



## Waterbirds in the UK 2011/12

The annual report of the Wetland Bird Survey



# WATERBIRDS IN THE UK 2011/12

This is the 31st annual report of the Wetland Bird Survey (WeBS), produced in conjunction with an online report at [www.bto.org/webs-reporting](http://www.bto.org/webs-reporting). WeBS is the principal scheme for monitoring the populations of the UK's wintering waterbirds, providing an important indicator of the status of waterbird populations and the health of wetlands.

## British Trust for Ornithology



The Nunnery  
Thetford  
Norfolk  
IP24 2PU  
[www.bto.org](http://www.bto.org)

## Joint Nature Conservation Committee



Monkstone House  
City Road  
Peterborough  
PE1 1JY  
[www.jncc.defra.gov.uk](http://www.jncc.defra.gov.uk)

## Royal Society for the Protection of Birds



The Lodge  
Sandy  
Bedfordshire  
SG19 2DL  
[www.rspb.org.uk](http://www.rspb.org.uk)

## Wildfowl & Wetlands Trust



Slimbridge  
Gloucestershire  
GL2 7BT  
[www.wwt.org.uk](http://www.wwt.org.uk)

## THE WeBS PARTNERSHIP

The Wetland Bird Survey (WeBS) is run by the British Trust for Ornithology (BTO). It is a partnership funded by the BTO, the Royal Society for the Protection of Birds (RSPB) and the Joint Nature Conservation Committee (JNCC) (the last on behalf of the statutory nature conservation agencies: Natural England, Natural Resources Wales and Scottish Natural Heritage and the Department of the Environment Northern Ireland), in association with the Wildfowl & Wetlands Trust (WWT).

The members of the WeBS Steering Committee in 2011/12 were Chas Holt (BTO), Andy Musgrove (BTO), David Stroud (JNCC), Simon Wotton (RSPB) and Richard Hearn (WWT).

## THE WeBS TEAM AT THE BTO

Chas Holt - WeBS National Coordinator  
Heidi Mellan - Counter Network Organiser  
Neil Calbrade - Low Tide Count Organiser  
Graham Austin - Database Manager  
Warren Read - Web Software Developer  
Andy Musgrove - Head of BTO Monitoring  
Email: [firstname.surname@bto.org](mailto:firstname.surname@bto.org)



## General enquiries to WeBS:

WeBS, The Nunnery, BTO, Thetford, Norfolk IP24 2PU  
Email: [webs@bto.org](mailto:webs@bto.org) Tel: 01842 750050

**WeBS website:** [www.bto.org/webs](http://www.bto.org/webs)

## Other contacts:

**Goose & Swan Monitoring Programme** - organised and funded by WWT, JNCC and SNH. Email: [monitoring@wwt.org.uk](mailto:monitoring@wwt.org.uk)

**Other national waterbird surveys** - details of (and contacts for) other waterbird surveys can be obtained via the websites of the WeBS partner organisations.

## ACKNOWLEDGEMENTS

We are indebted to the efforts of all WeBS Counters and grateful to the following for providing technical assistance, supplementary information, additional data, or particularly invaluable help in 2011/12: Carl Barimore, Bob Blogg, Niall Burton, Lee Cadwell, Mark Collier, Aonghais Cook, Olivia Crowe, Iain Downie, Norman Elkins, Simon Gillings, Colette Hall, Paul Harvey, Martin Heubeck, Menno Hornman, Andrew Joys, Maria Knight, John Marchant, Veronica Mendez, Carl Mitchell, Nick Moran, Deborah Procter, John Shillitoe, SOTEAG, Rick Vonk, Colin Wells, Chris Waltho and Karen Wright. Grateful thanks to all and apologies to anyone who has been inadvertently missed.

Members of the WeBS Local Organiser Advisory

Committee (WeBS LOAC) in 2011/12 were: John Armitage, Neil Bielby, Gladys Grant, Andrew King, Ian Lees, Nick Mason, Dave Shackleton and Shane Wolsey. See the back cover of this report for a list of all WeBS Local Organisers, to whom we send our hearty thanks.

We are very grateful to the JNCC for funding the development of the online interface produced in conjunction with this paper report. The BTO IS Team continue to develop and provide support for the *WeBS Online* data submission system.

The painting of three Turnstones used as the cover of *Waterbirds in the UK 2011/12* is by Ray Scally. More of Ray's artwork can be seen at [www.rayscally.co.uk](http://www.rayscally.co.uk).

Report design and production was by the WeBS team, with article contributions from Olivia Crowe (I-WeBS, page 27) and Kane Brides (Pochards, page 33). We are grateful to Kate Risely and Jane Waters for their help in preparation of the report.

This report was printed by Swallowtail Print, using paper from responsible sources.





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*Arenya platyrhynchos*

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Further information: [BIBIS](#) [BIBISplus](#) [BIBISplus](#)

Number of sites: 123

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Male Wigeon	18,854	181,586	184,853	176,821	164,971	164,971	164,971	164,971	164,971	164,971	164,971
Female Wigeon	18,854	181,586	184,853	176,821	164,971	164,971	164,971	164,971	164,971	164,971	164,971
Wigeon (Total)	37,708	363,172	369,706	343,642	329,942	329,942	329,942	329,942	329,942	329,942	329,942

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## RECOMMENDED CITATION

Austin, G.E., Read, W.J., Calbrade, N.A., Mellan, H.J., Musgrove, A.J., Skellorn, W., Hearn, R.D., Stroud, D.A., Wotton, S.R. & Holt, C.A. 2014. *Waterbirds in the UK 2011/12: The Wetland Bird Survey*. BTO, RSPB and JNCC, in association with WWT. British Trust for Ornithology, Thetford.

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## Online Resources

More information, including site tables and trends for all regular WeBS species, is available online at [www.bto.org/webs-reporting](http://www.bto.org/webs-reporting).



This paper report can be downloaded from the WeBS website at [www.bto.org/webs/publications](http://www.bto.org/webs/publications).

The online and paper outputs in conjunction constitute the report *Waterbirds in the UK 2011/12*.

## THE NEW REPORT

# A new-look annual report

The annual 'WeBS report' now comprises this new paper copy and a user-friendly online interface

[www.bto.org/webs-reporting](http://www.bto.org/webs-reporting)

The annual WeBS report has changed its appearance several times over the years, but the content has remained essentially the same. This year's revamp is the most exciting ever. The report you are reading will remain a key source of summary information on the status of the UK's waterbird populations, however in conjunction there is now also a new online reporting interface, at [www.bto.org/webs-reporting](http://www.bto.org/webs-reporting).

Where you see a QR barcode such as this, you can use a smartphone to directly access the online report.



Wetlands and the birds that use them are a special aspect of UK biodiversity. Monitoring these sites depends on dedicated volunteers across the UK - whether counting waders at Snettisham on The Wash or ducks on a local lake, their efforts enable generation of population trends for most species as well as site assessments. The new approach to WeBS reporting further enhances the quality of feedback to the waterbird monitoring community.

◀ **Site photo request! Please send labelled images of UK wetlands for use in the online report to [webs@bto.org](mailto:webs@bto.org).**

## FIND OUT MUCH MORE...

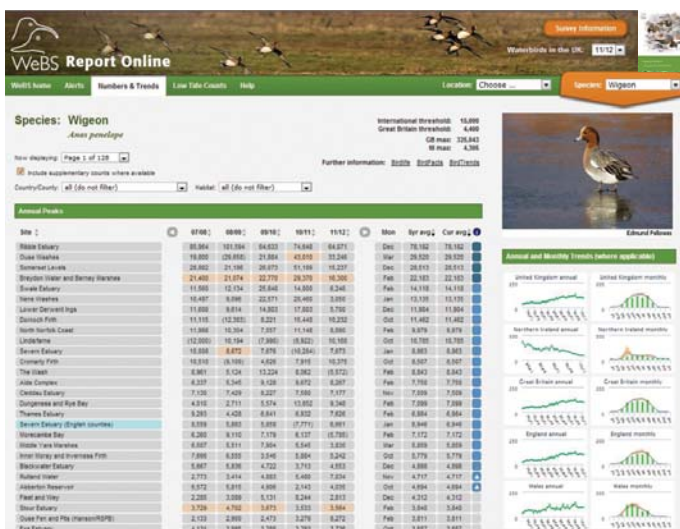
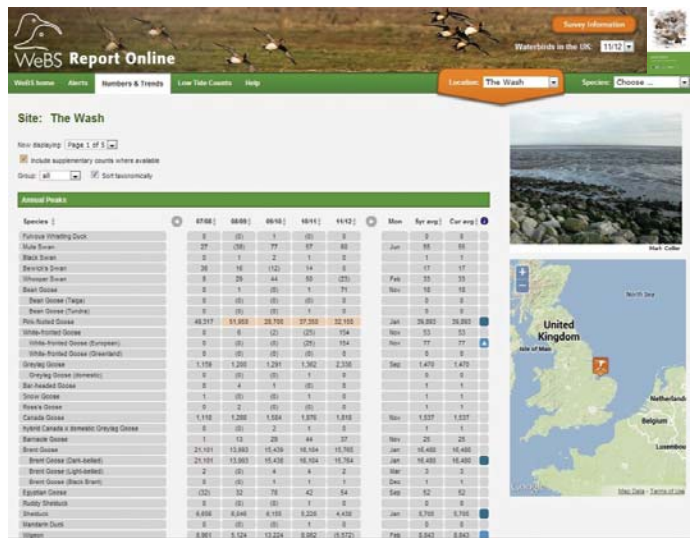
For the online report, see [www.bto.org/webs-reporting](http://www.bto.org/webs-reporting)



The **Numbers & Trends** section features **species trends** (for the UK and Constituent Countries) and **site tables for all species** (with facility to filter by country, county and habitat), alongside sections on **Low Tide Counts** and **WeBS Alerts**. There is also a **Help** section containing tutorials.

## SITES...

- The new reporting interface is now the place to find tables for all sites, from the largest sites like The Wash to the smallest such as Raleigh Pond.
- The interface gives the user a much more interactive experience, such as the ability to scroll back through the years to compare counts and the option of showing supplementary counts.
- Species in the tables can be sorted taxonomically or alphabetically and also by the annual peak or five year average.



## SPECIES....

- Every waterbird species ever recorded by WeBS is now represented on its own page, listing every site the species has been recorded at.
- Sites in the tables can be sorted alphabetically and by the annual peak or five year average.
- Species can be filtered by country, county and/or by habitat.
- Annual and monthly trends for the UK and Constituent Countries are shown (where applicable).



## HEADLINE STORIES

# Waterbird headlines from 2011/12

Waterbirds in the UK exhibit a range of population trends, as shown in this selection of snapshots.

See all the numbers and trends at [www.bto.org/webs-reporting](http://www.bto.org/webs-reporting)

Many of the goose populations wintering in the UK are monitored by dedicated censuses, such as the Icelandic-breeding Goose Census (IGC). Two populations that are dependent on WeBS for monitoring their status in the UK however are **DARK-BELLIED BRENT GOOSE** and **EUROPEAN WHITE-FRONTED GOOSE**. Both have shown declines in the last 20 years, particularly 'White-fronts' which have shifted their core wintering range to The Netherlands in a well-documented case of 'short stopping'. In 2011/12 however, both of these geese increased in the UK, including an unprecedented influx of White-fronted Geese to eastern Scotland.



GRAHAM CATLEY



ROB ROBINSON

**EGYPTIAN GEESE** continue to increase in the UK, with the WeBS index reaching its highest ever value in 2011/12. Typically high counts were noted at North Norfolk Coast (173) and Breydon Water & Berney Marshes (115), but for the first time the peak count of the year emanated from outside Norfolk. A maximum of 191 at Eversley & Yateley Gravel Pits (Berkshire), as well as 122 at Rutland Water, are strong evidence of the expansion that is continuing to take place away from East Anglia - as illustrated by *Bird Atlas 2007-11*. Can we expect some other non-native waterbirds, such as Black Swan and Bar-headed Goose for example, to increase in a similar fashion in the years ahead?

Numbers of **GOLDENEYE** in the UK have declined sharply since the 1990s (see page 29). The rate of the decrease has slowed in the last four years, perhaps in part due to the fact that western Europe experienced three relatively cold winters in that period. Numerically the most important site in the UK for Goldeneye remains Loughs Neagh & Beg (Northern Ireland), however the peak there in 2011/12 fell below 3,000 birds for the first time. Elsewhere, 1,100+ were at Forth Estuary, evidence of the numbers of this species that can occur offshore at coastal locations. Notably, the peak at Poole Harbour (Dorset) surpassed the national importance threshold for the first time.



EDMUND FELLOWES



EDMUND FELLOWES

Steep decline  
in Pintail in  
the last six  
years

The WeBS trend for **PINTAIL** in the UK shows that numbers have fallen by a staggering 50% since 2005/06. The species can be prone to population fluctuations, but this decline has been consistent during that period. Virtually all the sites that host internationally important numbers of Pintails have seen declines, with the changes especially marked at the two key sites of the Dee Estuary and Burry Inlet. At first sight, the losses from these and other western strongholds is suggestive of a potential eastward shift of core wintering range. However, with declines also apparent in other areas, the downward trend is probably attributable to a combination of factors.

**OYSTERCATCHERS** continue to show regional variation in terms of non-breeding population trends, but overall the species continues to decline. Whereas a high peak of more than 82,000 was recorded at Morecambe Bay in 2010/11, the maximum in 2011/12 was only approximately half that. Peaks at the other important sites were close to or slightly below average, although more pronounced drops were also seen at Thames Estuary and Solway Estuary. In 2011/12, the annual WeBS index dropped to its lowest value since the late 1970s. This decline could be due to a variety of factors, and research is required to pinpoint the precise reasons.



JOHN HARDING

The **RINGED PLOVER** is one of the species for which the winter population trend now gives the greatest cause for concern. UK numbers have more than halved in less than 25 years, and the WeBS index has now reached its lowest ever level. This general pattern is considered to be due to a steady decline in the UK breeding population combined with reduced winter immigration into the UK by birds from continental Europe. Like several other waders, such as Dunlin and Bar-tailed Godwit, numbers of Ringed Plovers wintering in the Netherlands have increased in recent decades, lending support to the latter hypothesis.



JILL PAKENHAM

Numbers of seaducks such as **LONG-TAILED DUCK** and other offshore species such as **RED-NECKED GREBE** continue to fall. Although WeBS may not be optimal for monitoring offshore birds, the situation suggests potential shifts in distributions and/or population declines. Counts of **SLAVONIAN GREBES** continue to suggest the species is increasing in northern Scotland, but further declines were apparent on the English south coast. In contrast, most of the wintering population of about 130 **BLACK-NECKED GREBES** are in southern England, either close offshore or at favoured inland reservoirs - in 2011/12, 80+ birds were at Studland Bay (Dorset), a record count for the species.



GLYN SELLORS



## COVERAGE

**2,900**  
registered  
WeBS  
volunteers

# 2011/12: a record year for UK waterbird monitoring

## WeBS CORE COUNTS

During the period July 2011 to June 2012, WeBS Core Counts were carried out at 2,422 sites. This is a record increase of 5% compared to the previous WeBS-year. Geographical coverage in 2011/12 is shown opposite.

### Core Count dates in 2011/12

17 July 2011  
14 August 2011  
18 September 2011  
16 October 2011  
20 November 2011  
18 December 2011  
15 January 2012  
12 February 2012  
11 March 2012  
8 April 2012  
20 May 2012  
24 June 2012



TONI CROSS

## WeBS LOW TIDE COUNTS

WeBS Low Tide Counts were carried out at 18 estuaries in 2011/12. This included coverage of some large sites such as the Humber Estuary (Yorkshire/

Lincolnshire), Swale Estuary (Kent) and Blackwater Estuary (Essex).

A review of the WeBS Low Tide Counts scheme in 2011/12 can be found on pages 36-41.

## GOOSE CENSUSES IN 2011/12

Many populations of wintering geese were censused using other surveys. Counts of Taiga Bean Geese were provided by the Bean Goose Action Group (Slamannan Plateau) and RSPB (Middle Yare Marshes). Surveys of Pink-footed and Icelandic Greylag Geese were undertaken at, primarily, roost sites in October to December 2011 as part of the Icelandic-breeding Goose Census. Greylag Geese at key sites in northwest Scotland were censused by the Uist Greylag Goose Management Committee. Greenland White-fronted Geese were monitored by the Greenland

White-fronted Goose Study. Greenland Barnacle Geese were counted by SNH on Islay and some other key locations, while WWT counted Svalbard Barnacle Geese on the Solway. Data were provided by the International Canadian Light-bellied Brent Goose census.

For progress reports on goose censuses in the UK, see *GooseNews*, WWT's annual newsletter of the Goose & Swan Monitoring Programme. Further goose & swan information is available via [www.monitoring.wwt.org.uk](http://www.monitoring.wwt.org.uk).



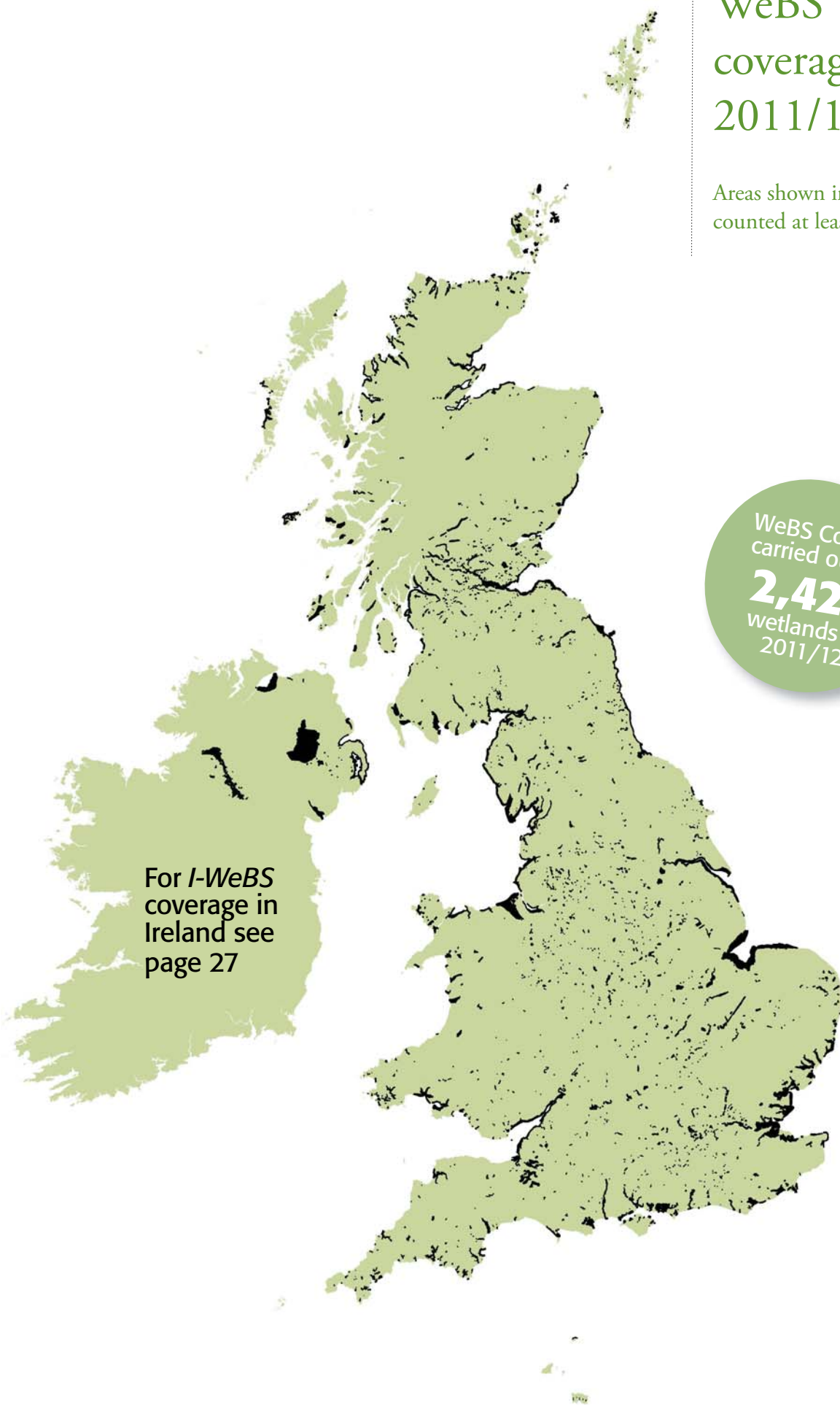
CHAS HOLT

▲ The Pink-footed Goose population is monitored by the annual Icelandic-breeding Goose Census, carried out in autumn and early winter.



## WeBS coverage in 2011/12

Areas shown in black were  
counted at least once



WeBS Counts  
carried out at  
**2,422**  
wetlands in  
2011/12

For *I-WeBS*  
coverage in  
Ireland see  
page 27

## WEATHER & BREEDING PRODUCTIVITY

# 2011/12: a mild winter after previous year's big freeze

Winter 2011/12 proved to be relatively mild, in keeping with the general trend of climatic amelioration in recent decades. This was in marked contrast to winter 2010/11 which had been the coldest across northwest Europe for 35 years.

The following 2011/12 summary is collated from the Meteorological Office website at [www.metoffice.gov.uk](http://www.metoffice.gov.uk).

July 2011 saw a mixture of cool, unsettled weather, with some heavy rain in places. Mean temperatures were lower than average, it being the coldest July since 1980.

August 2011 was predominantly unsettled. Mean temperatures were below average. Over twice the normal amount of rain fell across parts of England.

During September 2011 a changeable 'westerly' weather type prevailed for most of the month. The final week saw a fine, very warm spell with some unusually high temperatures.

In October 2011, westerly or southerly airstreams brought rain to the north and west. The mean temperature was 2.2°C above the 1971-2000 average, making it the seventh warmest October in the last 100 years.

November 2011 saw airstreams from a southerly quarter bring mild, settled weather in the first three weeks. Mean temperature was 2.8°C above the 30-year average, making it the second warmest November in last 100 years.

An Atlantic airstream in December 2011 brought mild, stormy weather to southern areas in the last ten days. Mean temperature was 0.9°C above the 30-year average, making it the mildest December since 2006 and 6°C warmer than December 2010.

In January 2012, a mild start was followed by a brief cold spell around mid-month. The mean temperature was 1.5°C above the 1971-2000 average, making it significantly milder than Januaries 2009 to 2011. Rainfall was less than 75% of normal across eastern and southern regions.

In February 2012, high pressure across northern Europe resulted in cold conditions during the first half of the month with sharp frosts and snow. Atlantic airstreams dominated during the last ten days.

Most of March 2012 was dominated by high pressure; it was consequently dry and sunny. UK mean temperature was 2.3°C above the 1981-2010 average, ranking it the warmest March since 1957. A maximum temperature of 24°C was recorded in Aberdeenshire.

April 2012 saw low pressure over UK for most of the month. There was snow in northern areas early in the month and rain especially in the last week. It was the coldest April since 1989.

May 2012 was predominantly cool and unsettled, offset by a very warm spell at the end of the month.

June 2012 was dominated by low pressure, with associated high rainfall and cool conditions. There was almost a complete absence of warm, settled spells.

## THE ARCTIC BREEDING SEASON

Arctic breeding conditions for birds that winter in the UK are summarised from The International Breeding Conditions Survey on Arctic Birds, available from [www.arcticbirds.net](http://www.arcticbirds.net).

Summer temperatures varied across the Arctic, but generally figures were well above average. This was particularly the case across most of eastern Siberia, Greenland and arctic Canada. However although conditions were also warmer in arctic Russia in early summer, the temperature there turned significantly cooler in mid summer. Rodent abundance

was considered to be low or average across most of the arctic in 2011, exceptions being northern Scandinavia and arctic Russia. Despite this, bird breeding success was good or average across most regions, although the situation was unclear at some monitoring stations.

In the UK, WeBS counts of Curlew Sandpiper can be a useful barometer of the breeding season for arctic-nesting species; the peak of 151 in September 2011 was average (and lower than in 2010).



▲ An average autumn passage of Curlew Sandpipers was noted in the UK in 2011



## GENERAL BACKGROUND



# WeBS objectives, aims and methods

The Wetland Bird Survey (WeBS) aims to monitor non-breeding waterbirds in the UK in order to provide the principal data on which the conservation of their populations is based. To this end, WeBS has three main objectives:

- to assess the size of non-breeding waterbird populations in the UK;
- to assess trends in their numbers and distribution; and
- to assess the importance of individual sites for waterbirds.

These results also form the basis for informed decision-making by conservation bodies, planners and developers, and contribute to the sustainable use and management of wetlands and their dependent waterbirds. The data and this annual WeBS report also fulfil some of the objectives of the international wetland related Conventions and Directives to which the UK is a signatory. WeBS also provides data to Wetlands International to assist their function of coordinating and reporting upon waterbird status at an international flyway scale.

WeBS continues the traditions of two, long-running count schemes which formed the mainstay of UK waterbird monitoring since 1947. WeBS Core Counts are carried out

at a wide variety of wetlands. Coordinated, synchronous counts are advocated to prevent double-counting or birds being missed. Priority dates are recommended nationally, but due to differences in tidal regimes around the UK, counts at some estuaries on other dates in order to match the most suitable conditions. Weather and counter availability also sometimes result in count being undertaken on alternative dates.

In addition, WeBS Low Tide Counts are undertaken on selected estuaries with the aim of identifying key areas used during the low tide period, principally by feeding birds; areas not otherwise noted for their importance from data collected during Core Counts which are normally conducted at or close to high tide.

The success and growth of these count schemes reflects the enthusiasm and dedication of the several thousands of participating volunteer ornithologists. It is largely due to their efforts that waterbird monitoring in the UK is held in such high regard internationally.

Full details of WeBS field and analytical methodologies are available via the WeBS website: [www.bto.org/webs](http://www.bto.org/webs)

This annual WeBS report presents a synthesis of data collected between July 2011 and June 2012, thereby updating data presented in previous years, in line with the WeBS objectives. It forms a dual publication in conjunction with the online report available at [www.bto.org/webs](http://www.bto.org/webs).

Within the dual publication, data from other national and local waterbird monitoring schemes, notably the WWT/JNCC/SNH Goose & Swan Monitoring Programme, are included where WeBS data alone are insufficient to fulfil specified aims. The annual WeBS report therefore provides a single, comprehensive source of information on waterbird status and distribution in the UK.



## POPULATION TRENDS

# National trends

A concise summary of how the UK's most familiar waterbirds fared in 2011/12

### GEESE & SWANS

Numbers of Bewick's Swan fell slightly compared to recent winters, while Whooper Swan continued the species' upward trend. Whereas the number of Pink-footed Geese fell markedly for the second year in a row, high national index values were once again attained by both the Svalbard and Canadian populations of Light-bellied Brent Goose, Svalbard Barnacle Goose, and record peaks for both Egyptian Goose and naturalised Barnacle Goose. European White-fronted Goose showed a notable rise for the second year in succession, bucking the downward trend of the previous decade. After showing signs of stability, numbers of Greenland White-fronted Goose fell to their lowest point for 25 years. Canada Goose and Greylag Goose (both the Icelandic and British populations) were both present in typically high numbers; Canada and British Greylag reaching record highs.

### DUCKS

Dabbling duck trends were largely consistent with recent years, with the exception of Pintail which has shown a marked decrease since 2005/06 and is now at its lowest level for 40 years. Wigeon, Teal, Shoveler and Mallard remain relatively stable, while Gadwall

continue to increase and reached a record high in 2011/12. Shelduck showed a further drop. Among diving ducks, Pochard and Goldeneye continued their downward trends, whereas Tufted Duck, Goosander and Red-breasted Merganser numbers have remained relatively stable in recent years. Monitoring of seaducks through WeBS is difficult, but with Eider, Long-tailed Duck and Velvet Scoter all showing signs of decline; evidence is mounting that targeted surveys of favoured sites are required.

### WADERS

In a poor year for waders, a suite of species including Oystercatcher, Grey Plover, Sanderling, Bar-tailed Godwit and Purple Sandpiper declined. Turnstone and Ringed Plover remained at the all-time lows reached in recent years, and Redshank fell to their lowest point for over 25 years. The trend for Knot remains stable. The number of Snipe was lower than expected for the second year in a row, while Golden Plover and Lapwing, whose winter numbers tend to fluctuate more than other waders, have both declined markedly in recent years. In contrast, Dunlin and Curlew showed signs of continuing recent trend improvements. Numbers of

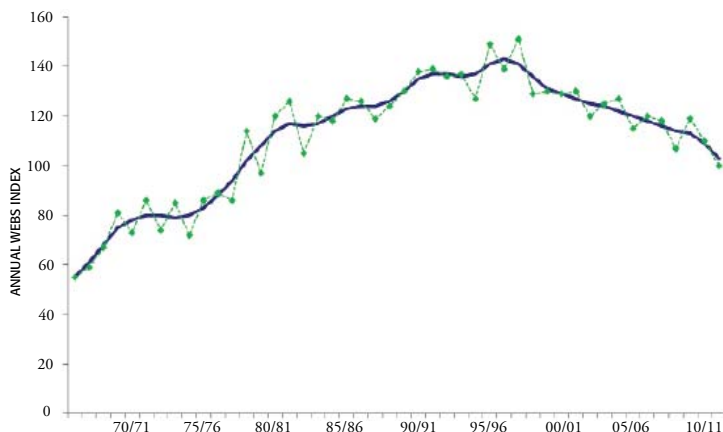
wintering Black-tailed Godwit and Avocet remained high, although the steep increase of the former has now ceased.

### GREBES, HERONS & RAILS

Great Crested Grebes decreased further in 2011/12 continuing a recent decline, while Little Grebes numbers remained relatively low perhaps having been detrimentally affected by the severe winter of 2010/11. Although Little Egret continue to expand north and westward in England, the overall trend at WeBS sites is no longer one of increase. The UK trend for Grey Heron has declined in recent years, whereas Coot remains stable. Moorhen has shown signs of a slight drop, possibly in response to a short spell of relatively cold winters.

### GULLS

The regular wintering gulls (Herring, Common, Black-headed and Great Black-backed) all declined in 2011/12, continuing recent downward WeBS-based trends. Mediterranean Gull numbers remained high, but short of the peak reached in 2010/11. A feature of the 2011/12 winter was a record influx of Iceland Gulls into northern Scotland in February.



▲ WeBS trend for Shelduck in UK.

Green dots = annual index value; blue line = smoothed trend.





70%  
of native  
waterbirds  
in Table 1  
declined since  
2000

**Table 1** Population trends of non-breeding waterbirds in the UK

Species/population	25-year trend (1985/86– 2010/11)	10-year trend (2000/01 –2010/11)	Species/population	25-year trend (1985/86– 2010/11)	10-year trend (2000/01 –2010/11)
Mute Swan	99	-5	Eider	-3	-16
Bewick's Swan	-41	-17	Goldeneye	-32	-39
Whooper Swan	246	76	Red-breasted Merganser	-26	-26
Pink-footed Goose	154	27	Goosander	18	-7
European White-fronted Goose	-57	-24	Ruddy Duck	-93	-97
Greenland White-fronted Goose	15	-41	Little Grebe	n/a	-1
Icelandic Greylag Goose	5	20	Great Crested Grebe	38	-17
British Greylag Goose	514	36	Cormorant	n/a	1
Canada Goose	79	9	Coot	26	-10
Greenland Barnacle Goose	165	40	Oystercatcher	-10	-16
Svalbard Barnacle Goose	235	45	Avocet	>1,000	61
Dark-bellied Brent Goose	-11	4	Ringed Plover	-44	-37
Canadian Light-bellied Brent Goose	67	65	Golden Plover	194	-33
Svalbard Light-bellied Brent Goose	203	90	Grey Plover	36	-18
Shelduck	-12	-16	Lapwing	79	-36
Wigeon	44	-8	Knot	-4	-10
Gadwall	281	25	Sanderling	62	22
Teal	70	-5	Purple Sandpiper	-56	-29
Mallard	-36	-17	Dunlin	-18	-22
Pintail	-30	-27	Black-tailed Godwit	458	57
Shoveler	58	-2	Bar-tailed Godwit	-12	-8
Pochard	-53	-47	Curlew	16	-17
Tufted Duck	19	-11	Redshank	-2	-24
Scaup	-1	-31	Turnstone	-40	-15

- Trends are % changes, for the most abundant wildfowl and waders.
- The longer term smoothed trend refers to the 25 year period 1985/86 to 2010/11. It is customary to calculate trends to an end-point of year (n-1) (where n = 2011/12).
- The shorter term smoothed trend refers to the 10 year period 2000/01 to 2010/11. It is customary to calculate trends to an end-point of year (n-1) (where n = 2011/12).
- Eider trends exclude birds on Shetland (of *faroeensis* race).
- Insufficient data series to calculate 25-year trend for Little & Great Crested Grebe.
- All trends are based on WeBS data except for Pink-footed Goose, Greenland White-fronted Goose, Icelandic Greylag Goose, Greenland Barnacle Goose, Svalbard Barnacle Goose, Canadian Light-bellied Brent Goose and Svalbard Light-bellied Brent Goose, for which dedicated censuses are undertaken (see page 8).



For all trend graphs see  
the online report ...

[www.bto.org/webs-reporting](http://www.bto.org/webs-reporting)



DAVE KING



▲ Avocet: up 61% since 2000/01

## PRINCIPAL SITES

# Largest waterbird aggregations

Millions of waterbirds are dependent on the UK's wetlands each winter.

This section of *Waterbirds in the UK* summarises the sites that support the largest aggregations of waterbirds each year. Understanding precisely how many individual birds use a site is clearly very difficult to ascertain, as many sites are used by migrants on passage and consequently there can be high turnover rates. Research through the use of colour-ringing studies and remote tracking of birds is on-going in order to improve knowledge of turnover rates.

Table 2 lists the Principal Sites for non-breeding waterbirds in the UK as monitored by WeBS. The totals are the summed maxima for each species during the course of the WeBS year. Sites with a five-year average of 20,000+ waterbirds are listed. Naturalised species (*e.g.* Canada Goose and Ruddy Duck), presumed to have originally escaped from captive collections, have been excluded from the totals. Gulls and terns are also excluded since the recording of them during WeBS Counts is optional and thus inconsistently included in totals.

Over 20,000 waterbirds were counted at a total of 52 wetlands in 2011/12. Typically, there are few changes between years to the top sites listed in the Principal Sites table, and the order of the most important sites tends to remain largely unchanged between years. However, several sites across the UK experienced changes of greater than 10% between 2010/11 and 2011/12, which were probably attributable to the contrast in weather conditions between the two winters.

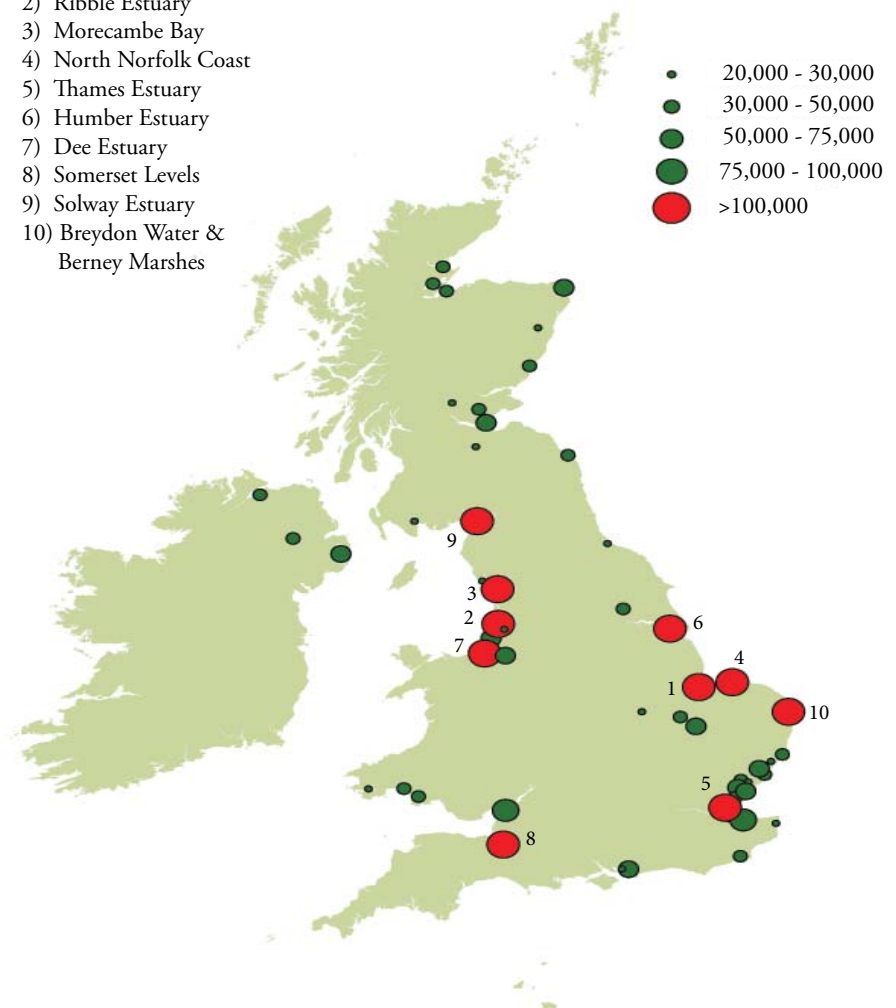
### SITE FOCUS

In terms of total numbers, The Wash is the key site for wintering waterbirds in the UK. In 2011/12 however, the maximum there was well below the average of the previous five years. This

follows the 436,500 birds in 2009/10 which represented the highest site total in WeBS history. Numbers at the other top ten sites in 2011/12 (all of which have five-year averages of more than 100,000 birds) were generally more typical and close to recent averages, although the total at North Norfolk Coast was the lowest for five years. The peaks at the two main inland sites, Somerset Levels and Ouse

Washes, dropped markedly compared to 2010/11 (when large influxes of waterbirds were noted at these wetlands in association with the coldest winter across northwest Europe for 35 years). Away from the top ten sites, 2011/12 was also notable for a marked rise in the number of birds counted at Mersey Estuary (bucking recent trends at the site; see pages 17-18).

- 1) The Wash
- 2) Ribble Estuary
- 3) Morecambe Bay
- 4) North Norfolk Coast
- 5) Thames Estuary
- 6) Humber Estuary
- 7) Dee Estuary
- 8) Somerset Levels
- 9) Solway Estuary
- 10) Breydon Water & Berney Marshes



### ▲ Largest waterbird aggregations in the UK.

Sites are those listed in Table 2, with top ten sites listed.



**Table 2** Principal Sites for non-breeding waterbirds in the UK

Site	2007/08	2008/09	2009/10	2010/11	2011/12	5-year mean
The Wash	373,445	346,750	436,500	361,374	299,180	363,450
Ribble Estuary	260,345	275,250	213,508	206,038	259,767	242,982
Morecambe Bay	151,450	221,294	237,570	241,133	203,863	211,062
North Norfolk Coast	147,211	211,214	205,397	199,556	155,668	183,809
Thames Estuary	190,264	159,505	141,893	152,179	153,801	159,528
Humber Estuary	150,235	127,634	154,352	123,655	132,545	137,684
Dee Estuary	104,277	124,349	103,538	118,604	121,961	114,546
Somerset Levels	114,370	104,549	74,596	181,293	76,947	110,351
Solway Estuary	110,801	108,955	94,046	118,757	90,403	104,592
Breydon Water & Berney Marshes	101,972	129,352	92,509	93,962	94,753	102,510
Severn Estuary	73,197	87,259	67,913	76,412	84,918	77,940
Swale Estuary	91,390	67,296	88,267	77,585	51,837	75,275
Forth Estuary	73,052	94,162	68,752	69,813	66,771	74,510
Ouse Washes	64,523	77,952	56,247	105,261	66,342	74,065
Strangford Lough	88,983	85,335	74,667	43,177	75,161	73,465
Blackwater Estuary	70,253	87,231	67,543	65,791	76,245	73,413
Alt Estuary	39,242	49,359	60,276	107,822	64,046	64,149
Mersey Estuary	68,507	39,284	60,738	56,240	93,360	63,626
Dengie Flats	52,745	58,376	64,270	61,807	49,721	57,384
Chichester Harbour	54,164	55,975	48,519	70,795	47,462	55,383
Loch of Strathbeg	49,865	61,127	67,523	46,460	39,643	52,924
Stour Estuary	50,523	54,574	56,527	52,352	50,628	52,921
Loughs Neagh & Beg	57,259	46,612	47,800	41,492	50,044	48,641
Montrose Basin	44,430	55,344	23,032	38,386	76,624	47,563
Lindisfarne	47,262	45,727	36,480	45,523	47,955	44,589
Hamford Water	44,472	49,664	36,345	42,497	42,724	43,140
Inner Moray & Inverness Firth	43,596	42,251	42,765	38,707	45,588	42,581
Burry Inlet	45,053	42,752	29,085	28,783	38,400	36,815
Alde Complex	46,269	31,791	33,268	36,614	33,908	36,370
Loch Leven	15,768	40,398	48,071	38,391	38,474	36,220
Crouch-Roach Estuary	35,041	32,339	34,261	42,546	33,611	35,560
Carmarthen Bay	48,018	29,710	32,019	28,735	36,247	34,946
Dungeness & Rye Bay	40,482	28,603	35,491	37,148	31,773	34,699
Nene Washes	38,813	30,556	47,191	43,310	12,549	34,484
Abberton Reservoir	27,323	25,834	37,961	31,117	48,132	34,073
Cromarty Firth	42,839	25,257	30,814	32,496	38,246	33,930
Lower Derwent Ings	35,348	27,530	41,233	42,980	18,820	33,182
Medway Estuary	37,545	41,036	18,854	35,979	30,285	32,740
Dornoch Firth	30,740	32,302	26,875	36,873	36,878	32,734
Lough Foyle	34,290	39,179	29,936	21,919	28,056	30,676
Rutland Water	23,739	27,932	32,039	27,504	35,299	29,303
Langstone Harbour	30,767	22,034	29,068	26,779	36,828	29,095
WWT Martin Mere	24,250	28,590	30,089	26,028	31,690	28,129
Duddon Estuary	35,100	35,432	28,479	19,597	21,623	28,046
West Water Reservoir	28,134	47,824	26,449	16,658	18,768	27,567
Colne Estuary	36,290	23,787	21,055	15,963	32,457	25,910
Pegwell Bay	24,293	19,673	25,990	23,302	30,730	24,798
Orwell Estuary	23,384	24,628	22,962	25,339	22,271	23,717
Cleddau Estuary	23,106	21,707	18,979	22,754	26,575	22,624
Loch of Skene	21,040	20,794	18,635	29,224	20,772	22,093
Carsebreck & Rhynd Lochs	13,515	20,157	23,111	20,815	32,707	22,061

- Totals are the sum of species maxima during the WeBS-year at each site, using data from all months. This summary does not account for missed visits or reduced coverage.
- Some totals may differ slightly from those published in previous annual WeBS reports.
- Naturalised species (such as Canada Goose and Ruddy Duck), gulls and terns are excluded.
- A more comprehensive table showing all sites supporting more than 10,000 waterbirds is available online via [www.bto.org/webs](http://www.bto.org/webs).

## ALERTS - UK OVERVIEW

# WeBS Alerts: all change

Regional differences in waterbird trends on the UK's network of Special Protection Areas

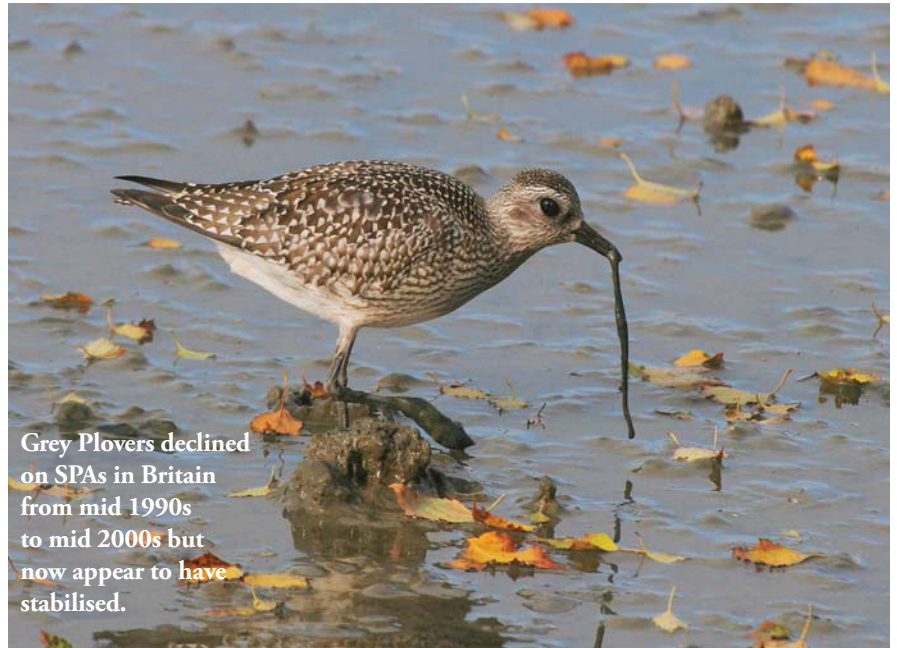


The monitoring of wildlife populations and the sites on which they depend is an essential component of effective conservation management. The WeBS Alerts system provides one means of monitoring waterbird populations, and has already been instrumental in highlighting a range of conservation priorities. A new WeBS Alerts report was published in 2013.

The Alerts system adopts a standardized method for identifying the direction and magnitude of changes in bird numbers at a range of spatial and temporal scales. A range of waterbird species are assessed; those for which sufficient WeBS data are available. This represents an effective monitoring protocol, by which the UK can look to conserve and manage the internationally important numbers of waterbirds to which it plays host. To flag population changes, High- and Medium- Alerts are issued if population declines exceed 50% and 25%, respectively. Alerts are intended to be advisory and, subject to interpretation, should therefore be used as a basis on which to direct research and subsequent conservation efforts if required. Some of the key findings from the recent Alerts analysis within the UK are presented, country by country, on pages 18-19.

## FOCUSING RESEARCH

The WeBS Alerts system has been instrumental in highlighting several species which have undergone marked re-distributions in their populations. For example, several wader species have declined in the west of the UK but have tended to increase in the east. Such patterns, revealed through Alerts analyses at the site level but examined at larger



Grey Plovers declined on SPAs in Britain from mid 1990s to mid 2000s but now appear to have stabilised.

JILL PAKENHAM

spatial scales, have sometimes been a catalyst for further research. For example, it is now well established that population shifts first revealed through the WeBS Alerts process have been in response to climate change. On average, estuaries on the south and east coasts of Britain have muddier sediments than those on the west coast, and thus support a higher biomass of invertebrate prey for waders. With winter temperatures having warmed by approximately 1.5 °C since the mid 1980s, the risk of weather-induced mortality on the colder east coasts

has diminished. Consequently many wader populations have shifted in an easterly direction.

## ALERTS ARE ONLINE

The full WeBS Alerts report is available in the same way as the standard annual report via the new online interface at [www.bto.org/webs-reporting-alerts](http://www.bto.org/webs-reporting-alerts).

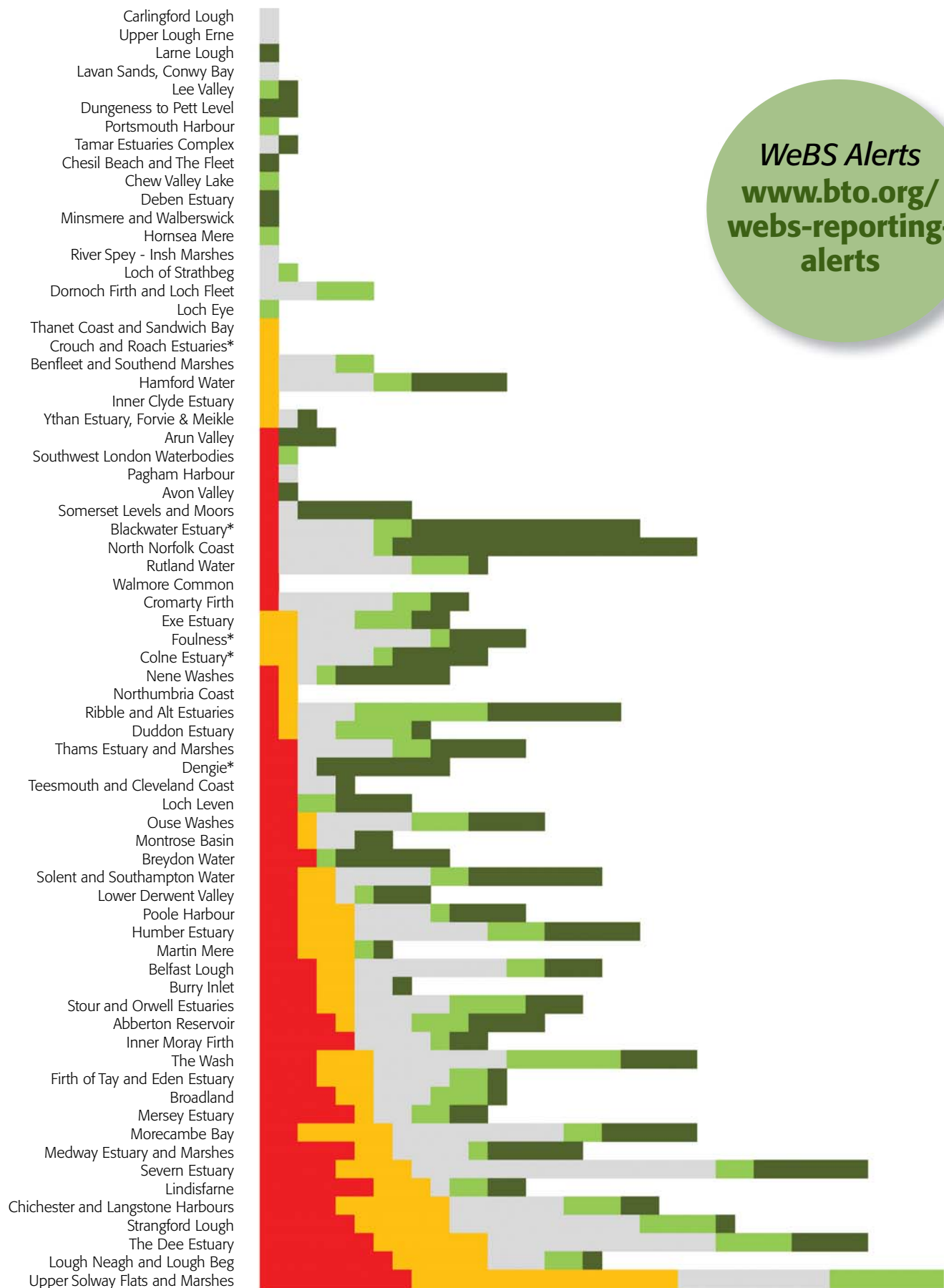
In conjunction with a planned interactive Low Tide Counts facility, the online report is a fundamental resource for WeBS counters, researchers and conservationists.

## FIND OUT MUCH MORE...

For all the published **WeBS Alerts**, see the online reporting interface [www.bto.org/webs-reporting-alerts](http://www.bto.org/webs-reporting-alerts)

**Cook, A.S.C.P., Barimore, C., Holt, C.A., Read, W.J. & Austin, G.E.** 2013. *WeBS Alerts 2009/10: Changes in numbers of wintering waterbirds in the United Kingdom, its Constituent Countries, Special Protection Areas (SPAs) and Sites of Special Scientific Interest (SSSIs)*. BTO Research Report 641. BTO, Thetford.





▲ **Long-term Alerts status at UK wetlands in SPA network.**

Sites are listed ascendingly by proportion of species for which negative Alerts were reported by Cook et al. (2013).

Red = High Alert (large decrease), orange = Medium Alert (moderate decrease), grey = stable, pale green = moderate increase, dark green = large increase. Sites marked with asterisk are part of Mid-Essex Phase 2 SPA.

## WEBS ALERTS - COUNTRY SNAPSHOTS

# England

WeBS Alerts triggered for a high proportion of species on protected sites in northwest England

There are over 80 SPAs in England that are designated at least in part due to their wintering waterbird populations. Some of the most important of these areas in terms of overall numbers of birds are listed in the Principal Sites section (page 15), although the precise boundaries of the areas reported by WeBS may differ to those statutorily recognised as SPAs.

The WeBS Alerts system has illustrated distributional movements at the national scale (see page 17). Many of these shifts in species' distributions, generally in an easterly direction, are thought to be a response to climate change. However, it is important not to merely assume this

is the cause. Site-specific studies are important to ensure more local issues are not overlooked.

Recent years have seen marked declines in numbers of waterbirds using SPAs in northwest England, with disproportionately high numbers of Alerts triggered for species on Mersey Estuary SPA, Ribble & Alt SPA, Dee Estuary SPA and Morecambe Bay SPA. This has led to a number of assessments of potential reasons for these changes. On the Mersey Estuary and adjacent areas, Natural England commissioned a detailed analysis of local waterbird trends (Ross-Smith *et al.* 2013) and an investigation into relevant local issues and pressures

### Natural England

[www.naturalengland.org.uk](http://www.naturalengland.org.uk)

such as potential disturbance to wader roost sites.

### FIND OUT MORE...

**Ross-Smith, V.H., Calbrade, N.A., Wright, L.J. & Austin, G.E.** 2013. Analysis of waterbird population trends in the Mersey Estuary SPA, Mersey Narrows & North Wirral Foreshore pSPA and Ribble & Alt Estuaries SPA. *BTO Research Report No. 640*. BTO, Thetford.



# Wales

Mixed waterbird trends evident for the major estuarine SPAs in Wales



JOHN HARDING

**Large numbers of Curlew use Burry Inlet SPA in winter. The average peak at the site during the most recent five years is 1,500 birds, surpassing the 1% threshold of national importance.**

Sites in Wales designated at least in part for their non-breeding waterbird populations include Carmarthen Bay, Dee Estuary, Severn Estuary and Burry Inlet. Of the main estuaries, the small number of WeBS Alerts triggered for Severn Estuary SPA are not considered to have been driven by site-specific pressures. In contrast, comparison of trends at Burry Inlet SPA and Dee Estuary SPA with broader scale trends, suggest the declines and resultant Alerts at those sites may be due to site-specific issues. At Burry Inlet, where feeding activity of some waders is monitored (*e.g.* Calbrade *et al.* 2013), the recent Alerts highlight possible issues for Shelduck, Shoveler and Curlew.

### Natural Resources Wales

[www.naturalresourceswales.gov.uk](http://www.naturalresourceswales.gov.uk)

### FIND OUT MORE...

**Calbrade, N.A., Burton, N.H.K., Flannagan, A., Howells, R.J. & Hughes, D.S.** 2013. Monitoring Waterbird Distributions and the Feeding Activity of Oystercatcher and Knot in the Burry Inlet SPA and Carmarthen Bay SAC - the winter of 2012/13. CCW Contract Science No. 1031. CCGC/CCW.



## WEBS ALERTS - COUNTRY SNAPSHOTS

# Scotland

WeBS Alerts for 22 out of 36 species on the cross-border Upper Solway Flats & Marshes SPA



SPAs in Scotland that are designated at least in part for their wintering waterbird populations include several comprising estuarine habitat, such as Upper Solway Flats & Marshes SPA and Firth of Forth SPA. A feature of the latest WeBS Alerts is the decline of Oystercatchers at several sites, contributing to an overall drop in the WeBS index for the species in Scotland. The rate of decline is notably steeper than in other parts of the UK.

Many of Great Britain's population of approximately 60,500 Eiders are found in Scotland, including 5,500 on Shetland which, based on genetic analysis, are of the distinct *faroeensis* race. The majority of

Eiders are resident, breeding at sites around the coast and gathering in large flocks at favoured estuaries and offshore areas during the non-breeding period. Contrasting with an increase in Northern Ireland, there is evidence of declines at some sites in Britain in recent years, including, for example, a marked drop on the Inner Firth of Clyde. The reason for this apparent decline in numbers is unclear but, as elsewhere in Europe, several possible causes have been suggested. These include predation, thiamine deficiency and responses to climate change. Further research and improved monitoring of Eider and other seaducks is required with some urgency.

**Scottish Natural Heritage**

[www.snh.gov.uk](http://www.snh.gov.uk)



DAVE KING

# Northern Ireland

WeBS Alerts triggered for two-thirds of species at Loughs Neagh & Beg SPA and Strangford Lough SPA



In terms of overall numbers of birds, the most important of the sites in Northern Ireland that are designated at least in part due to their wintering waterbird populations are Lough Neagh and Lough Beg SPA, Strangford Lough SPA and Belfast Lough SPA.

Pochard, Tufted Duck and Goldeneye have all decreased by approximately 75% at Loughs Neagh & Beg SPA in the last 25 years leaving Scaup, following a short-lived crash, as the most abundant *Aythya* duck there. Previous results from the WeBS Alerts system helped to instigate research into the declines of these and other species using

the site. Tománkova *et al.* (2012) concluded that the declines in diving ducks there are likely to have been partly attributable to impacts of eutrophication. This is set against the context of an eastward range shift by diving ducks in northwest Europe (Lehikoinen *et al.* 2013), which, all else being equal, will also have led to a reduction in Pochards wintering in Northern Ireland.

Reasons for declines in the majority of waders at Strangford Lough SPA are less clear. Wildfowl there, however, are faring better; not least the internationally important population of over 40,000 Canadian Light-bellied Brent Geese.

**Council for Nature Conservation and the Countryside**

[www.cncni.gov.uk](http://www.cncni.gov.uk)

### FIND OUT MORE...

**Lehikoinen, A. et al.** 2013. *Global Change Biology* **19** (for full reference see p.29 of this report)

**Tománkova, I., Reid, N., Boland, H. & Fox, A.D.** 2012. Are declines in the diving water bird guild at Lough Neagh Special Protection Area due to flyway causes? *Aquatic Conservation* **23**: 343–355.



# Internationally important estuaries

A look at the latest status and trends of three species strongly associated with UK estuaries

Estuaries are one of the UK's most internationally important bird habitats. However, even though the UK is well endowed with estuaries, estuarine habitat is still scarce in its total context if compared to the presence of other wildlife habitats.

Western European estuaries are of major international importance for the wintering and migrant waders and wildfowl that they support. These birds breed over a very wide area of the arctic, sub-arctic and temperate breeding regions, from as far west as northern Canada and Greenland to as far east as northern Scandinavia and western and mid Siberia. Many species are dependent on European estuaries for winter resources, and several wader populations use sites, particularly those in western Britain and around the southern North Sea, as staging areas at which to moult their body and flight feathers and to accumulate large reserves of fat and muscle protein that are needed for long-distance migrations. Some of these populations migrate further south to overwinter in western Africa, while many others remain to overwinter at UK latitude.

The Principal Sites table (page 15), listing the top sites in the UK in terms of total numbers of non-breeding waterbirds, is largely comprised of estuaries. These estuaries support several million waterbirds during the course of a year, including the bulk of the estimated total wintering populations of several species nationwide. Many estuaries support internationally important numbers of birds, and several others are used by at least one species in nationally important numbers. These wetlands therefore represent priorities for

conservation, being designated under the Ramsar Convention and as Special Protection Areas (SPAs) (see WeBS Alerts, page 16-17).

The UK has estuaries on all its coastlines. Many estuaries are on the long indented coastline of southern and western Britain, but the shallow shores and flat coastal plains of eastern Britain have resulted in the formation of many important estuaries along a much shorter coastline adjacent to the North Sea. In combination with the Wadden Sea in the Netherlands/Germany/Denmark, the estuaries of the North Sea are particularly important to wintering waders in Europe. Approximately one-third of the estimated total west European flyway population of 3.5 million waders wintering on the coasts of western Europe occur on North Sea estuaries. Moreover, some individual species are especially reliant on UK estuaries.

## KNOTS

All Knots of the sub-species *islandica* (that breeds in high arctic Canada and Greenland) overwinter on the coasts and estuaries of northwest

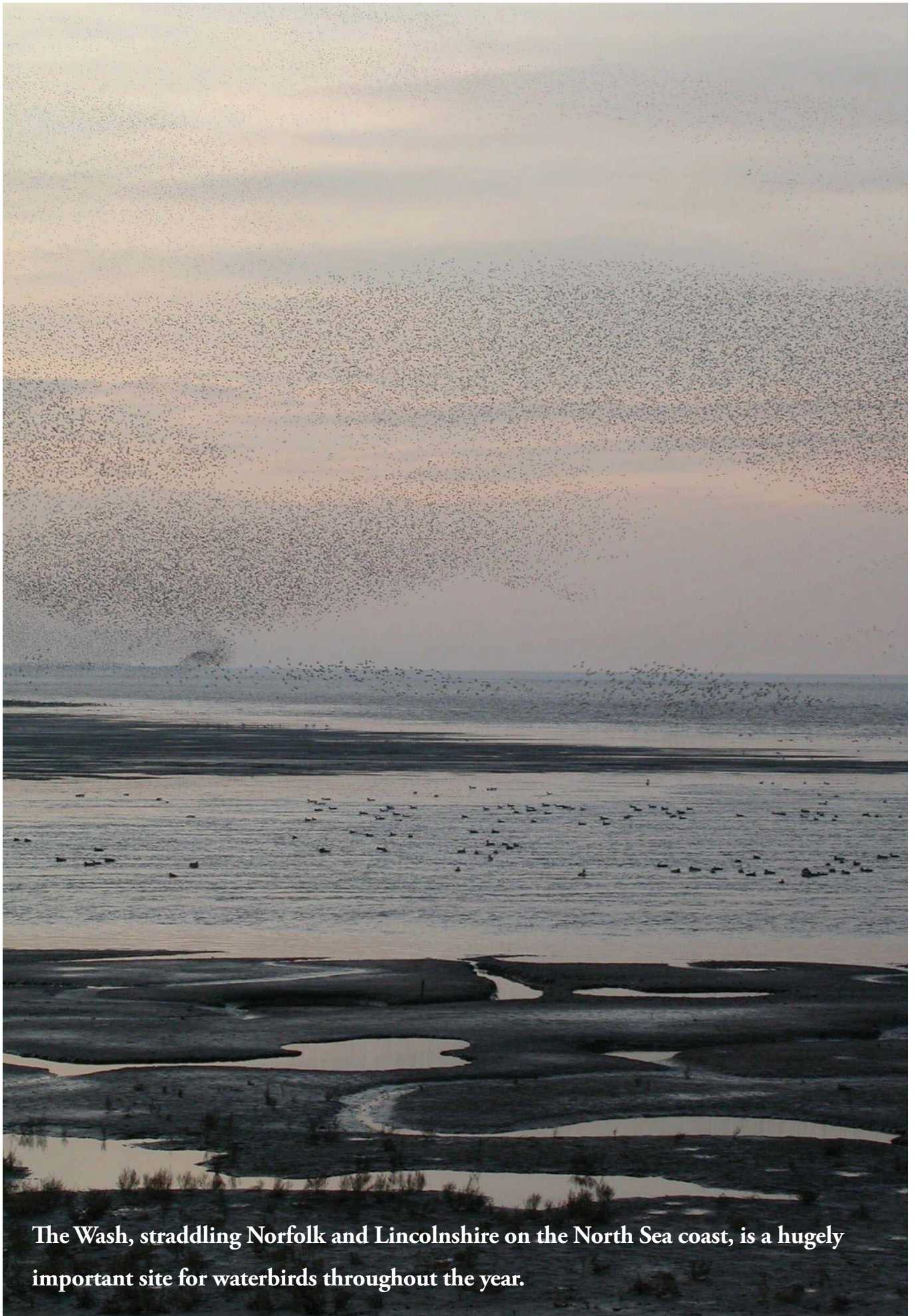
Europe. In midwinter over 80% are on just 15 British estuaries. Elsewhere, the Delta and Wadden Sea areas on the Dutch side of the North Sea also support major wintering numbers of Knots. The Wadden Sea is also of particular importance to the species during other seasons, particularly as a moulting and staging area in autumn and spring (Hornman *et al.* 2012), while numbers of Knot in the UK peak between September and December, following a general westerly movement of birds that have moulted on the Wadden Sea.

In 2011/12, five sites in the UK yielded peak counts of Knot in excess of 30,000 birds, which are among 13 sites that currently surpass the threshold of international importance for the species (4,500 birds) (Table 3). A further seven sites surpass the British national importance threshold (3,200). The national threshold in Northern Ireland (190) is surpassed at four sites, by far the most important of which is Strangford Lough.

**Table 3** Internationally important sites for Knot

Site	2011/12 peak	Month	5-year mean
The Wash	115,894	Sep	134,468
North Norfolk Coast	32,599	Aug	57,063
Morecambe Bay	21,230	Dec	38,072
Thames Estuary	34,466	Jan	31,283
Ribble Estuary	(33,535)	Apr	30,139
Humber Estuary	15,441	Jan	28,730
Alt Estuary	26,350	Nov	24,481
Dee Estuary	30,552	Feb	18,730
Dengie Flats	12,550	Nov	15,417
Solway Estuary	10,390	Jan	13,026
Stour Estuary	6,730	Nov	7,857
Blackwater Estuary	5,545	Dec	5,992
Strangford Lough	3,066	Feb	5,412

• 2011/12 peak and month when recorded are shown. Five-year mean is for period 2007/08 to 2011/12.  
• Bracketed counts indicate coverage of the site known to be incomplete.



**The Wash, straddling Norfolk and Lincolnshire on the North Sea coast, is a hugely important site for waterbirds throughout the year.**



## HABITAT FOCUS... ESTUARIES

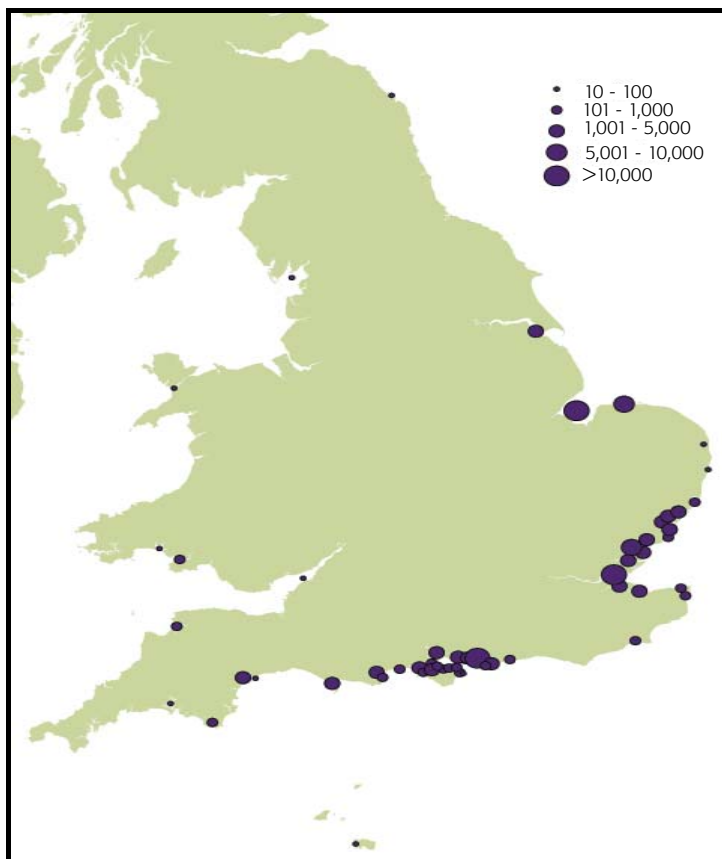
### DARK-BELLIED BRENT GOOSE

Almost all of the world's population of Dark-bellied Brent Geese, which breeds in northern Siberia, occurs in spring on the Wadden Sea in The Netherlands. However, most of these birds will have overwintered further west on the milder estuaries of Britain and western France. An on-going collaboration between European monitoring schemes is in the process of updating the status of this population and providing a detailed review of its distribution and numbers along the flyway.

The British population is estimated to be 91,000 birds representing approximately half the world population, the size of which in winter varies between years, largely dependent on breeding success during the previous summer. For example, the principal reason for a decline in the WeBS trend during the mid-1990s to mid-2000s was considered to be a sustained period of poor breeding success possibly combined with the effects of milder winter conditions and improved foraging conditions further east. The latter caused birds to 'short stop' and so remain further east, principally in the Netherlands, during the winter.

In the last few years however, the WeBS trend has indicated stability in the UK's wintering population, and 2011/12 saw a marked rise with the index reaching its highest value for over 15 years. Reports from the breeding grounds, including the majority of monitoring stations in the Russian tundra, indicate that rodent abundance was relatively high in 2011, with large numbers of young Dark-bellied Brent Geese fledging as a consequence. Results from age assessments at wintering sites in the UK (co-ordinated by WWT) confirm this pattern. The overall proportion of young birds (16.2%) was the highest recorded for six years, and the mean brood size of 2.26 goslings was also noteworthy.

Although estuaries provide a vital resource for Dark-bellied Brent Geese in the UK, there has been a slight shift in preferred feeding



▲ WeBS distribution of Dark-bellied Brent Goose. Dot size relates to average annual site maxima between 2007/08 and 2011/12.

habitats during the last two decades. Grassland and arable land has been increasingly used, possibly due to reduced availability of traditional intertidal feeding areas. Winter cereals tend to be the most frequently used non-estuarine habitat, followed by permanent and intensively managed grassland, with amenity and recreational land also sometimes used. Continued assessment of winter feeding distribution and site use is therefore necessary to inform future management and protection of Dark-bellied Brent Goose habitat.

Previous research has shown that the trends at most of the sites in Britain that are of international or national importance for Dark-bellied Brent Goose tend to be strongly correlated with the trend of the population as a whole. This suggests that there are probably not sub-populations existing within the flyway with associated variation in population parameters and fidelity to certain parts of the range, as is the case in Greenland White-fronted Geese, for example.

Virtually all the Dark-bellied Brent Geese wintering in Britain are on the estuaries of the southern North Sea or south coast of England. The 21 sites that, as of 2011/12, support nationally important numbers are shown in Table 4. Twelve of these sites are of international importance for the population.

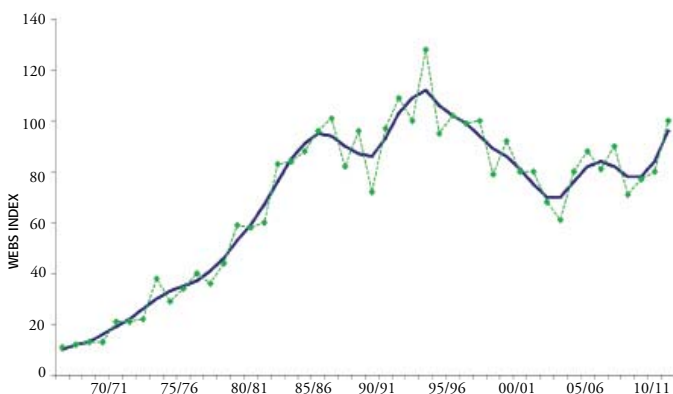
The site maxima indicate a typical arrival of Dark-bellied Brent Geese to sites in the south-east of England in October when 16,759 were noted at The Wash, which proved to be the largest site count of the year. The peak of 4,126 at Swale Estuary in October represents the most ever there. At most of the other main sites, the maxima in 2011/12 were close to or slightly above average. Although numbers were relatively high throughout the winter, the monthly indices indicate there may have been an influx of birds in February, presumably from The Netherlands during cold weather.



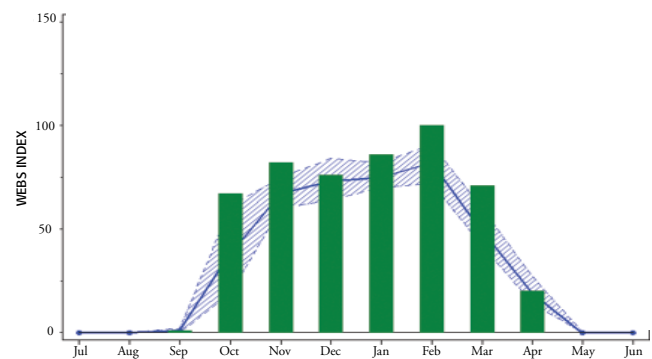
**Table 4** Nationally important sites for Dark-bellied Brent Goose

Site	2007/08	2008/09	2009/10	2010/11	2011/12	Peak month	5-year mean
The Wash	22,047	11,684	12,541	23,057	16,759	Oct	17,218
Thames Estuary	21,101	13,993	15,438	16,104	15,764	Jan	16,480
Chichester Harbour	12,171	8,757	8,569	11,434	10,309	Nov	10,248
Blackwater Estuary	8,278	6,692	7,564	(5,410)	7,656	Feb	7,548
North Norfolk Coast	7,614	6,614	5,830	(5,669)	6,421	Dec	6,620
Hamford Water	4,157	2,804	(5,572)	(5,935)	4,754	Nov	4,644
Langstone Harbour	5,263	4,165	3,199	3,947	5,690	Jan	4,453
Crouch-Roach Estuary	4,534	4,241	3,149	3,109	5,742	Jan	4,155
Humber Estuary	2,536	(2,076)	(2,839)	(1,135)	4,236	Jan	3,386
Dengie Flats	(2,430)	(2,801)	(3,245)	(2,370)	3,233	Feb	3,239
Pagham Harbour	(3,560)	2,364	3,871	2,499	3,006	Nov	3,060
Portsmouth Harbour	(2,500)	2,228	(2,030)	2,054	(2,819)	Feb	2,400
Swale Estuary	1,857	2,115	(1,782)	1,448	4,126	Oct	2,387
Fleet and Wey	1,810	2,200	1,774	2,416	1,999	Nov	2,040
North West Solent	2,101	1,885	2,050	1,800	2,195	Feb	2,006
Medway Estuary	(1,367)	(959)	(1,509)	(1,684)	(1,966)	Feb	(1,966)
Stour Estuary	2,038	1,726	(1,891)	1,875	2,159	Nov	1,950
Newtown Estuary	2,115	1,469	1,382	1,707	1,423	Feb	1,619
Southampton Water	1,674	869	981	1,649	2,496	Jan	1,534
Exe Estuary	1,820	1,614	1,317	1,219	1,586	Feb	1,511
Orwell Estuary	(1,405)	1,266	(665)	(1,610)	1,533	Feb	1,454

• Annual peaks and month in 2011/12 when recorded are shown. Brackets indicate coverage known to be incomplete. Five-year mean is for period 2007/08 to 2011/12.



▲ **WeBS trend for Dark-bellied Brent Goose in the UK.**  
Green dots = annual population index; blue line = smoothed trend.



▲ **Monthly indices for Dark-bellied Brent Goose in the UK.**  
Green bars = 2011/12; blue line/hatched area = previous 5-year mean/range.



## HABITAT FOCUS... ESTUARIES

### DUNLIN

Three races of Dunlin regularly occur in the UK. The main wintering population comprises the nominate race, whose breeding range extends from Scandinavia northwards and eastwards. During passage, birds from the *arctica* and *schinzii* races, which breed in Greenland and Iceland (the latter also in Britain) supplement the numbers using UK estuaries. The highest individual site count for Dunlin in the UK has traditionally related to the spring aggregation on the Ribble Estuary, where birds of the nominate race are joined by the other races. Recent annual peaks however have emanated from the Mersey Estuary during the winter period. Having reached its lowest ever point in 2008/09, the WeBS index for Dunlin has shown signs of a slight recovery since. It remains to be seen whether future years will show

continued improvement, stability, or whether the pattern will return to the decline that characterised the longer term trend for this species in the UK.

In 2011/12, two exceptionally high site totals of Dunlin were recorded. The spring peak of 61,980 Dunlins on the Ribble Estuary, itself probably an under-estimate, represents the highest single WeBS Core Count since December 1997 when over 71,000 were logged at Morecambe Bay. Two months earlier, the February peak at Mersey Estuary of 59,300 had been the most there for ten years. Maxima at the other sites supporting internationally important numbers of Dunlins were generally close to average, notable exceptions being the peaks at Morecambe Bay and Langstone Harbour (the highest site totals since 2006/07 and 2005/06, respectively).

When reviewing the status of birds on British estuaries, inference tends to be drawn from the opposite side of the North Sea, where the Dutch/German/Danish Wadden Sea is the most important single wetland system for waterbirds in northwest Europe. Hence, it is important to consider the entire North Sea as a single system providing an essential resource for waterbirds using the East Atlantic flyway, both in winter and on passage.

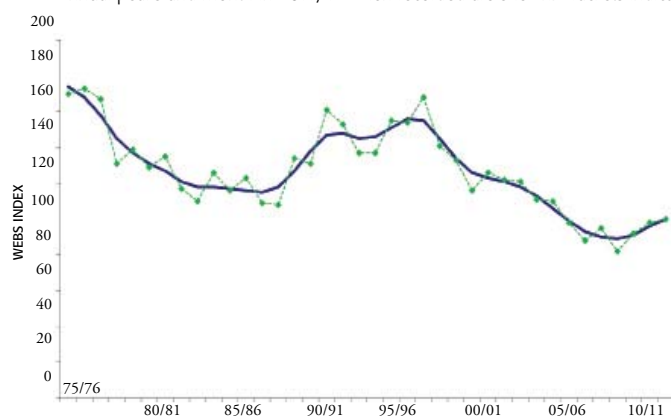
### WHAT'S HAPPENING IN THE WADDEN SEA..?

**Hornman, M., Hustings, F., Koffijberg, K., Kleefstra, R., Klaassen, O. & van Winden, E., SOVON Ganzen- en Zwanenwerkgroep & Soldaat, L.** 2012. *Watervogels in Nederland in 2010/11*. SOVON Vogelonderzoek Nijmegen, Nederland.

**Table 5** Internationally important sites for Dunlin

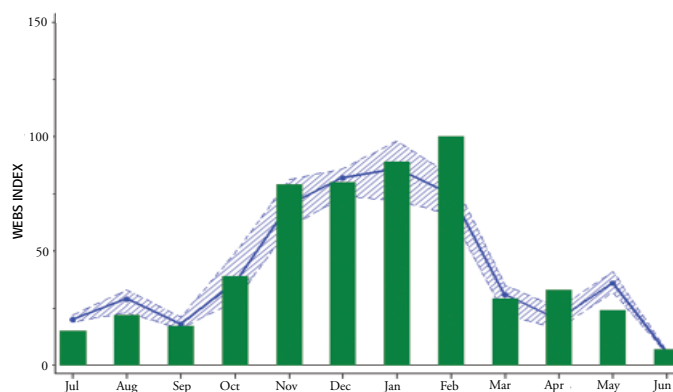
Site	2007/08	2008/09	2009/10	2010/11	2011/12	Month	5-year mean
Ribble Estuary	52,551	(45,662)	(28,940)	(39,744)	(61,980)	Apr	57,266
Mersey Estuary	41,270	23,115	44,030	41,430	59,300	Feb	41,829
Thames Estuary	34,941	(28,347)	(23,217)	(16,950)	25,396	Nov	30,169
Severn Estuary	(16,072)	25,903	21,640	31,937	29,338	Feb	27,205
Morecambe Bay	24,409	20,289	31,084	19,942	32,769	Jan	25,699
The Wash	24,523	24,444	33,181	26,136	18,821	Oct	25,421
Chichester Harbour	(18,759)	26,311	17,465	16,658	15,474	Nov	18,977
Blackwater Estuary	15,015	17,966	(19,606)	(17,435)	(17,949)	Nov	17,594
Humber Estuary	(18,349)	15,444	(16,124)	18,622	10,528	Jan	15,813
Dee Estuary	12,094	12,746	9,654	18,574	15,860	Feb	13,786
Langstone Harbour	15,007	8,126	9,994	12,319	21,710	Dec	13,431

• Annual peaks and month in 2011/12 when recorded are shown. Brackets indicate incomplete coverage. Five-year mean is for period 2007/08 to 2011/12.



#### ▲ WeBS trend for Dunlin in UK.

Green dots = annual population index; blue line = smoothed trend.



#### ▲ Monthly indices for Dunlin in the UK.

Green bars = 2011/12; blue line/hatched area = previous 5-year mean/range.







# International Waterbird Census

An annual update about monitoring of the flyway's waterbird populations

The WeBS Core Counts undertaken in January 2012 contributed to the International Waterbird Census (IWC), coordinated by Wetlands International and the African-Eurasian Waterbird Monitoring Partnership. The UK is fortunate in that it runs a funded waterbird monitoring scheme which counts the nation's major wetlands on a monthly basis during winter, and indeed at many sites monthly coverage is maintained throughout the year. Relatively few countries are in such a position; neighbouring the UK, Ireland and The Netherlands represent the obvious exceptions. The majority of national waterbird monitoring schemes however are limited to undertaking counts in January, thereby satisfying requirements of the IWC.

The collation of January waterbird data from national monitoring schemes across around the world allows a robust approach to the derivation of population estimates and trends. July 2012 saw

production of the latest Waterbird Population Estimates, now online at [wpe.wetlands.org](http://wpe.wetlands.org), where data for all waterbird species across all flyways are accessible. This resource is updated by Wetlands International every six years. The population estimates are used to derive the 1% thresholds used to identify wetlands of international importance for particular species or populations. Another significant flyway scale output during the 2011/12 reporting period was publication of results from the latest pan-European census of Golden Plovers. This survey is traditionally undertaken in October (rather than the standard IWC month of January) as most Golden Plovers are concentrated in northwest Europe at that time. Based on WeBS data combined with sightings from *Bird Atlas 2007-11* and the *BirdTrack* online observation system, Gillings *et al.* (2012) reported a total of 152,000 Golden Plovers in the UK, contributing to an estimated total population of over one million across Europe.

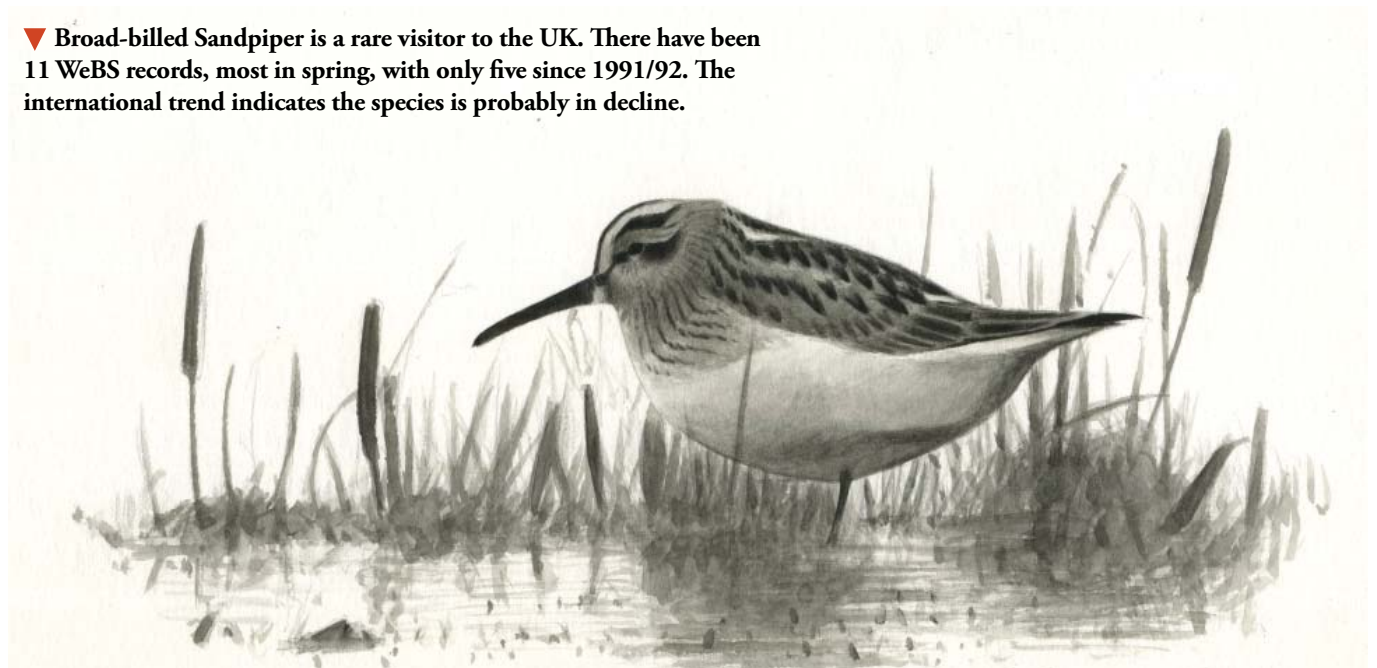
The African-Eurasian Waterbird Monitoring Partnership aims to both help ensure and optimise the collection of waterbird information and the subsequent delivery by Wetlands International of the associated reporting products for the flyway. The WeBS Partnership, and both WWT and BTO are all actively supporting this initiative (see *WeBS News* 29: 17).

## FIND OUT MORE...

**Gillings, S., Avontins, A., Crowe, O., Dalakchieva, S., Devos, K., Elts, J., Green, M., Gunnarsson, T.G., Kleefstra, R., Kubelka, V., Lehtiniemi, T., Meissner, W., Pakstyte, E., Rasmussen, L., Szimuly, G. & Wahl, J.** 2012. Results of a coordinated count of Eurasian Golden Plovers *Pluvialis apricaria* in Europe during October 2008. *Wader Study Group Bulletin* 119: 125–128.

**Wetlands International**, 2012. "Waterbird Population Estimates". [wpe.wetlands.org](http://wpe.wetlands.org)

▼ **Broad-billed Sandpiper is a rare visitor to the UK. There have been 11 WeBS records, most in spring, with only five since 1991/92. The international trend indicates the species is probably in decline.**



## INTERNATIONAL 2011/12 - A NATIONAL SCHEME

# The Irish Wetland Bird Survey

Olivia Crowe (Birdwatch Ireland) reviews I-WeBS in the Republic of Ireland

Ireland, along with Britain, sits nicely in the centre of the East Atlantic Flyway and, with a relatively mild climate and abundance of wetlands, supports large numbers of several Arctic and boreal-nesting waterbirds in winter. The Irish Wetland Bird Survey (I-WeBS) is the monitoring scheme for non-breeding waterbirds in the Republic of Ireland. It began during the winter of 1994/95 and is now entering its 20th season. Each year, with the help of 350 survey participants, almost 300 wetland sites nationwide are counted. This includes internationally important coastal sites such as Dundalk Bay, Wexford Harbour & Slobbs, Cork Harbour, Dublin Bay, Lough Swilly and Rogerstown Estuary, and inland sites such as Lough Corrib and the Little Brosna Callows, all of which support more than 20,000 waterbirds each year.

I-WeBS works closely with UK WeBS – not only to ensure consistency in analyses across the island of Ireland, but also because for many species, Britain and Ireland share entire wintering populations between them. Ireland alone is most notably important for the high-Arctic Canadian race of Light-bellied Brent Goose, (supporting more than 90% of the population), and together with Britain supports all Icelandic Whooper Swans (60% in Ireland), and Greenland White-fronted Goose (35% in Ireland).

On balance, wintering waterbirds here have fared reasonably well since the mid-1990s, and the trend graphs have climbed for several species. The biggest winner, and by a considerable margin, is the Little Egret. Since first colonising the south coast as a breeder in 1997, the species has been recorded throughout the east and



PHILIP MUGRIDGE

▲ Ireland's winter population of Bewick's Swan has declined sharply, despite Birdwatch Ireland achieving coverage across the whole country (shown on map).

west coasts of Ireland as far north as Donegal and Down. Light-bellied Brent Goose numbers have more than doubled in the past decade and the total population stands at more than 40,000 individuals. They are now regular visitors to western Britain, France and Iberia. Other species migrating from the north and west (largely Greenland and Iceland) have generally fared well, with numbers of Barnacle Goose, Whooper Swan, Sanderling, Purple Sandpiper and Black-tailed Godwit also showing substantial increases since the mid-1990s. But this pattern does not hold true for all migrants from the west. A decline in numbers of Greenland White-fronted Geese since the 1990s is the result of poor breeding success, the root causes of which are less clear but are thought to be linked to climate change and increasingly late snowfall in breeding areas (Fox *et al.* 2012).

Arguably the greatest loss in Ireland in recent decades has been the Bewick's Swan which migrates from northeastern European Russia. Numbers in Ireland have plummeted from more than 2,000 birds in the 1980s to less than 100 birds nowadays. The overall population is in decline, but not to quite the same extent. Ireland is the most westerly wintering location, and the dramatic drop in numbers is probably caused



by swans no longer migrating this far west; perhaps climate change has improved conditions further along the flyway used by the species. Others showing substantial declines throughout I-WeBS include Scaup, Goldeneye, Grey Plover and Curlew among others. For many, these trends are consistent with Britain and elsewhere in their respective flyways, perhaps indicating that the greatest threats are taking place on the breeding areas. However, migrant waterbirds returning to Ireland each year are continually forced to deal with a diversity of pressures and threats. The 'Celtic Tiger' period that persisted throughout the late 1990s and early 2000s has certainly presented challenges through significant commercial development (ports, industry etc.) while more recently, there have been increasing development and recreational pressures.

## FIND OUT MORE...

**Boland, H. & Crowe, O.** 2012. *Irish wetland bird survey: waterbird status and distribution 2001/02 - 2008/09*. BirdWatch Ireland, Kilcoole, Co. Wicklow.

**Fox, A.D., Merne, O.J., Walsh, A.J., Norris, D.W. & Wilson, H.J.** 2012. Climate change and Greenland White-fronted Geese. *Irish Birds* 9: 333–340.

## RESEARCH IN THE FLYWAY

# Ruff migration shift

## Ruff change migration route in response to conditions along the flyway

Over the last two decades, thousands of northward migrating Ruff have disappeared from western European staging sites. Most of these migratory Ruff head towards the Eurasian Arctic tundras where 95% of the global population breeds. Research undertaken by wader ecologists in the central European flyway has revealed that there has been an eastward shift of migrating Ruff, linked to a reduction in the rate at which birds gain weight at staging sites (fuelling rates) on the flyway during their spring northward migration.

Friesland in The Netherlands is traditionally used by large numbers of passage Ruff. From 2001 to 2010, numbers there decreased by up to 15% per year, and in the study area within Friesland monitored by Verkuil et al. (2012) the population declined from 19,200 birds to fewer than 4,000. At the same time, fuelling rates decreased in both males and females, by 43% and 71%, respectively. In contrast, a population of passage Ruff on the Pripyat flood plains in Belarus increased significantly during the same period, from 2,500 birds in 2001-06 to 14,500 in 2007-10, and the fuelling

rate by birds there was stable. The overall population decline in the west of the flyway might signify a decline in breeding population and/or shifts to alternative staging sites such as the Belarussian flood plains, and be linked to an increase in the breeding population within the east of the species' range (Rakhimberdiev et al. 2011). Poor fuelling rates in the Netherlands may be linked to habitat conditions both locally and or in wintering areas in the Sahel, potentially linked to the effects of global climate change (Zöckler 2002).

Compared to predominantly estuarine wader species the UK's population of non-breeding Ruff may be less well monitored by WeBS, but sufficient birds are counted each winter to merit production of a trend. Although the trend is perhaps best interpreted with caution, it does indicate a drop in numbers in recent winters.

The Ouse Washes, North Norfolk Coast and Lower Derwent Ings tend to support the highest numbers of Ruff in the UK during winter, but freezing conditions

(such as those experienced in the UK during 2010/11) can result in marked reductions of birds, particularly inland.

### FIND OUT MORE...

**Rakhimberdiev, E., Verkuil, Y.I., Saveliev, A.A., Väisänen, R.A., Karagicheva, J., Soloviev, M.Y., Tomkovich, P.S. & Piersma, T.** 2011. A global population redistribution in a migrant shorebird detected with continent-wide qualitative breeding data. *Diversity and Distributions* **17**: 144–151.

**Verkuil, Y.I., Karlionova, N., Rakhimberdiev, E.N., Jukema, J., Wijmenga, J.J., Hooijmeijer, J.C.E.W., Pinchuk, P., Wymenga, E., Baker, A.J. & Piersma, T.** 2012. Losing a staging area: Eastward redistribution of Afro-Eurasian ruffs is associated with deteriorating fuelling conditions along the western flyway. *Biological Conservation* **149**: 51–59.

**Zöckler, C.** 2002. Declining ruff *Philomachus pugnax* populations: a response to global warming? *Wader Study Group Bulletin* **97**: 19–29.





## RESEARCH IN THE FLYWAY

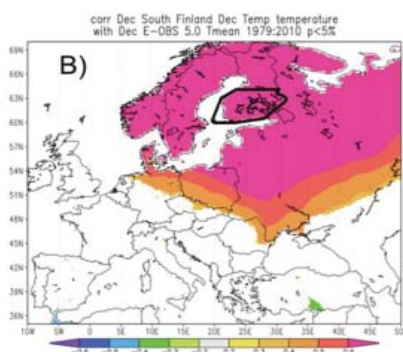
# Diving ducks and climate change

Collaborative research reveals changing duck distributions across Europe are due to winter temperatures

WeBS data are playing an important part in research into the effects of climate change on waterbirds across the flyway. Three decades of data from across northwest Europe, spanning the period 1980 to 2010, have been used to examine responses by three common diving ducks (Goldeneye, Tufted Duck and Goosander). The analysis of January counts from nine countries/regions (Finland, Sweden, Denmark, Germany, The Netherlands, Switzerland, France, the island of Ireland and Great Britain), have been published by Lehtikoinen *et al.* (2013). Note, for the purpose of this research, WeBS Counts from Northern Ireland were pooled with Irish I-WeBS data to generate the information for the island of Ireland (biologically, the most appropriate spatial area).

## CLIMATE CHANGE

This work was led by researchers in Finland, where early winter temperatures have increased by 3.8°C over the 30-year study period. Previous studies have shown spring arrival dates of waterbirds in the flyway are linked to climatic



▲ **Correlation between winter temperature increases in the Finnish study area (black line) and elsewhere in the Baltic/northern Europe, illustrating a broad-scale change in winter conditions. From Lehtikoinen et al. (2013).**

oscillation, and also that a number of species in Europe and Siberia have increasingly delayed their southward autumn migration in response to climate.

This new research has demonstrated profound implications for winter duck populations. Prior to the onset of milder winters in recent decades, wetlands in northern latitudes of Europe tended to remain frozen throughout the winter. However, over the course of the period examined in this study, such water bodies have become increasingly available to be used by waterbirds in winter. Numbers of Tufted Duck, Goldeneye and Goosander have increased exponentially in Finland, while in northern Sweden the total for all three species combined rose by over 80,000 birds. Goldeneyes have increased by 4,320% and 269% in Finland and southern Sweden, respectively.

However, a very contrasting pattern to that experienced in Scandinavia is evident at the opposite end of the flyway. Although the wintering population of Tufted Ducks in Britain appears to be relatively stable, neighbouring regions at the southwest edge of the flyway have experienced marked declines. For example, Tufted Ducks have decreased by 46% in France, 43% in Ireland and 39% in Switzerland, amounting to a combined loss of 104,000 birds. Goldeneyes decreased significantly in Ireland and Switzerland over the three decades, by 63% and 35%, respectively, representing a loss of 12,000 birds from those two countries alone. Recent shorter-term declines have also occurred in Great Britain, France, and The Netherlands. At the southwestern end of the flyway

used by Goosanders, numbers have declined in The Netherlands (by 66%), Denmark (41%) and southern Sweden (21%).

## CONSERVATION IMPLICATIONS

Waterbird abundance is commonly used as designation criteria for protection of wetland sites, as either Ramsar Sites and/or as EU SPAs. If new areas become important for non-breeding birds, they may not currently be included within any existing protected areas. Yet, conversely, we can expect to see birds increasingly retracting from sites further south and west in the wintering ranges - some of which were specifically designated to protect the species. However, recent cold winters have demonstrated the potential importance of ensuring continued protection of these sites as cold weather refuges.

Many waterbirds are prized game species, with millions harvested annually across Europe. It is therefore important that any discussion of changes to hunting regulations takes into account the implications of changed distributions such as those identified by this research.

## FIND OUT MORE...

**Lehtikoinen, A., Jaatinen, K., Vähätalo, A.V., Crowe, O., Deceuninck, B., Hearn, R., Holt, C.A., Hornman, M., Keller, V., Nilsson, L., Langendoen, T., Tománková, I., Wahl, J. & Fox, A.D.** 2013. Rapid climate driven shifts in wintering distributions of three common waterbird species. *Global Change Biology* **19**: 2071–2081.

## FOCUS ON... EGRETS

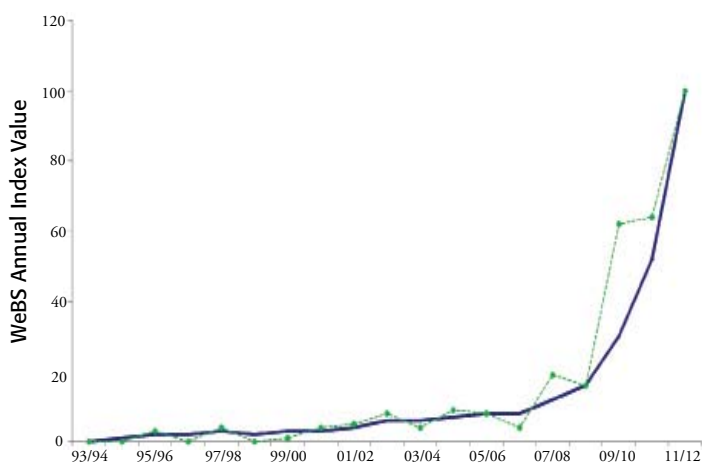
# Egrets in the UK: first came Little, now comes large...

Until 2005 the Great White Egret was an official British rarity. Nowadays, following in the footsteps of its smaller cousin, it is sufficiently numerous to enable a WeBS trend to be calculated.



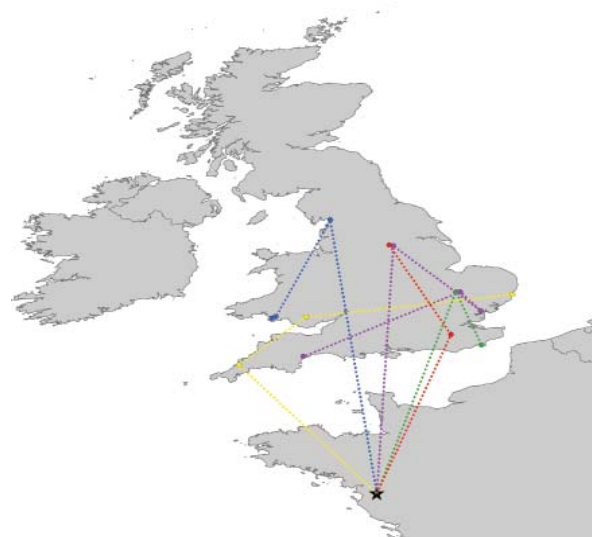
The Great White Egret has a worldwide distribution, covering much of Europe, Asia, Africa and the Americas. In Europe, the species has traditionally been at least partly migratory, spending the non-breeding period around the Mediterranean Sea, Red Sea and Persian Gulf. More recently there has been a marked trend towards wintering farther north, including within northwest Europe.

The number of Great White Egrets recorded in the UK has risen steeply in recent years. A notable feature of this increase has been the development of a regular wintering population, recently estimated to be at least 35 birds. This change is in line with increasing winter numbers elsewhere in areas such as The Netherlands. When Great White Egret was a rarity in the UK, virtually all records were singletons in spring/summer. Prior to 1990s, British birders were at least six times more likely to see the species in spring than between October and March, yet now winter records dominate.



### ▲ WeBS trend for Great White Egret in Britain

All 12 of the colour-ringed Great White Egrets seen in the UK in recent years originated from France, and arrived as first-year birds in their first autumn. It is reasonable to assume that some others in the UK, particularly new arrivals in autumn and winter, originate from the Dutch population – which had increased to a remarkable 2,300-2,800 wintering birds by 2010/11 (Klaassen *et al.* 2012).



### ▲ Autumn movements of first-year Great White Egrets, with sequential sightings of five marked birds shown. From Holt (2013).

In conjunction with the increase during the non-breeding period, Great White Egrets breed for the first time in the UK in 2012 (Anderson *et al.* 2013). Predicted changes in climate are expected to be beneficial for the species and in view of both the recent increase in records and the breeding activity, its future in the UK looks positive. Landscape-scale conservation initiatives, including plans for significant creation and/or management of wetlands at sites such as the Somerset Levels and in Fenland, are also likely to be beneficial. If winter numbers continue to increase in the UK, co-ordinated roost counts at favoured sites would be worthwhile. In The Netherlands, roost counts have exceeded totals from standard waterbird counts by 32% in recent winters (Klaassen *et al.* 2012), and a similar contrast was evident for Little Egret in the UK during that species' colonisation in 1980s and 1990s (Musgrove *et al.* 2002). Although the rapid increase in Little Egrets at WeBS sites in southern Britain has slowed, numbers at WeBS sites on the edge of the range in northern England continue to rise annually. In terms of overall numbers, The Wash remains the most important WeBS site for Little Egret, with a five-year average of over 500 birds (Table 6).

## FOCUS ON... EGRETS

**Table 6** Sites averaging annual peak of 100 Little Egrets

Site	2011/12 peak	Month	5-year mean
The Wash	242	Sep	509
Thames Estuary	235	Nov	329
Blackwater Estuary	(106)	Oct	233
Chichester Harbour	205	Oct	231
North Norfolk Coast	183	Oct	221
Dee Estuary	134	Apr	154
Poole Harbour	(60)	Nov	(146)
Stour Estuary	159	Oct	143
Swale Estuary	120	Oct	129
Exe Estuary	101	Jul	120
Lavan Sands	91	Aug	113
Crouch-Roach Estuary	73	Aug	106
Medway Estuary	(105)	Oct	(105)
Langstone Harbour	109	Oct	103
Severn Estuary	90	Oct	101
Morecambe Bay	96	Nov	100

• Bracketed counts indicate incomplete coverage of the site.

### FIND OUT MORE...

**Anderson, K., Clarke, S. & Lucken, R.** 2013. Nesting behaviour of the first breeding Great White Egrets in Britain. *British Birds* **106**: 258–263.

**Holt, C.** 2013. The changing status of the Great White Egret in Britain. *British Birds* **106**: 246–257.

**Klaassen, O.** 2012. De toename van overwinterende Grote Zilverreigers in Nederland aan de hand van dagtellingen en slaapplaatstellingen. *Limosa* **85**: 82–90. (In Dutch)

**Musgrove, A.J.** 2002. The non-breeding status of the Little Egret in Britain. *British Birds* **95**: 62–80.

Great White Egrets were seen at 27 WeBS sites in 2011/12

This photograph was taken on the Somerset Levels, where Great White Egret bred in 2012 for the first time in the UK. Two pairs fledged four young.





# UK wintering Pochards reach record low

Kane Brides (WWT) asks why the UK's wintering population of Pochards has halved in the last 25 years. Looking outside the British Isles may help to provide at least part of the answer.



The Pochard remains a familiar species to many WeBS counters and numerous at the population scale (there are an estimated 300,000 in the North-west European population), but there is growing concern over its conservation status. It is the UK's fastest declining wintering duck and numbers are also falling at a population scale. It is currently on the Amber list of the UK's *Birds of Conservation Concern* (BoCC) (Eaton *et al.* 2009), but the UK decline has reached a 50% drop in the last 25 years. It is therefore possible that the Pochard could be Red-listed when the next BoCC lists are assessed in 2014.

The trends for Pochard in Britain and Northern Ireland indicate that this alarming situation began in the 1990s. WeBS Alerts show that long-term declines have occurred at seven of the 12 Special Protection Areas designated for this species in the UK. At a further three sites there have been short-term declines. This includes a 76% decline at the most important wintering site, Lough Neagh and Lough Beg SPA (see p.19), in Northern Ireland, which appears to be continuing. Whilst that site remains an internationally important site for the species, the number there has decreased from 40,000 just 20 years ago. More than 10,000 were seen in 2011/12, but the updated five-year average for Loughs Neagh & Beg has fallen to just 7,823 birds (Table 7). In England, the WeBS Alerts show that the largest long-term declines at SPAs have been at Poole Harbour (-68%), Broadland (-61%) and Severn Estuary (-58%).

Away from the UK, a similar decline has also taken place in The Netherlands, yet further east in Sweden numbers have strongly increased (Nilsson 2008). This suggests that the decline in the UK is due to distribution change - the so-called 'short stopping' phenomenon that is happening increasingly among migrant waterbirds. However, analyses of data collated for the International Waterbird Census (see p. 26) has indicated that the North-west European population of Pochards has shown a significant long-term decline overall, although not as large as that found in the UK. Furthermore, a long term decline has also been detected in the Central Europe, Black Sea and Mediterranean population. Thus it would appear that the decline detected in the UK by WeBS counters is due to a combination of genuine decline at the population scale and

a shift away from western wintering areas such as the UK. The latter has recently been demonstrated by Lehtikoinen *et al.* (2013) to have taken place with other species of diving duck; see page 29. Mild winters are also known to reduce distances of within-winter movements by Pochards (Keller *et al.* 2009).

It is therefore vital that the high quality of our monitoring of Pochard in the UK is maintained, and there may be an increased need to collect additional information on this species in the near future as potential research and conservation actions required to safeguard it are considered. Furthermore, WWT and BTO, through work with the African-Eurasian Waterbird Monitoring Partnership, will be helping to ensure counts elsewhere in the flyway are maintained and developed, so that the overall population trend can be tracked. Such improved monitoring is an essential step in developing future research and conservation needs for the species.

## FIND OUT MORE...

**Eaton, M.A., Brown, A.F., Noble, D.G., Musgrove, A.J., Hearn, R., Aebischer, N.J., Gibbons, D.W., Evans, A. & Gregory, R.D.** 2009. Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* **102**: 296–341.

**Keller, I., Korner-Nievergelt, F. & Jenni, L.** 2009. Within-winter movements: a common phenomenon in the Common Pochard *Aythya ferina*. *Journal of Ornithology* **150**: 483–494.

**Lehtikoinen, A., Jaatinen, K., Vähätalo, A.V., Crowe, O., Deceuninck, B., Hearn, R., Holt, C.A., Hornman, M., Keller, V., Nilsson, L., Langendoen, T., Tománková, I., Wahl, J. & Fox, A.D.** 2013. Rapid climate driven shifts in wintering distributions of three common waterbird species. *Global Change Biology* **19**: 2071–2081.

**Nilsson, L.** 2008. Changes in numbers and distribution of wintering waterfowl in Sweden. *Ornis Svecica* **18**: 135–226.

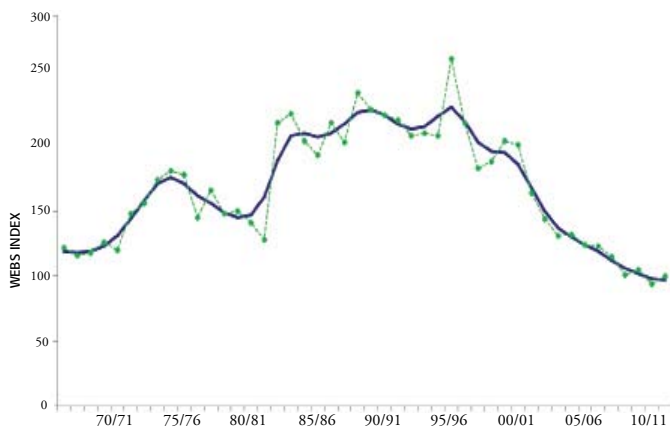
**FOCUS ON... POCHARD**

DAVE KING

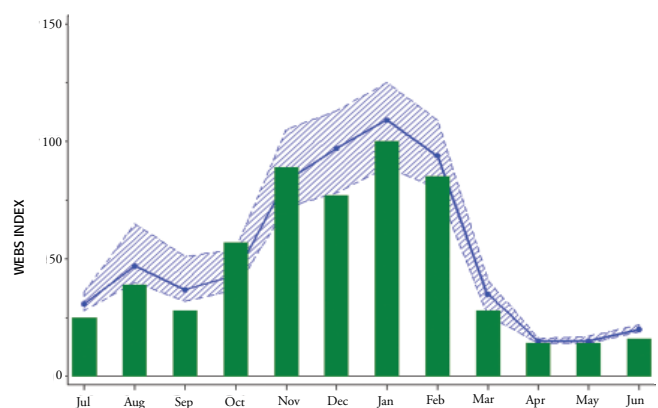
**Table 7** Nationally important sites for Pochard

Site	2007/08	2008/09	2009/10	2010/11	2011/12	Month	5-year mean
Loughs Neagh & Beg	9,023	5,799	9,288	5,002	10,004	Jan	7,823
Loch Leven	1,650	4,326	1,281	1,300	(2,110)	Oct	2,139
Ouse Washes	2,987	(2,251)	2,630	2,376	372	Jan	2,123
Abberton Reservoir	2,355	850	1,134	1,306	2,022	Oct	1,533
Dungeness and Rye Bay	728	1,019	1,356	979	1,003	Aug	1,017
Chew Valley Lake	600	530	1,065	1,305	965	Nov	893
Thames Estuary	854	588	714	(907)	983	Feb	809
Fleet and Wey	980	718	674	921	550	Dec	769
Loch of Harray	468	454	1,184	754	545	Jan	681
Severn Estuary	583	617	593	(734)	474	Feb	600
Middle Tame Valley GPs	783	1,042	(18)	343	173	Dec	585
Cotswold Water Park (East)	884	685	421	379	458	Dec	565
Hornsea Mere	650	560	550	410	560	Oct	546
Cotswold Water Park (West)	553	568	639	489	445	Feb	539
Cheddar Reservoir	80	230	435	965	516	Dec	445
Brogborough Clay Pit			645	147	(476)	Feb	423
Lower Windrush GPs	(409)	(316)	(312)	(207)	(212)	Jan	(409)
Pitsford Reservoir	505	328	407	335	330	Aug	381

- Annual peaks and month in 2011/12 when recorded are shown.
- Brackets indicate incomplete coverage.
- Five-year mean refers to period 2007/08 to 2011/12.

**▲ WeBS trend for Pochard in UK.**

Green dots = annual index value; blue line = smoothed trend.

**▲ Monthly indices for Pochard in UK.**

Green bars = 2011/12; blue line/hatched area = previous 5-year mean/range.

## FOCUS ON... BLACK-TAILED GODWIT



JILL PAKENHAM

The Icelandic breeding population of Black-tailed Godwits is probably one of the best-studied bird species in the world. With up to 2% of the population now colour-ringed, a priceless dataset continues to be generated enabling researchers to examine the species' ecology and inform evidence-based conservation (e.g. Gill *et al.* 2007). For example, recent work by Alves *et al.* (2013) used energetic models to show that survival rates were higher for godwits wintering in the favourable conditions of Portugal than those in the wet of Ireland and relative cold of England. Although undertaking a longer spring migration back to Icelandic breeding quarters, Iberian winterers arrive earlier and breed in superior quality habitat than Irish and English-wintering counterparts. Hence, the poorer conditions faced by Black-tailed Godwits in eastern England in winter appear to influence not only survival rates, but also subsequent breeding seasons.

Having risen since the mid 1970s and levelled off more recently, it is compelling that the British WeBS index for Black-tailed Godwit dropped notably in 2011/12. The peak count at The Wash was the lowest for over 15 years - could inferior wintering conditions now be affecting the total population size nationally? It is perhaps also pertinent that this happened after the severe winter of 2010/11, which may have reduced overwinter survival. What's more, the spring peak of 4,271 Black-tailed Godwits at the Ouse Washes (comprising migrating birds from wintering sites in Portugal) was the highest ever.

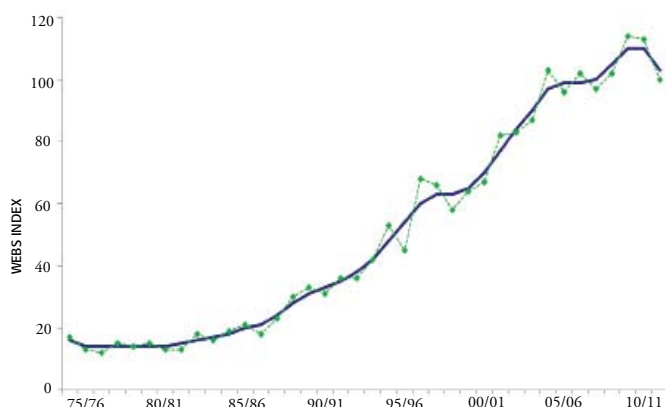
In 2011/12, other WeBS counts of Black-tailed Godwits included more than 3,000 birds at each of the Dee, Thames, Humber, Ribble and Mersey estuaries. In Northern Ireland, where the population is less than in England, numbers rose again; 700+ were at both Belfast Lough and Strangford Lough.

Continued research, dependent on everyone's sightings of colour-marked birds (via [cr-birding.org](http://cr-birding.org)), will help to provide further answers.

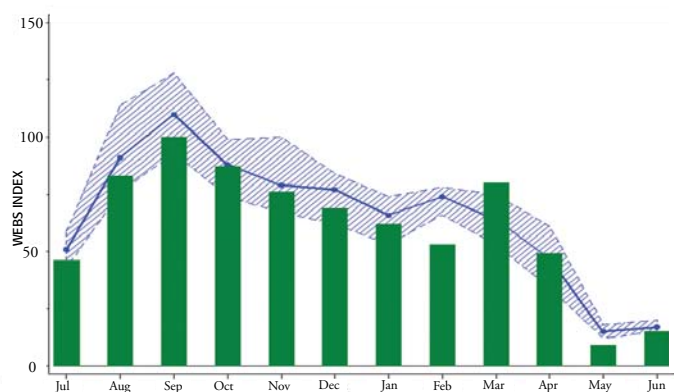
### FIND OUT MORE...

**Alves, J.A., Gunnarsson, T.G., Hayhow, D.B., Appleton, G.F., Potts, P.M., Sutherland, W.J. & Gill, J.A.** 2013. Costs, benefits, and fitness consequences of different migratory strategies. *Ecology* **94**: 11–17.

**Gill, J.A., Langston, R.H.W., Alves, J.A., Atkinson, P.W., Bocher, P., Cidraes Vieira, N., Crockford, N.J., Gélinaud, G., Groen, N., Gunnarsson, T.G., Hayhow, B., Hooijmeijer, J., Kentie, R., Kleijn, D., Lourenço, P.M., Masero, J.A., Meunier, F., Potts, P.M., Roodbergen, M., Schekkerman, H., Schröder, J., Wymenga, E. & Piersma, T.** 2007. Contrasting trends in two Black-tailed Godwit populations: a review of causes and recommendations. *Wader Study Group Bulletin* **114**: 43–50.



▲ **WeBS trend for Black-tailed Godwit in UK.**  
Green dots = annual index; blue line = smoothed trend.



▲ **Monthly indices for Black-tailed Godwit in UK.**  
Green bars = 2011/12; blue line/hatched area = previous 5-year mean/range.



## FOCUS ON... HERRING GULL

JOHN HARDING



A total of 33 Special Protection Areas (SPAs) classified in the UK under the EU Birds Directive include breeding gulls as features. However, although the UK is also known to be an internationally important wintering area for Europe's gull populations, no SPAs have yet been classified for these species in the non-breeding season. There is, therefore, an important need to accurately assess wintering gull populations in order to ensure that protection of sites can be assured. The most recent Wintering Gulls Survey (WinGS) in the UK was undertaken between 2003/04 and 2005/06, and aimed to quantify the importance of the UK for the main gull species that over-winter in the country's terrestrial areas and near-shore waters. These include the Red-listed Herring Gull, whose breeding numbers have declined by 36% since 2000 (JNCC 2013). Among an overall total of 3.8 million gulls wintering in the UK, Burton *et al.* (2012) estimated a population

of 743,000 Herring Gulls. Of this total, 37% were in Scotland, where a marked decline in numbers was apparent since the previous WinGS in 1993 (Banks *et al.* 2009). Based on currently available figures from elsewhere in the species' range, it is estimated the UK holds up to 64% of the European population of Herring Gulls. However, data from other areas, collected as part of the International Waterbird Census (see page 26), probably underestimate total numbers.

Although optional within WeBS, counting of gulls is very much encouraged in order to improve the robustness of trends based on WeBS data. In contrast to the breeding population, the WeBS non-breeding trend for Herring Gull in the UK since the mid 1990s is stable, although fewer than expected were present in January 2012. It is telling that many sites of known importance have not been counted since the WinGS survey in 2003/04;

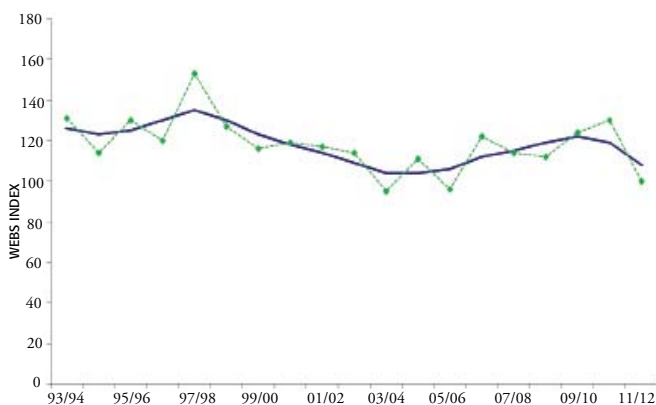
the largest count received by WeBS in 2011/12 was a roost of 12,000 birds at Glyne Gap, Sussex.

### FIND OUT MORE...

**Banks, A.N., Burton, N.H.K., Calladine, J.R. & Austin, G.E.** 2009. Indexing winter gull numbers in Great Britain using data from 1953 to 2004 Winter Gull Roost Surveys. *Bird Study* **56**: 103–119.

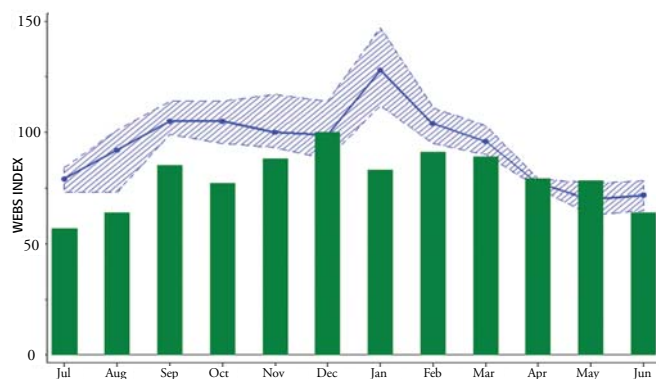
**Burton, N.H.K., Banks, A.N., Calladine, J.R. & Austin, G.E.** 2012. The importance of the United Kingdom for wintering gulls: population estimates and conservation requirements. *Bird Study* **60**: 87–101.

**JNCC.** 2013. Seabird Population Trends and Causes of Change: 1986-2012 Report. Joint Nature Conservation Committee. Updated July 2013.



#### ▲ WeBS trend for Herring Gull in UK.

Green dots = annual index; blue line = smoothed trend.



#### ▲ Monthly indices for Herring Gull in UK.

Green bars = 2011/12; blue line/hatched area = previous 5-year mean/range.

## LOW TIDE COUNTS - REVIEW

# UK Low Tide Counts 2011/12

Nineteen UK estuaries were counted at low tide generating important data about feeding areas



The WeBS Low Tide Count Scheme facilitates the collection of important information on the use of the UK's estuaries by waterbirds at low tide. The scheme has flourished since its inception in the winter of 1992/93, with all the major estuaries in the UK having been counted at least once. The scheme aims to principally monitor, assess and regularly update information on the relative importance of inter-tidal feeding areas of UK estuaries for wintering waterbirds, and in doing so complements information gathered through the WeBS Core Counts. Information collected during low tide represent an important contribution to the conservation of waterbirds, by providing supporting information for the establishment and management of UK Ramsar Sites and Special Protection Areas,

other site designations, and whole estuary conservation plans.

### LOW TIDE COUNT METHODS

On most estuaries, numbers of waterbirds feeding on predefined sectors of inter-tidal habitat are counted. WeBS aims to count most individual estuaries at low tide once every six years, although on some sites more frequent counts are undertaken. Coordinated counts of waterbirds are made each month from November to February inclusive in the period two hours either side of low tide. Each counted sector is divided into a maximum of three distinct habitat components: inter-tidal, sub-tidal, and non-tidal. Species data are then divided among these habitats depending on the usual habitat preferences of the species

concerned. Presentation of WeBS low tide information typically takes two forms: (i) tabulated statistics of peak numbers and mean densities of each species, and (ii) dot density maps to give a visual representation of species' foraging densities across a site. Individual dots do not represent the precise positions of individual birds; dots are assigned to habitat components proportionally and randomly placed within those areas. No information about distribution of birds at a finer scale than the count sector level should be inferred from the dot density map. For all maps presented here, one dot is equivalent to one bird; the size of individual dots has no relevance other than for clarity.

### 2011/12 COVERAGE

During the winter of 2011/12, WeBS Low Tide Counts were carried out at 18 estuaries. These included the Humber, Blackwater and Swale, which were counted for the first time since 2003/04, 2005/06 and 2001/02 respectively, and the Glaslyn Estuary (Traeth Bach) which was counted for the first time under the WeBS Low Tide Count scheme. Results from the counts at Strangford Lough and Humber Estuary are presented on pages 38-39 and 40-41, respectively.

Further information about WeBS Low Tide Counts, including data summaries and distribution maps for combinations of different estuaries and species, are available online via [www.bto.org/webs-reporting-lowtide](http://www.bto.org/webs-reporting-lowtide). In the future, this Low Tide Count information will be available interactively site-by-site through the WeBS reporting interface.



ANDY MILUSGROVE

The Orwell Estuary in Suffolk was counted at low tide in 2011/12

- 1) Loch Fleet
- 2) Cromarty Firth
- 3) Lindisfarne
- 4) Humber Estuary
- 5) Breydon Water
- 6) Orwell Estuary
- 7) Stour Estuary
- 8) Blackwater Estuary
- 9) Swale Estuary
- 10) Adur Estuary
- 11) Langstone Harbour
- 12) Fal Complex
- 13) Burry Inlet
- 14) Carmarthen Bay
- 15) Glaslyn Estuary
- 16) Conwy Estuary
- 17) Strangford Lough
- 18) Belfast Lough



▲ Estuaries counted within WeBS Low Tide Count scheme in 2011/12



## LOW TIDE COUNTS 2011/12 - SITE FOCUS

# Strangford Lough at low tide

Some sites, including Strangford Lough, are counted annually at low tide, enabling comparison of data between years.

Strangford Lough is a large shallow sea lough on the east coast of Northern Ireland, designated as an SPA, Marine Nature Reserve, and Ramsar Site. The site includes the Narrows, a deep rocky channel to the Irish Sea. The main body of the lough is sheltered to the east by the Ards Peninsula. Downpatrick and Newtownards are the largest human habitations nearby. Within the lough there are numerous rocky outcrops and small islands. The north of the lough in particular holds extensive intertidal mud and sand flats and there are countless bays and inlets, and large expanses of open water, providing a wide diversity of habitat. Since 2001, mobile gear fishing has been banned in Strangford Lough to allow populations of the Horse Mussel *Modiolus modiolus* to recover. Static fishing and catching of crustaceans still occurs and there is some recreational activity, including sailing.

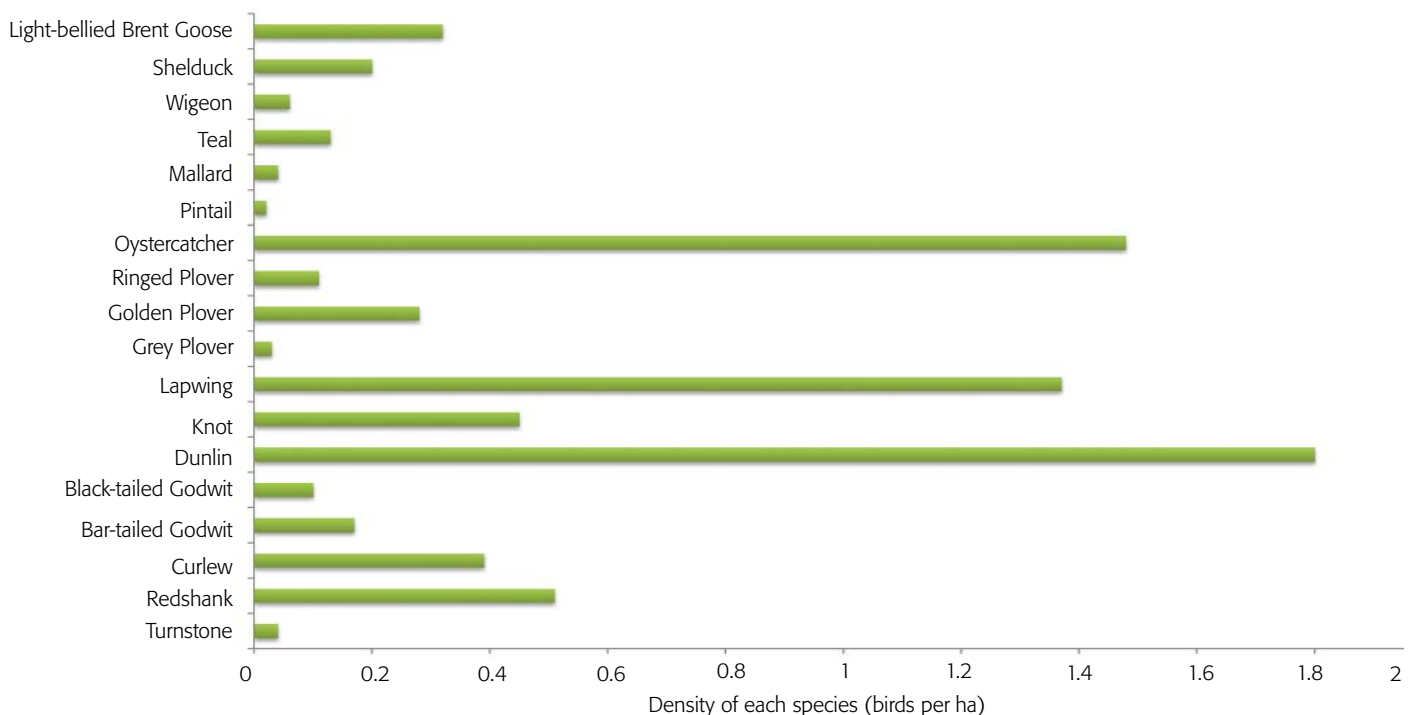
The densities of the main waterbird species using Strangford Lough at low tide are shown. The distribution of two species that are in decline at the site are illustrated opposite; low tide distributions of (a) Shelduck and (b) Ringed Plover in 2001/02 are shown in comparison to the respective distributions ten years later in 2011/12.

Shelduck are present at Strangford Lough in internationally important numbers. However, similar to the wider Northern Ireland trend, the species has undergone a decline in the past ten years. This is shown by a comparison of the mean winter count for the two winters: 1,590 (0.20 birds per ha), compared to 2,505 (0.29 birds per ha) in 2001/02. Although widespread around most parts of the lough, Shelduck numbers are greatest around Castle Espie.

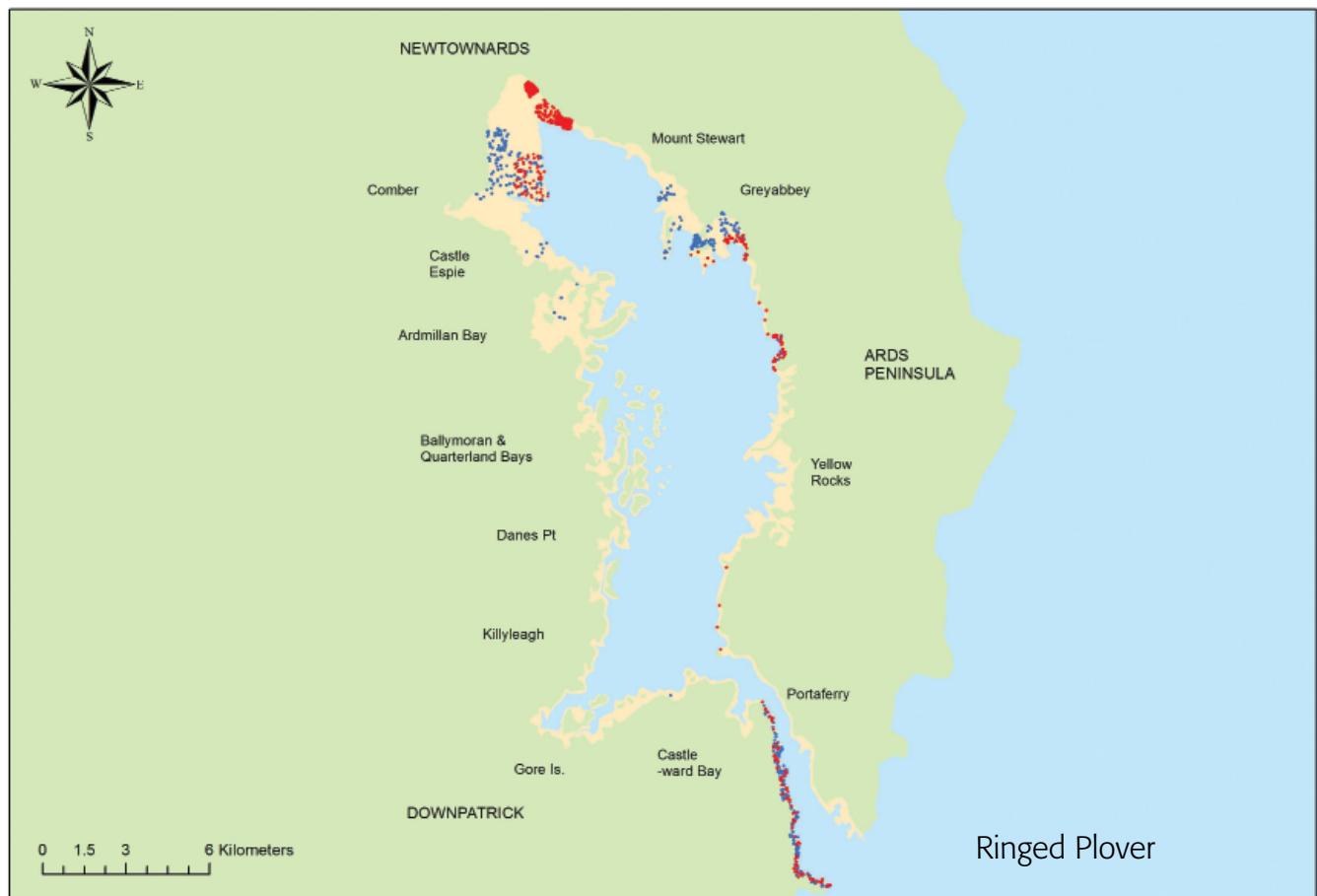
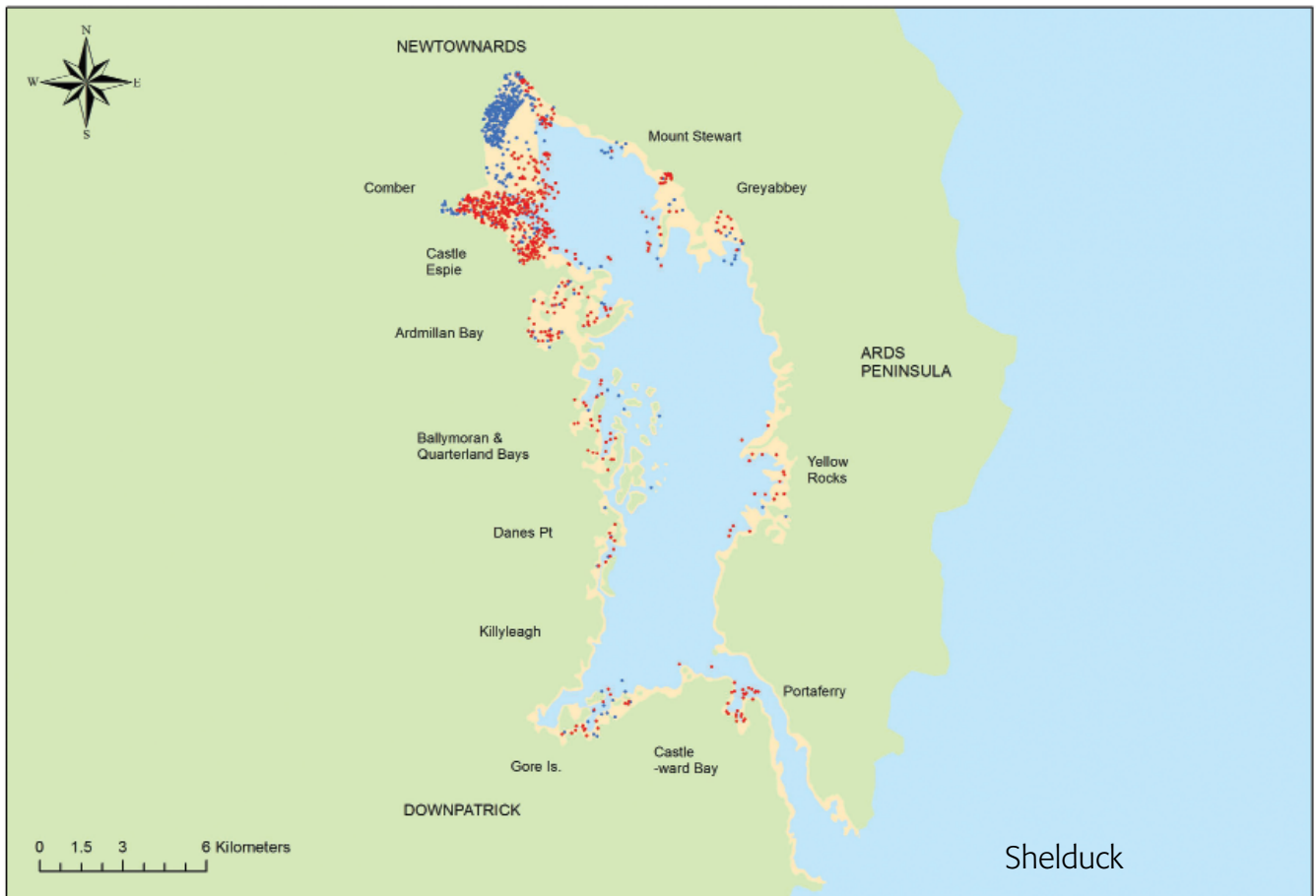
Ringed Plover numbers at both Strangford Lough and in Northern Ireland as a whole have declined steeply, triggering a Medium Alert for the short-, medium- and long-terms (see page 16-17; Cook *et al.* 2013). This decline has been reflected in the Low Tide Counts, with the mean count for the winter of 2011/12 being 351 (0.11 birds per ha), compared with 451 (0.12 birds per ha) in 2001/02. A favoured area in both years was the outer parts of the lough between Killard and Church Point, although here the mean count in 2011/12 (32) was considerably lower than in 2001/02 (174).

### GENERAL STATISTICS

Area covered: 8,129 ha  
Mean total birds: 37,447  
Mean bird density: 4.61 birds per ha.



▲ Densities of waterbirds at low tide at Strangford Lough in 2011/12



▲ Low Tide distribution of Shelduck (1 dot = 5 birds) (above), and Ringed Plover (1 dot = 1 bird), for the winters of 2011/12 (red) and 2001/02 (blue).

## LOW TIDE COUNTS 2011/12 - SITE FOCUS

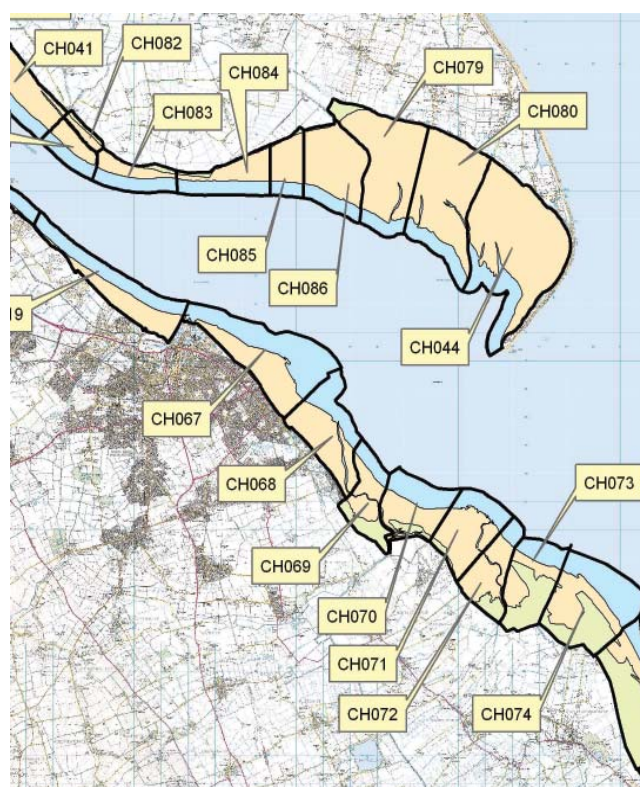
# Low Tide Counts on the Humber Estuary

2011/12 saw a twelve-month programme of Low Tide Counts carried out on the Humber, repeating collaborative work undertaken there seven years previously.

The Humber Estuary is the largest British macro-tidal coastal plain estuary on the North Sea, and is also a site of national and international importance for its wader and wildfowl populations as well as for other habitats and species. It is among the top six sites in the UK in terms of waterbird numbers, with a five-year average of approximately 140,000 birds during winter and passage periods. The Humber Estuary supports internationally important populations of 12 species and nationally important numbers of a further ten. Like many of the UK's major estuaries, the Humber is designated as a Site of Special Scientific Interest, Special Protection Area, Special Area of Conservation, and Ramsar site.

In 2011/12, the waterbird assemblage was similar to that when monitored by WeBS Low Tide Counts in 2004/05, though the fortunes of individual species has changed. Numbers of Little Egrets had increased significantly, now being widespread throughout the estuary in line with the national increase and continued spread northwards. Black-tailed Godwit is another species whose UK wintering population continues to increase, with the Humber now supporting internationally important numbers and birds largely confined to just two areas: the Pyewipe section being particularly important for feeding, and North Killingholme Haven Pits for roosting. Conversely, numbers of some species, such as Redshank, have fallen sharply since the 2003/04 counts. Read's Island continues to be the key roost site for thousands of Pink-footed Geese and during the breeding season is favoured by Avocets as a safe refuge. In winter the island and surrounding flats and channels of the Humber Wildfowl Refuge and Whitton Sands continue to support large numbers of wildfowl, particularly Wigeon and Teal.

Results from counting the Humber throughout the year highlight the importance of the site during spring and autumn passage, with species such as Ringed Plover, Grey Plover and Sanderling peaking in numbers during migration periods. Given the high turnover of birds passing through during these periods, the timing of WeBS Counts can affect the numbers of birds recorded and so more work on turnover of waders is needed to improve understanding of the importance of the Humber and other sites.



▲ An example of the count sectors used to collect data on foraging distributions of waterbirds in the Humber. This is the outer part of the estuary and includes Spurn Point.

Given continued pressures faced on the Humber from both development and climate change, the need for continued monitoring is vital. WeBS Core Counts are on-going and provide information on numbers of birds using the site over the high tide period, however knowledge of feeding distribution at low tide is equally valuable. This was the third coordinated Low Tide Count on the Humber, and a five-year cycle of counts should be an aim for the future.

### FIND OUT MORE...

**Calbrade, N. 2013.** Humber Estuary Low Tide Programme 2011/12. BTO Research Report No. 642. On behalf of BTO, Natural England, North & East Yorkshire Ecological Data Centre, RSPB and Environment Agency.





Some winters see internationally important numbers of Golden Plover and Lapwing use the Humber Estuary.

## WEBS DATA REQUESTS

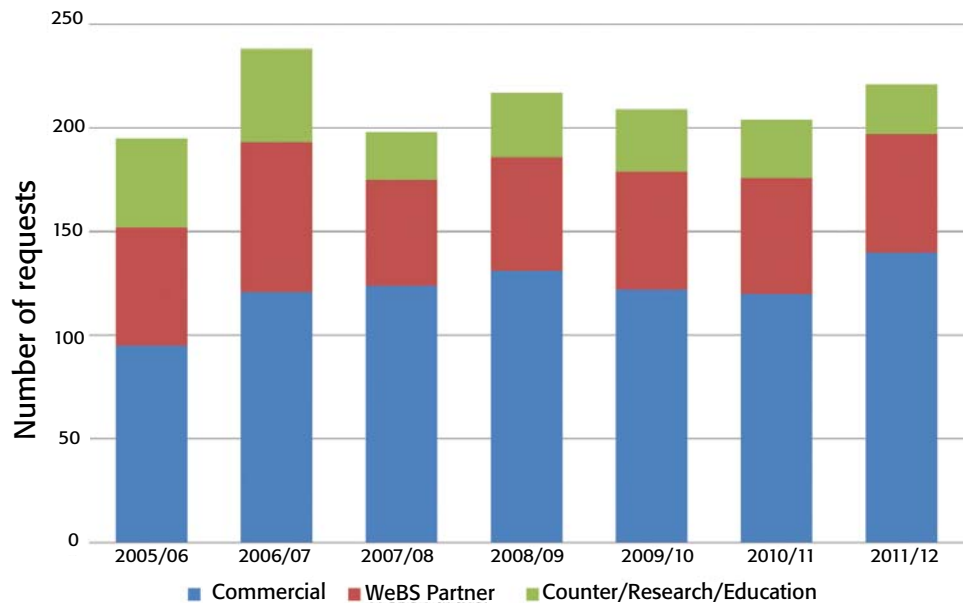
221  
WeBS Data  
Requests in  
2011/12

# Uses of WeBS data 2011/12

With the UK host to internationally important numbers of over-wintering waterbirds, one of the principal aims of WeBS is to provide data to facilitate their conservation. Indeed, there have been many high-profile examples over the years in which WeBS data have proved to be fundamental in securing the protection of important wetland sites.

A summary of site-based WeBS information is presented on the online interface, but finer level data (both spatial and temporal) are available in a user-friendly format through a bespoke WeBS Data Request. Any WeBS based information that is to be incorporated into site evaluation work, such as Environmental Impact Assessments (EIAs), should be sourced through a WeBS Data Request.

The graph shows the number of Data Requests processed by the WeBS office each year since 2005/06. These are from a range of stakeholder groups, including country conservation agencies, environmental consultancies, academic researchers and bird clubs. Summarised WeBS data are also provided to several online environmental data portals. January WeBS data are supplied to Wetlands



▲ WeBS Data Requests 2005/06 to 2011/12

International for use inclusion in the International Waterbird Census (IWC), and summaries are used in IWC outputs such as National Totals lists and the Critical Sites Network Tool.

The WeBS Partnership is keen to encourage WeBS data use within environmental research. A variety of scientific papers and reports that have used WeBS data in recent years are referenced within the pages of this annual report, and there is of course an extensive suite of other research

questions relating to waterbird ecology and wider wetland management issues to which WeBS data would lend themselves, at national and international scales. Academic researchers, prospective students and potential collaborators can email the WeBS Secretariat at [webs@bto.org](mailto:webs@bto.org).

## WEBS DATA REQUESTS

More information about the WeBS Data Request Service is available at [www.bto.org/webs/data](http://www.bto.org/webs/data) where you can see coverage by WeBS of different sites, check data request charges, and view examples of data that can be provided.



## WeBS Local Organisers in 2011/12

Continued from back page

### WALES

Anglesey	Ian Sims
Breconshire	Andrew King
Burry Inlet	Alastair Flannagan
Caernarfonshire	Rhion Pritchard
Caernarfonshire (Foryd Bay)	Simon Hugheston-Roberts
Cardigan (incl Dyfi Estuary)	Dick Squires (now Russell Jones)
Cardarthenshire	Ian Hainsworth (now Terry Wells)
Clwyd (coastal)	<b>VACANT</b>
Clwyd (inland)	<b>VACANT</b>
East Glamorgan	Daniel Jenkins-Jones
Gwent (excl Severn Estuary)	Chris Jones (now Al Venables)
Merioneth (estuaries)	Jim Dustow
Merioneth (other sites)	Trefor Owen
Montgomeryshire	Jane Kelsall
Pembrokeshire	Annie Haycock
Radnorshire	Peter Jennings
Severn Estuary (Wales)	Niall Burton (now Al Venables)
West Glamorgan	Alastair Flannagan

### NORTHERN IRELAND

Antrim (Larne Lough)	Doreen Hilditch
Antrim (other sites)	<b>VACANT</b>
Armagh (excl Loughs Neagh and Beg)	<b>VACANT</b>
Belfast Lough	Shane Wolsey
Down (Carlingford Lough)	<b>VACANT</b>
Down (Dundrum Bay)	Malachy Martin (now Patrick Lynch)
Down (other sites)	<b>VACANT</b>
Down (Outer Ards)	NIEA
Down (South Down Coast)	<b>VACANT</b>
Down (Strangford Lough)	Kerry Mackie
Fermanagh	<b>VACANT</b>
Londonderry (Bann Estuary)	Hill Dick
Londonderry (Lough Foyle)	Matthew Tickner
Londonderry (other sites)	<b>VACANT</b>
Loughs Neagh and Beg	NIEA
Tyrone (excl Loughs Neagh and Beg)	<b>VACANT</b>

### CHANNEL ISLANDS

Alderney	Alderney Wildlife Trust Ecologist
Channel Islands (inland)	Glyn Young
Guernsey Coast	Mary Simmons
Jersey Coast	Roger Noel

### ISLE OF MAN

Isle of Man	Pat Cullen
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We would be grateful for help organising WeBS in areas currently without a Local Organiser (marked **VACANT**). If you live in one of these areas and would be interested in taking on the role, please let us know. Email: [webs@bto.org](mailto:webs@bto.org)

In 2011/12, the WeBS Local Organiser Advisory Committee (WeBS LOAC) was comprised of John Armitage, Neil Bielby, Gladys Grant, Andrew King, Ian Lees, Nick Mason, Dave Shackleton and Shane Wolsey. Thanks to them for representing the wider LO network. Information about the WeBS LOAC can be found at [www.bto.org/webs/loac](http://www.bto.org/webs/loac)

## WeBS ONLINE REPORT

Further information, including site tables and trends for all the regular WeBS species, is available in the online report at [www.bto.org/webs-reporting](http://www.bto.org/webs-reporting).



## Further reading

Recent studies that have used WeBS data and not referenced elsewhere in this report

**Baillie, S.R., Marchant, J.H., Leech, D.I., Massimino, D., Eglinton, S.M., Johnston, A., Noble, D.G., Barimore, C., Kew, A.J., Downie, I.S., Risely, K. & Robinson, R.A.** 2013. *BirdTrends 2012: trends in numbers, breeding success and survival for UK breeding birds*. BTO Research Report 644. BTO, Thetford. ([www.bto.org/birdtrends](http://www.bto.org/birdtrends)).

**Balmer, D.E., Gillings, S., Caffrey, B.J., Swann, R.L., Downie, I.S. & Fuller, R.J.** 2013. *Bird Atlas 2007-11: the breeding and wintering birds of Britain and Ireland*. British Trust for Ornithology, BTO Books, Thetford.



**Chamberlain, D.E., Austin, G.E., Green, R.E., Hulme, M.F. & Burton, N.H.K.** 2013.

Improved estimates of population trends of Cormorant *Phalacrocorax carbo* in England and Wales for effective management of a protected species at the centre of a human-wildlife conflict. *Bird Study* **60**: 335-344.

**Chamberlain, D.E., Austin, G.E., Newson, S.E., Johnston, A.J. & Burton, N.H.K.** 2013. Licensed control does not reduce local Cormorant *Phalacrocorax carbo* population size in winter. *Journal of Ornithology* **154**: 739-750.

**Dalby, L., Fox, A.D., Petersen, I.K., Delany, S. & Svenning, J-C.** 2013. Temperature does not dictate the wintering distributions of European dabbling duck species. *Ibis* **155**: 80-88.

**Eaton, M.A., Balmer, D.E., Bright, J., Cuthbert, R., Grice, P.V., Hall, C., Hayhow, D.B., Hearn, R.D., Holt, C.A., Knipe, A., Mavor, R., Noble, D.G., Opper, S., Risely, K., Stroud, D.A. & Wotton, S.** 2013. *The state of the UK's birds 2013*. RSPB, BTO, WWT, NRW, JNCC, NE, NIEA and SNH, Sandy, Bedfordshire. ([www.bto.org/sites/default/files/u16/downloads/SUKB/State\\_UK\\_Birds\\_2013.pdf](http://www.bto.org/sites/default/files/u16/downloads/SUKB/State_UK_Birds_2013.pdf)).

**Hall, C., Reed, J., Boland, H., Einarsson, O., Holt, C., McElwaine, G., Spray, C. & Rees, E.** 2012. Population size and breeding success of Icelandic Whooper Swans: results of the 2010 international census. *Wildfowl* **62**: 73-96.

**Harvey, P.V. & Heubeck, M.** 2012. Changes in the wintering population and distribution of Slavonian Grebes in Shetland. *British Birds* **105**: 704-715.

**Holt, C.A., Austin, G.E., Calbrade, N.A., Mellan, H.J., Hearn, R.D., Stroud, D.A., Wotton, S.R. & Musgrove, A.J.** 2012. *Waterbirds in the UK 2010/11: The Wetland Bird Survey*. BTO/RSPB/JNCC. BTO, Thetford.

**Mendez, V., Gill, J.A., Burton, N.H.K., Austin, G.E., Petchey, O.L. & Davies, R.G.** 2012. Functional diversity across space and time: trends in wader communities on British estuaries. *Diversity and Distributions* **18**: 356-365.

**Mitchell, C., Hearn, R. & Stroud, D.** 2012. The merging of populations of Greylag Geese breeding in Britain. *British Birds* **105**: 498-505.

**Musgrove, A.J., Aebischer, N.J., Eaton, M.A., Hearn, R.D., Newson, S.E., Noble, D.G., Parsons, M., Risely, K. & Stroud, D.A.** 2013. Population estimates of birds in Great Britain and the United Kingdom. *British Birds* **106**: 64-100.

**Musgrove, A.J., Austin, G.E., Hearn, R.D., Holt, C.A., Stroud, D.A. & Wotton, S.R.** 2013. Population estimates of British non-breeding waterbirds. *British Birds* **104**: 364-397.





## SPECIAL THANKS

We wish to thank all surveyors and Local Organisers for making WeBS the success it is today. Unfortunately space does not permit all observers to be acknowledged individually, but we would especially like to credit the LOs for their efforts.

### WeBS Local Organisers in 2011/12

#### ENGLAND

Avon (excl Severn Estuary)  
 Bedfordshire  
 Berkshire  
 Buckinghamshire  
 Cambridgeshire (incl Huntingdonshire)  
 Cambridgeshire (Nene Washes)  
 Cambridgeshire (Ouse Washes)  
 Cheshire (North)  
 Cheshire (South)  
 Cleveland (excl Tees Estuary)  
 Cleveland (Tees Estuary)  
 Cornwall (excl Tamar Complex)  
 Cornwall (Tamar Complex)  
 Cotswold Water Park  
 Cumbria (Duddon Estuary)  
 Cumbria (excl estuaries)  
 Cumbria (Irt/Mite/Esk Estuary)  
 Dee Estuary  
 Derbyshire  
 Devon (other sites)  
 Devon (Taw/Torridge Estuary)  
 Dorset (excl estuaries)  
 Dorset (Poole Harbour)  
 Dorset (Radipole and Lodmoor)  
 Dorset (The Fleet and Portland Harbour)  
 Durham  
 Essex (Crouch/Roach Estuaries and South Dengie)  
 Essex (Harnford Water)  
 Essex (North Blackwater)  
 Essex (other sites)  
 Essex (South Blackwater and North Dengie)  
 Gloucestershire  
 Greater London (excl Thames Estuary)  
 Greater Manchester  
 Hampshire (Avon Valley)  
 Hampshire (estuaries/coastal)  
 Hampshire (excl Avon Valley)  
 Herefordshire  
 Hertfordshire  
 Humber Estuary (inner South)  
 Humber Estuary (mid South)  
 Humber Estuary (North)  
 Humber Estuary (outer South)  
 Isle of Wight  
 Kent (Dungeness area)  
 Kent (East)  
 Kent (North Kent estuaries)  
 Kent (Pegwell Bay)  
 Kent (West)  
 Lancashire (East Lancs and Fylde)  
 Lancashire (North inland)  
 Lancashire (Ribble Estuary)  
 Lancashire (River Lune)  
 Lancashire (West inland)  
 Lee Valley  
 Leicestershire and Rutland (excl Rutland Water)  
 Leicestershire and Rutland (Rutland Water)  
 Lincolnshire (North inland)  
 Lincolnshire (South inland)  
 Merseyside (Alt Estuary)  
 Merseyside (inland)  
 Merseyside (Mersey Estuary)  
 Morecambe Bay (North)  
 Morecambe Bay (South)  
 Norfolk (Breydon Water)  
 Norfolk (excl estuaries)  
 Norfolk (North Norfolk Coast)  
 Northamptonshire  
 Northumberland (coastal)  
 Northumberland (inland)  
 Northumberland (Lindisfarne)  
 Nottinghamshire  
 Oxfordshire (North)

Keith Fox (now Rupert Higgins)  
 Richard Bashford  
 Ken White  
 Roger Warren  
 Bruce Martin  
 Charlie Kitchen  
 Paul Harrington  
 Vacant (now Kane Brides)  
 David Cookson  
 Chris Sharpe  
 Mike Leakey  
 Ilya Maclean (now Pete Roseveare)  
 Gladys Grant  
 Gareth Harris  
 Colin Gay  
 Dave Shackleton  
 Peter Jones  
 Colin Wells  
 Vacant (now Peter Gibbon)  
 Pete Reay  
 Terry Chaplin (now Pete Reay)  
 John Jones  
 Paul Morton  
 Nick Tomlinson (now Toby Branston)  
 Steve Groves  
**VACANT**  
 Peter Mason  
 Julian Novorol  
 John Thorogood  
**VACANT**  
 Anthony Harbott  
 Michael Smart  
 Helen Baker  
 Adrian Dancy (now Jamie Dunning)  
 John Clark  
 John Shillitoe  
 Keith Wills  
 Chris Robinson  
 Jim Terry  
 Keith Parker  
 Harriet Billanie (now Richard Barnard)  
 Nick Cutts  
 John Walker  
 Jim Baldwin  
 David Walker  
 Ken Lodge  
 The late Gordon Allison (now Geoff Orton)  
 Pete Findley  
**VACANT**  
 Vacant (now Heather Hilton)  
 Peter Marsh  
 Ken Abram  
 Jean Roberts  
 Tom Clare  
 Cath Patrick  
 Brian Moore  
 Tim Appleton  
 Chris Gunn  
 Bob Titman  
 Steve White  
 Steve Birch (now **VACANT**)  
 Graham Thomason (now Dermot Smith)  
 Clive Hartley  
 Jean Roberts  
 Jim Rowe  
 Tim Strudwick  
 Michael Rooney  
 Jim Williams (now **VACANT**)  
 Daniel Turner  
 Steve Holliday  
 Andrew Craggs  
 Gary Hobson (now David Parkin)  
 Sandra Bletchly

Oxfordshire (South)  
 Severn Estuary (England)  
 Shropshire  
 Solway Estuary (inner South)  
 Solway Estuary (outer South)  
 Somerset (other sites)  
 Somerset (Somerset Levels)  
 Staffordshire  
 Suffolk (Alde Complex)  
 Suffolk (Alton Water)  
 Suffolk (Blyth Estuary)  
 Suffolk (Deben Estuary)  
 Suffolk (Orwell Estuary)  
 Suffolk (other sites)  
 Suffolk (Stour Estuary)  
 Surrey  
 Sussex (Chichester Harbour)  
 Sussex (other sites)  
 Thames Estuary (Foulness)  
 The Wash  
 Warwickshire  
 West Midlands  
 Wiltshire  
 Worcestershire  
 Yorkshire (East and Scarborough)  
 Yorkshire (Harrogate and Yorkshire Dales)  
 Yorkshire (Huddersfield/Halifax area)  
 Yorkshire (Leeds area)  
 Yorkshire (South)  
 Yorkshire (Wakefield area)

Ian Lees  
 Harvey Rose  
 Michael Wallace  
 Norman Holton  
 Dave Shackleton  
 Keith Fox (now Eve Tigwell)  
 Steve Meen  
 Steve Turner  
 Ian Castle  
 John Glazebrook  
 Adam Burrows  
 Nick Mason  
 Mick Wright  
 Alan Miller  
 Rick Vonk  
 Penny Williams  
 Edward Rowsell  
 Richard Bown  
 Chris Lewis  
 Jim Scott  
 Matthew Griffiths  
 Nick Lewis  
 Julian Rolls  
 Andrew Warr  
 Shirley Pashby (now Jim Morgan)  
 Bill Haines  
**VACANT**  
 Paul Morris  
**VACANT**  
 Peter Smith

#### SCOTLAND

Aberdeenshire  
 Angus (excl Montrose Basin)  
 Angus (Montrose Basin)  
 Argyll Mainland  
 Arran  
 Ayrshire  
 Badenoch and Strathspey  
 Borders  
 Bute  
 Caithness  
 Central (excl Forth Estuary)  
 Clyde Estuary  
 Dumfries and Galloway (Auchencairn and Orchardtown Bays)  
 Dumfries and Galloway (Fleet Bay)  
 Dumfries and Galloway (Loch Ryan)  
 Dumfries and Galloway (other sites)  
 Dumfries and Galloway (Rough Firth)  
 Dumfries and Galloway (Wigtown Bay)  
 Fife (excl estuaries)  
 Fife (Tay and Eden Estuaries)  
 Forth Estuary (inner)  
 Forth Estuary (outer North)  
 Forth (outer South)  
 Glasgow/Renfrewshire/Lanarkshire  
 Harris and Lewis  
 Islay, Jura and Colonsay  
 Isle of Cumbrae  
 Lochaber  
 Lothian (excl estuaries)  
 Lothian (Tynninghame Estuary)  
 Moray and Nairn (inland)  
 Moray and Nairn (Lossie Estuary)  
 Moray Basin Coast  
 Mull  
 Orkney  
 Perth and Kinross (excl Loch Leven)  
 Perth and Kinross (Loch Leven)  
 Shetland  
 Skye and Lochalsh  
 Solway Estuary (North)  
 Sutherland (excl Moray Basin)  
 Tiree and Coll  
 Uists and Benbecula  
 West Inverness/Wester Ross

Rob Minshull  
 Bruce Lynch (now **VACANT**)  
 Anna Cheshier  
 Paul Daw  
 Jim Cassels  
 Dave Grant  
 Keith Duncan  
 Andrew Bramhall  
 Ian Hopkins  
 The late Stan Laybourne (now Sinclair Manson)  
 Neil Bielby  
 John Clark  
 Euan MacAlpine  
 David Hawker  
 Geoff Sheppard (now Paul Collin)  
 Andy Riches  
 Judy Baxter  
 Paul Collin  
 Allan Brown  
 Norman Elkins  
 Michael Bell  
 Alastair Inglis  
 Duncan Priddle  
 John Clark  
 Vacant (now Yvonne Benting)  
 John Armitage  
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 John Dye  
 Joan Wilcox (now Allan Brown)  
 Bobby Anderson  
 David Law  
 Bob Proctor  
 Bob Swann  
 Paul Daw  
 Eric Meek  
 Michael Bell  
 Jeremy Squire  
 Paul Harvey  
 Robert Macmillan  
 Andy Riches  
**VACANT**  
 John Bowler  
 Yvonne Benting  
**VACANT**



in association with



British Trust for Ornithology  
 The Nunnery  
 Thetford  
 Norfolk  
 IP24 2PU

01842 750050  
 webs@bto.org  
 www.bto.org/webs