Breeding Birds in the Wider Countryside: their conservation status 2006

Baillie, S.R., Marchant, J.H., Crick, H.Q.P., Noble, D.G., Balmer, D.E., Barimore, C., Coombes, R.H., Downie, I.S., Freeman, S.N., Joys, A.C., Leech, D.I., Raven, M.J., Robinson, R.A. & Thewlis, R.M.



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Trends in numbers and breeding performance for UK birds

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- Summary of key findings
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Lesser Redpoll has declined by 96% over the past 25 years - one of a number of declining woodland species of conservation concern

Using this website

This website is a "one-stop shop" for information about the population status of our common terrestrial birds. It is based on data gathered by many thousands of volunteers who contribute to BTO-led surveys. With one page per species, users can quickly find all the key information about trends in population size and breeding performance over the period 1967–2005, as measured by BTO monitoring schemes.

The **summary of key findings** provides a brief overview of our main findings this year. For each species, we provide:

- General information concerning species' conservation listings and UK population sizes
- A brief summary of observed changes in the size of the population and information concerning the possible causes of these changes
- A series of graphs and tables showing the trends and changes in population size and breeding performance over the past 37 years
- Trends calculated from BTO/JNCC/RSPB Breeding Bird Survey (BBS) data, not only for the UK as a whole but also for each of its constituent countries (England, Scotland, Wales and Northern Ireland)
- A system of Alerts that highlight population declines in any census scheme of greater than 25% or greater than 50% that have occurred over the past 5 years, 10 years, 25 years and 37 years.

The website also provides details of the field and analytical **methods** that were used to produce the results for each species and of the methods used to identify **alerts**. We **discuss** overall patterns of trends in abundance and breeding success, and compare the latest trend information and alerts with the Population Status of Birds list (**Gregory** *et al.* 2002). Four **appendices** list alerts and population changes by scheme.

You can navigate your way around the site using links from the **contents page** and between sections. Alternatively use the drop-down menus accessible from the menu bar at the top of each page. The top

right menu provides a drop-down list with quick access to the species accounts. To find out about other online survey results and how you can participate visit **BirdWeb** by clicking on the BirdWeb logo in the page footers.

The website covers the majority of British breeding birds, over 100 species in total, but excludes colonial seabirds, which are well covered by the JNCC's **Seabird Monitoring Programme (Mavor et al. 2006)**, and rare species that are included in the reports of the **Rare Breeding Birds Panel** (e.g.**Ogilvie & RBBP 2004)**.

We value your comments on this report and particularly any suggestions on how it can be improved.

Email your comments

Authors

This report was written by Stephen Baillie, John Marchant, Humphrey Crick, David Noble, Dawn Balmer, Carl Barimore, Rachel Coombes, Iain Downie, Steve Freeman, Andrew Joys, David Leech, Mike Raven, Rob Robinson and Richard Thewlis. The formal citation for the report is given in the page footer.

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Key findings

- Declining species
- New alerts
- Positive changes

- Reduced breeding success
- Increased breeding success
- Early nesting

Declining species

Best trend estimates over the longest available time period (usually 37 years) provide alerts to rapid declines of 50% or greater for 22 species. These are Grey Partridge, Little Grebe, Woodcock, Turtle Dove, Cuckoo, Lesser Spotted Woodpecker, Skylark, Tree Pipit, Yellow Wagtail, Song Thrush, Whitethroat, Willow Warbler, Spotted Flycatcher, Marsh Tit, Willow Tit, Starling, House Sparrow, Tree Sparrow, Linnet, Lesser Redpoll, Yellowhammer and Corn Bunting.

Most of these rapidly declining species are already red or amber listed on the Population Status of Birds (PSoB) list (Gregory *et al.* 2002).

The Whitethroat decline results from the severe crash between 1968 and 1969 linked to conditions on the wintering grounds. The Little Grebe decline should be treated with caution as we have long-term data only from waterways.



Lesser Spotted Woodpecker has now become so rare that it is difficult to monitor

Lesser Redpoll, Tree Pipit and Woodcock also have limited data. For several of the species listed here long-term trend data are only available for England, where BTO has more volunteers to record information. Different long-term trends could be operating in other parts of the UK.

A further 11 species trigger alerts as a result of long-term declines of between 25% and 50% over periods of 20 to 37 years. These are **Red-legged Partridge**, **Kestrel**, **Lapwing**, **Redshank**, **Common Sandpiper**, **Meadow Pipit**, **Dunnock**, **Mistle Thrush**, **Reed Warbler**, **Lesser Whitethroat** and **Bullfinch**. Most of these species are already on the PSoB list on account of their population declines.

Recent alerts and alert changes

We draw special attention to the alerts for three species that have recently crossed the 50% decline threshold. These are Yellow Wagtail (-69%), Willow Warbler (-61%) and Cuckoo (-57%). These may be candidates for future addition to the red section of the PSoB list.

We also identify two species that may become candidates to join the amber list due to declines of between 25% and 50%. These are **Common**



Spotted Flycatcher is one of a number of long-distance migrants that are raising considerable concern

Sandpiper (-27% over 29 years) and Lesser Whitethroat (-31% over 25 years). Red-legged Partridge also falls within this decline category (-38% over 25 years) but would not be a candidate for amber listing because it is an introduced species.

Bullfinch is a currently red-listed species, but its long-term population decline is now less than 50%, at -46% over 37 years, due to a population increase of 14% over the past 5 years. If this trend continues, the species may be a candidate for changing from red to amber lists.

Reed Warbler populations monitored on reedbed sites have shown a population decline of -27% over the past 20 years. This is a worrying trend that needs further investigation.

Positive changes

Few of those species that have declined previously show evidence of improvements in status. **Song Thrush** numbers have increased by 22% over the last ten years but even after this recovery they show a 51% decline over the last 37 years. **Whitethroat** has increased by 30% over the past 10 years and Dunnock by 19%. **Goldcrest** could become a candidate for removal from the amber list because its long-term trend does not now show a decline of greater than 25%. Overall, most species that have declined show little sign of recovery in the last ten years. Additionally BBS data indicate recent increases for **Snipe** and **Grasshopper Warbler** but we lack good annual monitoring data on longer-term changes in these species.



Goosander populations have more than doubled over the past 23 years on WBS plots

Seventeen species have more than doubled over the longest time period for which data are available (usually 37 years). These are Mute Swan, Canada Goose, Shelduck, Mallard, Goosander, Oystercatcher, Sparrowhawk, Buzzard, Stock Dove, Collared Dove, Woodpigeon, Green Woodpecker, Great Spotted Woodpecker, Nuthatch, Blackcap, Magpie, Carrion Crow.

Reduced breeding success

There are a number of species for which declines in breeding performance are likely to be driving the population declines (Linnet and Lapwing) or helping to inhibit recovery (possibly Reed Bunting). The importance of decreases in individual aspects of breeding performance for declining Yellow Wagtail, Willow Warbler, Spotted Flycatcher and House Sparrow remain to be determined, as do the implications of the large reductions in CES productivity measures recorded for Song Thrush, Willow Warbler, Linnet, Lesser Redpoll and Reed



Linnets have declined as a result of reduced breeding success

Bunting. Many declining species show improving productivity, probably as a consequence of density-dependent processes (there are more resources available to feed the young when population numbers are low).

Increased breeding success

Increasing breeding performance may be helping to drive population expansion of a number of rapidly increasing species: the predatory **Grey Heron**, **Sparrowhawk** and **Buzzard**; the corvids **Jackdaw**, **Magpie** and **Carrion Crow**; the seed-eaters **Collared Dove** and **Stock Dove**; and the insectivores **Pied Wagtail**, **Robin**, **Wren**, **Nuthatch**, **Blue Tit** and **Great Tit**.

Early nesting

Data from the Nest Record Scheme provide strong evidence of shifts towards earlier laying in a range of species, linked to climate change (Crick *et al.* 1997, Crick & Sparks 1999). We have now identified 34 species that, on average, are laying up to 30 days earlier than they did 36 years ago. The species involved represent a wide range of taxonomic and ecological groups. Examples include Long-tailed Tit (15 days earlier), Chiffchaff (13 days earlier), Nuthatch (11 days earlier) and Oystercatcher (8 days earlier). The consequences of these changes for bird populations need further investigation.



On average, Long-tailed Tits are now laying 15 days earlier than in 1968

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1. INTRODUCTION

Since its formation in 1933, BTO has been deeply committed to gathering quantitative information on the bird populations of the UK. Its nationwide network of skilled volunteers, many of whom are long-term contributors to survey schemes, provides the ideal way to monitor the bird populations that are widely distributed across the countryside. BTO data, from such schemes as the **BTO/JNCC/RSPB Breeding Bird Survey**, the **Common Birds Census** and **Nest Record Scheme**, have been increasingly influential in determining nature conservation policy in the UK. The partnership between JNCC and BTO has ensured that these schemes are operated and developed so as to provide high quality information for nature conservation.

The value of the monitoring work undertaken by the BTO is recognised in the Government's Biodiversity Steering Group report (Anon. 1995). The BTO's results, particularly those regarding declining farmland species, are highlighted as an example of the way in which broad-scale surveillance techniques can identify important new trends. More generally, the report states that monitoring is essential if the broad aims, specific objectives and precise targets of the Government's Biodiversity Action Plans are to be achieved. It notes that:

- baselines must be established;
- regular and systematic recording must be made, to detect change; and
- the reasons for change should be studied, to inform action.

The BTO's monitoring schemes fulfil a considerable portion of these needs for a wide range of bird species in the UK.

- 1.1 The BTO's monitoring of breeding birds in the UK
- 1.2 The value of combining results from different monitoring schemes
- 1.3 The aims of this report

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1.1 The BTO's monitoring of breeding birds in the UK

The Integrated Population Monitoring Programme has been developed by the BTO, in partnership with JNCC, to monitor the numbers, breeding performance and survival rates of a wide range of bird species. It has the following specific aims (Baillie 1990, 1991):

- (a) to establish thresholds that will be used to notify conservation bodies of requirements for further research or conservation action;
- (b) to identify the stage of the life cycle at which demographic changes are taking place;
- (c) to provide data that will assist in identifying the causes of such changes; and
- (d) to distinguish changes in population sizes or demographic rates induced by human activities from those that are due to natural fluctuations in abundance.

The programme brings together data from several long-running BTO schemes.

- Changes in numbers of breeding birds are measured by:
 - the BTO/JNCC/RSPB Breeding Bird Survey (BBS) which began in 1994, has replaced the CBC (below) as the major monitoring scheme for landbirds, after a seven-year overlap. BBS is based on nearly 3000 1-km squares, within each of which birdwatchers count and record birds in a standardised manner along a 2-km transect. Because the survey squares are chosen randomly, the results are not biased towards particular habitats or regions. Combined CBC/BBS indices now provide long-running and ongoing population monitoring for many common birds.
 - the Common Birds Census (CBC) which ran from 1962 and ended in 2000. This scheme mapped the territories of common birds on 200-300 mainly farmland and woodland plots each year, averaging about 70 and 20 ha respectively.
 - the Waterways Bird Survey (WBS) which began in 1974 and maps the territories of birds along rivers, streams and canals on 80-130 plots each year, each covering, on average, 4.5 km.
 - the Constant Effort Sites Scheme (CES) which began in 1983 and is based on bird ringing at over 100 sites. The catching effort is kept constant at each site during each year, so that changes in numbers of birds caught will reflect population changes and not variation in catching effort.
- Changes in breeding performance are measured by:
 - the Nest Record Scheme which began in 1939 and collates standardised information on up to 35,000 individual nesting attempts per year. This allows the measurement of
 - Laying dates
 - Clutch sizes
 - Brood sizes
 - Nesting success during egg and chick stages
 - the **CES** which provides information on overall productivity for a range of species by measuring the ratio of juveniles to adults caught each year.
- Changes in survival are measured by:
 - the British and Irish Ringing Scheme which provides information on the finding circumstances and longevity of ringed birds found dead by members of the public.
 - The CES can also provide information on survival rates, based on the recapture of ringed birds at CES sites. In future further information on survival rates will be provided by the Retrapping Adults for Survival (RAS) project

The ways in which the schemes fit together are shown in the diagram below, which also demonstrates the way in which the BTO aims to combine all this information to understand the mechanisms behind changes in population sizes using population models.



Next section -1.2 The value of combining results from different monitoring schemes

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1.2 The value of combining results from different monitoring schemes

Monitoring the changes in the size of a population does not in itself provide sufficient information on which to base an effective conservation strategy (Goss-Custard 1993, Furness & Greenwood 1993). Concurrent monitoring of breeding performance and survival rates is necessary to allow changes in population size to be properly interpreted (Temple & Wiens 1989, Crick *et al.* 2003) and, for long-lived species, can provide early warning of impending conservation problems (Pienkowski 1991).

Where good long-term data sets for breeding performance and survival are lacking, conservation action may have to be taken without an adequate understanding of the mechanisms involved or need to wait for detailed research to be undertaken. For many species, however, BTO already has the necessary data, collected by its volunteers over periods of several decades (Greenwood 2000)

For a long-lived species, a decline in population size may only begin after a long period of low survival or reduced reproductive output. The classic example is that of the Peregrine, which in the UK suffered from poor breeding performance during the 1940s and 1950s due to sub-lethal DDT contamination. This decreased the capacity of the non-breeding population to buffer the severe mortality of breeding adults that occurred due to cyclodiene poisoning from the mid 1950s onwards (Ratcliffe 1993). Monitoring of breeding performance gave an early warning of subsequent numerical decline (Pienkowski 1991). Another example of a decline in breeding performance that presaged population decline is the catastrophic breeding failures of seabirds, particularly Arctic Terns, in Shetland (Monaghan *et al.* 1989, 1992; Walsh *et al.* 1995; Mavor *et al.* 2003, 2004; Wanless *et al.* 2005).

Farmland birds

During the mid 1980s, the BTO identified rapid declines in the population sizes of several farmland bird species (O'Connor & Shrubb 1986, Fuller *et al.* 1995). The BTO has since been able to investigate demographic mechanisms of these declines, using its long-term historical databases (Siriwardena *et al.* 1998a, 2000a).

This investigation, which was Government-funded and undertaken jointly with Oxford University, looked at changes in population size, breeding performance and survival rates of a variety of species in relation to changing farming practice. It showed that species responded to different aspects of the agricultural environment, but that typically these aspects were linked to intensification or regional specialisation. Declines in survival rates were found to be the main factor driving population decline in these species, with the exception of Linnet, for which the main factor appears to have been a decline in nesting success at the egg stage (Siriwardena *et al.* 2000b). The study was therefore able to eliminate some possible causes of change, and identify areas for future research, thus helping conservation bodies to use their scarce resources productively. This work made an important contribution to the wide programme of work on farmland birds undertaken by many research and conservation organisations (Aebischer *et al.* 2000, Vickery *et al.* 2004).

This report describes a number of other cases where the combined analysis of BTO data sets has helped to identify the causes of population declines, for example on the pages for Lapwing (Peach et al. 1994), Song Thrush (Baillie 1990, Thomson et al. 1997, Robinson et al. 2004), Sedge Warbler (Peach et al. 1991), Willow Warbler (Peach et al. 1995a), Spotted Flycatcher (Freeman & Crick 2003), Starling (Freeman et al. 2002), and House Sparrow (Freeman & Crick 2002). A fully integrated approach, estimating trends in numbers and demographic parameters through a single model containing data from various BTO surveys, is introduced by Besbeas et al. (2002).

Biodiversity Action Plans The ability to quickly determine the stage of the life-cycle which is most affected during population declines is particularly important for the conservation agencies when considering the plight of species on the lists of conservation concern (JNCC 1996; Anon. 1995, 1998). Analysis of BTO data sets, which has already helped to build these lists, is a key point in several of the UK Government's Biodiversity Action Plans for rapidly declining species. Once conservation actions have been initiated, the BTO's Integrated Population Monitoring programme has a further function, because the success of these actions will be measured and assessed by continued BTO monitoring.

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1.3 The aims of this report

This report is the latest in a series of reports that are used by conservation practitioners as a readyreference guide to recent changes in status of breeding birds in the UK. By publishing it on the BTO website, we aim to make it available to a much wider audience, especially BTO members and the general birdwatching public. We also hope that it provides a useful resource for schools, colleges and universities, the media, ecological consultants, decision-makers, local government, and the more general world of industry and commerce. In summary, its aims are:

- 1) To provide to as wide as possible a readership a species-by-species overview of the trends in breeding population size and reproductive success of birds covered by BTO monitoring schemes since the 1960s, at the UK or UK-country scale.
- 2) To provide warning alerts to JNCC and Country Agencies and other conservation bodies concerning worrying declines in population size or reproductive success, with special reference to species on the UK red and amber lists.

This document is the result of the sustained fieldwork of many thousands of the BTO's volunteer supporters. Without their enthusiasm for collecting these hard-won facts, the cause of conservation in the UK would be very much the poorer. The data we present here include information on distributions, from breeding-season and winter atlas projects, and on estimates of the absolute size of breeding populations, which are reported regularly by the Avian Population Estimates Panel (Stone *et al.* 1997, Baker *et al.* 2006). Colonial seabirds, which are well covered by the recently published results of Seabird 2000 (Mitchell *et al.* 2004) and by the JNCC's Seabird Monitoring Programme (Mavor *et al.* 2006), and the majority of species covered by the Rare Breeding Birds Panel (Ogilvie & RBBP 2004), are not included here. Wintering populations of waterfowl are covered by the Wetland Bird Survey annual reports (e.g. Banks *et al.* 2006) and by the WeBS alerts system (Maclean *et al.* 2005).

The main emphasis of this report is on trends in the abundance and demography of individual species. The data on trends in abundance also provide the basis for multi-species indicators of bird population changes (**Gregory** *et al.* 2004). The Wild Bird Indicator has been adopted as one of the UK Government's 15 headline Quality of Life indicators. Furthermore, the related **Farmland Bird Indicator** is now being used as the basis of the Government's target for farmland bird recovery. This approach is now being extended more widely through a collaboration between EBCC, BirdLife and RSPB to produce **pan-European bird indicators**.

The report is the latest in a series, begun in 1997, produced under the BTO's partnership with the Joint Nature Conservation Committee (on the behalf of Natural England, Scottish Natural Heritage, the Countryside Council for Wales, and the Environment and Heritage Service in Northern Ireland) as part of its programme of research into nature conservation. Only the first two reports were published as paper reports, with subsequent ones being produced solely as web documents. A complete list of all the previous reports and links to those published online can be found here.

Section 2 – Methodology

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2. METHODOLOGY

Six monitoring schemes have contributed data to this report. Five provide data on changes in abundance: Breeding Bird Survey; Common Birds Census; Waterways Bird Survey; Heronries Census; and Constant Effort Sites ringing scheme. Two schemes provide data on changes in productivity: the Nest Record Scheme and the Constant Effort Sites Scheme. In addition, information from detailed analyses of the recoveries of birds from the Ringing Scheme is included where relevant. The methodologies of the monitoring schemes are described below, including information on fieldwork, data preparation, sampling considerations and the statistical methods used in analysis.

- 2.1 Breeding Bird Survey
- 2.2 Common Birds Census
- 2.3 Combined CBC/BBS trends
- 2.4 Waterways Bird Survey
- 2.5 Heronries Census
- 2.6 Constant Effort Sites Scheme
- 2.7 Nest Record Scheme
- 2.8 The alert system
- 2.9 Statistical methods used for alerts

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2.1 Breeding Bird Survey



The BTO/JNCC/RSPB Breeding Bird Survey (BBS) was launched in 1994, following two years of extensive pilot work and earlier desk-based studies. The introduction of the BBS was a move designed to overcome the limitations of the **Common Birds Census** (CBC), which had monitored bird populations since 1962. In particular, it improves the geographical representativeness of UK bird monitoring, and thereby promotes both species and habitat coverage. The BBS uses line transects rather than the more intensive territory-mapping method used by the CBC. This makes the survey relatively quick to undertake, and has been successful in encouraging a large number of volunteers to take part. The average time observers spend per visit is only around 90 minutes.

The sampling units are 1x1-km squares of the Ordnance Survey national grid. They are selected randomly by computer (see **Data analysis** below). The BBS requires a relatively large sample of survey squares and the aim was to achieve coverage of about 2500 squares in the UK. An important aspect of BBS is its coordination through a network of volunteer BBS Regional Organisers. Information and survey forms are distributed first to these organisers, who contact volunteers willing to survey the squares every year. After the field season, forms are returned to BTO headquarters again via the Regional Organisers. On-line submission of BBS data is now also available and is recommended – see the **BBS pages** of the main BTO website for details.

Fieldwork involves three visits to each survey square each year. The first is to record details of habitat and to establish the survey route, the second and third to count birds. A survey route is composed of two roughly parallel lines, each 1 km in length, although for practical reasons routes typically deviate somewhat from the ideal. Each of these lines is divided into five sections, making a total of ten 200-m sections, and birds and habitats are recorded within these ten units. The two bird-count visits are made about four weeks apart (ideally early May and early June), ensuring that late-arriving migrants are recorded. Volunteers record all the birds they see or hear as they walk along their transect routes. Birds are noted in three distance categories (within 25 m, 25–100 m, or more than 100 m on either side of the line) measured at right angles to the transect line, or as in flight. Recording birds within distance bands is important because it provides a measure of bird detectability in different habitats and allows population densities to be estimated more accurately. The total numbers of each species, excluding juveniles, are recorded in each 200-m transect section and distance category, as well as the timing of the survey and weather conditions.

By 1998, more than 2300 BBS squares were being surveyed annually, close to the original target of 2500. Only around a quarter of these plots were covered in 2001, owing to Foot & Mouth Disease access restrictions, but (thanks to our keen observers) the sample recovered immediately to over 2100 in 2002 and had increased further to 2254 squares in 2003, 2526 in 2004 and 2879 in 2005. Squares are distributed throughout the UK and cover a broad range of habitats, including uplands and urban areas. Around 100 species are present on 40 or more BBS squares annually and can be monitored with good precision at the UK scale (**Joys et al. 2003**), although a few present special difficulties because of their colonial or flocking habit or their wide-ranging behaviour. For most of these, BBS can also assess annual population changes within **England** alone, using data from 30 or more squares, and for about half the species also within **Scotland** and **Wales** as separate units. Sample sizes in **Northern Ireland** currently allow about 25 species to be indexed annually.

Data analysis

Survey squares are chosen randomly using a stratified random sampling approach from within 83 sampling regions. These sampling regions, which in most cases are the standard BTO regions, are the "strata" (literally layers) of the sample. Survey squares are chosen at random within each region (stratum), to a density that varies with the number of BTO members resident there. Regions with larger numbers of potential volunteers are thereby allocated a larger number of squares, enabling more birdwatchers to become involved in these areas. This does not introduce bias into the results because the analysis takes the differences in regional sampling density into account.

Change measures between years are assessed using a log-linear model with Poisson error terms. For

each species, the higher count from the total early or late counts for each square is used in the model (or the single count if the square was visited only once). Counts are modelled as a function of square and year effects. Each observation is weighted by the number of 1-km squares in each region divided by the number of squares counted in that region, to correct for the differences in sampling density within the UK. The upper and lower confidence limits of the changes indicate the certainty that can be attached to each change measure. When the limits are both positive or both negative, we can be 95% confident that a real change has taken place. Note that this presentation and its interpretation differs from the 85% confidence limits shown on most graphs within this report (see here for details).

Trends are presented as graphs in which annual population indices are shown in blue and their 95% confidence limits in green. A caveat of "small sample" is provided where the mean sample size is in the range 30–39 plots per year for England, Northern Ireland, Wales and Scotland trends. A minimum sample size of 40 plots was required for the UK.

Next section – 2.2 Common Birds Census

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2.2 Common Birds Census

The Common Birds Census (CBC), which began in 1962, was the first of the BTO's monitoring schemes for widespread breeding birds, but has now been superseded for this purpose by **BBS**. The 2000 field season was the CBC's last year of full operation. CBC results have been hugely influential in determining conservation priorities in the UK countryside. The store of detailed maps of almost a million birds' territories, collected through the CBC and maintained by BTO since the early 1960s, is a mine of information of unique value for investigating the relationships between breeding birds and their environment, over wide temporal and spatial scales. For many species, CBC and BBS trends can be linked to form joint CBC/BBS trends that provide ongoing monitoring, continuous since the 1960s.

The weaknesses of the CBC as a monitor of UK bird populations were largely related to the timeconsuming nature of both fieldwork and analysis. This inevitably limited the number of volunteers able to participate in the scheme, with the result that areas with few birdwatchers were under-represented. Constrained by the relatively small sample size, CBC concentrated on farmland and woodland habitats. Bird population trends in built-up areas and the uplands were therefore poorly represented. Moreover, as the plots were chosen by the observers, some may not have been representative of the surrounding countryside and there may be some bias towards bird-rich habitats. It is for these reasons that the BBS was introduced in 1994. Both surveys were run in parallel for seven years to allow calibration between the schemes (Freeman *et al.* 2003, 2007; Section 2.3 of this report).

CBC, 1962-2000

The results from the Common Birds Census (CBC) provided reliable population trends for more than 60 of the commoner UK breeding species.

The CBC was instigated to provide sound information on farmland bird populations in the face of rapid changes in agricultural practice. Fieldwork was carried out by a team of 250–300 dedicated volunteers. The same observers surveyed the same plots using the same methods year after year. On average, plots were censused for around seven consecutive years but a few observers surveyed the same sites for more than 30 years. Although the original emphasis was on farmland plots, woodland plots were added by 1964. Farmland plots averaged around 70 hectares in extent. Woodland plots were generally smaller, averaging just over 20 hectares. A small number of plots of other habitats, including heathlands and small wetlands, were also surveyed annually, especially before 1985.

A territory-mapping approach was used to estimate the number and positions of territories of each species present on each survey plot during the breeding season. Volunteers visited their survey plots typically eight to ten times between late March and early July and all contacts with birds, either by sight or sound, were plotted on 1:2500 maps. Codes were used to note each bird's species, with sex and age where possible, and also to record activity such as song or nest-building. The registrations were then transferred to species maps and returned to BTO headquarters for analysis. Observers also provided maps and other details of the habitat on their plots. This makes it possible to match the distribution of bird territories with habitat features, providing the potential for detailed studies of bird–habitat relationships.

The pattern of registrations on the species maps reveals the numbers of territories for each species. All assessments of territory number were made by trained BTO staff, applying rigorous guidelines, to ensure consistency between estimates across sites and years.

In 1990, the results from the Common Birds Census were brought together in the book *Population Trends in British Breeding Birds* (Marchant *et al.* 1990). This landmark publication discussed long-term population trends for the years 1962 to 1988 for 164 species, with CBC or WBS population graphs for around two-thirds of these.

Validation studies

The CBC was the first national breeding bird monitoring scheme of its kind anywhere in the world and its value has been widely recognised internationally. The territory-mapping method adopted by the CBC is acknowledged as the most efficient way of estimating breeding bird numbers in small areas. **Snow (1965)** compared CBC mapping and intensive nest-finding, and concluded that mapping censuses are good indicators of breeding population size for 70% of species. Experiments to test differences between observers' abilities to detect birds found that, although there was considerable

variation between individual abilities, the observers were consistent from year to year (O'Connor & Marchant 1981). As the CBC relies on data from plots covered by the same observer in consecutive years, this source of bias has no implications for the CBC's ability to identify population trends. It has also been confirmed that the sample of plots from which CBC results are drawn has not changed in composition or character over the years (Marchant *et al.* 1990) and that the results of territory analysis are not affected by changes in analysts, once trained (O'Connor & Marchant 1981). Fuller *et al.* (1985) found that farmland CBC plots were representative of ITE lowland land-classes throughout England (excluding the extreme north and southwest), and closely reflected the agricultural statistics for southern and eastern Britain.

Data analysis

Population changes are modelled using a generalised additive model (GAM), a type of log-linear regression model that incorporates a smoothing function (Fewster *et al.* 2000). This replaces the Mountford model that employed a 6-year moving window (Mountford 1982, 1985; Peach & Baillie 1994) and was used to produce annual population indices until 1999, but the principles are similar. These models are also very similar to log-linear poisson regression as implemented by program TRIM (Pannekoek & van Strien 1996). Counts are modelled as the product of site and year effects on the assumption that between-year changes are homogeneous across plots. "Smoothing" is used to remove short-term fluctuations (e.g. those caused by periods of severe weather or measurement error) and thus reveal the underlying pattern of population change. This is achieved by setting the degrees of freedom to 0.3 times the number of years in the series. Confidence limits on the indices are estimated by bootstrapping (a resampling method; Manly 1991) and thus do not make any assumptions about the underlying distribution of counts.

Indices are plotted as the blue line on the graphs, and provide a relative measure of population size on an arithmetic scale relative to an arbitrary value of 100 in 2002. If an index value increases from 100 to 200, the population has doubled; if it declines from 100 to 50, it has halved. The two green lines on the graphs, above and below the index line, are the upper and lower 85% confidence limits. A narrow confidence interval indicates that the index series is estimated precisely, a wider interval indicates that it is less precise. The use of 85% confidence limits allows relatively straightforward comparison of points along the modelled line: non-overlap of the 85% confidence limits is equivalent to a significant difference at approximately the 5% level (Anganuzzi 1993).

Caveats are provided to show where the data suffer from a "Small sample" if the mean number of plots was less than 20. Data are regarded as "Unrepresentative?" if the average abundance of a species in 10-km squares containing CBC plots was less than that in other 10-km squares of the species' distribution in the UK (as measured from *1988–91 Breeding Atlas* data (Gibbons *et al.* 1993)), or, where average abundances could not be calculated, expert opinion judged that CBC data may not be representative.

In practice most CBC data included in this report have been combined with BBS data to provide joint CBC/BBS trends, using the methods described in the next section. These methods for producing joint trends represent an extension of those described above.

Next section – 2.3 Joint CBC/BBS trends

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CLICK HERE to go to the CBC section of the main BTO website

BBWC Home > Contents > Methodology > Combined CBC/BBS trends

2.3 Combined Common Birds Census (CBC) and Breeding Bird Survey (BBS) trends

The field protocols for the two surveys are described in sections 2.1 and 2.2. As previously noted, the CBC has been an enormously influential project, providing the main source of information on national population levels in the UK since its inception. For all its importance and impact, however, certain biases in coverage had long been known. Coverage is predominantly in lowland southeastern Britain, where the numbers of potential volunteers are greatest. Coverage in more sparsely populated upland regions has always been much more patchy. Even within the well-covered regions, sites are situated in a limited number of habitats, predominantly farmland and woodland. Within this region, the results are nevertheless believed to be broadly representative (Fuller *et al.* 1985). However, several species such as Wood Warbler and Meadow Pipit have the greater part of their numbers in northern or western Britain, outside the area adequately covered. For these species, the CBC may not accurately reflect national trends.

The BBS, on account of its more rigorous, stratified random sampling design, and its simplicity in the field, produces data that better cover the previously under-represented areas. In some early editions of 'Breeding Birds in the Wider Countryside' (e.g. **Baillie et al. 2002**), indices were published both from CBC and BBS data, for those species with sufficiently large sample sizes. The CBC was discontinued in 2000; from now on, BBS data will be used in the production of national population trends dating back to its year of establishment, 1994.

For many purposes, however, the presentation and analysis of longer time-series is required, dating back to before the establishment of the BBS but coming right up to the present day. The calculation of 25-year alert designations, as in this report, provides just one example. This need led to the BTO carrying out research into the compatibility of indices from BBS and CBC data in various years and regions, and the possibility of deriving trustworthy long-term indices from the two data sources in combination (Freeman et al. 2003, 2007). This research suggested that for the vast majority of species considered there was no significant difference between population trends, calculated from the two surveys, based on that part of the country where CBC data are sufficient to support a meaningful comparison. Where a statistically significant difference was found, this was sometimes for very abundant species for which the power to detect even a biologically insubstantial difference was considerable. Within this region, therefore, long-term trends based on CBC and BBS data can be produced for almost all species previously monitored by the CBC alone. For Freeman et al. (2003, 2007) this was the area covered by Fuller et al. (1985), because CBC plots in that region were shown to be representative of lowland farmland there. As this region covers the bulk of England, and for consistency with the rest of this report we have produced joint indices for CBC/BBS for the whole of England (called CBC/BBS-England index), rather than just the 'Fuller rectangle'.

A second question then is whether one can obtain reliable trends over the same period for the entire UK. That is, since prior to 1994 only CBC data are available, are the population trends within the region well-covered by the CBC typical of those for the UK as a whole? The shortage of CBC data in the north and west means that the only way of investigating this is via the BBS data. Significant differences in trends between the area well covered by the CBC and the rest of the UK were found for approximately half the species (see **Freeman** *et al.* 2003, 2007, for full details). For such species, the regional bias in CBC data means that no reliable UK index can be produced prior to 1994. In summary, joint population indices dating back to the start of the CBC can continue to be produced for that part of the country well served by the CBC (essentially England) for almost all common species. However, a similar UK index can be produced for only about 50% of species (CBC/BBS-UK index).

This report presents joint CBC/BBS trends for the UK and/or England as appropriate. Ideally the trends would have been estimated using Generalised Additive Models (Fewster *et al.* 2000) but these were too computationally intensive given the number of sites involved. Therefore we fitted a Generalised Linear Model with counts assumed to follow a Poisson distribution and a logarithmic link function to the combined CBC/BBS data. Standard errors were calculated via a bootstrapping procedure and there is therefore no need to model overdispersion, as it does not affect the parameter estimates. BBS squares were weighted by the number of 1-km squares in each sampling region divided by the number of squares counted in that region as in standard BBS trend analyses CBC plots were assigned the

average weight of all BBS squares as this allows them to be incorporated within the analysis while retaining the convention of not applying weights within the BBS sample. The population trend was smoothed using a thin-plate smoothing spline with 11 degrees of freedom. Confidence intervals were calculated via a bootstrap procedure. Bootstrap samples were generated by resampling sites from the original data set with replacement. A generalised linear model was then fitted to each bootstrap replicate and a smoothing spline fitted to the annual population indices as described above. Confidence limits were then calculated as appropriate percentiles from the sets of smoothed estimates. The overall result is a smoothed trend that is mathematically equivalent to that produced from a Generalised Additive Model (GAM). The method of estimation is less statistically efficient because the smoothing is not incorporated within the estimation procedure, and is likely to have resulted in more conservative statistical tests and wider confidence limits. However this compromise was necessary to make it possible to fit the trends in a reasonable amount of computer time (still several weeks).

Indices are plotted as the blue line on the graphs, and provide a relative measure of population size on an arithmetic scale relative to an arbitrary value of 100 in 2002. If an index value increases from 100 to 200, the population has doubled; if it declines from 100 to 50, it has halved. The two green lines on the graphs, above and below the index line, are the upper and lower 85% confidence limits. A narrow confidence interval indicates that the index series is estimated precisely, and a wider interval indicates that it is less precise. The use of 85% confidence limits allows relatively straightforward comparison of points along the modelled line: non-overlap of the 85% confidence limits is equivalent to a significant difference at approximately the 5% level (Anganuzzi 1993).

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2.4 Waterways Bird Survey

The Waterways Bird Survey (WBS) has monitored the population trends of up to 24 riparian bird species on canals and rivers throughout the UK since 1974. WBS uses a territory-mapping method like that of its parent scheme, the **Common Birds Census**, to estimate the breeding population of waterbirds on each plot. Detailed territory maps are prepared that can be compared with habitat data to show which features of linear waterways are important to breeding birds. The plots average 4.4 km in length; almost half are slow-flowing lowland rivers with the rest either fast-flowing rivers/streams or canals. There are currently around 90 plots distributed throughout the UK. The proportion of plots in the north and west of England is higher than existed in the CBC (Marchant *et al.* 1990). Wales, Scotland and especially Northern Ireland are relatively poorly covered.

All fieldwork is carried out by volunteers. Observers are asked to survey their plot on nine occasions between March and July, mapping all the birds seen or heard onto 1:10,000-scale maps. Registrations are then transferred to species maps, which are analysed to reveal the numbers and positions of territories for each species. Since 1994, observers have completed their own territory analysis, based on the scheme's written guidelines, with results checked by BTO staff. This has successfully speeded up the processing of WBS data at BTO headquarters. As WBS employs very similar methods to those of CBC, the validation studies carried out for the latter generally hold true for WBS (see section 2.2). Marchant *et al.* (1990) found that there has been little change in the composition of the WBS sample in terms of waterway type or geographical spread. Trend analysis and presentation follows the same pattern as CBC (section 2.2), except that the "unrepresentative?" caveat has not been used. A caveat of "small samples" is provided when the number of plots is between 10 and 19.

Population changes along waterways are reported annually in *BTO News* for around 20 riparian species, of which Goosander is not covered by BBS monitoring. For specialist waterbirds, including Little Grebe, Mute Swan, Common Sandpiper, Kingfisher, Sand Martin, Grey Wagtail, Dipper and Reed Warbler, targeted surveys along waterways can provide a better precision of monitoring than is possible through the more generalised BBS surveys. WBS indices can also add a new perspective on trends in waterbirds that are monitored, largely in other habitat types, by CBC/BBS. For Lapwing, populations declined rapidly on arable farmland during the late 1980s while numbers on WBS plots, typically representing populations along river floodplains, showed greater stability. Yellow Wagtails have declined much more steeply in WBS habitats than elsewhere.

WBS has similar limitations as a monitoring scheme that led to the CBC's replacement by BBS. In particular, plot distribution is biased geographically and possibly also towards sites that are good for birds, and an intensive survey method is used that severely limits the sample size (Marchant *et al.* **1990**). A drawback specific to WBS is that it covers only waterbirds. BTO has addressed these issues by setting up the Waterways Breeding Bird Survey (WBBS), which has been running since 1998 in parallel with WBS. WBBS uses BBS-style transect methods along random waterways, and includes all species of birds. If, once its development is completed, WBBS becomes an ongoing scheme, it will provide useful monitoring data to supplement BBS.

Data analysis

Smoothed population trends are estimated using Generalised Additive Models, with confidence intervals calculated by bootstrapping (Fewster *et al.* 2000). The analytical procedure is the same as that used for the CBC (section 2.2).

Next section – 2.5 Heronries Census

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CLICK HERE to go to the WBS section of the main BTO website

BBWC Home > Contents > Methodology > Heronries

2.5 Heronries Census

The BTO Heronries Census began in 1928 and is the longest-running breeding-season bird monitoring scheme in the world. As predators at the top of the freshwater food chain, Grey Herons are excellent indicators of environmental health in the countryside. They build large stick nests, mostly in colonies at traditional sites. The aim of this census is to collect annual nest counts of Grey Herons from as many sites as possible in the United Kingdom. Volunteer observers make counts of 'apparently occupied nests' at heron colonies each year. Changes in the numbers of nests, especially over periods of several years, provide a clear measure of the population trend. In recent seasons, observers have also counted the nests of Little Egrets *Egretta garzetta*, which have been appearing in an increasing number of southern heronries since the first breeding records in 1996. Counts of Cormorant colonies, which often occur alongside heronries, are also welcome.

Coverage is coordinated through a network of regional organisers. A core of birdwatchers and ringers monitor their local colonies annually, providing a backbone of regular counts. Around two-thirds of the heronries in England and Wales are currently counted each year, with more-complete censuses carried out in 1929, 1954, 1964, 1985 and 2003. Except during the special surveys, rather few counts are made of heronries in Scotland and Northern Ireland. Counts are submitted mostly on cards and the data are entered onto computer at BTO headquarters. The number of heronries cards submitted each year is around 450.

Data analysis

Population changes are estimated using a ratio-estimators approach derived from that of **Thomas** (1993). Essentially, the ratios of the populations in any two (not necessarily consecutive) years of the survey are estimated from counts at sites visited in each of those years. These ratios can be used to estimate the counts at sites that were not visited, and hence build an estimate of the total population. Further modifications have been made to allow for the extinction of colonies and the establishment of new ones, resulting in the graph as shown (Marchant *et al.* 2004). A short report containing simple estimates of change for the latest year is published annually in *BTO News*.

On the **Grey Heron** page of this report, the trend is presented graphically with annual estimates in blue and their 85% confidence limits in green. A smooth trend line in red is based on a non-parametric regression model, using thin-plate smoothing splines with 23 degrees of freedom.

Next section – 2.6 Constant Effort Sites Scheme

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CLICK HERE to visit the Heronries Census page of the main BTO website

CLICK HERE to visit the Little Egrets page of the main BTO website (WeBS)

BBWC Home > Contents > Methodology > Constant Effort Sites

2.6 Constant Effort Sites Scheme

The Constant Effort Sites (CES) Scheme uses changes in catch sizes across a network of more than 100 standardised mist-netting sites to monitor changes in the abundance and breeding success of common passerines in scrub and wetland habitats. At each constant effort site, licensed ringers erect a series of mist-nets in the same positions, for the same amount of time, during 12 morning visits between May and August. Year-to-year changes in the number of adults caught provide a measure of changing population size, while the proportion of young birds in the total catch is used to monitor annual productivity (breeding success). By monitoring the abundance of young birds between May and August, the CES method should integrate contributions to annual productivity from the entire nesting season, including second and third broods for multi-brooded species. Between-year recaptures of ringed birds can also be used to calculate annual survival rates, although this requires specialised analytical techniques (e.g. **Peach 1993**) and is not considered further here. Further details of the CES Scheme and methods of analysis are presented by **Peach et al. (1996)**.

The CES Scheme began in 1983 with 46 sites and now has nearly 150. The distribution of CES sites tends to reflect the distribution of ringers within Britain and Ireland. The majority are operated in England, and there are small numbers in Scotland, Wales, Northern Ireland and the Republic of Ireland. The CES monitors the populations of 28 species of passerines in scrub and wetland habitats.

Data analysis

Annual estimates of the abundance of adults and young are separately assessed through application of log-linear Poisson regression models, from which fitted year-effects are taken as annual relative abundances, compared to an arbitrary value of 100 in 2002. 85% confidence limits are based on the corresponding asymptotic standard errors. At sites where catching effort in a year falls below the required 12 visits, but a minimum of 8 are completed, annual catch sizes are corrected according to experience during years with complete coverage by incorporating an offset into the generalised linear model (see **Peach** *et al.* 1998 for full details). Sites with fewer visits in a given year are omitted for the year in question.

Annual indices of productivity (young per adult) are estimated from logistic regression models applied to the proportions of juvenile birds in the catch, the year-effects then being transformed to measures of productivity relative to an arbitrary value of 100 in 2002. As above, catch sizes are corrected for small numbers of visits missed where necessary. It should be noted that these indices are relative, and are not estimates of the actual numbers of young produced per adult (Freeman *et al.* 2001).

Data are presented graphically with annual estimates in blue and their 85% confidence limits in green. Methods and software for the optimal fitting of smoothed trends to CES data remain in development. Here, we also present a non-parametric regression model fitted to the calculated annual indices of abundance and productivity (via thin-plate smoothing splines with six degrees of freedom), to provide a simple smoothed picture. This is the red smoothed line on the CES graphs on the species pages. A caveat is provided for "small samples" when the average number of plots per year is between 10 and 19.

Next section – 2.7 Nest Record Scheme

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2.7 Nest Record Scheme

The BTO's Nest Record Scheme is the largest, longest-running and most highly computerised of such schemes in the world and possesses the most advanced and efficient techniques of data gathering, data capture and analysis (Crick *et al.* 2003). There are currently more than a million nest records held by the Trust, of which 35% are computerised.

The primary aim of the Nest Record Scheme is to monitor the breeding performance of a wide range of UK birds annually as a key part of the BTO's data collection. Annual reports are published in *BTO News* (e.g. Leech *et al.* 2006b) and the significant results communicated immediately to JNCC. Another primary aim is to undertake detailed analyses of breeding performance of species of conservation interest (e.g. Crick *et al.* 1994, Brown *et al.* 1995, Peach *et al.* 1995a, Crick 1997, Chamberlain & Crick 1999, Siriwardena *et al.* 2001, Crick *et al.* 2002, Chamberlain & Crick 2003, Freeman & Crick 2003, Browne *et al.* 2005, Tryjanowski *et al.* 2006).

The Nest Record Scheme gathers data on the breeding performance of birds in the UK through a network of volunteer ornithologists. Each observer is given a code of conduct that emphasises the responsibility of recorders towards the safety of the birds they record and explains their legal responsibilities. These observers complete standard nest record cards for each nest they find, giving details of nest site, habitat, contents of the nest at each visit and evidence for success or failure. When received by the BTO staff, the cards are checked, sorted and filed away ready for analysis. Those for Schedule 1 species are kept confidential. (These are species protected from disturbance at the nest by Schedule 1 of the Wildlife & Countryside Act 1981: they are generally rare species and the location of their nests may need to be protected from egg collecting (an illegal activity) or other potential disturbance. To visit the nests of these species a special licence is required.). Computer programs developed by BTO check the data for errors and calculate first-egg date, clutch size, nest loss rates at egg and chick stages. Data are computerised according to priorities for population monitoring and for specific research projects.

Currently the BTO collects a total of more than 30,000 records each year for around 180 species. Typically, there are more than 150 records for 55 species and more than 100 for a further 10–15 species. The quality of records improved substantially in 1990 with the introduction of a new recording card, which promotes greater standardisation and clarity in the information recorded by observers. The general distribution of Nest Record Cards is patchy at the county scale but is more even over larger regions of the UK. Overall, Northern Ireland and parts of Scotland (southeast, Western Isles) and parts of England (west Midlands, southwest) have relatively low coverage, often reflecting observer density. A major analysis of trends over time in various aspects of breeding performance found relatively few differences between major regions in the UK, when analysed using analysis of covariance (Crick *et al.* 1993). Habitat coverage is broad, as the scheme receives records from all the UK's major habitats. Most records come from woodland, farmland and freshwater sites, but the scheme also receives data from scrub, grassland, heathland and coastal areas.

Data analysis

Five different variables were analysed for this report: laying date (where day 1 = January 1); clutch size; brood size; and daily nest failure rates during egg and nestling stages, calculated from the methods of Mayfield (1961, 1975) and Johnson (1979) (see Crick *et al.* 2003 for review).

In order to minimise the incidence of errors and inaccurately recorded nests, a set of rejection criteria was applied to the data: laying date only included cases where precision was within �5 days; clutch size was not estimated for nests which had been visited only once, for nests which were visited when laying could still have been in progress, or for nests which were only visited after hatching; and maximum brood size was calculated only for nests which were observed after hatching. The last variable is an underestimate of brood size at hatching because observers may miss early losses of individual chicks; it differs from clutch size because eggs may be lost during incubation and hatching success may be incomplete.

Daily failure rates of whole nests were calculated using a formulation of **Mayfield's (1961, 1975**) method as a logit-linear model with a binomial error term, in which success or failure over a given number of days (as a binary variable) was modelled, with the number of days over which the nest was

exposed during the egg and nestling periods as the binomial denominator (Crawley 1993, Etheridge *et al.* 1997, Aebischer 1999). Number of exposure days during the egg and nestling periods was calculated as the midpoint between the maximum and minimum possible, given the timing of nest visits recorded on each Nest Record Card (note that exposure days refer only to the time span for which data were recorded for each nest and do not represent the full length of the egg or nestling periods). Each calculation assumes that failure rates were constant during the period considered. Violations of this assumption of the Mayfield method can lead to biased estimates if sampling of nests is uneven over the course of each period. It is unlikely that any such bias would vary from year to year, so although absolute failure rates may be biased, annual comparisons should be unaffected (Crick *et al.* 2003). In this report, therefore, we present only temporal trends in daily nest failure rates.

Statistical analyses of nest record data were undertaken using SAS programs (SAS 1990). Regressions through annual mean laying dates, clutch sizes and brood sizes were weighted by sample size. Nest survival was analysed by logistic regression. Quadratic regressions were used when the inclusion of a quadratic term provided a significant improvement over linear regression. These are described as "curvilinear" in the tables on species pages. Significant linear trends are described as "linear". The best fitting regressions (i.e. quadratic or linear) are presented on the figures in this report. Where neither regression is significant the linear regression line is shown for illustrative purposes.

Results are presented only if the mean sample size of records for a particular variable and species exceeds 10 per year, and are presented with a caveat for small sample sizes if the mean number of records contributing data was between 10 and 30 per year.

Next section – 2.8 The alert system

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CLICK HERE to go to the NRS section of the main BTO website

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2.8 The Alert System

- 2.8.1 General approach
- 2.8.2 Smoothing population trends
- 2.8.3 Years used for analysis
- 2.8.4 Confidence limits and statistical testing
- 2.8.5 Data-deficient species
- 2.8.6 Application to individual schemes

2.8.1 General approach

The alert system used within this report is designed to draw attention to developing population declines that may be of conservation concern, and is described in detail in **Baillie & Rehfisch (2006)**. It also identifies situations where long-term declines have reversed, leading to an improvement in conservation status. It must be stressed that the changes reported here are advisory and do not supersede the agreed UK conservation listings (**Gregory** *et al.* **2002**; see **PSoB** pages). They are based on similar criteria to *The Population Status of Birds in the UK*, however, and so provide an indication of likely changes at future revisions.

The system is based on statistical analyses of the population trend data for individual species. Alerts seek to identify rapid declines (>50%) and moderate declines (>25% but <50%). These declines are measured over a number of time-scales, depending on the availability of data – the full length of the available time series, and the most recent 25 years, 10 years and 5 years for which change can be estimated. The conservation emphasis is particularly on the longer periods, but short-term changes help to separate declines that are continuing – or accelerating – from those that have ceased or reversed.

The alerts are calculated annually using standard automated procedures. Where species are at the margin of two categories (e.g. a decline of about 25%) they may fire alerts in some years but not others, or different levels of alert in different years.

Data on some species might be biased, owing to unrepresentative monitoring, or imprecise, owing to small sample sizes. Because these data often provide the only information that is available, our general approach is to report all the alerts raised but to clearly flag up any deficiencies in the data.

2.8.2 Smoothing population trends

Bird populations show long-term changes that do not follow simple mathematical trajectories. In addition to the long-term trends, unsmoothed population indices also show short-term fluctuations resulting from a combination of natural population variability and statistical error. We use smoothing techniques that aim to extract the long-term pattern of population change, without forcing it to follow any particular shape (such as a straight line or a polynomial curve). These methods remove most of the effects of short-term fluctuations (including any natural year-to-year variability) so that the long-term trend is revealed more clearly.

Technical details available here

2.8.3 Years used for analysis

Once a smoothed population trend has been calculated, change measures are calculated from the ratio of the smoothed population indices for the two years of interest. Population indices for the first and last years of a smoothed time series are less reliable than the others, and so we always drop them before calculating alerts. Because the latest year is not included, the alerts are therefore less up-to-date than they could be, but fewer false alarms are generated. The latest year's data points do contribute to the smoothed curve and are dropped only after the smoothing has taken place.

The time taken to collate and analyse bird monitoring data is another factor affecting the years that can be included in these analyses. Full analyses of data sets are not usually all available until 12–15 months after the end of a particular breeding season. Thus for a report prepared in year X (eg 2005)

we have analyses of monitoring data up to year (X-1) (eg 2004). As we drop the final year of the smoothed time series, we report here on change measures up to year (X-2) (eg 2003).

Long-term changes for most of the species included in this report are calculated from joint Common Birds Census and Breeding Bird Survey data (CBC/BBS indices). The CBC started on farmland in 1962 and on woodland in 1964. However, the early years of the CBC population indices are strongly influenced by the effects of the unusually severe winters of 1961/62 and 1962/63, as well as by developments in methodology (Marchant *et al.* 1990). Therefore joint CBC/BBS indices have been calculated using the data from 1966 onwards and population changes are calculated back to 1967.

2.8.4 Confidence limits and statistical testing

We show 90% confidence limits for population change measures wherever possible. Any decline where the confidence limits do not overlap zero (no change) is regarded as statistically significant and will trigger an alert if it is of sufficient magnitude. Note that, because we are seeking to detect only declines, we are using a one-tailed test – with a P value of 0.05. These confidence limits therefore do not indicate whether increases are statistically significant.

The graphs of population trends show 85% confidence limits because these allow an approximate visual test of whether the difference between the indices for any two given years is statistically significant: if the indices for two given years are assumed independent and normally distributed with standard errors of comparable size (standard errors differing by a factor of up to about 2 are quite acceptable), then to a good approximation the difference between the indices is significant at the 5% level if there is no overlap in their 85% confidence intervals (Buckland *et al.* 1992, Anganuzzi 1993). This test is fairly robust, and the independence assumption is reasonable if the years are some distance apart.

Technical details available here

2.8.5 Data-deficient species

There is uncertainty about the reliability of the results for some species, either because data may be unrepresentative or because they are based on a very small sample of plots. In these cases the cause of the uncertainty is recorded in the comment column of the population change table.

Unrepresentative data

In this report we only present joint UK or England CBC/BBS trends if there was no substantial or statistical difference between the trends from the two schemes over the period when they ran in parallel. Thus the trends are always considered representative of the region concerned.

In previous reports representativeness was assessed using the criteria developed by **Gibbons** *et al.* **(1993)**. Data from the 1988–91 Breeding Atlas were used to compare the average abundance of a given species in 10-km squares with and without CBC plots. If average abundance is higher in squares without CBC plots, it is likely that much of the population is not well sampled by the CBC. In past reports, CBC data for such species were labelled as "unrepresentative". Where there are insufficient data to undertake such calculations, expert opinion was used.

Sample size

Sample size is assessed from the average number of plots contributing to the population indices for a given species in each year. A plot with a zero count would be included provided that the species had been recorded there in at least one year and that records for that plot were available for at least two years. Plots where a species has never been recorded do not enter the index calculations. These average sample sizes are shown in column four (plots) of the population change tables. For CBC, WBS and CES, a mean of between 10 and 19 plots is flagged as a small sample. For BBS indices for individual countries a mean in the range 30–39 plots is flagged as a small sample. UK BBS indices are only presented for samples of at least 40 plots.

2.8.6 Application to individual schemes

Currently the full methodology outlined above is applied to the CBC/BBS and the WBS trends. For the CES scheme and the Heronries census we present annual indices with confidence limits and then fit a

smoothed curve through the annual index values. We do not currently have confidence limits for this smoothed curve. Therefore all alert labels for CES are shown in square brackets. There are no alerts for Grey Heron.

BBS started in 1994 and we do not consider it sufficiently useful with the current time series length to apply the smoothing methods and alerts framework outlined above. Therefore we have simply calculated change measures between the first and last years of the BBS time series based on the standard 'sites x years' model that is used to produce the BBS indices each year.

Technical details available here

Next section - 2.9 Statistical methods used for alerts

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2.9 Statistical methods used for alerts

The **Alert System** page contains a general overview of how the alert system works. More detailed information is given below about the statistical methods used to estimate population indices, population changes and their confidence intervals.

2.9.1 General structure of data and models
2.9.2 Fitting smoothed models
2.9.3 CBC/BBS trends
2.9.4 Waterways Bird Survey
2.9.5 Constant Effort Sites Scheme
2.9.6 Heronries Census

2.9.1 General structure of data

The data for all of the schemes reported here consist of annual counts made over a period of years at a series of sites. They can thus be summarised as a data matrix of sites x years, within which a proportion of the cells contain missing values because not all of the sites are covered every year. Such data can be represented as a simple model:

log (count) = site effect + year effect

Each site has a single site-effect parameter. These site parameters are not usually of biological interest but they are important because abundance is likely to differ between sites. The main parameters of interest are the year effects. These can be modelled either with as many parameters as years (an annual model), or with a smaller number of parameters, representing a smoothed curve.

A simple annual model would be fitted as a generalised linear model with Poisson errors and a log link function. This is the main model provided by the widely used program TRIM (Pannekoek & van Strien 1996).

2.9.2 Fitting smoothed models

Our preferred method for generating a smoothed population trend is to fit a smoothed curve to the data directly using a generalised additive model (GAM) (Hastie & Tibshirani 1990, Fewster *et al.* 2000). Thus the model from the previous section becomes:

log (count) = site effect + smooth (year)

where smooth (year) represents some smooth function of year. It was not straightforward to fit GAMs to the CBC/BBS, CES or Heronries Census data and we have therefore fitted smooth curves with a similar degree of smoothing to the annual indices (details given below).

The non-parametric smooth curve fitted in our models is based on a smoothing spline. The degree of smoothing is specified by the number of degrees of freedom (df). A simple linear trend has df = 1 while the full annual model has df = t-1, where t is the number of years in the time series. Here we set df to be approximately 0.3 times the number of years in the time series (**Fewster** *et al.* 2000). The degrees of freedom used for the main data sets presented in this report are summarised below.

| | Years | Length of time series | df for smoothed index |
|-----------------------|-----------|-----------------------|--------------------------|
| CBC/BBS | 1966–2004 | 40 | 12 |
| Waterways Bird Survey | 1974–2004 | 32 | 10 |
| Constant Effort Sites | 1983–2004 | 23 | 7 |
| Heronries Census | 1928–2004 | 78 | 23 |

Note that the numbers of years shown here are different from those available for calculating change measures, because we use the whole time series available for analysis (i.e. prior to the truncation of end points), and because we count the number of years in the time series rather than the number of

annual change measures.

2.9.3 CBC/BBS trends

The model fitted to these combined data is that historically employed for the BBS, a Generalised Linear Model with counts assumed to follow a Poisson distribution and a logarithmic link function. Standard errors were calculated via a bootstrapping procedure. For presentation in the figures, both the population trend and its confidence limits were also subsequently smoothed using a thin-plate smoothing spline.

2.9.4 Waterways Bird Survey

GAMs were fitted to the WBS data using the approach described above (Fewster *et al.* 2000). Confidence limits were fitted using a bootstrap technique to avoid restrictive assumptions about the distribution of the data. Bootstrap samples were drawn from the data by sampling plots with replacement. We generated 199 bootstrap samples from each data set and fitted a GAM to each of them. Confidence limits for the smoothed population indices (85% cl) and change measures (90% cl) were determined by taking the appropriate percentiles from the distributions of the bootstrap estimates The section on confidence limits and statistical testing (2.8.4) gives the reasons for choosing these particular confidence limits.

The GAMs were fitted using a modified version of the FORTRAN program GAIM (Hastie & Tibshirani 1990).

2.9.5 Constant Effort Sites

Annual indices were fitted to catches of adults and juveniles separately using the method described by **Peach** *et al.* (1998). This is essentially the annual 'sites x years' model described above but with the addition of an offset to correct for missing visits.

Offsets could not easily be incorporated in the GAM software that we have available. Therefore we fitted a smooth curve to the annual indices. This was done using PROC TSPLINE of SAS. This procedure should give very similar estimates to a GAM analysis, but it does not provide confidence intervals for the smoothed population trends, nor for the change measures derived from it. Therefore all alert flags relating to the CES are shown in square brackets.

2.9.6 Heronries Census

The Heronries Census data were analysed using a modified sites x years model based on ratio estimation which incorporates information about new colonies (sites) that have been established and other colonies from the sample that are known to have gone extinct. The method was developed by **Thomas (1993)** specifically in relation to the heronries data set. Since then the heronries database has been substantially upgraded and the method has been applied to the full data set (**Marchant** *et al.* **2004**).

The above method of analysis cannot be easily applied within a GAM framework. Therefore we fitted a smooth curve to the annual indices. This was done using PROC TSPLINE of SAS. This procedure should give very similar estimates to a GAM analysis but it does not provide confidence intervals for the smoothed population trend or the change measures derived from it. This is not a serious limitations as there are no potential alerts for **Grey Heron**, whose populations have generally been increasing.

Section 3 – Species pages

Back to Methodology Index

BBWC Home > Contents > Species List

SPECIES LIST

Jump to

vio Wildfowl Gamebirds Waterbirds Raptors Waders Pigeons Owls Larks Thrushes Warblers Tits Crows Sparrows Finches Buntings

List of species (in BOU taxonomic order)

| WILDFOWL | G |
|----------------------|----|
| Mute Swan | Р |
| Greylag Goose | D |
| Canada Goose | W |
| Shelduck | D |
| Mallard | T |
| Tufted Duck | R |
| Goosander | Ν |
| GAMEBIRDS | R |
| Red Grouse | W |
| Red-legged Partridge | S |
| Grey Partridge | W |
| Pheasant | R |
| WATERBIRDS | В |
| Red-throated Diver | S |
| Little Grebe | M |
| Great Crested Grebe | W |
| Cormorant | С |
| Grey Heron | G |
| RAPTORS | S |
| Hen Harrier | R |
| Sparrowhawk | В |
| Buzzard | G |
| Kestrel | Le |
| Merlin | W |
| Hobby | W |
| Peregrine Falcon | С |
| Moorhen | W |
| Coot | G |
| WADERS | S |
| Oystercatcher | P |
| Ringed Plover | T |
| Golden Plover | Le |
| Lapwing | В |
| Snipe | G |
| Woodcock | С |
| Curlew | W |
| Redshank | M |
| Common Sandpiper | N |
| PIGEONS | Т |
| Feral Pigeon | С |
| Stock Dove | Ja |
| Wood Pigeon | Μ |
| Collared Dove | Ja |

rey Wagtail ied Wagtail ipper **Iren** unnock HRUSHES obin lightingale edstart /hinchat tonechat **/heatear** ling Ouzel lackbird ong Thrush listle Thrush ARBLERS etti's Warbler Frasshopper Warbler edge Warbler eed Warbler lackcap arden Warbler esser Whitethroat Vhitethroat lood Warbler hiffchaff illow Warbler oldcrest potted Flycatcher ied Flycatcher ITS ong-tailed Tit lue Tit Freat Tit oal Tit **/illow Tit** larsh Tit luthatch reecreeper ROWS ay lagpie ackdaw

Turtle Dove Cuckoo **OWLS Barn Owl** Little Owl **Tawny Owl** Nightjar Swift Kingfisher **Green Woodpecker Great Spotted Woodpecker** Lesser Spotted Woodpecker LARKS Woodlark Skylark Sand Martin **Swallow House Martin Tree Pipit Meadow Pipit Yellow Wagtail**

Rook **Carrion Crow Hooded Crow** Raven Starling **SPARROWS House Sparrow Tree Sparrow FINCHES** Chaffinch Greenfinch Goldfinch Siskin Linnet Lesser Redpoll **Bullfinch BUNTINGS** Yellowhammer **Reed Bunting Corn Bunting**

Information to aid interpretation of the pages for individual species can be found on the **Species Help Page**

MUTE SWAN Cygnus olor

Population

changes

 Productivity Additional information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: amber (>20% of European breeding population)

trends

Long-term trend

UK, England: rapid increase

UK population size

28,000-30,000 adults in 1990 (Delany et al. 1992: APEP06); 23,900-25,600 pairs in 2000 (updated using CBC/BBS trend: BiE04); 28,600-35,200 birds in Britain in 2002 (Rowell & Spray 2004)

Status summary

Mute Swan populations, which had been fairly stable since the 1960s, have increased progressively since the mid 1980s, perhaps reflecting warmer winter weather and the replacement of anglers' lead weights, which had earlier caused many casualties, with non-toxic alternatives (Rowell & Spray 2004). WBS plots, likely to be a preferred habitat for breeding swans, show a more moderate rate of increase than CBC/BBS. Winter trends as measured by WeBS have shown a parallel upturn (Banks et al. 2006). The reductions in breeding performance, although statistically significant, may be to some extent artefacts of the relatively small and perhaps unrepresentative annual samples in the 1990s. The recent change of conservation listing from green to amber is unconnected with its UK trend.

Population changes



Table of population changes for Mute Swan

| Source | Period | Years | Plots | Change | Lower | Upper | Alert | Comment |
|-----------------|--------|-----------|-------|--------|-------|-------|-------|------------------|
| | (yrs) | | (n) | (%) | limit | limit | | |
| CBC/BBS England | 37 | 1967-2004 | 59 | 200 | 49 | 545 | | Small CBC sample |
| | | | | | | | | |

| | 25 | 1979-2004 | 81 | 156 | 63 | 303 | Small CBC sample |
|---------------|----|-----------|-----|-----|-----|-----|------------------|
| | 10 | 1994-2004 | 175 | 16 | 1 | 42 | |
| | 5 | 1999-2004 | 194 | 2 | -9 | 19 | |
| CBC/BBS UK | 37 | 1967-2004 | 69 | 228 | 41 | 672 | |
| | 25 | 1979-2004 | 95 | 172 | 72 | 307 | |
| | 10 | 1994-2004 | 205 | 30 | 10 | 66 | |
| | 5 | 1999-2004 | 232 | -2 | -14 | 17 | |
| WBS waterways | 29 | 1975-2004 | 44 | 70 | 15 | 146 | |
| | 25 | 1979-2004 | 46 | 51 | 13 | 112 | |
| | 10 | 1994-2004 | 56 | 24 | 6 | 45 | |
| | 5 | 1999-2004 | 51 | 1 | -11 | 14 | |
| BBS UK | 11 | 1994-2005 | 192 | 26 | 8 | 45 | |
| BBS England | 11 | 1994-2005 | 163 | 6 | -8 | 22 | |



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| Variable | Period | Years | Mean | Trend | Modelled | Modelled | Change | Comment |
|----------|--------|-------|------|-------|----------|----------|--------|---------|
| | | | | | | | | i |

| | (yrs) | | annual sample | | in first year | in 2004 | | |
|--------------------------------|-------|---------------|------------------|--------------------|--------------------|--------------------|-----------------|--------------|
| Clutch size | 36 | 1968- 2004 | 19 | Linear decline | 5.79 eggs | 5.25 eggs | -9.3% | Small sample |
| Brood size | 36 | 1968- 2004 | 33 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 26 | Linear increase | 0.72% nests/day | 2.02% nests/day | 1 80.6 % | Small sample |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 20 | None | | | | Small sample |
| Laying date | 36 | 1968- 2004 | 11 | None | | | | Small sample |





Brood size 1966-2005



Insufficient data on CES available for this species

Additional information

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology •
- **BirdTrack results**

changes

GREYLAG GOOSE Anser anser

 Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: not listed (introduced population); amber (localised NW Scottish population); amber (in winter, localised and >20% of NW European Flyway population)

trends

Long-term trend

UK: rapid increase

UK population size

3,200 indigenous pairs in 1997, and 30,900 introduced adults in 1999 (Mitchell *et al.* 2000, Rehfisch *et al.* 2002, APEP06); 15,600–15,800 pairs in 2000 (BiE04)

Status summary

Apart from a small indigenous population in northwest Scotland and the Western Isles, and winter visitors mainly from Iceland, the Greylag Goose is an introduced species throughout the UK. Introduced Greylags have increased very rapidly, at a rate estimated at 12% per annum in southern Britain between the 1988–91 Atlas period and 1999 (**Rehfisch** *et al.* **2002**). The WBS sample became large enough for annual monitoring in 1992, since when further steep increase has been recorded along linear waterways. Annual breeding-season monitoring in a wider range of habitats through BBS has shown similar strong increases. Winter counts confirm that the introduced population is likely to be already much larger than the latest agreed population size estimates from 1999 and 2000 (Banks *et al.* 2006).

Population changes





Years Plots Change

Upper Alert Comment

Lower



Period
| | (yrs) | | (n) | (%) | limit | limit | |
|---------------|-------|-----------|-----|-----|-------|-------|--------------|
| WBS waterways | 11 | 1993-2004 | 12 | 326 | 66 | 890 | Small sample |
| | 10 | 1994-2004 | 12 | 226 | 32 | 696 | Small sample |
| | 5 | 1999-2004 | 12 | 95 | 2 | 227 | Small sample |
| BBS UK | 11 | 1994-2005 | 107 | 255 | 183 | 345 | |
| BBS England | 11 | 1994-2005 | 86 | 56 | 25 | 95 | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

CANADA GOOSE Branta canadensis

 Population changes Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: not listed (introduced)

• Productivity

trends

Long-term trend

UK: rapid increase

UK population size

82,550 adults in 1999 (Rehfisch et al. 2002: APEP06)

Status summary



Canada Geese have increased rapidly, at a rate estimated at 9.9% per annum in southern Britain between the 1988–91 Atlas period and 1999 (**Rehfisch et al. 2002**). The WBS sample became large enough for annual monitoring in 1980, since when further, apparently accelerating, increase on linear waterways has been recorded. Annual breeding-season monitoring in a wider range of habitats through BBS has shown similar strong increases in England and in the UK as a whole. Winter monitoring by WeBS shows a continuing long-term increase (**Banks et al. 2006**).

Population changes



Table of population changes for Canada Goose

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|---------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| WBS waterways | 23 | 1981-2004 | 30 | 111 | 1 | 632 | | |
| | 10 | 1994-2004 | 38 | 140 | 62 | 290 | | |
| | 5 | 1999-2004 | 36 | 43 | 14 | 95 | | |
| BBS UK | 11 | 1994-2005 | 346 | 153 | 123 | 187 | | |
| BBS England | 11 | 1994-2005 | 324 | 144 | 115 | 177 | | |

Canada Goose

Waterways Bird Survey 1980-2005



Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

SHELDUCK *Tadorna tadorna* • Population changes • Productivity trends

Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: amber (localised in winter, >20% of NW European population in winter)

Long term-trend

UK: rapid increase

UK population size

10,900 pairs in 1990 (1988–91 Atlas: **APEP06**); 5,800– 10,800 pairs in 2000 (updated using CBC and BBS trends: **BiE04**)

Status summary

Shelducks occurred on relatively few CBC plots, most of which were close to a coast or an estuary, and it is unclear how well the CBC trend represented that of the UK breeding population. The CBC showed a substantial increase from the mid 1960s until the early 1980s, some decrease during the 1980s, and stability during the 1990s, although the wide confidence intervals provide scope for other interpretations. Population increase was associated with expansion of range, measured as an additional 20% of occupied 10-km squares in Britain between 1968–72 and 1988–91 (Gibbons *et al.* 1993). The UK winter Shelduck population rose during the 1960s and 1970s, alongside the rise in breeding numbers, but has been falling again since the mid 1990s (Banks *et al.* 2006). The BBS index is affected by occasional large counts, and as a result is difficult to interpret.

Population changes



Table of population changes for Shelduck

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|------------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|--------------|
| CBC all habitats | 31 | 1968-1999 | 18 | 300 | 94 | 787 | | Small sample |
| | | | | | | | | |



| | 25 | 1974-1999 | 21 | 12 | -40 | 118 | |
|-------------|----|-----------|-----|-----|-----|-----|--|
| | 10 | 1989-1999 | 21 | 3 | -21 | 40 | |
| | 5 | 1994-1999 | 23 | 4 | -18 | 39 | |
| BBS UK | 11 | 1994-2005 | 120 | 59 | 36 | 87 | |
| BBS England | 11 | 1994-2005 | 98 | 175 | 130 | 229 | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

MALLARD Anas platyrhynchos

 Population changes

 Productivity Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

trends

Long-term trend

UK, England: rapid increase

UK population size

50,400-127,100 pairs in 1990 (1988-91 Atlas: APEP06); 63,000–158,900 pairs in 2000 (updated using CBC/BBS trend: BiE04)

Status summary



The Mallard has increased steadily as a breeding bird in the UK since the 1960s, and especially in England, a trend to which ongoing large-scale releases for shooting may have contributed (Marchant et al. 1990). Mallards originating from domesticated birds and not resembling wild-type birds in either plumage or behaviour are very abundant but perhaps under-represented in survey data, especially since many individuals appear to be semicaptive. A large part of the increase in breeding numbers may be attributable to such birds, rather than to truebred stock. Winter populations have declined since the late 1980s (Banks et al. 2006), linked apparently to a decrease in continental immigration (Mitchell et al. 2002).

Population changes



Table of population changes for Mallard

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 310 | 212 | 141 | 285 | | |
| | 25 | 1979-2004 | 418 | 56 | 34 | 87 | | |
| | 10 | 1994-2004 | 892 | 34 | 25 | 42 | | |

| | 5 | 1999-2004 | 978 | 13 | 8 | 19 | |
|---------------|----|-----------|------|-----|-----|-----|--|
| CBC/BBS UK | 37 | 1967-2004 | 368 | 177 | 96 | 263 | |
| | 25 | 1979-2004 | 499 | 46 | 24 | 76 | |
| | 10 | 1994-2004 | 1067 | 24 | 14 | 34 | |
| | 5 | 1999-2004 | 1170 | 7 | 1 | 11 | |
| WBS waterways | 29 | 1975-2004 | 60 | 176 | 96 | 280 | |
| | 25 | 1979-2004 | 58 | 133 | 68 | 207 | |
| | 10 | 1994-2004 | 40 | 11 | -4 | 24 | |
| | 5 | 1999-2004 | 68 | -3 | -10 | 4 | |
| BBS UK | 11 | 1994-2005 | 1013 | 25 | 17 | 33 | |
| BBS England | 11 | 1994-2005 | 844 | 30 | 22 | 40 | |
| BBS Scotland | 11 | 1994-2005 | 87 | 15 | -10 | 47 | |
| BBS Wales | 11 | 1994-2005 | 58 | -22 | -42 | 4 | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

TUFTED DUCK Aythya fuligula • Population changes • Productivity trends • Population listings Europe: SPEC category 3 (declining) UK: green Long-term trend UK: shallow increase

UK population size

7,000–8,000 pairs in GB in 1979–83 (**Owen** *et al.* **1986: APEP06**); 10,200–11,500 pairs in UK in 2000 (1988–91 Atlas estimate updated using WBS trend: **BiE04**)



Status summary

The colonisation of the UK by Tufted Ducks, which began in 1849, was aided by the spread of the zebra mussel *Dreissena polymorpha*, which had been introduced accidentally to Britain a few decades earlier. The long-term shallow increase shown by WBS, and the 15% increase in range in Britain between the two atlas periods (Gibbons *et al.* 1993) may indicate that population expansion and in-filling of range are still occurring. BBS data suggest significant further increase since 1994, in England and in the UK as a whole. The species' winter trend in the UK since the 1960s, which includes many continental visitors, is also shallowly upward overall (Banks *et al.* 2006). In contrast, moderate recent declines elsewhere in northern Europe have resulted in reclassification as a species of conservation concern.

Population changes



Table of population changes for Tufted Duck

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|---------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| WBS waterways | 29 | 1975-2004 | 23 | 40 | -35 | 210 | | |
| | 25 | 1979-2004 | 24 | 20 | -42 | 139 | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrtufdu.shtml[5/10/2017 10:50:19 AM]

| | 10 | 1994-2004 | 25 | 34 | -20 | 106 | |
|-------------|----|-----------|-----|----|-----|-----|--|
| | 5 | 1999-2004 | 20 | 2 | -32 | 43 | |
| BBS UK | 11 | 1994-2005 | 127 | 38 | 13 | 68 | |
| BBS England | 11 | 1994-2005 | 110 | 41 | 17 | 71 | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

GOOSANDER Mergus merganser

 Population changes

 Productivity Additional trends

information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

Long-term trend

UK: rapid increase

UK population size

2,600 (2,300-2,900) pairs in 1987 (Gregory et al. 1997: APEP06); 2,900-3,600 pairs in 2000 (updated using WBS trend: **BiE04**)

Status summary



Goosanders were first discovered to have colonised the UK in Perthshire in 1871, and spread from Scotland into northern England in the 1940s (Holloway 1996). Between the two breeding atlases, the species expanded its range in northern England, and colonised Wales and southwest England. WBS samples became large enough for annual monitoring in 1980, and have shown sustained population increase. The BTO's two national surveys of sawbills demonstrated an average increase in population size of 3% per annum between 1987 and 1997 (Rehfisch et al. 1999). Reasons for the colonisation of the UK, and the subsequent range expansion and population increase, are unknown. The species' winter trend in Britain, comprising British breeders and continental visitors, rose at an accelerating rate from the late 1960s to the mid 1990s, but has since entered a decline (Banks et al. 2006).

Population changes



Table of population changes for Goosander

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|---------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| WBS waterways | 23 | 1981-2004 | 23 | 104 | 5 | 269 | | |
| | | | | | | | | |

| 10 | 1994-2004 | 27 | 14 | -23 | 47 | |
|----|-----------|----|----|-----|----|--|
| 5 | 1999-2004 | 25 | 18 | -8 | 44 | |

Productivity trends

Productivity information is not currently available for this species

- Distribution maps for this species are not currently available online (see Atlases species help)
- BirdFacts page on species biology
- BirdTrack results

changes

RED GROUSE Lagopus lagopus

 Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: amber (25–50% population decline) UK Biodiversity Action Plan: in preparation

trends

Long-term trend

UK: decline

UK population size

155,000 pairs in 2000 (1988–91 Atlas estimate updated using GCT gamebag data: **BiE04**, **APEP06**)

Status summary



The distinctive dark-winged race *scotica* is endemic to Britain and Ireland and has the vast bulk of its population within the UK. BBS shows no overall trend since 1994. Shooting bags have revealed long-term declines, apparently driven by loss of heather moorland, increased predation from corvids and foxes, and an increasing incidence of viral disease (Hudson 1992, Newton 2004), which have prompted the move of the species from the Green to the Amber List. Raptor predation is believed not to affect breeding populations significantly, although it can reduce numbers in the post-breeding period (Redpath & Thirgood 1997). Longer-term trends in Red Grouse abundance are overlain by cycles, with periods that vary regionally, linked to the dynamics of infection by a nematode parasite (Dobson & Hudson 1992, Gibbons *et al.* 1993).

Population changes



Table of population changes for Red Grouse

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| BBS UK | 11 | 1994-2005 | 102 | -15 | -32 | 6 | | |
| BBS England | 11 | 1994-2005 | 44 | -13 | -32 | 12 | | |
| | | | | | | | | |

BTO - Breeding Birds of the Wider Countryside: Red Grouse



Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

RED-LEGGED PARTRIDGE Alectoris rufa • Population • Productivity • Additional

trends

information

Conservation listings

Europe: SPEC category 2 (declining) UK: not listed (introduced)

Long-term trend

changes

UK, England: shallow decline

UK population size

72,000–200,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary

Since Red-legged Partridge is a non-native species released in the UK to be shot by hunters, the BTO alerts generated over the recent 25-year period raise no conservation concern. Moreover, BBS data indicate that significant increase has occurred in the UK since 1994. Since 1990, **game-bag data** show that the numbers released per unit area onto shooting estates have more than doubled since 1990, and the number shot has also about doubled, both as parts of long-term trends evident since the 1960s.

Population changes



Table of population changes for Red-legged Partridge

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 139 | -19 | -51 | 18 | | |
| | 25 | 1979-2004 | 191 | -39 | -60 | -18 | >25 | |
| | 10 | 1994-2004 | 422 | 20 | 9 | 33 | | |
| | 5 | 1999-2004 | 458 | 22 | 16 | 31 | | |
| CBC/BBS UK | 37 | 1967-2004 | 141 | -17 | -44 | 15 | | |
| | | | | | | | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrrelpa.shtml[5/10/2017 10:50:23 AM]

BTO - Breeding Birds of the Wider Countryside: Red-legged Partridge

| | 25 | 1979-2004 | 194 | -38 | -56 | -16 | >25 | |
|-------------|----|-----------|-----|-----|-----|-----|-----|--|
| | 10 | 1994-2004 | 429 | 24 | 14 | 40 | | |
| | 5 | 1999-2004 | 468 | 23 | 16 | 35 | | |
| BBS UK | 11 | 1994-2005 | 421 | 55 | 40 | 72 | | |
| BBS England | 11 | 1994-2005 | 413 | 49 | 34 | 65 | | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

GREY PARTRIDGE Perdix perdix • Population changes • Productivity trends

Conservation listings

Europe: SPEC category 3 (vulnerable) UK: red (>50% population decline) **UK Biodiversity Action Plan: click here**

Long-term trend

UK, England: rapid decline

UK population size

70,000–75,000 pairs in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary

This species has declined enormously, probably because of the effects of agricultural intensification (specifically herbicides) on the food plants of young chicks' insect prey (Potts 1986). Despite years of research and the application of a government Biodiversity Action Plan (Aebischer & Ewald 2004), the continuing decline shown by CBC/BBS suggests that efforts to boost the population have not yet been successful. Local extinctions are now likely to be widespread, but hidden in some areas by continuing releases of hand-reared birds onto shooting estates.

Additional

information

Population changes



Table of population changes for Grey Partridge

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|------------------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 99 | -87 | -91 | -82 | >50 | |
| | 25 | 1979-2004 | 113 | -85 | -89 | -82 | >50 | |
| | 10 | 1994-2004 | 212 | -35 | -44 | -24 | >25 | |
| | 5 | 1999-2004 | 182 | -7 | -21 | 3 | | |
| | | | | | | | | |

BTO - Breeding Birds of the Wider Countryside: Grey Partridge

| CBC/BBS UK | 37 | 1967-2004 | 111 | -87 | -91 | -82 | >50 | |
|-------------|----|-----------|-----|-----|-----|-----|-------|--|
| | 25 | 1979-2004 | 127 | -85 | -90 | -82 | >50 | |
| | 10 | 1994-2004 | 238 | -39 | -48 | -30 | >25 | |
| | 5 | 1999-2004 | 203 | -14 | -27 | -3 | | |
| BBS UK | 11 | 1994-2005 | 215 | -40 | -49 | -29 | (>25) | |
| BBS England | 11 | 1994-2005 | 190 | -39 | -48 | -27 | (>25) | |

The Breeding Bird Survey is jointly



Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

PHEASANT Phasianus colchicus

 Population changes

 Productivity Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: not listed (introduced)

trends

Long-term trend

England: moderate increase

UK population size

1,800,000-1,900,000 females in 2000 (Robertson et al. 1989, updated using CBC/BBS trend: BiE04, APEP06)

Status summary



Pheasants have increased in abundance since the 1960s, at a rate that appears to be accelerating, but it must be noted that numbers of this introduced gamebird are determined principally by releases of reared birds for shooting (Marchant et al. 1990). The Game Conservancy Trust estimates that about 20-22 million birds are released in the UK each autumn, a figure that has increased approximately four-fold since the mid 1960s (Tapper 1999). More than two million newly released birds are expected to survive until spring, when they must form the major part of the breeding population. The BBS records increase in England and Wales, but little change in Scotland since 1994. During 1968–88, a period when the total biomass of birds in Britain fell by an estimated 10%, CBC data indicate that Pheasant biomass rose by about 2,500 tonnes - more than ten times more than any other species (Dolton & Brooke 1999). High Pheasant densities potentially have negative effects, that have not been adequately studied, on native UK birds: these include the effect on the structure of the field layer, the spread of disease and parasites, and competition for food (Fuller et al. 2005).

Population changes



Table of population changes for Pheasant

| Source | Period | Years | Plots | Change | Lower | Upper | Alert | Comment |
|--------|--------|-------|-------|--------|-------|-------|-------|---------|
| | (yrs) | | (n) | (%) | limit | limit | | |

| CBC/BBS England | 37 | 1967-2004 | 405 | 91 | 51 | 184 | |
|-----------------|----|-----------|------|-----|-----|-----|--|
| | 25 | 1979-2004 | 554 | 87 | 54 | 139 | |
| | 10 | 1994-2004 | 1215 | 33 | 25 | 40 | |
| | 5 | 1999-2004 | 1321 | 27 | 21 | 32 | |
| BBS UK | 11 | 1994-2005 | 1370 | 32 | 25 | 38 | |
| BBS England | 11 | 1994-2005 | 1156 | 39 | 32 | 46 | |
| BBS Scotland | 11 | 1994-2005 | 104 | -10 | -26 | 9 | |
| BBS Wales | 11 | 1994-2005 | 74 | 42 | 16 | 75 | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

RED-THROATED DIVER Gavia stellata • Population • Productivity • A

trends

changes

y • Additional information

Conservation listings

Europe: SPEC category 3 (depleted) UK: amber (25–50% population decline)

Long-term trend

Shetland: moderate decline

UK population size

935–1,500 pairs in 1994 (Gibbons *et al.* 1997: BiE04, APEP06)

Status summary



Population trends are not monitored by the BTO, but JNCC's **Seabird Monitoring Programme** shows that numbers at sample study areas in Shetland fluctuated without long-term change during 1980–2005, with low points in 1980, 2000 and 2004 (Mavor *et al.* 2006). Complete surveys of Shetland indicated a decrease of 36% there between 1983 and 1994, however (Gibbons *et al.* 1997). Since in 1994 Shetland held 28–45% of the total UK population, this warrants amber listing for Red-throated Diver, in addition to its depleted status in Europe as a whole. Since the 1980s, there may have been some tendency for more pairs to hatch a second chick, although two-chick broods are only occasional in Orkney and the proportion of nest records from there could have changed over time.

Population changes

Annual breeding population changes are not currently monitored by BTO for this species

Productivity trends

Table of productivity changes for Red-throated Diver

| Variable | Period | Years | Mean | Trend | Modelled | Modelled | Change | Comment |
|-----------------------------|--------|-----------|--------|-------|---------------|----------|--------|--------------|
| | (yrs) | | annual | | in first year | in 2004 | | |
| | | | Sample | | | | | |
| Clutch size | 24 | 1980-2004 | 23 | None | | | | Small sample |
| Brood size | 24 | 1980-2004 | 36 | None | | | | |
| Daily failure rate (eggs) | 24 | 1980-2004 | 13 | None | | | | Small sample |
| Daily failure rate (chicks) | 24 | 1980-2004 | 19 | None | | | | Small sample |









- Distribution maps for this species are not currently available online (see Atlases species help)
- BirdFacts page on species biology

LITTLE GREBE Tachybaptus ruficollis

 Population changes • Productivity trends

 Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

Long-term trend

UK: uncertain

UK population size

5,900–12,000 pairs in 1990 (1988–91 Atlas: **APEP06**); 3,800–13,000 pairs in 2000 (updated using CBC and WBS trends: **BiE04**)

Status summary



The rapid decline shown by the WBS may reveal problems among birds on linear waterways during the early 1980s and since the late 1990s, while shallow increases shown by the CBC and by BBS may suggest that wider populations (including birds on small still waters) are healthy. Because of the shortage of data, and the conflict between WBS and BBS assessments, the rapid decline indicated by WBS has not triggered a conservation listing. In an analysis of nest record cards, Moss & Moss (1993) found that nests on ponds and lakes were significantly more successful than those on rivers and streams and that nests on rivers, subject to fluctuating water levels, experienced significantly higher failure rates through flooding than those on canals, where water levels are artificially maintained. Winter numbers, monitored by WeBS, have shown sustained shallow increase (Banks *et al.* 2006).

Population changes



Table of population changes for Little Grebe

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|---------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|--------------|
| WBS waterways | 29 | 1975-2004 | 17 | -73 | -89 | -36 | >50 | Small sample |
| | 25 | 1979-2004 | 17 | -80 | -91 | -54 | >50 | Small sample |

| | 10 | 1994-2004 | 15 | -56 | -74 | -33 | >50 | Small sample |
|-------------|----|-----------|----|-----|-----|-----|-----|--------------|
| | 5 | 1999-2004 | 12 | -36 | -55 | -9 | >25 | Small sample |
| BBS UK | 11 | 1994-2005 | 55 | 56 | 15 | 113 | | |
| BBS England | 11 | 1994-2005 | 45 | 69 | 18 | 141 | | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

GREAT CRESTED GREBE Podiceps cristatus

 Population changes

 Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

Productivity

trends

Long-term trend

UK: probable increase

UK population size

9,400 adults in 1990 (1988–91 Atlas: **APEP06**); 6,100 pairs in 2000 (updated using BBS trend: **BiE04**)

Status summary

This species was believed to be on the verge of extinction in Britain around 1860, when only 32–72 pairs were known in England (Holloway 1996). A subsequent increase followed reductions in persecution, aided by statutory protection, and the creation of habitat in the form of gravel pits (Gibbons *et al.* 1993). Increase was tracked by special surveys to around 7,000 adult birds in Britain by 1975 (Hughes *et al.* 1979). The BBS provides the first annual, national monitoring of this species and indicates shallow increase since 1994. Winter numbers, monitored by WeBS, have shown sustained shallow increase (Banks *et al.* 2006).

Population changes



Table of population changes for Great Crested Grebe

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| BBS UK | 11 | 1994-2005 | 59 | 7 | -18 | 41 | | |
| BBS England | 11 | 1994-2005 | 54 | -9 | -32 | 20 | | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

CORMORANT

Phalacrocorax carbo

 Population changes Productivity trends Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe)

UK: amber (breeding localised, >20% of European population in winter)

Long-term trend

UK: increase

UK population size

9,018 pairs in 1998–2002 (Mitchell *et al.* 2004: APEP06, 9,100 including Channel Islands **BiE04**)

Status summary



The Cormorant was almost exclusively a coastal breeder in the UK until 1981, but has since established colonies in many inland areas of eastern and central England (Rehfisch *et al.* 1999; Newson *et al.* 2006). Breeding numbers and productivity at sample colonies have been monitored annually since 1986 by JNCC's Seabird Monitoring Programme. Overall in Britain and Ireland there was a 15% increase in the population between full surveys in 1985–88 and 1998–2002 (Mitchell *et al.* 2004). Latest annual results show decreases in Scotland and in northeast and southwest England since the early or mid 1990s, but no trend in Wales, and steep increases inland in England and in regions bordering the northern part of the Irish Sea (Mavor *et al.* 2006). By 2005, breeding had been recorded at 58 inland sites, and the inland population had risen to about 2,130 pairs (Newson *et al.* in press). Inland breeding in England is thought to have been sparked by birds of the continental race *sinensis* from the Netherlands and Denmark, although many nominate *carbo* from coastal colonies in Wales and England have contributed to its development. The winter trend in Britain, comprising British and Irish breeders and continental visitors, has shown strong increase since the late 1980s (Banks *et al.* 2006). The species has recently been moved from the green to the amber list, for reasons unconnected with its UK trend.

Population changes



Table of population changes for Cormorant

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|-----------------------|
| BBS UK | 11 | 1994-2005 | 175 | 22 | 4 | 43 | | Non-breeders included |
| BBS England | 11 | 1994-2005 | 143 | 42 | 19 | 68 | | Non-breeders included |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results



UK: stable (between 1988-89 and 1998)

UK population size

570 (500–640) territorial pairs in 1998 (**Sim** *et al.* **2001**: **BiE04**, **APEP06**)

Status summary



Listed because of substantial declines over the last two centuries, this species has suffered from loss of habitat as forestry plantations have matured (Bibby & Etheridge 1993) but more especially from continuing illegal persecution on grouse moors (Etheridge *et al.* 1997). The UK population was unchanged between surveys in 1988–89 and 1998, with declines in Orkney and England but increases in Northern Ireland and the Isle of Man (Sim *et al.* 2001). A decrease of 70% in the Orkney population over the last 20 years has been linked to reductions in the area of unmanaged grassland (Amar & Redpath 2005); the demographic drivers of this decline have been a decrease in polygyny and reduced nesting success among secondary females (Amar *et al.* 2005). Although average clutch size has declined substantially since the mid 1980s, further investigation has shown that this trend is due to the increased proportions in recent years of records from Orkney, where clutch sizes tend to be smaller than on the mainland (Summers 1998, Crick 1998).

Population changes

Annual breeding population changes for this species are not currently monitored by BTO

Productivity trends

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|-----------------------------|-----------------|-----------|--------------------------|-------------|---------------------------|---------------------|--------|--------------|
| Clutch size | 36 | 1968-2004 | 13 | Curvilinear | 5.49 eggs | 4.68 eggs | -14.8% | Small sample |
| Brood size | 36 | 1968-2004 | 19 | None | | | | Small sample |
| Daily failure rate (eggs) | 36 | 1968-2004 | 11 | None | | | | Small sample |
| Daily failure rate (chicks) | 36 | 1968-2004 | 14 | None | | | | Small sample |

Table of productivity changes for Hen Harrier



Brood size 1966—2005 Hen Harrier





- Distribution maps for this species are not currently available online (see Atlases species help)
- BirdFacts page on species biology
- BirdTrack results

SPARROWHAWK Accipiter nisus

changes

 Productivity trends Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

Long-term trend

England: rapid increase

UK population size

40,100 pairs in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



Sparrowhawks increased strongly in the UK as the population recovered from the crash caused by organochlorine pesticides in the 1950s and 1960s (Newton 1986). The species became common enough on CBC plots for annual monitoring in the early 1970s, and many former haunts especially in the Midlands and east of England were reoccupied between the two atlas periods (Gibbons *et al.* 1993). Improving breeding performance is likely to have contributed to this remarkable period of success: failure rates at the egg stage (c.44 days from laying the first egg) fell markedly from high initial values, and brood sizes increased throughout. The population has stabilised since the mid 1990s and, possibly through the effects of interspecific competition, average brood size has begun to drop again.

Population changes



Table of population changes for Sparrowhawk

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 29 | 1975-2004 | 115 | 172 | 72 | 447 | | |
| | 25 | 1979-2004 | 129 | 92 | 35 | 164 | | |
| | 10 | 1994-2004 | 266 | -2 | -11 | 12 | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrsparr.shtml[5/10/2017 10:50:33 AM]

| | 5 | 1999-2004 | 270 | -1 | -7 | 10 | |
|-------------|----|-----------|-----|----|-----|----|--|
| BBS UK | 11 | 1994-2005 | 288 | -2 | -15 | 13 | |
| BBS England | 11 | 1994-2005 | 240 | -2 | -16 | 14 | |



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Productivity trends

Table of productivity changes for Sparrowhawk

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|--------|-----------------|
| Clutch size | 36 | 1968- 2004 | 39 | None | | | | |
| Brood size | 36 | 1968- 2004 | 76 | Curvilinear | 3.12 chicks | 3.55 chicks | 14% | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 36 | Linear decline | 0.47% nests/day | 0.1% nests/day | -78.7% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 51 | None | | | | |
| Laying date | 36 | 1968- 2004 | 15 | None | | | | Small sample |





Insufficient data on CES available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

BUZZARD Buteo buteo

 Population changes Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

Productivity

trends

Long-term trend

UK, England: rapid increase

UK population size

31,100–44,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**); 44,000–61,000 territorial pairs in GB in 2001 (Clements 2002)



Status summary

The Common Buzzard has shown a substantial eastward range expansion since the 1988–91 Atlas, and is arguably now the most abundant diurnal raptor in Britain (Clements 2002). The increasing trend identified by the CBC relates especially to the spread of range into central and eastern Britain, where CBC was more strongly represented. The upsurge has, however, if anything, been ampified by the addition of the more geographically representative BBS data since 1994. The increase has been associated with improving nesting success, perhaps through reduced persecution, the recovery of rabbit populations from the effects of myxomatosis and release from the deleterious effects of organochlorine pesticides (Elliott & Avery 1991, Clements 2002). Numbers have risen widely in Europe since 1980 (PECBM 2006).

Population changes



Table of population changes for Buzzard

| Source | Period | Years | Plots | Change | Lower | Upper | Alert | Comment |
|--------|--------|-------|-------|--------|-------|-------|-------|---------|
| | (yrs) | | (n) | (%) | limit | limit | | |

BTO - Breeding Birds of the Wider Countryside: Buzzard

| CBC/BBS England | 37 | 1967-2004 | 99 | 416 | 227 | 1005 | Small CBC sample |
|-----------------|----|-----------|-----|-----|-----|------|------------------|
| | 25 | 1979-2004 | 143 | 313 | 174 | 666 | |
| | 10 | 1994-2004 | 335 | 95 | 69 | 124 | |
| | 5 | 1999-2004 | 425 | 29 | 21 | 41 | |
| CBC/BBS UK | 37 | 1967-2004 | 169 | 427 | 224 | 1560 | |
| | 25 | 1979-2004 | 244 | 249 | 142 | 508 | |
| | 10 | 1994-2004 | 578 | 71 | 53 | 84 | |
| | 5 | 1999-2004 | 722 | 18 | 10 | 26 | |
| BBS UK | 11 | 1994-2005 | 582 | 60 | 46 | 76 | |
| BBS England | 11 | 1994-2005 | 337 | 94 | 72 | 119 | |
| BBS Scotland | 11 | 1994-2005 | 106 | 50 | 17 | 91 | |
| BBS Wales | 11 | 1994-2005 | 122 | 15 | -5 | 39 | |



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Productivity trends

Table of productivity changes for Buzzard

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|----------|-----------------|-------|--------------------------|-------|---------------------------|---------------------|--------|---------|
|----------|-----------------|-------|--------------------------|-------|---------------------------|---------------------|--------|---------|

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrbuzza.shtml[5/10/2017 10:50:33 AM]

BTO - Breeding Birds of the Wider Countryside: Buzzard

| Clutch size | 36 | 1968- 2004 | 31 | None | | | | |
|--------------------------------|----|---------------|----|-------------------|--------------------|--------------------|--------|-----------------|
| Brood size | 36 | 1968- 2004 | 89 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 25 | Linear decline | 0.66% nests/day | 0.15% nests/day | -77.3% | Small sample |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 44 | None | | | | |



- Distribution maps for this species are not currently available online (see Atlases species help)
- BirdFacts page on species biology
- BirdTrack results


UK population size

36,800 pairs in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary

Kestrels had recovered from the lethal and sublethal effects of organochlorine pesticides by the mid 1970s, the recovery probably driven by improving nesting success, but subsequently entered a decline which has been linked to the effects of agricultural intensification on farmland habitats and their populations of small mammals (Gibbons *et al.* 1993). BBS data reveal limited recovery of the population over the last five years. The failure rate at the egg stage (c.28 days from laying the first egg) has declined substantially since the 1970s; brood sizes increased up to 1990, but a subsequent decline has resulted in the addition of Kestrel to the NRS Concern List (Leech *et al.* 2006b).

Population changes



Table of population changes for Kestrel

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|------------------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 190 | 9 | -19 | 61 | | |
| | 25 | 1979-2004 | 246 | -25 | -44 | -7 | >25 | |
| | 10 | 1994-2004 | 503 | 0 | -10 | 7 | | |
| | 5 | 1999-2004 | 509 | 11 | 5 | 20 | | |
| BBS UK | 11 | 1994-2005 | 545 | -18 | -26 | -9 | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrkestr.shtml[5/10/2017 10:50:36 AM]

| BBS England | 11 | 1994-2005 | 470 | -5 | -15 | 5 | | |
|--------------|----|-----------|-----|-----|-----|-----|-------|--|
| BBS Scotland | 11 | 1994-2005 | 41 | -48 | -65 | -24 | (>25) | |



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Productivity trends

Table of productivity changes for Kestrel

| Variable | Period (yrs) | Years | Mean annual | Trend | Modelled in first | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|----------------|-------------------|----------------------|---------------------|---------|-----------------|
| | | | sample | | year | | | |
| Clutch size | 36 | 1968- 2004 | 53 | None | | | | |
| Brood size | 36 | 1968- 2004 | 113 | Curvilinear | 3.75 chicks | 3.92 chicks | 4.4% | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 40 | Linear decline | 0.6% nests/day | 0.08% nests/day | -86.7% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 63 | None | | | | |
| Laying date | 36 | 1968- 2004 | 21 | Curvilinear | May 2 | Apr 26 | -6 days | Small sample |







- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results





Having declined substantially over the past two centuries, Merlin shows indications of a recent doubling of population (**Rebecca & Bainbridge 1998**). This increase may be associated with an increased use of forest edge as a nesting habitat (**Parr 1994**). Because of its recent population upturn, the species has been moved from the red to the amber list. It remains much too scarce, however, for annual population monitoring. Breeding performance has tended to improve since the 1960s, probably linked to the declining influence of organochlorine pesticides (**Crick 1993**).

Population changes

Annual breeding population changes for this species are not currently monitored by BTO

Productivity trends

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|--------|-----------------|
| Clutch size | 36 | 1968- 2004 | 40 | None | | | | |
| Brood size | 36 | 1968- 2004 | 58 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 28 | None | | | | Small sample |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 30 | Linear decline | 1.06% nests/day | 0.22% nests/day | -79.2% | Small sample |

Table of productivity changes for Merlin







Insufficient data on laying date available for this species

Insufficient data on CES available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

HOBBY *Falco subbuteo* • Population changes • Productivity trends

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

Additional

information

Long-term trend

UK: increase

UK population size

2,200 pairs in 2000 (Clements 2001: BiE04, APEP06)

Status summary



This species cannot be monitored by any of the standard monitoring schemes, due to its low population density and unobtrusive habits. Many sightings must refer to migrants, first-summer non-breeders, or to breeding birds from distant nests, and do not help to establish whether nesting occurs in that locality. The Rare Breeding Birds Panel collects annual data, which under-represent the true population to unknown degrees, but adequately establish the long-term upward trend. The Hobby's distribution has spread markedly northwards in England since the 1970s (Gibbons *et al.* 1993), perhaps linked to increases in its dragonfly prey supplies (Prince & Clarke 1993) and a decreasing dependency on its traditional heathland habitat, but the reasons underlying the increase are still only speculative (Clements 2001). The small annual samples of nest record cards indicate no change in either brood size or nest success.

Population changes

Annual breeding population changes for this species are not currently monitored by BTO

Productivity trends

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|-----------------------------|-----------------|-----------|--------------------------|-------|---------------------------|---------------------|--------|--------------|
| Brood size | 36 | 1968-2004 | 17 | None | | | | Small sample |
| Daily failure rate (chicks) | 36 | 1968-2004 | 10 | None | | | | Small sample |

Table of productivity changes for Hobby



Insufficient data on laying date available for this species

Insufficient data on CES available for this species

- Distribution maps for this species are not currently available online (see Atlases species help)
- BirdFacts page on species biology
- BirdTrack results

PEREGRINE FALCON Falco peregrinus

 Population changes

 Productivity Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: amber (European status)

trends

Long-term trend

UK, England: increase Northwest Scotland: decline since 1991

UK population size

1,283 pairs in 1991 (Crick & Ratcliffe 1995: APEP06); 1,400 pairs in 2002 (Banks et al. 2003: BiE04)

Status summary



The UK population size, distribution and breeding performance have all largely recovered from the detrimental effects of organochlorine pesticides in the 1950s and 1960s. Populations and breeding performance have declined recently, however, in northwest Scotland and the Northern Isles (Crick & Ratcliffe 1995), and nest record information for the UK as a whole shows a significant decline in clutch size, although samples for the first ten years are small. The number of UK breeding pairs has been censused every ten years since 1961 by BTO/JNCC/RSPB/Raptor Study Groups, and has been estimated as follows: 1961 - 385 pairs; 1971 - 489 pairs; 1981 – 728 pairs; 1991 – 1,283 pairs (Ratcliffe 1993). The National Peregrine Survey 2002 found 1,402 breeding pairs, a further 10% increase overall since 1991 but with declines in north and west Scotland, North Wales and Northern Ireland (Banks et al. 2003). Similar increases across Europe have resulted in a downgrading of conservation listing from 'SPEC 3 (rare)' to 'secure' (BirdLife International 2004).

Population changes

Annual population changes are not monitored for this species

Productivity trends

| | | | | | • | • | | |
|--------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|--------|-----------------|
| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comme |
| Clutch size | 36 | 1968- 2004 | 16 | Linear decline | 3.61 eggs | 3.09 eggs | -14.3% | Small sample |
| Brood size | 36 | 1968- 2004 | 42 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 21 | Curvilinear | 0.12% nests/day | 0.3% nests/day | 150% | Small sample |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 23 | None | | | | Small sample |

Table of productivity changes for Peregrine







- Distribution maps for this species are not currently available online (see Atlases species help)
- BirdFacts page on species biology

MOORHEN Gallinula chloropus • Population changes • Productivity trends

Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

Long-term trend

UK: fluctuating, with no long-term trend

UK population size

270,000 pairs in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary

While the long-term CBC/BBS trend is of shallow increase, much of the population increase took place before 1974, when WBS monitoring began, and may have been a recovery from heavy mortality during the cold winters of the early 1960s. On both CBC/BBS and WBS evidence, there was decrease during the 1970s and 1980s, but this has been followed by a partial recovery. A decline in the number and quality of farmland ponds, and the spread of American mink *Mustela vison*, which is an important predator especially along watercourses, have been suggested as possible causes of decline. The decline has been associated with significant reductions in breeding performance. Average clutch size has declined and the failure rate of nests over the full 25-day egg period (20 days for incubation and 5 days for laying) has increased, but average brood sizes have improved.

Waterways Bird Survey 1974-2005

Population changes



Table of population changes for Moorhen

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 212 | 38 | 1 | 74 | | |
| | 25 | 1979-2004 | 271 | 8 | -12 | 24 | | |
| | 10 | 1994-2004 | 543 | 15 | 6 | 24 | | |

| | 5 | 1999-2004 | 574 | 12 | 4 | 17 | |
|---------------|----|-----------|-----|-----|-----|----|--|
| CBC/BBS UK | 37 | 1967-2004 | 233 | 32 | -3 | 59 | |
| | 25 | 1979-2004 | 297 | 4 | -15 | 19 | |
| | 10 | 1994-2004 | 591 | 17 | 9 | 26 | |
| | 5 | 1999-2004 | 626 | 13 | 6 | 19 | |
| WBS waterways | 29 | 1975-2004 | 75 | -12 | -33 | 18 | |
| | 25 | 1979-2004 | 75 | -9 | -31 | 21 | |
| | 10 | 1994-2004 | 76 | 0 | -16 | 17 | |
| | 5 | 1999-2004 | 73 | 0 | -12 | 13 | |
| BBS UK | 11 | 1994-2005 | 538 | 20 | 9 | 32 | |
| BBS England | 11 | 1994-2005 | 493 | 18 | 7 | 30 | |



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Productivity trends

Table of productivity changes for Moorhen

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|--------|---------|
| Clutch size | 36 | 1968- 2004 | 92 | Linear decline | 6.49 eggs | 6.04 eggs | -6.8% | |
| Brood size | 36 | 1968- 2004 | 77 | Curvilinear | 3.19 chicks | 4.31 chicks | 35.4% | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 109 | Curvilinear | 1.38% nests/day | 2.15% nests/day | 55.8% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 34 | None | | | | |
| Laying date | 36 | 1968- 2004 | 69 | None | | | | |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

COOT Fulica atra

Population

changes

Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

• Productivity

trends

Long-term trend

UK: shallow increase

UK population size

22,600–28,800 pairs in 2000 (1988–91 Atlas estimate updated using CBC/BBS and WBS trends: **BiE04**, **APEP06**)



Status summary

WBS and CBC/BBS trends for Coot indicate a long-term increase, although the magnitude of the change is not clear. Small CBC samples, mainly of birds on small water-bodies, suggested a rapid rise in the late 1960s. WBS and BBS both include more birds on larger waters, and so may be more representative of Coot populations, but WBS has not recorded the strong increase found by BBS observers since 1994. The combination of CBC and BBS data suggests that the long-term increase in the UK and England may have been rapid. Winter abundance on large still waters, as monitored by WeBS, has also shown some shallow increase since the mid 1980s (Banks *et al.* 2006).

Population changes



Table of population changes for Coot

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 75 | 239 | 130 | 651 | | |
| | 25 | 1979-2004 | 101 | 58 | 16 | 128 | | |
| | 10 | 1994-2004 | 208 | 53 | 30 | 88 | | |
| | 5 | 1999-2004 | 227 | 28 | 14 | 47 | | |

BTO - Breeding Birds of the Wider Countryside: Coot

| CBC/BBS UK | 37 | 1967-2004 | 83 | 237 | 132 | 562 | |
|---------------|----|-----------|-----|-----|-----|-----|--|
| | 25 | 1979-2004 | 112 | 58 | 22 | 111 | |
| | 10 | 1994-2004 | 231 | 47 | 27 | 72 | |
| | 5 | 1999-2004 | 254 | 25 | 12 | 35 | |
| WBS waterways | 29 | 1975-2004 | 39 | 50 | -9 | 258 | |
| | 25 | 1979-2004 | 41 | 41 | -8 | 167 | |
| | 10 | 1994-2004 | 47 | -1 | -32 | 34 | |
| | 5 | 1999-2004 | 39 | -4 | -27 | 21 | |
| BBS UK | 11 | 1994-2005 | 212 | 79 | 55 | 107 | |
| BBS England | 11 | 1994-2005 | 191 | 89 | 63 | 120 | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

OYSTERCATCHER

Haematopus ostralegus

 Population changes

 Productivity Additional information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable)

trends

UK: amber (>20% of European breeding population, >20% of East Atlantic Flyway population in winter, localised wintering population)

Long-term trend

UK: rapid increase

UK population size

113,000 (98,500-127,000) pairs in 1985-99 (O'Brien 2005: BiE04, APEP06)

be partly explained by recent climate change (Crick & Sparks 1999).

Status summary

Oystercatchers increased along linear waterways between 1974 and about 1986, as the species colonised inland sites across England and Wales (Gibbons et al. 1993). Thereafter, the WBS index stabilised, so showing a pattern similar to that in winter abundance revealed by WeBS (Banks et al. 2006). Surveys in England and Wales revealed an increase of 47% in breeding birds in wet meadows between 1982 and 2002 (Wilson et al. 2005). BBS data since 1994, which include birds in a broader range of locations and habitats, show strong increase in England but apparently a significant decline in Scotland. The increase in nest failure rates for the 27day egg stage (25 days for incubation and 2 days for laying) probably results from the spread of the species into less favourable habitats, where predation or trampling may be more likely. The trend towards earlier laying can

Population changes



Table of population changes for Oystercatcher

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|--------|-----------------|-------|--------------|---------------|----------------|----------------|-------|---------|
| | | | | | | | | |



BTO - Breeding Birds of the Wider Countryside: Oystercatcher

| WBS waterways | 29 | 1975-2004 | 23 | 121 | 62 | 202 | |
|---------------|----|-----------|-----|-----|-----|-----|--|
| | 25 | 1979-2004 | 24 | 63 | 29 | 125 | |
| | 10 | 1994-2004 | 28 | 11 | -3 | 43 | |
| | 5 | 1999-2004 | 24 | 7 | -2 | 27 | |
| BBS UK | 11 | 1994-2005 | 251 | -12 | -21 | -3 | |
| BBS England | 11 | 1994-2005 | 122 | 47 | 24 | 73 | |
| BBS Scotland | 11 | 1994-2005 | 117 | -22 | -33 | -9 | |



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Productivity trends

Table of productivity changes for Oystercatcher

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|------------------------------|-----------------|---------------|--------------------------|--------------------|---------------------------|---------------------|---------|---------|
| Clutch size | 36 | 1968- 2004 | 103 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 110 | Linear increase | 1.31% nests/day | 2.11% nests/day | 61.1% | |
| Laying date | 36 | 1968- 2004 | 46 | Linear decline | May 17 | May 9 | -8 days | |

Insufficient data on brood size available for this species



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

RINGED PLOVER Charadrius hiaticula

 Population changes

• Productivity Additional information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable)

trends

UK: amber (25-50% decline in winter population, >20% East Atlantic Flyway population in winter)

Long-term trend

UK: uncertain

UK population size

8,540 pairs in 1984 (Prater 1989: APEP06, rounded to 8,600 BiE04)

Status summary



This species was already amber-listed on the strength of its concentration within UK in the winter, but a decline in winter numbers since the late 1980s (Banks et al. 2006) adds a further amber criterion. The breeding population is not monitored annually, but a BTO survey in 1984 showed increases throughout the UK since the previous survey in 1973–74 (Prater 1989). The spread of the breeding distribution inland between the two atlas periods, especially in England, was probably associated with the increase in number of gravel pits and reservoirs (Gibbons et al. 1993). The 1984 survey revealed that over 25% of the UK population nested on the Western Isles, especially on the machair, but breeding waders there have subsequently suffered greatly from predation by introduced hedgehogs (Jackson et al. 2004). Surveys in England and Wales revealed an increase of 12% in breeding birds in wet meadows between 1982 and 2002 (Wilson et al. 2005). Ringed Plovers that choose beaches for nesting are especially vulnerable to disturbance, and were in some regions in 1984 largely confined to wardened reserves. The recent marked increase in nest failures at the egg stage is worrying and warrants investigation. BTO will undertake a repeat breeding survey of Ringed Plovers (and Little Ringed Plovers C. dubius) throughout the UK during April–July 2007.

Population changes

Annual breeding population changes for this species are not currently monitored by BTO

Productivity trends

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|---------------------------|-----------------|-----------|--------------------------|-----------------|---------------------------|---------------------|--------|---------|
| Clutch size | 36 | 1968-2004 | 88 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968-2004 | 125 | Linear increase | 2.27% nests/day | 3% nests/day | 32.2% | |
| Laying date | 36 | 1968-2004 | 39 | None | | | | |

Table of productivity changes for Ringed Plover



Insufficient data on brood size available for this species



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

Population

changes

GOLDEN PLOVER Pluvialis apricaria

Productivity
 Additional
 information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: green

Long-term trend

UK: possible decline

UK population size

22,600 pairs in 1981–84 (**Reed 1985**, **Stroud** *et al.* **1987**: **APEP06**); 38,400–59,400 pairs in 1980–2000 (**BiE04**)

Status summary



The species has recently been moved from the amber to the green list because new data suggest that it does not qualify as internationally important during the breeding season. There was no annual monitoring of the breeding population before the inception of BBS. Since 1994, BBS has shown apparent stability in Scotland and the UK, but this is believed to follow an earlier decline (Gibbons *et al.* 1993). Nest survival on grass moors, unlike that on heather moors, may have declined over time (Crick 1992), perhaps linked to increased stocking densities of sheep (Fuller 1996). There is no clear trend in clutch size; a large number of late-season nest records, which provide higher proportions of two- and three-egg clutches, were submitted from an intensive study during 1996–98 (J.W. Pearce-Higgins, pers. comm.). Winter numbers counted by WeBS, mainly at coastal sites and omitting some big concentrations inland, have increased sharply in Britain since the mid 1980s (Banks *et al.* 2006); these birds are mainly of Fennoscandian or Russian origin..

Population changes



Table of population changes for Golden Plover

 Source
 Period
 Years
 Plots
 Change
 Lower
 Upper
 Alert
 Comment

| | (yrs) | | (n) | (%) | limit | limit | |
|--------------|-------|-----------|-----|-----|-------|-------|--|
| BBS UK | 11 | 1994-2005 | 52 | -8 | -31 | 22 | |
| BBS Scotland | 11 | 1994-2005 | 41 | -13 | -38 | 20 | |



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Productivity trends

Table of productivity changes for Golden Plover

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|-------------|-----------------|-----------|--------------------------|-------|---------------------------|---------------------|--------|--------------|
| Clutch size | 36 | 1968-2004 | 15 | None | | | | Small sample |



Insufficient data on nest failure available for this species

Insufficient data on laying date available for this species

Insufficient data on brood size available for this species

Insufficient data on nestling failure available for this species

Insufficient data on CES available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology

BTO - Breeding Birds of the Wider Countryside: Golden Plover

• BirdTrack results

changes

LAPWING Vanellus vanellus • Population • Productivity

Additional information

Conservation listings

Europe: SPEC category 2, vulnerable UK: amber (25–50% population decline, >20% European wintering population) UK Biodiversity Action Plan: in preparation

trends

Long-term trend

UK: moderate decline

UK population size

156,000 (137,000–174,000) pairs in 1985–99 (**O'Brien** 2005: **BiE04, APEP06**)

Status summary



CBC recorded some increase in its early years, but Lapwings have declined continuously on lowland farmland since the mid 1980s, probably because changes in agricultural practice have led to their breeding productivity dropping below a sustainable level (Hudson et al. 1994, Siriwardena et al. 2000a, Besbeas et al. 2002, Milsom 2005). National surveys in England and Wales showed a 49% population decline between 1987 and 1998 (Wilson et al. 2001). Population declines in excess of 50% over 15 years in Northern Ireland (Henderson et al. 2002) mirror similar declines throughout grassland areas of Wales and southeast England (Wilson et al. 2001, 2005). BBS data indicate shallow increase in England since 1994, but steep decline in Scotland. Adult and first-year survival rates show no trend through time (Peach et al. 1994, Catchpole et al. 1999). Mean clutch size increased significantly as the population fell. Using NRS data for 1962–99, Chamberlain & Crick (2003) found that marginal upland had relatively low reproductive performance, and arable relatively high, while grazed grass had higher failure rates and lower clutch sizes than ungrazed grass: their results suggest that recent population change may have been influenced by changes in clutch failure rates, perhaps mediated by an increase in grazing intensity in marginal uplands and increased predation rates, possibly associated with habitat change. The amber listing of this species is now based on UK decline, as well as the original criterion of international importance. Winter numbers counted by WeBS, mainly at coastal sites and omitting some big concentrations inland, have increased in Britain since the mid 1980s but decreased in Northern Ireland (Banks et al. 2006); these birds are mainly of continental origin.

Population changes



Table of population changes for Lapwing

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 164 | -10 | -49 | 29 | | |
| | 25 | 1979-2004 | 217 | -44 | -57 | -26 | >25 | |
| | 10 | 1994-2004 | 478 | 17 | 5 | 27 | | |
| | 5 | 1999-2004 | 507 | 12 | 5 | 20 | | |
| CBC/BBS UK | 37 | 1967-2004 | 200 | -32 | -63 | 14 | | |
| | 25 | 1979-2004 | 266 | -53 | -66 | -37 | >50 | |
| | 10 | 1994-2004 | 587 | -8 | -19 | 2 | | |
| | 5 | 1999-2004 | 612 | -3 | -12 | 7 | | |
| WBS waterways | 24 | 1980-2004 | 38 | -11 | -58 | 70 | | |
| | 10 | 1994-2004 | 37 | -19 | -41 | 12 | | |
| | 5 | 1999-2004 | 31 | -10 | -30 | 15 | | |
| BBS UK | 11 | 1994-2005 | 573 | -21 | -27 | -14 | | |
| BBS England | 11 | 1994-2005 | 466 | 12 | 2 | 23 | | |
| BBS Scotland | 11 | 1994-2005 | 84 | -48 | -58 | -36 | (>25) | |



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Productivity trends

Table of productivity changes for Lapwing

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|---------------------------|-----------------|-----------|--------------------------|-----------------|---------------------------|---------------------|--------|---------|
| Clutch size | 36 | 1968-2004 | 125 | Linear increase | 3.69 eggs | 3.82 eggs | 3.5% | |
| Daily failure rate (eggs) | 36 | 1968-2004 | 136 | None | | | | |
| Laying date | 36 | 1968-2004 | 31 | None | | | | |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

SNIPE Gallinago gallinago • Population changes • Productivity trends • Additional information

Conservation listings

Europe: SPEC category 3 (declining) UK: amber (>50% population decline, but data possibly unrepresentative)

Long-term trend

UK: probable decline

UK population size

59,300 (52,600–69,000) pairs in 1985–99 (**O'Brien** 2005: **BiE04**, **APEP06**)

Status summary

Snipe were monitored by the CBC mainly in lowland England, where numbers have fallen rapidly since the 1970s as farmland has been drained (Gibbons *et al.* 1993, Siriwardena *et al.* 2000a). The CBC index was discontinued after 1984, when the number of occupied plots became too small (Marchant *et al.* 1990), and the graph is not shown here. In Northern Ireland, a breeding decline of around 30% occurred between the mid 1980s and 1999 (Henderson *et al.* 2002). Surveys in England and Wales revealed a decrease of 62% in breeding birds in wet meadows between 1982 and 2002, with the remaining birds becoming highly aggregated into a tiny number of suitable sites (Wilson *et al.* 2005). The trend in the upland and moorland strongholds of the species is not fully known, but the 1988–91 atlas documented range loss widely in Wales, Northern Ireland and Scotland, as well as lowland England, and a general decrease is therefore probable. The BBS shows increases in England and especially in Scotland since 1994. Daily nest failure rates at the egg stage appear to have halved. Following declines across much of Europe during the 1990s, this previously 'secure' species is now provisionally evaluated as 'declining' (BirdLife International 2004).

Population changes



Table of population changes for Snipe

SourcePeriodYearsPlotsChangeLowerUpperAlertComment(yrs)(n)(%)limitlimitlimit



| BBS UK | 11 | 1994-2005 | 125 | 36 | 13 | 62 | |
|--------------|----|-----------|-----|----|-----|-----|--|
| BBS England | 11 | 1994-2005 | 57 | -5 | -27 | 24 | |
| BBS Scotland | 11 | 1994-2005 | 52 | 58 | 18 | 112 | |



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Productivity trends

Table of productivity changes for Snipe

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|--------|-----------------|
| Clutch size | 36 | 1968- 2004 | 13 | None | | | | Small sample |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 17 | Linear decline | 3.27% nests/day | 1.46% nests/day | -55.4% | Small sample |



Insufficient data on laying date available for this species

Insufficient data on brood size available for this species

Insufficient data on nestling failure available for this species

Insufficient data on CES available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

WOODCOCK Scolopax rusticola • Population • Productivity

changes trends
Conservation listings

Europe: SPEC category 3 (declining) UK: amber (>50% population decline, but data possibly unrepresentative)

Additional

information

Long-term trend

UK: rapid decline

UK population size

5,400–13,700 pairs in 2000 (1988–91 Atlas estimate updated using CBC trend: **BiE04**, **APEP06**)

Status summary



The Woodcock has declined rapidly and significantly on CBC plots. Because CBC did not include many coniferous forests and was concentrated in lowland Britain, however, it is not certain how well this trend represents the whole population and provisionally, therefore, the results warrant only an amber listing. Range contractions, that may have the same cause as the decline in abundance, were recorded concurrently with part of the CBC decline (Gibbons *et al.* 1993). Recreational disturbance, the drying out of natural woodlands, overgrazing by deer, and the maturation of new plantations are possible causes of the Woodcock's decline, but there is no strong hypothesis as yet (Fuller *et al.* 2005). BBS is inefficient at recording this species, and cannot continue the index series. The first special survey aimed at monitoring the UK's breeding Woodcock took place in 2003 and has provided a sound baseline for future monitoring (Fuller & Hoodless 2004; for more information, click here). Annual numbers shot in the UK, which include winter visitors from declining populations in Europe, increased during the 1970s and have since been maintained around the higher level (click here). The effects of hunting on breeding populations of Woodcock across Europe have not yet been evaluated.

Population changes



Table of population changes for Woodcock

SourcePeriodYearsPlotsChangeLowerUpperAlertComment(yrs)(n)(%)limitlimitlimitlimit

| CBC all habitats | 31 | 1968-1999 | 20 | -74 | -88 | -49 | >50 | Small sample |
|------------------|----|-----------|----|-----|-----|-----|-----|--------------|
| | 25 | 1974-1999 | 20 | -76 | -88 | -51 | >50 | Small sample |
| | 10 | 1989-1999 | 13 | -40 | -62 | -11 | >25 | Small sample |
| | 5 | 1994-1999 | 13 | -24 | -44 | -3 | | Small sample |

Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

CURLEW Numenius arquata Productivity Population Additional changes trends

Conservation listings

Europe: SPEC category 2 (declining) UK: amber (>20% of European breeding and winter populations) UK Biodiversity Action Plan: in preparation

information

Long-term trend

England: probable decline

UK population size

107,000 (99,500-125,000) pairs in 1985-99 (O'Brien 2005: BiE04, APEP06)

Status summary

Curlews monitored by CBC were mostly in lowland habitats and may have been affected primarily by drainage of farmland (Gibbons et al. 1993). Surveys in England and Wales revealed a decrease of 39% in breeding birds in wet meadows between 1982 and 2002 (Wilson et al. 2005). In Northern Ireland, a breeding decline of around 60% occurred between the mid 1980s and 1999 (Henderson et al. 2002). BBS data also show that decline has been widespread. WBS data, in contrast, indicate a moderate increase during the 1980s in Curlews nesting alongside waterways, followed by stability. Wintering Curlew abundance has shown a shallow long-term increase (Banks et al. 2006). Although samples are small, failure rate of nests at the egg stage have fallen slightly.

Population changes



Table of population changes for Curlew

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|------------------|
| CBC/BBS England | 37 | 1967-2004 | 83 | -28 | -74 | 56 | | Small CBC sample |
| | 25 | 1979-2004 | 115 | -39 | -74 | 18 | | Small CBC sample |
| | 10 | 1994-2004 | 264 | -16 | -22 | -8 | | |

| | 5 | 1999-2004 | 274 | -12 | -17 | -6 | | |
|---------------|----|-----------|-----|-----|-----|-----|-------|--------------|
| WBS waterways | 24 | 1980-2004 | 22 | 11 | -26 | 78 | | |
| | 10 | 1994-2004 | 22 | 0 | -20 | 25 | | |
| | 5 | 1999-2004 | 17 | -6 | -24 | 10 | | Small sample |
| BBS UK | 11 | 1994-2005 | 433 | -36 | -41 | -31 | (>25) | |
| BBS England | 11 | 1994-2005 | 253 | -19 | -27 | -11 | | |
| BBS Scotland | 11 | 1994-2005 | 118 | -48 | -56 | -39 | (>25) | |
| BBS Wales | 11 | 1994-2005 | 38 | -48 | -65 | -22 | (>25) | |



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Productivity trends

Table of productivity changes for Curlew

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|---------------------------|-----------------|-----------|--------------------------|-------------|---------------------------|---------------------|--------|--------------|
| Clutch size | 36 | 1968-2004 | 22 | None | | | | Small sample |
| Daily failure rate (eggs) | 36 | 1968-2004 | 24 | Curvilinear | 2.86% nests/day | 2.62% nests/day | -8.4% | Small sample |



Insufficient data on laying date available for this species

Insufficient data on nestling failure available for this species

> Insufficient data on CES available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

COMMON SANDPIPER Actitis hypoleucos

Population changes

 Additional information

Conservation listings

Europe: SPEC category 3 (declining) UK: green

Long-term trend

UK: moderate decline

UK population size

12,000 pairs in 2000 (1988–91 Atlas estimate updated using WBS trend: **BiE04**, **APEP06**); about 24,000 pairs in Britain (**Dougall** *et al.* **2004**)

Productivity

trends

Status summary



WBS results for this species show a decline from 1985 onwards (after a more gradual increase) that has yet to be explained. The recent decrease is matched by BBS data from Scotland and from the UK as a whole, and warrants a BTO alert. Poorer breeding success and reduced survival of first-year birds over winter in West Africa were both suggested as possible reasons for the failure of the Peak District population to recover after a hard-weather event in 1989 (Holland & Yalden 2002). Following declines during the 1990s in the large Swedish and Finnish populations, the European status of this species is no longer considered 'secure' (BirdLife International 2004). UK clutch sizes have shown a slight decline since the 1960s.

Population changes



Table of population changes for Common Sandpiper

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|---------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|--------------|
| WBS waterways | 29 | 1975-2004 | 26 | -27 | -49 | -9 | >25 | |
| | 25 | 1979-2004 | 26 | -30 | -48 | -14 | >25 | |
| | 10 | 1994-2004 | 24 | -18 | -34 | -4 | | |
| | 5 | 1999-2004 | 19 | -9 | -24 | 2 | | Small sample |
| BBS UK | 11 | 1994-2005 | 59 | -5 | -25 | 19 | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrcomsa.shtml[5/10/2017 10:51:53 AM]



Productivity trends

Table of productivity changes for Common Sandpiper

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|---------------------------|-----------------|-----------|--------------------------|----------------|---------------------------|---------------------|--------|--------------|
| Clutch size | 36 | 1968-2004 | 12 | Linear decline | 3.95 eggs | 3.73 eggs | -5.6% | Small sample |
| Daily failure rate (eggs) | 36 | 1968-2004 | 13 | None | | | | Small sample |



Insufficient data on laying date available for this species

Insufficient data on brood size available for this species

Insufficient data on nestling failure available for this species

Insufficient data on CES available for this species
- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

REDSHANK Tringa totanus

 Population changes Productivity
 Additional
 information

Conservation listings

Europe: SPEC category 2 (declining) UK: amber (>50% population decline but data possibly unrepresentative, >20% of East Atlantic Flyway population in winter)

Long-term trend

UK: moderate decline

UK population size

38,800 (31,400–44,400) pairs in 1985–99 (**O'Brien** 2005: **BiE04**, **APEP06**)

Status summary



UK population decline has recently been added to the criteria by which Redshank qualifies for amber listing. Considerable range contraction had occurred from many areas of the UK by 1988–91, probably as a result of the drainage of farmland (Gibbons *et al.* 1993). WBS results show a decline along waterways that apparently accelerated during the 1990s. BBS shows a shallow increase overall, but this assessment rests entirely upon the upturn recorded in 2004: the earlier UK trend had been a decrease. Surveys in England and Wales revealed a decrease of 29% in breeding birds in wet meadows between 1982 and 2002 (Wilson *et al.* 2005). The substantial section of the British population that nests on saltmarshes decreased by 23% between 1985 and 1996 (Brindley *et al.* 1998). Wintering populations (augmented by many Icelandic and some other northern European breeders) have been stable since the mid 1980s (Banks *et al.* 2006). The failure rate of nests at the egg stage has fallen steeply since the 1960s.

Population changes



Table of population changes for Redshank

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|--------|-----------------|-------|--------------|---------------|----------------|----------------|-------|---------|
| | | | | | | | | |

| WBS waterways | 29 | 1975-2004 | 19 | -46 | -82 | -5 | >25 | Small sample |
|---------------|----|-----------|----|-----|-----|-----|-----|--------------|
| | 25 | 1979-2004 | 19 | -47 | -79 | -15 | >25 | Small sample |
| | 10 | 1994-2004 | 17 | -35 | -49 | -10 | >25 | Small sample |
| | 5 | 1999-2004 | 12 | -9 | -26 | 7 | | Small sample |
| BBS UK | 11 | 1994-2005 | 71 | -12 | -31 | 12 | | |
| BBS England | 11 | 1994-2005 | 48 | 8 | -19 | 45 | | |



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Productivity trends

Table of productivity changes for Redshank

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|---------------------------|-----------------|-----------|--------------------------|----------------|---------------------------|---------------------|--------|---------|
| Clutch size | 36 | 1968-2004 | 32 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968-2004 | 35 | Linear decline | 4% nests/day | 1.74% nests/day | -56.5% | |



Insufficient data on laying date available for this species

Insufficient data on CES available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

Population

changes

FERAL PIGEON Columba livia

 Productivity Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

trends

Long-term trend

UK: possible increase

UK population size

>100,000 pairs in 1968-72 (1968-72 Atlas: APEP06); 100,000-250,000 pairs in 1988-91 (BiE04)

Status summary



CBC samples for Feral Pigeon were consistently too small for annual monitoring, and there was no trend information before BBS began in 1994. Breeding atlas data show a 39% increase in occupied 10-km squares between 1968–72 and 1988–91 (Gibbons et al. 1993), suggesting that Feral Pigeons may be on an upward trajectory, like the other Columba species in the UK. At the time of the first atlas, however, Feral Pigeons were commonly excluded from bird surveys, and some of the reported subsequent range increase may have been due to greater observer awareness. It is now clear that Feral Pigeons are almost ubiquitous in the UK, nesting in rural as well as urban habitats, and avoiding only the highest ground. No distinction can realistically be drawn between birds of domestic origin and true wild-type Rock Doves, although birds of wild-type plumage may still predominate on remote Scottish islands. In field conditions, it is not usually possible to distinguish between Rock Doves, wild-nesting Feral Pigeons, semicaptive dovecote breeders, and passing racing pigeons, and BBS counts are likely to include all these groups. BBS indices have yet to reveal any trends.

Population changes



Table of population changes for Feral Pigeon/Rock Dove

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|--------|-----------------|-------|--------------|---------------|----------------|----------------|-------|---------|
| | | | | | | | | |

| BBS UK | 11 | 1994-2005 | 567 | 7 | -3 | 17 | |
|--------------|----|-----------|-----|----|-----|----|--|
| BBS England | 11 | 1994-2005 | 475 | 1 | -9 | 11 | |
| BBS Scotland | 11 | 1994-2005 | 53 | 21 | -13 | 67 | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

changes

STOCK DOVE Columba oenas

 Additional information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: amber (>20% of European breeding population)

trends

Long-term trend

England: rapid increase

UK population size

309,000 territories in 2000 (1988–91 Atlas estimate updated using CBC trend: **BiE04**, **APEP06**)

Status summary



Following release from the lethal and sublethal effects of the organochlorine seed-dressings used in the 1950s and early 1960s, Stock Dove populations have increased very substantially (O'Connor & Mead 1984). Numbers appeared to level off in the early 1980s, and entered a further increasing phase in the early 1990s. Recent BBS indices suggest that numbers have now stabilised again. The increase in nest failure rates at the egg stage, now reversed, was not detectable in farmland habitats alone (Siriwardena *et al.* 2000b). Overall, nest failure rates have fallen substantially. Most nests appear to be started around two weeks later in the year now than in the 1960s and 1970s.

Population changes



Table of population changes for Stock Dove

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 218 | 196 | 94 | 333 | | |
| | 25 | 1979-2004 | 297 | 30 | 2 | 61 | | |
| | 10 | 1994-2004 | 621 | 20 | 9 | 34 | | |
| | 5 | 1999-2004 | 668 | 3 | -4 | 13 | | |

| BBS UK | 11 1994-2005 | 633 | 9 | -2 | 20 | |
|-------------|--------------|-----|---|----|----|--|
| BBS England | 11 1994-2005 | 584 | 6 | -5 | 17 | |



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Productivity trends

Table of productivity changes for Stock Dove

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|--------------------|---------------------------|---------------------|---------|-----------------|
| Clutch size | 36 | 1968- 2004 | 71 | None | | | | |
| Brood size | 36 | 1968- 2004 | 95 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 69 | Curvilinear | 1.06% nests/day | 0.31% nests/day | -70.8% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 52 | Linear decline | 1.24% nests/day | 0.69% nests/day | -44.4% | |
| Laying date | 36 | 1968- 2004 | 14 | Linear increase | May 29 | Jun 13 | 15 days | Small sample |







Insufficient data on CES available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

Population

WOODPIGEON Columba palumbus

changes trends
Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: green

Productivity

Additional

information

Long-term trend

UK, England: rapid increase

UK population size

2,570,000–3,160,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary

The CBC/BBS trend for this species is of a steady, steep increase since at least the mid 1970s. The spread of intensive arable cultivation, especially of oilseed rape, which has been shown to promote overwinter survival, may explain the rise in numbers (Gibbons *et al.* 1993). Since 1994, BBS has recorded significant increase in the UK, and in England, Wales and Northern Ireland separately, but stability in Scotland. O'Connor & Shrubb (1986) found that the breeding season had advanced in response to the switch to autumn sowing, and thus earlier ripening, of cereals, with more pairs nesting in May and June and relatively fewer in July–September. Earlier nesting could have led CBC, with fieldwork finishing in early July, to overestimate the rate of increase (Marchant *et al.* 1990). Numbers have risen widely in Europe since 1980 (PECBM 2006).

Population changes



Table of population changes for Woodpigeon

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 490 | 153 | 42 | 488 | | |
| | 25 | 1979-2004 | 713 | 103 | 64 | 147 | | |

| | 10 | 1994-2004 | 1633 | 29 | 21 | 33 | |
|---------------|----|-----------|------|-----|-----|-----|--|
| | 5 | 1999-2004 | 1732 | 14 | 10 | 17 | |
| CBC/BBS UK | 37 | 1967-2004 | 610 | 138 | 14 | 473 | |
| | 25 | 1979-2004 | 888 | 88 | 47 | 149 | |
| | 10 | 1994-2004 | 2038 | 26 | 21 | 31 | |
| | 5 | 1999-2004 | 2193 | 13 | 10 | 16 | |
| BBS UK | 11 | 1994-2005 | 1967 | 19 | 15 | 24 | |
| BBS England | 11 | 1994-2005 | 1566 | 22 | 17 | 27 | |
| BBS Scotland | 11 | 1994-2005 | 162 | -4 | -16 | 10 | |
| BBS Wales | 11 | 1994-2005 | 163 | 35 | 20 | 52 | |
| BBS N.Ireland | 11 | 1994-2005 | 65 | 85 | 41 | 144 | |



https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrwoodp.shtml[5/10/2017 10:51:59 AM]



Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

COLLARED DOVE

Streptopelia decaocto

 Population changes Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

Productivity

trends

Long-term trend

UK, England: rapid increase

UK population size

298,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary

Collared Dove abundance has increased rapidly since the species first colonised Britain in 1955. From just four birds known to be present in that year, the population was put conservatively at 15,000–25,000 pairs by 1970 (Hudson 1972). The CBC index showed an almost exponential rise as colonisation continued during the early 1970s, but had levelled off by about 1980. BBS shows continuing increases, at least in England and Wales. The UK population size now rivals that of Stock Dove. Despite the population increase, productivity has increased.

CBC/BBS UK 1971-2005

Population changes



Table of population changes for Collared Dove

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 32 | 1972-2004 | 352 | 444 | 260 | 713 | | |
| | 25 | 1979-2004 | 434 | 60 | 20 | 111 | | |
| | 10 | 1994-2004 | 978 | 38 | 27 | 47 | | |
| | 5 | 1999-2004 | 1063 | 13 | 9 | 19 | | |
| CBC/BBS UK | 32 | 1972-2004 | 398 | 420 | 228 | 704 | | |
| | 25 | 1979-2004 | 491 | 61 | 25 | 115 | | |
| | | | | | | | | |



https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrcoldo.shtml[5/10/2017 10:52:00 AM]

| | 10 | 1994-2004 | 1102 | 38 | 30 | 45 | |
|--------------|----|-----------|------|----|-----|----|--|
| | 5 | 1999-2004 | 1209 | 14 | 9 | 19 | |
| BBS UK | 11 | 1994-2005 | 1077 | 38 | 31 | 46 | |
| BBS England | 11 | 1994-2005 | 953 | 38 | 30 | 46 | |
| BBS Scotland | 11 | 1994-2005 | 38 | 13 | -19 | 57 | |
| BBS Wales | 11 | 1994-2005 | 58 | 28 | -2 | 68 | |



Productivity trends

Table of productivity changes for Collared Dove

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|--------------------|---------------------------|---------------------|--------|---------|
| Clutch size | 36 | 1968- 2004 | 43 | None | | | | |
| Brood size | 36 | 1968- 2004 | 70 | Linear increase | 1.76 chicks | 1.84 chicks | 4.5% | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 61 | Linear decline | 2.68% nests/day | 1.79% nests/day | -33.2% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 54 | Linear decline | 1.86% nests/day | 1.05% nests/day | -43.5% | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrcoldo.shtml[5/10/2017 10:52:00 AM]



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

TURTLE DOVE Streptopelia turtur • Population • Productivity

 Population changes Additional information

Conservation listings

Europe: SPEC category 3 (declining) UK: red (>50% population decline) **UK Biodiversity Action Plan: click here**

trends

Long-term trend

UK, England: rapid decline

UK population size

44,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



The CBC/BBS trend is of severe declines in Turtle Dove abundance, beginning in the late 1970s and continuing to the present. Hunting during migration is a possible cause of the decline, to add to those related to agricultural intensification that have been postulated for other farmland seed-eaters (O'Connor & Shrubb 1986, Krebs *et al.* 1999). Analysis of nest record cards and ringing data for farmland Turtle Doves suggests, although without statistical significance, that productivity per nesting attempt has increased while annual survival has fallen (Siriwardena *et al.* 2000a, 2000b, Browne *et al.* 2005). Browne & Aebischer (2004, 2005) conclude that Turtle Doves today have a substantially earlier close to the breeding season and consequently produce barely half the number of clutches and young per pair than in the 1960s. Thus, the recovery of Turtle Doves in Britain would benefit from the provision and sympathetic management of nesting as well as foraging habitats.

Population changes



Table of population changes for Turtle Dove

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 102 | -79 | -88 | -72 | >50 | |
| | 25 | 1979-2004 | 117 | -79 | -86 | -73 | >50 | |
| | | | | | | | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrturdo.shtml[5/10/2017 10:52:03 AM]

| | 10 | 1994-2004 | 203 | -48 | -56 | -42 | >25 | |
|-------------|----|-----------|-----|-----|-----|-----|-------|--|
| | 5 | 1999-2004 | 185 | -31 | -39 | -24 | >25 | |
| CBC/BBS UK | 37 | 1967-2004 | 103 | -79 | -88 | -69 | >50 | |
| | 25 | 1979-2004 | 119 | -78 | -86 | -69 | >50 | |
| | 10 | 1994-2004 | 206 | -48 | -55 | -41 | >25 | |
| | 5 | 1999-2004 | 188 | -31 | -38 | -23 | >25 | |
| BBS UK | 11 | 1994-2005 | 182 | -45 | -54 | -34 | (>25) | |
| BBS England | 11 | 1994-2005 | 179 | -44 | -54 | -33 | (>25) | |



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Productivity trends

Table of productivity changes for Turtle Dove

| Variable | Period | Years | Mean | Trend | Modelled | Modelled | Change | Comment |
|-----------------------------|--------|-----------|--------|-------|---------------|----------|--------|--------------|
| | (yrs) | | annual | | in first year | in 2004 | | |
| | | | sample | | | | | |
| Clutch size | 36 | 1968-2004 | 12 | None | | | | Small sample |
| Brood size | 36 | 1968-2004 | 16 | None | | | | Small sample |
| Daily failure rate (eggs) | 36 | 1968-2004 | 16 | None | | | | Small sample |
| Daily failure rate (chicks) | 36 | 1968-2004 | 12 | None | | | | Small sample |
| Laying date | 36 | 1968-2004 | 13 | None | | | | Small sample |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

CUCKOO Cuculus canorus • Population changes • Productivity trends

 Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: amber (25–50% population decline) UK Biodiversity Action Plan: in preparation

Long-term trend

England: rapid decline

UK population size

9,600–20,000 pairs in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



The CBC/BBS trend shows Cuckoo abundance to have been in decline since the early 1980s. The species has recently been moved from the green to the amber list, but the data now meet red-list criteria. The sensitivity of CBC to change in this species may have been relatively low, mainly because Cuckoo territories were typically larger than census plots (Marchant *et al.* 1990). BBS shows a continuing strong decline in England and Wales, but apparent increase in Scotland. Cuckoo numbers may have fallen because the populations of some key host species, such as Dunnock and Meadow Pipit, have declined (Brooke & Davies 1987). Decreases among British moths may have reduced food supplies for returning adults, and the species may also be suffering difficulties on migration or in winter (Glue 2006). Numbers have fallen widely in Europe since 1980 (PECBM 2006).

Population changes



Table of population changes for Cuckoo

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 241 | -57 | -66 | -44 | >50 | |
| | 25 | 1979-2004 | 314 | -57 | -64 | -49 | >50 | |

| | 10 | 1994-2004 | 629 | -47 | -52 | -42 | >25 | |
|--------------|----|-----------|-----|-----|-----|-----|-------|--|
| | 5 | 1999-2004 | 561 | -23 | -28 | -18 | | |
| BBS UK | 11 | 1994-2005 | 711 | -29 | -35 | -23 | (>25) | |
| BBS England | 11 | 1994-2005 | 572 | -46 | -51 | -41 | (>25) | |
| BBS Scotland | 11 | 1994-2005 | 64 | 30 | -2 | 71 | | |
| BBS Wales | 11 | 1994-2005 | 55 | -32 | -50 | -8 | (>25) | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

BARN OWL *Tyto alba* • Population changes • Productivity trends

Conservation listings

Europe: SPEC category 3 (declining) UK: amber (25–50% distribution decline)

Long-term trend

UK: decline

UK population size

4,000 (3,000–5,000) pairs in 1995–97 (**Toms et al. 2001**: **BiE04**, **APEP06**)

Additional

information

Status summary



Distributional data provide good evidence for a decline in this species that lasted throughout the 20th century, although annual monitoring started only very recently. Productivity has tended to improve since the 1950s and 1960s when Barn Owls appear to have been affected by organochlorine pesticides (Percival 1990). A national census during 1995–97, organised jointly by Hawk & Owl Trust and BTO, provided a replicable baseline population estimate (Toms *et al.* 2000, 2001; for more information, click here). The lack of annual population change data for this species is now being addressed by the BTO's Barn Owl Monitoring Programme (BOMP), which began in 2000; additional nest record, ringing and biometric information is also being collected through this scheme (Leech *et al.* 2006a). BOMP already provides evidence that fewer pairs attempt to nest following cold or wet winters (Leech *et al.* 2006a). The plight of such a charismatic and popular bird led to extensive releasing of captive-bred birds in earlier decades: by 1992, when licensing became a requirement for such schemes, it was estimated that between 2,000 and 3,000 birds were being released annually by about 600 operators, although many birds died quickly and few would have joined the nesting population (Balmer *et al.* 2000). More recently, the erection of Barn Owl nest boxes, numbering c. 25,000 by the mid 1990s, has enabled the species to occupy areas (notably the Fens) that were previously devoid of nesting sites, and may have been a factor in improving nesting success.

Population changes

Annual breeding population changes for this species are not currently monitored by BTO

Productivity trends

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|--------------------|---------------------------|---------------------|--------|-----------------|
| Clutch size | 36 | 1968- 2004 | 16 | Linear increase | 4.52 eggs | 5.11 eggs | 13.1% | Small sample |
| Brood size | 36 | 1968- 2004 | 88 | Curvilinear | 3.01 chicks | 3.12 chicks | 3.9% | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 13 | Curvilinear | 0.4% nests/day | 0.02% nests/day | -95% | Small sample |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 48 | Linear decline | 0.23% nests/day | 0.03% nests/day | -87% | |

Table of productivity changes for Barn Owl



Insufficient data on laying date available for this species

Insufficient data on CES available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results



Status summary



The CBC/BBS trend for Little Owl shows fluctuations but a downturn in recent seasons suggests a possible moderate decline long-term in the UK. Trends are poorly known, however, because the species has large territories and is difficult to detect except by dedicated surveys. A population estimate of c. 7,000 pairs from the BTO/Hawk & Owl Trust's **Project Barn Owl (Toms** *et al.* **2000)** is the first replicable estimate for Little Owls in the UK. There are no trends evident in productivity, but few nest records are available.

Population changes



Table of population changes for Little Owl

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 48 | -31 | -54 | 5 | | |
| | 25 | 1979-2004 | 59 | -23 | -44 | 6 | | |
| | 10 | 1994-2004 | 106 | -7 | -21 | 13 | | |
| | 5 | 1999-2004 | 105 | -13 | -25 | 1 | | |
| CBC/BBS UK | 37 | 1967-2004 | 51 | -40 | -71 | 1 | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrlitow.shtml[5/10/2017 10:53:06 AM]

| | 25 | 1979-2004 | 62 | -30 | -54 | 0 | |
|-------------|----|-----------|-----|-----|-----|----|--|
| | 10 | 1994-2004 | 110 | -11 | -28 | 11 | |
| | 5 | 1999-2004 | 109 | -14 | -25 | -2 | |
| BBS UK | 11 | 1994-2005 | 91 | -19 | -38 | 6 | |
| BBS England | 11 | 1994-2005 | 88 | -11 | -32 | 16 | |





Productivity trends

Table of productivity changes for Little Owl

| Variable | Period (yrs) | Years | Mean annual | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|-----------------------------|-----------------|-----------|----------------|-------|---------------------------|---------------------|--------|--------------|
| | | | sample | | | | | |
| Clutch size | 36 | 1968-2004 | 17 | None | | | | Small sample |
| Brood size | 36 | 1968-2004 | 36 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968-2004 | 15 | None | | | | Small sample |
| Daily failure rate (chicks) | 36 | 1968-2004 | 19 | None | | | | Small sample |







Insufficient data on laying dates available for this species



Insufficient data on CES available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

TAWNY OWL Strix aluco • Population changes • Productivity trends

 • Additional information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: green

Long-term trend

UK, England: stable

UK population size

19,400 pairs in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



As a nocturnal species, Tawny Owl is poorly covered by the BTO's monitoring schemes. The pattern shown by CBC/BBS is a relatively stable one, however, in keeping with the longevity, sedentary behaviour, and slow breeding rate of this species. There is a slight indication from CBC/BBS of a shallow downward trend since the early 1970s, although the data for England alone appear more stable. It may be relevant to this possible long-term change that **Gibbons** *et al.* (1993) found evidence for a contraction of the species' UK range between the two atlas periods. The substantial improvements in nest success during the c.29-day egg stage could be linked to the declining impact of organochlorine pesticides, which were banned in the 1960s. Special surveys of this species took place in 2005 (click here).

Population changes



Table of population changes for Tawny Owl

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 63 | 12 | -35 | 63 | | |
| | 25 | 1979-2004 | 72 | -1 | -29 | 32 | | |
| | 10 | 1994-2004 | 98 | 4 | -14 | 28 | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrtawow.shtml[5/10/2017 10:53:07 AM]

BTO - Breeding Birds of the Wider Countryside: Tawny Owl

| | 5 | 1999-2004 | 85 | 0 | -16 | 18 | |
|-------------|----|-----------|-----|-----|-----|----|-------------------|
| CBC/BBS UK | 37 | 1967-2004 | 74 | -2 | -39 | 48 | |
| | 25 | 1979-2004 | 86 | -20 | -39 | 8 | |
| | 10 | 1994-2004 | 114 | -13 | -26 | 11 | |
| | 5 | 1999-2004 | 98 | -14 | -27 | 8 | |
| BBS UK | 11 | 1994-2005 | 79 | -2 | -23 | 26 | Nocturnal species |
| BBS England | 11 | 1994-2005 | 67 | 9 | -17 | 44 | Nocturnal species |



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Productivity trends

Table of productivity changes for Tawny Owl

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|--------|-----------------|
| Clutch size | 36 | 1968- 2004 | 77 | None | | | | |
| Brood size | 36 | 1968- 2004 | 134 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 53 | Linear decline | 0.96% nests/day | 0.19% nests/day | -80.2% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 80 | Curvilinear | 0.31% nests/day | 0.14% nests/day | -54.8% | |
| Laying date | 36 | 1968- 2004 | 13 | None | | | | Small sample |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

NIGHTJAR Caprimulgus europaeus Population changes Productivity trends Additional information Conservation listings

Europe: SPEC category 2, (declining) UK: red (>50% distribution decline) **UK Biodiversity Action Plan: click here**

Long-term trend

UK: uncertain

UK population size

3,400 males in 1992 (**Morris et al. 1994**: **BiE04**, **APEP06**); 4,600 males in 2004 (**Conway et al. 2007**)

Status summary

Having suffered a decline in range of more than 50% of 10-km squares between breeding atlases, the 1992 national survey revealed a welcome increase of 50% in population size since 1981, probably due to increased availability of young forest habitat as plantations were felled and replanted (Morris *et al.* 1994). A National Nightjar Survey in 2004 revealed that a further 36% increase had taken place in the UK population in 12 years, with a 2.6% increase in the number of 10-km squares occupied (Conway *et al.* 2007). There was evidence of population declines and range contractions since 1992, however, in North Wales, northwest England, and Scotland. The apparent increase in nest failure rates, especially at the chick stage in the period up to 1995, is probably an artefact of very small sample sizes in the early years.

Population changes

Annual population changes are not monitored for this species

Productivity trends

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|--------------------|---------------------------|---------------------|--------|-----------------|
| Clutch size | 36 | 1968- 2004 | 16 | Linear decline | 1.98 eggs | 1.89 eggs | -4.7% | Small sample |
| Brood size | 36 | 1968- 2004 | 24 | None | | | | Small sample |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 21 | Linear increase | 1.44% nests/day | 3.22% nests/day | 123.6% | Small sample |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 20 | Curvilinear | 0.05% nests/day | 0.89% nests/day | 1680% | Small sample |
| Laying date | 36 | 1968- 2004 | 18 | None | | | | Small sample |

Table of productivity changes for Nightjar









- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

COMMON SWIFT Apus apus • Population • Productivity

changes

trends

Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

Long-term trend

UK: unknown

UK population size

85,000 pairs in 1990 (1988–91 Atlas: **APEP06**); 20,000– 100,000 pairs in 2000 (**BiE04**)

Status summary



Swifts were not monitored before the inception of the BBS. Monitoring is complicated by the difficulty of finding occupied nests, by the weather-dependent and sometimes extraordinary distances from the nest at which adults may forage, and by the variable midsummer influx of non-breeding individuals. Since Swifts do not normally begin breeding until they are four years old, non-breeding numbers can at times be substantial. BBS results so far suggest decline in England and Scotland, and possibly in Wales, but, because there are wide fluctuations, a long time-series may be needed before trends can be estimated with confidence. **Concern for Swifts**, a small organisation of private individuals, is trying to promote the deliberate provision of nesting sites for this species, as so many suitable cavities are being lost to re-development. It is also gathering information on populations to assess whether the species should be listed as of conservation concern.

Population changes



Table of population changes for Swift

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|--------|-----------------|-------|--------------|---------------|----------------|----------------|-------|---------|
| | | | | | | | | |

| BBS UK | 11 | 1994-2005 | 895 | -21 | -27 | -15 | | |
|--------------|----|-----------|-----|-----|-----|-----|-------|--|
| BBS England | 11 | 1994-2005 | 772 | -22 | -28 | -15 | | |
| BBS Scotland | 11 | 1994-2005 | 43 | -34 | -52 | -9 | (>25) | |
| BBS Wales | 11 | 1994-2005 | 61 | -26 | -47 | 3 | | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results



Status summary

The Kingfisher declined along linear waterways (its principal habitat) until the mid 1980s, since when it seems to have made a complete recovery. The decline was associated with a contraction of range in England (Gibbons et al. 1993). Kingfishers suffer severe mortality during harsh winters but, with up to three broods in a season, and up to six chicks in a brood, their potential for rapid recovery is unusually high.

Population changes



Table of population changes for Kingfisher

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|---------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| WBS waterways | 29 | 1975-2004 | 32 | -5 | -44 | 40 | | |
| | 25 | 1979-2004 | 31 | 27 | -16 | 94 | | |
| | 10 | 1994-2004 | 35 | 10 | -14 | 52 | | |
| | 5 | 1999-2004 | 33 | 5 | -15 | 33 | | |
| BBS UK | 11 | 1994-2005 | 45 | -5 | -35 | 38 | | |
| BBS England | 11 | 1994-2005 | 39 | 8 | -25 | 56 | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrkingf.shtml[5/10/2017 10:53:12 AM]



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Productivity trends

Productivity information is not currently available for this species

Additional information

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology

BTO

• BirdTrack results

| Population changes Productivity trends information Conservation listings | |
|--|--|
| Conservation listings | |
| | |
| Europe: SPEC category 2 (depleted) UK: amber (European status) | |
| Long-term trend | |
| England: rapid increase | |
| UK population size | |
| 24,200 pairs in 2000 (1988–91 Atlas estimate updated using CBC trend: BiE04 , APEP06) | |
| Status summary | |



Green Woodpecker populations have risen steadily in Britain since 1966, except for a period of stability or shallow decline centred around 1980 that was probably the result of a series of harsh winters. There was considerable range expansion in central and eastern Scotland between the 1968–72 and 1988–91 atlas periods. Recent results indicate that the current phase of increase is continuing across most of the UK range. The ecological factors underlying the increase are not yet known but, given the species' susceptibility to cold weather, it may be related to climate change. Numbers have risen widely in Europe since 1980 (PECBM 2006).

Population changes



Table of population changes for Green Woodpecker

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 216 | 197 | 130 | 309 | | |
| | 25 | 1979-2004 | 294 | 88 | 61 | 139 | | |
| | 10 | 1994-2004 | 617 | 55 | 45 | 66 | | |
| | | | | | | | | |

| | 5 | 1999-2004 | 697 | 12 | 6 | 16 | |
|-------------|----|-----------|-----|----|-----|----|--|
| BBS UK | 11 | 1994-2005 | 615 | 31 | 20 | 44 | |
| BBS England | 11 | 1994-2005 | 567 | 38 | 26 | 52 | |
| BBS Wales | 11 | 1994-2005 | 42 | 32 | -10 | 92 | |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
GREAT SPOTTED WOODPECKER Dendrocopos major

trends

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

Productivity

Additional

information

Long-term trend

Population

changes

UK, England: rapid increase

UK population size

37,000–44,400 pairs in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



This species increased rapidly in the 1970s and began a further increase in the early 1990s. Dutch Elm Disease, which greatly increased the amount of standing dead timber and its associated insects, has been linked to the 1970s increase (Marchant *et al.* 1990). The ecological factors underlying the current increase are not yet known, but the species may be benefiting from the maturation of new forests and from the increasing provision of winter food in gardens. The decline in **Starling** numbers in recent decades has led to increased breeding success of this woodpecker and may have allowed it to expand its breeding distribution into less wooded habitats (**Smith 2005**). Numbers have risen widely in Europe since 1980 (**PECBM 2006**).

Population changes



Table of population changes for Great Spotted Woodpecker

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 243 | 275 | 180 | 513 | | |
| | 25 | 1979-2004 | 330 | 78 | 49 | 110 | | |
| | 10 | 1994-2004 | 676 | 82 | 69 | 95 | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrgrswo.shtml[5/10/2017 10:53:16 AM]

BTO - Breeding Birds of the Wider Countryside: Great Spotted Woodpecker

| | 5 | 1999-2004 | 769 | 38 | 32 | 44 | |
|-------------|----|-----------|-----|-----|-----|-----|--|
| CBC/BBS UK | 37 | 1967-2004 | 270 | 283 | 170 | 474 | |
| | 25 | 1979-2004 | 368 | 79 | 57 | 111 | |
| | 10 | 1994-2004 | 754 | 83 | 72 | 97 | |
| | 5 | 1999-2004 | 864 | 42 | 34 | 50 | |
| BBS UK | 11 | 1994-2005 | 705 | 120 | 101 | 141 | |
| BBS England | 11 | 1994-2005 | 627 | 102 | 84 | 122 | |
| BBS Wales | 11 | 1994-2005 | 54 | 118 | 57 | 202 | |



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Productivity trends

Table of productivity changes for Great Spotted Woodpecker

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|-----------------------------|-----------------|-----------|--------------------------|-------|---------------------------|---------------------|--------|--------------|
| Brood size | 36 | 1968-2004 | 19 | None | | | | Small sample |
| Daily failure rate (chicks) | 36 | 1968-2004 | 21 | None | | | | Small sample |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

LESSER SPOTTED WOODPECKER Dendrocopos minor

trends

Productivity

Additional

information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: red (>50% population decline) UK Biodiversity Action Plan: in preparation

Long-term trend

UK: rapid decline

Population

changes

UK population size

1,400–2,900 pairs in 2000 (1988–91 Atlas estimate updated using CBC trend: **BiE04**, **APEP06**)

Status summary



The Lesser Spotted Woodpecker has declined significantly and very rapidly since around 1980, following a shallower increase; it had already contracted in range between the two atlas periods (Gibbons *et al.* 1993), and has subsequently disappreared from many more of its former localities. It easily qualifies for red listing, but has become so rare in recent years that BBS observers have been unable to continue the annual monitoring that was possible until 2000 through CBC. Competition with and predation by Great Spotted Woodpeckers, and reductions in small-diameter dead wood suitable for foraging, are the most likely causes of decline, while the species' large home ranges suggest that landscape-scale changes in woodland (loss of mature broadleaved woodland, losses of non-woodland trees such as elms, and woodland fragmentation) may also be important (Fuller *et al.* 2005). Numbers have fallen widely in Europe since 1980 (PECBM 2006).

Population changes



Table of population changes for Lesser Spotted Woodpecker

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|------------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|--------------|
| CBC all habitats | 31 | 1968-1999 | 17 | -60 | -81 | 40 | | Small sample |
| | | | | | | | | |

| 25 | 1974-1999 | 18 | -73 | -86 | -31 | >50 | Small sample |
|----|-----------|----|-----|-----|-----|-----|--------------|
| 10 | 1989-1999 | 11 | -51 | -75 | -22 | >50 | Small sample |
| 5 | 1994-1999 | 9 | -33 | -56 | 0 | | Small sample |



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Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

WOODLARK Lullula arborea

 Population changes Additional information

Conservation listings

Europe: SPEC category 2 (depleted) UK: red (>50% distribution decline) **UK Biodiversity Action Plan: click here**

Long-term trend

UK: increase

UK population size

1,426–1,552 pairs in 1997 (Wotton & Gillings 2000: APEP06, rounded to 1,400–1,600 BiE04)

Productivity

trends

Status summary

This species is too rare and restricted in range for population changes to be monitored annually by BTO observers. A 62% reduction in the number of 10-km squares occupied between 1968–72 and 1988–91 warranted red-listing on grounds of range contraction; the species had ceased to breed in Wales and in several southern English counties over this period (Gibbons *et al.* 1993). Sitters *et al.* (1996) report that the population increased from c.250 pairs in 1986 to c.600 pairs in 1993, probably helped by recent mild winters and increased habitat availability due to storm damage in plantations, forest restocking, and heathland management. A repeat national survey in 1997 showed that the population had increased further, accompanied by expansion of the range into new areas (Wotton & Gillings 2000; for more information, click here). Nest failure rates have become less frequent at the egg stage, but considerably more so at the chick stage. BTO conducted a new national survey in spring 2006 (for more information, click here).

Population changes

Annual breeding population changes for this species are not currently monitored by BTO

Productivity trends

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|--------------------|---------------------------|---------------------|--------|-----------------|
| Clutch size | 36 | 1968- 2004 | 15 | None | | | | Small sample |
| Brood size | 36 | 1968- 2004 | 25 | None | | | | Small sample |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 18 | Linear decline | 3.52% nests/day | 1.45% nests/day | -58.8% | Small sample |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 26 | Linear increase | 1.46% nests/day | 3.46% nests/day | 137% | Small sample |
| Laying date | 36 | 1968- 2004 | 17 | None | | | | Small sample |

Table of productivity changes for Woodlark





- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

changes

SKYLARK *Alauda arvensis* • Population • Productivity

Additional information

Conservation listings

Europe: SPEC category 3 (depleted) UK: red (>50% population decline) UK Biodiversity Action Plan: click here

trends

Long-term trend

England: rapid decline

UK population size

1,785,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**); 801,000–1,003,000 pairs in Britain in 1997 (**Browne et al. 2000**)



Status summary

The Skylark declined rapidly from the mid 1970s until the mid 1980s, when the rate of decline slowed; more recent data show further decline, however, at least in England. Considerable effort by BTO and other researchers in recent years has indicated that the most likely cause of the decline is the change to autumn sowing of cereals: this practice restricts opportunities for late-season nesting attempts, because the crop is by then too tall, and may depress overwinter survival by reducing the area of stubbles (Wilson *et al.* 1997, Donald & Vickery 2000; for more information, click here). Chamberlain & Siriwardena (2000) have provided a general review of the effects of agricultural practice on Skylark population trends. Breeding success per nesting attempt increased during the decline (Chamberlain & Crick 1999, Siriwardena *et al.* 2000b) but, since 2000, nest losses have apparently increased and previous gains in clutch and brood sizes have been lost. Leaving small, rectangular patches of bare ground ('Skylark plots') within autumn-sown cereals appears to provide many of the benefits of spring-sown cereals at very low cost to the farmer (Donald & Morris 2005).

Population changes



Table of population changes for Skylark

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 396 | -59 | -67 | -50 | >50 | |
| | 25 | 1979-2004 | 531 | -56 | -61 | -49 | >50 | |
| | 10 | 1994-2004 | 1172 | -17 | -21 | -13 | | |
| | 5 | 1999-2004 | 1203 | -2 | -6 | 1 | | |
| BBS UK | 11 | 1994-2005 | 1434 | -13 | -17 | -10 | | |
| BBS England | 11 | 1994-2005 | 1124 | -18 | -22 | -15 | | |
| BBS Scotland | 11 | 1994-2005 | 184 | -5 | -15 | 6 | | |
| BBS Wales | 11 | 1994-2005 | 93 | 0 | -13 | 16 | | |
| BBS N.Ireland | 11 | 1994-2005 | 32 | -13 | -37 | 21 | | |



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BBS Scotland 1994-2005







Skylark



Productivity trends

Table of productivity changes for Skylark

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|--------------------|---------------------------|---------------------|--------|-----------------|
| Clutch size | 36 | 1968- 2004 | 37 | Linear increase | 3.36 eggs | 3.72 eggs | 10.5% | |
| Brood size | 36 | 1968- 2004 | 66 | Linear increase | 3.16 chicks | 3.45 chicks | 9.3% | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 46 | Curvilinear | 3.62% nests/day | 4.21% nests/day | 16.3% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 54 | Linear decline | 4.79% nests/day | 3.23% nests/day | -32.6% | |
| Laying date | 36 | 1968- 2004 | 20 | Curvilinear | May 25 | May 29 | 4 days | Small sample |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

SAND MARTIN *Riparia riparia* • Population changes • Productivity trends • Additional information

Conservation listings

Europe: SPEC category 3 (depleted) UK: amber (European status)

Long-term trend

UK: fluctuating, with no long-term trend

UK population size

85,000–270,000 nests in 1990 (1988–91 Atlas: APEP06); 66,300–211,000 pairs in 2000 (updated using WBS trend: **BiE04**)

Status summary

This species is conspicuously difficult to monitor, because active and inactive nest holes are difficult to distinguish, and because whole colonies frequently disperse or shift to new locations as suitable sand cliffs are created and destroyed. WBS counts, which are of apparently occupied nest holes, suggest a stable or shallowly increasing population, with wide fluctuations, although the ongoing decrease since the late 1990s has been steep enough to raise BTO alerts. BBS counts, which are of birds seen, show clearly that large year-to-year changes occur, but do not yet reveal a clear long-term trend. Nest record samples are small, but indicate that nest success has improved enormously since the 1960s, and that clutch size has also increased. Rainfall in the species' trans-Saharan wintering grounds prior to the birds' arrival has long been known to promote annual survival and thus abundance in the following breeding season (Szép 1995). More recently, it has been discovered that summer rainfall on the breeding grounds has a negative influence on survival rates through the following winter (Cowley & Siriwardena 2005).

Population changes



Table of population changes for Sand Martin

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|--------|-----------------|-------|--------------|---------------|----------------|----------------|-------|---------|
| | | | | | | | | |



| WBS waterways | 26 | 1978-2004 | 19 | -11 | -46 | 47 | | Small sample |
|---------------|----|-----------|-----|-----|-----|-----|-----|--------------|
| | 25 | 1979-2004 | 20 | -10 | -39 | 54 | | |
| | 10 | 1994-2004 | 24 | -37 | -52 | -16 | >25 | |
| | 5 | 1999-2004 | 20 | -31 | -44 | -16 | >25 | |
| BBS UK | 11 | 1994-2005 | 102 | 38 | 11 | 71 | | |
| BBS England | 11 | 1994-2005 | 68 | 11 | -13 | 43 | | |



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Productivity trends

Table of productivity changes for Sand Martin

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|--------|-----------------|
| Clutch size | 36 | 1968- 2004 | 30 | Curvilinear | 4.76 eggs | 4.98 eggs | 4.7% | Small sample |
| Brood size | 36 | 1968- 2004 | 24 | None | | | | Small sample |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 17 | Linear decline | 1.18% nests/day | 0.02% nests/day | -98.3% | Small sample |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 23 | Linear decline | 2.37% nests/day | 0.05% nests/day | -97.9% | Small sample |
| Laying date | 36 | 1968- 2004 | 27 | None | | | | Small sample |







- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results



Long-term trend

UK, England: fluctuating, with no long-term trend

UK population size

726,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



Swallow was originally amber-listed partly on the strength of a perceived CBC decline, but continues to qualify through its widespread decline across the European continent (**BirdLife International 2004**). Modern methods of estimating population change from CBC give evidence of fluctuations but not for long-term decline in the UK (**Robinson** *et al.* 2003). Detailed analysis has shown that the population fluctuations are most strongly related to losses on their wintering grounds (**Baillie & Peach 1992**). More recently, population change has been shown to be correlated with rainfall in the western Sahel prior to the birds' spring passage through West Africa, but with neither cattle numbers nor nest-site availability in the UK (**Robinson** *et al.* 2003). It is likely that, in eastern parts of the UK, the loss of livestock farming and grazed grassland, together with arable intensification, has caused the Swallow population to decline, while an increase in the area of pasture in the west and north has promoted a population increase which has more than compensated for declines elsewhere (**Evans & Robinson 2004**). Recent BBS data suggest increases throughout the UK since 1994. Brood sizes increased up to the late 1980s, and may now be falling again. The trend towards earlier laying can be partly explained by recent climate change (**Crick & Sparks 1999**).

Population changes



| Source | Period | Years | Plots | Change | Lower | Upper | Alert | Comment |
|--------|--------|-------|-------|--------|-------|-------|-------|---------|
| | | | | | | | | |

| | (yrs) | | (n) | (%) | limit | limit | |
|-----------------|-------|-----------|------|-----|-------|-------|--|
| CBC/BBS England | 37 | 1967-2004 | 368 | 12 | -21 | 56 | |
| | 25 | 1979-2004 | 515 | -3 | -24 | 17 | |
| | 10 | 1994-2004 | 1191 | 23 | 15 | 32 | |
| | 5 | 1999-2004 | 1288 | 7 | 3 | 13 | |
| BBS UK | 11 | 1994-2005 | 1535 | 32 | 26 | 39 | |
| BBS England | 11 | 1994-2005 | 1173 | 26 | 19 | 33 | |
| BBS Scotland | 11 | 1994-2005 | 138 | 24 | 6 | 46 | |
| BBS Wales | 11 | 1994-2005 | 146 | 72 | 45 | 103 | |
| BBS N.Ireland | 11 | 1994-2005 | 67 | 38 | 3 | 84 | |



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BBS England 1994-2005



BBS Wales 1994-2005





BBS Scotland 1994-2005





Year

BBS N. Ireland 1994-2005

Swallow



Productivity trends

Table of productivity changes for Swallow

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|-------------|-----------------|-----------|--------------------------|-------------|---------------------------|---------------------|--------|---------|
| Clutch size | 36 | 1968-2004 | 182 | None | | | | |
| Brood size | 36 | 1968-2004 | 298 | Curvilinear | 4.07 chicks | 4.16 chicks | 2.1% | |
| | | | | | | | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrswall.shtml[5/10/2017 10:53:24 AM]

| Daily failure rate (eggs) | 36 | 1968-2004 | 229 | None | | | | |
|-----------------------------|----|-----------|-----|-------------|--------|--------|---------|--|
| Daily failure rate (chicks) | 36 | 1968-2004 | 201 | None | | | | |
| Laying date | 36 | 1968-2004 | 90 | Curvilinear | Jun 19 | Jun 12 | -7 days | |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

HOUSE MARTIN Delichon urbicum Productivity Population Additional changes trends

Conservation listings

Europe: SPEC category 3 (declining) UK: amber (25-50% population decline)

Long-term trend

UK: probable decline

UK population size

273,000-535,000 pairs in 2000 (1988-91 Atlas estimate updated using CBC trend: BiE04, APEP06)

Status summary



The House Martin's loosely colonial habits and strong association with human settlements mean that it is extraordinarily difficult to monitor. Anecdotal evidence of decline is often unreliable, because demise of a colony may be balanced by single nests or small groups becoming established elsewhere. For these reasons, study areas should be large, covered thoroughly, and ideally randomly selected. The available long-term data suggest a rapid decline, although BBS shows significant increase in recent years. The species has recently been moved from the green to the amber list, because of moderate decline in the CBC trend for 1974-99, and is newly listed as of European concern following declines elsewhere in Europe (BirdLife International 2004).

information

Population changes



Table of population changes for House Martin

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|------------------|
| CBC/BBS England | 37 | 1967-2004 | 183 | -53 | -86 | 32 | | Small CBC sample |
| | 25 | 1979-2004 | 260 | -57 | -84 | 37 | | Small CBC sample |
| | 10 | 1994-2004 | 624 | 5 | -9 | 20 | | |
| | 5 | 1999-2004 | 683 | 16 | 6 | 27 | | |
| BBS UK | 11 | 1994-2005 | 786 | 38 | 27 | 50 | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrhouma.shtml[5/10/2017 10:53:26 AM]

| BBS England | 11 | 1994-2005 | 622 | 20 | 10 | 31 | |
|---------------|----|-----------|-----|-----|----|-----|--|
| BBS Scotland | 11 | 1994-2005 | 47 | 166 | 69 | 320 | |
| BBS Wales | 11 | 1994-2005 | 79 | 76 | 33 | 132 | |
| BBS N.Ireland | 11 | 1994-2005 | 31 | 204 | 81 | 410 | |



Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

changes

TREE PIPIT Anthus trivialis

 Productivity trends Additional

information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: amber (>50% population decline but data possibly unrepresentative)

UK Biodiversity Action Plan: in preparation

Long-term trend

England: rapid decline

UK population size

74,400 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary

The species was moved from the green to the amber list in 2002, on the strength of its population decline. Tree Pipits occur in greatest abundance in Wales, northern England and Scotland, and thus the marked CBC decline between the two atlas periods may reflect the range contraction that occurred then in central and southeast England (Gibbons *et al.* 1993). Since 1994, CBC/BBS data have shown further severe decrease, especially in England. The causes of the population decline are unclear, but may be linked to changing forest structure, as new plantations mature, and reduced management of lowland woods (Fuller *et al.* 2005). Improvements have occurred in breeding performance, with an increase in brood size and a substantial decline in failure rates over the 17-day egg stage (13 days incubation and 4 days laying). Numbers have fallen widely in Europe since 1980 (PECBM 2006).

Population changes



Table of population changes for Tree Pipit

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|--------|-----------------|-------|--------------|---------------|----------------|----------------|-------|---------|
| | | | | | | | | |



BTO - Breeding Birds of the Wider Countryside: Tree Pipit

| CBC/BBS England | 37 | 1967-2004 | 42 | -82 | -93 | -69 | >50 | |
|-----------------|----|-----------|-----|-----|-----|-----|-------|--|
| | 25 | 1979-2004 | 46 | -81 | -92 | -68 | >50 | |
| | 10 | 1994-2004 | 74 | -43 | -58 | -21 | >25 | |
| | 5 | 1999-2004 | 69 | -17 | -36 | 13 | | |
| BBS UK | 11 | 1994-2005 | 119 | -27 | -40 | -10 | (>25) | |
| BBS England | 11 | 1994-2005 | 64 | -46 | -59 | -30 | (>25) | |
| BBS Wales | 11 | 1994-2005 | 30 | -29 | -53 | 6 | | |



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Productivity trends

Table of productivity changes for Tree Pipit

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|--------------------|---------------------------|---------------------|---------|-----------------|
| Clutch size | 36 | 1968- 2004 | 11 | None | | | | Small sample |
| Brood size | 36 | 1968- 2004 | 29 | Linear increase | 4.38 chicks | 4.74 chicks | 8.2% | Small sample |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 13 | Linear decline | 3.73% nests/day | 1.3% nests/day | -65.1% | Small sample |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 20 | Curvilinear | 3.32% nests/day | 3.33% nests/day | 0.3% | Small sample |
| Laying date | 36 | 1968- 2004 | 19 | Linear decline | May 25 | May 16 | -9 days | Small sample |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

MEADOW PIPIT Anthus pratensis

 Population changes Additional information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: amber (25–50% population decline)

trends

Long-term trend

England: moderate decline

UK population size

1,680,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



The CBC/BBS trend has been downward since the mid 1970s, accompanied by a range contraction from lowland England (Gibbons *et al.* 1993). Meadow Pipits are partial migrants and conditions on the Iberian wintering grounds have been linked to the decline, as have losses of marginal land from parts of the breeding range (Gibbons *et al.* 1993). Moorland, the key Meadow Pipit habitat, was not covered well by the CBC, leading to some doubt about the significance of the early results for this species, but BBS now provides more representative monitoring. With the species' move from the green to the amber list, however, its decrease has been recognised as worthy of conservation concern. Nest failure rates at the 12-day nestling stage have declined markedly, which may reflect the loss of birds from suboptimal habitat. A trend towards earlier laying is probably related to climate change (Crick & Sparks 1999).

Population changes



Table of population changes for Meadow Pipit

| (yrs) | | (n) | (%) | limit | limit | | |
|-------|-------------------|---------------------------------------|--------------------------------------|---|--|--|--|
| 37 | 1967-2004 | 116 | -41 | -70 | -6 | >25 | |
| 25 | 1979-2004 | 155 | -43 | -60 | -27 | >25 | |
| | (yrs) 37 25 | (yrs) 37 1967-2004 25 1979-2004 | (yrs)(n)371967-2004116251979-2004155 | (yrs)(n)(%)371967-2004116-41251979-2004155-43 | (yrs)(n)(%)limit371967-2004116-41-70251979-2004155-43-60 | (yrs)(n)(%)limitlimit371967-2004116-41-70-6251979-2004155-43-60-27 | (yrs)(n)(%)limitlimit371967-2004116-41-70-6>25251979-2004155-43-60-27>25 |

| | 10 | 1994-2004 | 338 | -12 | -25 | -1 | |
|---------------|----|-----------|-----|-----|-----|-----|--|
| | 5 | 1999-2004 | 349 | 7 | -3 | 20 | |
| BBS UK | 11 | 1994-2005 | 656 | -6 | -11 | -2 | |
| BBS England | 11 | 1994-2005 | 329 | -13 | -19 | -7 | |
| BBS Scotland | 11 | 1994-2005 | 191 | -18 | -26 | -9 | |
| BBS Wales | 11 | 1994-2005 | 78 | 24 | 7 | 44 | |
| BBS N.Ireland | 11 | 1994-2005 | 55 | 95 | 54 | 146 | |



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Productivity trends

Table of productivity changes for Meadow Pipit

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|---------------------------|-----------------|---------------|--------------------------|--------|---------------------------|---------------------|--------|---------|
| Clutch size | 36 | 1968- 2004 | 37 | None | | | | |
| Brood size | 36 | 1968- 2004 | 71 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 48 | None | | | | |
| Daily failure rate | 36 | 1968- | 65 | Linear | 2.75% | 1.09% | -60.4% | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrmeapi.shtml[5/10/2017 10:53:30 AM]

| (chicks) | | 2004 | | decline | nests/day | nests/day | | |
|-------------|----|---------------|----|-------------------|-----------|-----------|---------|--|
| Laying date | 36 | 1968- 2004 | 40 | Linear decline | May 17 | May 11 | -6 days | |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

YELLOW WAGTAIL *Motacilla flava* • Population changes • Productivity trends

Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: amber (25–50% population decline) UK Biodiversity Action Plan: in preparation

Long-term trend

UK, England: rapid decline

UK population size

11,500–26,500 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS and WBS trends: **BiE04**, **APEP06**)

Status summary

Britain holds almost the entire population of the distinctive race *flavissima*, and so population changes in the UK are of special significance. Yellow Wagtails have been in decline since the early 1980s, according to CBC/BBS and especially WBS, and have now been moved from the green to the amber list. Further losses since 1999 already suggest that red listing is appropriate. Monitoring samples along waterways may soon become too small to continue the annual index. **Gibbons** *et al.* (1993) identified a range contraction towards a core area in central England, concurrent with the early years of decline. Farmland drainage, the conversion of pasture to arable land, the change from spring to winter cereals, and the loss of insects associated with cattle have been cited as possible causes (**Gibbons** *et al.* 1993, **Nelson** *et al.* 2003). Although nest record sample sizes are small, there has been a notable reduction in brood size since the mid 1960s.

Population changes



Table of population changes for Yellow Wagtail

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|--------|-----------------|-------|--------------|---------------|----------------|----------------|-------|---------|
| | | | | | | | | |



BTO - Breeding Birds of the Wider Countryside: Yellow Wagtail

| CBC/BBS England | 37 | 1967-2004 | 64 | -67 | -87 | -33 | >50 | |
|-----------------|----|-----------|-----|-----|-----|-----|-------|--------------|
| | 25 | 1979-2004 | 80 | -65 | -80 | -44 | >50 | |
| | 10 | 1994-2004 | 160 | -28 | -49 | -19 | >25 | |
| | 5 | 1999-2004 | 147 | -17 | -30 | -6 | | |
| CBC/BBS UK | 37 | 1967-2004 | 65 | -69 | -87 | -32 | >50 | |
| | 25 | 1979-2004 | 82 | -67 | -80 | -44 | >50 | |
| | 10 | 1994-2004 | 164 | -28 | -44 | -19 | >25 | |
| | 5 | 1999-2004 | 152 | -18 | -26 | -8 | | |
| WBS waterways | 29 | 1975-2004 | 21 | -95 | -98 | -91 | >50 | |
| | 25 | 1979-2004 | 20 | -95 | -98 | -92 | >50 | |
| | 10 | 1994-2004 | 15 | -84 | -91 | -76 | >50 | Small sample |
| | 5 | 1999-2004 | 11 | -64 | -72 | -55 | >50 | Small sample |
| BBS UK | 11 | 1994-2005 | 151 | -33 | -43 | -20 | (>25) | |
| BBS England | 11 | 1994-2005 | 148 | -31 | -42 | -18 | (>25) | |



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Productivity trends

Table of productivity changes for Yellow Wagtail

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|------------|-----------------|-----------|--------------------------|----------------|---------------------------|---------------------|--------|--------------|
| Brood size | 36 | 1968-2004 | 13 | Linear decline | 4.84 chicks | 4.34 chicks | -10.5% | Small sample |

Insufficient data on clutch size



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

GREY WAGTAIL Motacilla cinerea

 Population changes

 Productivity Additional trends

information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: amber (25-50% population decline)

Long-term trend

UK: probable shallow decline

UK population size

38,400-46,200 pairs in 2000 (1988-91 Atlas estimate updated using CBC and WBS trends: BiE04, APEP06)

Status summary

Grey Wagtails occur at highest densities along fast-flowing upland streams. WBS shows a fluctuating population size along waterways, with a fall during the late 1970s and early 1980s from an initial high point in 1974. The species has recently been moved from the green to the amber list, because of a 41% decline recorded between 1975 and 1999, but the current figures show that the population has entered a new phase of increase. The trends for Grey Wagtail are very similar to those for Pied Wagtail, suggesting that similar factors may be affecting these two species. Clutch and brood size of Grey Wagtails rose as the population fell, and are now getting smaller again. Nest failure rates have dropped substantially.

Population changes



Table of population changes for Grey Wagtail

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|---------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| WBS waterways | 29 | 1975-2004 | 56 | -20 | -41 | 9 | | |
| | 25 | 1979-2004 | 56 | 18 | -5 | 44 | | |
| | 10 | 1994-2004 | 57 | 32 | 17 | 48 | | |
| | 5 | 1999-2004 | 48 | 28 | 16 | 42 | | |

| BBS UK | 11 1994-2005 | 177 | 75 | 46 | 109 | |
|-------------|--------------|-----|----|----|-----|--|
| BBS England | 11 1994-2005 | 113 | 82 | 47 | 127 | |



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Productivity trends

Table of productivity changes for Grey Wagtail

| Variable | Period (vrs) | Years | Mean annual | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|-----------------------------|-----------------|-----------|----------------|-------------|---------------------------|---------------------|--------|---------|
| | | | sample | | | | | |
| Clutch size | 36 | 1968-2004 | 40 | Curvilinear | 4.67 eggs | 4.68 eggs | 0.2% | |
| Brood size | 36 | 1968-2004 | 84 | Curvilinear | 3.92 chicks | 3.95 chicks | 0.7% | |
| Daily failure rate (eggs) | 36 | 1968-2004 | 62 | None | | | | |
| Daily failure rate (chicks) | 36 | 1968-2004 | 60 | Curvilinear | 1.54% nests/day | 0.58% nests/day | -62.3% | |
| Laying date | 36 | 1968-2004 | 63 | None | | | | |





65 70 75 80 85 90 95 00 05 Year

Insufficient data on CES

0.000



available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

PIED WAGTAIL Motacilla alba

 Population changes Productivity
 Additional
 information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

Long-term trend

UK: uncertain

UK population size

272,000–352,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS and WBS trends: **BiE04, APEP06**)

Status summary



Britain and Ireland together hold almost the entire population of the distinctive dark-backed race *yarrellii*, and for this reason population changes in the UK are of special significance. The CBC shows that a strong increase occurred up to the mid 1970s, such that populations have shown moderate increase overall since 1966. Since 1974, however, the results of monitoring are somewhat conflicting: CBC/BBS and WBS trends fluctuate in parallel but, whereas little overall change is evident in the CBC/BBS index, WBS has shown a moderate decline, perhaps suggesting the influence of factors specific to linear waterways. The long-term trend in abundance is similar to those shown by Wren and Long-tailed Tit, two other resident insectivores (Siriwardena *et al.* 1998a). Average clutch and brood sizes have declined a little, but this has been counteracted by a fall in nest failure rates at the egg stage.

Population changes



Table of population changes for Pied Wagtail

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 271 | 97 | 53 | 188 | | |
| | | | | | | | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrpiewa.shtml[5/10/2017 10:54:34 AM]

| | 25 | 1979-2004 | 365 | -1 | -17 | 40 | | |
|---------------|----|-----------|------|-----|-----|-----|-----|--|
| | 10 | 1994-2004 | 814 | 11 | 5 | 20 | | |
| | 5 | 1999-2004 | 897 | 3 | -1 | 8 | | |
| CBC/BBS UK | 37 | 1967-2004 | 351 | 92 | 40 | 167 | | |
| | 25 | 1979-2004 | 479 | 0 | -20 | 25 | | |
| | 10 | 1994-2004 | 1072 | 10 | 2 | 19 | | |
| | 5 | 1999-2004 | 1184 | 3 | -2 | 9 | | |
| WBS waterways | 29 | 1975-2004 | 64 | -49 | -61 | -35 | >25 | |
| | 25 | 1979-2004 | 64 | -37 | -50 | -22 | >25 | |
| | 10 | 1994-2004 | 63 | -16 | -25 | -5 | | |
| | 5 | 1999-2004 | 52 | 0 | -9 | 11 | | |
| BBS UK | 11 | 1994-2005 | 1048 | 21 | 13 | 29 | | |
| BBS England | 11 | 1994-2005 | 793 | 24 | 15 | 34 | | |
| BBS Scotland | 11 | 1994-2005 | 116 | 14 | -8 | 40 | | |
| BBS Wales | 11 | 1994-2005 | 102 | 37 | 10 | 69 | | |
| BBS N.Ireland | 11 | 1994-2005 | 33 | 12 | -35 | 95 | | |



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Productivity trends

Table of productivity changes for Pied Wagtail

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|--------|---------|
| Clutch size | 36 | 1968- 2004 | 59 | Linear decline | 5.13 eggs | 4.92 eggs | -4% | |
| Brood size | 36 | 1968- 2004 | 112 | Curvilinear | 4.44 chicks | 4.2 chicks | -5.4% | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 82 | Curvilinear | 1.41% nests/day | 0.55% nests/day | -61% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 90 | None | | | | |
| Laying date | 36 | 1968- 2004 | 79 | None | | | | |





Insufficient data on CES available for this species



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results



status in Europe, not concentrated in Europe) UK: green

Long-term trend

UK: fluctuating, with no long-term trend

UK population size

6,800-20,000 pairs in 2000 (1988-91 Atlas estimate updated using WBS trend: BiE04, APEP06)

Status summary



The WBS trend shows that Dipper populations have fluctuated over the last thirty years, but shown little overall trend. The species is a good indicator of acidity and other water pollution (Ormerod & Tyler 1989, 1990), so warrants careful monitoring. Breeding performance has improved strongly over time, and laying dates have become earlier, perhaps because of climate change (Crick & Sparks 1999). Broods now average larger, and there has been substantial reduction in failure rates of nests at the egg stage.

Population changes



Table of population changes for Dipper

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|---------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| WBS waterways | 29 | 1975-2004 | 36 | -6 | -35 | 33 | | |
| | 25 | 1979-2004 | 36 | 5 | -21 | 44 | | |
| | 10 | 1994-2004 | 33 | 7 | -12 | 30 | | |
| | 5 | 1999-2004 | 28 | 7 | -7 | 21 | | |
| BBS UK | 11 | 1994-2005 | 47 | 6 | -25 | 50 | | |



Year

Productivity trends

Table of productivity changes for Dipper

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|----------------|---------|
| Clutch size | 36 | 1968- 2004 | 73 | Curvilinear | 4.47 eggs | 4.5 eggs | 0.7% | |
| Brood size | 36 | 1968- 2004 | 140 | Curvilinear | 3.41 chicks | 3.76 chicks | 1 0.4 % | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 103 | Curvilinear | 2.55% nests/day | 0.32% nests/day | -87.5% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 80 | None | | | | |
| Laying date | 36 | 1968- 2004 | 61 | Linear decline | Apr 18 | Apr 9 | -9 days | |








Insufficient data on CES available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

WREN Troglodytes troglodytes • Population changes • Productivity trends • Additional information Conservation listings Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green UK Biodiversity Action Plan (Fair Isle & St Kilda races

UK Biodiversity Action Plan (Fair Isle & St Kilda races only): in preparation

Long-term trend

UK, England: moderate increase

UK population size

8,512,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary

The Wren's current UK population estimate is the highest for any species. Abundance can vary sharply from year to year in this species, as is evident from the unsmoothed trends presented here for BBS. Annual numbers are influenced by mortality rates that may be very high in severe winters and by the species' high breeding potential (Peach *et al.* 1995b). Wren numbers in the UK were greatly depleted by the cold winter of 1962/63 (Marchant *et al.* 1990). Following a rapid recovery up to the mid 1970s, abundance fell again in response to a further series of cold winters only to return to its previous high level. BBS results suggest that increase since 1994 has been much stronger in Scotland and Northern Ireland than in Wales and England. Brood size appears to have shown a small improvement in the long term, and fewer nests are now failing at the egg stage. Numbers have risen widely in Europe since 1980 (PECBM 2006).

Population changes



Table of population changes for Wren

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|--------|-----------------|-------|--------------|---------------|----------------|----------------|-------|---------|
| | | | | | | | | |



BTO - Breeding Birds of the Wider Countryside: Wren

| CBC/BBS England | 37 | 1967-2004 | 569 | 92 | 65 | 118 | |
|-----------------|----|-----------|------|----|----|-----|--|
| | 25 | 1979-2004 | 755 | 44 | 26 | 54 | |
| | 10 | 1994-2004 | 1597 | 13 | 8 | 16 | |
| | 5 | 1999-2004 | 1697 | 8 | 4 | 9 | |
| CBC/BBS UK | 37 | 1967-2004 | 712 | 99 | 71 | 126 | |
| | 25 | 1979-2004 | 953 | 52 | 34 | 64 | |
| | 10 | 1994-2004 | 2043 | 20 | 14 | 23 | |
| | 5 | 1999-2004 | 2200 | 9 | 5 | 11 | |
| CES adults | 20 | 1984-2004 | 95 | 60 | 37 | 88 | |
| | 10 | 1994-2004 | 109 | 17 | 7 | 28 | |
| | 5 | 1999-2004 | 106 | 10 | 2 | 19 | |
| CES juveniles | 20 | 1984-2004 | 94 | 45 | 19 | 76 | |
| | 10 | 1994-2004 | 108 | 10 | -1 | 20 | |
| | 5 | 1999-2004 | 106 | 4 | -5 | 12 | |
| BBS UK | 11 | 1994-2005 | 1936 | 24 | 20 | 28 | |
| BBS England | 11 | 1994-2005 | 1498 | 9 | 5 | 12 | |
| BBS Scotland | 11 | 1994-2005 | 183 | 97 | 72 | 125 | |
| BBS Wales | 11 | 1994-2005 | 171 | 15 | 5 | 26 | |
| BBS N.Ireland | 11 | 1994-2005 | 73 | 90 | 51 | 139 | |



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CBC/BBS England 1966-2005

Wren





CES adult abundance 1983-2005





BBS UK 1994-2005







Productivity trends

Table of productivity changes for Wren

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|----------------------------------|-----------------|---------------|--------------------------|--------------------|---------------------------|---------------------|---------|---------|
| Clutch size | 36 | 1968- 2004 | 95 | None | | | | |
| Brood size | 36 | 1968- 2004 | 96 | Linear increase | 4.8 chicks | 5.14 chicks | 7.2% | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 142 | Linear decline | 1.85% nests/day | 1.41% nests/day | -23.8% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 99 | None | | | | |
| Laying date | 36 | 1968- 2004 | 86 | Linear decline | May 14 | May 10 | -4 days | |
| Juvenile to Adult ratio (CES) | 20 | 1984- 2004 | 99 | Smoothed trend | 99 Index value | 104 Index value | 1% | |
| Juvenile to Adult ratio (CES) | 10 | 1994- 2004 | 112 | Smoothed trend | 103 Index value | 104 Index value | -3% | |
| Juvenile to Adult ratio (CES) | 5 | 1999- 2004 | 109 | Smoothed trend | 101 Index value | 104 Index value | -1% | |







- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

DUNNOCK Prunella modularis

 Population changes

 Productivity Additional information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: amber (25-50% population decline) UK Biodiversity Action Plan: in preparation

trends

Long-term trend

UK, England: moderate decline

UK population size

2,163,000 territories in 2000 (1988-91 Atlas estimate updated using CBC/BBS trend: BiE04, APEP06)

Status summary



Dunnock abundance fell substantially between the mid 1970s and mid 1980s, after a period of population stability. Some recovery has occurred throughout the UK since the late 1990s, but the species is still subject to amber listing. The cause of the decline remains unknown. In many lowland woods, canopy closure in the absence of forest management and increasing browsing pressure from deer are likely to have reduced the suitability of the habitat for this species (Fuller et al. 2005). There has been little variation in survival rates over time (Siriwardena et al. 1998a). Clutch and brood sizes increased as the population fell. Numbers have fallen widely in Europe since 1980 (PECBM 2006).

Population changes



Table of population changes for Dunnock

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 509 | -39 | -48 | -29 | >25 | |
| | 25 | 1979-2004 | 669 | -21 | -31 | -12 | | |
| | 10 | 1994-2004 | 1400 | 16 | 10 | 22 | | |

| | 5 | 1999-2004 | 1486 | 12 | 8 | 15 | | |
|---------------|----|-----------|------|-----|-----|-----|-----|--|
| CBC/BBS UK | 37 | 1967-2004 | 612 | -36 | -45 | -26 | >25 | |
| | 25 | 1979-2004 | 810 | -18 | -27 | -7 | | |
| | 10 | 1994-2004 | 1708 | 19 | 14 | 24 | | |
| | 5 | 1999-2004 | 1845 | 12 | 9 | 15 | | |
| CES adults | 20 | 1984-2004 | 93 | 0 | -15 | 17 | | |
| | 10 | 1994-2004 | 107 | 16 | 6 | 26 | | |
| | 5 | 1999-2004 | 103 | 17 | 8 | 27 | | |
| CES juveniles | 20 | 1984-2004 | 91 | -5 | -25 | 20 | | |
| | 10 | 1994-2004 | 106 | 6 | -5 | 17 | | |
| | 5 | 1999-2004 | 103 | 12 | 2 | 24 | | |
| BBS UK | 11 | 1994-2005 | 1618 | 22 | 17 | 28 | | |
| BBS England | 11 | 1994-2005 | 1316 | 15 | 10 | 21 | | |
| BBS Scotland | 11 | 1994-2005 | 107 | 49 | 19 | 86 | | |
| BBS Wales | 11 | 1994-2005 | 130 | 35 | 15 | 58 | | |
| BBS N.Ireland | 11 | 1994-2005 | 54 | 187 | 87 | 342 | | |



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Productivity trends

Table of productivity changes for Dunnock

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|----------------------------------|-----------------|---------------|--------------------------|--------------------|---------------------------|---------------------|--------|---------|
| Clutch size | 36 | 1968- 2004 | 100 | Linear increase | 3.92 eggs | 4.2 eggs | 7% | |
| Brood size | 36 | 1968- 2004 | 106 | Linear increase | 3.46 chicks | 3.66 chicks | 5.9% | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 142 | Curvilinear | 2.52% nests/day | 2.47% nests/day | -2% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 114 | None | | | | |
| Laying date | 36 | 1968- 2004 | 80 | None | | | | |
| Juvenile to Adult ratio (CES) | 20 | 1984- 2004 | 98 | Smoothed trend | 98 Index value | 104 Index value | 2% | |
| Juvenile to Adult ratio (CES) | 10 | 1994- 2004 | 111 | Smoothed trend | 103 Index value | 104 Index value | -3% | |
| Juvenile to Adult ratio (CES) | 5 | 1999- 2004 | 108 | Smoothed trend | 109 Index value | 104 Index value | -8% | |







- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

ROBIN Erithacus rubecula Population Productivity Additional information Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: green

Long-term trend

UK, England: shallow increase

UK population size

5,895,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



Robins have increased markedly since the mid 1980s, according to both CBC/BBS and CES results, having been set back earlier by a succession of cold winters. Significant improvements have occurred concurrently in breeding performance, as measured by nest record data, due to reductions in nest failure rates at both egg and chick stages, although CES productivity measures have declined. The CES and BBS graphs show that marked and significant annual fluctuations occur, perhaps in response to winter weather, although these are not evident in the smoothed trends presented from CBC/BBS data. Laying dates have advanced by almost a week since the 1960s. Numbers have risen widely in Europe since 1980 (PECBM 2006).

CBC/BBS UK 1966-2005

Population changes



Table of population changes for Robin

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|------------------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 557 | 49 | 34 | 66 | | |
| | 25 | 1979-2004 | 739 | 53 | 39 | 66 | | |
| | 10 | 1994-2004 | 1562 | 24 | 20 | 27 | | |
| | 5 | 1999-2004 | 1656 | 11 | 8 | 12 | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrrobin.shtml[5/10/2017 10:54:40 AM]

BTO - Breeding Birds of the Wider Countryside: Robin

| CBC/BBS UK | 37 | 1967-2004 | 691 | 38 | 26 | 54 | |
|---------------|----|-----------|------|----|-----|----|--|
| | 25 | 1979-2004 | 924 | 44 | 33 | 56 | |
| | 10 | 1994-2004 | 1973 | 18 | 15 | 21 | |
| | 5 | 1999-2004 | 2121 | 6 | 3 | 8 | |
| CES adults | 20 | 1984-2004 | 89 | 59 | 40 | 83 | |
| | 10 | 1994-2004 | 103 | 18 | 12 | 27 | |
| | 5 | 1999-2004 | 102 | 21 | 11 | 32 | |
| CES juveniles | 20 | 1984-2004 | 94 | 18 | 1 | 39 | |
| | 10 | 1994-2004 | 108 | -1 | -9 | 8 | |
| | 5 | 1999-2004 | 106 | -9 | -14 | -1 | |
| BBS UK | 11 | 1994-2005 | 1867 | 17 | 13 | 21 | |
| BBS England | 11 | 1994-2005 | 1463 | 19 | 15 | 24 | |
| BBS Scotland | 11 | 1994-2005 | 156 | 17 | 2 | 33 | |
| BBS Wales | 11 | 1994-2005 | 168 | 9 | -1 | 20 | |
| BBS N.Ireland | 11 | 1994-2005 | 70 | 18 | -6 | 48 | |



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Productivity trends

Table of productivity changes for Robin

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|----------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|----------|---------|
| Clutch size | 36 | 1968- 2004 | 119 | None | | | | |
| Brood size | 36 | 1968- 2004 | 159 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 178 | Curvilinear | 2.46% nests/day | 1.07% nests/day | -56.5% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 151 | Curvilinear | 2.46% nests/day | 1.72% nests/day | -30.1% | |
| Laying date | 36 | 1968- 2004 | 116 | Linear decline | Apr 28 | Apr 22 | -6 days | |
| Juvenile to Adult ratio (CES) | 20 | 1984- 2004 | 98 | Smoothed trend | 126 Index value | 104 Index value | -20% | |
| Juvenile to Adult ratio (CES) | 10 | 1994- 2004 | 112 | Smoothed trend | 126 Index value | 104 Index value | -21% | |
| Juvenile to Adult ratio (CES) | 5 | 1999- 2004 | 110 | Smoothed trend | 145 Index value | 104 Index value | -31% >25 | |







- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

NIGHTINGALE Luscinia megarhynchos Population Productivity

changes trends

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: amber (25-50% distribution decline)

 Additional information

Long-term trend

UK: probable shallow decline

UK population size

6,700 (5,600-9,350) males in 1999 (Wilson et al. 2002: **BiE04**, **APEP06**)

Status summary

In 1999, the BTO organised a national survey of Nightingales, which showed a marked range contraction since the previous survey in 1980, but only an 8% overall population decline (Wilson et al. 2002; for more details click here). Nightingales are scarce birds, and CBC and BBS data are correspondingly meagre. Nevertheless, analysis of the available CBC data shows continuous decline (G.M. Siriwardena, unpubl.) and CES suggests a fluctuating pattern, or possible decline. Fuller et al. (2005) suggest the likely causes of Nightingale decline relate to pressures on migration and in winter, perhaps compounded by habitat loss and reduced habitat guality in Britain. CES indicates a sharp decline in productivity during the 1980s, perhaps because Nightingale nesting success may be adversely affected by cold and wet springs. Numbers have fallen widely in Europe since 1980 (PECBM 2006).

Population changes



Table of population changes for Nightingale

Lower

Upper

Source

Period

Plots Change

Years





The Breeding Bird Survey is jointly funded by the BTO, JNCC & RSPB



Productivity trends

Table of productivity changes for Nightingale

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|-------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|----------|-----------------|
| Juvenile to Adult ratio (CES) | 20 | 1984- 2004 | 11 | Smoothed trend | 1226 Index value | 104 Index value | -92% >50 | Small sample |
| Juvenile to Adult ratio (CES) | 10 | 1994- 2004 | 12 | Smoothed trend | 292 Index value | 104 Index value | -66% >50 | Small sample |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results



Status summary

The decline in the late 1960s and early 1970s was thought to be due to severe drought conditions in the Sahel wintering area in Africa (Marchant *et al.* 1990). There was a loss of range of 20% in Britain between 1968–72 and 1988–91, in terms of the numbers of occupied 10-km squares (Gibbons *et al.* 1993). A recovery in population size began in the mid 1970s and appears to have continued, at least in England, into the late 1990s. This increase has been associated with improving breeding performance and progressively earlier laying dates. The trend towards earlier laying can be partly explained by recent climate change (Crick & Sparks 1999).

Population changes



Table of population changes for Redstart

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|------------------|
| CBC/BBS England | 37 | 1967-2004 | 35 | -22 | -54 | 28 | | Small CBC sample |
| | 25 | 1979-2004 | 45 | 49 | 0 | 121 | | Small CBC sample |
| | 10 | 1994-2004 | 85 | -2 | -18 | 12 | | |
| | 5 | 1999-2004 | 79 | -18 | -29 | -5 | | |
| CBC/BBS UK | 37 | 1967-2004 | 57 | -22 | -44 | 21 | | |
| | | | | | | | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrredst.shtml[5/10/2017 10:54:41 AM]

BTO - Breeding Birds of the Wider Countryside: Redstart

| | 25 | 1979-2004 | 74 | 55 | 3 | 99 | |
|-------------|----|-----------|-----|-----|-----|----|--|
| | 10 | 1994-2004 | 150 | 0 | -13 | 14 | |
| | 5 | 1999-2004 | 147 | -14 | -23 | -4 | |
| BBS UK | 11 | 1994-2005 | 133 | 18 | 0 | 40 | |
| BBS England | 11 | 1994-2005 | 70 | 17 | -9 | 51 | |
| BBS Wales | 11 | 1994-2005 | 52 | 7 | -16 | 36 | |

BTO IN The Breeding Bird Survey is jointly funded by the BTO, JNCC & RSPB





Redstart 70 103 97 94 95 90 97 95 90 00 01 02 03 04 05 Year

Productivity trends

Table of productivity changes for Redstart

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|----------|---------|
| Clutch size | 36 | 1968- 2004 | 49 | Curvilinear | 5.89 eggs | 6.23 eggs | 5.9% | |
| Brood size | 36 | 1968- 2004 | 87 | Curvilinear | 5.08 chicks | 5.46 chicks | 7.4% | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 75 | Linear decline | 1.16% nests/day | 0.33% nests/day | -71.6% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 53 | Linear decline | 1.17% nests/day | 0.47% nests/day | -59.8% | |
| Laying date | 36 | 1968- | 63 | Curvilinear | May 20 | May 9 | -11 days | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrredst.shtml[5/10/2017 10:54:41 AM]



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

WHINCHAT Saxicola rubetra • Population changes • Productivity trends

ctivity • Additional information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: green

Long-term trend

UK: decline

UK population size

14,000–28,000 pairs in 1990 (1988–91 Atlas: APEP06); 11,000–22,100 pairs in 2000 (updated using BBS trend: **BiE04**)

Status summary

Whinchats were not monitored until the BBS began in 1994. By then, however, **Gibbons** *et al.* (1993) had identified a major range contraction, mainly from lowland England, that was probably at least partly due to the loss of marginal farmland habitats (Marchant et al. 1990). Further extinctions have occurred since then among remaining pockets of lowland breeders. BBS data suggest that some population decline took place during the 1990s, provisionally raising a BTO alert. Nest record samples are small, but indicate a substantial rise in nest losses at the egg stage. Numbers have fallen widely in Europe since 1980 (PECBM 2006).

Population changes



Table of population changes for Whinchat

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|--------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| BBS UK | 11 | 1994-2005 | 72 | -36 | -50 | -18 | (>25) | |





The Breeding Bird Survey is jointly funded by the BTO, JNCC & RSPB

Productivity trends

Table of productivity changes for Whinchat

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|--------------------|---------------------------|---------------------|---------|-----------------|
| Clutch size | 36 | 1968- 2004 | 13 | None | | | | Small sample |
| Brood size | 36 | 1968- 2004 | 41 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 16 | Linear increase | 0.62% nests/day | 2.13% nests/day | 243.5% | Small sample |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 28 | Curvilinear | 2.64% nests/day | 2.43% nests/day | -8% | Small sample |
| Laying date | 36 | 1968- 2004 | 30 | Linear decline | May 30 | May 26 | -4 days | Small sample |



Brood size 1966-2005 Whinchat

Chick stage nest failure rate Whinchat



Insufficient data on CES available for this species

Additional information

• Maps and statistics from British and Irish atlases

BTO - Breeding Birds of the Wider Countryside: Whinchat

- BirdFacts page on species biology
- BirdTrack results

STONECHAT Saxicola torquatus

 Population changes Productivity
 Additional
 information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: amber (European status)

Long-term trend

UK: uncertain, possible decline

UK population size

9,000–23,000 pairs in 1990 (1988–91 Atlas: **APEP06**); 19,300–49,400 pairs in 2000 (updated using BBS trend: **BiE04**)



Status summary

Numerical trends were not measurable before the start of the BBS, but a long-term decline is suspected: severe winter weather, and loss and fragmentation of suitable breeding habitat in many inland regions, are believed to have reduced the population from the 1940s onward (Marchant *et al.* 1990). Breeding atlas data showed a substantial contraction in the Stonechat's range between the early 1970s and late 1980s (Gibbons *et al.* 1993). Nest failure rates have fallen markedly over the long term. Against this background, the current, strongly increasing BBS trend represents substantial recovery. Following similar increases widely across Europe, the species is now provisionally categorised as 'secure' (BirdLife International 2004). The UK amber listing rests on the earlier European decline, so a change to green may be warranted at the next review.

Population changes



Table of population changes for Stonechat

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| BBS UK | 11 | 1994-2005 | 104 | 227 | 153 | 322 | | |
| BBS England | 11 | 1994-2005 | 41 | 183 | 90 | 322 | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrstoch.shtml[5/10/2017 10:54:44 AM]





Productivity trends

Table of productivity changes for Stonechat

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|-------------|---------------------------|---------------------|---------|--------------|
| Clutch size | 36 | 1968- 2004 | 29 | None | | | | Small sample |
| Brood size | 36 | 1968- 2004 | 56 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 33 | Curvilinear | 0.5% nests/day | 0.32% nests/day | -36% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 50 | Curvilinear | 1.11% nests/day | 0.4% nests/day | -64% | |
| Laying date | 36 | 1968- 2004 | 33 | Curvilinear | May 3 | Apr 28 | -5 days | |





Insufficient data on CES available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

WHEATEAR Oenanthe oenanthe • Population changes • Productivity trends

Conservation listings

Europe: SPEC category 3 (declining) UK: green

Long-term trend

UK: possible decline

UK population size

56,000 pairs in 1990 (1988–91 Atlas: **APEP06**); 52,500 pairs in 2000 (updated using BBS trend: **BiE04**); 100,000–200,000 pairs in Britain (**Sellers 2006**)

Status summary

Although it is a common breeding species in many upland areas, the Wheatear was not monitored at UK scale until the BBS began in 1994. **Gibbons** *et al.* **(1993)** had by then identified range contractions from lowland Britain, perhaps due to losses of suitable grassland and declines in rabbit abundance. BBS shows wide fluctuations but as yet no clear trend in abundance since 1994 in either England, Scotland or Wales. Failure rates at the egg stage (18 days, comprising 14 days incubation and 4 days laying) have fallen substantially, but there has also been a minor drop in average brood size. Following widespread declines across Europe during the 1990s, the European status of this species is no longer considered 'secure' (BirdLife International 2004).

Additional

information

Population changes



Table of population changes for Wheatear

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|--------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| BBS UK | 11 | 1994-2005 | 250 | -4 | -15 | 9 | | |
| BBS England | 11 | 1994-2005 | 121 | -10 | -24 | 7 | | |
| BBS Scotland | 11 | 1994-2005 | 72 | -6 | -27 | 21 | | |
| BBS Wales | 11 | 1994-2005 | 46 | -10 | -35 | 25 | | |



https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrwheat.shtml[5/10/2017 10:54:45 AM]



Productivity trends

Table of productivity changes for Wheatear

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|--------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|--------|-----------------|
| Clutch size | 36 | 1968- 2004 | 14 | None | | | | Small sample |
| Brood size | 36 | 1968- 2004 | 62 | Curvilinear | 4.78 chicks | 4.63 chicks | -3.1% | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 20 | Linear decline | 2.18% nests/day | 0.57% nests/day | -73.9% | Small sample |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 43 | None | | | | |
| Laying date | 36 | 1968- 2004 | 14 | None | | | | Small sample |







- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

RING OUZEL *Turdus torquatus* • Population changes • Productivity trends

Additional information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: red (>50% population decline) UK Biodiversity Action Plan: in preparation

Long-term trend

UK: probable decline

UK population size

6,157–7,549 pairs in 1999 (Wotton *et al.* 2002: BiE04, APEP06)

Status summary

The second breeding atlas showed a decline of 27% in the number of 10-km squares occupied between 1968– 72 and 1988–91 (Gibbons *et al.* 1993), and the extent of population decline has since been established by a special survey. A 58% population decline was estimated for the period between 1988–91 and 1999, warranting red listing for this species (Gregory *et al.* 2002). British & Irish bird observatory data show a decline in spring passage Ring Ouzels at western sites during 1970–98 that matches the estimated UK breeding decline, but no decline at eastern sites where most birds are of Fennoscandian origin (Burfield & Brooke 2005). These authors infer that, since these populations winter together, the reasons for decline among UK breeders must lie on the breeding grounds or on passage: the earlier timing of spring migration for UK birds, and their more westerly route, gives them greater exposure to hunting pressures, particularly in southwest France. It has proved difficult to establish any reasons for decline that are linked to the breeding grounds (Buchanan *et al.* 2003).

Population changes

Annual breeding population changes for this species are not currently monitored by BTO

Productivity trends

Table of productivity changes for Ring Ouzel

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|-----------------------------|-----------------|-----------|--------------------------|----------------|---------------------------|---------------------|---------|--------------|
| Brood size | 36 | 1968-2004 | 23 | None | | | | Small sample |
| Daily failure rate (eggs) | 36 | 1968-2004 | 11 | None | | | | Small sample |
| Daily failure rate (chicks) | 36 | 1968-2004 | 15 | None | | | | Small sample |
| Laying date | 36 | 1968-2004 | 25 | Linear decline | May 15 | May 7 | -8 days | Small sample |

Insufficient data on clutch size available for this species





- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

BLACKBIRD *Turdus merula* • Population changes • Productivity trends

luctivity • Additional Is information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: green

Long-term trend

UK, England: shallow decline

UK population size

4,935,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary

Both CBC/BBS and CES data show long-term declines in Blackbird abundance, but recent increases suggest that the population has begun to recover. The moderate-decline criteria for amber listing and for BTO alerts are no longer met, and the species is now listed as green. CBC results indicate that the decline began in the mid 1970s. Nest success has improved over this period, and it is likely that reduced survival drove the decline (Siriwardena *et al.* 1998a). Agricultural intensification is likely to have contributed (Fuller *et al.* 1995), but, since numbers fell in woodland as well as farmland, additional factors probably operated.

Population changes



Table of population changes for Blackbird

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 586 | -18 | -26 | -9 | | |
| | 25 | 1979-2004 | 779 | -5 | -14 | 3 | | |
| | 10 | 1994-2004 | 1650 | 18 | 14 | 21 | | |
| | 5 | 1999-2004 | 1734 | 9 | 6 | 10 | | |
| | | | | | | | | |



BTO - Breeding Birds of the Wider Countryside: Blackbird

| CBC/BBS UK | 37 | 1967-2004 | 721 | -17 | -25 | -9 | | |
|---------------|----|-----------|------|-----|-----|-----|-----|--|
| | 25 | 1979-2004 | 964 | -2 | -10 | 6 | | |
| | 10 | 1994-2004 | 2061 | 19 | 15 | 22 | | |
| | 5 | 1999-2004 | 2206 | 9 | 7 | 11 | | |
| CES adults | 20 | 1984-2004 | 96 | -6 | -19 | 8 | | |
| | 10 | 1994-2004 | 109 | 9 | 0 | 17 | | |
| | 5 | 1999-2004 | 106 | 11 | 2 | 20 | | |
| CES juveniles | 20 | 1984-2004 | 85 | -34 | -51 | -10 | >25 | |
| | 10 | 1994-2004 | 98 | -12 | -24 | 0 | | |
| | 5 | 1999-2004 | 95 | -13 | -26 | 1 | | |
| BBS UK | 11 | 1994-2005 | 1952 | 22 | 18 | 25 | | |
| BBS England | 11 | 1994-2005 | 1549 | 19 | 16 | 22 | | |
| BBS Scotland | 11 | 1994-2005 | 153 | 13 | 1 | 28 | | |
| BBS Wales | 11 | 1994-2005 | 169 | 40 | 28 | 53 | | |
| BBS N.Ireland | 11 | 1994-2005 | 69 | 91 | 54 | 137 | | |



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Productivity trends

Table of productivity changes for Blackbird

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|----------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|----------|---------|
| Clutch size | 36 | 1968- 2004 | 99 | Curvilinear | 3.78 eggs | 3.73 eggs | -1.4% | |
| Brood size | 36 | 1968- 2004 | 124 | Curvilinear | 3.31 chicks | 3.29 chicks | -0.6% | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 143 | None | | | | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 122 | Linear decline | 3.02% nests/day | 1.98% nests/day | -34.4% | |
| Laying date | 36 | 1968- 2004 | 121 | None | | | | |
| Juvenile to Adult ratio (CES) | 20 | 1984- 2004 | 98 | Smoothed trend | 140 Index value | 104 Index value | -28% >25 | |
| Juvenile to Adult ratio (CES) | 10 | 1994- 2004 | 111 | Smoothed trend | 121 Index value | 104 Index value | -17% | |
| Juvenile to Adult ratio (CES) | 5 | 1999- 2004 | 108 | Smoothed trend | 124 Index value | 104 Index value | -20% | |







- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

SONG THRUSH **Turdus philomelos**

 Population changes

 Productivity Additional information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: red (>50% population decline) UK Biodiversity Action Plan: click here

trends

Long-term trend

UK, England: rapid decline

UK population size

1,144,000 territories in 2000 (1988-91 Atlas estimate updated using CBC/BBS trend: BiE04, APEP06)

Status summary



CBC/BBS shows a rapid decline in Song Thrush abundance that began in the mid 1970s. The second half of this decline can also be seen in the CES index. CES productivity showed an initial decrease, followed by some partial recovery, and NRS data indicate that nest success has improved since 1981. Changes in survival in the first winter, and perhaps also the post-fledging period, are sufficient to have caused the population decline (Thomson et al. 1997, Siriwardena et al. 1998a, Robinson et al. 2004). The environmental causes of these changes are not known, but changes in farming practices, land drainage, pesticides and predators are all candidates (Fuller et al. 1995, Robinson et al. 2004). In woodland, drainage of damp ground and the depletion of woodland shrub layers through canopy closure and deer browsing may also be implicated (Fuller et al. 2005). Recent CBC/BBS data show consistent increase, but population levels remain relatively low. Recovery of rural Song Thrush populations requires challenging new policy initiatives that should aim to restore nesting cover in scrub and woodland understorey, grazed grassland in arable-dominated areas, and damper soils in summer (Peach et al. 2004).

Population changes



Table of population changes for Song Thrush

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 471 | -53 | -59 | -45 | >50 | |
| | 25 | 1979-2004 | 613 | -25 | -35 | -13 | >25 | |
| | 10 | 1994-2004 | 1270 | 19 | 14 | 24 | | |
| | 5 | 1999-2004 | 1369 | 14 | 10 | 17 | | |
| CBC/BBS UK | 37 | 1967-2004 | 590 | -51 | -57 | -41 | >50 | |
| | 25 | 1979-2004 | 776 | -20 | -30 | -5 | | |
| | 10 | 1994-2004 | 1628 | 22 | 17 | 29 | | |
| | 5 | 1999-2004 | 1780 | 12 | 8 | 16 | | |
| CES adults | 20 | 1984-2004 | 80 | -23 | -36 | -6 | | |
| | 10 | 1994-2004 | 90 | -4 | -15 | 8 | | |
| | 5 | 1999-2004 | 88 | 20 | 1 | 38 | | |
| CES juveniles | 20 | 1984-2004 | 65 | -46 | -61 | -25 | >25 | |
| | 10 | 1994-2004 | 74 | 7 | -9 | 24 | | |
| | 5 | 1999-2004 | 75 | 13 | -4 | 32 | | |
| BBS UK | 11 | 1994-2005 | 1538 | 18 | 12 | 24 | | |
| BBS England | 11 | 1994-2005 | 1188 | 14 | 8 | 20 | | |
| BBS Scotland | 11 | 1994-2005 | 138 | 26 | 5 | 51 | | |
| BBS Wales | 11 | 1994-2005 | 143 | 36 | 17 | 57 | | |
| BBS N.Ireland | 11 | 1994-2005 | 60 | 29 | -6 | 77 | | |



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Productivity trends

Table of productivity changes for Song Thrush

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|----------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|----------|---------|
| Clutch size | 36 | 1968- 2004 | 170 | None | | | | |
| Brood size | 36 | 1968- 2004 | 188 | None | | | | |
| Daily failure rate (eggs) | 23 | 1981- 2004 | 323 | Curvilinear | 4.25% nests/day | 3.58% nests/day | -15.8% | |
| Daily failure rate (chicks) | 23 | 1981- 2004 | 241 | Linear decline | 2.47% nests/day | 1.76% nests/day | -28.7% | |
| Laying date | 36 | 1968- 2004 | 197 | None | | | | |
| Juvenile to Adult ratio (CES) | 20 | 1984- 2004 | 88 | Smoothed trend | 143 Index value | 104 Index value | -30% >25 | |
| Juvenile to Adult ratio (CES) | 10 | 1994- 2004 | 100 | Smoothed trend | 80 Index value | 104 Index value | 26% | |
| Juvenile to Adult ratio (CES) | 5 | 1999- 2004 | 99 | Smoothed trend | 103 Index value | 104 Index value | -3% | |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

MISTLE THRUSH Turdus viscivorus

 Population changes Productivity
trends
Additional
information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: amber (25–50% population decline)

Long-term trend

UK, England: moderate decline

UK population size

222,500 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



Like those of **Song Thrush** and **Blackbird**, Mistle Thrush populations have declined significantly since the mid 1970s, especially on farmland. The species was recently moved from the green to the amber list because of population decline, and recent BBS data suggest that this decline is continuing. The Scottish BBS trend, in contrast to those elsewhere in the UK, is of strong increase since the late 1990s. There have been no trends in breeding performance, other than a minor increase in clutch size, and the decline is likely to have been driven by reduced annual survival (Siriwardena *et al.* 1998). Numbers have fallen widely in Europe since 1980 (PECBM 2006).

Population changes



Table of population changes for Mistle Thrush

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 329 | -44 | -53 | -33 | >25 | |
| | 25 | 1979-2004 | 428 | -42 | -48 | -31 | >25 | |
| | 10 | 1994-2004 | 876 | -16 | -22 | -9 | | |
| | 5 | 1999-2004 | 917 | -12 | -16 | -7 | | |

BTO - Breeding Birds of the Wider Countryside: Mistle Thrush

| CBC/BBS UK | 37 | 1967-2004 | 398 | -39 | -49 | -28 | >25 | |
|---------------|----|-----------|------|-----|-----|-----|-----|--|
| | 25 | 1979-2004 | 523 | -35 | -43 | -26 | >25 | |
| | 10 | 1994-2004 | 1082 | -5 | -14 | 3 | | |
| | 5 | 1999-2004 | 1159 | -3 | -8 | 3 | | |
| BBS UK | 11 | 1994-2005 | 1014 | -7 | -14 | 0 | | |
| BBS England | 11 | 1994-2005 | 812 | -18 | -25 | -11 | | |
| BBS Scotland | 11 | 1994-2005 | 62 | 69 | 23 | 133 | | |
| BBS Wales | 11 | 1994-2005 | 89 | -1 | -23 | 29 | | |
| BBS N.Ireland | 11 | 1994-2005 | 48 | -25 | -51 | 15 | | |





Productivity trends

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|-----------------------------|-----------------|-----------|--------------------------|-----------------|---------------------------|---------------------|--------|--------------|
| Clutch size | 36 | 1968-2004 | 36 | Linear increase | 3.88 eggs | 4.06 eggs | 4.6% | |
| Brood size | 36 | 1968-2004 | 69 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968-2004 | 59 | None | | | | |
| Daily failure rate (chicks) | 36 | 1968-2004 | 62 | None | | | | |
| Laying date | 36 | 1968-2004 | 30 | None | | | | Small sample |

Table of productivity changes for Mistle Thrush





Insufficient data on CES available for this species

Additional information

Maps and statistics from British and Irish atlases

65 70 75 80 85 90 95 00 05 Year

BirdFacts page on species biology

......................

- BirdTrack results
- Garden BirdWatch results

BTO - Breeding Birds of the Wider Countryside: Mistle Thrush

CETTI'S WARBLER Cettia cetti • Population • Productivity

 Population changes Additional information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

trends

Long-term trend

England, Wales: rapid increase

UK population size

534 pairs in 1997–2001 (RBBP data: **BiE04**); mean of 645 pairs in 1998–2002 (**Ogilvie & RBBP 2004**: **APEP06**)

Status summary



Cetti's Warblers were first recorded in Britain as recently as 1961. Colonisation, which began in Kent in 1972 or 1973, continues to be monitored annually by **RBBP**. Numbers and breeding range increased spectacularly during the first 12 years, with Norfolk and Dorset gradually overtaking Kent as the main host counties (**Gibbons** *et al.* 1993, Wotton *et al.* 1998). Severe winters after 1978 led to the temporary extinction of the Kent population in 1988. Populations in milder regions continued to grow, but overall the UK population fell by over a third between 1984 and 1986. In the absence of severe winters since 1986, increase and range expansion have gathered pace. In 2002, RBBP received reports of 851–878 singing males in 23 counties as far north as Anglesey and Norfolk (**Ogilvie & RBBP 2004**). Much constant-effort ringing takes place in prime Cetti's Warbler habitat; despite the comparative rarity of this species, therefore, CES population and productivity indices are already available (**Robinson** *et al.* **in press**). CES data confirm the species' sensitivity to cold winters, which appears to have become more evident as the breeding range has expanded into more testring climates. There is no indication of any change in productivity. Numbers have risen widely in Europe since 1990 (**PECBM 2006**).

Population changes



Table of population changes for Cetti's Warbler

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|---------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|--------------|
| CES adults | 5 | 1999-2004 | 10 | 184 | 70 | 461 | | Small sample |
| CES juveniles | 5 | 1999-2004 | 11 | 189 | 46 | 582 | | Small sample |

CES juvenile abundance 1983-2005



Productivity trends

Productivity information is not currently available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

GRASSHOPPER WARBLER

 Population changes Productivity
Additional
information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: red (>50% population decline) UK Biodiversity Action Plan: in preparation

Long-term trend

UK: rapid decline

UK population size

11,750 pairs in 1990 (1988–91 Atlas: **APEP06**); 12,300 pairs in 2000 (updated using BBS trend: **BiE04**)

Status summary

Grasshopper Warbler was previously amber-listed because of a contraction in range during the period preceding the 1988–91 Atlas, reportedly due to habitat loss (Gibbons *et al.* 1993). The CBC index suffered from small and severely dwindling sample sizes, but the available data indicate a rapid population decline between the mid 1960s and mid 1980s, when numbers became too small for annual monitoring (Marchant *et al.* 1990). On this basis, the species is now red-listed. The BBS shows wide fluctuations in abundance since 1994, and currently an overall moderate increase. Given suitable habitat and conditions, the species has high reproductive potential, as demonstrated by analysis of nest record data (Glue 1990).

Population changes



BBS UK 1994-2005 Grasshopper Warbler 220 Index (2004= 100) 194 169 143 117 91 66 40 94 95 96 97 98 99 00 01 02 03 04 05 Year

Table of population changes for Grasshopper Warbler

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|--------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| BBS UK | 11 | 1994-2005 | 62 | 50 | 11 | 104 | | |



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Productivity trends

No productivity information available for this species

- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

SEDGE WARBLER

Acrocephalus schoenobaenus

Population
Productivity
changes
trends

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: green

Additional

information

Long-term trend

UK: fluctuating, with no long-term trend

UK population size

321,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



The trend in England is apparently of moderate decline, but this is uncertain because the long-term changes are partly obscured by shorter fluctuations in numbers. Detailed analysis of BTO data sets has shown that much of the year-to-year variation in population size is driven by changes in adult survival rates which, in turn, are related to changes in rainfall on their wintering grounds, just south of the Sahara Desert, in the West African Sahel (Peach *et al.* 1991). The smoothed CBC/BBS and WBS trends show four troughs in population, related to years of poor West African rainfall, with a low point in 1984–85. The CES, which provides the biggest Sedge Warbler sample, shows the most recent three of the same troughs and also illustrates the large year-to-year fluctuations that occur in this species. Daily nest failure rates at the egg stage have almost halved. CES productivity data show a steep fall in the 1980s, followed by further shallow decrease.

Population changes



Table of population changes for Sedge Warbler

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 75 | -30 | -64 | -2 | >25 | |

| | 25 | 1979-2004 | 92 | -8 | -30 | 19 | | |
|---------------|----|-----------|-----|-----|-----|-----|-----|--|
| | 10 | 1994-2004 | 179 | 9 | -9 | 27 | | |
| | 5 | 1999-2004 | 183 | -3 | -13 | 9 | | |
| CBC/BBS UK | 37 | 1967-2004 | 108 | -24 | -57 | 10 | | |
| | 25 | 1979-2004 | 137 | 0 | -20 | 38 | | |
| | 10 | 1994-2004 | 277 | 14 | -3 | 29 | | |
| | 5 | 1999-2004 | 285 | -7 | -17 | 0 | | |
| WBS waterways | 29 | 1975-2004 | 43 | -15 | -45 | 39 | | |
| | 25 | 1979-2004 | 45 | -19 | -40 | 21 | | |
| | 10 | 1994-2004 | 50 | 0 | -21 | 27 | | |
| | 5 | 1999-2004 | 43 | 1 | -16 | 20 | | |
| CES adults | 20 | 1984-2004 | 64 | -17 | -39 | 2 | | |
| | 10 | 1994-2004 | 77 | -24 | -36 | -12 | | |
| | 5 | 1999-2004 | 73 | -4 | -13 | 5 | | |
| CES juveniles | 20 | 1984-2004 | 61 | -35 | -51 | -15 | >25 | |
| | 10 | 1994-2004 | 74 | -36 | -48 | -23 | >25 | |
| | 5 | 1999-2004 | 71 | -3 | -19 | 15 | | |
| BBS UK | 11 | 1994-2005 | 251 | 10 | -3 | 25 | | |
| BBS England | 11 | 1994-2005 | 159 | -6 | -20 | 10 | | |
| BBS Scotland | 11 | 1994-2005 | 47 | 22 | -10 | 64 | | |



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Productivity trends

Table of productivity changes for Sedge Warbler

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|----------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|----------|---------|
| Clutch size | 36 | 1968- 2004 | 38 | Curvilinear | 4.95 eggs | 4.88 eggs | -1.3% | |
| Brood size | 36 | 1968- 2004 | 59 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 44 | Linear decline | 1.27% nests/day | 0.68% nests/day | -46.5% | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 51 | None | | | | |
| Laying date | 36 | 1968- 2004 | 51 | None | | | | |
| Juvenile to Adult ratio (CES) | 20 | 1984- 2004 | 69 | Smoothed trend | 238 Index value | 104 Index value | -58% >50 | |
| Juvenile to Adult ratio (CES) | 10 | 1994- 2004 | 83 | Smoothed trend | 136 Index value | 104 Index value | -26% >25 | |
| Juvenile to Adult ratio (CES) | 5 | 1999- 2004 | 79 | Smoothed trend | 108 Index value | 104 Index value | -7% | |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

REED WARBLER

Acrocephalus scirpaceus

 Population changes Additional information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: green

Productivity

trends

Long-term trend

UK: uncertain

UK population size

60,800–122,000 pairs in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



This species has an unusually clumped distribution, with very high breeding concentrations in *Phragmites* reedbeds, where numbers are very hard to census. Because of this, CES, which has many sites in reedbeds, may be a better measure of population change than either CBC/BBS or WBS, where the species is encountered mainly at low density or in linear habitats. CES shows a decline from 1983 until the early 1990s, followed by a partial recovery, and another, much more recent decline. Both CBC/BBS and WBS show progressive moderate increases, perhaps linked to increasingly sensitive management of small and linear wetland sites and to the range expansion the species has achieved since the 1960s. Breeding performance as measured by brood size and failure rates has improved slightly, and a small improvement is apparent in CES productivity. The trend towards earlier laying can be partly explained by recent climate change (Crick & Sparks 1999).

Population changes



Table of population changes for Reed Warbler

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 45 | 78 | 12 | 233 | | |
| | 25 | 1979-2004 | 57 | 65 | 16 | 155 | | |
| | | | | | | | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrreewa.shtml[5/10/2017 10:55:54 AM]

| | 10 | 1994-2004 | 108 | 39 | 16 | 66 | | |
|---------------|----|-----------|-----|-----|-----|-----|-----|--|
| | 5 | 1999-2004 | 110 | 6 | -8 | 24 | | |
| CBC/BBS UK | 37 | 1967-2004 | 47 | 105 | 40 | 367 | | |
| | 25 | 1979-2004 | 60 | 92 | 38 | 234 | | |
| | 10 | 1994-2004 | 112 | 46 | 22 | 74 | | |
| | 5 | 1999-2004 | 115 | 9 | -6 | 30 | | |
| WBS waterways | 23 | 1981-2004 | 22 | 63 | 16 | 149 | | |
| | 10 | 1994-2004 | 27 | 35 | 3 | 84 | | |
| | 5 | 1999-2004 | 23 | 17 | -5 | 55 | | |
| CES adults | 20 | 1984-2004 | 53 | -27 | -41 | -8 | >25 | |
| | 10 | 1994-2004 | 62 | -5 | -17 | 7 | | |
| | 5 | 1999-2004 | 59 | -13 | -20 | -4 | | |
| CES juveniles | 20 | 1984-2004 | 54 | -19 | -36 | 9 | | |
| | 10 | 1994-2004 | 64 | -1 | -17 | 17 | | |
| | 5 | 1999-2004 | 60 | -18 | -31 | -3 | | |
| BBS UK | 11 | 1994-2005 | 95 | 43 | 19 | 72 | | |
| BBS England | 11 | 1994-2005 | 91 | 34 | 11 | 62 | | |



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Waterways Bird Survey 1980-2005



CES juvenile abundance 1983-2005

Reed Warbler





Productivity trends

Table of productivity changes for Reed Warbler

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|----------------------------------|-----------------|---------------|--------------------------|-------------------|---------------------------|---------------------|---------|---------|
| Clutch size | 36 | 1968- 2004 | 107 | None | | | | |
| Brood size | 36 | 1968- 2004 | 121 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 137 | None | | | | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 101 | Curvilinear | 1.71% nests/day | 0.51% nests/day | -70.2% | |
| Laying date | 36 | 1968- 2004 | 153 | Curvilinear | Jun 16 | Jun 10 | -6 days | |
| Juvenile to Adult ratio (CES) | 20 | 1984- 2004 | 59 | Smoothed trend | 83 Index value | 104 Index value | 21% | |
| Juvenile to Adult ratio (CES) | 10 | 1994- 2004 | 69 | Smoothed trend | 118 Index value | 104 Index value | -15% | |
| Juvenile to Adult ratio (CES) | 5 | 1999- 2004 | 65 | Smoothed trend | 106 Index value | 104 Index value | -5% | |





- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

BLACKCAP Sylvia atricapilla • Population • Productivity

 Population changes Additional
information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: green

trends

Long-term trend

UK, England: rapid increase

UK population size

932,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



Blackcap abundance has increased consistently since the late 1970s, a trend common to all habitats and evident from both the CBC/BBS and the CES indices, although the causes remain unknown. There have been no clear accompanying trends in productivity. The trend towards earlier laying may be a response to recent climate change (Crick & Sparks 1999). The more rapid increase in Scotland indicated by BBS suggests that climatic warming may be allowing this species to spread its range northwards. Numbers have risen widely in Europe since 1980 (PECBM 2006).

Population changes



Table of population changes for Blackcap

| Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|--|--|---|--|--|--|---|
| 37 | 1967-2004 | 395 | 123 | 79 | 180 | | |
| 25 | 1979-2004 | 529 | 118 | 97 | 144 | | |
| 10 | 1994-2004 | 1094 | 45 | 38 | 51 | | |
| 5 | 1999-2004 | 1202 | 6 | 2 | 11 | | |
| | Period (yrs) 37 25 10 5 | Period (yrs) Years 37 1967-2004 25 1979-2004 10 1994-2004 5 1999-2004 | Period (yrs) Years (n) 37 1967-2004 395 25 1979-2004 529 10 1994-2004 1094 5 1999-2004 1202 | Period (yrs) Years Plots (n) Change (%) 37 1967-2004 395 123 25 1979-2004 529 118 10 1994-2004 1094 45 5 1999-2004 1202 6 | Period (yrs) Years Plots (n) Plots (%) Change (%) Lower limit 37 1967-2004 395 123 79 25 1979-2004 529 118 97 10 1994-2004 1094 45 38 5 1999-2004 1202 6 2 | Period (yrs) Years (n) Plots (n) Change (%) Lower limit Upper limit 37 1967-2004 395 123 79 180 25 1979-2004 529 118 97 144 10 1994-2004 1094 45 38 51 5 1999-2004 1202 6 2 11 | Period (yrs) Years (n) Plots (n) Change (%) Lower limit Upper limit Alert limit 37 1967-2004 395 123 79 180 25 1979-2004 529 118 97 144 10 1994-2004 1094 45 38 51 5 1999-2004 1202 6 2 11 |

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BTO - Breeding Birds of the Wider Countryside: Blackcap

| CBC/BBS UK | 37 | 1967-2004 | 447 | 133 | 88 | 183 | |
|---------------|----|-----------|------|-----|-----|-----|--|
| | 25 | 1979-2004 | 603 | 126 | 100 | 156 | |
| | 10 | 1994-2004 | 1256 | 50 | 43 | 58 | |
| | 5 | 1999-2004 | 1399 | 9 | 5 | 12 | |
| CES adults | 20 | 1984-2004 | 86 | 55 | 31 | 88 | |
| | 10 | 1994-2004 | 99 | 44 | 33 | 62 | |
| | 5 | 1999-2004 | 96 | 6 | -2 | 15 | |
| CES juveniles | 20 | 1984-2004 | 87 | 30 | 11 | 64 | |
| | 10 | 1994-2004 | 102 | 22 | 8 | 39 | |
| | 5 | 1999-2004 | 99 | 0 | -8 | 9 | |
| BBS UK | 11 | 1994-2005 | 1167 | 61 | 52 | 71 | |
| BBS England | 11 | 1994-2005 | 1010 | 52 | 43 | 61 | |
| BBS Scotland | 11 | 1994-2005 | 33 | 134 | 49 | 268 | |
| BBS Wales | 11 | 1994-2005 | 99 | 76 | 43 | 117 | |



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Productivity trends

Table of productivity changes for Blackcap

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|----------------------------------|-----------------|---------------|--------------------------|-------------------|------------------------------|---------------------|----------|---------|
| Clutch size | 36 | 1968- 2004 | 35 | None | | | | |
| Brood size | 36 | 1968- 2004 | 41 | None | | | | |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 45 | None | | | | |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 35 | None | | | | |
| Laying date | 36 | 1968- 2004 | 36 | Curvilinear | May 19 | May 8 | -11 days | |
| Juvenile to Adult ratio (CES) | 20 | 1984- 2004 | 94 | Smoothed trend | 133 Index value | 104 Index value | -25% >25 | |
| Juvenile to Adult ratio (CES) | 10 | 1994- 2004 | 108 | Smoothed trend | 124 Index value | 104 Index value | -20% | |
| Juvenile to Adult ratio (CES) | 5 | 1999- 2004 | 105 | Smoothed trend | 95 Index value | 104 Index value | 5% | |

Mean



.)[[1]1 1]1_L

65 70 75 80 85 90 95 00 05

Year

111111

Brood size 1966-2005 Blackcap 4.7 4.3 4.0 3.6 32 65 70 75 80 85 90 95 00 05

Year

Chick stage nest failure rate Blackcap



0.000



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results
- Garden BirdWatch results

GARDEN WARBLER Sylvia borin • Population • Productivity

Additional information

Conservation listings

Europe: no SPEC category (concentrated in Europe, conservation status favourable) UK: green

trends

Long-term trend

changes

UK, England: shallow decline

UK population size

190,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



Garden Warbler abundance has varied alongside that of other trans-Saharan migrant warblers (Siriwardena et al. 1998b), probably reflecting the influence of changes in their winter environment. Despite large short-term fluctuations in abundance, the CBC/BBS and CES now both suggest the population is in long-term decline. There has been a substantial increase in nest losses at the chick stage, and post-fledging productivity, as measured by the CES, has declined sharply since 1983, raising BTO alerts.

Population changes



Table of population changes for Garden Warbler

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 152 | -24 | -48 | 23 | | |
| | 25 | 1979-2004 | 195 | 12 | -14 | 50 | | |
| | 10 | 1994-2004 | 364 | -17 | -25 | -7 | | |
| | 5 | 1999-2004 | 351 | -21 | -28 | -14 | | |
| CBC/BBS UK | 37 | 1967-2004 | 179 | -20 | -44 | 27 | | |
| | | | | | | | | |

https://webtest.bto.org/pdf/birdtrends/birdtrends2006/wcrgarwa.shtml[5/10/2017 10:55:57 AM]

| | 25 | 1979-2004 | 232 | 26 | -3 | 74 | | |
|---------------|----|-----------|-----|-----|-----|-----|-------|--|
| | 10 | 1994-2004 | 443 | -12 | -20 | -1 | | |
| | 5 | 1999-2004 | 431 | -16 | -23 | -8 | | |
| CES adults | 20 | 1984-2004 | 64 | -22 | -45 | 11 | | |
| | 10 | 1994-2004 | 71 | -24 | -37 | -9 | | |
| | 5 | 1999-2004 | 63 | -23 | -34 | -8 | | |
| CES juveniles | 20 | 1984-2004 | 63 | -45 | -58 | -19 | >25 | |
| | 10 | 1994-2004 | 71 | -39 | -49 | -30 | >25 | |
| | 5 | 1999-2004 | 64 | -16 | -30 | 2 | | |
| BBS UK | 11 | 1994-2005 | 381 | -8 | -18 | 3 | | |
| BBS England | 11 | 1994-2005 | 310 | -12 | -23 | 0 | | |
| BBS Wales | 11 | 1994-2005 | 53 | -37 | -54 | -15 | (>25) | |



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Productivity trends

| Variable | Period (yrs) | Years | Mean annual sample | Trend | Modelled in first year | Modelled in 2004 | Change | Comment |
|----------------------------------|-----------------|---------------|--------------------------|--------------------|---------------------------|---------------------|---------|-----------------|
| Clutch size | 36 | 1968- 2004 | 16 | None | | | | Small sample |
| Brood size | 36 | 1968- 2004 | 25 | None | | | | Small sample |
| Daily failure rate (eggs) | 36 | 1968- 2004 | 22 | None | | | | Small sample |
| Daily failure rate (chicks) | 36 | 1968- 2004 | 19 | Linear increase | 0.99% nests/day | 2.63% nests/day | 165.7% | Small sample |
| Laying date | 36 | 1968- 2004 | 21 | Linear decline | May 28 | May 22 | -6 days | Small sample |
| Juvenile to Adult ratio (CES) | 20 | 1984- 2004 | 77 | Smoothed trend | 147 Index value | 104 Index value | -32% | |
| Juvenile to Adult ratio (CES) | 10 | 1994- 2004 | 85 | Smoothed trend | 102 Index value | 104 Index value | -2% | |
| Juvenile to Adult ratio (CES) | 5 | 1999- 2004 | 79 | Smoothed trend | 77 Index value | 104 Index value | 30% | |

Table of productivity changes for Garden Warbler





- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

LESSER WHITETHROAT Sylvia curruca

 Population changes Productivity
Additional
information

Conservation listings

Europe: no SPEC category (favourable conservation status in Europe, not concentrated in Europe) UK: green

Long-term trend

UK: shallow decline England: moderate decline

UK population size

64,000 territories in 2000 (1988–91 Atlas estimate updated using CBC/BBS trend: **BiE04**, **APEP06**)

Status summary



Lesser Whitethroat abundance was roughly stable (albeit with short-term fluctuations) from the 1960s until the late 1980s, but the CBC/BBS and CES trends provide evidence for a subsequent moderate decline. These changes were statistically significant, and large enough over the relevant periods to trigger BTO alerts. The species would now meet the amber-list criterion of moderate decline. Wide fluctuations in productivity have been recorded by CES ringers, and may be influencing population change, but pressures during migration and in winter are the most likely causes of decline (Fuller *et al.* 2005).

Population changes



Table of population changes for Lesser Whitethroat

| Source | Period (yrs) | Years | Plots (n) | Change (%) | Lower limit | Upper limit | Alert | Comment |
|-----------------|-----------------|-----------|--------------|---------------|----------------|----------------|-------|---------|
| CBC/BBS England | 37 | 1967-2004 | 102 | -26 | -48 | 4 | | |
| | 25 | 1979-2004 | 129 | -36 | -50 | -17 | >25 | |
| | 10 | 1994-2004 | 233 | -21 | -33 | -9 | | |
| | 5 | 1999-2004 | 231 | 0 | -13 | 10 | | |

| CBC/BBS UK | 37 | 1967-2004 | 106 | -21 | -46 | 15 | | |
|---------------|----|-----------|-----|-----|-----|-----|-------|--|
| | 25 | 1979-2004 | 136 | -31 | -46 | -12 | >25 | |
| | 10 | 1994-2004 | 244 | -19 | -28 | -8 | | |
| | 5 | 1999-2004 | 243 | 1 | -8 | 12 | | |
| CES adults | 20 | 1984-2004 | 41 | -52 | -71 | -35 | >50 | |
| | 10 | 1994-2004 | 41 | -50 | -61 | -37 | >25 | |
| | 5 | 1999-2004 | 34 | 20 | -3 | 43 | | |
| CES juveniles | 20 | 1984-2004 | 44 | -47 | -73 | -9 | >25 | |
| | 10 | 1994-2004 | 45 | -63 | -72 | -52 | >50 | |
| | 5 | 1999-2004 | 42 | 3 | -14 | 29 | | |
| BBS UK | 11 | 1994-2005 | 214 | -35 | -44 | -23 | (>25) | |
| BBS England | 11 | 1994-2005 | 204 | -37 | -46 | -26 | (>25) | |



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Productivity trends

Table of productivity changes for Lesser Whitethroat

| Variable | Period (yrs) | Years | Mean annual | Trend | Modelled in first | Modelled in 2004 | Change | Comment |
|----------|-----------------|-------|----------------|-------|----------------------|---------------------|--------|---------|
| | | | sample | | year | | | |

BTO - Breeding Birds of the Wider Countryside: Lesser Whitethroat

| Juvenile to Adult ratio (CES) | 20 | 1984- 2004 | 55 | Smoothed trend | 72 Index value | 104 Index value | 39% | |
|----------------------------------|----|---------------|----|-------------------|-------------------|--------------------|-----|--|
| Juvenile to Adult ratio (CES) | 10 | 1994- 2004 | 57 | Smoothed trend | 96 Index value | 104 Index value | 4% | |
| Juvenile to Adult ratio (CES) | 5 | 1999- 2004 | 51 | Smoothed trend | 86 Index value | 104 Index value | 16% | |



- Maps and statistics from British and Irish atlases
- BirdFacts page on species biology
- BirdTrack results

BBWC Home > Contents > Appendix > Tables of alerts and population increases from CES

7.3 Tables of alerts and population increases from CES

- 1. CES Adults 20 years
- 2. CES Adults 10 years
- 3. CES Adults 5 years
- 4. CES Adults population increases of >50% 20 years

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Appendix 7.4

BBWC Home > Contents > Appendix > Tables of population declines or increases from BBS

7.4 Tables of population declines or increases from BBS

- 1. BBS UK
- 2. BBS England
- 3. BBS Scotland
- 4. BBS Wales
- 5. BBS UK population increases of >50%
- 6. BBS England population increases of >50%
- 7. BBS Scotland population increases of >50%
- 8. BBS Wales population increases of >50%
- 9. BBS Northern Ireland population increases of >50%

This table does not use formal alerts methods due to the small number of years of data. Population changes are based on an annual population index with no smoothing or truncation of end points.

This table does not use formal alerts methods due to the small number of years of data. Population changes are based on an annual population index with no smoothing or truncation of end points.

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This table does not use formal alerts methods due to the small number of years of data. Population changes are based on an annual population index with no smoothing or truncation of end points.

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Appendix 7.4 continued

BBWC Home > Contents > Appendix > Tables of population declines or increases from BBS

7.4 Tables of population declines or increases from BBS

- 1. BBS UK
- 2. BBS England
- 3. BBS Scotland
- 4. BBS Wales
- 5. BBS UK population increases of >50%
- 6. BBS England population increases of >50%
- 7. BBS Scotland population increases of >50%
- 8. BBS Wales population increases of >50%
- 9. BBS Northern Ireland population increases of >50%

This table does not use formal alerts methods due to the small number of years of data. Population changes are based on an annual population index with no smoothing or truncation of end points.

This table does not use formal alerts methods due to the small number of years of data. Population changes are based on an annual population index with no smoothing or truncation of end points.

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This table does not use formal alerts methods due to the small number of years of data. Population changes are based on an annual population index with no smoothing or truncation of end points.

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BBWC Home > Contents > Select your own table of population changes

8. Select your own table of population changes (2016)

This page allows you to display a table of population changes according to a range of different criteria. The population change data that will be displayed are the same as those that are contained in the individual species accounts. You can choose which schemes and time periods will be included in your table. You can also select all species or a particular species. Just complete the form below and then click on the compile table button to display your chosen table

Select periods to be included (at least one)

5 years 10 years 25 years Maximum

Select scheme categories to be included (at least one)

CBC\BBS United Kingdom CBC\BBS England Waterways Heronries United Kingdom Heronries England and Wales Heronries England Heronries Scotland Heronries Wales CES adults CES juveniles BBS United Kingdom BBS England BBS Wales BBS Scotland BBS Northern Ireland

Select species to be included. You may select either one individual species or all species.

All species

Little Grebe Great Crested Grebe Cormorant Little Egret Grey Heron Mute Swan Greylag Goose Canada Goose Shelduck Little Grebe Great Crested Grebe Cormorant Little Egret Grey Heron Mute Swan Greylag Goose Canada Goose Shelduck Mandarin

Sort table by:

Species; scheme; period (descending) Scheme; species; period (descending) Change (ascending) Scheme; change (ascending)

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BBWC Home > Contents > Select your own table of population changes

8. Select your own table of population changes (2016)

This page allows you to display a table of population changes according to a range of different criteria. The population change data that will be displayed are the same as those that are contained in the individual species accounts. You can choose which schemes and time periods will be included in your table. You can also select all species or a particular species. Just complete the form below and then click on the compile table button to display your chosen table

Select periods to be included (at least one)

5 years 10 years 25 years Maximum

Select scheme categories to be included (at least one)

CBC\BBS United Kingdom CBC\BBS England Waterways Heronries United Kingdom Heronries England and Wales Heronries England Heronries Scotland Heronries Wales CES adults CES juveniles BBS United Kingdom BBS England BBS Wales BBS Scotland BBS Northern Ireland

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Images: Redpoll, by XXXSarah KelmanX / BTO; Lapwing, by Sarah Kelman / BTO

Breeding Birds in the Wider Countryside: their conservation status 2006

This report is a "one-stop-shop" for information about the population status of our common terrestrial birds. With one page per species, readers can quickly find all the key information about trends in population size and breeding performance as measured by BTO monitoring schemes. It provides an overview of trends for the period 1966-2005.

This report is the third in a series, prepared within the Partnership between the British Trust for Ornithology (BTO) and the Joint Nature Conservation Committee (JNCC) (on behalf of Natural England, Scottish Natural Heritage, Countryside Council for Wales and the Environment & Heritage Service of Northern Ireland) as part of its programme of research into nature conservation.

It is the result of the sustained long-term fieldwork efforts of many thousands of the BTO's volunteer supporters. Without their enthusiasm for collecting these hard-won facts, the cause of conservation in the UK would be very much the poorer.

Baillie, S.R., Marchant, J.H., Crick, H.Q.P., Noble, D.G., Balmer, D.E., Barimore, C., Coombes, R.H., Downie, I.S., Freeman, S.N., Joys, A.C., Leech, D.I., Raven, M.J., Robinson, R.A. & Thewlis, R.M. 2007. Breeding Birds in the Wider Countryside: their conservation status 2006. *BTO Research Report* **470**, BTO, Thetford, UK.

