



The Breeding Bird Survey 2012

The population trends of the UK's breeding birds



THE 2012 BBS REPORT

This is the eighteenth annual report of the BTO/JNCC/RSPB Breeding Bird Survey (BBS), containing the population trends of widespread UK bird species during the period 1994–2012.

The BBS is the main scheme for monitoring the population changes of the UK's common breeding birds, providing an important indicator of the health of the countryside. BBS trends are produced each year for over 100 species, and the results are widely used to set priorities and inform conservation action.

British Trust for Ornithology



The Nunnery
Thetford
Norfolk
IP24 2PU
www.bto.org

Joint Nature Conservation Committee



Monkstone House
City Road
Peterborough
PE1 1JY
www.jncc.defra.gov.uk

Royal Society for the Protection of Birds



The Lodge
Sandy
Bedfordshire
SG19 2DL
www.rspb.org.uk

THE BBS PARTNERSHIP

The Breeding Bird Survey is run by the British Trust for Ornithology (BTO) and is jointly funded by the BTO, the Joint Nature Conservation Committee (JNCC) (on behalf of the statutory nature conservation agencies: Council for Nature Conservation and the Countryside, Natural England, Natural Resources Wales and Scottish Natural Heritage), and the Royal Society for the Protection of Birds (RSPB).

The members of the BBS Steering Committee in 2012 were Stephen Baillie (Chair, BTO), Deborah Procter (JNCC), Mark Eaton (RSPB), Andy Musgrove (BTO) and James Pearce-Higgins (BTO).

THE BBS TEAM AT THE BTO

Kate Risely is the BBS National Organiser, responsible for the day-to-day running of the BBS, liaising with BTO Regional Organisers and volunteers, maintaining the database, promoting the scheme, and producing the annual report.

Dario Massimino, Research Ecologist in the Population Ecology and Modelling Team, worked on the bird population trends in 2012, and Stuart Newson produced the mammal population trends. David Noble is the Principal Ecologist for Monitoring at the BTO, responsible for strategic developments in biodiversity monitoring. Andy Musgrove is the Head of the Monitoring Team, which runs the BBS and other surveys. Stephen Baillie is the Director of the Modelling and Demography Group at the BTO, and has overseen the BBS since its inception in 1994.

Contact the BBS National Organiser:

Kate Risely, British Trust for Ornithology
Email: bbs@bto.org, Tel: 01842 750050

BBS website: www.bto.org/bbs

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2012 was a great year for BBS coverage, with the second-highest number of squares covered.		Grey Wagtail numbers declined significantly in England between 2011 and 2012, but not in the UK as a whole.		Regional trends for different areas of England reveal varying fortunes for many species.	
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What did BBS volunteers see in 2012?		2012 was a bad year for Swifts, Whitethroats and Linnets in Scotland, but Wrens and Goldcrests recovered from cold winters.		BBS volunteers recorded 45 species of mammal in 2012, and trends were calculated for nine common mammals.	
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Detailed information about how the survey works, and a list of papers published in the last year using BBS data.					

ACKNOWLEDGEMENTS

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We acknowledge the support of the Northern Ireland Environment Agency who funded professional fieldworkers to cover 52 squares in Northern Ireland, and the help of Shane Wolsey, the BTO Ireland Officer, who organised the fieldwork in 2012. Natural England, Scottish Natural Heritage and Forestry Commission Scotland have contributed to additional surveys on Upland BBS and Scottish Woodland BBS squares.

We are very grateful to the RSPB for funding the initial development of BBS-Online, and to the BTO Information Systems Team who have continued to develop the system and provide technical support.



The cover photo of a Siskin is by Alex Berryman and the BBS logo is by Andy Wilson.

Report production and design were by Kate Risely. We are grateful to John Marchant for proofreading the report. The report was printed by Reflex, Thetford, using paper from responsible sources.



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Online Resources

Further information, including population trend graphs, can be found at www.bto.org/bbs, and a full species-by-species discussion of these results, and those from other surveys, can be found on the BirdTrends website at www.bto.org/birdtrends.

This report can be downloaded from www.bto.org/bbs/results/bbsreport.htm.



Coming soon! New BBS recording methods

Starting in 2014, BBS volunteers will have the option to record whether birds were first detected by sight, call or song; this will allow bird densities to be calculated more accurately

By **Kate Risely** BBS National Organiser, BTO

BBS volunteers record birds in distance bands, meaning that counts can be used to calculate the detectability of different species. This in turn can be used to work out how many individuals were present, including those not directly observed. However, this method does not take into account the fact that males are much more detectable than females for some species, but not for others, which could bias the resulting density and population estimates (see opposite page).

CHANGES TO FIELD RECORDING

From 2014, BBS volunteers will have the option of recording whether each bird, or group of birds, was first detected by sight, call or song, in addition to recording birds in distance bands as normal. Volunteers are encouraged to use the territory-mapping-style notation of circling a record of a bird detected by song, drawing a line under a bird detected by call, and leaving unmarked any record of a bird, or group of birds, first detected by sight. There will be no change to the field recording forms.

CHANGES TO ONLINE DATA SUBMISSION

The overall structure of the online data-entry system for bird records will not change significantly, but users should enter each bird, or group of birds, as a separate entry, in order to record detection type. It will not be necessary to summarise any counts; each record from the field recording sheet should be input in turn. We hope to take this opportunity to make other changes and improvements to the online system, such as incorporating habitat and mammal recording within the bird data-entry pages.



BBS SURVEYOR BY DAVID TIPLING

HINTS AND TIPS

- It is important to record how a bird was first detected; if a bird is detected by sight, but later starts singing, it should not be recorded as detected by song. **The aim isn't to record evidence of breeding.**
- The recording of detection type is optional, but should be applied to all records from a visit, or to none. Before submitting data online, volunteers will be able to opt-in to the new system, and can change back to simple recording later if necessary, but it will not be possible to switch between the two methods within a visit.
- New detection codes can only be submitted online, as it is not possible to make space for the new codes on Count Summary Sheets. Volunteers who submit data on paper, but who would like to use the new methods, should contact the BBS Organiser at BTO.
- Guidance will be provided on how sounds such as wing flapping of Woodpigeons and drumming of woodpeckers should be recorded, and on whether vocalisations of birds such as Pheasant should be recorded as songs or calls.
- It is important that the new methods do not affect consistency with data from previous years. In particular, volunteers should try not to spend longer than normal on their surveys.
- It is not necessary to record whether birds seen are male or female. In a field trial of these methods in 2011 volunteers were asked to record the sex of birds seen. This has not been included in the full survey, however, since feedback from the trial suggested that this could affect the time taken to complete surveys, as observers were stopping to get better views of birds not easily sexed on first view, such as Great Tits.
- Detectability information can only be analysed if habitat codes (at least Levels 1 and 2) are available for the relevant transect section.

Any data submitted with detection codes will make it possible to extract additional information from BBS counts, and we are grateful to all volunteers who wish to try the new methods. However, we would like to emphasise that all BBS counts will still be used as normal to produce BBS trends and for other research, and the standard counts remain as valuable as ever.

The latest House Sparrow breeding population estimate was derived using BBS distance-band counts



ESTIMATING BIRD NUMBERS USING DISTANCE-BAND COUNTS

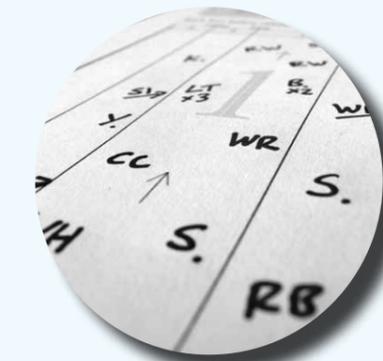
New estimates of the breeding and wintering populations of all of the UK's bird species were published early in 2013. Estimates ranged from single figures of rare breeders such as Savi's Warbler to over eight million pairs of Wrens! The work of assessing and updating the population trends was carried out by the Avian Population Estimates Panel, consisting of representatives from BTO, RSPB, JNCC, WWT and GWCT.

As would be expected, there are many different ways of estimating bird numbers; the appropriate method for each species will depend on whether it is rare or common, as well as its behaviour and ecology. Birds with very small populations, such as Crane, Spoonbill and Golden Oriole, can often be directly counted, but obviously this approach is not possible for more numerous species.

For many common species the panel took estimates published in the *1988–91 Breeding Atlas*, and updated these to the present using BBS trends. However, for many species an alternative and independent set of estimates was available, generated using BBS distance-band data. This method is based on the fact that observations are assigned to distance bands, allowing statistical analysis to infer

the proportion of birds not detected by observers, and thus how many birds were present in the area surveyed. This estimate can then be scaled up to give a total figure for the UK.

While this approach is statistically sound, it is likely to work better for some species than for others.



In particular, the males of many species are more detectable than females, thereby biasing the estimate. For example, an estimate of Grasshopper Warbler numbers using this method is effectively an estimate of the number of pairs, since normally only singing males are detected, whereas an estimate of Collared Dove numbers is more likely to represent individual birds.

The panel considered the estimates produced by distance sampling alongside those produced by other methods on a case-by-case basis, considering the ecology and habitat

of the species, as it was felt that this approach was likely to produce less accurate results for species where there was a large and uncertain difference in detectability between sexes.

In some cases the estimates were very similar; for example, the number of Blackbirds estimated from scaling the *1988–91 Breeding Atlas* figure was 5.4 million pairs, while the number calculated using the entirely independent BBS distance-band analysis was 5 million pairs. In other cases, the detectability estimates could clearly be improved by recording whether birds were recorded by song or sight on BBS visits (see opposite page).

In the final report, estimates derived from BBS distance bands were presented for 23 species, from common birds such as Starling and House Sparrow to scarcer species such as Whinchat and Common Crossbill.

FIND OUT MORE...

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 (available to download from the BBS website from mid August 2013).

BBS and the State of Nature

BBS trends were key to assessing bird population changes for the recent State of Nature report

By **Mark Eaton** Principal Conservation Scientist in Species Monitoring and Research, RSPB

Through its standardised field protocol, robust scientific design, geographical spread and impressive sample size, the BBS provides probably the most robust measures of change in abundance for any group of species in the UK. As a consequence, the BBS plays a vital role in assessing the state of biodiversity, and hence the wider environment, at both the UK and devolved country level. When combined with data from its predecessor, the Common Birds Census, the BBS enables us to trace trends back to the late 1960s. For example, trends in farmland birds – as combined in the farmland bird indicator, a key component of the UK Government's Biodiversity Indicator suite – tell us about the impact of changing farming practices upon wildlife over the last four decades.

Another important example is the role BBS data played in the broad assessment of the UK's biodiversity published in

the first State of Nature report this spring. This groundbreaking report, produced by a partnership of 25 non-governmental organisations involved in the monitoring, research and conservation of the UK's wildlife (including the BTO and RSPB), sought to review available information on the ups and downs in our wildlife. As well as calling on existing measures such as indicators for birds, bats and butterflies, State of Nature presented new metrics of the health of our wildlife. Quantitative trends in either abundance or range, stretching back to the 1960s, were collated for over 3,000 species ranging from bees to bats and mammals to mosses. Of the 198 birds included, trends for 93 relied upon BBS data. Although the news for birds was mixed, with more increasing than declining (due in part to largely positive long-term trends for wintering waterbirds), the balance over all our wildlife was not good news: 60% of all the species assessed had declined, 31% strongly.

Corn Bunting; one of the original UK Biodiversity Action Plan species included in the new Watchlist Indicator



CORN BUNTING BY AMY LEWIS

Another new measure presented by State of Nature was the Watchlist Indicator, derived from trends in abundance in species identified as priorities by the (now superseded) UK Biodiversity Action Plan (BAP). Trends are unavailable for most of these priority species due to the absence of standardised monitoring for many taxonomic groups, so bird data provided a substantial element. Of the 51 bird trends included, 26 used BBS data. This indicator shows that, despite notable successes (such as for Bitterns and Large Blue butterflies), on average priority species continued to decline after the launch of the BAP in the mid 1990s, but may have stabilised in recent years.

A key message of the State of Nature report concerned gaps in our knowledge; of around 60,000 species found in the UK, we currently have quantitative trends for around 5%. The high interest in birdwatching and the long heritage of ornithological study, culminating in schemes such as the BBS, mean that our knowledge of bird trends is good. The challenge lies in using our experience, skills and capacity to help improve the monitoring of other, less well-studied but equally important elements of the UK's wonderful wildlife.

FIND OUT MORE...

More on the State of Nature report, including the report itself, can be found online at www.rspb.org.uk/stateofnature

Wider Countryside Butterfly Survey 2012



Despite 2012 being the wettest summer for 100 years, volunteers made a fantastic effort and 771 squares were surveyed, more than in any other year. This total consisted of 334 BBS squares and 437 Butterfly Conservation squares.

In total, 46 butterfly species were recorded, and 22 species were recorded in 30 or more squares,

enabling a provisional assessment of changes in abundance at a UK scale.

2012 was a very good year for Meadow Brown and Ringlet, both grass-feeding browns, whereas Small Tortoiseshell numbers were particularly low.

The full results can be read in the 2012 WCBS newsletter, available on the BBS website.

Opting out of paper BBS reports

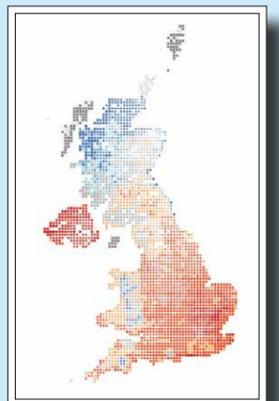
The BBS partner organisations strive to reduce the use of paper where possible. While we will continue to produce paper BBS reports for the foreseeable future, we are looking at ways to reduce the number of copies printed.

If you are a BBS volunteer, and you would prefer to receive your copy of the BBS report electronically, please contact bbs@bto.org to let us know. We will continue to send paper reports to volunteers unless instructed otherwise.

Maps of BBS trends now available online

New maps showing density estimates and population change since the start of the BBS are now available on the BBS website (www.bto.org/bbs).

From Blackbird to Yellowhammer, these maps offer a new way of visualising changes in bird populations.



▲ UK Cuckoo trends

MEADOW BROWN BY DAWN BALMER

SURVEY COVERAGE

2012 sees second-highest BBS coverage

3,430
BBS squares surveyed in 2012

Following the end of fieldwork for the 2007–11 Bird Atlas, the number of BBS squares covered rose by around 200 to 3,430, the second-highest total after 2007. As ever, we are very grateful to all volunteers for their continued commitment to the survey. The 2012 total includes 82 ‘Adjacent Upland’ squares, up from 76 in 2011, and 12 ‘Scottish Woodland’ squares. These schemes are designed to improve sampling in under-represented habitats.

As in previous years, 52 core squares in Northern Ireland were surveyed by professional fieldworkers, meaning that 3,378 squares were surveyed by volunteers, a figure achieved by 2,592 individual volunteers. Sample sizes for upland birds in England were boosted in 2012 by 302 ‘add-on’ Upland Breeding Bird Survey sites surveyed by professional fieldworkers, funded by Natural England. These squares are not included in the figures shown here.

Number of BBS squares surveyed

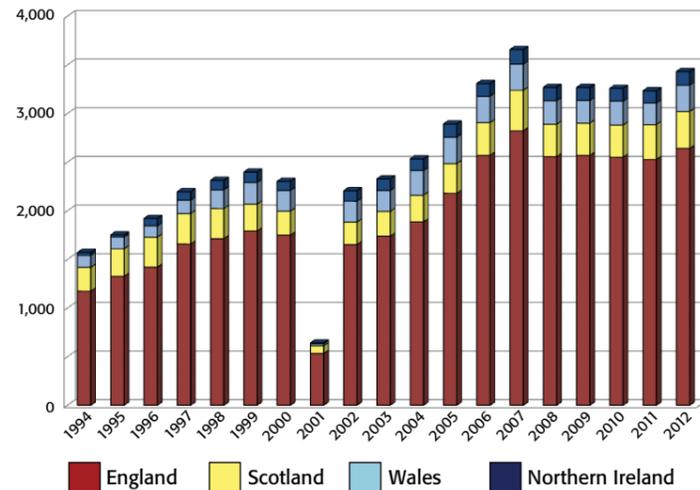


Table 1 Number of BBS squares surveyed

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
England	1,173	1,325	1,420	1,657	1,713	1,792	1,749	533	1,652	1,738	1,885	2,179	2,569	2,822	2,555	2,569	2,550	2,527	2,640
Scotland	245	283	308	313	309	275	246	78	231	255	274	305	336	416	333	331	331	358	380
Wales	122	121	116	138	192	223	213	22	215	214	254	271	271	269	242	233	245	222	270
N Ireland	25	17	65	75	85	95	83	0	97	109	102	120	107	129	121	116	115	110	116
Channel Islands	1	1	7	6	7	7	7	7	7	7	11	13	19	16	15	17	16	15	20
Isle of Man	4	4	4	6	6	5	3	0	3	4	6	3	5	4	1	0	0	0	4
UK Total	1,570	1,751	1,920	2,195	2,312	2,397	2,301	640	2,205	2,327	2,532	2,891	3,307	3,656	3,267	3,266	3,257	3,232	3,430

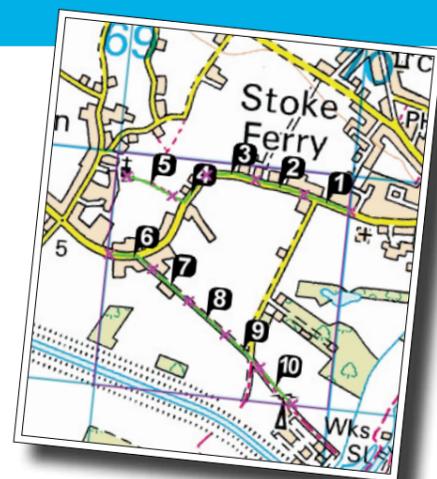
PLANNED CHANGES TO BBS-ONLINE

The number of BBS submissions made online continues to grow, and results from 90% of squares were submitted online in 2012.

Plans are in place to modify the online system to allow volunteers to record how birds were detected (see page 4). This presents an opportunity to improve other aspects of the system, and we aim to simplify and streamline the data collection of habitat and mammal records, possibly by incorporating these systems within the current transect data-entry pages.

Collection of online transect route maps has been very successful, and most squares now have routes mapped online. Routes can be viewed in BBS-Online with either a satellite or Ordnance Survey background, and can be printed out to take into the field, along with any accompanying notes.

We continue to try to reduce the amount of paper we use wherever possible. While paper forms will remain available, we encourage all BBS volunteers to switch to online data submission if possible.



▲ Online transect route map

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Scotland

Coverage in Scotland continues to grow, with 380 squares surveyed in 2012, second only to the peak year of 2007, which was before the start of fieldwork for the 2007–11 Bird Atlas. The current ‘What’s Up?’ project, run by BTO Scotland, aims to improve volunteer coverage of BBS squares in the Scottish uplands through training and mentoring.

The total number of squares covered by volunteers in 2012 includes 12 Scottish Woodland squares and 24 Adjacent Upland squares. No BBS squares in Scotland were covered by professional fieldworkers in 2012.

Northern Ireland

In 2012, 116 BBS squares were surveyed in Northern Ireland. Of these, 52 squares were surveyed by professional fieldworkers funded by the Northern Ireland Environment Agency.

Wales

Coverage in Wales was close to record levels in 2012, with 270 squares covered. This increase can be attributed to a training and mentoring scheme for volunteers funded by the Countryside Council for Wales (now Natural Resources Wales). Mentors accompanied new volunteers to squares, but there were no other squares surveyed by professionals. Volunteers surveyed 13 Adjacent Upland squares in Wales in 2012.

WHERE WERE BBS SQUARES SURVEYED IN 2012?

Map includes Adjacent Upland squares covered by volunteers



England

The majority of all BBS squares surveyed were in England. In total, 2,640 squares were surveyed, with the highest densities around London, Bristol and Manchester. More coverage would be welcome in parts of the east of England and south-west England.

The total number of squares covered by volunteers in 2012 includes 45 Adjacent Upland squares. In addition, 302 Upland Breeding Bird Survey squares were surveyed by professional fieldworkers (not shown).

Channel Islands

Twenty squares, a record, were surveyed by volunteers on the Channel Islands in 2012 (not shown on map).

SPECIES RECORDED

What did volunteers record during their 2012 surveys?

In previous years the BBS report has included a full list of species recorded. From now on, to save space, this information will not be shown in the report, but will be available on the BBS web pages. The complete lists, available online, show the number of individuals recorded, and the number of squares on which a species was

recorded, across all years. This can give an indication of population status for those species below the threshold for reporting population trends.

In 2012 the average number of species recorded on a BBS square was 30, but species richness varied from 68 on a square in Cheshire to just two species

each on six squares in the Scottish Highlands. Of course, the value of the results does not depend on the number of species recorded, and we are particularly grateful to volunteers who survey remote or urban areas, as it's just as important to know where there are few birds as where there are many.

MOST COMMON...



LEAST COMMON...



Kilometres walked 14,000
Species recorded 219
Individual birds counted 1,091,548

▲ The three species most commonly recorded in 2012 were Woodpigeon, Chaffinch and Blackbird. Volunteers were lucky enough to encounter White-tailed Eagle, Great Bustard and Black-winged Stilt, each recorded on a single BBS square

WOODPIGEON BY AMY LEWIS, CHAFFINCH AND BLACKBIRD BY JOHN HARDING, WHITE-TAILED EAGLE BY EDMUND FELLOWES, GREAT BUSTARD BY KEVIN CARLSON, BLACK-WINGED STILT BY NEIL CALBRADE

BBS BACKGROUND AND METHODS

The BBS was launched, in 1994, to provide more representative habitat and geographical coverage than the main survey running at the time, the Common Birds Census (CBC). The CBC ended in 2000, and the overlap period between 1994 and 2000 allowed the BTO to develop methods for calculating long-term trends (from the 1960s to the present) using information from both schemes.

The BBS is a line-transect survey based on randomly located 1-km squares. Squares are chosen through stratified random sampling, with more squares in areas with more potential volunteers. The difference in sampling densities is taken into account when calculating trends. BBS volunteers make two early-morning visits to their square during the April–June survey period, recording all birds encountered while walking two 1-km transects across their square. Each 1-km transect is divided into five 200-m sections for ease of recording. Birds are recorded in three distance categories, or as 'in flight', in order to assess detectability and work out species density. Observers also record the habitat along the transects, and record any mammals seen during the survey. Surveying a BBS square involves around six hours of fieldwork per year, and the aim is for each volunteer to survey the same square (or squares) every year.

As BBS squares are randomly selected, they can turn up within any kind of habitat. Some squares can never be surveyed, and these truly 'uncoverable' sites are removed from the system. However, squares that are temporarily inaccessible, or which are not taken up due to their remote location, are retained in order to maintain the integrity of the sampling design.

The BBS National Organiser, based at BTO, is responsible for the overall running of the scheme, and is the main point of contact for the network of volunteer Regional Organisers (ROs). ROs are responsible for finding new volunteers and allocating squares to observers in their region. At the end of the season they validate submissions made online, and collect paper submissions and return them to BTO. We are very grateful for the assistance of the ROs.

The BBS provides reliable population trends for a large proportion of our breeding species. Trends can also be produced for specific countries, regions or habitats. For these analyses, we take the higher count from the two visits for each species, summed over all four distance categories and ten transect sections. Only squares that have been surveyed in at least two years are included in the analyses. Population changes are estimated using a log-linear model with Poisson error terms. Counts are modelled as a function of year and site effects, weighted to account for differences in sampling densities across the UK, with standard errors adjusted for overdispersion.

Since 2009, data from additional randomly selected 1-km squares surveyed as part of the Scottish Woodland BBS and the Upland BBS have been included in the BBS sample. These squares were surveyed using the same methodology as standard BBS squares, and results were incorporated into trends accounting for additional sampling effort.

Work has been carried out to assess the reliability of BBS trends, to ensure that reported trends are based on reliable data and sufficient sample sizes. This work has resulted in the following exclusions and caveats:

- We do not report population trends for five species of gull (Black-headed, Common, Lesser Black-backed, Herring and Great Black-backed), as a large proportion of the records are of non-breeding, wintering or migratory individuals.
- Trends for rare breeding species with substantial wintering populations (e.g. Fieldfare) are excluded.
- Trends for Cormorant, Grey Heron and Common Tern are reported with the caveat that counts may contain a high proportion of birds away from breeding sites.
- Trends for Tawny Owl and Barn Owl are reported with the caveat that the BBS monitors nocturnal species poorly.
- Counts for six wader species (Oystercatcher, Golden Plover, Lapwing, Snipe, Curlew and Redshank) are corrected to exclude counts from non-breeding flocks, and observations of Golden Plover in unsuitable breeding habitat are also excluded.

Studies using BBS data

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Further reading

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POPULATION TRENDS

United Kingdom

The latest national population trends for 108 common and widespread birds

Lesser Redpolls increased by **25%** between 2011 and 2012

UK population trends are calculated for species recorded on an average of at least 40 BBS squares per year. Also included are trends for **Gadwall** and **Nightingale**, since these meet the criteria for reporting in England (in which their populations are mainly found), and **Pied Flycatcher**, for which the sample size has declined from above the threshold. An increase in coverage or species range could allow a trend for **Goosander** to be calculated in future, since this species lies just below the 40-square threshold.

FINCH FLUCTUATIONS

2012 was a good year for two small finches; **Siskin** and **Lesser Redpoll** numbers increased by 28% and 25% respectively between 2011 and 2012. While **Lesser Redpoll** is red-listed due to severe declines during the 1980s, and is still showing declines in the east of England, both species appear to have benefited from garden feeding in recent years, which may partially explain the upturns. These increases, however, are in stark contrast to another finch commonly seen in gardens: **Greenfinch** numbers are now 17% lower than at the start of the BBS, due to the disease trichomonosis.

LONG-DISTANCE MIGRANTS

In the 2011 breeding season, numbers of many migrant warblers increased, possibly due to high levels of rainfall in the Sahel region of Africa. One year on, a cold spring and poor conditions during the migration season saw numbers of many migrants fall in 2012, including **Sand Martin**, **Wood Warbler**, **Willow Warbler**, **Lesser Whitethroat**, **Whitethroat**, **Grasshopper Warbler**, **Sedge Warbler**, **Reed Warbler**, **Nightingale**, **Pied Flycatcher**, **Whinchat** and **Wheatear**.

SIGNIFICANT CHANGES

Since the start of the BBS 30 species have declined significantly and 43 increased significantly. The species that have declined the most are **Turtle Dove** (-85%), **Willow Tit** (-82%), **Wood Warbler** (-69%), **Whinchat** (-60%) and **Grey Partridge** (-53%). The species showing the greatest increases are **Ring-necked Parakeet** (>1,000%), **Red Kite** (676%), **Barn Owl** (279%), **Grey Partridge** (179%) and **Great Spotted Woodpecker** (139%). Ten species declined significantly between 2011 and 2012, while 14 increased significantly.

BIRDS OF CONSERVATION CONCERN

The BBS monitors 20 red-listed species, of which 14 have declined significantly since the start of the survey, and four – **Song Thrush**, **Grasshopper Warbler**, **Tree Sparrow** and **Lesser Redpoll** – have increased significantly, following earlier severe declines. Of the 37 amber-listed species monitored, 11 have declined significantly, and 12 increased significantly.

'ADD-ON' SQUARES

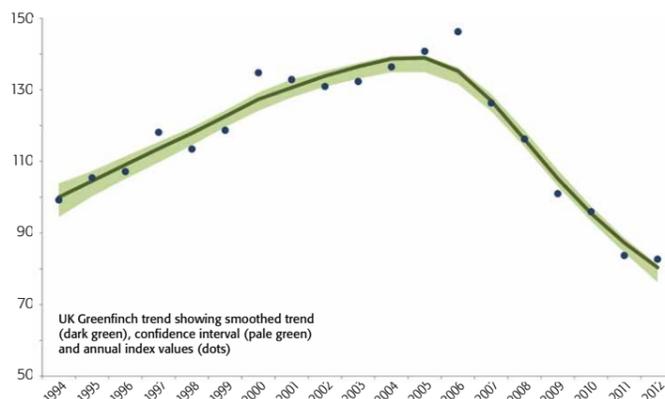
Data from additional squares in English uplands and Scottish woodlands, surveyed by professional fieldworkers, were included in trends for 48 woodland and upland species. Add-on squares were surveyed using the same methodology as standard BBS squares, and the difference in sampling was accounted for in the trend calculations. Sample sizes for **Red Grouse**, **Golden Plover**, **Snipe**, **Siskin** and **Common Crossbill** were increased by more than 10% by these squares, making the trends for these species more robust.

Table 2 UK population trends during 2011–12 and 1995–2011

Species	Sample	11–12	95–11	LCL	UCL
Mute Swan	244	8	27*	2	69
Greylag Goose	182	9	179*	29	401
Canada Goose	459	-3	57*	32	100
Shelduck	140	-8	-5	-46	48
Gadwall	37	28	86*	2	231
Mallard	1,255	-5	20*	9	34
Tufted Duck	150	10	44	-3	95
Red Grouse	132	-6	6	-11	27
Red-legged Partridge	538	-5	24*	12	40
Grey Partridge	224	15	-53*	-62	-44
Pheasant	1,744	-4	32*	24	41
(Cormorant)	232	-1	21	-13	68
(Grey Heron)	640	-1	-8	-20	4
Little Grebe	68	37	5	-26	54
Great Crested Grebe	69	12	11	-31	47
Red Kite	92	10	676*	312	1,454
Sparrowhawk	346	20	0	-13	14
Buzzard	919	6	80*	60	99
Kestrel	645	23*	-30*	-38	-21
Hobby	41	6	12	-25	57
Peregrine	45	-1	-28	-53	12
Moorhen	634	6	-9	-17	3
Coot	262	-1	29*	7	57
Oystercatcher	322	18*	-16*	-27	-5
Golden Plover	61	10	-9	-35	18
Lapwing	652	-3	-41*	-48	-31
Snipe	155	19	8	-16	50
Curlew	500	9	-45*	-53	-38
Common Sandpiper	66	13	-10	-34	20
Redshank	82	-6	-42*	-58	-17
(Common Tern)	65	-42*	0	-55	162
Feral Pigeon	667	2	-15	-30	1
Stock Dove	760	-6	11	-2	25
Woodpigeon	2,406	7*	40*	32	49
Collared Dove	1,323	-5	19*	9	28
Turtle Dove	152	-14	-85*	-88	-81
Ring-necked Parakeet	59	-11	1,057*	394	4,229
Cuckoo	709	-2	-50*	-56	-45
(Barn Owl)	44	-13	279*	166	573
Little Owl	96	25	-44*	-56	-28
(Tawny Owl)	89	19	-18	-37	4
Swift	1,011	20*	-39*	-47	-29
Kingfisher	52	22	-39*	-58	-11
Green Woodpecker	792	8	38*	26	53
Gt Spotted Woodpecker	1,031	-2	139*	121	157
Magpie	1,844	0	-1	-6	4
Jay	744	3	15*	5	24
Jackdaw	1,649	5	51*	36	67
Rook	1,264	12	-17*	-25	-7
Carrion Crow	2,274	1	13*	5	22
Hooded Crow	132	-4	6	-23	45
Raven	279	9	5	-39	103
Goldcrest	755	33*	-9	-23	8
Blue Tit	2,264	-10*	7*	2	11

Species	Sample	11–12	95–11	LCL	UCL
Great Tit	2,138	-6*	45*	38	50
Coal Tit	793	-5	20*	4	34
Willow Tit	50	2	-82*	-88	-74
Marsh Tit	143	-9	-24*	-37	-9
Skylark	1,667	5	-22*	-28	-16
Sand Martin	124	-55*	39	-12	122
Swallow	1,895	-1	36*	26	45
House Martin	909	-4	-2	-13	13
Long-tailed Tit	937	3	32*	19	45
Wood Warbler	52	-20	-69*	-80	-51
Chiffchaff	1,450	7*	93*	83	107
Willow Warbler	1,370	-13*	5	-4	12
Blackcap	1,540	2	133*	123	152
Garden Warbler	438	-5	-10	-24	5
Lesser Whitethroat	266	-17*	4	-18	20
Whitethroat	1,318	-34*	40*	33	51
Grasshopper Warbler	79	-72*	24*	1	93
Sedge Warbler	292	-22*	11	-8	33
Reed Warbler	125	-16	31*	7	55
Nuthatch	470	-4	88*	64	110
Treecreeper	342	3	4	-10	21
Wren	2,389	29*	-5	-9	0
Starling	1,714	2	-53*	-57	-49
Dipper	57	11	-36*	-57	-4
Blackbird	2,416	5*	22*	18	27
Song Thrush	1,937	11*	7*	2	15
Mistle Thrush	1,146	3	-31*	-38	-24
Spotted Flycatcher	191	26	-49*	-61	-34
Robin	2,315	15*	6*	3	10
Nightingale	32	-14	-46	-65	1
Pied Flycatcher	39	-16	-52*	-67	-32
Redstart	158	2	31*	11	55
Whinchat	73	-12	-60*	-74	-46
Stonechat	148	43	3	-19	34
Wheatear	322	-12	-1	-20	21
Dunnock	2,014	7*	22*	17	29
House Sparrow	1,560	-5*	-1	-8	6
Tree Sparrow	173	-2	113*	62	173
Yellow Wagtail	156	6	-45*	-55	-32
Grey Wagtail	211	9	-31*	-42	-7
Pied Wagtail	1,230	12*	-13*	-21	-4
Tree Pipit	136	-11	1	-22	37
Meadow Pipit	781	10	-21*	-28	-14
Chaffinch	2,428	0	12*	7	17
Greenfinch	1,754	-1	-17*	-22	-11
Goldfinch	1,553	6*	109*	95	124
Siskin	168	28	89*	35	146
Linnet	1,168	0	-19*	-26	-11
Lesser Redpoll	159	25*	55*	21	102
Common Crossbill	57	8	130*	35	256
Bullfinch	594	-11	12*	2	23
Yellowhammer	1,162	0	-13*	-21	-6
Reed Bunting	472	0	19*	7	37
Corn Bunting	143	9	-34*	-47	-19

Trichomonosis has affected Greenfinch numbers



For species-by-species results see the BirdTrends website:

www.bto.org/birdtrends

GREENFINCH BY JOHN HARDING

- Trends are percentage changes, and are marked with an asterisk (*) where the 95% confidence limits of the change do not overlap zero (indicating that there has been a significant change).
- Trends for species in brackets are reported with caveats (see p11).
- The sample is the mean number of squares per year on which the species was recorded during 1994–2012.

- The trend since the start of the survey, covering the years 1994–2012, has been smoothed, and the end years truncated. This trend is labelled as 1995–2011.
- LCL and UCL are the lower and upper 95% confidence limits for the 1995–2011 trend.
- Red-listed and amber-listed species from 'Birds of Conservation Concern 3' are shown in the relevant colour.

TREND GRAPHS ONLINE:

www.bto.org/bbs/graphs



POPULATION TRENDS

Siskins increased by 95% in England between 2011 and 2012

England

England-specific trends for 100 species reveal subtle differences from the national trends

Trends are calculated for species recorded on an average of at least 30 BBS squares in England per year. A total of 198 species were recorded on the 2,640 BBS squares covered in England in 2012. The average sample sizes for **Little Egret**, **Peregrine**, **Common Sandpiper** and **Dipper** were just below the threshold for reporting trends, so an increase in survey coverage or species range could allow trends to be produced in future.

'ADD-ON' SQUARES

Data from additional squares in English uplands, surveyed by professional fieldworkers, were included in trends for 18 upland species. Add-on squares were surveyed using the same methodology as standard BBS squares, and the difference in sampling was accounted for in the

trend calculations. Sample sizes for **Red Grouse**, **Snipe**, **Whinchat**, **Stonechat**, **Wheatear** and **Siskin** were increased by more than 10% by these squares, and without these additional squares it would not be possible to produce an England-specific trend for **Whinchat**.

SIGNIFICANT CHANGES

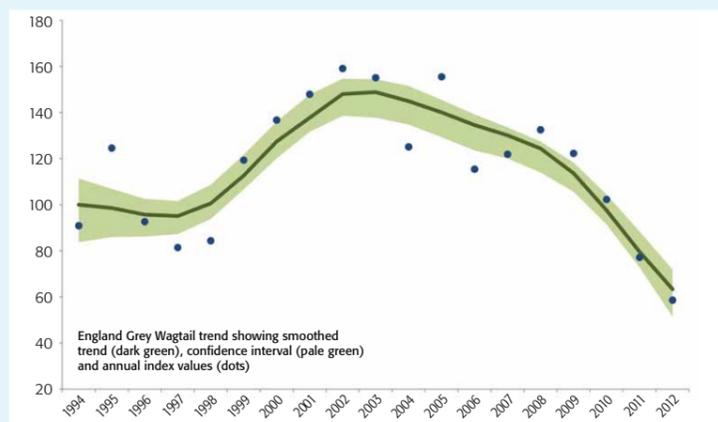
A large proportion of the populations of most UK bird species are in England, so England-specific trends are generally similar to UK trends.

Collared Dove, **Coal Tit**, **Garden Warbler** and **Grey Wagtail** all declined significantly between 2011 and 2012 in England, though across the UK as a whole declines were not significant, or numbers increased.

Grey Partridge, **Great Crested Grebe**, **Sparrowhawk**, **Buzzard**, **Green Woodpecker**, **Carrion Crow**, **Skylark**, **Siskin** and **Linnet** all increased significantly in England between 2011 and 2012, while national changes were not significant.

Of the 100 species for which England-specific trends can be calculated, 33 have declined significantly and 36 have increased significantly since the start of the survey. The species that have declined the most are **Turtle Dove** (-85%), **Willow Tit** (-81%), **Cuckoo** (-65%), **Starling** (-58%) and **Spotted Flycatcher** (-56%). The greatest increases have been shown by **Red Kite** (>1,000%), **Ring-necked Parakeet** (>1,000%), **Barn Owl** (285%), **Greylag Goose** (248%) and **Buzzard** (167%).

Grey Wagtail numbers fell significantly in England between 2011 and 2012



GREY WAGTAIL BY JOHN HARDING

Table 3 Trends in England during 2011–12 and 1995–2011

Species	Sample	11–12	95–11	LCL	UCL
Mute Swan	209	13	11	-8	40
Greylag Goose	150	-5	248*	128	546
Canada Goose	427	-12	42*	16	80
Shelduck	115	-7	25	-26	65
Gadwall	35	30	82*	6	233
Mallard	1,057	-1	29*	19	41
Tufted Duck	131	13	33	-8	69
Red Grouse	75	-11	-4	-26	23
Red-legged Partridge	523	-2	20*	8	33
Grey Partridge	200	21*	-49*	-57	-39
Pheasant	1,474	-5	33*	25	42
(Cormorant)	194	7	16	-6	60
(Grey Heron)	528	-6	-15*	-25	-1
Little Grebe	54	1	-4	-36	51
Great Crested Grebe	63	36*	-8	-26	18
Red Kite	67	9	11,260*	4,630	11,535
Sparrowhawk	285	27*	-4	-18	10
Buzzard	611	12*	167*	131	216
Kestrel	567	23*	-15*	-22	-6
Hobby	40	12	19	-15	68
Moorhen	587	2	-10*	-17	-2
Coot	237	1	25*	3	51
Oystercatcher	174	5	47*	14	78
Lapwing	543	-4	-24*	-34	-14
Snipe	82	19	-20	-38	8
Curlew	320	4	-32*	-39	-22
Redshank	58	10	-32*	-51	-2
(Common Tern)	60	-36	46	-21	222
Feral Pigeon	553	0	-23*	-32	-12
Stock Dove	701	-5	9	-5	21
Woodpigeon	1,935	6*	46*	38	55
Collared Dove	1,161	-7*	18*	11	28
Turtle Dove	150	-7	-85*	-88	-80
Ring-necked Parakeet	59	-11	1,058*	395	4,191
Cuckoo	553	-9	-65*	-68	-61
(Barn Owl)	42	-7	285*	168	515
Little Owl	93	23	-42*	-53	-27
(Tawny Owl)	76	-1	-10	-29	25
Swift	875	22*	-39*	-47	-30
Kingfisher	46	10	-33*	-52	-8
Green Woodpecker	740	10*	49*	37	65
Gt Spotted Woodpecker	899	-5	117*	100	133
Magpie	1,547	2	-1	-6	4
Jay	641	-1	7	-1	18
Jackdaw	1,322	2	53*	41	63
Rook	1,005	2	-10*	-19	0
Carrion Crow	1,880	6*	20*	11	31
Raven	120	88	-9	-65	305
Goldcrest	531	30*	15	0	35
Blue Tit	1,828	-9*	6*	1	10

- Trends are percentage changes, and are marked with an asterisk (*) where the 95% confidence limits of the change do not overlap zero (indicating that there has been a significant change).
- Trends for species in brackets are reported with caveats (see p11).
- The sample is the mean number of squares per year on which the species was recorded during 1994–2012.
- The trend since the start of the survey, covering the years 1994–2012, has been smoothed, and the end years truncated. This trend is labelled as 1995–2011.
- LCL and UCL are the lower and upper 95% confidence limits for the 1995–2011 trend.
- Red-listed and amber-listed species from 'Birds of Conservation Concern 3' are shown in the relevant colour.

TREND GRAPHS ONLINE:
www.bto.org/bbs/graphs

POPULATION TRENDS

Wrens increased by 66% in Scotland between 2011 and 2012

Scotland

The number of Scotland-specific bird trends increased to 61 with the addition of Long-tailed Tit

Trends are calculated for species recorded on an average of at least 30 BBS squares in Scotland per year, now including **Long-tailed Tit** for the first time. A total of 158 species were recorded on the 380 BBS squares covered in Scotland in 2012. The average sample size for **Sand Martin** is just below the threshold for reporting trends, so an increase in survey coverage or species range could allow a trend to be produced in future.

WRENS RECOVER

Numbers of **Wrens** and **Goldcrests** have declined in Scotland since 2008, presumably due to the series of cold winters. Between 2011 and 2012, however, both species increased significantly, by 66% and 34% respectively. **Linnet**, **Whitethroat** and **Swift** showed the greatest declines in Scotland between 2011 and 2012, by -49%, -44% and -42% respectively.

SIGNIFICANT CHANGES

Of the 61 species for which Scotland-specific trends can be calculated, nine have declined significantly and 20 have increased significantly since the start of the survey. The species that have



A Scotland-specific trend can now be produced for Long-tailed Tit

declined the most are **Kestrel** (-57%), **Swift** (-57%), **Lapwing** (-56%), **Curlew** (-56%) and **Starling** (-40%). The greatest increases since the start of the survey have been shown by **Chiffchaff** (414%), **Blackcap** (357%), **Great Spotted Woodpecker** (329%), **Goldfinch** (164%) and **House Martin** (114%).

'ADD-ON' SQUARES

Data from additional squares in Scottish woodlands were included in trends for 27 woodland species.

Add-on squares were surveyed using the same methodology as standard BBS squares, and the difference in sampling was accounted for in the trend calculations. Sample sizes for **Tree Pipit**, **Siskin** and **Lesser Redpoll** were increased by more than 15% by these squares, and without them it would not be possible to produce Scotland-specific trends for **Long-tailed Tit**, **Grey Wagtail** or **Tree Pipit**.

Table 4 Trends in Scotland during 2011–12 and 1995–2011

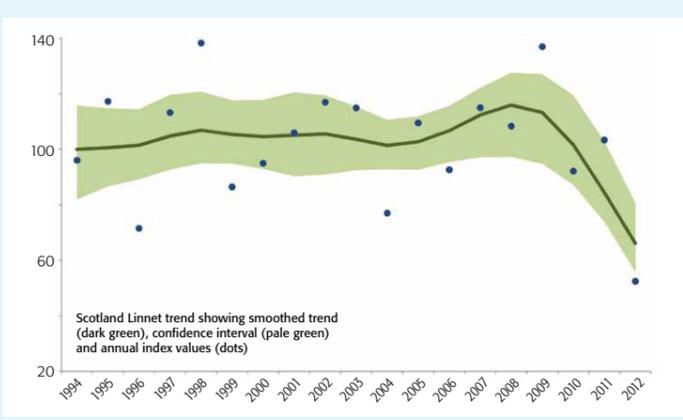
Species	Sample	11–12	95–11	LCL	UCL
Mallard	98	-11	-6	-23	21
Red Grouse	52	-11	-3	-26	24
Pheasant	130	-1	19	-8	43
(Grey Heron)	48	6	5	-23	42
Buzzard	141	-4	31*	2	67
Kestrel	42	30	-57*	-74	-31
Oystercatcher	126	25*	-30*	-40	-20
Golden Plover	38	4	-18	-44	16
Lapwing	86	2	-56*	-66	-40
Snipe	55	24	15	-11	56
Curlew	119	14	-56*	-64	-45
Common Sandpiper	33	15	-8	-37	20
Feral Pigeon	62	1	7	-38	79
Woodpigeon	195	14	6	-16	28
Collared Dove	50	-4	-9	-36	40
Cuckoo	72	5	-5	-29	23
Swift	50	-42*	-57*	-70	-34
Gt Spotted Woodpecker	48	21	329*	209	517
Magpie	46	0	24	-8	79
Jackdaw	113	14	39*	12	90
Rook	109	63	-34*	-49	-8
Carrion Crow	183	-19	-8	-26	12
Hooded Crow	50	-20	-23	-51	19
Raven	44	-32*	35	-19	114
Goldcrest	91	34*	-5	-33	40
Blue Tit	165	-7	8	-6	20
Great Tit	150	6	51*	22	84
Coal Tit	129	0	8	-9	30
Skylark	202	-2	-19*	-32	-4
Swallow	168	-2	34*	15	66
House Martin	62	22	114*	34	251

- Trends are percentage changes, and are marked with an asterisk (*) where the 95% confidence limits of the change do not overlap zero (indicating that there has been a significant change).
- Trends for species in brackets are reported with caveats (see p11).
- The sample is the mean number of squares per year on which the species was recorded during 1994–2012.
- The trend since the start of the survey, covering the years 1994–2012, has been smoothed, and the end years truncated. This trend is labelled as 1995–2011.
- LCL and UCL are the lower and upper 95% confidence limits for the 1995–2011 trend.
- Red-listed and amber-listed species from 'Birds of Conservation Concern 3' are shown in the relevant colour.

TREND GRAPHS ONLINE:

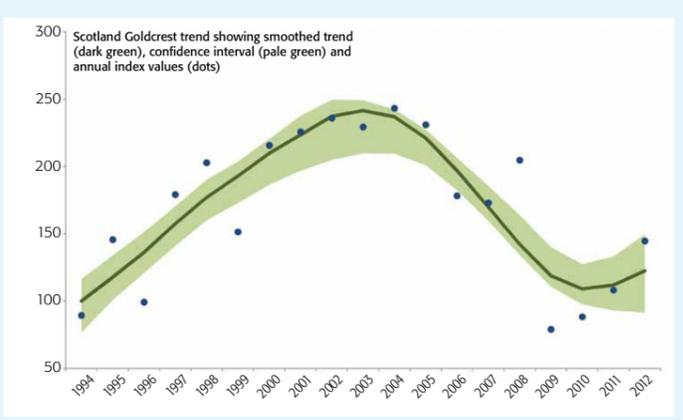
www.bto.org/bbs/graphs

Linnet numbers fell significantly in Scotland between 2011 and 2012



LINNET BY JOHN HARDING, LONG-TAILED TIT BY BEN ANDREW

Goldcrest populations in Scotland have started to recover following a decline



GOLDCREST BY STEVE ROUND

POPULATION TRENDS

Long-tailed Tits increased by **132%** in Wales between 2011 and 2012

Wales

Wales-specific trends for 53 birds include very different trends for two woodpecker species



Trends are calculated for species recorded on an average of at least 30 BBS squares in Wales per year. A total of 138 species were recorded on the 270 BBS squares covered in Wales in 2012. The average sample sizes for **Stock Dove** and **Reed Bunting** were just below the threshold for reporting trends, so an increase in survey coverage or species range could allow trends to be produced in future.

WOODPECKER WORRIES

Despite doing well in other parts of the UK, in 2012 **Green Woodpeckers** reached their lowest levels in Wales since the start of the survey, as did **Yellowhammers** and **Starlings**.

Long-tailed Tits, however, had a good year, increasing by 132% between 2011 and 2012.

SIGNIFICANT CHANGES

Of the 53 species for which Wales-specific trends can be calculated, eight have declined significantly and 15 have increased significantly since the start of the survey. The species that have declined the most are **Starling** (-70%), **Curlew** (-58%), **Goldcrest** (-49%), **Yellowhammer** (-48%) and **Swift** (-44%). The greatest increases since the start of the survey have been shown by **Great Spotted Woodpecker** (198%), **Blackcap** (163%), **House Sparrow** (99%), **Stonechat** (82%) and **Goldfinch** (79%).

Northern Ireland

Northern-Ireland-specific population trends of 33 species include Collared Dove for the first time

Trends are calculated for species recorded on an average of at least 30 BBS squares in Northern Ireland per year, now including **Collared Dove** for the first time. A total of 105 species were recorded on the 116 BBS squares covered in Northern Ireland in 2012. The average sample sizes for **Sedge Warbler**, **Lesser Redpoll** and **Buzzard** were just below the threshold for reporting trends, so an increase in coverage or species range could allow trends to be produced in future.

COLLARED DOVES INCREASE

Collared Doves have started to decline in the UK overall, but in Northern Ireland numbers are still increasing.

2012 was a poor year for **Swallows** in Northern Ireland, where they declined by 18% between 2011 and 2012.

SIGNIFICANT CHANGES

Of the 33 species for which Northern-Ireland-specific trends can be calculated, two have declined significantly and 12 have increased significantly since the start of the survey. The species that have declined the most are **Skylark** (-50%), **Meadow Pipit** (-29%), **Reed Bunting** (-17%), **Mistle Thrush** (-16%) and **Greenfinch** (-10%). The greatest increases are by **Blackcap** (>1,000%), **Goldfinch** (929%), **Great Tit** (176%), **Pheasant** (144%) and **Hooded Crow** (127%).



▲ Swallows declined in Northern Ireland between 2011 and 2012

Isle of Man and the Channel Islands

Four BBS squares were surveyed in the Isle of Man in 2012. A record 20 squares were covered on the Channel Islands, and 79 species were recorded.

GREEN WOODPECKER AND SWALLOW BY BEN ANDREW

Table 5 Trends in Wales during 2011–12 and 1995–2011

Species	Sample	11–12	95–11	LCL	UCL
Mallard	65	-17	-17	-55	43
Pheasant	91	-4	35	-4	82
(Grey Heron)	42	69	-20	-40	16
Buzzard	138	3	4	-18	30
Curlew	34	-4	-58*	-72	-39
Feral Pigeon	33	33	56	-12	118
Woodpigeon	183	-2	41*	14	68
Collared Dove	71	-14	37	-6	101
Cuckoo	56	-7	-34*	-49	-16
Swift	64	165*	-44*	-64	-5
Green Woodpecker	46	-20	-19	-42	15
Gt Spotted Woodpecker	75	-7	198*	126	301
Magpie	158	-7	-10	-22	3
Jay	71	1	38*	5	68
Jackdaw	136	4	35	-8	118
Rook	77	-26	-26	-49	7
Carrion Crow	197	7	7	-12	24
Raven	87	19	26	-19	117
Goldcrest	79	16	-49*	-65	-12
Blue Tit	173	-23*	17*	3	33
Great Tit	167	-19*	56*	32	82
Coal Tit	72	-18	2	-30	38
Skylark	100	-17	-14	-31	6
Swallow	167	3	31*	7	57
House Martin	85	-5	16	-24	59
Long-tailed Tit	59	132*	37	-4	112
Chiffchaff	135	7	75*	42	113

Species	Sample	11–12	95–11	LCL	UCL
Willow Warbler	156	-14	0	-16	22
Blackcap	119	6	163*	112	220
Garden Warbler	56	-19	-11	-42	35
Whitethroat	80	-46*	-4	-19	20
Nuthatch	69	-29	49*	16	92
Treecreeper	39	-13	3	-33	50
Wren	191	41*	-8	-23	3
Starling	79	-4	-70*	-81	-58
Blackbird	192	3	42*	28	59
Song Thrush	164	9	10	-4	27
Mistle Thrush	97	-5	-4	-29	22
Robin	188	20*	-16*	-23	-4
Redstart	56	-6	39*	13	72
Stonechat	34	6	82*	9	246
Wheatear	51	17	-13	-31	12
Dunnock	149	16*	29*	11	56
House Sparrow	121	-21*	99*	63	145
Pied Wagtail	112	5	-9	-23	7
Tree Pipit	31	48	-9	-43	43
Meadow Pipit	84	-6	-10	-24	3
Chaffinch	194	-7	-3	-16	14
Greenfinch	110	-17	-17	-36	17
Goldfinch	125	-6	79*	38	142
Linnet	89	-3	-30*	-51	-3
Bullfinch	62	-17	-5	-27	29
Yellowhammer	34	-19	-48*	-67	-30

Table 6 Trends in Northern Ireland during 2011–12 and 1995–2011

Species	Sample	11–12	95–11	LCL	UCL
Pheasant	39	-13	144*	32	255
Woodpigeon	81	-6	93*	44	159
Collared Dove	30	49*	113*	15	212
Magpie	80	-7	19	-14	47
Jackdaw	73	7	107*	45	177
Rook	71	17	-1	-33	45
Hooded Crow	78	20	127*	69	215
Goldcrest	43	105*	1	-36	22
Blue Tit	74	-6	3	-31	33
Great Tit	69	8	176*	102	215
Coal Tit	61	-1	93*	32	162
Skylark	32	-4	-50*	-64	-40
Swallow	81	-18*	3	-23	32
House Martin	41	-27*	69	-7	189
Chiffchaff	33	-15	50	-2	74
Willow Warbler	77	-19*	114*	43	162
Blackcap	34	20*	>1,000*	Not estimable	

Species	Sample	11–12	95–11	LCL	UCL
Wren	88	57*	12	-19	52
Starling	76	-7	25	-10	76
Blackbird	83	18*	30	-4	59
Song Thrush	74	17	23	-12	62
Mistle Thrush	57	14	-16	-68	56
Robin	85	8	1	-18	22
Dunnock	67	32*	62	-11	117
House Sparrow	51	-5	63	-10	154
Pied Wagtail	42	39*	11*	Not estimable	
Meadow Pipit	61	35*	-29*	-42	-2
Chaffinch	87	3	47*	9	73
Greenfinch	49	18	-10	-45	64
Goldfinch	46	13*	929*	Not estimable	
Linnet	36	25	41	-17	121
Bullfinch	31	-15	35	-29	55
Reed Bunting	32	0	-17	-50	48

- Trends are percentage changes, and are marked with an asterisk (*) where the 95% confidence limits of the change do not overlap zero (indicating that there has been a significant change).
- Trends for species in brackets are reported with caveats (see p11).
- The sample is the mean number of squares per year on which the species was recorded during 1994–2012.
- The trend since the start of the survey, covering the years 1994–2012, has been smoothed, and the end years truncated. This trend is labelled as 1995–2011.
- LCL and UCL are the lower and upper 95% confidence limits for the 1995–2011 trend.
- Red-listed and amber-listed species from 'Birds of Conservation Concern 3' are shown in the relevant colour.

TREND GRAPHS ONLINE:

www.bto.org/bbs/graphs

POPULATION TRENDS

Nuthatches increased by **339%** in the North West from 1995–2011

English regions

Population trends of 78 common and widespread birds in different regions of England since 1995

Trends are reported for species found on an average of at least 30 squares per year in that region. Changes discussed here are the population changes since the start of the BBS, and comparisons between regions are made only if trends have been calculated in at least four regions. More detailed information is available on the BBS website, including population changes between 2011 and 2012 and population trend graphs.



NORTH WEST

Of the 55 species for which trends were produced, **Starling** has declined the most and **Nuthatch** has shown the greatest increase. **Sparrowhawk** and **Moorhen** have declined more than in other regions, while **Cuckoo** and **Mistle Thrush** declined less.

NORTH EAST

Trends were produced for 32 species, including **Magpie** for the first time. **Starling** has shown the greatest decline of all species in this region, and **Chiffchaff** the greatest increase. **Blue Tit** and **Yellowhammer** declined more than in other regions, but no species did better in this region than in any other.

YORKSHIRE

Trends were produced for 50 species, including **Tree Sparrow** for the first time. **Rook** declined the most among species in this region, and **Chiffchaff**

increased most. **Great Spotted Woodpecker** and **Whitethroat** increased less than in other regions, while **Woodpigeon**, **Coal Tit** and **Blackbird** increased more.

EAST MIDLANDS

Cuckoo has shown the greatest decline of the 54 species for which trends were produced, and **Buzzard** the greatest increase. **Stock Dove**, **Cuckoo**, **Swift** and **Pied Wagtail** did worse than in other regions, but this was the only region in which **Kestrel**, **Garden Warbler** and **Yellowhammer** increased.

EAST OF ENGLAND

Of the 65 species for which trends were produced, **Turtle Dove** showed the greatest decline and **Buzzard** the greatest increase. **Willow Warbler**, **Garden Warbler** and **Mistle Thrush** showed greater declines than in other regions, while **Swift** and **Starling** declined less.

▲ **Ring-necked Parakeets** have increased by over 1,000% in London

WEST MIDLANDS

Of the 51 species for which trends were produced, **Cuckoo** showed the greatest decline and **Goldfinch** the greatest increase. **Woodpigeon** and **Great Tit** showed smaller increases than in other regions, while **Mallard** and **Goldcrest** increased more than in other regions.

SOUTH EAST

Turtle Dove has declined most out of the 67 species for which trends were produced, and **Red Kite** increased the most. Fifteen species did worse than in other regions, including **Lapwing**, **House Martin** and **Linnet**, while no species did better than in other regions.

SOUTH WEST

Trends were produced for 61 species, of which **Cuckoo** declined the most and **Great Spotted Woodpecker** increased the most. **Goldcrest** and **Starling** did worse than in other regions, while **Red-legged Partridge** and **Great Spotted Woodpecker** did better.

LONDON

Trends were produced for 25 species, including **Long-tailed Tit** for the first time. **House Sparrow** has shown the greatest decline of all species in this region, and **Ring-necked Parakeet** the greatest increase.

Table 7 Trends in English regions during 1995–2011

Species	North West	North East	Yorkshire	East Midlands	East of England	West Midlands	South East	South West	London							
Mute Swan					33	42	-16	54	13	33						
Greylag Goose					107*	40										
Canada Goose	86*	63		63	38	24	65	24	107	31	44					
Shelduck					37	34										
Mallard	23	149	48*	85	28*	97	12	186	76*	109	25*	221	42*	143	-15	40
Red Grouse			3	32												
Red-legged Partridge			29	44	-29	75	-7	175	67*	34	111*	117	126*	52		
Grey Partridge					-41	31	-43*	42			-68*	33				
Pheasant (Cormorant)	115*	128	51*	58	75*	121	15	140	67*	131	29*	368	52*	255		
(Grey Heron)	-21	77			-41	32	-6	48	-36*	81	-6	47	74*	43	-25	32
Red Kite																
Sparrowhawk	-44*	32														
Buzzard	121*	60														
Kestrel	-16	67														
Moorhen	-29*	69														
Coot	19	30														
Oystercatcher	13	52														
Lapwing	-35*	110	-28	38	2	90	3	61	-17	73	-18	38	-44*	105		
Curlew	-47*	84	-36*	39	-1	86										
Feral Pigeon	-29	74														
Stock Dove	151*	51														
Woodpigeon	65*	202	32*	70	67*	46	-47*	68	-4	133	25	79	17	184	3	114
Collared Dove	44*	127														
Turtle Dove																
Ring-necked Parakeet																
Cuckoo	-49*	33														
Swift	-42*	108														
Green Woodpecker																
Gt Spotted Woodpecker	130*	82														
Magpie	-11*	176	-1	30	-23	88	1	131	31*	230	-19*	154	12*	391	-7	272
Jay	28	65														
Jackdaw	58*	128	-3	52	39	97	78*	104	114*	206	60*	130	71*	339	36*	251
Rook	-41*	84	-16	43	-63*	92	21	88	17	174	-14	83	13	233	-13	206
Carrion Crow	35*	209	8	68	65*	147	40*	164	86*	286	-1	171	12	440	2	320
Raven																
Goldcrest	45	38														
Blue Tit	-2	193	-9	55	3	129	16	162	15*	287	-5	171	12*	445	4	311
Great Tit	36*	178	55*	49	50*	111	53*	150	24*	271	24*	165	30*	433	56*	299
Coal Tit	36*	62	59	35	157*	36	19	35	9	59	66*	45	-3	140	13	95
Marsh Tit																
Skylark	-36*	113	-31*	58	-1	122	-36*	145	-20*	265	-23*	110	-26*	301	-23*	206
Swallow	23*	185	42*	63	41*	133	104*	138	30*	217	28*	136	27*	302	76*	276
House Martin	13	96														
Long-tailed Tit	26	79														
Chiffchaff	231*	89	213*	33	232*	59	281*	82	108*	188	127*	129	47*	340	54*	270
Willow Warbler	25	138	-12	58	20	99	-47*	89	-72*	118	-44*	88	-71*	153	-48*	151
Blackcap	172*	106	73*	35	87*	72	86*	105	83*	224	107*	126	111*	356	134*	251
Garden Warbler																
Lesser Whitethroat																
Whitethroat	19	82	64*	35	15	71	80*	122	19*	235	44*	99	71*	280	44*	194
Sedge Warbler																
Reed Warbler																
Nuthatch	339*	35														
Treecreeper																
Wren	21*	198	-12	64	2	144	-3	167	3	284	-9*	166	-9*	435	-6	317
Starling	-55*	169	-63*	51	-61*	109	-48*	125	-45*	229	-65*	130	-62*	326	-72*	192
Blackbird	43*	201	27	61	55*	142	18*	174	5	302	31*	173	1	457	25*	327
Song Thrush	39*	153	-20*	53	31*	97	20	122	-6	224	73*	142	-12*	395	21*	270
Mistle Thrush	-5	117	-33*	34	-57*	71	-31*	81	-58*	135	-13	85	-57*	224	-38*	121
Spotted Flycatcher																
Robin	23*	192	19	60	23*	125	12	162	19*	282	23*	171	0	440	7	313
Wheatear	-10	43														
Duncock	34*	167	32*	50	6	111	25*	154	14*	257	32*	157	3	395	25*	288
House Sparrow	10	152	-22	37	8	86	7	111	-34*	194	-4	136	-35*	288	20	216
Tree Sparrow																
Yellow Wagtail																
Grey Wagtail																
Pied Wagtail	-15	121	-3	41	-36*	86	-45*	89	-14	147	2	82	-20*	193	-17*	143
Meadow Pipit	-16	78	-6	43	-25	80	-32	39	-29	43						
Chaffinch	26*	199	22	69	26*	144	35*	172	32*	301	-18*	170	5	446	-2	322
Greenfinch	0	149	-8	40	-10	95	-4	131	-1	246	-12	136	-30*	363	-30*	262
Goldfinch	151*	149	109*	44	168*	98	126*	114	58*	191	196*	114	49*	294	76*	238
Linnet	-13	89	-10	42	-4	83	-21	106	-18	164	-22	71	-39*	217	-22	168
Bullfinch	19	38														
Yellowhammer	-25	55	-40*	40	-15	78	1	126	-19*	212	-38*	103	-27*	242	-12	156
Reed Bunting	11	57														
Corn Bunting																

Region	Counties	Squares 2012
1 North West	Cheshire, Cumbria, Lancashire, Greater Manchester, Merseyside	288
2 North East	Cleveland, County Durham, Northumberland	103
3 Yorkshire & Humber	East Yorkshire, North Lincolnshire, North Yorkshire, South Yorkshire, West Yorkshire	283
4 East Midlands	Derbyshire, Northamptonshire, Leicestershire & Rutland, Lincolnshire, Nottinghamshire	270
5 East of England	Bedfordshire, Cambridgeshire, Essex, Hertfordshire, Norfolk, Suffolk	367
6 West Midlands	Birmingham, Herefordshire, Shropshire, Staffordshire, Warwickshire, Worcestershire	224
7 South East	Berkshire, Buckinghamshire, Hampshire, Isle of Wight, Kent, Oxfordshire, Surrey, Sussex	602
8 South West	Avon, Cornwall, Devon, Dorset, Gloucestershire, Somerset, Wiltshire	406
9 London	Greater London	97

RING-NECKED PARAKEET BY CHRISTINE M MATTHEWS

This table shows the smoothed trend since the start of the survey (in bold) and sample sizes (regular). Trends are percentage changes, and are marked with an asterisk (*) where the 95% confidence limits of the change do not overlap zero (indicating that there has been a significant change). Red-listed and amber-listed species from 'Birds of Conservation Concern 3' are shown in the relevant colour. Trends for species in brackets are reported with caveats (see p11).

Mammal monitoring

Population trends for nine mammal species have been produced using counts made by BBS volunteers

Mammal records were received from 2,607 squares, 76% of the total number surveyed. This includes 'null' counts, where the recorder confirmed that no mammals were detected.

Table 8 shows the 15 most widespread species in 2012. For easily detectable diurnal species, such as Brown Hare, Rabbit, Grey Squirrel and some deer, the vast majority of records were of individuals seen and counted during the two BBS visits. However, a large proportion of the records for other mammals were based on field signs or dead animals. These include those for mainly nocturnal or crepuscular species, such as Hedgehog, Mole and Badger.

In addition to those listed in Table 8, a further 30 species recorded in 2012 are shown in Table 9.

Live mammals were seen and counted during at least one bird-recording visit on 2,355 squares (90% of the mammal returns). On 99 squares (4%) the only mammal records were from extra visits, field signs, dead animals or local knowledge, and on 153 squares (6%) the observer reported that they saw no evidence of any mammals. This leaves 823 squares on which the observer did not attempt to record mammals, and we would encourage all volunteers to look out for mammals when possible.

BBS counts are used to calculate population trends for nine relatively widespread mammal species, shown in Table 10. Of these, four have increased significantly since 1995: Grey Squirrel (56%), Reeves' Muntjac (96%), Red Deer (99%) and Roe Deer (71%).

Two mammals have declined significantly: Rabbit (-40%) and Mountain/Irish Hare (-21%). The decline in Fox numbers is now no longer significant.

The information on species detected more often by signs of their presence than by sightings can also be used to estimate trends, although these require more careful interpretation. We will report periodically on these trends in occurrence.

▼ **Hedgehogs were recorded on 89 BBS squares in 2012**



HEDGEHOG BY BEN ANDREW

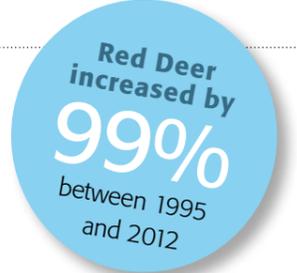


Table 8 Commonly-recorded mammals in 2012

Species	Scientific name	Squares recorded	Squares seen	Individuals
Grey Squirrel	<i>Sciurus carolinensis</i>	991	921	2,126
Brown Rat	<i>Rattus norvegicus</i>	99	29	50
Rabbit	<i>Oryctolagus cuniculus</i>	1,731	1,624	13,529
Brown Hare	<i>Lepus europaeus</i>	810	778	2,870
Mountain/Irish Hare	<i>Lepus timidus</i>	71	60	186
Hedgehog	<i>Erinaceus europaeus</i>	89	13	13
Mole	<i>Talpa europaea</i>	515	2	2
Domestic Cat	<i>Felis catus</i>	345	293	511
Fox	<i>Vulpes vulpes</i>	590	303	380
Badger	<i>Meles meles</i>	313	15	17
Stoat	<i>Mustela erminea</i>	78	32	35
Reeves' Muntjac	<i>Muntiacus reevesi</i>	171	124	167
Red Deer	<i>Cervus elaphus</i>	103	86	1,188
Fallow Deer	<i>Dama dama</i>	115	74	1,224
Roe Deer	<i>Capreolus capreolus</i>	684	566	1,166

Table 9 All other mammal species in 2012

Species	Scientific name	Squares recorded
Red Squirrel	<i>Sciurus vulgaris</i>	31
Bank Vole	<i>Myodes glareolus</i>	35
Short-tailed Vole	<i>Microtus agrestis</i>	28
Orkney Vole	<i>Microtus arvalis</i>	1
Water Vole	<i>Arvicola terrestris</i>	5
Harvest Mouse	<i>Micromys minutus</i>	2
Wood Mouse	<i>Apodemus sylvaticus</i>	32
Yellow-necked Mouse	<i>Apodemus flavicollis</i>	4
House Mouse	<i>Mus domesticus</i>	9
Common Shrew	<i>Sorex araneus</i>	48
Pygmy Shrew	<i>Sorex minutus</i>	9
Water Shrew	<i>Neomys fodiens</i>	4
Lesser White-toothed Shrew	<i>Crocidura suaveolens</i>	1
Lesser Horseshoe Bat	<i>Rhinolophus hipposideros</i>	1
Daubenton's Bat	<i>Myotis daubentonii</i>	2
Noctule	<i>Nyctalus noctula</i>	2
Pipistrelle sp.	<i>Pipistrellus pipistrellus/pygmaeus</i>	31
Brown Long-eared Bat	<i>Plecotus auritus</i>	2
Otter	<i>Lutra lutra</i>	45
Pine Marten	<i>Martes martes</i>	7
Weasel	<i>Mustela nivalis</i>	78
Polecat	<i>Mustela putorius</i>	1
American Mink	<i>Mustela vison</i>	19
Common Seal	<i>Phoca vitulina</i>	2
Grey Seal	<i>Halichoerus grypus</i>	10
Wild Boar	<i>Sus scrofa</i>	1
Sika Deer	<i>Cervus nippon</i>	11
Chinese Water Deer	<i>Hydropotes inermis</i>	8
Feral Goat	<i>Capra hircus</i>	3
Park Cattle	<i>Bos taurus</i>	1

Table 10 UK mammal trends 1995–2012

Species	Trend 95–12	Sample
Grey Squirrel	56*	644
Rabbit	-40*	1,261
Brown Hare	7	623
Mountain/Irish Hare	-21*	45
Fox	-10	264
Reeves' Muntjac	96*	77
Red Deer	99*	56
Fallow Deer	52	53
Roe Deer	71*	347

- ▲ This table shows unsmoothed trends (in bold) and sample sizes (regular).
- Population changes are shown for mammal species for which the sample size is at least 35 squares.
- Trends are percentage changes, and are marked with an asterisk (*) where significant at the 95% level or more.
- The sample is the mean number of squares on which the species was recorded each year during the survey period 1995–2012.
- ◀ **Squares recorded:** number of squares on which the species was recorded, including counts, field signs, dead animals and local knowledge.
- **Squares seen:** number of squares on which the species was seen and counted.
- **Individuals:** total number of individuals counted, taking the maximum count from the two visits to each square.



Rabbits have declined by 40% since 1995

RABBIT BY JOHN HARDING



SPECIAL THANKS

We would like to thank all surveyors and ROs for making the BBS the success it is today. Space does not permit all observers to be acknowledged individually here, but we would especially like to thank the ROs for their efforts.

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Birmingham & West Midlands
Buckinghamshire
Cambridgeshire
Cheshire (Mid)
Cheshire (North-East and South)
Cleveland
Cornwall
Cumbria
Derbyshire (North, South)
Devon
Dorset
Durham
Essex (North-East)
Essex (North-West)
Essex (South)
Gloucestershire
Hampshire
Herefordshire
Hertfordshire
Huntingdon & Peterborough
Isle of Wight
Isles of Scilly
Kent
Lancashire (East)
Lancashire (North-West)
Lancashire (South)
Leicestershire & Rutland
Lincolnshire (East)
Lincolnshire (North)
Lincolnshire (South)
Lincolnshire (West)
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Norfolk (North-West)
Norfolk (South-East)
Norfolk (South-West)
Northamptonshire
Northumberland
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Oxfordshire (South)
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Somerset
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Surrey
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Worcestershire
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Yorkshire (Central)
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Mick Carroll
Gerald Light
John Edwards
Vacant (now Aidan Gill)
VACANT
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Lewis & Harris
Lothian
Moray & Nairn
Orkney
Perthshire
Rhum, Eigg, Canna & Muck
Ross-shire
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Armagh
Down
Fermanagh
Londonderry
Tyrone

Shane Wolsey
Ruth Wilson
Stephen Hewitt
Alastair McIlwain
Michael Stinson
Vacant (now Lowell Mills)
Michael Stinson

CHANNEL ISLANDS

Channel Islands (excl. Jersey)
Jersey

Phil Alexander
Tony Paintin

ISLE OF MAN

Isle of Man

Pat Cullen

We would be grateful for help organising the BBS in regions currently without a Regional Organiser (marked **VACANT**). If you live in one of these regions and would be interested in taking on the role, please let us know.

Many thanks are due to the following ROs who retired during the past year, having supported the BBS in their regions: Simon Breeze, Charles Hull, Mike Smart and Tony White.

We would like to thank and welcome Stephen Bentall, Aidan Gill, Ed Hutchings, Gordon Kirk, Lowell Mills, Rob Morton, Dave Stoddard and Andy Winnington, who have taken over as ROs during the past year.

Finally, we would like to thank all the landowners who kindly allow volunteers to carry out BBS surveys on their land.

SCOTLAND

Aberdeen
Angus
Argyll (Mull, Coll, Tiree & Morven)
Argyll (mainland & Gigha) & Bute
Ayrshire
Benbecula & The Uists
Borders
Caithness
Central
Dumfries
Fife & Kinross
Inverness (East & Speyside, West)
Islay, Jura & Colonsay
Kincardine & Deeside
Kirkcudbright
Lanark, Renfrew & Dunbarton

Paul Doyle
Bruce Lynch
Rod Little
VACANT
Brian Broadley
Yvonne Benting
Graham Pyatt
Donald Omand
Neil Bielby
Edmund Fellowes
Norman Elkins
Hugh Inslay
John Armitage
Graham Cooper
Andrew Bielinski
Vacant (now Andy Winnington)



British Trust for Ornithology
The Nunnery
Thetford
Norfolk
IP24 2PU

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

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