

Canada Goose

Branta canadensis

Naturalised introduction[†]
Native Range: N America

GB max: 65,548 Oct
NI max: 903 Jan

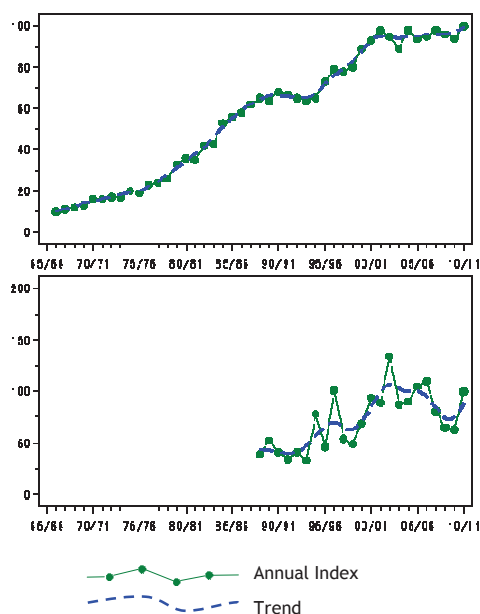


Figure 11.a, Annual indices & trend for Canada Goose in GB (above) & NI (below).

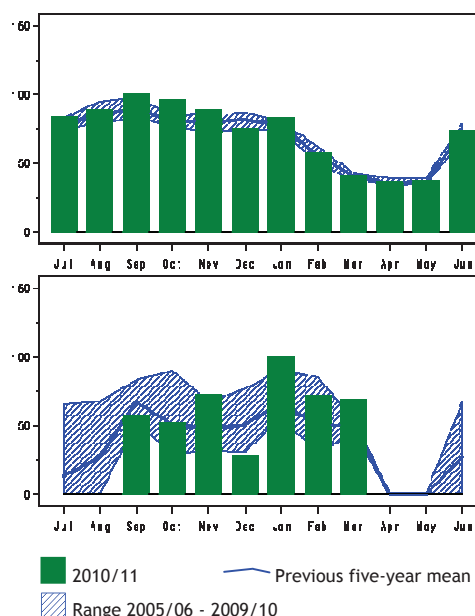


Figure 11.b, Monthly indices for Canada Goose in GB (above) & NI (below).

The Canada Goose is the most abundant non-native waterbird species in the UK, and has a population estimated to be 190,000 (Musgrove *et al.* 2011). After a steep increase in abundance during the 1980s and 1990s, the last decade has witnessed a much slower rate of growth in the overall British trend based on counts at WeBS sites. Pertinently however, population increases appear to be continuing towards the edge of the range, exemplified by a marked rise in the number at sites in Scotland and notable annual maxima in northwest England. Furthermore, the

adjacent population in The Netherlands is also increasing at a fast rate (Hornman *et al.* 2012).

In 2010/11, maxima at most of the principal sites listed below were close to or slightly above average. The highest count was 4,078 at Mersey Estuary in July; following the all-time WeBS high recorded there in the previous month (Holt *et al.* 2011). Peaks of 1,000+ were received from a further 13 sites, including for the first time during WeBS counts at Lee Valley Gravel Pits (Jul) and Atcham Bridge to Wroxeter (Jan).

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Sites with mean peak counts of 700+ birds in Great Britain							
Mersey Estuary	2,160	2,706	3,500	4,519	4,078	Jul	3,393
Dyfi Estuary	2,420	2,799	3,319	2,478	2,966	Nov	2,796
Dee Estuary (England and Wales)	1,810	2,536	3,204 ¹⁰	(2,303)	2,688	Oct	2,560
Ribble Estuary	(1,245)	(1,494)	1,625	1,828	2,207	Jan	1,887
Colliford Reservoir	2,439	1,637	632	1,409	897	Jun	1,403
Lee Valley Gravel Pits	(488)	(516)	1,200	(549)	(1,108)	Jul	1,200
Arun Valley	1,076	570	(939)	(1,535)	1,390	Oct	1,143
Medway Estuary	824	1,413	(1,123)	1,103	(398)	Feb	1,116
Rutland Water	1,118	1,009	1,063	1,084	1,083	Sep	1,071
Lower Derwent Ings	688	573	703	1,697	1,005	Oct	933
Bewl Water	548	1,039	(669)	1,072 ¹²	(1,011)	Dec	918

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Ouse Washes	575	558	1,463 ¹²	823 ¹²	1,158	Nov	915
Alde Complex	684	1,131	1,248	851	566	Dec	896
Harewood Lake		1,080	630	999	851	Oct	890
R. Severn: Atcham Bridge to Wroxeter	600	650	1,200	800	1,100	Jan	870
Abberton Reservoir	(213)	1,036	480	355	1,502	Aug	843
Doxey Marshes SSSI	802	726	987	884	650	Sep	810
Taw-Torridge Estuary	986	(565)	647	944	540	Jan	779
Windermere	747 ¹²	796	967	878 ¹²	495	Aug	777
Osberton	1,212	790	850	542	481	Sep	775
Pitsford Reservoir	832	587	877	807	743	Sep	769
Fal Complex	655	1,035	442	490	1,015	Sep	727
The Wash	677	559	644	792	938	Nov	722
Sites with mean peak counts of 50+ birds in Northern Ireland							
Upper Lough Erne	665	390	301	202	486	Jan	409
Lower Lough Erne	365	286	(71)	(78)	41	Oct	231
Strangford Lough	247	161	166	230 ¹⁰	(242)	Jan	209
Lough McNean Lower	44	148	27	60	140	Jan	84
Sites below table qualifying levels but exceeding threshold in WeBS-Year 2010/11 in Great Britain							
Teifi Estuary	454	195	500	600	1,000	Sep	550
Tamar Complex	309	276	257	432	955	Sep	446
Loch of Lowes	14	85	42	47	951	Sep	228
Drakelow Gravel Pit	78 ¹²	232	199	310	906	Sep	345
Camel Estuary	129	197	817	641	888	Aug	534
Sandbach Flashes	191	235	364	450	850	Oct	418
Nosterfield Gravel Pits	726	340	378	686	810	Dec	588
Batemill Sand Quarry	265	160	147	308	754	Aug	327
Roadford Reservoir	552	593	594	432	750	Jan	584
Somerset Levels	367	700	547	508	746	Jan	574
R. Severn and R. Vyrnwy Confluence	72	(168)	255	(130)	745	Oct	357
Netherfield Gravel Pits	17	56	57	88	743	Oct	192
Brading Harbour	408	310	219	426	735	Jan	420
Tees Estuary	504	447	443	761	730	Nov	577
Thames Estuary	494	353	405	582	708	Sep	508

[†] as no British or All-Ireland thresholds have been set qualifying levels of 700 and 50 have been chosen to select sites, in Great Britain and Northern Ireland respectively, for presentation in this report

Lesser Canada Goose

Branta hutchinsii

Vagrant and escape
Native Range: N America

Records were received from four WeBS sites, none likely to have related to birds of wild origin.

Hawaiian Goose

Branta sandvicensis

Escape
Native Range: Hawaii

One was at Rochester Pools (Mar to May).

Greenland Barnacle Goose

Branta leucopsis

International threshold (Greenland population): 710
Great Britain threshold: 580
All-Ireland threshold: 90

GB max: 44,844 Dec
NI max: 0
% young: 11.2 Brood size: 2.3

Wintering exclusively at sites in northwest Scotland and Ireland, ringing studies have shown Greenland Barnacle Geese to be faithful to specific wintering sites, with 70% of birds returning to the same site between winters.

In 2010/11, counts were carried out at most of the important areas in Scotland, which in spring 2008 (the last complete census) had held 92.5% of the total number of Greenland Barnacle Geese in Scotland. Two comprehensive

counts of Islay are organised by Scottish Natural Heritage (SNH) each winter; those in 2010/11 were 44,844 birds in December 2010 and 35,661 in March 2011. The adopted island estimate is taken to be the mean of these two counts, hence 40,252 birds. This is 7% greater than the adopted estimate of the previous winter, but 20% lower than the all-time maximum of 50,232 geese in 2006/07.

Results from productivity assessments carried out on Islay in 2010/11 indicate a reasonably good breeding season in 2010; 11.2% young

being higher than the previous 10-year mean of 8.5%. Notably, since 2001, annual breeding success based on assessments on Islay has been <10% in seven out of the last ten years. With the addition of data from Tiree and Inishkea (Ireland), the mean overall estimate for 2010 is reduced slightly to 10.4%. Mean brood size on Islay was also relatively high at 2.26 young per successful pair, whereas on Tiree it was considerably lower (1.39 young per successful pair) (Mitchell 2011c).

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Sites of international importance in the UK							
Island of Islay	52,709 ³²	44,961 ³²	44,896 ³²	40,727 ³²	44,844 ³²	Dec	45,627
Tiree	4,323 ³²	3,393 ³²	3,725 ³²	3,729 ³²	4,190 ³²	Dec	3,872
North Uist	2,119 ³²	3,630 ³²	3,393 ³²	2,392 ³²	2,546 ³²	Feb	2,816
South Walls (Hoy)	1,710 ³²	1,874 ³²	1,800 ³²	1,600 ³²	1,861 ³²	Feb	1,769
Colonsay/Oronsay	1,332 ³²	1,200 ³²	1,874 ³²	2,100 ³²	2,056 ³²	Dec	1,712
Isle of Coll	2,456 ³²	800 ³²	968 ³²	880 ³²	775 ³²	Dec	1,176
Sites of national importance in the UK							
Keills Peninsula and Isle of Danna	627 ³	711 ³	550 ³	600 ³	715 ³	Dec	641 ▼
Sites no longer meeting table qualifying levels in WeBS-Year 2010/2011							
Balnakiel Farm	130	809	(0)	(0)	500	Feb	480

Svalbard Barnacle Goose

Branta leucopsis

International threshold (Svalbard population): 300
Great Britain threshold: 330

GB max: 35,640 Oct
NI max: 0
% young: 10.8 Brood size: 2.5

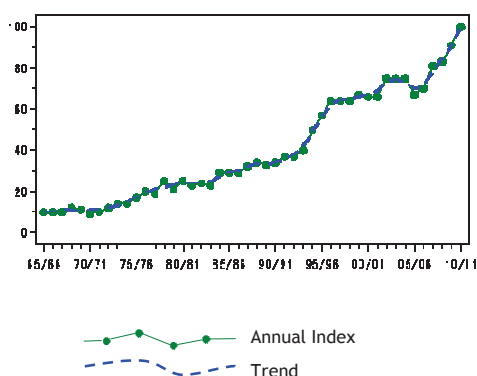


Figure 12.a, Annual indices & trend for Svalbard Barnacle Goose in GB.

The population of Svalbard-breeding Barnacle Geese increased for the fifth consecutive year. Consequently, in 2010/11, the annual index reached its highest ever value. Twenty-five co-ordinated counts were undertaken between September 2010 and May 2011 across the Inner

Solway Estuary, and used to derive an adopted population total of 35,900 birds (Griffin 2011). This represents the largest ever estimate, and is an increase of 9% on the comparable estimate for the previous winter.

Although the population is increasing, the core feeding areas for Svalbard Barnacle Geese on the Solway have remained broadly the same. Rockcliffe Marsh at the eastern end of the Solway is especially heavily used by geese throughout the winter, and in late April/early May during a period of rapid turnover when at least 99% of the population visit the site for up to a week before departing for Svalbard (WWT data). As Rockcliffe Marsh is expanding due to saltmarsh accretion, it is becoming increasingly difficult to monitor the area. Therefore, it would be timely to consider the use of aerial counts coupled with high definition photography of the flocks, in order to assess the true population size and provide a comparison with ground counts.

In 2010/11, breeding success was assessed throughout the winter at WWT Caerlaverock and other sites around the Solway; 10.8% young and

a mean brood size of 2.5 young per successful pair, represents the best breeding season since 2007.

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Sites of international importance in the UK							
Solway Firth	29,370 ¹	29,815 ¹	31,111 ¹	29,170 ¹	35,640 ¹	Oct	31,021
Lindisfarne	1,202	(190)	70	(300)	42	Jan	438
Sites no longer meeting table qualifying levels in WeBS-Year 2010/2011							
Loch of Strathbeg	181	121 ⁸	62	67	31	Oct	92

Naturalised Barnacle Goose

Naturalised establishment[†]

Branta leucopsis

GB max: 1,802 Jan
NI max: 375 Oct

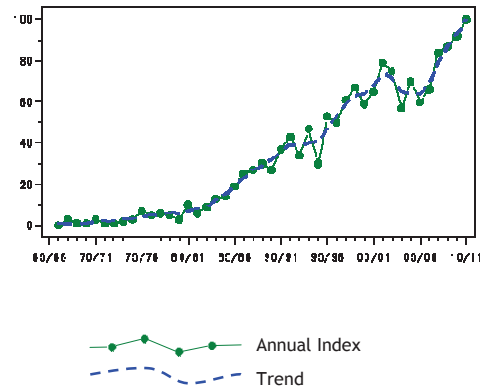


Figure 13.a, Annual indices & trend for Naturalised Barnacle Goose in GB.

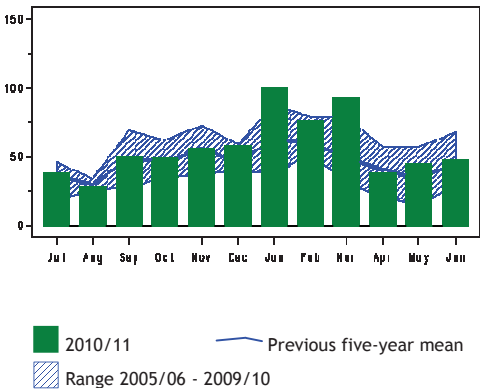


Figure 13.b, Monthly indices for Naturalised Barnacle Goose in GB.

Barnacle Geese are treated as naturalised on the basis of geographical location, with those outside the normal ranges of the Svalbard and Greenland populations assigned as such. As a result, it should be borne in mind that is possible that some extra-limital birds from the Svalbard and Greenland populations, are incorrectly assigned, though this is considered unlikely.

The national index for naturalised Barnacle Geese rose again in 2010/11, to its highest ever

level. A similarly steep rise has been witnessed across the North Sea in The Netherlands (Hornman *et al.* 2012). Counts of 300+ were noted at three sites during WeBS Core counts in 2010/11; Willington, Minsmere, and North Warren & Thorpeness Mere. Maxima in excess of 100 birds were noted at a further eight sites. In Northern Ireland, a highest ever peak was recorded at Strangford Lough.

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Sites with mean peak counts of 50 or more birds in Great Britain[†]							
Humber Estuary	318	631	200	(349)	(172)	Nov	383
Minsmere	17	240	650	260	300	Jan	293
Willington		5	287	(227)	382	Jan	225
North Warren and Thorpeness Mere	90	147	230	195	(312)	Oct	195
Roxton Lake	128	170	246	172	159	Jun	175
Severn Estuary	126	126	150	192	152	Mar	149
Derwent Water	137	184	160	137	97	May	143
Ullswater	186	230	82	170	3	Jan	134
Hamford Water	19	0	146	221	273	Mar	132
Frampton Pools	114	118	108	146	122	Mar	122
Benacre Broad	359	52	0	70	120	Sep	120

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Bassenthwaite Lake	1	12	140	52	163	Mar	74
Dungeness and Rye Bay	44	92	79	83	63	Dec	72
Hornsea Mere	72	73	67	67	76	Nov	71
Pegwell Bay	0	46	0	3 ¹²	300 ¹²	Dec	70
Morecambe Bay	18 ⁷	23	196	53	57	Jan	69
Duddon Estuary	(10)	65	(0)	(38)	(0)		65
Osberton	68	71	51	74	31	Nov	59
Alde Complex	19	(0)	(1)	108	40	Oct	56
Lound Waterworks	104	50	37	45	41	Jan	55
Barcombe Mills Reservoir	53	56	53	56	54	Jan	54
Sites with mean peak counts of 50 or more birds in Northern Ireland[†]							
Strangford Lough	279	275	325	365	375	Oct	324
Sites below table qualifying levels but exceeding threshold in WeBS-Year 2010/11 in Great Britain[†]							
Priory Country Park (Barkers Lane Gravel Pit)		0	0	0	140	Sep	35
Colne Estuary	0	2	0	0	89 ¹²	Dec	18
Crouch-Roach Estuary	2	14	36	50	60	Oct	32
Lower Derwent lngs	6	1	0	56	59	Feb	24

[†] 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

Dark-bellied Brent Goose

Branta bernicla bernicla

International threshold (W Siberia & W Europe): 2,400
Great Britain threshold: 910
All-Ireland threshold: +

GB max: 71,550 Feb
NI max: 1 Feb
% young: 12.7 Brood size: 2.7

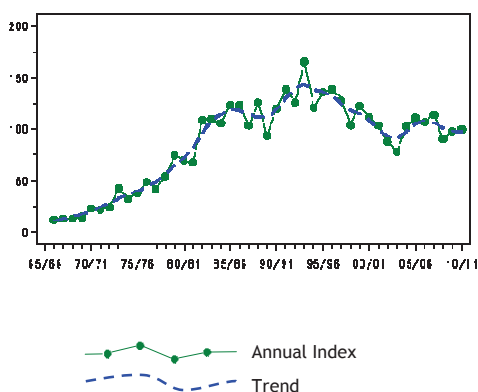


Figure 14.a, Annual indices & trend for Dark-bellied Brent Goose in GB.

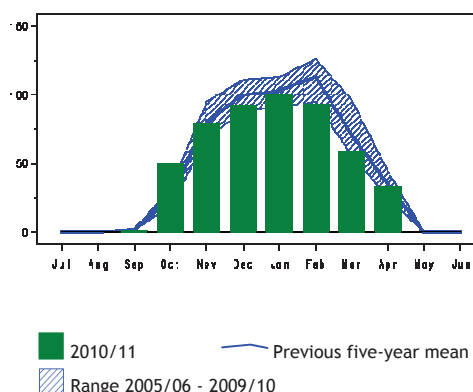


Figure 14.b, Monthly indices for Dark-bellied Brent Goose in GB.

Dark-bellied Brent Geese winter along the coasts of western Europe, the majority at sites on the Atlantic west coast of France, the south and east coasts of England, southwest Netherlands and the Wadden Sea. The species is now at the same status as the early 1980s, when it was in the ascendancy before reaching a notable peak in 1993/94. Since then numbers have fallen somewhat, but the last decade has seen relative stability. A very similar overall pattern has been recorded on the Wadden Sea in The Netherlands over the same period (Hornman *et al.* 2012).

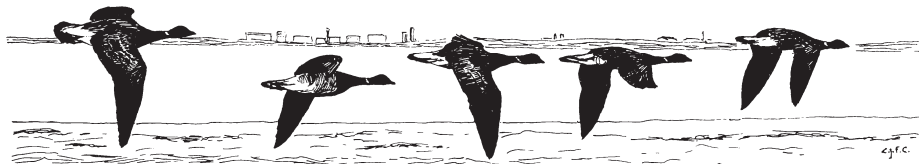
Twelve sites in Britain qualified as being of international importance in 2010/11. Typically, these were all located between the Humber Estuary on the east coast and Portsmouth Harbour on the south coast. The maximum from The Wash was close to the recent average; annual peaks of 20,000+ were regular up until 2007/08 inclusive. Elsewhere, perhaps the most notable count was the record 23,057 at Thames Estuary, which recalls a similarly high peak there in 2007/08. A further thirteen sites surpassed the qualifying threshold for national importance, following the demotion of Colne Estuary, Swale

Estuary and Northwest Solent after the lowest annual peaks for several years at those three sites.

Results from age assessments undertaken at wintering sites in the UK indicate that flocks of Dark-bellied Brent Geese in 2010 comprised 12.7% young birds, above the recent average and 7.4% higher than the previous year. Mean brood size was 2.7 young per successful pair, also higher than in 2009/10 and slightly above the previous ten-year mean of 2.06 (Reed

2011c). Although monitoring indicated that rodent and predators numbers were generally low in arctic Russia during 2010, high densities were recorded at a scattering of sites (Soloviev & Tomkovich 2011). Because breeding success of Dark-Bellied Brent Geese is greatly influenced by interactions between rodent abundance and predator pressure, it is probable that low levels of predation at these particular sites enabled geese to breed successfully.

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Sites of international importance in the UK							
The Wash	20,870	21,101	13,993	15,438	16,104	Oct	17,501
Thames Estuary	8,100	22,047	11,684	12,541	23,057	Oct	15,486
Chichester Harbour	9,605	12,171	8,757	8,569	11,434	Jan	10,107
Blackwater Estuary	7,293	8,278	6,692	7,564	(5,410)	Jan	7,457
North Norfolk Coast	7,091	7,614	6,614	5,830	(5,669)	Dec	6,787
Hamford Water	4,089	4,157	5,698 ¹⁰	(5,572)	(5,935)	Dec	5,090
Humber Estuary	(4,586)	(2,430)	(2,801)	(3,245)	(2,370)	Jan	(4,586)
Langstone Harbour	4,906	5,263	4,165	3,846	3,947	Nov	4,425
Crouch-Roach Estuary	(4,471)	4,534	4,241	3,149	4,368 ¹⁰	Jan	4,073
Dengie Flats	2,901	(3,560)	2,364	3,871	2,499	Feb	3,039
Pagham Harbour	2,744	2,341	2,522	3,015	2,453	Mar	2,615
Portsmouth Harbour	3,162	(2,500)	2,538 ¹⁰	(2,030)	2,054	Feb	2,585
Sites of national importance in Great Britain							
Fleet and Wey	1,554	1,810	2,200	2,190 ¹⁰	2,416	Dec	2,034
Colne Estuary	1,296	2,536	2,076	2,839	1,135	Feb	1,976 ▼
Swale Estuary	2,310	1,857	2,115	(1,782)	1,448	Oct	1,933 ▼
North West Solent	1,808	2,101	1,885	2,050	1,800	Jan	1,929 ▼
Stour Estuary	2,063	2,038	1,726	1,891	1,875	Mar	1,919
Medway Estuary	(1,076)	(1,367)	(959)	(1,509)	(1,684)	Mar	(1,684)
Newtown Estuary	1,662	2,115	1,469	1,382	1,707	Feb	1,667
Orwell Estuary	1,500 ¹⁰	(1,405)	1,266	1,503 ¹⁰	(1,610)	Jan	1,470
Exe Estuary	1,374	1,820	1,614	1,317	1,219	Dec	1,469
Deben Estuary	1,759	(1,409)	1,038	1,173	1,883	Jan	1,463
Beaulieu Estuary	3,439	774	689	798	746	Feb	1,289
Southampton Water	1,151	1,674	869	1,055 ¹²	1,649	Jan	1,280
Jersey Shore	733	1,317		1,481 ¹¹	1,467 ¹¹	Nov	1,250
Poole Harbour	1,146	(721)	(812)	(938)	(882)	Dec	1,146
Sites no longer meeting table qualifying levels in WeBS-Year 2010/2011							
Burry Inlet	937	764	860	927	555	Jan	809
Sites below table qualifying levels but exceeding threshold in WeBS-Year 2010/11 in Great Britain							
Holland Marshes	4	1,250	20	200 ¹¹	1,250 ¹¹	Jan	545
Bracklesham Bay		5	1	135	925	Dec	267



C.J.F. Coombs

Canadian Light-bellied Brent Goose

Branta bernicla hrota

GB max: 1,018 Jan
 NI max: 36,519 Oct
 % young: 3.2 Brood size: 2.1

International threshold
 (Canada & Greenland): 400
 Great Britain threshold: 7
 All-Ireland threshold: 220

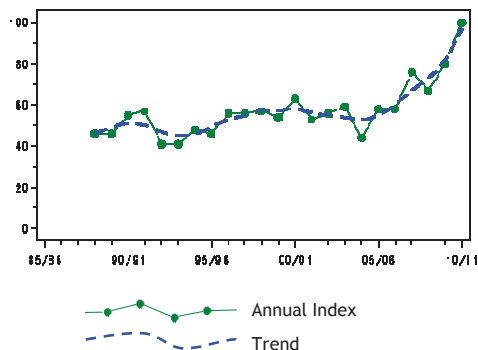


Figure 15.a, Annual indices & trend for Nearctic Light-bellied Brent Goose in Northern Ireland.

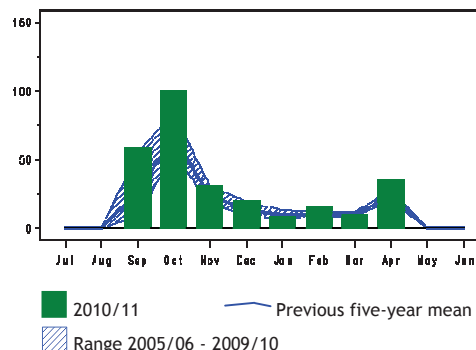


Figure 15.b, Monthly indices for Nearctic Light-bellied Brent Goose in Northern Ireland.

The population of Light-bellied Brent Geese which breeds on the Arctic islands of north-east Canada migrate across Greenland and Iceland, and winters mostly in Ireland. As the winter progresses, increasing numbers move southwards and use sites in western Britain, Channel Islands, and on the Atlantic coasts of France and Spain.

The International Census of East Canadian High Arctic Light-bellied Brent Geese took place in October 2010 for a ninth consecutive year, and involved coverage of sites in Iceland, Ireland and UK. A total population of 38,216 geese was counted, slightly higher than that in 2009/10.

Typically, the majority were in Northern Ireland, principally at Strangford Lough (28,600) and Lough Foyle (2,650). On the other side of the Irish Sea, site maxima were noted at Dee Estuary and Inland Sea & Alaw Estuary, while 200+ were at Morecambe Bay for the third year in succession. The international population estimate has been increased from 26,000 to 40,000 (Wetlands International 2012).

Annual breeding success tends to be either good or very poor. In 2010/11, just 3.2% birds were considered to be young, indicative of another poor year following the worst since the mid-1970s recorded in 2009/10.

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Sites of international importance in the UK							
Strangford Lough	24,658	30,457	20,702	21,375	33,750	Oct	26,188
Lough Foyle	2,177	3,251	2,550	3,862	2,652	Oct	2,898
Dundrum Inner Bay	575	1,108	1,232	982	948	Feb	969
Outer Ards Shoreline	577	946	781	580	621	Mar	701
Carlingford Lough	542	483	626	330 ⁶	(160)	Apr	495
Sites of national importance in Great Britain							
Larne Lough	256	369	655	219	376	Nov	375 ▼
Killough Harbour	282						282 ▼
Traeth Melynog			351	187	238	Jan	259 ▼
Morecambe Bay	(65)	(129)	(236)	276	205	Dec	241 ▼
Foryd Bay	47	181	295 ⁶	170	270	Nov	193
Inland Sea and Alaw Estuary	79 ⁶		174	209	227	Mar	172
Dee Estuary (England and Wales)	104	199	174	130	214	Mar	164
Cymyran Strait (Four Mile Bridge to Sea)		0	0	204	182	Jan	97
Loch Ryan	(37)	52	0	110	102	Nov	66
Jersey Shore	23	36		85 ⁶	57 ⁶	Nov	50
Cleddau Estuary	(7)	12	51	36	41	Dec	35

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Broadford Bay	0	(0)	122	0	0		31
Scarlett Pt to Strandhall			40	18			29
Lavan Sands	15	24	28	54	21	Feb	28
Fleet and Wey			35 ⁶	7 ⁶			21
Dinas Dinlle to Afon Llifon				18 ⁶	15 ⁶	Mar	17
Inner Loch Indaal					17 ⁶	Nov	17 ▲
Tamar Complex					16 ⁶	Feb	16
Derbyhaven Bay			0	23			12
Severn Estuary	2	11	0	10	11	Mar	7 ▲
Garlieston Bay				7 ⁶			7
South Ford	0	0	1		27	Oct	7 ▲
Sites no longer meeting table qualifying levels in WeBS-Year 2010/2011							
Swansea Bay	0	0	11	(3)	7	Apr	5
Ribble Estuary	(0)	(1)	8	(2)	0		4
<i>No data since 2006/07: Ayr to North Troon, Loch Gruinart, Loch Riaghain (Tiree)</i>							
Sites below table qualifying levels but exceeding threshold in WeBS-Year 2010/11 in Great Britain							
Wigtown Bay	(0)	0	0	8	10	Nov	5
Fishguard Harbour		0	5	2	8	Oct	4
Swansea Bay	0	0	11	(3)	7	Apr	5

Svalbard Light-bellied Brent Goose

Branta bernicla hrota

International threshold (Svalbard): 75

Great Britain threshold: 34

GB max: 5,637 Oct

NI max: 0

% young: 11.6 Brood size: -

*50 is normally used as a minimum threshold

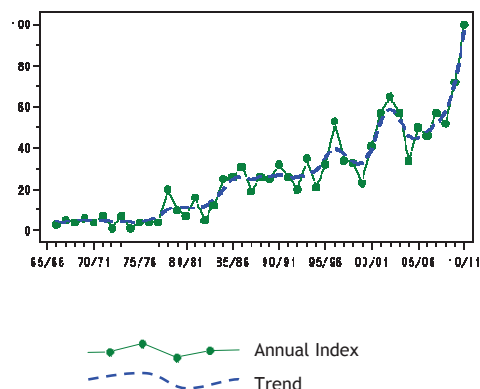


Figure 16.a, Annual indices & trend for Svalbard Light-bellied Brent Goose in GB.

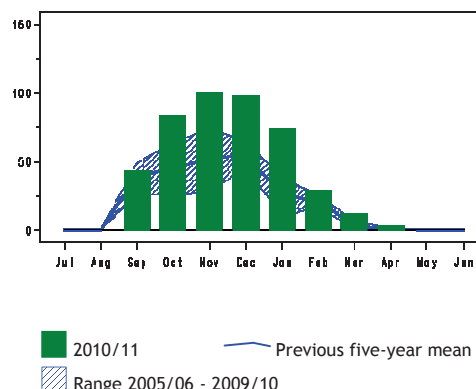


Figure 16.b, Monthly indices for Svalbard Light-bellied Brent Goose in GB.

The population of Light-bellied Brent Geese which breeds in Svalbard, north-east Greenland and Franz Josef Land, has shown a trend of fluctuating increase over the last 30 years. The main wintering sites were traditionally in Denmark, but Lindisfarne has gradually increased in importance with numbers there rising from 200 birds in the 1950s to typically 3,000+ during the 2000s.

In 2010/11, the annual index value rose to its highest ever value and the peak count at Lindisfarne of 5,612 in October was the most ever recorded. The latter total represents an

increase of 13% compared to the previous peak of the year before. Typically, both Eden Estuary and Inner Moray & Inverness Firth supported small flocks during the winter, consolidating their status as sites of national importance. However, as shown below, a major feature of the midwinter period was the presence of several flocks of 80+ at less expected sites on the east coast of Britain, particularly Northumberland. These counts (as well as the record aggregation at Lindisfarne) provide an indication of an exodus of geese from Denmark and elsewhere across the North Sea during the

frozen conditions. A similar response has been observed in previous cold winters (P. Clausen, pers. comm.); prior to 2010/11, the last marked influx into the UK was in January 1987.

Breeding success was assessed by monitoring of birds at Lindisfarne and two other sites on the

east coast of Britain, and at 11.6% was a marked improvement on the previous year. The percentage of young in wintering flocks has generally been low over the past ten years, only exceeding 10% on four occasions since 1992/93. No brood size data were collected.

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Sites of international importance in the UK							
Lindisfarne	(3,350)	(3,798)	3,879	(4,935)	5,612	Oct	4,809
Sites of national importance in Great Britain							
Inner Moray and Inverness Firth	43	14	99	52	64	Jan	54
Humber Estuary	(8)	2	3	30	154	Jan	47 ▲
Howick to Beadnell	0	0	6	5	201	Dec	42 ▲
Eden Estuary	18	69	29 ⁶	41	42	Dec	40
Sites below table qualifying levels but exceeding threshold in WeBS-Year 2010/11 in Great Britain							
Breydon Water and Berney Marshes	0	0	0	0	155 ¹²	Jan	31
Beadnell to Seahouses	0	1	12	0	140	Feb	31
Boulmer to Howick	0	0	0	0	(119)	Jan	24
Seahouses to Budle Point	18	0	0	22	110	Feb	30
Alnmouth to Boulmer	3	0	0	1	(80)	Feb	17
Newton Pool	0	0	0	0	63 ¹²	Dec	63

Black Brant

Branta bernicla nigricans

Vagrant

Native Range: N America and E Asia

Black Brants were recorded in flocks of Dark-bellied Brent Geese at ten sites along the English coast between The Wash and Dorset. Records

spanned November to March, and all related to singles apart from two at Fleet & Wey in February.

Red-breasted Goose

Branta ruficollis

Vagrant and escape

Native Range: SE Europe, Asia

Red-breasted Geese were seen at 12 WeBS sites in England. Typically the provenance of most is doubtful, most obviously a group of five recorded in Suffolk and Essex throughout the

year. However, a potential genuine vagrant may have been responsible for sightings at Southampton Water (Jan), Yar Estuary (Feb) and Northwest Solent (Feb).

Egyptian Goose

Alopochen aegyptiaca

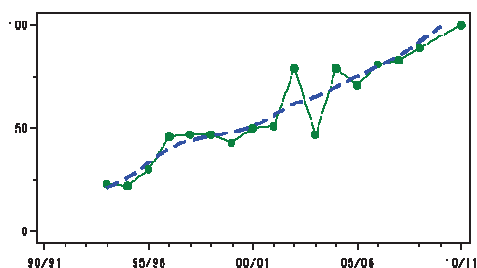
Naturalised introduction

Native Range: Africa

GB max: 724 Sep
NI max: 0

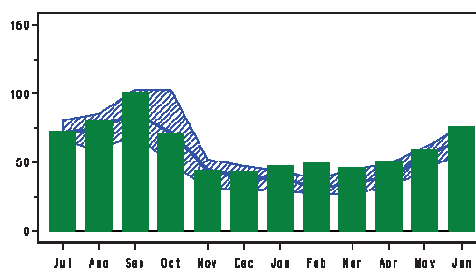
In 2010/11, the national index for Egyptian Goose rose to its highest ever point, and there is every indication that this species will continue to expand across Britain in the years ahead. A record 200 WeBS sites held the species, representing an increase of >50% in the number of sites over the course of the last two years. As was the case in 2009/10, this distribution included single locations in both Wales and Scotland.

Typically, many of the largest counts emanated from Norfolk, although the listing of Eversley & Yateley Gravel Pits, Rutland Water and Summerleaze Gravel Pits near to the top of the table below is strong evidence of the steady expansion taking place away from the East Anglian core. The above average monthly index value for September infers high breeding success of this increasing population, presumably aiding the range expansion.



Annual Index
Trend

Figure 17.a, Annual indices & trend for Egyptian Goose in GB.



2010/11
Range 2005/06 - 2009/10
Previous five-year mean

Figure 17.b, Monthly indices for Egyptian Goose in GB.

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Sites with mean peak counts of 10 or more birds in Great Britain							
North Norfolk Coast	211	125	(162)	133	153	Aug	157
Breydon Water and Bemey Marshes	55	134 ¹²	83 ¹²	256 ¹¹	192 ¹¹	Sep	144
Eversley Cross and Yateley Gravel Pits	69	96	156	117	162 ¹¹	Sep	120
Rutland Water	64	56	96	63	77	Sep	71
Cranwich Gravel Pits			59	93	53	Aug	68
Yare Valley - Marlingford to Bawburgh	52 ¹²	(61)	68 ¹²	52	97	Jul	67
Middle Yare Marshes	65	81	(30)	(50)	51	Oct	66
The Wash	39	(32)	32	78	42	Sep	48
Nar Valley Fisheries Lakes				30	41	Aug	36
Summerleaze Gravel Pits	2	60	62	35	11	Feb	34
Nunnery Lakes	36	36	26	37	28	Jul	33
Trinity Broads	(8)	26	33	19	48	Jun	32
Bawsey Country Park					29	Jun	29
Whitlingham Country Park	24	24	21	35	14	Apr	24
Busbridge Lakes	17	17	25	22	(27)	Dec	22
Lound Waterworks	14	5	25	19	32	Aug	19
Wimbledon Park Lake		21	10	15	25	Jun	18
Rocester Pools	0			21	32	Jul	18
Clapham Common			12	19	18	Dec	16
Spade Oak Gravel Pit (Little Marlow)	11	19	22	19	8	Nov	16
Redgrave Lake	7	17	11	12	33	Sep	16
Queen Mary Reservoir	0	47	2	20	5	May	15
Earith Gravel Pits		21 ¹²	8 ¹²	16	15	Aug	15
Sites below table qualifying levels but exceeding threshold in WeBS-Year 2010/11 in Great Britain							
Lee Valley Gravel Pits	4	6	14	8	38	Dec	14
Lackford Lakes Nature Reserve	17	6	9	11	27	Sep	14
Wellington Country Park	9	9	12	8	17	Jul	11
Sevenoaks Wildfowl Reserve	5	7	5	12	17	Jul	9
Dart Estuary	6	(10)	8	6	15	Aug	9
Castle Marshes Reserve	3	2	2	8	23	Feb	8
River Avon - Fordingbridge to Ringwood	0	0	3	9	19	Oct	6

[†] as no British or All-Ireland thresholds have been set a qualifying level of 15 has been chosen to select sites for presentation in this report

Paradise Shelduck

Tadorna variegata

Escape

Native Range: New Zealand

One was at Petworth Park (Mar).

Australian Shelduck

Tadorna tadornoides

Escape
Native Range: Australia

One was at Petworth Park (Jan, Mar).

Ruddy Shelduck

Tadorna ferruginea

Escape and possible vagrant
Native Range: Asia, N Africa, S Europe

Ruddy Shelducks were noted at 19 WeBS sites during the year, all in England apart from one at Carmarthen Bay in November. A typical late-summer peak included four birds at Rostherne Mere in August.

Common Shelduck

Tadorna tadorna

International threshold (NW Europe population): 3,000
Great Britain threshold: 610
All-Ireland threshold: 150

GB max: 52,041 Jan
NI max: 3,526 Jan

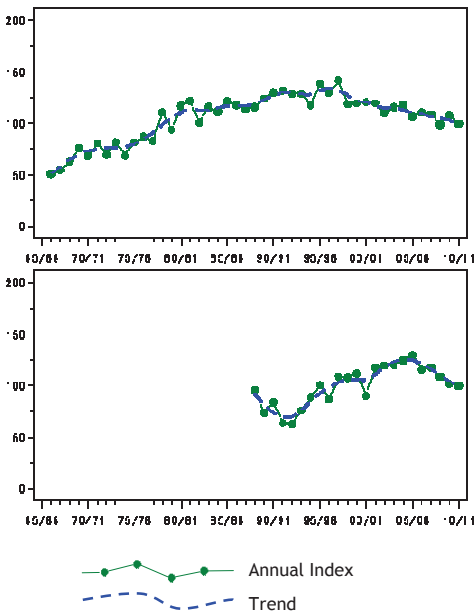


Figure 18.a, Annual indices & trend for Shelduck in GB (above) & NI (below).

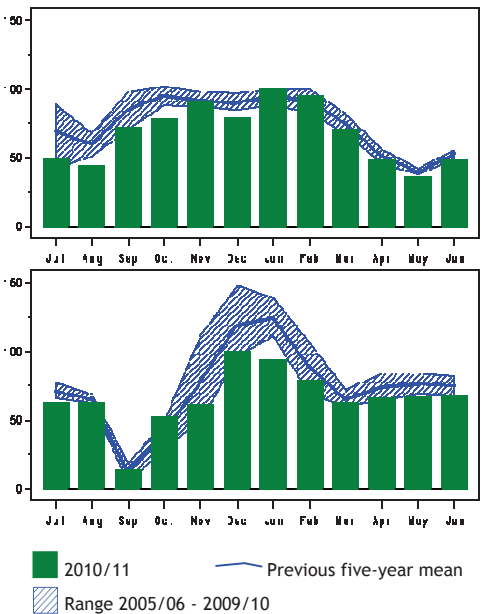


Figure 18.b, Monthly indices for Shelduck in GB (above) & NI (below).

The majority of British and Irish breeding Shelduck are known to migrate to the Helgoland Bight of the Wadden Sea to moult, where they are joined by birds from Scandinavia and the Baltic. Although several sites on this side of the North Sea, such as the Mersey, Humber and Severn estuaries, are also of importance for moulting birds, the monthly indices indicate that below average numbers were present in Britain during late-summer in 2010/11.

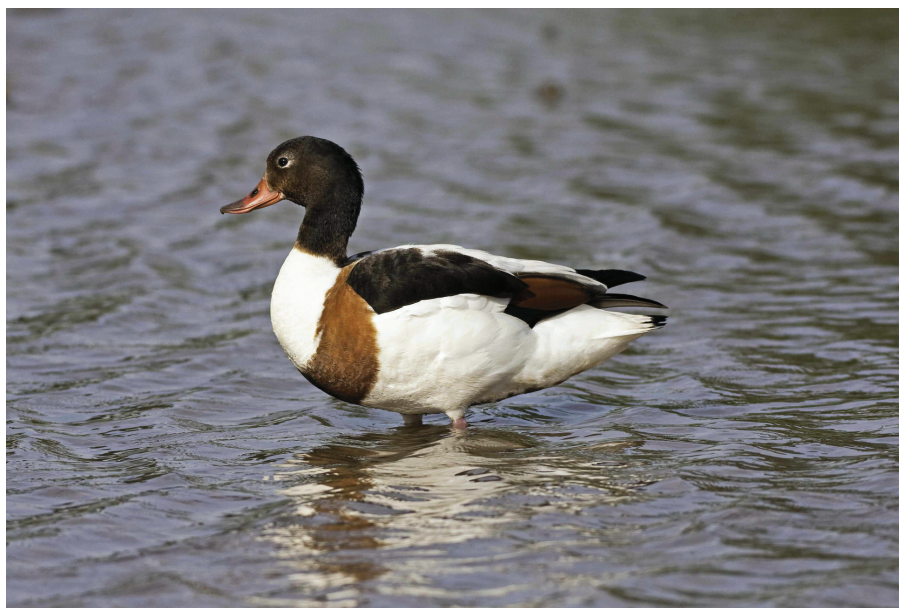
Perhaps in response to the general trend for milder winters in north-west Europe (up until 2009/10), the number of Shelduck wintering in The Netherlands has increased since the mid 1990s (Hornman *et al.* 2012), implying a shift in distribution across the North Sea in that time. However, in January 2011 there was an apparent influx of Shelducks into Britain, presumably from the Wadden Sea due to the cold weather conditions prevalent at the time.

Eight sites in Britain continue to surpass the threshold for international importance. Although the October total recorded at Dee Estuary represents the fourth highest ever annual peak from that site, reported maxima from the other sites of international importance were less favourable. The apparent marked drop at Mersey Estuary is especially noticeable. If it is a genuine decline, it cannot be explained by the recent increase noted on the Dee. Elsewhere in north-west England, numbers have also decreased markedly on the Ribble Estuary since the 1990s.

Shelducks can show marked responses to subtle changes in habitat quality. A decline in numbers using The Wash has been linked to over-exploitation of the cockle and mussel fishery there (Atkinson *et al.* 2010). During the 1980s, mid winter maxima of 15,000+ Shelducks were a feature of the site, peaking at an exceptional 21,304 birds in December 1985; the most ever noted through WeBS.

In Northern Ireland, numbers have steadily declined over the course of the last five years, returning the species to an equivalent status to the mid 1980s when monitoring began there.

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Sites of international importance in the UK							
Dee Estuary (England and Wales)	10,869	9,425	9,457	11,688	12,234	Oct	10,735
Mersey Estuary	(16,721)	(10,644)	(4,237)	(3,613)	2,395	Aug	7,522
Morecambe Bay	(8,880)	5,804	(8,409)	(8,367)	6,081	Nov	7,508
The Wash	6,855	6,656	6,046	6,155	(5,228)	Jan	6,428
Humber Estuary	4,823	5,804	(2,892)	(6,137)	(4,095)	Aug	5,588
Strangford Lough	3,413 ¹⁰	6,084 ¹⁰	5,583 ¹⁰	3,069 ¹⁰	3,101 ¹⁰	Dec	4,250
Severn Estuary	3,711	(5,414)	3,943	5,148	2,945	Mar	4,232
Forth Estuary	(3,546)	3,283	2,774	4,047	3,322	Sep	3,394
Sites of national importance in Great Britain							
Ribble Estuary	2,577	2,216	2,878	(2,327)	3,094	Jul	2,691
Blackwater Estuary	2,623	(2,369)	2,642	(2,342)	(1,936)	Jan	2,633
Stour Estuary	1,641	2,402	3,499 ¹⁰	2,396 ¹⁰	(1,652)	Jan	2,485
Lindisfarne	1,868	(1,406)	(2,302)	(1,451)	2,086	Nov	2,085
Thames Estuary	1,870	2,498	(1,941)	1,362	(1,792)	Feb	1,918
Medway Estuary	(1,290)	(1,631)	(1,604)	(1,673)	(1,884)	Jan	(1,884)
Hamford Water	(1,496)	2,450	1,838	1,401	1,264	Jan	1,738
Swale Estuary	1,406	2,003	1,926	1,636	1,667	Feb	1,728
Solway Estuary	2,888	1,902	(708)	763	558	Feb	1,528
North Norfolk Coast	1,361	1,222 ¹⁰	981	1,027	1,106	Mar	1,139
Montrose Basin	(1,106)	(1,098)	806	1,191	1,365	Feb	1,121
Crouch-Roach Estuary	577	823	1,029	935	2,115 ¹⁰	Dec	1,096
Alde Complex	1,181	1,120	(1,041)	1,020	982	Mar	1,076
Poole Harbour	(1,043)	(788)	(899)	(715)	(790)	Jan	(1,043)
WWT Martin Mere	1,075	780	1,290	1,050	1,012	Jan	1,041
Wigtown Bay	751	880	1,017	1,338	462	Oct	890
Orwell Estuary	727 ¹⁰	(419)	807 ¹⁰	849 ¹⁰	922	Jan	826
Colne Estuary	326	1,600 ¹⁰	(406)	813	547	Feb	822
Burry Inlet	690	780	962	759 ¹⁰	646	Feb	767
Duddon Estuary	363	498	790	911	866	Feb	686
Deben Estuary	837	754	554	467	635	Feb	649
Chichester Harbour	643	449	560	926	638	Dec	643
Cleddau Estuary	497	607	763	580	765	Jan	642
Blyth Estuary	677	794	(493)	413	(346)	Dec	628 ▲
Sites of all-Ireland importance in Northern Ireland							
Larne Lough	832	486	931	819	728	Feb	759
Belfast Lough	(378)	265	691	916 ¹⁰	375	Jan	562
Carlingford Lough	(349)	477	434	278	237	Feb	357
Lough Foyle	264	322	364	122	139	Feb	242
Sites no longer meeting table qualifying levels in WeBS-Year 2010/2011							
Tees Estuary	816	588	599	517	485	Mar	601
Sites below table qualifying levels but exceeding threshold in WeBS-Year 2010/11 in Great Britain							
Dengie Flats	238	192	248	238	876	Jan	358
Lavan Sands	395	424	379	445	653	Feb	459
Other sites surpassing table qualifying levels in Winter 2010/2011 in Northern Ireland							
Dundrum Inner Bay	70	188	109	116	150	Feb	127



John Harding

Muscovy Duck

Cairina moschata

Escape
Native Range: S America

Recorded at 47 WeBS sites in 2010/11, a monthly peak of 65 Muscovy Ducks was noted in January. Peaks were ten at Hesketh Park Lake, and eight at Brayford Pool and Bucklands Pond.

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Sites with mean peak counts of 5 or more birds in Great Britain							
Brayford Pool, Lincoln	26	17	14	11	8	Jul	15
Hesketh Park Lake		11	14	15	10	Jul	13
Fort Henry Ponds and Exton Park Lakes	43	5	1	0	0		10
Sites below table qualifying levels but exceeding threshold in WeBS-Year 2010/11 in Great Britain							
Bucklands Pond, Nailsea	3	3	3	3	8	Jan	4
Tarns Dub	0	0	0	0	6	Nov	1

Wood Duck

Aix sponsa

Escape
Native Range: N America

Wood Ducks were seen at 12 WeBS sites in 2010/11, including locations in both Wales and Scotland. All were single birds apart from two at Connaught Water in July.

Mandarin Duck

Aix galericulata

Naturalised introduction
Native Range: E Asia

GB max: 703 Nov
NI max: 0

Records of Mandarin Ducks were received from 189 sites in 2010/11, representing an increase of 22% compared to the previous year. This total is indicative of a range expansion, but could also partly reflect both increased WeBS coverage of small wooded lakes and ponds and potential displacement during the frozen 2010/11 midwinter period. Most sites were in England, with just two sites in Scotland and four in Wales. A monthly maximum of 703 birds was logged in November, and the national index was at a similarly high level to the past two years.

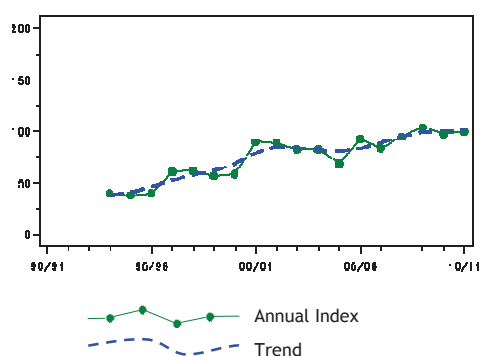


Figure 19.a, Annual indices & trend for Mandarin in GB.

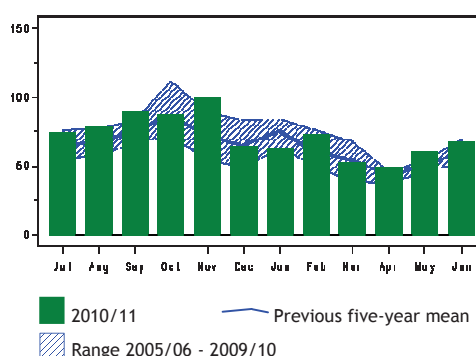


Figure 19.b, Monthly indices for Mandarin in GB.

In 2010/11, counts of 50+ were received from nine sites. These included marked increases in the peaks, both in November, reported from Stockgrove Country Park (121) and Linacre Reservoirs (135). These counts were surpassed only by that from the traditional haunt of Forest of Dean Ponds where a supplementary count of

245 (Oct) represents the most ever reported. Notably, following the speculation in last year's report, a count of 100+ from the River Severn at Trimpley provides some evidence of the concentrations of this species probably present elsewhere in the English/Welsh border region.

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Sites with mean peak counts of 20 or more birds in Great Britain[†]							
Forest of Dean Ponds	236 ¹²		232 ¹²	74 ¹²	245 ¹²	Oct	197
Bradley Pools		251 ¹²	75 ¹²	120 ¹²	98 ¹²	Dec	136
R. Severn, Trimpley					101 ¹²	Dec	101
Brookleys Lake	11 ⁴⁶	98 ⁴⁶	51 ⁴⁶	160 ⁴⁶	86	Nov	81
Trimpley Reservoir				64	(38)	Dec	64
Stockgrove Country Park		3	67	39	121	Nov	58
Linacre Reservoirs	25	35	23	45	135	Nov	53
Dee Flood Meadows	83	48	35	47	30	Sep	49
Busbridge Lakes	41	31	52	36	61	Feb	44
Bough Beech Reservoir	60 ¹²	42	48	50 ¹²	6	May	41
Kedleston Park Lake		80 ¹²	54 ¹²	23 ¹²	8 ¹²	Mar	41
Harewood Lake		25	44	62	32	Oct	41
Arun Valley	25	53	71	28	22	Apr	40
Darwell Reservoir	74	33	41		0		37
Blackbrook Reservoir	16	13	8	64 ¹²	79 ¹²	Jul	36
Connaught Water (Epping Forest)	44	40	38	27	17	Dec	33
Wimpole Park					33	Jan	33
Headley Mill Pond	15	64	28	22 ¹²	18	Feb	29
Strawberry Hill Ponds	44	33	17	41	12	Feb	29
Blatherwyke Lake	3	21	48	32	32	Feb	27
Osterley Park Lakes	14	21	37	32	19	Aug	25
Sites below table qualifying levels but exceeding threshold in WeBS-Year 2010/11 in Great Britain							
Radnor Mere	6	15	12	26	33	Jan	18
Mere Farm Quarry - Chelford	0	0	0	0	25	Dec	5

[†] as no British or All-Ireland thresholds have been set a qualifying level of 25 has been chosen to select sites for presentation in this report

Maned Duck

Chenonetta jubata

Escape
Native Range: Australia

One was at Testwood Lakes (Sep-Oct).

Eurasian Wigeon

Anas penelope

International threshold (W Siberia and NE Europe population): 15,000

Great Britain threshold: 4,400

All-Ireland threshold: 820

GB max: 391,660 Jan

NI max: 3,885 Oct

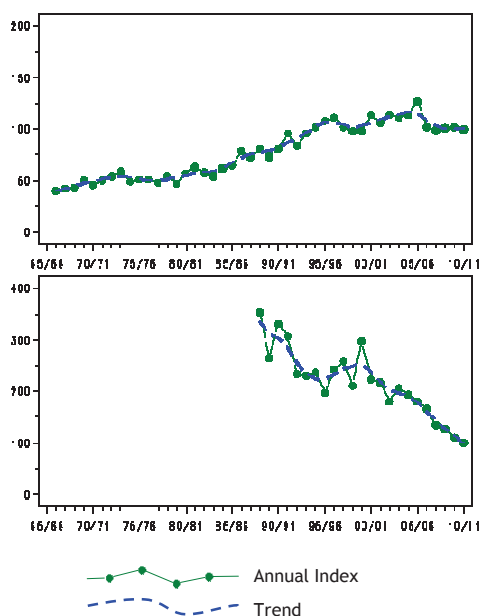


Figure 20.a, Annual indices & trend for Wigeon in GB (above) & NI (below).

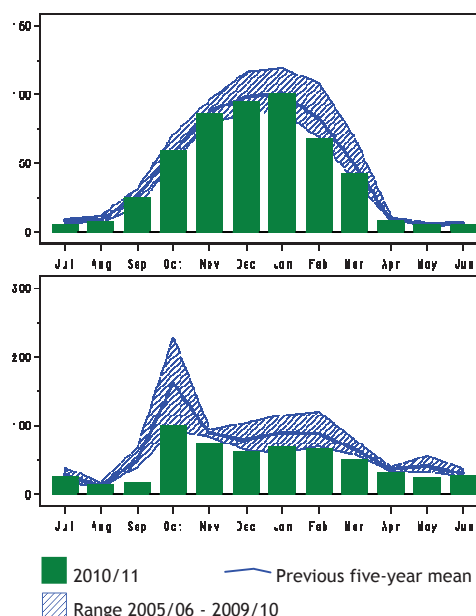


Figure 20.b, Monthly indices for Wigeon in GB (above) & NI (below).

Following the record high index value reached in 2005/06, numbers of Wigeon in Britain have been stable, at approximately 10% lower in the five years since. In 2010/11, four sites continued to meet the criterion for international importance. At the principal site, Ribble Estuary, the peak recorded in November was close to the recent site average, although some way short of the total logged there two years previously.

The two top inland sites, Ouse Washes and Somerset Levels, both held maxima in January that were well in excess of typical numbers for those sites, presumably associated with the frozen conditions prevalent across north-west Europe at the time. The count at Somerset Levels is exceptional, if one considers that the previous maximum there was 39,546 in January 2003 (itself 10,000+ more birds than the next highest count, noted the following year). At Ouse Washes, although the peak in 2010/11 was the highest since the site maximum of over 55,000 five years before, historically the site has regularly been used by peaks in excess of 30,000

Wigeon. Among the 17 additional sites that surpass the threshold for national importance, further evidence of responses to the cold weather was provided by the midwinter peaks at Nene Washes (following a similarly high maximum during a cold spell in 2009/10), Severn Estuary and Dungeness & Rye Bay.

It is possible that the December peak at the latter site and some others indicates a fresh influx of birds from frozen continental Europe at that time. Interestingly, further support for Britain being used as a refuge is provided by the fact that the monthly indices show a larger than expected exodus of Wigeon in February, after the cold period. Wigeon wintering in Britain largely comprise breeding birds from Scandinavia, northeast Europe and western Russia – it might therefore be expected that this species would show a climatic-induced shift in winter distribution towards the breeding range core, as identified in some waders by Maclean *et al.* (2008).

However, recent work by the research group *Nordic Waterbirds and Climate Network*

(NOWAC) indicates that, of the six common dabbling duck species, Wigeon has shown the least change in core distribution within Europe in response to climate (Dalby *et al.* 2012). However, record numbers in Switzerland in recent years (e.g. Keller & Burkhardt 2010) tends to suggest some degree of change either in distribution or overall abundance, and the wintering population in Northern Ireland is in

steep decline. Given that Wigeon have been shown to respond to temperature in the breeding season, when breeding success is correlated with temperature in breeding areas (Mitchell *et al.* 2008), further research is required to examine the population dynamics and responses to environmental change (whether associated with climate change or more localised factors) of the species in winter.

	06/07	07/08	08/09	09/10	10/11	Mon	Mean
Sites of international importance in the UK							
Ribble Estuary	(57,385)	85,964	97,512	64,633	80,148	Nov	82,269
Somerset Levels	27,391	28,882	21,186	26,073	51,189	Jan	30,944
Ouse Washes	26,984	19,800	(29,658)	24,175 ¹²	43,010 ¹²	Jan	28,725
Breydon Water and Bemey Marshes	18,184 ¹²	21,400 ¹²	21,074 ¹²	22,770 ¹²	24,231 ¹²	Jan	21,532
Sites of national importance in Great Britain							
Swale Estuary	7,041	11,560	12,134	25,848	14,800	Dec	14,277
Nene Washes	8,180	10,497	9,096	22,571	20,460	Jan	14,161
Lower Derwent Ings	14,200	11,600	9,614	14,803	17,803	Mar	13,604
North Norfolk Coast	16,750	11,998	10,304	7,557	11,148	Dec	11,551
Dornoch Firth	9,763	11,115	(12,303)	8,221	15,440	Oct	11,368
Lindisfarne	10,840	(12,000)	10,194	(7,990)	(8,922)	Nov	11,011
The Wash	6,612	8,961	(5,124)	13,224	8,062	Oct	9,215
Severn Estuary	9,343	10,008	8,672 ¹⁰	7,676	(10,284)	Jan	9,197
Cromarty Firth	8,510	10,510	(9,109)	4,626	7,915	Oct	8,134
Alde Complex	8,280	6,337	5,345	9,128	(9,672)	Dec	7,752
Morecambe Bay	(6,201)	(6,260)	9,110	(7,179)	6,137	Jan	7,624
Cleddau Estuary	7,643	7,130	7,429	8,227	7,580	Nov	7,602
Dungeness and Rye Bay	5,193	4,010	2,711	(5,574)	(13,852)	Dec	6,268
Thames Estuary	3,566	9,293	4,428	6,641	5,653	Jan	5,916
Inner Moray and Invermess Firth	5,863	7,666	6,555	3,546	5,884	Oct	5,903
Middle Yare Marshes	3,890	6,507	5,511	7,904	5,545	Feb	5,871
Blackwater Estuary	6,580	5,667	5,836	4,722	3,713	Jan	5,304
Sites of all-Ireland importance in Northern Ireland							
Lough Foyle	5,406	2,835	3,118	1,273	1,409	Oct	2,808
Strangford Lough	3,476	1,582	1,540	1,559	2,178	Oct	2,067
Loughs Neagh and Beg	1,878	1,614	1,427	1,528	1,156	Jan	1,521
Sites no longer meeting table qualifying levels in WeBS-Year 2010/2011							
Abberton Reservoir	654	6,572	5,815	4,906	2,143	Oct	4,018
Dee Estuary (England and Wales)	5,797	(2,461)	1,776	3,512	2,568	Oct	3,413
Sites below table qualifying levels but exceeding threshold in WeBS-Year 2010/11 in Great Britain							
Fleet and Wey	3,087	2,285	3,089	5,131	8,244	Dec	4,367
Hamford Water	(2,102)	2,718	2,491 ¹⁰	1,894	(5,599)	Dec	3,176
Rutland Water	2,278	2,773	3,414	4,883	5,480	Dec	3,766

American Wigeon

Anas americana

Vagrant

Native Range: N & C America

Singles were noted at three sites: Rutland Water (Jan-Feb), North Norfolk Coast (Jan) and Loch Bee, South Uist (Apr).

Chiloe Wigeon

Anas sibilatrix

Escape

Native Range: S America

Records from three sites included a peak of six birds at Hereford Quarry (Sep).