Yell Sound ³	170	-	157	157	270	Dec	189
Water Sound	222	215	137	88	96	Jan	152
Traigh Luskentyre	-	190	13	146	152	Dec	125
Loch of Stenness	243	118	80	108	48	Jan	119
North Norfolk Marshes	137	57	65	3	34	Jan	59
Lindisfarne	80	82	14	13	55	Dec	49
Seahouses to Budle Point	7	13	8	150	20	Feb	40
Loch of Harry	33	68	26	22	21	Dec	34

Internationally or nationally important sites not counted in last five years

Sound of Taransay

Sites no longer meeting table qualifying levels

Widewall Bay

† as few sites in Great Britain are of national importance, a qualifying level of 30 has been chosen to select sites for presentation in this report

¹ RSPB/BP studies, e.g. Stenning (1994)

² Stenning (1998)

³ Heubeck (1998)

⁴ L. Hatton (in litt.)

⁵ SNH funded surveys of SE Scotland (WWT, unpubl. data)

COMMON SCOTER

Melanitta nigra

GB max: 8,565 Dec
NI max: 1 Jan/Mar

International threshold: 16,000

Great Britain threshold: 350

All-Ireland threshold: 40*

* 50 is normally used as a minimum threshold

The British peak in 1997-98 was about average for the last 15 years, but very few have been recorded in Northern Ireland since large numbers in the early 1990s. The table below suggests that this is largely due to a lack of counts of the appropriate sites or in suitable conditions. However, numbers at many UK sites fluctuate considerably both within and between years and it is possible that large numbers of transient birds may simply be missed between WeBS dates, or may no longer use the traditional sites in the province.

Whilst there was a slight increase in numbers at Carmarthen Bay, two years after the

Sea Empress oil spill, aerial surveys revealed numbers remained well below pre-spill levels (Cranswick *et al.* 1998). Interestingly, a large proportion of birds were regularly found in discrete flocks 6-8 km offshore in the east of the bay, in an area little used before the oil spill. A CCW-funded study will conduct benthic surveys of Carmarthen Bay and continue land-based and aerial counts of scoter over the next three years to examine the relationship between bird numbers and distribution and that of their prey.

Apart from a few sites at which counts fluctuate dramatically, most held more or less average numbers of Common Scoter in 1997-98.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Carmarthen Bay	5,012	¹ 17,650	¹ 10,631	¹ 4,323	² 6,240	Jan	8,771
Cardigan Bay ³	4,872	4,755	6,720	(636)	5,220	Jan	5,392
North Norfolk Marshes	276	4,750	5,549	2,070	1,860	Dec	2,901
Forth Est.	1128	⁴ 7,304	² 2,023	2,320	1,205	Mar	2,796
Moray Firth	⁶ 2,197	⁶ 2,988	2,764	(609)	⁷ 2,061	Dec	2,503
St Andrews Bay	⁸ 4,420	1,410	1,810	1,704	2,771	Dec	2,139
Rough Firth/Auchencairn Bay ^R	-	-	-	-	2,000	Sep	2,000 ▲
Colwyn Bay	1,300	380	5,480	11	386	Dec	1,511
Clwyd Estuary	56	100	7,000	0	7	Aug	1,433
Don Mouth to Ythan Mouth	300	2,000	⁹ 1,500	500	525	Sep	965
Earlsferry to Anstruther	-	-	860	-	-		860
Alt Estuary	173	2,000	851	12	811	Jan	769
Wash	70	68	2,002	351	200	Jan	538
Northern Ireland							
Craigalea to Newcastle	-	-	430	-	-		430
Tyrella	-	-	135	-	-		135

Sites no longer meeting table qualifying levels

Dundrum Bay

Other sites surpassing table qualifying levels in 1997-98

Traeth Coch 500 Jan

1 Stewart *et al.* (1996)

2 Cranswick *et al.* (1998)

3 Data from Friends of Cardigan Bay, e.g. Green & Elliott (1993), and RSPB data (Reg Thorpe, in litt.)

4 RSPB/BP studies, e.g. Stenning (1994)

5 SNH funded surveys of SE Scotland (WWT, unpubl. data)

6 Due to some count sections of the Forth being covered on different dates, it is possible that 2,650 birds may have been counted twice. This would result in a 1994-95 figure of 4,654 and a five year mean of 2,182

7 Stenning (1998) RSPB report to Talisman Energy

8 L. Hatton (in litt.)

9 A. Webb (in litt.)

SURF SCOTER

Melanitta perspicillata

Vagrant

Native range: North America

Three were on the Forth Estuary from mid winter onwards, with one of these or another in St

Andrews Bay in November and December. Two were found at Traigh Luskentyre in February.

VELVET SCOTER

Melanitta fusca

GB max: 792 Dec
NI max: 4 Nov

Numbers in the UK in 1997-98 were about normal. Counts since the 1960s are characterised by marked peaks, much closer to the supposed true number of wintering birds in the UK. These peaks do not coincide with increases in other sea-duck in the UK, in particular Common Scoter, which uses similar wintering sites both on the continent and in the UK, suggesting that they

International threshold: 10,000

Great Britain threshold: 30*

All-Ireland threshold: +*

* 50 is normally used as a minimum threshold

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
St Andrews Bay	¹ 1,568	280	1,000	942	520	Nov	862
Moray Firth	² 1,063	² 540	(183)	(81)	³ 804	Dec	802
Forth Est.	510	485	⁴ 1,051	868	528	Mar	688
North Norfolk Marshes	9	101	108	2	18	Oct	48

1 L. Hatton (in litt.)

2 includes data from RSPB/BP studies, e.g. Stenning (1994)

3 Stenning (1998) RSPB report to Talisman Energy

4 SNH funded surveys of SE Scotland (WWT, unpubl. data)

GOLDENEYE

Bucephala clangula

GB max: 16,355 Dec
NI max: 6,107 Nov

International threshold: 3,000

Great Britain threshold: 170

All-Ireland threshold: 110

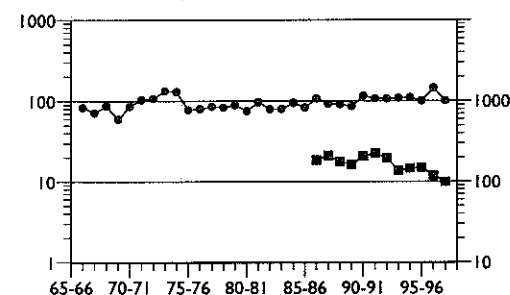


Figure 48. Annual indices for Goldeneye in GB (circles, left axis) and NI (squares, right axis)

The peak in Northern Ireland fell to its lowest level since counts began, and was less than half the number regularly recorded between the mid 1980s and early 1990s, a picture reflected by the annual indices. This general decline is not matched by numbers in Great Britain and is contrary to the large increase in the international population during the same period (Rose 1995).

Loughs Neagh & Beg, which holds the majority of these birds, is at the western limit of the wintering range (Scott & Rose 1997), and it might be speculated that birds have been 'short-stopping' further east as a result of milder winters in recent years. Birds presumably pass through southern Scotland from the Scandinavian breeding grounds *en route* to Northern Ireland,

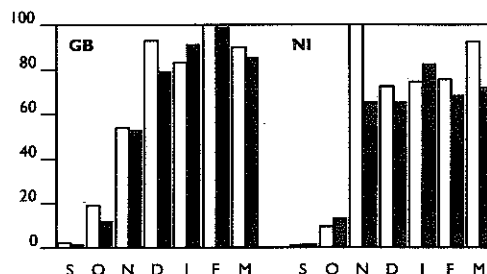


Figure 49. Monthly indices for Goldeneye in GB and NI (white bars 1997-98; black bars 1992-93 to 1996-97)

and, although there was an especially large count at the next most important site, the Forth Estuary, in December, this peak was short lived and there has been no discernable change in numbers in previous years.

Unlike Great Britain, where numbers build steadily as winter progresses, monthly indices for Northern Ireland show a relatively early arrival of large numbers, perhaps suggesting a different 'population' moves into the province. Although numbers then declined rapidly in 1997-98, there was no corresponding increase in the Republic of Ireland. Indeed, numbers recorded during the last four winters by I-WeBS have been relatively small and stable, offering no obvious explanation for the 'missing' birds Loughs Neagh & Beg birds.

It is possible that birds move onto rivers, where they remain largely undetected by WeBS and I-WeBS, and a survey of birds on this habitat is required in order to produce an accurate estimate of the wintering population in Britain and Ireland. Alternatively, a change in food availability at Loughs Neagh & Beg, suggested to be affecting some waterfowl species, may have precipitated this switch of habitats, sites or even countries. However, due to the extreme difficulties in catching sea-ducks, no ringing data exist to help determine whether the population as a whole has genuinely declined, or whether birds have simply moved elsewhere.

Peak numbers in Great Britain were about average for recent winters, although there was a marked early arrival in December, due to a remarkably high count on the Forth Estuary, sufficient to elevate its status to internationally

important, although numbers dispersed rapidly thereafter. Counts at most other key sites matched their respective long-term means with the exception of low counts on the Doon Estuary, Lavan Sands and Belfast Lough, and a record high count at Poole Harbour. Lough Money appears in the list of sites important in an all-Ireland context for the first time, although it had been omitted by accident from previous reports.

Comparing counts made on the River Deveron, northeast Scotland, from the 1940s with data from 1996 and 1997, Watson *et al.* (1998) highlighted the long standing importance of the river for wintering Goldeneye. Numbers were higher during periods of hard frost, indicating the significance of the river when lochs and ponds were frozen. Similar trends were found for Goosander, although the reverse was true for Red-breasted Mergansers and Cormorants.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Lo. Neagh/Beg	10,085	6,712	9,793	8,081	5,587	Nov	8,052
Forth Est.	2,771	2,369	2,125	2,892	4,864	Dec	3,004 ▲
Great Britain							
Inner Moray Firth	² 552	² 757	579	903	³ 895	Jan	737
Tweed Estuary	540	498	617	804	570	Jan	606
Girvan to Turnberry	100	700	854	672	315	Mar	528
Clyde Est.	511	439	584	562	509	Dec	521
Abberton Reservoir	178	431	488	839	426	Feb	472
Doon Estuary	408	490	607	505	118	Feb	426
Morecambe Bay	565	379	504	329	310	Dec	417
Rutland Water	401	448	366	427	424	Feb	413
Humber Estuary	260	359	331	558	287	Jan	359
Loch Leven	468	310	300	314	301	Jan	339
Windermere	409	331	223	296	-		315
R Tweed: Kelso to Coldstream	225	369	314	268	334	Nov	302
Blackwater Estuary	301	254	289	353	228	Jan	285
Hornsea Mere	175	386	-	-	(117)	Mar	281
Kilconquhar Loch	136	370	167	322	253	Feb	250
Poole Harbour	132	201	220	232	405	Feb	238
Lavan Sands	204	465	250	120	86	Mar	225
Loch of Stenness	247	191	191	259	222	Jan	222
Fleet/Wey	243	136	175	254	248	Dec	211
Loch of Skene	250	150	160	202	238	Jan	200
Irvine to Saltcoats	164	150	340	140	-		199
North Norfolk Marshes	135	264	182	218	124	Dec	185
Tay Estuary	121	157	208	251	155	Feb	178
Northern Ireland							
Belfast Lough	544	977	549	400	259	Nov	546
Strangford Lough	157	396	216	192	302	Dec	253
Larne Lough	152	200	297	284	238	Mar	234
Carlingford Lough	143	154	150	257	200	Jan	181
Upper Lough Erne	96	104	149	161	91	Feb	120
Lough Money	101	119	116	136	85	Feb	111 ▲

Sites no longer meeting table qualifying levels
Solway Estuary

Cromarty Firth

Other sites surpassing table qualifying levels in 1997-98

Dornoch Firth 216 Feb
Loch of Strathbeg 204 Oct

Loch Watten 185 Feb

1 SNH funded surveys of SE Scotland (WWT, unpubl. data)

2 includes data from RSPB/BP studies, e.g. Stenning (1994)

3 Stenning (1998) RSPB report to Talisman Energy

HOODED MERGANSER

Lophodytes cucullatus

Escape

Native range: North America

One was at Barnstone Pools during late summer.

SMEW

Mergus albellus

International threshold: 250

Great Britain threshold: 2*

All-Ireland threshold: +*

GB max: 300 Jan

NI max: 1 Jan-Mar

* 50 is normally used as a minimum threshold

As was to be expected during a mild winter, numbers in 1997-98 did not reach the same heights as during the two previous and much colder years. However, it appears that some 'tradition' of wintering in Britain was established in just this short time as numbers in 1997-98 remained higher than normal.

A greater disposition to use British wintering sites is demonstrated in the table below, with counts at both Wraysbury and Lee Valley Gravel Pits particularly remarkable in view of the mild conditions. Indeed, the former represents the highest count at an individual site by WeBS; the only other counts to have exceeded 50 were at

Abberton Reservoir and Besthorpe/Girton Gravel Pits, both during the hard winters of the early 1960s. In addition, three sites feature for the first time in the list of those for which the five year peak mean exceeds the 1% threshold (and Trinity Broads was inadvertently missed from the previous report). The traditional use of sites is perhaps best illustrated by the regular occurrence at Loch of Strathbeg in Northeast Grampian. This site is clearly not simply receiving birds pushed out from the southern Baltic or The Netherlands, the main centres of population during the winter; perhaps these birds arrive using a more direct route from their northern breeding grounds?

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Wraysbury Gravel Pits	29	9	30	43	61	Jan	34
Dungeness Gravel Pits	33	25	31	16	18	Jan	25
Lee Valley Gravel Pits	3	3	3	31	23	Jan	13
Rutland Water	7	15	12	14	18	Jan	13
Fen Drayton Gravel Pit	1	4	11	22	15	Feb	11
Thorpe Water Park	3	5	20	11	13	Feb	10
Earls Barton Gravel Pits	5	5	7	13	15	Feb	9
Twyford Gravel Pits	3	2	10	13	11	Feb	8
Eyebrook Reservoir	10	4	3	12	5	Dec	7
Chew Valley Lake	4	2	7	14	-		7
Cotswold WVP West	1	3	10	10	8	Feb	6 ▲
Eglwys Nunydd Reservoir	2	3	6	12	7	Feb	6 ▲
Bedfont/Ashford Gravel Pits	0	-	4	16	5	Feb	6
Loch of Strathbeg	5	4	7	9	5	Feb	6
Langtoft West End Gravel Pits	6	4	8	6	2	Jan	5
Trinity Broads	-	-	8	-	2	Dec	5 ▲
Pitsford Reservoir	2	1	11	9	2	Dec	5 ▲
Croxall Pits	0	0	11	14	0		5

Internationally or nationally important sites not counted in last five years

Staines Moor Gravel Pits

Other sites surpassing table qualifying levels in 1997-98

Barton Pits	10	Feb	Chichester Gravel Pits	5	Jan/Feb
Seaton Gravel Pits	9	Jan/Feb	Little Paxton Gravel Pits	5	Jan
Fairburn Ings	8	Feb	Middle Tame Valley Gravel Pits	5	Jan
Clifford Hill Gravel Pits	6	Feb			

RED-BREASTED MERGANSER

Mergus serrator

GB max: 4,270 Mar

NI max: 609 Dec

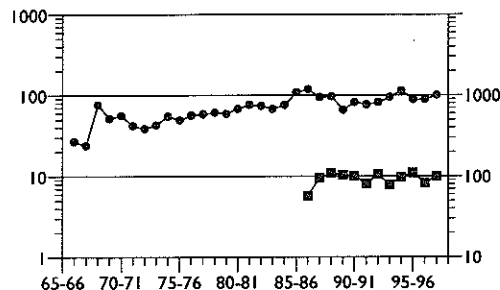


Figure 50. Annual indices for Red-breasted Merganser in GB (circles, left axis) and NI (squares, right axis)

The peak British count was very similar to that in the previous two winters, although annual indices suggest there was a small increase in 1997-98 to near record levels for the population as a whole. A not dissimilar picture is seen in

International threshold: 1,250

Great Britain threshold: 100

All-Ireland threshold: 20*

* 50 is normally used as a minimum threshold

Northern Ireland, with counts around normal but index values suggesting a slight rise.

Such increases are not readily explained by counts at the important sites. On the contrary, the peak count on the Inner Moray Firth was one of the lowest, even with dedicated counts of sea-duck in the Moray area. This species is normally found very close to the shoreline, enabling counts to be made with relative ease, and the genuine decline in numbers may be linked to the suspected decrease in fish stocks at this site. The same surveys recorded exceptionally high numbers on the adjacent Cromarty which may explain at least part of the difference on the Inner Moray. The most notable counts elsewhere were large totals at both Montrose Basin, elevating its status to nationally important, and at Lough Foyle, the highest at that site since WeBS began.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Inner Moray Firth	¹ 3,509	¹ 1,544	(163)	706	³ 239	Dec	1,500
Great Britain							
Forth Est.	348	1,053	665	715	675	Sep	691
Duddon Estuary	365	538	424	382	394	Sep	421
Poole Harbour	366	375	448	333	502	Mar	405
Fleet/Wey	417	245	329	344	440	Mar	355
Morecambe Bay	283	311	297	323	312	Dec	305
Lavan Sands	² 380	159	² 288	³ 330	249	Sep	281
Langstone Harbour	127	201	419	182	199	Nov	226
Cromarty Firth	¹ 347	179	116	193	³ 508	Dec	287
Clyde Est.	109	127	292	230	186	Mar	189
Loch Indaal	259	167	172	159	157	Aug	183
Chichester Harbour	129	176	120	94	184	Mar	141
Irvine to Saltcoats	90	131	150	135	-		127
Irvine/Garnock Estuary	101	87	176	118	-		121
Montrose Basin	45	79	220	52	204	Jun	120 ▲
Exe Estuary	166	95	114	67	133	Mar	115
North Norfolk Marshes	77	84	141	166	102	Nov	114
Wash	98	74	104	132	109	Jan	103 ▲
Loch Branahue & Aigrish	100	-	-	-	-		100
Northern Ireland							
Strangford Lough	217	264	486	276	191	Dec	287
Larne Lough	174	295	331	201	171	Mar	234
Belfast Lough	144	265	180	93	270	Nov	190
Lough Foyle	30	39	197	130	296	Aug	138
Craigalea to Newcastle	-	-	62	-	-		62
Outer Ards	54	32	34	65	50	Dec	47
Lo. Neagh/Beg	101	33	32	27	23	Aug	43
Carlingford Lough	24	25	29	36	44	Feb	32
Tyrella	-	-	21	-	-		21

Sites no longer meeting table qualifying levels

Loch Ryan
Bann Estuary

Dundrum Bay
Loch Fleet

Other sites surpassing table qualifying levels in 1997-98

Solway Estuary 181 Jan Bann Estuary 24 Dec
Portsmouth Harbour 107 Jan

- 1 RSPB/BP studies, e.g. Stenning (1994)
- 2 data from CCW
- 3 Stenning (1998) RSPB report to Talisman Energy

GOOSANDER

Mergus merganser

GB max: 3,628 Feb
NI max: 1 Dec/Jan/Mar

International threshold: 2,000
Great Britain threshold: 90
All-Ireland threshold: +*

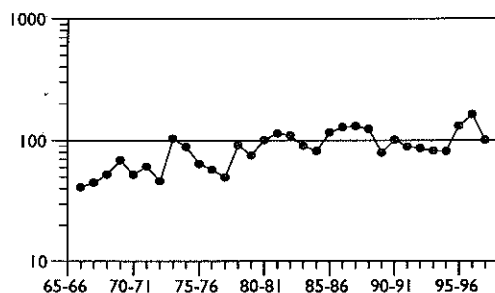


Figure 51. Annual indices for Goosander in GB

Both the peak count and annual index values for Goosander dropped markedly, as expected, as a result of mild weather in 1997-98 following two cold winters. Like Smew, however, there is some suggestion that a number of birds continued to spill into Britain from the continent, with 1997-98 counts remaining higher than normal despite the mild conditions, perhaps having become accustomed to wintering further west.

At only a handful of nationally important sites did 1997-98 peak counts show marked deviation from the five year mean. Most notable are the continuing low numbers on the Inner Moray Firth, coinciding with low numbers of Cormorant and Red-breasted Mergansers also. The Sea Mammal Research Unit have recorded a decline in seal numbers in the Moray since 1993 (P. Thompson pers. comm.), strongly implicating a decline in fish stocks affecting all of these species.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Inner Moray Firth	1341	595	559	65	8	Dec	314
Tay Estuary	186	209	277	225	240	Aug	227
Loch Garten/Mallachie	226	201	-	-	-		214
Lower Derwent Valley	155	127	173	298	182	Feb	187

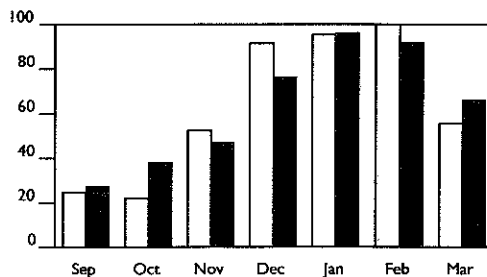


Figure 52. Monthly indices for Goosander in GB (white bars 1997-98; black bars 1992-93 to 1996-97)

Numbers were also down on the River Tweed and Hirsell Lake. The latter is used primarily as a roost site, and low numbers resulted simply from the absence of roost counts (high numbers in previous years have been recorded during dawn counts). However, Hirsell Lake attracts birds from the Tweed and thus, whilst low counts at both sites may suggest a genuine drop in numbers in the area, comprehensive surveys of the river system and or key roosts is necessary to determine the true picture. Numbers at Loch Lomond continued to increase in 1997-98 to such a level that the site attained nationally important status. The single bird in Northern Ireland frequented the BP Pools of Belfast Lough. Some unusual plumage features initially indicated it may have been of the North American race, although closer examination showed this not to be the case (Garner 1999).

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Hirsel Lake	-	172	180	210	(13)	Nov	187
Eccup Reservoir	125	141	178	163	163	Feb	154
R Tweed: Kelso to Coldstream	119	153	149	158	84	Nov	133
Chew Valley Lake	184	50	208	80	-		131
Hamilton Low Parks	90	-	-	-	170	Nov	130
Loch Lomond	7	11	198	184	226	Jul	125 ▲
Solway Estuary	200	88	40	134	103	Jan	113
Tynninghame Estuary	121	143	93	98	107	Jul	112
Montrose Basin	71	77	156	89	136	Aug	106
Hay-a-Park Gravel Pit	69	24	120	209	-		106
Castle Howard Lake	98	-	-	-	-		98
Eversley Cross/Yateley Gravel Pits	59	38	165	135	74	Jan	94 ▲

Internationally or nationally important sites not counted in last five years

Spey Mouth

Sites no longer meeting table qualifying levels

Cults Reservoir

1 RSPB/BP studies, e.g. Stenning (1994)

RUDDY DUCK

Oxyura jamaicensis

Naturalised introduction†

Native range: North and South America

GB max: 3,585 Dec
NI max: 28 Feb

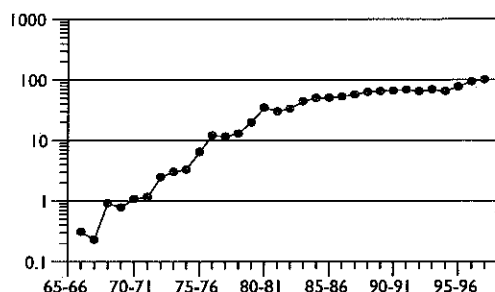


Figure 53. Annual indices for Ruddy Duck in GB

The proposal to investigate wide-scale control of Ruddy Ducks in the UK in order to conserve the globally threatened White-headed Duck has proved controversial in some quarters and a small number of observers opposed to this work have declined to submit counts of this species. Whilst attempts have been made to fill the gaps, this has not always been achieved, and consequently, our understanding of this species at a national level has been confounded to an extent.

Whilst the peak total (in December) fell considerably in 1997-98, it does not include counts from the most important site (two supplementary counts were made in 1997-98, in November and January, enabling a figure to be included in the table below). Thus, it is likely that the real national total was similar to that of the

previous winter, but this conclusion remains speculative given the degree to which site totals fluctuate, especially as a result of regional movements in response to changing weather conditions. Annual indices, designed specifically to compensate for missing data, suggest that the population is still increasing, although the inclusion of the missing data would allow greater confidence that these values accurately track the true population.

Continental records of Ruddy Ducks are highly correlated with the increase in the UK population, with over 900 records of 1,500 birds in 19 Western Palearctic countries between 1965 and 1996 (Hughes *et al.* 1999). Birds have been recorded as widely as Iceland, Finland, Morocco and Turkey, the last particularly worryingly given its importance as a stronghold for White-headed Ducks. Records of birds in Spain continue, with at least 30 birds arriving in January 1997 during a cold spell in northwest Europe. Between 1965 and 1996, at least 85 (but possibly as many as 175) Ruddy Ducks were seen in Spain, 68 of which (46 males and 22 females) were shot, as well as 51 Ruddy x White-headed Duck hybrids, all of which were shot.

The conservation arguments for the control of Ruddy Ducks are overwhelming and the UK Government recently announced the move to phase 2 of the control programme, with a trial of

methods currently proceeding in three regions of the country. Consequently, it is hoped that all observers will submit counts of this species through WeBS so that its efficacy can be monitored properly at a national level, and so that the decision over whether or not to proceed with phase 3 control can be made with a full understanding of its effects. Other countries in Europe have also started to act, including France which has established a working group and has controlled 22 birds to date.

White-headed Duck numbers in Spain now exceed 1,300 and are increasing at a rate of 22% per year. Recent genetic work has shown White-headed Ducks and Ruddy Ducks to be two different species, separated for 2-5 million years.

The characteristic large fluctuations at individual sites render an assessment of the most recent year's counts alone unwise. Site averages and the sites' positions in the table below have changed little since 1993-94, suggesting a degree

of stability at the traditional strongholds. Notable exceptions are large increases on the Middle Tame Valley (rising from 9th to 4th) and at Blagdon Lake (16th to 5th). It is surprising that the latter has only recently increased in importance, in view of its close proximity to Chew Valley Lake which has long been one of the most important sites. The majority of changes have been at the lesser sites, with increases at many holding 100 or fewer birds, including five added to the table below in 1997-98, suggesting the continuing growth in the population is accommodated by expansion onto new sites. By comparison, there have been obvious declines at only three sites: Swithland Reservoir (5th to 21st place), Belvide Reservoir (6th to 30th) and Woolston Eyes (15th to 35th). Although the peak count at Loughs Neagh & Beg dropped to the lowest level since 1989-90, this site, too, has shown an overall increase over the period.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Chew Valley Lake	552	362	851	789	700	Nov	651
Rutland Water	304	311	231	1,078	727	Feb	530
Blithfield Reservoir	578	602	380	566	327	Jan	491
Middle Tame Valley GP	133	192	226	501	457	Dec	302
Blagdon Lake	155	409	145	296	213	Feb	244
Eyebrook Reservoir	442	73	151	239	275	Dec	236
Hilfield Park Reservoir	107	96	190	306	186	Dec	177
Pitsford Reservoir	234	131	154	87	98	Jan	141
Stanford Reservoir	104	86	107	221	181	Jan	140
Hanningfield Reservoir	73	207	174	76	162	Nov	138
Swillington Ings	211	238	130	82	3	Jun	133
Fairburn Ings	39	144	150	83	243	Aug	132
Farmwood Pool	94	123	133	99	61	Oct/Nov	102
Llyn Traffwl	74	50	89	156	122	Sep	98
Attenborough Gravel Pits	81	70	49	265	18	Feb	97
Abberton Reservoir	76	77	135	88	99	Sep	95
Clumber Park Lake	73	118	100	111	60	Feb	92
Holme Pierrepont GP	36	73	101	134	99	Oct	89
Llyn Penrhyn	86	103	-	71	92	Dec	88
Alaw Reservoir	78	91	58	18	133	Dec	76
Swithland Reservoir	145	46	73	12	67	Mar	69
Kilconquhar Loch	8	66	62	85	62	Sep	57
Knight/Bessborough Reservoirs	57	32	28	126	32	Jan	55
Worsborough Reservoir	37	65	90	29	-		55
Rostherne Mere	48	6	38	152	24	Sep	54
Colwick Country Park	34	13	88	68	41	Dec	49
Hollowell Reservoir	27	169	38	7	3	Jan	49
Pugney Water	20	12	50	65	94	Nov	48
Staines Reservoirs	19	38	67	112	3	Feb	48
Belvide Reservoir	24	110	7	31	(2)	Aug	43
Aqualate Mere	34	20	60	73	25	Mar	42 ▲
Cropston Reservoir	3	3	33	156	16	Mar	42
Tophill Low Reservoirs	25	27	35	51	56	Dec	39
Wath Main Ings	30	20	56	25	42	Mar	35
Woolston Eyes	25	42	44	40	23	Mar	35 ▲

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Ellesmere Lakes	32	32	77	22	11	Nov	35
King George VI Reservoir	0	0	92	20	50	Dec	32 ▲
Thoresby Lake	25	16	-	20	63	Jan	31 ▲
Sutton/Lound Gravel Pits	-	19	45	25	36	Mar	31 ▲
Avon Valley (Mid)	41	28	44	23	15	Jan	30

Northern Ireland

Lo. Neagh/Beg	59	45	73	89	28	Feb	59
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Sites no longer meeting table qualifying levels

Combermere

Other sites surpassing table qualifying levels in 1997-98

Mersey Estuary	55	Dec	Hogganfield Loch	35	Dec
Cotswold WP West	42	Feb	Moorgreen Reservoir	34	Nov
Houghton Green Pool	42	Oct	Bolton-on-Swale Gravel Pits	34	Nov
Pirton Pool	42	Sep	Dungeness Gravel Pits	33	Nov
Doddington Pool	40	Aug	Cefni Reservoir	30	Feb
Anglers Country Park Lake	39	Nov			

† as site designation does not occur and the 1% criterion is not applied, a qualifying level of 30 has been chosen to select sites for presentation in this report

l B. Hughes, unpubl. data

WATER RAIL

Rallus aquaticus

International threshold:	?
Great Britain threshold:	?†
All-Ireland threshold:	?†

GB max: 345 Dec

NI max: 2 Feb

The peak count in 1997-98 was similar to that of the previous winter, and fell in the middle of the range of values for recent years. The peak count in December immediately followed the first and only real cold spell of the winter which may simply have resulted in birds being more conspicuous; counts for the remainder of the winter were much lower and relatively constant.

The difficulties in monitoring this species make interpretation of any variation in counts at individual sites problematic. It is interesting, however, to note that the table of key sites remains unchanged since the last report with the sole exception of the loss of Poole Harbour (Rye Harbour & Pett Level was previously omitted by accident).

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Somerset Levels	24	36	46	42	29	Dec	35
Grouville Marsh	3	50	40	20	20	Oct/Nov/Jan	27
Pannel Valley	50	-	-	-	-		25
Lower Derwent Valley	6	12	29	26	27	Dec	20
Stodmarsh	14	28	30	9	14	Nov	19
Fleet Pond	6	12	15	20	20	Nov-Jan	15
Christchurch Harbour	21	8	-	-	-		15
Longueville Marsh	20	10	20	10	5	Oct/Jan/Feb	13
Leighton Moss	-	-	15	18	25	Jan	12
North Norfolk Marshes	7	15	23	6	11	Nov	12
Rye Harbour/Pett Level	2	13	5	40	2	Nov	12 ▲
Knockshinnoch Lagoons	-	4	28	4	9	Dec/Feb	11
Fleet/Wey	21	8	10	9	4	Dec/Mar	10

Sites no longer meeting table qualifying levels

Poole Harbour

Other sites surpassing table qualifying levels in 1997-98

Doxey Marshes	11	Jun/Jul	Loe Pool	10	Feb
Slapton Ley	11	Sep	Chichester Harbour	10	Jan
Conwy Estuary	10	Dec			

SPOTTED CRAKE

Porzana porzana

GB max: 2 Jun/Sep
NI max: 0

International threshold: ?
Great Britain threshold: ?†
All-Ireland threshold: ?†

Transient or possibly breeding birds were recorded on the Dee Estuary (England/Wales),

Doxey Marshes and North Norfolk Marshes.

MOORHEN

Gallinula chloropus

GB max: 11,843 Feb
NI max: 266 Nov

International threshold: ?
Great Britain threshold: ?†
All-Ireland threshold: ?†

The peak British total had risen in each of the previous four winters, but fell slightly in 1997-98. This pattern is partly explained by the changing winter weather during this period, with birds featuring more prominently in WeBS counts during cold weather, perhaps as a result of congregating at ice-free sites. An explanation for the general increase over the period, however, might be that observers have become more aware of this ubiquitous species which previously attracted little attention, and perhaps are more skilled at locating and counting Moorhen after five years in the WeBS scheme.

There were no big surprises in 1997-98 counts at the key sites, although large increases over the five year period are notable at Martin

Mere, Lower Derwent Valley, Burry Inlet and River Wye, and will have contributed to the national picture.

By contrast, there has been a steady fall in numbers in Northern Ireland, strongly influenced by low counts at Loughs Neagh & Beg. Although low numbers of several diving ducks were recorded at the same site in 1997-98, there is no obvious link between the markedly different ecologies of Moorhen and these species to suggest a link. It may be that enthusiasm for counting this species still differs at individual sites, particularly where WeBS counts are that much more demanding due to problems of access, viewing and the sheer numbers of other species present.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Severn Estuary	705	(13)	(24)	829	(21)	Sep	767
Martin Mere	369	360	665	739	710	Jan	569
Lower Derwent Valley	41	220	367	816	680	Mar	425
Somerset Levels	228	286	356	253	250	Feb	275
North Norfolk Marshes	281	234	332	179	334	Nov	272
Ouse Washes	182	269	241	124	201	Mar	203
Lee Valley Gravel Pits	131	253	194	237	197	Oct	202
Arun Valley	68	221	161	234	190	Mar	175
Durham Coast	121	137	176	175	254	Nov	173
Chew Valley Lake	160	155	180	125	-		155
Thames Estuary	48	116	234	219	144	Sep	152
Chichester Gravel Pits	88	129	179	167	176	Nov	148
Lancaster Canal	143	128	147	106	207	Jan	146
Leighton Moss	150	-	160	170	95	Nov/Jan	144
Burry Inlet	24	68	121	220	281	Nov	143
Blackwater Estuary	102	125	113	181	165	Mar	137
Bewl Water	80	200	196	119	60	Mar	131
Rutland Water	97	163	178	71	119	Aug	126
R. Wye: Bakewell to Haddon	58	50	153	118	160	Feb	108 ▲
Sutton/Lound Gravel Pits	-	85	104	120	106	Feb	104 ▲
North Warren/Thorpness Mere	147	129	70	80	80	Jan	101
Pitsford Reservoir	42	159	163	116	21	Sep	100 ▲

Northern Ireland

Lo. Neagh/Beg	618	266	265	132	137	Sep	284
Upper Lough Erne	100	174	70	164	39	Feb	109
Broad Water Canal	25	33	-	83	71	Mar	53
Portavo Lake	47	42	43	-	-		44

Internationally or nationally important sites not counted in last five years

Wantsum Marshes	Little Stour Valley
Ash Levels	

Other sites surpassing table qualifying levels in 1997-98

Tring Reservoirs	148	Sep	Tullynagee Lough	43	Oct
Fairburn Ings	112	Aug	Upper Quoile	31	Feb

† as no thresholds for national importance have been set, qualifying levels of 100 and 30 have been chosen to select sites in Great Britain and Northern Ireland, respectively, for presentation in this report

COOT

Fulica atra

GB max: 102,507 Nov
NI max: 6,645 Nov

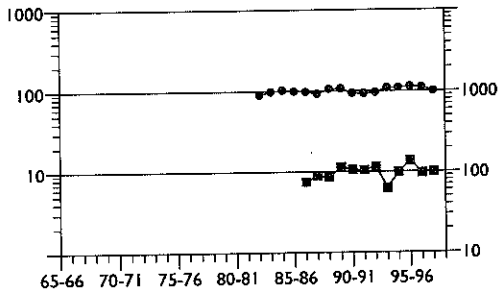


Figure 54. Annual indices of Coot in GB (circles, left axis) and NI (squares, right axis)

Annual indices and the national total were the lowest in Great Britain during the last five winters, although both remain around average for the last 15 years. Peak counts in Northern Ireland, in effect, match that of Loughs Neagh & Beg, which has held around 90% of the total in recent winters. As in Great Britain, the 1997-98 peak and annual index value fell in the middle of the normal range of variation.

The 1997-98 maxima at most key sites were around average, and there were no obviously large counts as have been noted at some in recent years. The most significant count was at Abberton Reservoir, where numbers continued the recent decline to the lowest level since counts began in the early 1980s, although numbers at this site are prone to large fluctuations (Figure 55). The magnitude of these variations is greater than for the national total, suggesting that these birds are redistributing within Great Britain. The lack of any obvious correlation with nearby sites, e.g. Alton Water,

International threshold: 15,000
Great Britain threshold: 1,100
All-Ireland threshold: 250

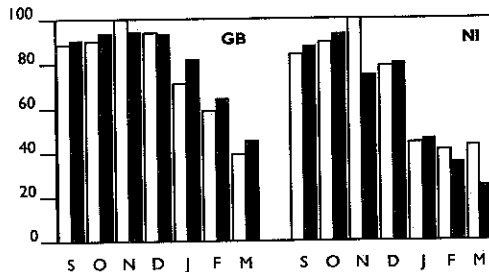


Figure 55. Monthly indices for Coot in GB and NI (white bars 1997-98; black bars 1992-93 to 1996-97)

suggests any movements are fairly broad scale.

The most notable counts at other sites were continued high totals at Lee Valley Gravel Pits, and consistent increases in recent years at Lower Windrush Valley Gravel Pits and Fen Drayton Gravel Pits, Stanford Reservoir and Loch Leven, the last attaining national importance as a result. The most obvious drop was at Little Paxton Gravel Pits, particularly marked following the recent increase.

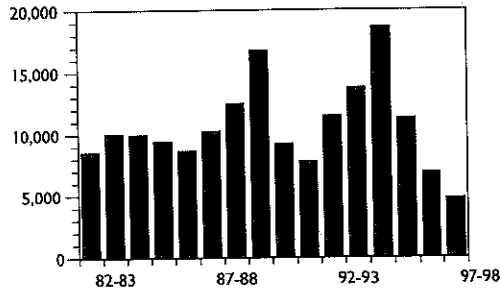


Figure 56. Peak numbers of Coot at Abberton Reservoir

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Abberton Reservoir	13,768	18,632	11,319	6,897	4,784	Sep	11,080
Rutland Water	3,036	4,165	6,184	3,935	4,663	Dec	4,397
Cotswold WP West	3,357	4,119	3,946	3,110	3,560	Nov	3,618
Hanningfield Reservoir	1,941	3,300	4,540	4,986	3,181	Nov	3,590
Cotswold WP East	1,953	2,185	5,199	2,268	2,094	Nov	2,740
Cheddar Reservoir	2,066	1,967	2,381	3,100	2,300	Dec	2,363
Ouse Washes	3,182	2,225	1,755	1,497	3,082	Mar	2,348
Lee Valley Gravel Pits	1,654	2,012	1,812	3,023	2,926	Nov	2,285
Fleet/Wey	2,568	1,931	2,417	2,501	1,562	Nov	2,196
Windermere	1,893	1,660	2,077	2,310	-		1,985
Chew Valley Lake	2,010	1,135	1,880	2,500	-		1,881
Lower Windrush Valley GPs	1,447	1,417	1,802	2,068	2,629	Nov	1,873
Middle Tame Valley GP	1,560	1,497	1,781	2,804	1,196	Jan	1,768
Hornsea Mere	1,722	1,650	-	-	(60)	Mar	1,686
Avon Valley (Mid)	1,664	1,828	1,509	1,571	1,821	Nov	1,679
Alton Water	423	1,427	2,845	1,142	2,135	Dec	1,594
Pitsford Reservoir	1,373	1,961	1,177	1,222	1,310	Oct	1,409
Fen Drayton Gravel Pit	804	987	1,528	1,675	1,709	Dec	1,341
Sutton/Lound Gravel Pits	-	1,145	1,360	1,716	1,072	Nov	1,323
Wraysbury Gravel Pits	1,345	1,318	1,126	1,382	1,385	Dec	1,311
Stanford Reservoir	610	1,430	1,200	1,270	1,865	Dec	1,275
Fairburn Ings	751	1,013	1,784	1,572	959	Jul	1,216
Loch Leven	995	802	1,020	1,546	1,551	Sep	1,183 ▲
Little Paxton Gravel Pits	757	850	1,314	2,173	485	Oct	1,116
Northern Ireland							
Lo. Neagh/Beg	3,134	7,222	8,788	8,262	5,890	Nov	6,659
Strangford Lough	515	307	254	378	407	Nov	372
Upper Lough Erne	228	244	166	441	412	Feb	298

Internationally or nationally important sites not counted in last five years

Ballysaggart Lough

Other sites surpassing table qualifying levels in 1997-98

Blithfield Reservoir	1,717	Aug	Dungeness Gravel Pits	1,166	Nov
Draycote Water	1,430	Nov	Alaw Reservoir	1,159	Sep
Lower Derwent Valley	1,203	Feb	Thrapston Gravel Pits	1,134	Oct

CRANE

Scarce

Grus grus

A group of up to six birds frequented Heigham Holmes between November and February.

OYSTERCATCHER

Haematopus ostralegus

International threshold: 9,000

Great Britain threshold: 3,600

All-Ireland threshold: 500

GB max: 251,410 Nov

NI max: 17,799 Jan

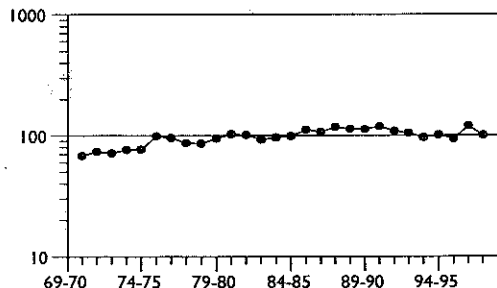


Figure 57. Annual indices for Oystercatcher in UK

In 1997-98 the winter index dropped 17% on the previous year. This may have been, in part, due to the drop in numbers of this species found at several of the internationally and nationally important sites. The Bury Inlet and the Wash, both internationally important sites, saw numbers dip by 38% and 31% respectively on the recent average. Numbers of Oystercatcher at Lavan Sands were also considerably lower than in recent years, with the annual peak being 71% down on the recent average. In contrast peak

numbers on the Ribble Estuary were 77% up on the recent average, whilst those on the Inner Moray Firth and the Duddon Estuary were up by 58% and 45% respectively.

Declines in numbers of Oystercatcher have been linked to low food abundance, particularly in areas where cockles, a major prey item, are commercially farmed. A recent study, using WeBS data, examining changes in the number of Oystercatchers wintering in the Burry Inlet, found that their abundance during winter was not significantly related to the biomass of cockles at the start of the winter, or the biomass landed by the fishery (Norris *et al.* 1998). Abundance was, however, correlated with the number of birds wintering in the UK. Conversely, the abundance of Oystercatchers during spring was positively correlated with the biomass of cockles at the start of the winter and negatively correlated with the amount of cockles landed by the fishery during the winter. The most likely explanation for this is thought to be that birds disperse from the

Burry Inlet earlier in spring in years when the biomass of cockles at the start of the winter is small and/or the amounts landed by the fishery are high.

Studies by Goss-Custard *et al.* (1998) suggested that stable numbers of Oystercatchers on an estuary did not necessarily imply that carrying capacity had been reached. Examining the Exe Estuary, where, since 1976, numbers have fluctuated independently of the increasing numbers of Oystercatchers wintering in Britain as a whole, they found that numbers on the main mussel feeding areas increased even though mussel bed quality remained unchanged, food abundance decreased and disturbance on some important beds increased.

Preliminary estimation of the current East Atlantic Flyway population indicates a significant increase (19%) in numbers since the mid 1980s (Davidson 1998). International thresholds will be revised later in 1999.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Morecambe Bay	48,861	53,869	34,811	57,670	56,511	Nov	50,344
Solway Estuary	33,240	41,344	31,031	(47,729)	34,446	Nov	37,558
Dee Estuary (Eng/Wal)	24,809	26,658	21,800	24,897	25,142	Nov	24,661
Wash	25,382	22,300	(14,233)	(16,363)	17,126	Dec	21,603
Ribble Estuary	9,620	(8,294)	12,048	20,846	28,701	Nov	17,804
Thames Estuary	9,741	(23,142)	12,251	14,425	14,615	Feb	14,835
Burry Inlet	9,188	13,958	20,461	19,067	9,423	Dec	14,419
Great Britain							
Forth Est.	8,509	8,851	6,956	6,826	8,045	Jan	7,837
Duddon Estuary	5,645	6,122	6,046	5,630	9,314	Feb	6,551
Inner Moray Firth	4,962	5,419	(5,178)	5,261	8,334	Jan	5,994
Clyde Est.	4,838	4,796	5,303	5,414	(4,781)	Dec	5,088
Lavan Sands	5,055	5,935	(3,621)	5,780	1,611	Dec	4,595
Carmarthen Bay	5,545	4,558	(2,202)	3,474	3,926	Dec	4,376
Exe Estuary	4,502	4,202	4,733	4,215	3,078	Nov	4,146
Medway Estuary	(4,986)	2,732	(3,704)	3,162	(5,521)	Feb	4,021
Swale Estuary	4,230	3,328	3,122	5,780	3,349	Nov	3,962
Humber Estuary	6,140	3,329	3,029	1,360	4,200	Mar	3,612
Northern Ireland							
Strangford Lough	4,554	6,424	6,091	7,276	6,904	Dec	6,250
Belfast Lough	6,349	5,573	4,814	4,091	6,482	Jan	5,462
Lough Foyle	2,334	1,687	2,590	(3,352)	(2,865)	Nov	2,566
Dundrum Bay	1,524	1,150	1,553	1,660	1,763	Nov	1,530
Outer Ards	1,343	1,454	1,390	1,523	(1,385)	Jan	1,428
Carlingford Lough	873	913	938	(812)	860	Jan	896
South Down	-	-	1,138	-	-		

BLACK-WINGED STILT

Himantopus himantopus

Vagrant

Native range: worldwide distribution

The long-staying individual was recorded on the North Norfolk Marshes in most months.

AVOCET

Recurvirostra avosetta

GB max: 3,859 Dec
NI max: 0

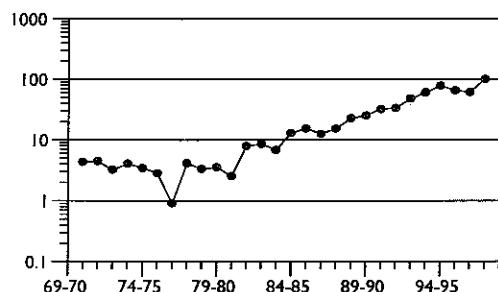


Figure 58. Annual indices for Avocet in UK

Numbers of Avocet continued to rise dramatically, with the 1997-98 winter maximum reaching a new high, and the annual index jumping 68% on the previous year. The peak count is more than three times the population estimate derived from late 1980s/early 1990s data

International threshold: 700

Great Britain threshold: 10*

All-Ireland threshold: +*

* 50 is normally used as a minimum threshold

(Cayford & Waters 1996), whilst three counts of over 3,000 during 1997-98 confirm that the substantial increase is genuine, whilst the international population has also increased (Davidson 1998).

The Alde Complex, the only British site ever to attain internationally important status, held its highest peak in six years, pushing the five year mean still closer to requalifying as internationally important. The majority of nationally important sites also held counts well in excess of their recent averages, most notably Hamford Water (+75%), the Tamar Complex (+177%), North Norfolk Marshes (+132% despite being an incomplete count), Colne Estuary (+104%) and Breydon Water & Berney Marshes, a newly qualified site of national importance (+241%).

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Alde Complex	717	656	744	437	884	Dec	688
Poole Harbour	396	584	505	520	585	Dec	518
Thames Estuary	341	647	367	450	488	Feb	459
Hamford Water	326	418	(249)	299	587	Dec	408
Medway Estuary	285	(498)	(256)	(368)	(200)	Jan	384
Blyth Estuary	403	260	489	242	422	Jan	363
Exe Estuary	331	260	303	339	369	Feb	320
Tamar Complex	254	81	272	301	595	Dec	301
Swale Estuary	218	329	285	(208)	340	Mar	293
North Norfolk Marshes	(160)	194	(41)	(51)	(318)	Mar	256
Wash	121	188	(106)	(83)	196	Feb	168
Colne Estuary	15	139	203	150	214	Jan	144
Deben Estuary	93	79	106	100	102	Jan	96
Breydon Water & Berney Marshes	13	24	97	77	157	Feb	74 ▲
Minsmere	25	115	(2)	(0)	70	Mar	70 ▲
Blackwater Estuary	(11)	60	0	14	24	Mar	25
Abberton Reservoir	0	0	9	0	64	Jan	15
Pagham Harbour	4	8	14	10	12	Jan	10

Other sites surpassing table qualifying levels in 1997-98

Abberton Reservoir	64	Nov	Crouch/Roach Estuary	18	Mar
Humber Estuary	28	Mar	Dengie Flats	15	May
Blackwater Estuary	24	Mar	Pagham Harbour	12	Jan
Orwell Estuary	22	Mar			

BLACK-WINGED PRATINCOLE

Glareola nordmanni

Vagrant

Native range: Central Asia and Africa

One was recorded at Martin Mere in August.

LITTLE RINGED PLOVER
Charadrius dubius

GB max: 288 May
NI max: 0

Peak numbers occurred on spring passage, as birds gathered at key arrival sites. Numbers declined as summer progressed, presumably due to poorer coverage during these months. A small

Sites with 10 or more birds in 1997-98

Table with 3 columns: Site Name, Count, Date. Rows: Croxall Pits (21 Jun), Sutton/Lound Gravel Pits (15 May), Upton Warren (14 Jun), Wath Main Ing (14 Jun).

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

number had already arrived by the count date in March 1998, with two birds at both Portworthy Mica Dam and Stanwick Gravel Pits.

Table with 3 columns: Site Name, Count, Date. Rows: Rutland Water (14 May/Jul), Holme Pierrepont GPs (13 May), Wellington Gravel Pits Gravel Pits (12 Jul).

RINGED PLOVER
Charadrius hiaticula

GB max: 23,163 Aug
NI max: 659 Dec

International threshold: 500
Great Britain winter threshold: 290
Great Britain passage threshold: 300
All-Ireland threshold: 125

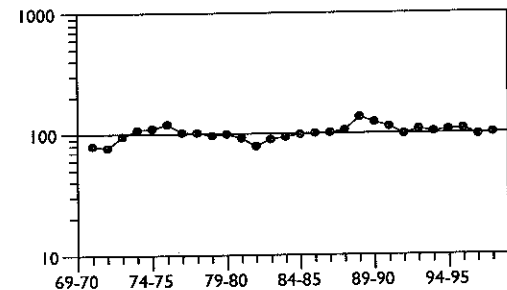


Figure 59. Annual indices for Ringed Plover in UK

In 1997-98, the UK winter index for Ringed Plover rose slightly on the previous year, as did the peak winter count, though it remained below 10,000 birds, representing around one third of the national population. Preliminary results from the national survey of non-estuarine coast suggest that there has been a national decrease in Ringed Plover since the 1984-85 Winter Shorebird Count. Comparison of numbers on coastal sections covered by both surveys revealed a drop from 12,673 to 9,286 (down 27%), with the largest of the statistically significant declines occurring

along the coasts of Strathclyde, Western Isles, Gwynedd, Cornwall, Dumfries & Galloway, Isle of Wight and Fife. However, the peak WeBS Core Count, in autumn, was substantially higher than the 18-19,000 recorded in the previous two years.

Langstone Harbour continued its ascendancy of recent years, reaching international importance, though four sites, Hamford Water, Chichester Harbour, North Uist and the Stour Estuary, all dropped to national importance level. Hamford Water, where numbers of Ringed Plover have steadily declined over the last few years, held a peak 50% below the recent average, and whilst those at Chichester recovered after a steady decline in recent years, there were still insufficient to maintain international importance. The Humber Estuary and Blackwater Estuary both regained national importance status after a year when the average dropped below the qualifying level.

It is notable that counts during passage periods exceeded 500 at 17 sites, numbers that if maintained regularly would qualify the sites as internationally important.

Table with 8 columns: Site Name, 93-94, 94-95, 95-96, 96-97, 97-98, Mon, Mean. Rows: International, Tiree, Thames Estuary, Medway Estuary, South Uist (West Coast), Langstone Harbour.

Great Britain

East Sanday Coast	³ 284	⁴ 712	-	-	¹ (282)	Jan	498
Hamford Water	(252)	641	(546)	482	281	Mar	488 ▼
Colne Estuary	273	382	707	(306)	(568)	Dec	483
North Norfolk Marshes	329	411	371	775	405	Mar	458
North Uist (West Coast)	² 808	333	-	-	¹ 244	Jan	462 ▼
Chichester Harbour	615	542	435	204	483	Nov	456 ▼
Morecambe Bay	342	473	401	528	515	Jan	452
Stour Estuary	382	502	306	597	(87)	Feb	447 ▼
Solway Estuary	489	553	321	223	214	Feb	360
Wash	330	375	390	(147)	311	Jan	352
Orwell Estuary	643	349	(411)	226	63	Mar	338
Forth Est.	400	291	413	259	317	Dec	336
Jersey Shore	302	212	446	(253)	264	Feb	306
Humber Estuary	229	336	316	249	382	Nov	302 ▲
Blackwater Estuary	220	474	(242)	144	337	Dec	294 ▲

Northern Ireland

Outer Ards	562	389	(317)	575	350	Dec	469
South Down	-	-	422	-	-		422
Strangford Lough	218	313	253	324	134	Jan	248
Belfast Lough	214	183	(135)	133	137	Dec	167
Carlingford Lough	(376)	64	85	(131)	86	Dec	148
Kilkeel To Lee Stone Point	-	-	132	-	-		132

Other sites surpassing table qualifying levels in 1997-98

Pagham Harbour	300	Mar	Thanet	297	Nov
Swale Estuary	301	Feb			

Internationally or nationally important sites not counted in last five years

South Ford
Traighear

Sites surpassing passage threshold in Great Britain in 1997-98

Humber Estuary	3,664	Aug	Langstone Harbour	604	Aug
Ribble Estuary	2,350	May	Forth Est.	571	Aug
Solway Estuary	1,876	May	Stour Estuary	502	Sep
Wash	1,570	Aug	Dee Estuary (Eng/Wal)	467	Aug
North Norfolk Marshes	1,460	Aug	Duddon Estuary	430	Sep
Mersey Estuary	1,428	Aug	Blackwater Estuary	422	Aug
Pagham Harbour	1,035	Aug	Taw/Torridge Estuary	416	Aug
Chichester Harbour	1,007	Aug	Medway Estuary	366	Oct
Severn Estuary	933	Aug	Eden Estuary	350	Aug
Swale Estuary	929	Aug	Ayr to Troon	329	Aug
Morecambe Bay	862	Sep	Hamford Water	319	Sep
Tees Estuary	851	May	Swansea Bay	315	Aug
Thames Estuary	774	Aug/Oct	Colne Estuary	312	Oct
Exe Estuary	612	Aug			

¹ NEWS data

² RSPB Report two: Western Isles Winter Shorebird Counts

³ SNH Research Survey and Monitoring Report NE/92/215

⁴ RSPB Report One: Orkney Winter Shorebird Counts

KENTISH PLOVER

Charadrius alexandrinus

Scarce

A single was noted at Chichester Harbour in April.

DOTTEREL

Charadrius morinellus

Scarce

Three were recorded on the Humber Estuary during May and singles at Dungeness Gravel Pits

in April, the Tees Estuary in May and the Hayle Estuary, unusually, in December.

GOLDEN PLOVER

Pluvialis apricaria

International threshold: 18,000

Great Britain threshold: 2,500

All-Ireland threshold: 2,000

GB max: 175,445 Dec

NI max: 14,380 Dec

Numbers in both Great Britain and Northern Ireland peaked in December and declined the following month, considerably more marked in Britain. The winter coastal maximum occurred a month earlier. This may be the result of changeable weather in December, causing more birds to seek refuge from high winds by moving to inland sites.

Comparison of peak figures with those in the previous two winters amply demonstrates the westerly movements of this species in response to cold weather: in the mild winter of 1996-97, the British peak was just 120,000, but with 29,000 in Northern Ireland, whilst these figures were

148,000 and 18,000, respectively, in the previous year when conditions were much colder.

Low counts at Sutton/Lound Gravel Pits and Netherfield Gravel Pits resulted in them ceasing to be of national importance, although peak counts at most sites in 1997-98 exceeded current averages: that on the Wash was 165% above the recent average and was the only count, other than on the Humber, to have exceeded the threshold for international importance in the last five years. High counts at Hamford Water, the Somerset Levels, Colne Estuary, Swale Estuary and North Norfolk Marshes were also particularly notable.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International importance							
Humber Estuary	(29,201)	60,661	(32,532)	8,741	34,444	Dec	34,615
Great Britain							
Wash	(4,591)	(12,535)	(12,919)	6,879	26,461	Nov	16,670
Carmarthen Bay	3,000	9,080	11,000	10,003	(3,300)	Feb	8,271
Breydon Water/Berney Marshes	6,400	6,100	5,300	7,550	7,200	Dec	6,510
Solway Estuary	2,132	7,464	7,049	4,617	7,572	Feb	5,767
Lower Derwent Valley	4,000	4,300	8,900	3,000	7,950	Feb	5,630
Blackwater Estuary	1,752	(9,543)	2,055	(6,631)	6,800	Jan	5,356
Hamford Water	3,417	4,411	5,073	4,611	8,275	Jan	5,157
Morecambe Bay	6,211	4,223	3,616	4,310	4,745	Mar	4,621
Ribble Estuary	3,823	4,017	2,347	6,530	5,325	Nov	4,408
Thames Estuary	1,449	(8,982)	2,515	3,875	4,925	Dec	4,349
Somerset Levels	(2,265)	4,104	3,027	683	8,909	Feb	4,181
Swale Estuary	1,791	3,132	1,393	2,227	9,535	Jan	3,616
Criddling Stubbs Quarry Pools	-	-	-	2,000	5,000	Nov	3,500 ▲
Fairburn Ings	31	3,800	7,000	3,700	2,700	Dec	3,446
Colne Estuary	1,680	6,302	1,034	(1,500)	4,350	Jan	3,342
Clifford Hill Gravel Pits	3,000	5,000	2,400	2,000	4,000	Jan	3,280
Lindisfarne	2,805	(3,180)	4,580	2,604	2,580	Nov	3,150
St Marys Island	3,700	1,500	600	(3,000)	6,500	Nov	3,075 ▲
Mersey Estuary	2,278	2,323	3,850	4,000	2,750	Dec	3,040
New Road Pits	3,000	-	-	-	-	-	3,000
Forth Est.	1,897	3,080	5,260	2,363	2,147	Nov	2,949
Abberton Reservoir	815	5,778	4,550	233	3,057	Dec	2,887
North Norfolk Marshes	2,102	2,121	3,258	2,040	4,772	Dec	2,859
R Idle: Bawtry To Misterton	-	2,400	1,000	5,000	-	-	2,800

Northern Ireland

Strangford Lough	3,123	6,420	7,444	14,095	6,221	Jan	7,461
Lough Foyle	(7,006)	4,605	2,050	(5,207)	5,456	Feb	4,865
Lo. Neagh/Beg	1,805	5,758	4,470	3,902	4,300	Jan	4,047
Outer Ards	2,290	1,684	(3,517)	5,869	(735)	Jan	3,340

Sites no longer meeting table qualifying levels

Sutton/Lound GP

Netherfield GP

Other sites surpassing table qualifying levels in 1997-98

Nene Washes	6,109	Feb	Loch of Strathbeg	3,000	Dec
Tamar Complex	5,260	Dec	Port Meadow	2,800	Dec
Dungeness	5,000	Dec	Blyth Estuary	2,760	Feb
Ouse Washes	3,519	Dec	Wigtown Bay	2,671	Feb
Ayr to Troon	3,474	Oct	Taw/Torridge Estuary	2,500	Mar
Cotswold Water Park	3,195	Nov	Walland Marsh	2,500	Dec
Loch of Strathbeg	3,000	Feb	Hayle Estuary	2,500	Dec

GREY PLOVER

Pluvialis squatarola

GB max: 46,776 Feb

NI max: 352 Jan

International threshold: 1,500

Great Britain threshold: 430

All-Ireland threshold: 40*

* 50 is normally used as a minimum threshold

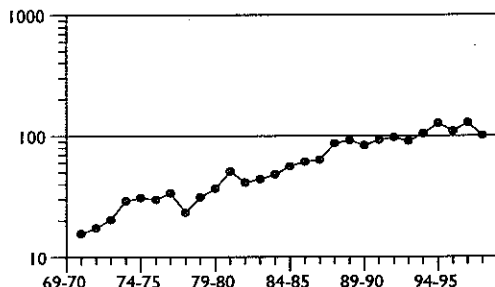


Figure 60. Annual indices for Grey Plover in UK

Great Britain and Northern Ireland winter maxima in 1997-98 were both nearer the bottom of the range for recent years, reflected by a down-turn in the annual index of 22% following the 1996-97 peak.

Despite the apparent declines in 1997-98, a number of main resorts held peak counts well in

excess of their recent averages, notably those in the southeast, e.g. Dengie Flats, and the Swale and Medway Estuaries. Large counts at two more east coast sites, the Humber Estuary and North Norfolk Marshes, were sufficient for both to reach international importance, the former recording a peak count of Grey Plover 177% above the recent average. Whilst this may reflect a more easterly centre of distribution during the mild winter, the Thames Estuary and Hamford Water both saw a marked decline in numbers, and local redistribution may have been responsible for the increases nearby.

Initial estimates for the current East Atlantic Flyway population suggest a 46% increase since the 1980s (Davidson 1998). This will certainly lead to revisions of the population estimate and threshold later in 1999.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Wash	6,840	17,404	(7,396)	8,952	9,790	Nov	10,747
Ribble Estuary	5,178	(10,802)	(3,211)	12,856	(4,465)	Nov	9,612
Thames Estuary	7,419	(7,820)	(7,515)	9,680	3,708	Feb	7,228
Hamford Water	1,618	2,207	(8,186)	(7,033)	3,270	Jan	4,463
Blackwater Estuary	(6,609)	2,442	(4,230)	(2,383)	(3,549)	Dec	4,208
Stour Estuary	2,424	(4,253)	3,249	3,159	(1,705)	Jan	3,271
Dengie Flats	1,800	3,300	(1,560)	2,160	4,156	Mar	2,854
Medway Estuary	2,605	3,104	1,899	1,979	4,612	Jan	2,840
Swale Estuary	1,337	2,425	1,543	(2,822)	5,313	Feb	2,688
Lindisfarne	(1,545)	(1,810)	(1,728)	2,118	2,950	Feb	2,534
Chichester Harbour	2,862	(3,629)	2,060	2,117	1,434	Dec	2,420
Langstone Harbour	1,821	2,802	1,266	(1,480)	2,157	Nov	2,012
Dee Estuary (Eng/Wal)	1,565	886	(2,567)	2,422	1,186	Nov	1,725
Morecambe Bay	1,859	2,184	1,557	1,695	1,243	Dec	1,708
Humber Estuary	1,662	1,231	1,533	539	(3,368)	Feb	1,667 ▲
North Norfolk Marshes	949	1,766	850	1,867	2,273	Nov	1,541 ▲

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Pagham Harbour	1,023	1,624	1,120	1,198	2,452	Nov	1,483
Alt Estuary	896	983	1,456	1,702	2,316	Mar	1,471
Solway Estuary	843	1,215	1,429	1,276	990	Jan	1,151
Colne Estuary	1,016	1,198	1,050	888	1,462	Feb	1,123
Mersey Estuary	2,100	663	417	460	1,410	Nov	1,010
Beaulieu Estuary	830	833	1,021	463	782	Dec	786
Eden Estuary	595	1,403	510	604	491	Feb	721
Forth Est.	605	592	730	658	724	Nov	662
Severn Estuary	647	767	368	519	(436)	Jan	575
Jersey Shore	624	672	452	336	464	Dec	510
Exe Estuary	385	508	513	513	573	Feb	498
Northern Ireland							
Strangford Lough	138	549	170	407	189	Jan	291
Carlingford Lough	63	89	57	(93)	93	Jan	79
Other sites surpassing table qualifying levels in 1997-98							
Orwell Estuary	585	Jan					

LAPWING

Vanellus vanellus

GB max: 464,466 Dec

NI max: 28,936 Dec

International threshold: 20,000**

Great Britain threshold: 20,000**†

All-Ireland threshold: 2,500

National totals of Lapwing during 1997-98 remained around the average for recent years and both the Great Britain and Northern Ireland populations peaked in December. Like Golden Plover, whilst coastal maxima occurred in December, those for inland sites in Great Britain and Northern Ireland were both in January.

Sites of international importance remained the same as the previous year, with the Somerset Levels consolidating its position at the top.

Walland Marsh was the only addition to the sites of national importance in Great Britain, provisionally qualifying on the basis of two years counts. Numbers at most sites fluctuate greatly between years, and whilst the 1997-98 peak was markedly different from the five year mean at many, only at a few was it the highest or lowest count in the last five winters. Most notable were high counts on The Wash, Morecambe Bay, the Ouse Washes and the Medway Estuary.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Somerset Levels	(26,131)	(78,602)	47,081	16,743	62,886	Jan	51,328
Humber Estuary	22,954	90,288	23,827	9,222	21,884	Dec	33,635
Breydon Water/Berney Marshes	36,000	35,600	24,000	31,000	19,400	Dec	29,200
Wash	13,102	24,225	24,773	9,132	41,538	Nov	22,554
Ribble Estuary	6,495	22,308	(28,270)	18,108	24,932	Nov	20,023
Great Britain							
Morecambe Bay	12,352	16,161	24,293	15,526	26,190	Dec	18,904
Thames Estuary	13,971	(18,365)	8,347	8,391	(17,672)	Jan	13,349
Blackwater Estuary	14,355	(12,186)	(5,280)	4,827	15,897	Jan	11,816
Severn Estuary	6,294	16,251	10,956	10,441	(14,843)	Jan	11,757
Walland Marsh	-	-	-	4,800	18,500	Jan	11,650 ▲
Swale Estuary	9,178	18,424	2,995	(6,271)	(15,430)	Nov	11,507
Mersey Estuary	9,036	16,601	(11,137)	(10,322)	8,658	Jan	11,432
Ouse Washes	2,021	15,591	8,155	(4,675)	15,170	Dec	10,234
Colne Estuary	10,067	9,510	8,222	(1,900)	12,440	Jan	10,060
Lower Derwent Valley	5,200	7,400	14,543	11,941	8,487	Feb	9,514
Arun Valley	1,552	24,457	9,402	692	(7,188)	Jan	9,026
Solway Estuary	3,354	9,067	13,609	6,150	12,004	Nov	8,837
Dee Estuary (Eng/Wal)	5,300	11,514	9,590	6,916	8,828	Jan	8,430
Crouch/Roach Estuary	9,970	(7,480)	5,964	(2,220)	7,440	Dec	7,791
Hamford Water	11,635	7,059	(6,335)	3,220	6,968	Jan	7,221

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Abberton Reservoir	2,600	6,861	12,425	3,092	10,620	Dec	7,120
Medway Estuary	3,801	5,561	(5,991)	(3,366)	(11,435)	Jan	6,697
Tees Estuary	3,416	7,363	10,505	(5,277)	4,500	Jan	6,446
Poole Harbour	(10,454)	4,583	5,907	4,666	4,912	Feb	6,104
Nene Washes	3,705	7,932	7,190	1,800	8,100	Jan	5,745
Stour Estuary	1,621	8,210	4,228	3,984	7,466	Dec	5,102

Northern Ireland

Strangford Lough	3,779	8,266	11,086	13,547	11,989	Dec	9,733
Lo. Neagh/Beg	3,042	5,832	6,758	7,857	6,777	Dec	6,053
Outer Ards	2,592	3,070	3,776	6,104	3,059	Dec	3,720
Lough Foyle	1,078	3,139	7,370	(2,665)	2,315	Jan	3,476

Sites no longer meeting table qualifying levels

Alde complex

Other sites surpassing table qualifying levels in 1997-98

Cotswold Water Park	7,395	Nov	North Norfolk Marshe	6,566	Nov
Forth Est.	6,920	Nov	Alde Complex	6,048	Jan
Dungeness	6,600	Nov	Upper Quoile	3,000	Jan

KNOT

Calidris canutus

GB max: 294,025 Nov

NI max: 9,655 Jan

International threshold: 3,500

Great Britain threshold: 2,900

All-Ireland threshold: 375

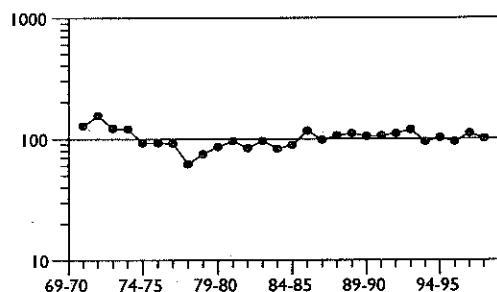


Figure 61. Annual indices for Knot in UK

Whilst the 1997-98 index for Knot dipped 10% to one of the lowest levels during the period of relative stability over the last 15 years, the peak British count was the highest since 1992-93, considerably exceeding the maxima of around quarter of a million since then. The peak in Northern Ireland was in the middle of the widely fluctuating counts of recent years.

The main resorts for this species witnessed increases and decreases in peak counts, as is normal for this highly mobile wader. Whilst Morecambe Bay, the Alt Estuary and Dengie Flats recorded peak counts in excess of the recent average (increases of 139%, 88% and 47%,

respectively), counts on the Solway and Cromarty Firths and Dundrum Bay were both much lower than normal, and those at Lindisfarne, Tees Estuary and Duddon Estuary were sufficiently low that all ceased to be of international importance.

The two populations of Knot that pass through the UK have different international thresholds: 5,000 for the sub-species *canutus*, breeding in the Taimyr, and 3,500 for *islandica*, breeding in Greenland and northeast Canada. Separation in the field is, to all intents and purposes, impossible during winter but, since the nominate race winters in Africa and *islandica* in western Europe, it is assumed that all birds in the table below comprise *islandica* and thus the smaller threshold is applied.

The high-arctic breeding Knot has been highlighted as a species likely to provide one of the best early-warning systems of a species' ability to cope with climatic change (Moss 1998). This is because climate change threatens every aspect of the Knot's life cycle, from alterations in the tundra breeding habitat to the threats posed to stop-over and wintering sites vulnerable to sea-level changes.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Wash	(90,841)	(77,694)	(47,775)	(72,173)	81,950	Nov	86,396
Ribble Estuary	44,510	61,054	(35,321)	55,752	(36,880)	Nov	53,772
Thames Estuary	50,690	(31,936)	47,191	39,121	55,663	Nov	48,166
Morecambe Bay	22,335	26,711	37,808	44,134	77,344	Feb	41,666
Humber Estuary	24,698	34,663	28,076	22,579	30,283	Dec	28,060
Alt Estuary	17,832	15,020	18,002	25,350	35,881	Nov	22,417
Dee Estuary (Eng/Wal)	11,725	(9,545)	18,520	30,025	14,000	Jan	18,568
Solway Estuary	14,923	16,661	10,516	9,086	5,472	Dec	11,332
Strangford Lough	6,301	7,369	13,444	12,302	9,456	Jan	9,774
Forth Est.	12,688	5,488	8,950	11,299	7,866	Jan	9,258
North Norfolk Marshes	6,143	7,967	5,930	15,236	9,006	Nov	8,856
Dengie Flats	(5,550)	6,820	6,050	6,600	10,490	Feb	7,490
Swale Estuary	6,435	6,406	2,517	7,131	5,420	Feb	5,582
Cromarty Firth	4,782	(2,997)	(6,600)	(6,829)	1,733	Dec	4,986
Montrose Basin	3,500	(1,500)	(6,500)	3,800	3,800	Jan	4,400
Burry Inlet	1,920	2,000	6,353	8,200	2,080	Dec	4,111
Stour Estuary	2,650	3,365	4,748	4,289	3,565	Dec	3,723
Inner Moray Firth	1,491	3,441	2,491	(7,773)	3,097	Jan	3,659
Great Britain							
Lindisfarne	(2,770)	2,022	3,810	4,625	3,218	Jan	3,419 ▼
Tees Estuary	2,050	2,577	5,122	3,520	2,783	Feb	3,210 ▼
Duddon Estuary	3,650	6,520	1,562	2,931	1,286	Mar	3,190 ▼
Northern Ireland							
Belfast Lough	1,001	361	560	580	(430)	Nov	626
Lough Foyle	258	225	1,145	400	270	Mar	460
Dundrum Bay	400	1,200	(546)	123	0	Nov	454
Other sites surpassing table qualifying levels in 1997-98							
Hamford Water	4,234	Jan					

SANDERLING

Calidris alba

GB max: 11,329 May
NI max: 55 Sep

International threshold: 1,000
Great Britain winter threshold: 230
Great Britain passage threshold: 300
All-Ireland threshold: 35*

* 50 is normally used as a minimum threshold

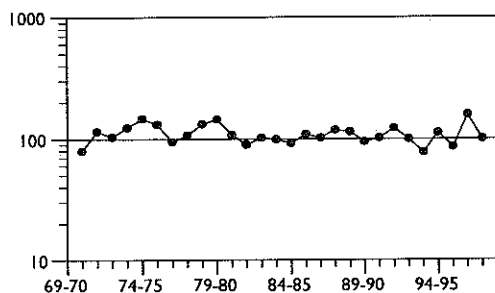


Figure 62. Annual indices for Sanderling in UK

The UK annual index for Sanderling continued to fluctuate dramatically, more so than for any other wader: following the previous year's 63% increase, to the highest level ever reached, it then dropped by 36% in 1997-98. As usual, the highest winter count, of just 7,288, was considerably lower than the peak which occurs on spring passage.

Preliminary analysis of Sanderling numbers from the Non-estuarine Coastal Waterfowl Survey (NEWS) suggests a 33% decline (from 8,637 recorded during the 1984-85 Winter Shorebird Count to 4,803 during NEWS on those coastal sections covered by both surveys). The majority of the NEWS total will be additional to WeBS Core Counts but, even so, it suggests that the number in 1997-98 in Britain peaked at only around half the current population estimate.

During 1997-98, several of the main resorts for this species held peak counts considerably in excess of the recent mean, most notably the Alt Estuary, but also the Tees Estuary Thanet coast, the Wash and Carmarthen Bay. The most notable low counts were the Humber Estuary, South Uist, Tiree and the Ribble Estuary, though this last may be explained by movement to the adjacent Alt.

Four sites held in excess of 1,000 Sanderling during the passage period, all greatly exceeding their respective winter maxima and sufficient to

qualify the sites as internationally important if maintained regularly.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Ribble Estuary	2,780	3,655	750	3,085	1,134	Mar	2,281
Great Britain							
Alt Estuary	507	500	607	971	1,352	Mar	787
Duddon Estuary	(923)	700	965	404	547	Mar	708
South Uist (West Coast)	¹ 289	1,185	-	-	² 528	Jan	667
Tiree	-	883	-	-	² 371	Jan	630
Dee Estuary (Eng/Wal)	624	1,180	208	598	429	Jan	608
Thanet Coast	501	654	-	457	776	Dec	597
North Norfolk Marshes	286	681	476	636	594	Nov	535
Humber Estuary	460	665	413	635	345	Dec	504
Wash	250	467	(539)	484	576	Nov	463
Lade Sands	187	-	475	706	460	Mar	457
Tees Estuary	(255)	298	465	331	470	Mar	391
Cardmarthen Bay	398	374	323	386	470	Nov	390
Durham Coast	(151)	(176)	255	372	(130)	Jan	314
East Sanday Coast	³ 302	-	-	-	² (210)	Jan	302
Jersey Shore	449	240	130	(371)	304	Feb	299
Solway Estuary	(195)	316	(220)	384	134	Dec	278
Morecambe Bay	(137)	(138)	312	137	278	Nov	242 ▲
Northern Ireland							
South Down	-	(0)	60	-	-		60

Sites no longer meeting table qualifying levels

North Uist (West Coast)

Internationally or nationally important sites not counted in last five years

South Ford (Outer Hebrides)

Other sites surpassing table qualifying levels in 1997-98

Lindisfarne	292	Jan	Colne Estuary	240	Dec
Tay Estuary	270	Dec	Dundrum Bay	46	Feb
Rye Harbour/Pett Levels	255	Jan			
Forth Est.	252	Dec			

Sites surpassing passage threshold in Great Britain in 1997-98

Ribble Estuary	7,345	Jul	Dee Estuary (Eng/Wal)	612	Oct
Morecambe Bay	2,491	May	Solway Estuary	446	May
Alt Estuary	2,102	May	Thames Estuary	375	Oct
Wash	1,590	May	Thanet Coast	364	Oct
Humber Estuary	885	Aug	Duddon Estuary	360	Aug
North Norfolk Marshes	730	Aug	Chichester Harbour	320	Aug
Tees Estuary	654	May			

1 RSPB Report Two: Western Isles Winter Shorebird Counts

2 NEWS data

3 RSPB Report One: Orkney Winter Shorebird Counts

WESTERN SANDPIPER

Calidris mauri

Vagrant

Native range: Americas

This very rare vagrant to the UK was found during a WeBS count on the Forth Estuary in August.

LITTLE STINT

Calidris minuta

GB max: 47 Sep
NI max: 0

International threshold: 2,100
Great Britain threshold: ?
All-Ireland threshold: ?

Although the annual peak count in the last five years has varied considerably, the 1997-98 figure was particularly small, and considerably lower than the 840 in September 1996, possibly the result of poor breeding success in Western

Siberia (Tomkovich & Zharikov 1998). The majority were recorded on autumn passage, and a few overwintered, notably on the Medway and Dee (Eng/Wales) Estuaries.

Sites with five or more birds in 1997-98

Thames Estuary	8 Sep
Wash	6 Aug
Breydon Water & Berney Marshes	6 May

Chichester Harbour	5 Aug
Abberton Reservoir	5 Sep

PECTORAL SANDPIPER

Calidris melanotos

Vagrant

Native range: Americas, N Siberia and Australia

Three sites recorded single birds, all during September, namely Daventry Reservoir, the Dee

Estuary (Eng/Wales) and Hamford Water.

CURLEW SANDPIPER

Calidris ferruginea

International threshold: 4,500
Great Britain threshold: ?
All-Ireland threshold: ?

GB max: 116 Sep
NI max: 6 Sep

As with Little Stint, Curlew Sandpiper proved to be something of a scarcity in 1997 with numbers just a fraction of those the previous autumn.

It is thought likely that both high breeding success and appropriate weather patterns (cyclonic conditions over northeastern Europe) are involved in determining the numbers of Curlew Sandpipers in northwest Europe, the relative importance of the latter factor increasing

towards the extremities of the migration range in Britain (Wilson *et al.* 1980). When the two factors are combined, as may have been the case in 1996-97, larger influxes may occur.

As expected, most of the 73 records of Curlew Sandpiper occurred during autumn passage, and just two from November to March, at Blithfield Reservoir and Chichester Harbour.

Sites with more than five birds in 1997-98

Abberton Reservoir	21 Oct
Breydon Water & Berney Marshes	17 Sep
Severn Estuary	11 Sep
North Norfolk Marshes	9 Sep

Clwyd Estuary	7 Aug
Dee Estuary (Eng/Wales)	7 Sep
Wash	7 Oct
Bann Estuary	6 Sep

PURPLE SANDPIPER

Calidris maritima

GB max: 1,061 Jan
NI max: 76 Dec

International threshold: 500
Great Britain threshold: 210[†]
All-Ireland threshold: 10*

* 50 is normally used as a minimum threshold

UK maxima were very similar to those of the previous two winters, though considerably lower than those of the early 1990s. The winter distribution still reflects the pattern previously

described by Atkinson *et al.* (1978), with all of the nationally important sites in Britain found on the coasts of northeast England or eastern Scotland. Monthly totals reflect the general

pattern by which some birds start arriving on the east coast in July to moult, followed by another wave in October and November of birds arriving on the northern and western coasts of Scotland from different breeding areas. Numbers build to a peak in mid winter before birds start to depart in February and March.

Low counts were recorded at most sites in 1997-98: Core Counts at just one site in each of Great Britain and Northern Ireland exceeded the 1% thresholds, and one site formerly of national importance fell from the table.

Purple Sandpipers are largely confined to rocky shorelines and as such are a species less

well covered by WeBS. Preliminary analysis of data collected by the 1998 European Non-estuarine Waterfowl Survey suggests that, in a comparison of numbers at sites covered both by this survey and the 1984-85 Winter Shorebird Count, Purple Sandpipers have declined by 44% (from 11,045 to 6,161 on sections covered by both surveys), with declines in all east coast Scottish districts being the largest and most significant. Whether these declines are real or a result of redistribution of the population has yet to be determined, although all of the most important British sites have recorded falling numbers since 1994.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
East Sanday Coast	¹ 782	-	-	-	² (275)	Jan	782
Great Britain[†]							
SE Stronsay	¹ 444	-	-	-	-		444
South Uist (West Coast)	³ 304	388	-	-	² 313	Jan	335
North Ronaldsay	¹ 255	-	-	-	² 400	Jan	328
Tiree	-	314	-	-	² 262	Jan	288
South Westray	¹ 413	-	-	-	² 159	Jan	286
SE Deerness	¹ 274	-	-	-	-		274
North Mainland (Orkney)	¹ 413	-	-	-	117	Jan	265
Moray Coast	264	271	268	223	219	Dec	249
Cambois to Newbiggin	296	352	(46)	^R 142	^R 165	Dec	239
Seahouses to Budle Point	250	269	252	144	207	Mar	224
Durham Coast	(179)	(163)	163	153	125	Dec	165 ▼
Fraserburgh to Rosehearty	105	150	-	-	-		128
Northern Ireland							
Outer Ards	(60)	64	(48)	89	(49)	Dec	77
Other sites surpassing table qualifying levels in 1997-98							
Belfast Lough	31	Jan					

[†] as so few British sites are of national importance for Purple Sandpiper, a qualifying level of 100 has been chosen to select sites for presentation in this report.

¹ RSPB Report One: Orkney Winter Shorebird Counts

² NEWS data

³ RSPB Report Two: Western Isles Winter Shorebird Counts

DUNLIN

Calidris alpina

GB max: 462,582 Dec

NI max: 16,803 Dec

International threshold: 14,000
Great Britain winter threshold: 5,300
Great Britain passage threshold: 2,000
All-Ireland threshold: 1,250

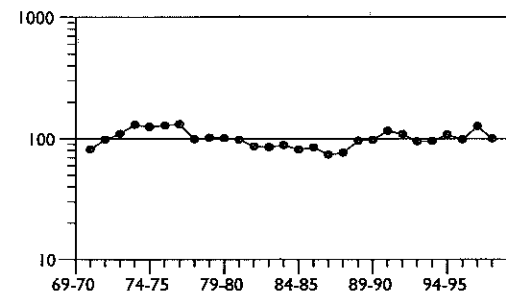


Figure 63. Annual indices for Dunlin in UK

Following the previous year's peak in index values, there was a 21% decline in 1997-98 to more normal levels. The British winter coastal maximum was also over 100,000 down on the previous year.

Despite these declines, there was a marked increase at Morecambe Bay, and larger than average numbers on the Thames Estuary and Hamford Water, though these were very much the exception in 1997-98. As expected, a greater number of sites saw a downturn in numbers,

particularly the Ribble Estuary, Chichester Harbour, Duddon Estuary, Burry Inlet and Orwell Estuary, with counts at the last two representing just one third of the 1996-97 peak. Such fluctuations are not uncommon at a site level as Dunlin is such a highly mobile species. Likewise, annual fluctuations in overall numbers are usual, as movements are greatly influenced by weather conditions. In general, the winter of 1997-98 was mild, particularly in February, and it may be that many Dunlin did not continue their migration once they had reached the Wadden Sea. Provisional analysis of WeBS data suggests that Dunlin distribution in Britain is significantly related to the number of sleet or snow days during the winter, with fewer sleet/snow days, as

is increasingly the case, being reflected by a more easterly distribution of Dunlin populations.

At an international scale, numbers appear to have shown a slight decrease (-14%) since the mid 1980s although the current estimate still lies within the 24-year range of 90,000 to 1,600,000 (Davidson 1998).

During passage periods, six sites held numbers exceeding the international threshold, though all are already identified as internationally important on the basis of winter counts alone. However, numbers at an additional four sites exceeded the national threshold for passage that are not listed in the table, namely the Alt Estuary, North Norfolk Marshes, Ythan Estuary and Alde Estuary.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Morecambe Bay	41,125	58,914	41,831	57,617	71,731	Dec	54,244
Mersey Estuary	32,000	64,000	40,501	55,430	52,015	Jan	48,789
Severn Estuary	41,209	50,638	(26,150)	29,420	(25,351)	Jan	40,422
Ribble Estuary	51,415	(41,532)	34,215	45,973	18,930	Feb	38,413
Wash	24,930	38,235	(41,487)	38,741	36,054	Nov	35,889
Thames Estuary	16,882	37,368	26,933	34,057	37,979	Dec	30,644
Blackwater Estuary	25,621	(21,960)	27,345	33,512	22,195	Nov	27,168
Dee Estuary (Eng/Wal)	16,378	25,383	(24,695)	31,430	30,318	Nov	25,877
Medway Estuary	23,550	30,540	17,232	33,313	17,200	Jan	24,367
Langstone Harbour	23,294	25,054	21,144	(14,240)	(15,000)	Feb	23,164
Chichester Harbour	19,038	26,087	22,590	19,567	15,629	Nov	20,582
Humber Estuary	22,975	20,145	27,600	10,210	20,695	Dec	20,325
Solway Estuary	18,795	18,498	11,688	20,042	11,982	Jan	16,201
Stour Estuary	18,241	(16,024)	15,343	14,727	14,712	Feb	15,809
Great Britain							
Swale Estuary	(8,278)	12,302	10,971	14,243	15,529	Feb	13,261
Duddon Estuary	8,460	14,790	10,370	14,416	7,232	Jan	11,054
Colne Estuary	10,316	9,810	13,000	8,805	10,510	Jan	10,488
Forth Est.	9,886	7,824	13,830	9,118	9,937	Dec	10,119
Burry Inlet	8,736	8,787	6,966	14,548	4,539	Dec	8,715
Hamford Water	5,918	5,789	(10,113)	9,146	11,970	Dec	8,587
Orwell Estuary	9,900	(6,185)	11,565	9,576	3,210	Nov	8,563
Lindisfarne	8,224	8,027	(7,031)	10,364	6,039	Jan	8,164
Dengie Flats	(6,600)	9,600	4,200	(7,850)	8,100	Dec	7,438
Inner Moray Firth	5,494	(3,805)	7,226	8,567	5,417	Feb	6,676
Southampton Water ¹	(3,654)	5,885	7,796	5,617	7,088	Feb	6,597
Poole Harbour	6,222	5,963	6,424	6,347	6,355	Jan	6,262
Northern Ireland							
Strangford Lough	4,347	6,506	8,317	12,948	7,175	Nov	7,859
Lough Foyle	4,622	(4,417)	7,025	(3,666)	4,106	Feb	5,251
Outer Ards	2,288	1,955	1,709	2,689	1,890	Dec	2,106
Belfast Lough	1,681	1,774	1,811	1,943	1,070	Dec	1,656
Carlingford Lough	(2,410)	650	1,244	(860)	2,002	Jan	1,577
Bann Estuary	1,500	1,260	1,085	2,910	1,075	Jan	1,566
Dundrum Bay	995	1,329	884	1,707	1,893	Feb	1,362 ▲
Other sites surpassing table qualifying levels in 1997-98							
Cromarty Firth	5,563	Dec	Cleddau Estuary		5,318	Jan	

Sites surpassing passage threshold in Great Britain in 1997-98

Ribble Estuary	33,521	May	Solway Estuary	7,027	May
Wash	27,107	Sep	Dengie Flats	6,200	Apr
Morecambe Bay	26,599	Oct	Alt Estuary	6,027	May
Mersey Estuary	20,000	Oct	Swale Estuary	5,179	Oct
Thames Estuary	18,887	Oct	Dee Estuary (Eng/Wal)	4,918	Oct
Humber Estuary	14,591	Aug	Severn Estuary	4,852	Oct
Blackwater Estuary	11,391	Oct	North Norfolk Marshes	4,423	Oct
Stour Estuary	11,340	Oct	Lindisfarne	3,048	Sep
Chichester Harbour	8,595	Oct	Ythan Estuary	2,400	Sep
Langstone Harbour	8,545	Oct	Alde Complex	2,033	Sep
Colne Estuary	7,200	Oct			

| primarily Low Tide Count data

RUFF

Philomachus pugnax

GB max: 587 Sep
NI max: 2 Sep

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

* 50 is normally used as a minimum threshold

Although the maximum British count of Ruff was slightly higher than the previous year, passage numbers in 1997-98 were only around half of those two and three years ago. Numbers dropped sharply in November and, whilst they had increased to around 400 by February, the winter peak was the lowest during the last five winters. Numbers at four of the top five sites were correspondingly well below their five year means and only the count at Martin Mere was

notably higher than the average.

Passage counts usually produce the highest numbers for many sites, e.g. the Humber Estuary held 113 birds in September, 104 were recorded on the North Norfolk Coast in August and 72 at Abberton Reservoir in September. The importance of spring passage sites is undoubtedly under-recorded due the paucity of WeBS counts and the rapid turnover of birds at this time.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Lower Derwent Valley	128	106	189	81	133	Feb	127
Ouse Washes	78	195	139	(113)	60	Mar	118
Nene Washes	138	198	71	19	60	Jan	97
Swale Estuary	186	60	76	4	27	Feb	71
North Norfolk Marshes	24	(43)	(58)	118	21	Jan	55
Martin Mere	18	12	45	67	90	Mar	46
Hamford Water	29	21	81	(23)	32	Feb	41
Abberton Reservoir	5	51	53	18	30	Dec	31
Blackwater Estuary	29	(38)	(12)	19	33	Mar	30
Somerset Levels	12	(33)	37	42	21	Feb	29
Arun Valley	3	34	43	16	34	Jan	26
Walland Marsh	-	-	-	36	9	Nov	23
Thames Estuary	6	21	11	52	15	Jan	21
Sandbach Flashes	-	(30)	(20)	21	10	Nov	20
Ribble Estuary	23	11	17	21	25	Nov	19
Colne Estuary	22	10	30	0	(0)	Nov	16
Humber Estuary	27	20	15	2	14	Nov	16
Rutland Water	0	16	19	21	17	Dec	15
Stour Estuary	4	65	0	0	0	Nov	14
Dungeness	15	1	7	40	4	Nov	13
Breydon Water & Berney Marshes	4	8	1	24	28	Jan	13
Dee Estuary (Eng/Wal)	13	14	17	12	8	Feb	13
Poole Harbour	29	2	16	0	4	Feb	10
Chichester Harbour	19	6	11	(9)	2	Feb	10
Wash	(7)	(0)	17	(4)	3	Dec	10
Buckenham Marshes	(2)	0	0	20	17	Feb	9
Tees Estuary	3	14	16	7	2	Feb	8
Druridge Pool	5	8	7	-	-		7

Other sites surpassing table qualifying levels in 1997-98

Loch Leven	37	Sep	Loch of Strathbeg	10	Sep
Ythan Estuary	26	Aug	Tophill Low Reservoirs	9	Oct
Ribble Estuary	25	Nov	Monikie Reservoirs	9	Sep
Middle Yare Valley	22	Feb	Exe Estuary	8	Mar
Forth Est.	20	Aug	Severn Estuary	7	Feb
Mersey Estuary	14	Sep			

JACK SNIPE

Lymanocryptes minimus

International threshold: ?
Great Britain threshold: ?
All-Ireland threshold: 250

GB max: 103 Feb
NI max: 5 Dec

The 1997-98 UK winter peak count was similar to that in previous years. However, the problems entailed in accurately recording such a secretive and well camouflaged species and the fact that its preferred habitat of marsh and wet grassland is poorly covered by WeBS, mean that many records rely purely on the chance of flushing birds by accident. Even summed site maxima for the 107 sites at which Jack Snipe was found

results in a total of just 246 birds, certainly just a fraction of the true wintering number. Consequently, little meaningful interpretation can be made of WeBS counts for this species.

As Jack Snipe has unfavourable conservation status in Europe, and is a quarry species in a number of countries, an EU Action Plan is currently being prepared.

Sites with five or more birds in 1997-98

Chichester Harbour	29	Mar	Loch Etive	6	Jan
Inner Moray Firth	16	Dec	Somerset Levels	5	Oct/Feb
Severn Estuary	9	Feb	Langstone Harbour	5	Feb
Lower Derwent Valley	7	Oct	Shipton-on-Cherwell Quarry	5	Feb
Hill Ridware Lake	6	Feb			

SNIPE

Gallinago gallinago

International threshold: 20,000**
Great Britain threshold: ?†
All-Ireland threshold: ?†

GB max: 7,404 Dec
NI max: 210 Nov

Numbers of Snipe recorded by WeBS in the UK rose in 1997-98, with a peak count in December of 7,404. The same restrictions apply to interpretation of these results as to Jack Snipe. Once again, the Somerset Levels held, by far, the highest numbers. Fluctuations at these sites

presumably reflect variability in detection of this species or even counter effort as much real differences in numbers: there is no discernable pattern in numbers at key sites that might have been expected as a result of two cold winters followed by a mild one.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain†							
Somerset Levels	(2,704)	3,628	(1,929)	1,041	1,975	Dec	2,337
Lower Derwent Valley	1,030	310	472	409	500	Nov	544
Maer Marsh	-	420	650	480	550	Feb	525
Arun Valley	40	832	206	135	272	Nov	297
Morecambe Bay	232	379	198	188	260	Nov	251
Swale Estuary	148	399	335	(46)	38	Mar	230
Newgale Beach	-	-	-	-	230	Jan	230
Exe Estuary	297	145	315	42	(245)	Dec	209
Ouse Washes	204	142	546	71	38	Nov	200

Other sites surpassing table qualifying levels in 1997-98

Ribble Estuary	354	Dec
Duddon Estuary	208	Nov

+ as no British or all-Ireland thresholds have been set for national importance, a qualifying level of 200 has been chosen to select sites for presentation in this report

GREAT SNIPE
Gallinago media

Vagrant
Native range: NE Europe, W Asia and Africa

A rare record of this species was made on the Medway Estuary in August.

LONG-BILLED DOWITCHER
Limnodromus scolopaceus

Vagrant
Native range: NE Siberia and N America

Individuals were recorded on the Swale Estuary in several autumn months and at Llangorse Lake in October.

WOODCOCK
Scolopax rusticola

International threshold: 20,000**
Great Britain threshold: ?
All-Ireland threshold: ?

This species, being primarily adapted to a woodland rather than wetland existence, combined with its secretive nature and its being active at dawn and dusk, mean that, even if present on a wetland site, it is hard to locate and

thus significantly under-recorded by WeBS.
An EU conservation action plan for this species is currently being prepared to address its generally unfavourable conservation status in much of Europe (Tucker & Heath 1994).

Sites with 10 or more birds in 1997-98

Longueville Marsh	12	Dec/Feb
Grouville Marsh	10	Jan
Shell Pond (Carrington)	10	Dec

BLACK-TAILED GODWIT
Limosa limosa

International threshold: 700
Great Britain threshold: 70
All-Ireland threshold: 90

GB max: 16,944 Aug
NI max: 404 Jan

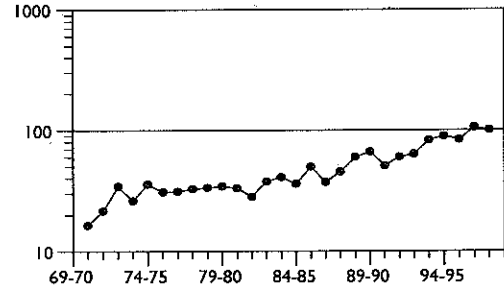


Figure 64. Annual indices for Black-tailed Godwit in UK

Although lower than the previous winters' record values, the annual index and peak winter numbers of Black-tailed Godwit remained very high. Peak numbers, though, occur during autumn passage.

The Black-tailed Godwits which winter in Britain and Ireland are of the Icelandic breeding race *islandica*, and numbers wintering in Britain have historically been related to the prevailing climatic conditions of the time (Prater 1975). During the 1930s, less than 100 Black-tailed Godwit wintered in the UK but this gradually rose

and was attributed to higher breeding numbers in Iceland following climatic amelioration. A cooling of the spring climate during the late 1960s may have led to the rapid decline in numbers during the early 1970s. However, numbers have steadily increased since the mid 1970s to an all time high in 1996-97. A re-evaluation of international population sizes suggests a 62% increase in numbers since the mid 1980s (Davidson 1998). The international threshold is certain to be revised upwards in 1999.

As Black-tailed Godwit is a quarry species in some countries, an EU conservation action plan is currently under development.

The table below is characterised by great variation in counts between years at individual sites. Although, as expected, peak counts in 1997-98 were substantially higher or lower than the recent average at a large number of the main resorts, a number of unusual counts are apparent. The high count on the Mersey in the previous winter was sustained in 1997-98 and

especially large increases were recorded on the Exe Estuary, Alde Complex, Humber Estuary, Crouch/Roach Estuary and the Burry Inlet. By contrast, there were few significantly low counts, although the decline at Pagham Harbour saw the 1997-98 peak reach just 10% of that in 1993-94. All peak counts of this species in Southampton Water in recent years have been adjudged to be incomplete due to lack of data for a key sector, although the continuing decline is still cause for concern.

The importance of the UK during passage periods is demonstrated by counts at 12 sites exceeding the threshold for international importance. Four of these (Abberton Reservoir, Humber Estuary, Breydon & Berney Marshes and Langstone Harbour) do not regularly hold this number when based on winter counts alone, whilst counts at several of the others greatly exceeded the normal winter counts, with the phenomenal count on the Wash equivalent to half the British winter population.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Wash	650	(705)	(1,764)	5,738	3,104	Nov	3,164
Stour Estuary	1,889	(1,882)	3,848	1,848	1,724	Nov	2,327
Dee Estuary (Eng/Wal)	2,033	1,425	1,862	2,203	1,642	Nov	1,833
Poole Harbour	(1,447)	2,046	1,194	1,771	1,895	Feb	1,727
Swale Estuary	1,636	1,910	637	(1,409)	1,010	Feb	1,320
Ribble Estuary	1,690	(845)	180	2,319	911	Mar	1,275
Ouse Washes	1,016	2,068	509	1,019	994	Mar	1,121
Medway Estuary	(380)	1,795	902	(206)	653	Mar	1,117
Mersey Estuary	21	580	494	1,703	2,086	Jan	977
Southampton Water	(801)	(1,450)	(594)	(147)	(31)	Nov	(948)
Blackwater Estuary	630	956	920	(1,088)	(608)	Mar	899
Thames Estuary	(19)	(1,104)	(109)	636	(241)	Jan	870 ▲
Chichester Harbour	664	2,139	551	497	464	Nov	863
Hamford Water	241	1,977	236	732	352	Jan	708
Great Britain							
Exe Estuary	737	479	520	226	1,132	Nov	619
Orwell Estuary	270	728	615	458	253	Mar	465
Nene Washes	472	626	398	80	509	Mar	417
Breydon Water & Berney Marshes	591	437	122	367	503	Jan	404
Alde Complex	55	558	201	254	701	Mar	354
Humber Estuary	80	83	57	544	924	Dec	338
Abberton Reservoir	0	158	724	159	322	Nov	273
Blyth Estuary	430	225	266	200	215	Nov	267
Langstone Harbour	276	284	154	240	327	Jan	256
Newtown Estuary	212	151	(365)	130	148	Feb	201
Crouch/Roach Estuary	163	261	68	87	416	Mar	199
Pagham Harbour	466	260	100	98	46	Nov	194
Deben Estuary	43	111	267	354	154	Feb	186
North West Solent	110	120	200	265	(17)	Mar	174
Colne Estuary	82	227	219	85	214	Feb	165
Eden Estuary	103	(116)	128	176	183	Feb	148
Christchurch Harbour	135	-	-	-	-		135
Beaulieu Estuary	19	0	235	(246)	161	Dec	132

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Burry Inlet	76	86	87	114	233	Mar	119
Tamar Complex	78	100	156	(127)	119	Dec	116
Fal Complex	71	89	77	131	146	Jan	103
Solway Estuary	6	6	13	460	9	Jan	99
North Killingholme Haven Pits	-	-	-	1	190	Mar	96 ▲
Severn Estuary	8	32	49	97	230	Dec	83 ▲
North Norfolk Marshes	(6)	45	109	(21)	(44)	Mar	77 ▲
Portsmouth Harbour	0	0	62	204	100	Jan	73 ▲
Caerlaverock WWT	-	4	0	98	176	Nov	70 ▲

Northern Ireland

Belfast Lough	370	359	235	418	178	Jan	312
Strangford Lough	5	38	43	486	226	Mar	160

Sites no longer meeting table qualifying levels

Dengie Flats
Morecambe Bay

Other sites surpassing table qualifying levels in 1997-98

Forth Est. 87 Nov

Sites surpassing the international threshold during passing periods in 1997-98

Wash	7,119	Sep	Poole Harbour	1,409	Apr
Ribble Estuary	3,681	Aug	Abberton Reservoir	1,247	Sep
Stour Estuary	2,205	Oct	Humber Estuary	976	Oct
Mersey Estuary	2,043	Aug	Swale Estuary	969	Apr
Ouse Washes	1,721	Apr	Breydon Water & Berney Marshes	881	Aug
Dee Estuary (Eng/Wal)	1,561	Oct	Langstone Harbour	875	Oct

BAR-TAILED GODWIT

Limosa lapponica

International threshold: 1,000

Great Britain threshold: 530

All-Ireland threshold: 175

GB max: 48,313 Jan

NI max: 3,353 Jan

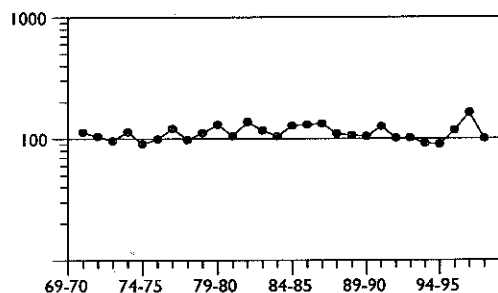


Figure 65. Annual indices for Bar-tailed Godwit in UK

The wintering population has continued to fluctuate considerably between years, with the index value and peak count dropping sharply from the record highs the previous winter, although both values were similar to those recorded in the early to mid 1990s. These variations, with the peak coastal winter count in Great Britain over 30,000 lower than in 1996-97, are thought to result from fluctuations in breeding success and the severity of winter conditions in the Wadden Sea. The majority of Bar-tailed Godwits wintering in the UK are thought to breed

in western Siberia and the Russian Arctic. Tomkovich & Zharikov (1998) reported that breeding success of waders had generally been low in the western section of the Russian Arctic and about average for more easterly areas. The low breeding success was thought likely to be a result of a late spring and harsh weather conditions, possibly exacerbated by increased predation resulting from low numbers of alternative prey such as lemmings.

Like so many other species of wader, Bar-tailed Godwits are highly mobile and this is reflected in the large fluctuations in peak counts at some of the major sites. High counts in the previous winter were maintained on the Wash, Alt Estuary and North Norfolk Marshes, and substantially higher than normal counts were recorded on the Humber Estuary and Strangford Lough. Conversely, the Thames Estuary, Morecambe Bay, Dornoch Firth, Chichester Harbour and the Dee Estuary (Eng/Wal) all recorded peak counts 40-50% lower than average.

Despite these fluctuations, the list of sites of international and national importance remained

unchanged from the previous year with the exception of the Eden Estuary.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Wash	11,132	8,987	(15,227)	16,246	16,435	Jan	13,605
Ribble Estuary	16,195	7,100	(7,693)	15,885	(7,063)	Nov	13,060
Thames Estuary	5,626	(3,547)	11,684	16,164	5,797	Dec	9,818
Alt Estuary	138	5,511	5,488	9,015	9,424	Nov	5,915
Lindisfarne	(3,243)	3,324	2,769	2,770	3,225	Feb	3,066
Solway Estuary	2,407	3,192	2,331	4,273	2,495	Jan	2,940
Morecambe Bay	890	4,559	(2,985)	3,658	1,818	Jan	2,782
North Norfolk Marshes	(1,561)	1,205	1,338	3,360	3,108	Nov	2,253
Dengie Flats	601	1,500	1,300	5,500	1,402	Feb	2,061
Lough Foyle	1,656	2,428	2,140	(2,120)	1,535	Dec	1,976
Forth Est.	2,298	1,560	1,988	1,869	2,157	Jan	1,974
Inner Moray Firth	1,411	1,541	(2,649)	2,792	1,301	Jan	1,939
Humber Estuary	994	1,233	2,199	1,505	(2,970)	Feb	1,780
Cromarty Firth	1,055	(2,069)	(1,193)	(1,225)	1,654	Jan	1,593
Dornoch Firth	1,243	(707)	1,520	(2,125)	847	Jan	1,434
Tay Estuary	1,387	537	(1,520)	2,305	1,315	Feb	1,413
Strangford Lough	1,542	843	898	1,269	2,433	Jan	1,397
Chichester Harbour	1,431	(1,992)	1,250	1,100	820	Jan	1,319
Dee Estuary (Eng/Wal)	22	(168)	(2,012)	2,167	780	Nov	1,245
Great Britain							
East Sanday Coast	¹ 871	-	-	-	² (951)	Jan	911
Eden Estuary	841	1,231	672	603	610	Feb	791 ▼
North Uist (West Coast)	³ 641	-	-	-	² 662	Jan	652
Hamford Water	284	307	657	1,380	548	Feb	635
Swale Estuary	350	603	696	824	597	Jan	614
Northern Ireland							
Belfast Lough	126	572	132	176	225	Jan	246
Other sites surpassing table qualifying levels in 1997-98							
Langstone Harbour	841	Jan	Hamford Water		548	Feb	
Swale Estuary	597	Jan					

- 1 RSPB Report One: Orkney Winter Shorebird Counts
2 NEWS data
3 RSPB Report Two: Western Isles Winter Shorebird Counts

WHIMBREL *Numenius phaeopus*

GB max: 1,735 **May**
NI max: 331 **May**

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

* 50 is normally used as a minimum threshold

As in previous years, numbers in the UK exhibit two distinct peaks: the first in spring is generally short-lived and typically in May, and a more

protracted peak of returning birds in late summer. Tallies during winter months rarely exceed single figures.

Sites with 100 or more birds in 1997-98

Lough Foyle	308	May	Burry Inlet	117	May
Wash	154	Sep	Langstone Harbour	116	May
Morecambe Bay	152	May	Chichester Harbour	172	May
Pagham Harbour	130	May	Exe Estuary	106	May
Severn Estuary	123	May			

CURLEW

Numenius arquata

GB max: 91,637 Feb
NI max: 7,629 Jan

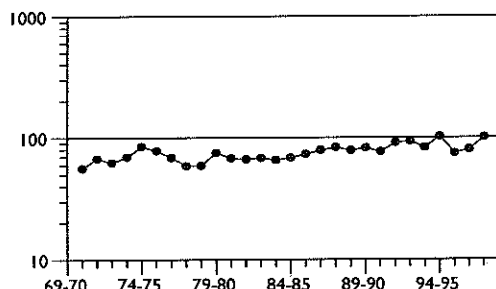


Figure 66. Annual indices for Curlew in UK

Curlew annual indices showed a marked contrast to those of most other waders, not only being one of the few species for which the value increased in 1997-98, but rising 25% over the previous year and almost equalling the peak value in 1994-95. Although maximum counts were about average for recent years, monthly totals, except for a low

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

in November, remained consistently high throughout the winter in both Britain and Northern Ireland, and will have been the main cause of the high index values. Clearly, the cold weather of the previous two winters caused large-scale Curlew movements, with a significant proportion of birds departing Britain and Ireland altogether.

Consequently, there were no notable low counts at key sites in 1997-98, though higher than normal numbers were recorded on the Dee Estuary (Eng/Wales), Humber Estuary, Forth Estuary and Ribble Estuary. Water Sound regained its status as nationally important, having slipped from the table due to the low count in 1996-97.

The international population appears to have increased by 22% since the late 1980s, an apparently genuine increase (Davidson 1998).

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Morecambe Bay	10,695	15,654	14,905	12,357	14,858	Dec	13,694
Solway Estuary	5,826	7,562	3,348	4,062	5,716	Feb	5,303
Dee Estuary (Eng/Wal)	3,548	4,127	3,538	4,583	5,370	Jan	4,233
Wash	3,079	3,920	(3,945)	3,241	3,803	Feb	3,598
Great Britain							
Severn Estuary	3,646	5,307	2,682	2,001	(2,903)	Jan	3,409 ▼
Thames Estuary	2,632	4,239	3,006	3,412	2,525	Nov	3,163
Humber Estuary	2,913	2,654	1,973	1,406	(3,282)	Mar	2,446
Duddon Estuary	1,935	2,571	2,019	1,801	2,008	Dec	2,067
Inner Moray Firth	2,200	(2,600)	1,303	1,828	2,334	Feb	2,053
Forth Est.	2,113	1,460	1,607	1,599	2,545	Jan	1,865
Blackwater Estuary	(2,366)	2,271	1,226	(1,533)	1,426	Mar	1,822
Poole Harbour	1,913	1,723	1,428	1,652	1,783	Feb	1,700
Medway Estuary	1,883	2,226	1,474	1,061	1,413	Mar	1,611
Ribble Estuary	931	(1,816)	1,020	1,593	2,507	Feb	1,573
Wigtown Bay	1,183	3,003	656	(1,127)	1,144	Jan	1,497
Swale Estuary	1,992	1,599	832	(1,124)	1,435	Feb	1,465
Cleddau Estuary	1,311	1,732	1,436	1,283	1,330	Jan	1,418
Cromarty Firth	1,462	(986)	1,434	1,092	1,542	Jan	1,383
Chichester Harbour	1,338	1,694	1,296	1,135	1,433	Dec	1,379
Stour Estuary	1,544	(1,560)	912	(1,041)	(1,492)	Dec	1,377
Mersey Estuary	911	1,383	1,439	1,501	1,289	Mar	1,305 ▲
Water Sound	1,600	1,900	(360)	450	1,200	Feb	1,288 ▲
Clyde Est.	1,183	1,201	1,135	(1,088)	1,543	Feb	1,266
Northern Ireland							
Lough Foyle	1,829	1,710	2,231	(2,187)	1,879	Jan	1,967
Strangford Lough	1,483	1,922	2,107	1,344	2,102	Feb	1,792

Sites no longer meeting table qualifying levels

Carmarthen Bay
Lavan Sands

Other sites surpassing table qualifying levels in 1997-98

Hamford Water	1,355	Jan	Lindisfarne	1,330	Jan
Alde Complex	1,275	Feb	Dornoch Firth	1,331	Feb
North Norfolk Marshes	1,416	Nov	Newark Bay	1,200	Feb

SPOTTED REDSHANK

Tringa erythropus

GB max: 221 Aug
NI max: 5 Sep

International threshold: 1,200
Great Britain threshold: +*
All-Ireland threshold: +*

* 50 is normally used as a minimum threshold

Although the peak count of Spotted Redshank in Great Britain was noticeably lower than in recent years, autumn passage was rather more protracted than usual, with 179 birds still present

in November, largely as a result of 107 birds remaining on the Wash. Numbers in Northern Ireland were about average.

Sites with 10 or more birds in 1997-98

Wash	128	Aug	Humber Estuary	17	Sep
Swale Estuary	71	Jul	Burry Inlet	17	Sep
Abberton Reservoir	45	Sep	Dee Estuary (Eng/Wales)	14	Oct
Medway Estuary	23	Oct	Langstone Harbour	11	Aug

REDSHANK

Tringa totanus

GB max: 84,659 Oct
NI max: 7,159 Nov

International threshold: 1,500
Great Britain winter threshold: 1,100
Great Britain passage threshold: 1,200
All-Ireland threshold: 245

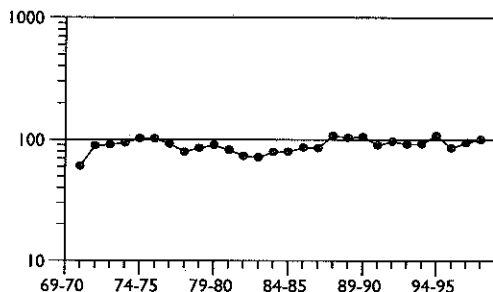


Figure 67. Annual indices for Redshank in UK

Whilst the peak counts in any month and during winter in both Great Britain and Northern Ireland were unremarkable compared to the last five years, the annual index for Redshank rose for the third successive year. This will have resulted from sustained high numbers throughout the winter months, with monthly totals of 75,000 around ten thousand higher than during 1996-97.

Counts of Redshank at key resorts show a reasonable degree of consistency between years, and at only a handful of sites was the 1997-98

peak markedly different from the norm: the Alde Complex (up 144%), Deben Estuary (up 54%), Hamford Water (up 40%), whilst the Blyth Estuary and the North Norfolk Marshes both recorded peak counts well above their averages (62% and 86% up, respectively), sufficient to elevate them to nationally important. The low count on the Stour Estuary was the only notable decline. The list of sites important in an all-Ireland context remained unchanged.

In contrast to a picture of relative stability in the UK, provisional international estimates (Davidson 1998) indicate a 34% increase since the mid 1980s.

The list of British sites surpassing the passage threshold, and the counts obtained during this period, are remarkably similar to the main table, though three sites (Chichester Harbour, Burry Inlet and Tay Estuary) not identified as nationally important on the basis of winter counts alone are included. The tremendous August count on the Humber Estuary is also noteworthy.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Morecambe Bay	5,322	7,666	6,847	6,350	6,968	Dec	6,631
Dee Estuary (Eng/Wal)	7,583	5,435	4,651	6,226	7,570	Feb	6,293

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Mersey Estuary	5,433	4,901	4,710	5,212	4,714	Jan	4,994
Forth Est.	4,190	3,941	5,205	3,602	4,768	Dec	4,341
Humber Estuary	3,437	4,896	4,085	(1,919)	4,575	Mar	4,284
Thames Estuary	2,076	(4,340)	(2,558)	3,295	2,992	Feb	3,176
Wash	2,046	3,814	(2,726)	(3,056)	3,279	Mar	3,049
Solway Estuary	3,012	2,588	(3,746)	2,512	3,196	Dec	3,011
Medway Estuary	3,026	3,264	3,731	1,586	3,020	Feb	2,925
Stour Estuary	1,917	4,178	3,392	2,853	1,908	Feb	2,850
Strangford Lough	2,449	2,817	3,281	2,832	2,713	Dec	2,818
Alde Complex	1,697	2,292	2,233	2,303	5,268	Feb	2,759
Inner Moray Firth	2,657	2,452	2,580	2,177	2,373	Dec	2,448
Montrose Basin	1,780	3,500	1,766	2,508	2,440	Mar	2,399
Duddon Estuary	2,249	2,348	3,888	1,344	1,856	Nov	2,337
Blackwater Estuary	(2,000)	2,653	1,651	(1,930)	2,523	Mar	2,276
Ribble Estuary	2,781	2,238	2,129	2,208	1,901	Mar	2,251
Clyde Est.	1,790	2,829	2,532	(2,092)	1,768	Mar	2,230
Belfast Lough	2,245	2,577	1,634	2,061	2,326	Nov	2,169
Colne Estuary	1,071	5,115	1,537	1,157	1,485	Dec	2,073
Hamford Water	2,011	1,906	1,413	2,322	2,486	Dec	2,028
Deben Estuary	1,590	1,574	1,558	2,632	2,704	Nov	2,012
Severn Estuary	1,328	2,032	2,526	2,072	1,790	Nov	1,950
Orwell Estuary	1,315	2,320	2,485	1,737	1,644	Mar	1,900
Alt Estuary	1,960	1,950	1,600	1,790	(1,000)	Jan	1,825
Chichester Harbour	1,421	1,987	1,287	1,442	1,391	Feb	1,506
Great Britain							
Swale Estuary	1,375	1,757	1,325	1,268	1,364	Mar	1,418
Blyth Estuary	1,246	916	1,000	1,426	1,761	Mar	1,270 ▲
Tees Estuary	806	1,087	1,824	1,079	1,408	Nov	1,241
Poole Harbour	1,172	1,356	1,111	1,028	1,239	Jan	1,181
North Norfolk Marshes	751	862	(1,088)	1,356	1,729	Nov	1,175 ▲
Ythan Estuary	1,448	1,280	660	1,344	1,012	Dec	1,149
Northern Ireland							
Outer Ards	766	1,271	773	1,035	957	Jan	960
Carlingford Lough	642	693	789	1,194	1,043	Feb	872
Lough Foyle	(386)	656	1,147	805	720	Mar	832
Dundrum Bay	694	699	608	831	853	Nov	737
South Down	-	-	452	-	-		452
Larne Lough	(172)	377	360	317	362	Dec	354
Sites no longer meeting table qualifying levels							
Tay Estuary							
Eden Estuary							
Other sites surpassing table qualifying levels in 1997-98							
Cromarty Firth	1,385	Dec	Tay Estuary		1,156	Mar	
Lindisfarne	1,207	Dec	Bann Estuary		420	Mar	
Sites surpassing passage threshold in Great Britain in 1997-98							
Humber Estuary	10,574	Aug	Ribble Estuary		2,124	Aug	
Dee Estuary (Eng/Wal)	7,339	Sep	Clyde Est.		1,996	Oct	
Morecambe Bay	6,575	Sep	Swale Estuary		1,993	Oct	
Wash	5,958	Sep	Stour Estuary		1,981	Oct	
Forth Est.	4,626	Sep	Deben Estuary		1,968	Oct	
Mersey Estuary	4,406	Oct	Chichester Harbour		1,761	Oct	
Thames Estuary	4,158	Oct	Ythan Estuary		1,660	Oct	
Hamford Water	3,143	Sep	Orwell Estuary		1,562	Oct	
Montrose Basin	2,896	Oct	Alt Estuary		1,550	Aug	
Alde Complex	2,322	Sep	North Norfolk Marshes		1,469	Aug	
Severn Estuary	2,227	Oct	Burry Inlet		1,402	Sep	
Solway Estuary	2,205	Oct	Duddon Estuary		1,287	Sep	
Blackwater Estuary	2,136	Oct	Tay Estuary		1,235	Sep	

GREENSHANK
Tringa nebularia

GB max: 1,830 **Aug**
NI max: 93 **Oct/Dec**

International threshold: ?
Great Britain threshold: +*
All-Ireland threshold: 9*
* 50 is normally used as a minimum threshold

Peak numbers of Greenshank usually occur on autumn passage but, like several species showing similar phenology, e.g. Little Stint and Curlew Sandpiper, numbers in 1997 were lower than normal. However, the mild weather during 1997-98 resulted in higher than normal numbers

overwintering, particularly in Great Britain. Several of the sites listed below, namely Strangford Lough, Chichester Harbour and Lough Foyle, plus the southwest estuaries Taw/Torridge, Kingsbridge and Tamar, recorded peak counts of over 20 birds during winter months.

Sites in Great Britain with 50 or more birds in 1997-98

Thames Estuary	385	Jan	Hamford Water	62	Sep
Wash	295	Aug	Dee Estuary (Eng/Wales)	61	Aug
North Norfolk Marshes	198	Sep	Morecambe Bay	61	Aug
Chichester Harbour	150	Aug	Stour Estuary	56	Aug
Blackwater Estuary	81	Aug	Exe Estuary	54	Sep
Humber Estuary	79	Aug	Langstone Harbour	50	Sep

Sites in Northern Ireland with nine or more birds in 1997-98

Strangford Lough	67	Sep	Larne Lough	16	Oct
Lough Foyle	30	Dec	Outer Ards	15	Dec
Dundrum Bay	27	Aug	Carlingford Lough	15	Jan

LESSER YELLOWLEGS
Tringa flavipes

Vagrant
Native range: North and South America

Two birds were recorded on the Ribble Estuary in February.

GREEN SANDPIPER
Tringa ochropus

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

GB max: 452 **Aug**
NI max: 9 **Sep**

Like several typical autumn migrants and scarce winterers, numbers of Green Sandpiper were low during passage, but relatively high numbers lingered during winter 1997-98.

Returning Green Sandpipers are one of the first indications that autumn is on the way, and although widely recorded, they are nowhere numerous; no WeBS count at an individual site has recorded more than 50 birds in the last five

years. Although only a handful of sites held 15 or more birds in 1997-98, five or more birds were found at 44 sites during the year. Numbers were even more thinly spread during winter, with only 10 sites holding five or more birds.

Most unusually, nine Green Sandpipers were recorded at Larne Lough during September, the first WeBS record in Northern Ireland since 1994-95.

Sites with 15 or more birds in 1997-98

Blackwater Estuary	36	Aug	Upton Warren	16	Aug
North Norfolk Marshes	29	Aug	Humber Estuary	16	Aug
Swale Estuary	26	Aug	Lower Derwent Valley	16	Nov
Beddington Sewage Farm	18	Jul	Thames Estuary	15	Aug

WOOD SANDPIPER

Tringa glareola

Scarce

Passage numbers were about average for recent years, with a marked peak of 46 birds in August in Great Britain, but less than 20 in any other month.

None was recorded during winter months or in Northern Ireland.

Sites with five or more birds in 1997-98

Maer Lake	5	Aug
North Norfolk Marshes	5	Aug

Swale Estuary	5	Aug
Rye Harbour/Pett Levels	5	Sep

COMMON SANDPIPER

Actitis hypoleucos

International threshold: ?

Great Britain threshold: ?

All-Ireland threshold: ?

GB max: 1,336 Aug

NI max: 3 Jul

The peak British count was higher in 1997-98 than in any of the last five years, perhaps suggesting high breeding success in Britain, although numbers remained high during winter months,

no doubt encouraged by the mild weather. A count of 31 on the Tamar Complex in February was particularly notable.

Sites with 40 or more birds during 1997-98

Wash	106	Aug
Morecambe Bay	74	Jul
North Norfolk Marshes	61	Aug
Abberton Reservoir	53	Aug

Severn Estuary	46	Jul
Tamar Complex	45	Jul
Taw/Torridge Estuary	42	Aug

TURNSTONE

Arenaria interpres

International threshold: 700

Great Britain threshold: 640

All-Ireland threshold: 225

GB max: 14,099 Oct

NI max: 1,573 Jan

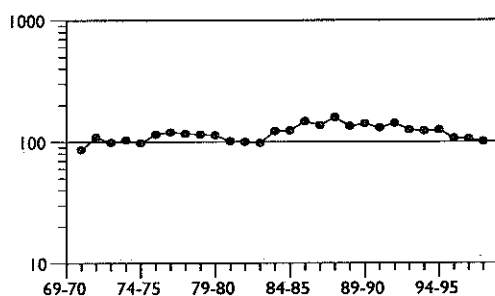


Figure 68. Annual indices for Turnstone in UK

The UK annual index for Turnstone continued its downward trend, reaching its lowest point since 1982-83. This is matched by a slow decline in winter numbers in Great Britain (although the peak in October was slightly higher than in the previous two winters), whilst those in Northern

Ireland have shown a more alarming and consistent fall of several hundred birds in each of the last five winters such that the 1997-98 peak represents only half the 1993-94 total.

Preliminary analyses of data collected from the 1998 Non-estuarine Waterfowl Survey suggests a national decrease of 36% (from 26,123 to 16,623 birds on coastal sections counted by the 1984-85 Winter Shorebird Count and the 1998 NEWS survey). The largest of the statistically significant declines were in Cornwall, Grampian, Highland, Lothians and Strathclyde. The only notable increase was on the Orkney Islands.

Peak counts in 1997-98 at all but one of the sites in the table were below their respective five year means, including the Thames Estuary, which dropped below the qualifying level for international importance.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Morecambe Bay	(950)	(1,613)	(1,020)	1,248	1,198	Nov	1,353
East Sanday Coast	¹ 1,269	-	-	-	² (734)	Jan	1,269
Outer Ards	1,151	1,074	(750)	1,040	(715)	Jan	1,088
Tiree	-	1,237	-	-	² 905	Jan	1,071
Dee Estuary (Eng/Wal)	623	383	1,243	1,193	978	Dec	884
Forth Est.	1,091	957	(918)	636	700	Mar	860
Belfast Lough	1,147	984	678	785	612	Nov	841
Alt Estuary	939	850	425	1,092	(461)	Jan	827
Thanet Coast	884	1,048	-	481	784	Nov	799
South Uist (West Coast)	³ 857	913	-	-	² 554	Jan	775
Great Britain							
Wash	499	1,016	(637)	(766)	444	Jan	681
Thames Estuary	479	(745)	1,034	610	357	Dec	645 ▼
North Mainland (Orkney)	¹ 656	-	-	-	² 624	Jan	640
Northern Ireland							
South Down	-	-	485	-	-		485
Strangford Lough	537	439	369	207	207	Nov	352
Other sites surpassing table qualifying levels in 1997-98							
Stour Estuary	710	Oct	Blackwater Estuary		716	Nov	

1 RSPB Report One: Orkney Winter Shorebird Counts

2 NEWS data

3 RSPB Report Two: Western Isles Winter Shorebird Counts

GREY PHALAROPE

Scarce

Phalaropus fulicarius

Eight birds were recorded at seven sites over the course of the year: two on the North Norfolk Marshes in October, and singletons at the Hayle Estuary in July, the Camel Estuary in August,

Rutland Water in September, Lothing Lake in October, and Chichester Gravel Pits and South Milton Ley in January.

MEDITERRANEAN GULL

Scarce

Larus melanocephalus

GB max: 73 Jan

NI max: 0

Perhaps surprisingly, relatively large numbers were present from mid summer onwards, building to a peak in mid winter, although this was preceded by a count of just 14 in December, presumably reflecting the fact that rarer gulls may be easily overlooked in large mixed species

flocks during WeBS counts. Totals were dominated by large counts at several sites on the Isle of Wight. Mediterranean Gulls were noted at 70 sites in total, with summed site maxima suggesting as many as 215 birds.

Sites with five or more birds in 1997-98

Foreland	45	Jan
Brading Harbour	25	Oct
Tamar Complex	12	Feb
Camel Estuary	10	Aug
Ryde Pier To Puckpool Point	10	Mar

Newtown Estuary	8	Mar
Medway Estuary	8	Feb
Alt Estuary	7	Jul
Swansea Bay	6	Jun/Feb
Thames Estuary	5	Apr

LITTLE GULL

Larus minutus

Scarce

GB max: 39 Jul
NI max: 1 Jan

Only small numbers were seen in most months, with the large passage numbers known to occur in the Irish Sea and off the northeast English coast going largely undetected. Peaks were recorded

in spring and late summer, with a notable count of nine in January. One was seen on the Outer Ards in Northern Ireland January.

Sites with five or more birds in 1997-98

Alt Estuary	46	Apr	Tophill Low Reservoirs	5	Aug
North Norfolk Marshes	14	Oct/Nov	Humber Estuary	5	Sep
Eden Estuary	13	Jul	Durham Coast	5	Aug
Tees Estuary	6	Jul	Forth Est.	5	Jul

SABINE'S GULL

Larus sabini

Scarce

One was in Filey Bay in August, and three singles were seen in September, at Clifford Hill Gravel Pits, Rutland Water and the Alt Estuary.

BLACK-HEADED GULL

Larus ridibundus

International threshold: 20,000**
Provisional Great Britain threshold: 19,000†
All-Ireland threshold: ?†

GB max: 253,921 Dec
NI max: 11,837 Jan

Peak totals in Great Britain were the highest yet recorded under WeBS, an increase of 22% on that of the previous year. The timing of the peak was typical, having occurred in January in each of the five years in which gulls have been monitored. However, this total represents just 13% of the provisional British population estimate; the species' use of non-wetland areas and the fact that counts of gulls are optional are the most significant factors in this under-recording. In Northern Ireland, the timing of peak counts has varied, though generally occurring in the autumn period. The 1997-98 maxima was unusual in this respect, with January, as in Britain, being the peak month of occurrence.

Recorded totals in the province were marginally lower than in 1996-97, though higher than in all previous years.

The time of day on which a count was undertaken is perhaps the most influential factor in the number of gulls recorded at individual sites, as birds often disperse from overnight roost sites to feed in non-wetland habitats. Three sites currently support numbers in excess of the threshold for international importance, these also being the only sites to surpass the threshold for national importance. Only two sites recorded peak counts above their respective five year average, though most exceeded the peak of the previous year.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Tophill Low Reservoirs	-	34,000	21,710	15,000	43,800	Nov	28,628
Tring Reservoirs	50,000	20,000	(21,000)	(363)	(16,000)	Jan	25,000
Lower Derwent Valley	-	-	32,500	17,500	19,000	Jan	23,000
Other sites in Great Britain supporting more than 10,000 birds†							
Morecambe Bay	11,564	15,965	18,998	18,653	25,294	Aug	18,095
Hurleston Reservoir	-	20,000	16,500	-	(3)	Apr	18,250
Poole Harbour	11,283	(10,233)	25,157	(10,732)	15,844	Sep	17,428
Chasewater	15,000	10,000	12,000	-	-		12,333
Wash	8,815	12,355	12,380	13,975	5,780	Nov	10,661

Sites no longer meeting table qualifying levels

Bolton-on-Swale GPs

Other sites surpassing table qualifying levels in 1997-98

Portsmouth Harbour	12,642	Dec
Church Wilne Reservoir	15,000	Jan
Eccup Reservoir	10,000	Jan/Feb

† as no British sites are of national importance for Black-headed Gulls and as no all-Ireland threshold has been set, a qualifying level of 10,000 has been chosen to select sites for presentation in this report

RING-BILLED GULL

Larus delawarensis

Vagrant

Native range: North America

This species was recorded at 10 UK sites, mostly in the southwest. Singles at Possil Loch, near Glasgow, and at Belfast Lough were therefore

noteworthy. Many birds were long stayers and two were found at both Swanpool, Falmouth, and Par Sands Pools.

COMMON GULL

Larus canus

International threshold: 16,000
Provisional Great Britain threshold: 9,000†
All-Ireland threshold: ?

GB max: 86,528 Feb
NI max: 3,467 Feb

The peak 1997-98 count was 23% up on the previous year's maximum and is the highest from the first five years of gull monitoring under WeBS. Recording of gulls has gradually improved throughout this period and may account for much of this increase. Nevertheless, it represents less than 10% of the Common Gulls wintering in Britain, the lowest percentage for any gull species. As for other gull species, the timing of counts at a few key sites can significantly affect both national and individual site totals. It is

probably fair to consider any counts other than of roosting birds, particularly at inland sites, as under-counts.

The northerly distribution of this species is clearly demonstrated by the table below, with just three southern sites creeping onto the bottom of the table. Despite the relatively high peak in Britain, only of the key resorts supported counts above their respective five year averages. The November count at Tophill Low Reservoirs represented 30% of the British total in that month.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Tophill Low Reservoirs	-	20,000	18,000	14,000	22,000	Feb	18,500
Great Britain							
Inner Moray Firth	6,100	(40,001)	-	1,850	-		15,984
Lower Derwent Valley	-	-	13,400	6,400	8,000	Jan	9,267
Other sites in Great Britain supporting more than 2,500 birds†							
West Water Reservoir	-	-	-	4,500	12,500	Nov	8,500
Derwent Reservoir	641	5,501	8,769	9,465	9,590	Dec	6,793
Morecambe Bay	3,252	5,274	8,861	4,187	5,536	Aug	5,422
Rutland Water	8,000	1,000	1,000	6,000	8,000	Nov	4,800
Pitsford Reservoir	4,000	6,000	4,000	2,500	4,000	Feb	4,100
Eccup Reservoir	-	3,500	(5,000)	5,000	2,500	Sep	4,000
Doon Estuary	5,500	5,500	6,000	2,700	11	Jul	3,942
Hule Moss	3,900	1	10,730	2,700	1,400	Oct	3,746
Tees Estuary	(2,257)	3,365	2,006	5,014	2,204	Mar	3,147
Thames Estuary	701	3,646	4,146	3,455	(825)	Jan	2,987
Wash	(6,316)	1,188	(2,636)	(1,321)	(887)	Aug	2,865
Tring Reservoirs	2,500	5,000	(1,000)	15	(2,000)	Jan	2,505

Other sites surpassing table qualifying levels in 1997-98

Cameron Reservoir	3,800	Jan
Loch of Harray	2,845	Feb
Wigtown Bay	2,545	Jan

† as so few British sites are of national importance for Common Gull and as no all-Ireland threshold has been set, a qualifying level of 2,500 has been chosen to select sites for presentation in this report

LESSER BLACK-BACKED GULL

Larus fuscus

International threshold: 4,500
Provisional Great Britain threshold: 500
All-Ireland threshold: ?

GB max: 59,085 Jul
NI max: 1,024 Sep

Unusually for most species recorded by WeBS, the peak count of Lesser Black-backed Gulls in Britain occurred during the summer period when site coverage is poorest. The 1997-98 peak far exceeded previous counts, which have barely surpassed 40,000 birds, almost wholly due to an exceptional count at Morecambe Bay, where there is a large colony. Nevertheless, this represents a relatively small proportion of the

83,500 breeding pairs and their young that will be present at that time of year (Lloyd *et al.* 1991). Many birds then depart, and wintering numbers are fewer, though they have increased steadily in recent decades, to around 60,000 in the mid 1980s (Bowes *et al.* 1984). Throughout the winter, monthly totals dropped significantly with fewer than 7,000 birds recorded by January.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Morecambe Bay	10,499	20,479	29,915	30,880	51,829	Jul	28,720
Great Britain							
Llŷsyfran Reservoir	-	-	300	8,500	400	Sep	3,067
Severn Estuary	287	70	57	7,017	6,085	Mar	2,703
Chasewater	2,000	2,100	3,000	-	-	-	2,367
Alde Complex	68	289	162	542	9,633	Mar	2,139 ▲
Alt Estuary	1,800	710	886	2,480	1,957	Jul	1,567
NE Glamorgan Moorland Pools	-	-	-	1,352	1,418	Aug	1,385
Great Pool Westwood Park	2,000	-	-	1,750	18	Sep	1,256
Portworthy Mica Dam	-	300	1,000	2,250	1,000	Sep	1,138
Rutland Water	40	500	1,000	(150)	3,000	Sep	1,135
Hayle Estuary	1,401	260	1,800	735	1,095	Feb	1,058
Heaton Park Reservoir	-	20	-	-	2,000	Nov	1,010 ▲
Solway Estuary	464	(981)	837	517	1,143	Jun	788
Camel Estuary	-	741	(1,252)	1,042	48	Aug	771
Cleddau Estuary	152	(301)	336	2,073	477	Sep	760
Colliford Reservoir	2,500	121	206	296	600	Aug	745
Llangorse Lake	500	400	850	820	860	Oct	686
Caistron Quarry	-	637	730	-	-	-	684
Sprotbrough Flash	0	250	350	1,000	1,500	Nov	620 ▲
Lower Windrush Valley GP	(4)	16	57	589	1,714	Nov	594 ▲
Yarnton Gravel Pits	-	-	-	70	1,050	Dec	560 ▲
Hurleston Reservoir	-	476	1,119	-	0	Apr	532
Blackmoorfoot Reservoir	-	351	656	47	1,037	Oct	523 ▲
Bicton Reservoir	-	-	-	850	196	Sep	523
Wash	145	(234)	331	(1,338)	239	May	513
Pitsford Reservoir	150	350	300	550	1,200	Oct	510 ▲
Fiddlers Ferry Lagoons	-	400	1,000	128	(300)	Oct	509

Sites no longer meeting table qualifying levels

Frainslake to Freshwater West
R. Arrow/R. Lugg Floodplain
Foremark Reservoir

Other sites surpassing table qualifying levels in 1997-98

Wellington Gravel Pits GP	1,400	Nov	Duddon Estuary	606	Aug
Dungeness GP	1,010	Aug	Doddington Pool	600	Aug
Lo. Neagh/Beg	972	Sep	Clarydale Water	600	Nov
Longnewton Reservoir	780	Sep	Kingsbridge Estuary	580	Feb
Somerset Levels	696	Nov	Burry Inlet	549	Aug
Crowdy Reservoir	650	Nov			

HERRING GULL

Larus argentatus

International threshold: 13,000
Provisional Great Britain threshold: 4,500[†]
All-Ireland threshold: ?

GB max: 67,430 Nov
NI max: 3,861 Sep

British monthly totals of Herring Gull in 1997-98 were about average for recent years, and, throughout the year, slightly higher than normal in Northern Ireland, although numbers were very consistent and the peak was lower than usual.

This species' coastal distribution is reflected in the table below and, as such, it is likely that a higher proportion of counts presented were obtained during Core Counts, rather than at roost, than for other species of gull.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Morecambe Bay	20,840	20,824	19,144	17,260	18,165	Jul	19,247
Great Britain							
Ribble Estuary	(15)	1,351	27,500	430	1,100	Sep	7,595
Wash	2,816	6,538	5,142	5,147	12,649	Jan	6,458
Other sites in Great Britain supporting more than 2,500 birds[†]							
Alt Estuary	3,560	3,021	4,500	5,300	5,500	Feb	4,376
Solway Estuary	2,986	2,335	(9,397)	4,269	2,884	Aug	4,374 ▼
Ayr To Troon	10,000	1,920	5,560	2,460	520	Sep	4,092 ▼
Irvine To Saltcoats	5,000	8,000	0	4,500	0	Apr	3,500
Alde Complex	1,389	734	4,347	312	8,569	Mar	3,070
Forth Est.	2,640	2,338	3,900	3,747	1,893	Sep	2,904
Guernsey Shore	(1,120)	(1,187)	2,471	3,073	-		2,772
Doon Estuary	3,000	3,600	3,570	3,000	246	Jul	2,683

Other sites surpassing table qualifying levels in 1997-98

Dee Estuary (Sco)	3,085	Feb
Belfast Lough	2,598	Jan
Ythan Estuary	2,600	Jan

[†] as so few British sites are of national importance for Herring Gull, and as no all-Ireland threshold has been set, a qualifying level of 2,500 has been chosen to select sites for presentation in this report

ICELAND GULL

Larus glaucooides

Scarce

Birds were noted at 18 sites, primarily from January to March, but with two in both April and May. Most birds were found in northern England

or Scotland, but with several in the southwest also. All records were of singles except for three at Belfast Lough and two at Loch of Hempriggs.

GLAUCOUS GULL

Larus hyperboreus

Scarce

Distribution, both by month and region, was very similar to Iceland Gull, though recorded at 24 sites, with summed site maxima suggesting as

many as 30 birds. Only two sites held more than one bird: five at Belfast Lough in January and three at Lower Derwent Valley in February.

GREAT BLACK-BACKED GULL

Larus marinus

International threshold: 4,800
Provisional Great Britain threshold: 400
All-Ireland threshold: ?

GB max: 13,850 Nov
NI max: 596 Sep

Peak counts in 1997-98 were about average for recent years in both Great Britain and Northern Ireland. The pattern of occurrence is rather different compared with the other numerous gull species, which peak either directly after the breeding seasons or in mid-winter; numbers of Great Black-backed have consistently occurred

in late autumn or early winter, then declined steadily to a low in late spring. The table below, containing 20 sites of national importance, suggests that, at least in comparison with tables for other gull species, WeBS is much better at recording numbers of Great Black-backed Gulls, or the provisional population estimate is too low.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain							
Wash	971	2,629	1,150	(1,087)	630	Sep	1,345
Tees Estuary	1,008	1,887	1,325	1,068	1,152	Dec	1,288
Lower Derwent Valley	-	-	617	1,750	1,105	Jan	1,157
Tophill Low Reservoirs	-	981	1,000	835	1,040	Nov	964
Dungeness	0	(6)	2,070	1,600	90	Sep	940
Pegwell Bay	138	2,000	600	750	1,000	Sep	898
Cresswell To Chevington Burn	200	1,000	500	685	2,000	Nov	877
Lossie Estuary	-	629	700	1,053	847	Nov	807
Loch Of Strathbeg	0	545	1,000	(1,200)	670	Dec	683
Morecambe Bay	628	624	554	621	668	Dec	619
Thames Estuary	(175)	271	474	789	505	Jan	510
Fairburn Ings	-	1,000	2	950	12	Apr	491
Portsmouth Harbour	166	772	437	(216)	(420)	Jan	458
Durham Coast	(365)	(229)	(624)	350	(468)	Dec	452
Rutland Water	250	600	300	700	300	Nov	430
Dee Estuary (Eng/Wal)	22	377	1,591	111	25	Jun	425

Other sites surpassing table qualifying levels in 1997-98

Lade Sands	500	Jan	North Norfolk Marshes	46	Oct
Kingsbridge Estuary	473	Nov	Coquet Estuary	414	Nov

KITTIWAKE

Rissa tridactyla

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

GB max: 4,151 Aug
NI max: 76 Aug

The largest numbers of this species were seen during summer and autumn months, with monthly totals of around 1,000 in Britain, but numbers were considerably higher in both Britain and Northern Ireland in August. In winter, these dropped to around 200 in Britain, and a peak of

just three in Northern Ireland, reflecting the pelagic nature of this species at this time of year. Kittiwakes were recorded at 54 sites in 1997-98, with those listed below reflecting post-breeding dispersal from the main breeding areas of eastern Scotland and northeast England.

Sites with 200 or more birds in 1997-98

Tay Estuary	1100	Aug	Dee Estuary (Sco)	430	Aug
Loch Of Strathbeg	1000	Aug	Ythan To Collieston	382	Apr
Tees Estuary	971	Aug	Deveron Est	320	Sep
Beadnell To Seahouses	600	Apr	Forth Est.	280	May
Arran	490	Oct	Wash	240	Oct
Durham Coast	477	May			

SANDWICH TERN

Sterna sandvicensis

International threshold: 1,500

Great Britain threshold: ?†

All-Ireland threshold: ?†

GB max: 5,718 Aug

NI max: 606 Aug

The peak British total, although similar in timing to the three previous years, was somewhat lower. The peak, as with most species of terns, usually occurs in August when adults are joined by the recently fledged young and birds move beyond the immediate vicinity of the colony.

Although Sandwich Terns were noted at just 101 sites in 1997-98, peak counts by WeBS

exceeded those of any other species of tern. All sites of international importance that are regularly monitored by WeBS are listed below, plus sites where the average peak exceeds 200 birds. For the second year in a row, numbers recorded on the Tees Estuary were considerably below average and the average peak fell below the international threshold.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
International							
Forth Est.	(877)	(1,708)	1,791	1,352	(1,278)	Aug	1,617
Great Britain†							
Cemlyn Bay	-	-	-	1,450	-		1,450
Tees Estuary	(1,665)	884	3,774	489	227	Jul	1,408 ▼
Dee Estuary (Eng/Wal)	(0)	601	446	2,090	636	Aug	943
North Norfolk Marshes	(3,000)	395	266	472	311	Aug	889
Loch Of Strathbeg	0	1,846	220	(750)	710	May	705
Duddon Estuary	0	487	470	650	808	May	483
Lindisfarne	(150)	(690)	224	316	(160)	Jul	410
Wash	-	284	178	186	586	Jul	309
Ythan Estuary	56	262	300	380	488	Aug	297
Morecambe Bay	0	865	312	34	143	May	271
Foryd Bay	-	-	-	390	62	Jul	226
Tay Estuary	(60)	60	361	401	25	Sep	212
Eden Estuary	138	(29)	99	(380)	(203)	Aug	205

Other sites surpassing table qualifying levels in 1997-98

Dundrum Bay	592	Aug	Alt Estuary	249	Aug
Exe Estuary	226	Jul	Don Mouth to Ythan Mouth	212	Jul
Humber Estuary	240	Aug	Medway Estuary	200	May
Filey Bay	200	Aug			

† as no British or all-Ireland thresholds have been set, a qualifying level of 200 has been chosen to select sites for presentation in this report

ROSEATE TERN

Sterna dougallii

Scarce

This species is generally only recorded in single figures during the summer months and 1997-98 was no exception. The only record was of two birds at Filey Bay in August. Roseate Terns are

often recorded in areas not far from the main breeding areas along the east coast of Britain, e.g. Coquet Island and the Fame Islands, and around the Irish Sea, e.g. Rockabill and Anglesey.

COMMON TERN

Sterna hirundo

GB max: 4,023 Jul
NI max: 10 May

International threshold: 6,000

Great Britain threshold: ?†

All-Ireland threshold: ?†

The UK peak total in 1997-98 was lower than during the three preceding years and was slightly earlier in the season. This was by far the most

widely recorded tern by WeBS, with records from 265 sites. Once again, the Alt and Tees Estuaries held the greatest numbers.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain†							
Alt Estuary	(1,200)	402	1,500	596	1,038	Aug	947
Tees Estuary	(338)	266	1,575	453	841	Jul	784
Dee Estuary (Eng/Wal)	(0)	429	315	641	225	Jul	403
Wash	-	691	262	310	215	Jun	370
Forth Est.	(144)	276	276	390	(343)	Aug	321
Tay Estuary	(105)	27	450	320	230	Jul	257
North Norfolk Marshes	(200)	326	226	344	107	Aug	251
Loch Of Strathbeg	0	214	325	277	300	Jul	223
Langstone Harbour	-	-	278	138	-		208

Sites no longer meeting table qualifying levels

Thames Estuary

Other sites surpassing table qualifying levels in 1997-98

Ythan Estuary 270 May

† as no British or all-Ireland thresholds have been set, a qualifying level of 200 has been chosen to select sites for presentation in this report

ARCTIC TERN

Sterna paradisaea

GB max: 1,337 Aug
NI max: 0

International threshold: ?

Great Britain threshold: ?†

All-Ireland threshold: ?†

The peak total in 1997-98 was more than double that of the previous year. Given patchy coverage by WeBS during summer months and the fact that recording of terns is optional, this undoubtedly reflects chance recording of large numbers at just a few sites, rather than provide

an indication of population change or breeding success.

Arctic Terns were noted at 46 sites. All with an average of 50 or more, except one, are in Scotland.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain†							
Tay Estuary	(950)	65	130	40	1,000	Aug	437
Loch Of Strathbeg	0	10	1,600	3	8	Jul	324
North Ronaldsay	0	0	563	(210)	0	Sep	155
Eden Estuary	64	(9)	129	90	190	Jul	118
St Andrews Bay	0	0	448	121	22	Jul	118
Ythan Estuary	18	59	80	100	204	Aug	92
Solway Estuary	(0)	(0)	(0)	82	(0)	Apr	82
Loch Indaal	44	(82)	(202)	51	29	Jun	82
Balranald RSPB Reserve	-	-	-	-	80	Jun	80 ▲
Morecambe Bay	0	102	44	105	124	Jun	75
Don Mouth To Ythan Mouth	(0)	(0)	(0)	(0)	66	Jul	66 ▲

Sites no longer meeting table qualifying levels

Foryd Bay

Other sites surpassing table qualifying levels in 1997-98

Forth Est. (58) Jul

† as no British or all-Ireland thresholds have been set, a qualifying level of 50 has been chosen to select sites for presentation in this report

LITTLE TERN

Sterna albifrons

GB max: 457 May
NI max: 0

International threshold: 340
Great Britain threshold: ?†
All-Ireland threshold: ?†

Recorded totals of Little Tern were substantially lower than during the previous three years. Unusually, the maximum count occurred in spring, rather than, as is more normal, in autumn. Such variation between years is likely to reflect

differences in site coverage by WeBS during summer months, although low counts at a number of sites may suggest poor breeding success. Little Terns were noted at 34 sites in 1997-98.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Great Britain†							
Dee Estuary (Eng/Wal)	(0)	156	700	145	160	Jun	290
Langstone Harbour	-	-	210	200	-		205
Thames Estuary	(0)	40	71	467	5	Aug	146
Wash	-	125	43	(330)	30	Jun	132
Tees Estuary	(186)	148	107	47	27	May	103
Pagham Harbour	(0)	16	114	(14)	-		65

Other sites surpassing table qualifying levels in 1997-98

Eden Estuary	52	May
Fleet/Wey	50	May
Solway Estuary	50	Jun

† as no British or all-Ireland thresholds have been set, a qualifying level of 50 has been chosen to select sites for presentation in this report

BLACK TERN

Chlidonias niger

GB max: 24 Aug
NI max: 2 Sep

International threshold: 2,000
Great Britain threshold: ?
All-Ireland threshold: ?

The maximum count in 1997-98 was down to a third of the previous year's peak, which itself was lower than the two preceding years. Birds were noted at just 22 sites, all in England except for two in Northern Ireland. Singles birds were recorded at 14 of these.

Numbers of Black Tern recorded by WeBS are likely to remain prone to fluctuations, as they

are highly dependent on the timing of the spring and autumn passages. In 1997, a huge movement was noted, estimated to include 1,400 birds, but it lasted for just one day (3 May) and was restricted mainly to the midland counties of England (Nightingale & Allsopp 1998). Clearly, WeBS counts stand little chance of recording such transient birds accurately.

Sites with more than three birds in 1997-98

Wash	11	Aug
Severn Estuary	10	May
Church Wille Reservoir	8	May

WHITE-WINGED BLACK TERN

Chlidonias leucopterus

Vagrant
Native range: E Europe, S Asia and Africa

Two individuals were recorded, both during August, at Stodmarsh and on the Thames Estuary.

KINGFISHER

Alcedo atthis

GB max: 280 Oct
NI max: 1 several

During 1997-98, Kingfishers were recorded on 567 sites, the majority of which were rivers or gravel pits. The peak UK count was slightly lower than those of the previous two years and occurred a

month later than usual. All bar one of the sites with average peak counts of five or more were inland.

	93-94	94-95	95-96	96-97	97-98	Mon	Mean
Sites with average peak counts of five or more birds							
Lee Valley Gravel Pits	7	12	9	26	15	Oct	14
Tamar Complex	6	8	10	9	3	Aug	7
Eversley Cross/Yateley GPs	0	9	4	6	9	Sep	6
Colwick Country Park	(2)	6	-	-	-		6
Somerset Levels	1	4	(7)	(10)	4	Feb	5
Meadow Lane Gravel Pits	3	7	-	-	-		5
Holme Pierrepont GPs	(0)	1	4	8	6	Dec	5

Sites no longer meeting table qualifying levels

Attenborough GPs	Stodmarsh
R. Usk: Pencilli	Thames Estuary
Taw/Torridge Estuary	Deben Estuary
Southampton Water	Middle Tame Valley
Chichester Harbour	Cleddau Estuary

Other sites surpassing table qualifying levels in 1997-98

Cleddau Estuary	6 Oct	R Usk: Pencilli	5 Sep
Fordwich/Westbere GPs	6 Oct	Tyttenhanger Gravel Pits	5 Sep
River Wye: Putson	6 Feb	Arun Valley	5 Sep
Lower Derwent Valley	6 Mar	Dorchester Gravel Pits	5 Sep
Chilham/Chartham GPs	5 Apr	Cotswold WP West	5 Dec
Middle Tame Valley GPs	5 Jun	Tophill Low Reservoirs	5 Mar

PRINCIPAL SITES

In total, 115 sites monitored by WeBS supported at least one species in internationally important numbers and 91 sites currently hold average peak species totals of 10,000 or more waterfowl following 1997-98 counts. The list remains relatively similar each year, with the order of the top ten sites in Table 4 almost unchanged compared with the previous year; the addition of the Swale Estuary in place of the Forth Estuary being the only difference. Of these top ten sites, the Solway Estuary and North Norfolk Coast each added an extra species to their list of waterfowl occurring in internationally important numbers (Shelduck and Grey Plover, respectively).

Of sites with averages of 10,000 or more waterfowl, peak waterfowl totals in 1997-98 fell at approximately forty and rose at just over thirty. Just four sites recorded counts in 1997-98 at least 30% above their five year average, namely Dungeness Gravel Pits (+58%), North Norfolk Coast (+45%), West Water Reservoir (+36%) and Alt Estuary (+35%). At Dungeness, high counts of Golden Plover and Lapwing were predominantly responsible for the large increase in total waterfowl numbers. Both the North Norfolk

Coast and the Alt Estuary played host to unusually large numbers of Knot, whilst an exceptional autumn count of Pink-footed Geese at West Water Reservoir was the major influence on its total. Declines of 30% or more in total waterfowl numbers were recorded at Carmarthen Bay (-57%), Lavan Sands (-46%), Ythan Estuary (-41%), Durham Coast (-41%), Orwell Estuary (-40%) and Loch Eye (-33%). Below average counts of Knot and Oystercatcher contributed to low totals at Carmarthen Bay and along the Durham Coast, though patchy overage at both of these sites may have influenced peak counts of some species. Also, no Common Scoter were recorded at the former site during WeBS Core Counts in 1997-98. Low counts of Oystercatchers and Dunlin accounted for the majority of the fall in numbers on Lavan Sands, whilst there were similarly low Dunlin counts on the Orwell Estuary also. Both remaining sites, Loch Eye and the Ythan Estuary, share goose roosts with adjacent sites and the vagaries of the birds' choice of roost on count days probably accounts for the fall in waterfowl numbers at each of these sites.

Table 4. Total number of waterfowl at principal waterfowl sites in the UK, 1993-94 to 1997-98 (includes only Core Count data and roost counts of Pink-footed and Greylag Geese), and species occurring in internationally important numbers at each (based on all survey data). Species codes are listed at the end of the table.

Site	93-94	94-95	95-96	96-97	97-98	Average	Int. imp. species
The Wash	305,645	301,972	331,346	280,811	341,062	312,167	PG DB SU OC GV L KN DN BW BA CU RK
Ribble Estuary	309,451	340,775	283,739	299,285	266,050	299,860	BS WS SU WN T. PT OC GV L. KN SS DN BW BA RK
Morecambe Bay	213,936	237,247	233,130	252,214	312,709	249,847	PG SU PT OC GV KN DN BA CU RK TT
Humber Estuary	148,185	244,803	150,547	(82,004)	159,536	175,768	SU GP GV L. KN DN BA RK
Thames Estuary	155,743	177,408	156,057	171,722	177,954	167,777	DB OC RP GV KN DN BW BA RK
Solway Estuary	141,629	158,195	143,893	149,948	135,500	145,833	WS PG BY SU PT OC KN DN BA CU RK
Dee (Eng/Wal) Estuary	95,542	124,288	130,833	152,076	129,271	126,402	SU T. PT OC GV KN DN BW BA CU RK TT
North Norfolk Coast	97,694	100,555	100,377	121,979	172,775	118,676	PG DB WN PT GV KN BA
Mersey Estuary	81,628	130,097	91,050	116,641	117,777	107,439	SU T. PT DN BW RK
Swale Estuary	(69,882)	91,034	(64,059)	100,958	89,534	93,842	WN PT SV GV KN BW
Firth of Forth	104,491	88,284	101,747	87,497	85,415	93,487	SZ PG SU GN KN BA RK TT
Loughs Neagh & Beg	78,909	91,654	110,192	101,599	82,373	92,945	GG BS WS PO TU SP GN

Site	93-94	94-95	95-96	96-97	97-98	Average	Int. imp. species
Somerset Levels	64,836	128,169	110,157	38,480	111,755	90,679	BS WN T. SV L.
BlackWater Estuary	(85,257)	80,577	(71,678)	(86,025)	78,493	82,588	DB SU GV DN BW RK
Severn Estuary	79,872	101,701	71,629	81,137	68,881	80,644	BS SU PT DN RK
Strangford Lough	52,773	73,255	81,158	90,697	73,449	74,266	PB KN BA RK
Medway Estuary	67,667	(73,198)	(61,440)	65,118	(60,519)	68,661	DB SU PT RP GV DN BW RK
Ouse Washes	55,050	72,078	63,168	(57,605)	72,870	65,792	BS WS WN GA PT SV PO BW
Hamford Water	(47,793)	45,891	71,043	71,281	56,685	61,225	DB T. SV BW RK
Montrose Basin	61,569	63,278	51,731	38,761	61,874	55,443	PG KN RK
Chichester Harbour	57,133	62,975	58,819	49,471	45,874	54,854	DB GV DN BW BA RK
Breydon & Berney	57,253	53,298	46,760	58,947	55,134	54,278	BS L.
Loch of Ssraithbeg	48,870	67,950	58,424	40,154	50,402	53,160	WS PG BY
Inner Moray Firth	52,428	50,244	46,587	54,707	47,118	50,217	GJ RM KN BA RK
Alt Estuary	38,496	42,468	44,464	54,888	66,628	49,389	KN BA RK TT
*Stour Estuary	44,022	54,306	50,034	45,501	48,307	48,434	GV KN DN BW RK
Lower Derwent Ings	44,048	49,074	52,856	43,322	44,371	46,734	T.
Burby Inlet	32,717	39,475	53,270	64,380	35,106	44,990	PT SV OC KN
Lindisfarne	41,351	46,481	40,078	42,868	38,504	41,856	GJ GV BA
Langstone Harbour	45,787	47,844	44,834	32,831	36,785	41,616	DB RP GV DN
Abberton Reservoir	31,204	46,958	49,208	35,707	42,947	41,205	GA T. SV
Duddon Estuary	46,944	48,025	38,631	37,320	34,203	41,025	PT RK
Dupplin Lochs	36,521	62,064	35,030	40,665	29,998	40,856	PG
Colne Estuary	37,233	44,279	38,870	28,032	42,360	38,155	DB RK
Lough Foyle	30,279	35,132	46,959	37,787	37,454	37,522	SZ WS PB BA
Cromarty Firth	38,193	40,189	44,106	34,508	31,681	37,735	PG GJ KN BA
Loch Leven	32,614	31,408	35,852	38,727	32,799	34,280	PG SV
Dengie Flats	32,610	34,780	23,598	39,330	39,363	33,936	GV KN BA
Nene Washes	(29,691)	35,698	28,480	(15,389)	(37,100)	33,759	BS PT SV
Dinnet Lochs	30,817	34,911	41,513	27,095	25,656	31,998	GJ
Poole Harbour	34,796	28,964	31,037	33,283	28,768	31,370	SU BW
*Alde Complex	(21,413)	27,912	(32,006)	27,897	35,990	30,951	RK
Martin Mere	25,091	33,093	31,231	27,670	36,903	30,798	BS WS
Carmarthen Bay	34,891	52,367	21,236	(23,430)	13,179	30,418	
Dornoch Firth	31,355	26,219	27,490	29,679	36,982	30,345	GJ WN BA
Rutland Water	20,446	36,959	33,338	25,600	30,803	29,429	GA SV
West Water Reservoir	20,544	26,911	31,500	25,882	39,171	28,820	PG
Ythan Estuary	36,509	31,943	32,373	12,968	15,290	25,817	PG
Tees Estuary	19,490	25,307	33,716	24,465	19,380	24,472	
*Orwell Estuary	26,292	24,787	30,712	24,681	14,418	24,178	RK
Walling Marsh	-	-	-	18,357	29,880	24,119	BS
Crouch-roach Estuary	26,794	24,668	(21,560)	19,931	24,640	24,008	DB
Exe Estuary	22,969	25,136	27,177	20,208	24,119	23,922	
Arun Valley	20,444	37,744	21,269	16,013	19,735	23,041	
Inner Firth of Clyde	19,475	20,890	22,634	23,000	21,639	21,528	RK
Belfast Lough	22,042	23,682	21,486	18,370	21,641	21,444	GG RK TT
Tay Estuary	13,672	17,040	20,478	32,646	18,216	20,410	PG BA
Southampton Water	17,239	19,413	23,941	19,473	(8,611)	20,017	
Cleddau Estuary	13,925	20,003	(19,680)	22,077	20,317	19,200	
Pagham Harbour	16,299	19,038	18,452	20,393	18,877	18,612	PT
Deben Estuary	18,152	16,396	16,036	20,069	17,395	17,610	RK
Fleet/Wey	19,776	19,852	16,998	15,961	15,382	17,594	DB
Wigtown Bay	11,450	17,521	20,001	15,934	17,986	16,578	PG
Hule Moss	15,329	9,086	16,498	20,445	20,732	16,418	PG
Beaulieu Estuary	9,926	19,021	15,390	16,623	19,353	16,063	
Cameron Reservoir	29,586	17,381	13,724	5,479	13,060	15,846	PG
Eden Estuary	18,952	18,336	16,273	13,509	15,815	16,577	GJ
North West Solent	15,833	14,748	15,221	(13,715)	(1,669)	15,267	
Taw-torridge Estuary	12,424	14,779	14,959	15,098	17,484	14,949	

Site	93-94	94-95	95-96	96-97	97-98	Average	Int. imp. species
Carsebreck & Rhynd Los	12,421	20,235	18,655	16,091	19,475	17,375	PG
Loch of Skene	19,184	11,222	15,115	14,721	14,818	14,792	GJ
Meikle Loch Slains	12,263	6,094	25,089	17,630	12,226	14,660	PG
Outer Ards Shoreline	13,015	12,681	14,251	21,848	11,090	14,577	PB TT
Dungeness Gravel Pits	8,326	14,901	13,050	12,063	22,349	14,138	
Blyth Estuary	12,918	14,296	12,469	13,745	15,502	13,786	
Durham Coast	14,363	18,666	13,749	10,880	7,660	13,064	
Tamar Complex	13,359	14,774	12,203	9,982	14,958	13,055	
WWT Caerlaverock	-	14,498	10,736	14,681	12,195	13,028	BY
Dyfi Estuary	13,995	12,374	13,699	14,547	9,700	12,863	
Pitsford Reservoir	8,563	11,465	10,247	13,818	14,098	11,638	GA
Hanningfield Reservoir	6,626	9,275	13,699	13,760	14,469	11,566	
Portsmouth Harbour	8,814	9,654	18,597	11,766	8,981	11,562	
Loch of Harray	10,139	12,426	13,080	8,139	13,245	11,406	
Cotswold WP (West)	10,211	10,808	11,325	9,372	13,464	11,036	
Lavan Sands	10,284	12,594	9,834	15,663	5,856	10,846	
Loch Eye	16,244	14,749	10,244	5,830	7,590	10,931	PG GJ
Rye Harbour & Pett Level	8,171	12,017	10,978	10,905	11,879	10,790	
Fairburn Ings	5,471	10,664	14,739	12,186	9,856	10,583	
Middle Tame Valley GPs	7,671	9,274	10,790	12,795	12,275	10,561	
Middle Yare Marshes	11,490	7,302	11,466	10,999	10,513	10,354	
Thanet Coast	11,881	15,193	-	6,279	7,108	10,115	TT
Chew Valley Lake	9,161	8,171	11,637	9,756	-	9,681	SV
Caithness Lochs	5,433	8,503	16,292	5,489	7,551	8,654	GJ
Upper Lough Erne	7,648	9,886	9,553	9,659	4,411	8,231	WS
Haddo House Lakes	5,820	17,735	6,329	9,066	1,250	8,040	GJ
St Benet's Levels	12,124	6,929	11,139	4,614	4,517	7,865	BS
Loch Fleet Complex	10,825	8,678	7,040	7,302	5,259	7,821	GJ
Mid Avon Valley	6,912	7,883	9,230	7,204	7,730	7,792	GA
Carlingford Lough	8,505	5,751	6,845	7,453	8,530	7,417	PB
Lee Valley Gravel Pits	5,333	8,903	5,453	8,422	7,712	7,165	GA
Loch of Lintrathen	6,496	3,444	5,558	4,722	13,360	6,716	GJ
Drummond Pond	7,736	6,892	2,938	8,706	5,610	6,376	PG GJ
Gladhouse Reservoir	3,472	6,095	5,164	8,591	7,385	6,141	PG
Wraysbury Gravel Pits	5,101	6,174	5,010	6,324	7,850	6,092	GA
Tyrella	-	-	5,727	-	-	5,727	PB
Thrapston Gravel Pits	3,712	4,341	4,900	7,735	5,922	5,322	GA
Alloa Inch	-	2,300	8,235	-	-	5,268	PG
Upper cowgill Reservoir	5,400	3,820	4,560	6,060	6,000	5,168	PG
Fala Flow (confidential)	6,450	3,500	2,437	5,000	7,500	4,977	PG
Forth and Teith Valleys	1,180	8,630	-	-	-	4,905	PG
Kilconquhar Loch	4,947	4,249	4,166	4,463	4,326	4,430	GJ
R Clyde: Carstairs Junction	-	1,656	-	28	9,546	4,286	PG
Kinnordy Loch	9,931	4,331	1,437	3,649	1,751	4,220	PG
Loch Tullybelton	4,100	1,800	1,395	4,658	8,000	3,991	PG
Larne Lough	3,339	4,090	4,111	4,220	3,723	3,897	PB
Holburn Moss	2,772	4,327	3,192	3,536	5,005	3,766	GJ
Loch Spynie	6,268	9,406	9,685	6,498	5,686	7,509	GJ
Crombie Reservoir	3,282	-	-	-	-	3,282	PG
Lower Bogrotten	5,626	6,780	3,000	850	0	3,251	GJ
Bridge of Earn	-	-	3,014	-	-	3,014	GJ
King george VI Reservoir	1,026	2,032	7,340	1,864	2,529	2,958	SV
Strathearn (west sites)	-	-	2,665	2,730	-	2,698	GJ
Glenfarg Reservoir	3,920	9,080	0	0	4	2,601	PG
Killimster Loch	-	-	-	2,518	-	2,518	GJ
Loch Mahaick Doune	600	1,064	797	2,789	6,811	2,412	PG
Killough Harbour	-	2,831	3,597	320	-	2,249	PB
Whitton Loch	1,500	3,709	2,200	1,457	-	2,217	PG
R. Spey: Tullochgorum to Boat of BallieFirth	2,216	-	-	-	-	2,216	GJ

Site	93-94	94-95	95-96	96-97	97-98	Average	Int. imp. species
Loch Ken	2,434	2,045	1,813	1,861	2,691	2,169	NW
R Eamont: Watersmeet to Pooley Bridge	2,154	-	-	-	-	2,154	GJ
Loch Garten and Mallachie	2,121	2,044	-	-	-	2,083	GJ
Stranraer Lochs	3,131	2,610	794	-	755	1,823	NW GJ
Corby Loch	1,424	-	-	-	-	1,424	GJ
R Tay: Dunkeld	1,400	-	-	-	-	1,400	GJ
Upper Tay sites	765	2,047	750	971	1,334	1,173	GJ
Black Cart Water	457	-	312	238	518	381	WS
Machrihanish	424	294	737	41	172	334	NW
R. Foyle: Grange	304	-	287	387	150	282	WS
South Walls (Hoy)	-	-	-	-	97	97	BY

Appin/Eriska/BenderLoch	NW
Bute	GJ
Coll	NW BY
Colonsay/Oransay	BY
Danna/Keills	NW BY
East Sanday Coast	TT
Islay	NW BY
Moray Firth	SZ
Orkney	GJ
Rhunahaorine	NW
South Uist (west coast)	RP TT
Sw Lancashire	PG
Tay/Isla Valley	PG GJ
Tiree	NW BY RP TT

Note that no count data are presented for the last 14 sites in Table 4. These areas are important for geese or swans, or are non-estuarine coastal sites surveyed by local surveys for which WeBS data are not regularly received. Data for any important WeBS sites within these areas, e.g. Lochs Gruinart and Indaal on the island of Islay, are presented separately within the Table. Other internationally important sites within these areas are not routinely monitored.

Note that not all species have thresholds for international importance, hence, they do not feature in this table. Gulls and terns have been omitted. Note also that numbers of naturalised and escaped species were included in the above totals due to an oversight. Numbers of these species should be excluded when assessing a site's importance against Ramsar criterion 3(a) (if it regularly supports 20,000 or more waterfowl). In some cases, this will have resulted in site totals being artificially high by several hundred birds (where the site supports large numbers of Canada Geese)

Species codes

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