The state of the UK'S BIRDS 2010

2010 International Year of Biodiversity

RSPB BTO WWT Cyngor Cefn Gwlad Cymru Countryside Council for Wales NATURAL ENGLAND An Agency within the Department of the Environment NIEA Northern Ireland Environment Agency Scottish Natural Heritage All of nature for all of Scotland JNCC Joint Nature Conservation Committee

Introduction

This is the eleventh *The state of the UK's birds* (SUKB) report, published in 2010 and containing results from annual, periodic and one-off surveys and studies from as recently as 2009. It draws on many sources of information to give an up-to-date overview of the health of bird populations in the UK and its Overseas Territories. As 2010 is the International Year of Biodiversity, this report looks at the success of efforts to conserve the UK's birdlife since the global Convention on Biological Diversity came into force in 1993, both in a special section (see pages 8-17) but also throughout our usual updates. Given the focus on the International Year of Biodiversity, we have titled this report *The state of the UKs birds 2010,* rather than stick with the convention of naming the report with the most recent year from which data is available (2009).

The state of the UK's birds 2010 is produced by a coalition of three NGOs – the Royal Society for the Protection of Birds (RSPB), the British Trust for Ornithology (BTO) and the Wildfowl & Wetlands Trust (WWT) – and the UK Government's statutory nature conservation agencies – the Countryside Council for Wales (CCW), Natural England (NE), Northern Ireland Environment Agency (NIEA), Scottish Natural Heritage (SNH) and the Joint Nature Conservation Committee (JNCC).

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A special thank you to volunteers

Bird monitoring in the UK is led by NGOs in collaboration with the Government, but is reliant on the efforts of many thousands of volunteers. These efforts provide us with a unique evidence base upon which to make decisions about bird conservation priorities and action in the UK. *The state of the UK's birds* gives us the opportunity to recognise and celebrate the huge role of volunteers in bird monitoring, and to thank them for the time and effort they devote to the schemes described within the report. If this is you, then thank you; if not, why not consider joining one of the wide variety of schemes outlined at the back of the report? Through participation in simple and enjoyable birdwatching activities, you will be able to make a valuable contribution to nature conservation.


Laurie Campbell (rspb-images.com)


Andy Hay (rspb-images.com)

Andy Hay (rspb-images.com)

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Ray Kennedy (rspb-images.com)

Throughout this report, species are colour-coded according to their conservation status, as published in *Birds of Conservation Concern 3* in 2009. The 52 species identified as being of the greatest conservation concern are **red-listed**, the 126 species of moderate concern are **amber-listed** and the 68 species of least concern are **green-listed**. In a few cases where particular races are discussed, the colour-coding from a separate race level assessment is used.

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Wild bird indicators

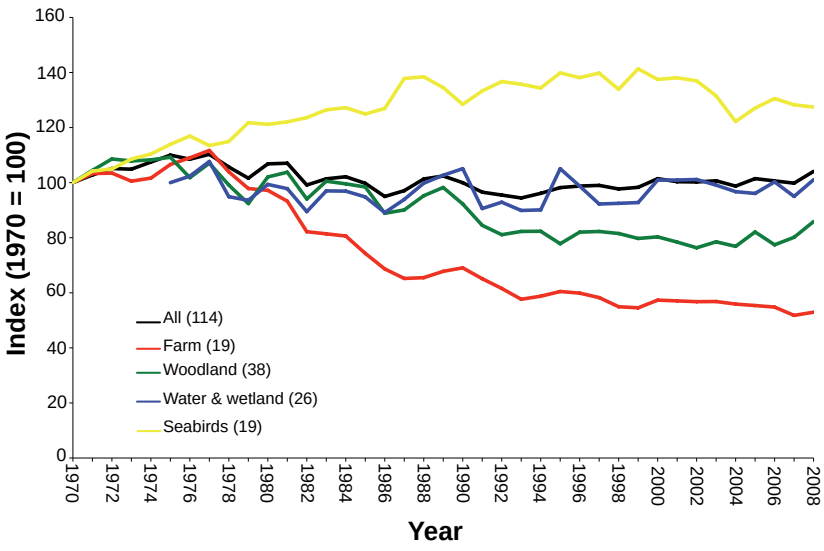
UK wild bird indicator

The UK wild bird indicator is an important high-level measure of the state of biodiversity in the UK. It is also used to measure the UK's progress towards sustainable development goals. It shows broad trends in bird populations within four habitats (in SUKB we show a combined "all species" line also). However it should be remembered that within these indicators there can be a huge variation in the trends of individual species. For example, in the farmland bird indicator **wood pigeon** and **jackdaw** numbers have more than doubled since 1970, whilst **tree sparrows** and **turtle doves** have fallen by more than 90%. Trends for species within the indicators can be found on pages 15–16 (common breeding birds) and 21 (seabirds).

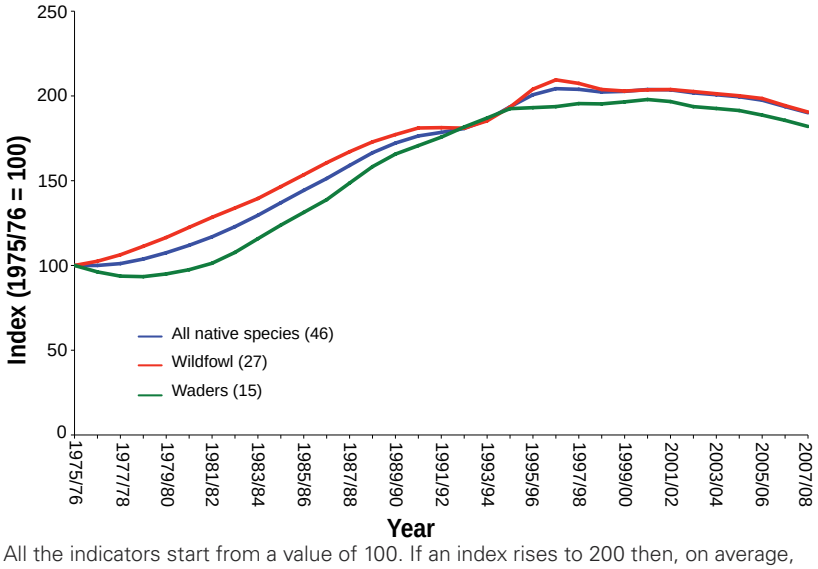
It is refreshing to report that four of the five indicator lines show an increase over the most recent year with the woodland indicator at its highest level since 1990, although still down over the long term. The farmland bird indicator showed a marginal increase, but remains nearly 50% down on the 1970 level. The seabird indicator showed a small decrease over the most recent year.

During the winter, the UK holds internationally important populations of swans, geese, ducks and wading birds. The wintering waterbird indicator shows how numbers rose steadily from the mid 1970s to the late 1990s and then stabilised before entering a decline. Both the wildfowl and wader indicators are decreasing, with the wader line reaching its lowest level since the 1992/93 winter, although both lines remain well above their 1975 baseline. See pages 29–33 for trends in individual waterbird species.

UK wild bird indicator



UK wintering waterbird indicator



All the indicators start from a value of 100. If an index rises to 200 then, on average, populations of species in the indicator have doubled: if it falls to 50 then they have halved.

Indicator	% change per annum, 1980–94	% change per annum, 1994–2008
All species (114)	-0.7	0.6
Farm (19)	-3.5	-0.7
Wood (38)	-1.5	0.3
Water and wetland (26)	-0.7	0.8
Seabirds (19)	0.8	-0.2
Wintering waterbirds (46)	4.0	0.2

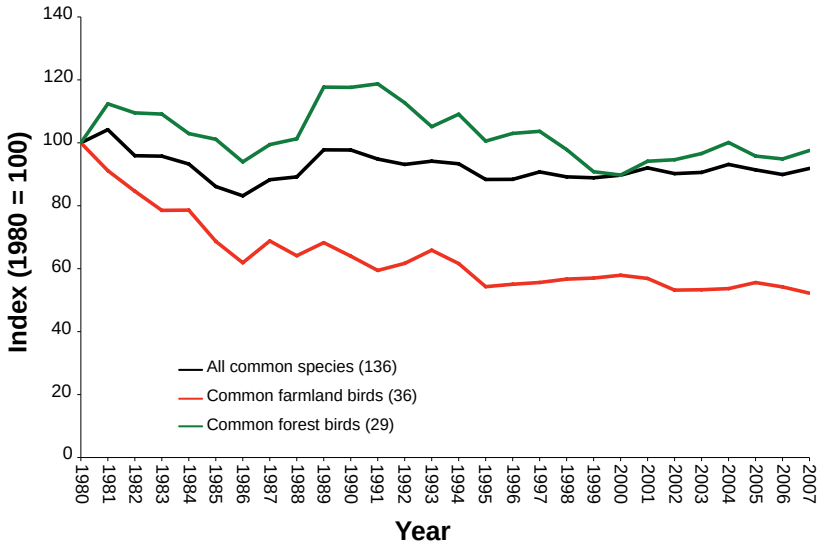
European wild bird indicators

In recent years, the approach used to develop bird indicators in the UK has been exported to produce Europe-wide indicators. The Pan European Common Bird Monitoring Scheme (PECBMS) (a collaboration involving the European Bird Census Council, the RSPB, BirdLife International and Statistics Netherlands, and many other country partners) brings together data from common bird monitoring schemes in 22 European countries, stretching from Portugal to Finland (see map, right). This allows robust and representative pan-European population trends to be generated for 136 common and widespread species. These species indices are then combined to produce indicators for farmland birds (incorporating 36 species), forest birds (29 species) and all common birds (136 species).

Many countries have only begun common bird monitoring schemes in recent years, so the indicator begins in 1980, and not 1970 as in the UK. It is expected that more countries, such as Romania and Greece, will be able to contribute data in future years and, in time, we hope monitoring will extend to all European countries.

The European indicators include many of the birds featured in the wild bird indicators for the UK, but also a range of less familiar species. For example, the European farmland bird indicator includes all of the 19 birds in the UK version, with many showing similar declines in Europe as in the UK; for example **corn bunting** (-68% in Europe since 1980), **skylark** (-45%) and **linnet** (-67%). However, it also includes UK breeding species that are not considered common farmland

European wild bird indicator



Map of countries contributing to PECBMS

Contributing countries shown in yellow


Tom Marshall (rspb-images.com)

Health check 2010

The UK wild bird indicators provide only a broad-brush assessment of the health of our bird populations as they report simply the average of many changes, both good and bad. However, they do suggest that the rate of loss in farmland birds – one of our greatest conservation concerns – has slowed, although not halted, since the UK's Biodiversity Action Plan came into being in 1994. Three of the other four indicator lines have also shown a more positive trend since 1994, with the exception being that for seabirds.


Andy Hay (rspb-images.com)

species in the UK, such as **black-tailed godwit** and **meadow pipit**, and also those which do not breed in the UK at all, such as **black-eared wheatear** and **hoopoe**.

The pattern shown by the European indicator is similar to that exhibited by the UK version. Most obviously, farmland birds have shown the same decline across Europe as they have in the UK, with the European indicator having fallen to 52% of the 1980 value by 2007 and, over the same period, the UK farmland bird indicator fell to an almost identical 53% of its 1980 level, reflecting the impact of agricultural intensification across Europe.

Since their development, the European Wild Bird Indicators have been adopted by the European Union as official biodiversity indicators. For example, the farmland bird indicator is a Structural and Sustainable Development Indicator, and member states are required to use national versions for monitoring the implementation of the Rural Development Regulation under the Common Agricultural Policy (CAP).

More information on the European wild bird indicator, the species indices that it comprises, and PECBMS, can be found on the website of the European Bird Census Council, **www.ebcc.info**

A health check for the UK's birds

Introduction

The year 2010 is an important one for the conservation of the world's biodiversity. The United Nations has designated 2010 as the International Year of Biodiversity – "a celebration of life on earth and the value of biodiversity to our lives". Through promotion of biodiversity throughout 2010, it is hoped to spread simple messages (see right) to encourage people to act to prevent the loss of biodiversity. For more information, see **www.cbd.int/2010**

2010 International Year of Biodiversity

2010 International Year of Biodiversity

Humans are part of nature's rich diversity and have the power to protect or destroy it.

Biodiversity, the variety of life on Earth, is essential to sustaining the living networks and systems that provide us all with health, wealth, food, fuel and the vital services on which our lives depend.

Human activity is causing the diversity of life on Earth to be lost at a greatly accelerated rate. These losses are irreversible, impoverish us all and damage the life support systems we rely on everyday. But we can prevent them.

2010 is the International Year of Biodiversity. Let's reflect on our achievements to safeguard biodiversity and focus on the urgency of our challenge for the future. Now is the time to act.

Andrew Parkinson (rspb-images.com)

In particular, 2010 is a year of reckoning, as international targets for biodiversity conservation were set for this year. At a global scale, the Strategic Plan of the Convention on Biological Diversity (CBD) calls for a significant reduction of the current rate of biodiversity loss at global, regional and national levels by 2010: this target was endorsed at the 2002 World Summit on Sustainable Development in Johannesburg. A year before that, European Union Member States agreed to the more ambitious target of halting biodiversity decline by 2010. In this report, we assess whether the UK has managed to halt the loss, or at least slow the decline, in its avian biodiversity.

Saving biodiversity in the UK

The agreement of the CBD at Rio in 1992 was a step change for nature conservation. The importance of biodiversity was recognised by the international community at the highest political levels, with the CBD giving a comprehensive agenda of actions for its 193 Contracting Parties. The UK was one of the first signatories to CBD, and also one of the first countries to produce a national plan to implement the convention – a central obligation. The 1994 UK Biodiversity Action Plan (BAP) established a process of planning for nature conservation at different scales and involving different sectors. At a local scale, local government authorities, working with interested partner organisations, produced Local Biodiversity Action Plans. Nationally, a series of Habitat and Species Action Plans was published between 1995 and 1999, whilst individual countries within the UK have produced biodiversity strategies since devolution. Additionally, BAP encouraged a series of new initiatives and policies to address other issues raised. These have borne fruit in subsequent years – for example the creation of the National Biodiversity Network as a means of making available the extensive information that many UK organisations hold on the status of biodiversity.

The 1994 BAP was a milestone in the history of nature conservation in the UK in providing – for the first time – an over-arching framework for the activities of the many different sectors (central and local government, statutory conservation agencies, NGOs, industry and the public) whose activities affect nature and landscapes.

It also facilitated a significant increase of funding, especially for the implementation of Species and Habitat Action Plans. For birds, there was early implementation of recovery programmes for species that had been identified as of the highest priority by BAP, for example the **skylark, bittern, corncrake, capercaillie** and **stone-curlew**. These programmes were typically undertaken in partnerships between the statutory agencies and NGOs, and further recovery initiatives have followed since then.

Conservation action for the UK's birds involves a wide range of activities. The recovery of scarce species often involves the creation and/or management of semi-natural habitats (for example of reedbeds for **bitterns**) on reserves or other protected areas, providing a range of technical challenges. However, influencing the conservation of widely dispersed species (for example, many farmland birds), means influencing the activities of other land-managers, such as farmers. For such species of the "wider countryside", BAP actions have involved progressive refinement of agri-environment policies in particular, to try to deliver support for productive farming, while addressing the conservation needs of biodiversity. The more inclusive approach of the UK BAP, which encouraged dialogue between conservation and other land-management sectors, was helpful to the development of such policies.

The multi-sectoral nature of BAP implementation was innovative, with actions being undertaken at different scales and within different sectors as opportunities arose. One consequence has been that it has proved difficult to track all the activities being undertaken by the multiple stakeholders involved. Country agencies and others are currently developing the Biodiversity Action Reporting Systems (BARS) to address this. Ultimately however, the success of BAP needs to be measured not in reports produced, or committees and processes established, but in turning around the conservation fortunes of species concerned.

Bird populations have become increasingly widely used as indicators of the state of the environment. Using the UK's unparalleled wealth of bird monitoring data, we have assessed the status and trends of UK bird species in the 15 years following the implementation of the UK BAP compared to the previous 15 years. This should indicate whether the status of the UK's birds has appreciably changed as a consequence of BAP implementation, show what factors are driving current change, and answer the 2010 question: **has the UK halted the decline, or at least slowed the loss of avian biodiversity?**

Methods

In order to assess whether the fortunes of the UK's birds have improved following the UK's commitment to the CBD we have used 1994, the year in which the UK's Biodiversity Action Plan was published, as our turning point. Although CBD and its targets were not set until later, the UK's commitment to biodiversity conservation came with the BAP. We therefore pose the question **"Were bird trends better or worse in the years following 1994 than beforehand?"** Assessments have been made at the species level, or on populations if species have clearly separate breeding and wintering populations visiting the UK (such as the **redwing**, which breeds in small numbers in the UK but winters in many thousands). We have then grouped the 232 assessments made, for 202 species, in a number of ways in an attempt to reveal what factors lie behind any change, for better or worse.

A wide range of data sources have been used to calculate trends, expressed as percentage change per annum, for species before and since 1994. For most species, data are available up to 2008, although for those subject to periodic (not annual) surveys trend periods vary. We have used a similar duration for the pre-1994 trends, with most being calculated for 1980-1994. For each of the two periods, species/populations have been defined as increasing, stable, or decreasing, using the following thresholds: increasing – a trend equivalent to a doubling, or greater, if continued over 25 years (+2.8% per annum); decreasing – a trend equivalent to halving, or greater, over 25 years (-2.7% per annum); stable – a trend between increasing and decreasing (between +2.8 and -2.7% per annum).

Matrix of species trends, with examples

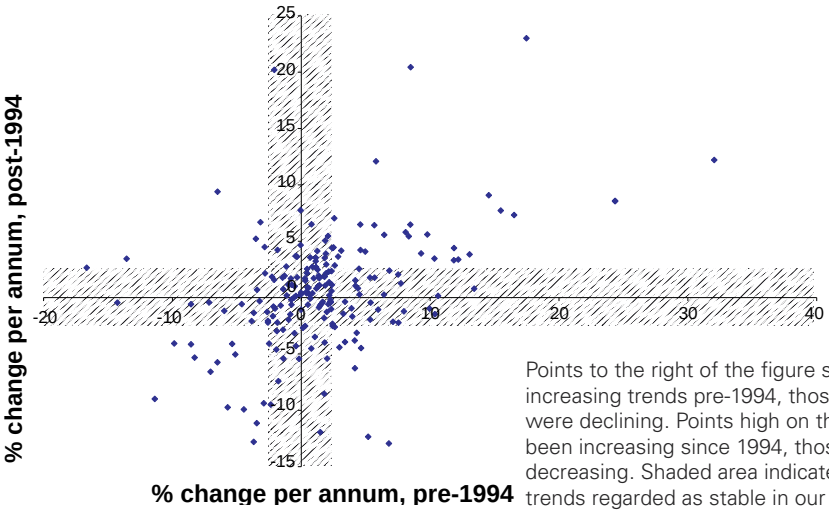
Post-1994 population trend	Decreasing	Stable	Increasing
Increasing	Was decreasing, now increasing eg **corncrake**, **bittern** **6**	Was stable, now increasing eg **stonechat**, **firecrest** **23**	Increasing in both periods eg **avocet**, **cirl bunting** **29**
Stable	Was decreasing, now stable eg **redpoll**, **skylark** **16**	Stable in both periods eg **cormorant**, **wren** **81**	Was increasing, now stable eg **sparrowhawk**, **long-tailed tit** **32**
Decreasing	Decreasing in both periods eg **starling**, **yellow wagtail** **16**	Was stable, now decreasing eg **cuckoo**, **swift** **19**	Was increasing, now decreasing eg **Bewick's swan**, **whimbrel** **10**

Pre-1994 population trend

Numbers given in bold refer to the number of populations qualifying for each of the 9 categories.

The matrices present how birds were doing before (horizontal axis) and after (vertical axis) 1994, using the thresholds listed above to classify them as decreasing, stable or increasing in each period. For example, species in the top right box were increasing both before and after 1994, whereas species in the top left were decreasing before 1994 but have increased since. Species in this latter box might be regarded as conservation successes, but we have to be circumspect about claiming this when other factors may have driven a change in fortunes. Note also that the broad band used to define "stable" means that some of the species classified as such may be showing relatively large increases or decreases. To illustrate this, in some cases we have presented scatterplots of the actual trends (per annum) on two axes, so the magnitude of species trends, and changes between the two periods, can be appreciated more easily. The figure given here shows the trends for all populations in the pre-1994 (horizontal axis) and post-1994 (vertical axis) periods.

Scatterplot of all population trends pre- and post-1994



Points to the right of the figure showed increasing trends pre-1994, those to the left were declining. Points high on the figure have been increasing since 1994, those at the bottom decreasing. Shaded area indicates shallow trends regarded as stable in our analyses.

Is the UK Biodiversity Action Plan working for birds?

In 1995, 26 bird species were identified in the UK Biodiversity Action Plan (UK BAP) as being of the highest priority for conservation action. These species were selected because they were under threat at a global scale (two species) or had experienced population declines of 50% or more in the previous 25 years (24 species). All but one of these species (the **aquatic warbler** – a rare passage visitor) was breeding in the UK at the time of assessment. Individual "Species Action Plans" were published for each bird between 1995 and 1999, which set biological targets and identified the key actions needed to meet them.

A major review of the UK BAP led to a further 33 bird species and races being added to the priority species list in 2007, bringing the total number of birds to 59 (as described in SUKB 2006). Here, however, we restrict ourselves to the 26 original BAP bird species for which targets and action plans have been in place for well over a decade. Bird population data are available to assess the pre- and post-1994 trends for 24 of these species (we do not have adequate trend data for the **aquatic warbler** and **Scottish crossbill**). The mixed fortunes experienced by these species since their listing provides an interesting insight in the UK's progress in implementing its Biodiversity Action Plan and, hence, our contribution to meeting the 2010 targets.

As we can see from the matrix, the original priority list included four species that were increasing prior to 1994 – all of these species had suffered major earlier declines but had begun to show early signs of recovery prior to BAP listing. By contrast, 16 species on the original UK BAP list were in decline (not surprising given that they had been BAP-listed). However, since 1994, no fewer than nine of those declining species have shown stable or increasing population trends, suggesting their declines have at least been halted. Indeed, for three of these species (**bittern**, **corncrake** and **roseate tern**), population recovery is well underway. For example, the numbers of **bitterns** increased from 15 to 82 booming males between 1994 and 2009, and the numbers of **corncrakes** from 480 to 1,156 calling males between 1993 and 2009 (see page 18). Furthermore, six species that were declining pre-1994 are now within our stable range, although some may still be showing declines but at a lower rate (eg **black grouse**). For example, the **tree sparrow** was showing an average annual decline of nearly 17% pre-1994, but has since increased by an average of 2.5% per annum (albeit from a very low base level). Interestingly, three species have shown stable population trends both pre- and post-1994 and all but one (**nightjar**) of the pre-1994 increasing species have continued to increase post-1994, highlighting their ongoing recovery. On page 18 of this report, we describe how **cirl bunting** numbers have risen to 862 breeding pairs in 2009 compared to 352 in 1993.

In stark contrast, seven species have shown declining trends both pre- and post-1994. Unfortunately, the **red-backed shrike** no longer breeds regularly in the UK, and the future of both the **common scoter** and **marsh warbler** as UK breeders looks precarious. The other four species all remain widespread but in rapid decline. The **turtle dove** and **spotted flycatcher** are both trans-Saharan migrants whose breeding trends may partly depend upon the conditions they experience outside the UK (see below). However, along with **grey partridges** and **corn buntings** (and the other widely distributed birds on the UK BAP list), their future status

Matrix of BAP species trends

Post-1994 population trend \ Pre-1994 population trend	Decreasing	Stable	Increasing
Increasing	**Bittern** **Corncrake** **Roseate tern**		**Stone-curlew** **Woodlark** **Cirl bunting**
Stable	**Black grouse** **Capercaillie** **Wryneck**[1] **Skylark** **Song thrush** **Tree sparrow**	**Red-necked phalarope** **Linnet** **Bullfinch** **Reed bunting**	**Nightjar**
Decreasing	**Common scoter** **Grey partridge** **Turtle dove** **Marsh warbler** **Spotted flycatcher** **Red-backed shrike** **Corn bunting**		

[1]Wryneck last proved breeding in the UK in 1998.


Andy Hay (rspb-images.com)

within the UK is likely to depend upon the sympathetic management of the countryside, especially the management of farmland and woodland habitats.

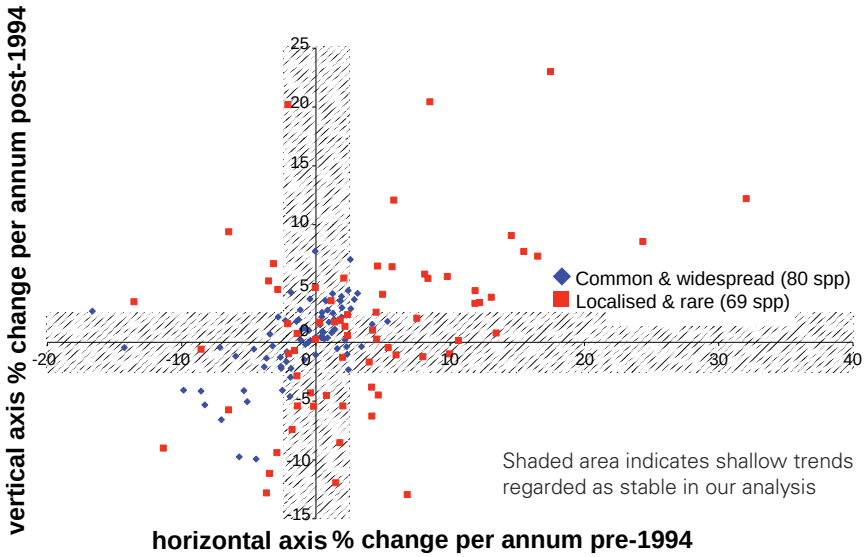
Overall, however, 17 (71%) of the 24 original UK BAP species that could be assessed have shown stable or increasing population trends since 1994, a period during which many of these species were the subject of targeted conservation action. Such action has included research to diagnose the causes of their declines and to identify remedial measures, and targeted work on the ground, including species recovery initiatives and the deployment of beneficial land management options within agri-environment schemes. **This suggests that being identified as a priority for action in the UK BAP may be a contributory factor in securing positive outcomes for bird species**

Does the distribution and abundance of a bird species make a difference to its trends?

The distribution and abundance of a species may affect the rate at which it responds to environmental changes, whether detrimental or beneficial, including those resulting from targeted conservation action. For this reason, we broadly classified breeding species as common and widespread, or rare and localised, based on their range as reported in the 1988-1991 breeding bird atlas. The scatterplot suggests that **rare and localised breeding species are more likely to have increased during either or both periods being assessed, compared with more common and widespread species.** Indeed, with few exceptions, it is the rare and localised species that have experienced very large population increases, with 18 of 69 species assessed increasing by more than 5% per annum since 1994, compared with just two of the 80 common and widespread species. Species that have shown very large increases in both periods include four birds of prey that have been the subject of intensive conservation action to facilitate their recovery (**white-tailed eagle**, **osprey**, **red kite** and **marsh harrier**), and two relatively recent colonists (**Mediterranean gull** and **Cetti's warbler**). In both these cases, the availability of suitable habitat is clearly not yet limiting the breeding populations. Despite this good news, a number of our rare and localised species, such as **common scoter, golden oriole** and **marsh warbler** have become rarer in recent years.

By contrast, common and widespread species are more likely to have been stable or declining during either or both periods being assessed. Although a number of rare birds have shown marked decreases, most of the UK's fastest declining species are those which remain common and widespread, although a number, such as **willow tit** and **turtle dove**, are reaching the point where they might be considered localised, if not yet rare. Many of these birds appear on the UK BAP priority species list and the most obvious explanation for this is that it is generally far easier to take effective conservation action for a rare/localised species, providing you

Pre- and post-1994 trends in common and widespread, and rare and localised breeding birds



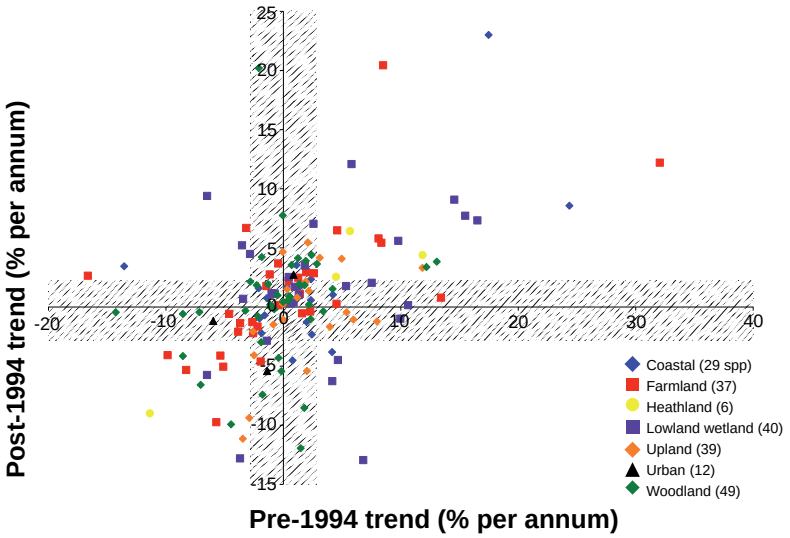
understand the factors limiting the population. This is because the scale at which such action needs to take place is far more restricted compared with a more widespread species. In addition, rare and localised species tend to occur within nature reserves or other protected areas, so taking action is much more within the control (and resources) of statutory and voluntary conservation bodies (for more see page 24). By contrast, **common and widespread species tend to occur within the wider countryside, so their fate is inexorably linked to the management of the natural environment as a whole, especially farmland and woodland.**

The effect of habitat

Changes in both the quantity and quality of wildlife habitats (often driven by changes in land use) have been a major driver of bird population trends in the UK. The UK BAP generated action plans for habitats and the current emphasis is to deliver species conservation through a focus on habitat measures. Therefore, we have compared differences in the trends of species associated with seven of the most important UK habitats in the pre- and post-1994 periods. The scatterplot shows these trends for all breeding species that could be assessed quantitatively, grouped by habitat.

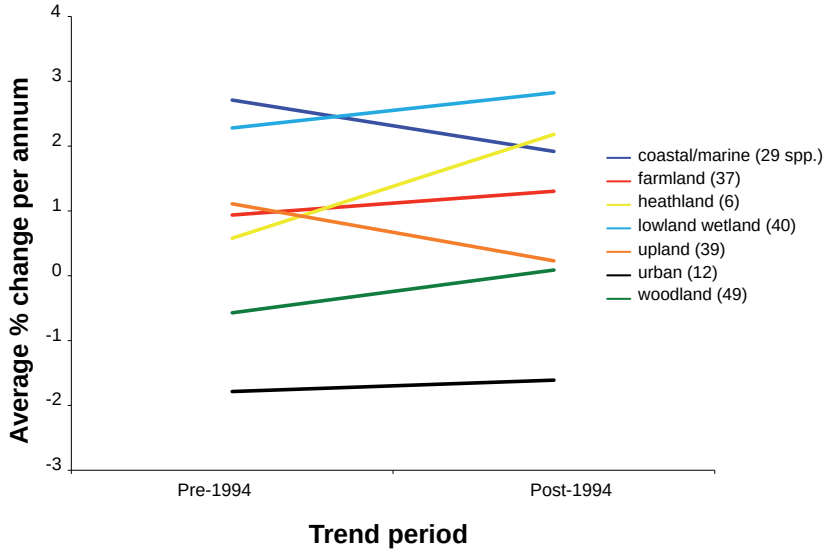
For greater clarity, we have also presented the average trend for species in each habitat in the two time periods. Because some species occupy a wide range of breeding habitats, their population trends may contribute to more than one line. In five of these habitats, including farmland and lowland wetlands, the average trend improved post-1994, although it remained negative for both woodland and urban species.

Trends in breeding population by major habitat



Shaded area indicates shallow trends regarded as stable in our analysis

Average breeding population trend for major habitats

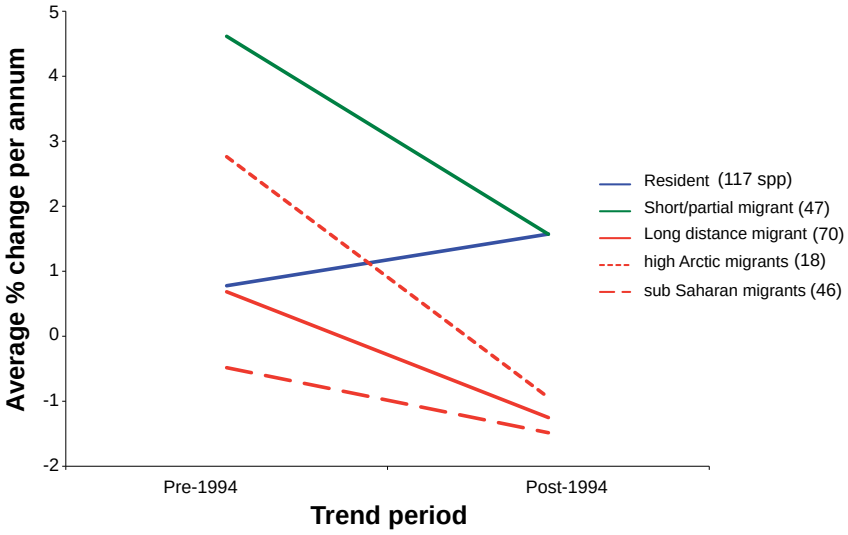


Heathland species, albeit a small group, showed the greatest improvement. The population trajectories of marine/coastal and upland species fell most strongly although marine/coastal birds are still increasing overall.

Overall, species associated with woodland showed the smallest differences in population trajectories pre- and post-1994. Although this implies that little has changed in woodland, average trends mask marked changes in the fortunes of individual species. UK woodlands have tended to increase in area, become more mature and many show changes in structure and tree composition. Fourteen species (29%) showed improvements in status post-1994, attributable partly to the rapid population expansions of species such as the **nuthatch** and **green** and **great spotted woodpeckers**. Overall the status of 12 species (24%) worsened; previously stable numbers of **nightingales** and **marsh tits** were followed by declines and some rare UK species, such as the **golden oriole,** became rarer. **Lesser spotted woodpeckers, spotted flycatchers, hawfinches** and **willow tits** declined through both periods.

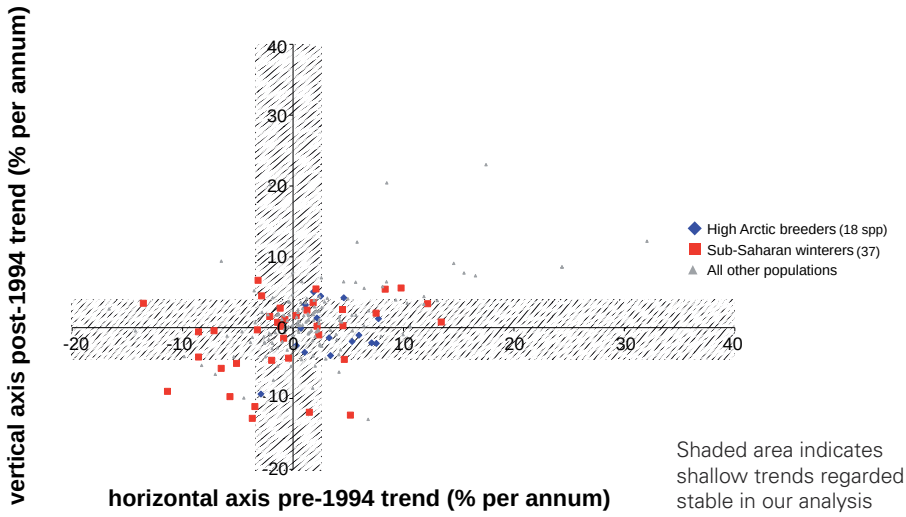
Five of the six species classified as heathland specialists increased in one (three species) or both (two species: **woodlark** and **Dartford warbler**) trend periods. However, **red-backed shrikes** were lost from their last regular breeding site in 1988 and this is now only an irregular breeding species in the UK. The small group of species strongly associated with urban habitats showed relatively little change in trends pre- and post-1994, with declines in both periods. **Spotted flycatchers** and **starlings** declined in both periods, and two rare breeders, **black redstarts** and **serins**, went from stable to declining.

Average pre- and post-1994 trends in residents, short distance and long distance migrants



NB the high Arctic breeders and sub-Saharan winterers groups are subsets of the populations contained in the long distance migrant group

Pre- and post-1994 trends in high Arctic breeding birds and sub-Saharan wintering birds



Shaded area indicates shallow trends regarded as stable in our analysis

The overall improvement in population trajectories pre- and post-1994 for lowland wetland species was driven by a few rapidly-increasing species: overall only nine species (22%) improved in population status compared to eleven species (28%) whose situation worsened. It is noteworthy that three of the nine species responding positively are strongly associated with reedbeds: **bittern**, **bearded tit** and **reed warbler** (and **marsh harrier** increased in both trend periods). On the negative side, pre-1994 increases in **pintails, garganeys** and **ruffs** have been followed by declines; previously stable populations of **curlews**,

cuckoos and **Slavonian grebes** have entered declines, and **Savi's** and **marsh warblers** continued to decline.

Upland breeding birds also tended to show worsening population trajectories (26% of species) than improvements (18%) although our assessment is hampered by absent or poorer quality trend data for many upland species. **Arctic skuas**, **curlews, whimbrels** and **twites** are amongst those to have declined since 1994, whilst numbers of **common scoters, Temminck's stints**, **whinchats** and **ring ouzels** fell through both periods.

The post-1994 trend for breeding marine and coastal species are less than positive. Although only two species were declining pre-1994, and five species/populations (14%) improved from stable to increasing, 12 species (33%) are faring worse. **Arctic skuas**, **lesser black-backed gulls** and **kittiwakes** all entered declines post-1994; conversely **roseate terns** have shown a welcome recovery from pre-1994 declines.

In recent years much effort has been expended on changing land management on farmland through agri-environment schemes and, gratifyingly, birds in this habitat show the most positive pattern of change post-1994. Among breeding species, 21% improved in status, with **lapwings, skylarks, yellowhammers** and **tree sparrows** showing signs of stabilisation after earlier declines. This good news contrasts with the fortunes of **grey partridges, turtle doves, yellow wagtails, starlings** and **corn buntings**, which all continue to decline. It should also be noted that none of the species that came out of declines showed significant recovery towards former levels.

How are migrants doing?

Migrant birds are an important aspect of the UK's avian biodiversity, due in part to its geographical location, which makes it ideally placed for many migrant species during some part of their annual life cycle. Some of these species are long distance migrants, such as those that breed in the high Arctic and winter in the UK, or those that breed here and spend the non-breeding season in Africa, south of the Sahara Desert. Others migrate over shorter distances, perhaps breeding in Scandinavia or wintering in north Africa. Consequently, the conservation status of all of these species may be affected by conditions outside the UK as well as within it, and they are therefore an interesting and important group to examine further.

We classified all populations, where trend data were available, as residents, partial or short distance migrants, or as a long distance migrants. Among resident species the average trend rose from 0.8% in the period before 1994 to 1.6% per year after 1994, while the proportion in decline fell from 19% to 12%, indicating that the overall loss of such species has been reduced (although, importantly, not halted). For short distance and partial migrants, the average trend fell from 4.6% to 1.6% (thus still increasing) but the proportion in decline increased from 5% to 14%. For long distance migrants the trend fell from 0.7% to -1.3% and the proportion declining from 23% to 33%. **This highlights that not only are our migrant species faring worse than non-migratory species, but that their overall conservation status has deteriorated since 1994.**

The scatterplot looks at trends in long distance migrants more closely. The majority of high Arctic breeding species were increasing or stable in the UK pre-1994; in fact only one, the **European white-fronted goose**, was in decline. However, since 1994 this situation has altered considerably; the number of species now in decline has increased three-fold to 22%, and two thirds of all these species have a trend worse than the pre-1994 period. For some of these species there is evidence that they no longer migrate as far as the UK, probably due to favourable changes in climate at wintering sites nearer their breeding areas. However for other species, there are worrying declines at the population scale.

Sub-Saharan migrants are also of concern because the number of species in decline in the UK has increased. Although the rate of this is less than for high Arctic species, the overall proportion of species in decline (almost 40%) is considerably higher. Species such as **cuckoo**, **wood warbler** and **turtle dove** have shown rapid and so far largely unexplained declines. Although in some cases, changes in UK breeding grounds may be driving decline, analysis of trends of migrants across Europe suggests there are also factors associated with migration, whether on the migration route or the African wintering grounds, contributing to the declines.

Healthcheck 2010: conclusions

It may be apparent from the preceding pages, and elsewhere in this report, that it is not easy to reach a clear and simple conclusion regarding the health of the UK's bird populations, given the many facets of our avifauna and the multitude of trends to consider. The many different drivers acting on our birds, such as changes in land management, the impact of climate change and the efforts of conservationists – and the variation in these across regions, habitats and species – means that even closely related species using the same habitats can experience widely differing fortunes. That said, we believe that we are able to answer the key questions on the UK's progress towards 2010 biodiversity targets.


Chris Gomersall (rspb-images.com)

Has the UK met the European Union target of halting the loss of biodiversity by 2010?

It is abundantly clear that, **as far as the UK's birds are concerned, we have failed to reach the European Union's target.** Of the 236 individual populations for which we were able to make an assessment, 45 (19%) were classified as declining in our more recent period since 1994. The Birds of Conservation Concern Red List recently grew from 40 to 52 species (see SUKB 2008 for more details), the number of birds BAP-listed due to severe decline rose from 24 to 32, and in recent years the farmland bird indicator for the UK has fallen to its lowest ever level. Rapid declines in a wide range of species, including 21 at a rate greater than 5% per annum, raise the prospect of national extinction of some treasured bird species.

Answer: No

Has the UK met the global target of slowing the rate of biodiversity loss?

There have, as discussed on page 9 for example, undoubtedly been a number of conservation successes owing to the UK BAP. Recoveries in species such as **bittern**, **woodlark** and **corncrake**, alongside increases not attributable to conservation action (eg **stock doves** benefiting from modern agricultural practices, **little egrets** responding to climate change), have been welcomed. However, our analyses (see table below) show that the proportion of species classified as decreasing has risen since 1994.

Classification of population trends pre- and post-1994

Trend	Pre-1994	Post-1994
Decreasing	38 (16%)	45 (19%)
Stable	123 (53%)	129 (55%)
Increasing	71 (31%)	62 (26%)
Total	232	236

Although 22 species classed as declining before 1994 have subsequently stabilised, another 29 have begun to decline since 1994 and, most worryingly, 16 species have declined throughout the period of the assessment (ie since 1980). The average population trend across all 201 populations for which we have a quantitative trend in both periods fell from 1.6% per annum before 1994, to 0.4% after 1994. Therefore, although this verdict may be influenced by the time periods we used in this exercise, **we conclude that the rate of loss of avian biodiversity in the UK has not slowed.**

Answer: No

The bigger picture

Although this is an assessment of only one component of the UK's biodiversity, our knowledge of the status of birds is better than for any other facet of our natural history. Furthermore, although the match may not be perfect, it is a widely held view that trends in birds reflect those in nature as a whole. Of the 21 of the UK Government's biodiversity measures (from 17 indicators) that can be reported over the "long-term", 10 (46%) show deterioration and nine (43%) improvement **(www.jncc.gov.uk/page-4229)**, although results are healthier over the short term (15 of 29 (52%) measured since 2000 show improvement). The UK Government's own assessment of progress against 2010 can be found at **www.cbd.int/doc/world/gb/gb-nr-04-en.pdf**

Globally, the pressures on biodiversity may be even greater than in the UK, and the efforts to combat this spread more thinly and depending on scarcer resources. A CBD report published recently, Global Biodiversity Outlook 3 (see http://gbo3.cbd.int), is one of a number of assessments to find that the global target has not been met, with multiple indications of continuing rapid decline in biodiversity. Species are on average closer to extinction, average abundance of vertebrates has fallen by a third since 1970, and natural habitats in most parts of the world continue to decline in extent and integrity (a problem compounded by extensive fragmentation). The five most important pressures driving biodiversity loss (habitat change, overexploitation, pollution, invasive alien species and climate change) are either constant or increasing in intensity.

The future

The 10th meeting of the Conference of Parties to the CBD in Nagoya, Japan, in October 2010, will strive to set new biodiversity targets, most likely for the medium-term (2020). Having failed to meet the 2010 target, careful consideration will be needed to set ambitious but credible targets to spur future efforts. Within the EU, a new target has been set for 2020: "to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020."

In conclusion, despite some success through targeted species action, to date we have failed to even substantially slow the rate of avian biodiversity loss in the UK and globally, let alone halt this loss. Even if we were to manage the latter, there will be much to do beyond this goal: this should not be our end point. After decades, or in some cases centuries, of decline, populations of many species are severely depleted. The recent recoveries in **red kites**, **stone-curlews** and other species have shown how it is possible to help species back from the brink, although as yet no single species has recovered fully to previous numbers and range. **We need to stop the loss, and then push on to put nature back where it belongs.**

Andy Hay (rspb-images.com)

Birds in the UK Biodiversity Action Plan

Cirl bunting

A full census of **cirl buntings** was undertaken in 2009, the first complete survey since 2003. In south Devon, 289 tetrads were surveyed, with five covered in the south-east corner of Cornwall, and a further 16 tetrads were covered to survey the recently re-established population in west Cornwall. In addition, there have been a few reported sightings elsewhere in southern England in recent years, so these areas were searched, although no **cirl buntings** were found.

An estimated 862 territories (95% confidence limits 785-975) were recorded, an increase of 24% since 2003. Almost all of these territories were found in south Devon, but 12 were located in west Cornwall where birds have been translocated from Devon. There was little sign of range expansion from the core south Devon range, however, although the number of occupied tetrads increased by 15% since 2003.

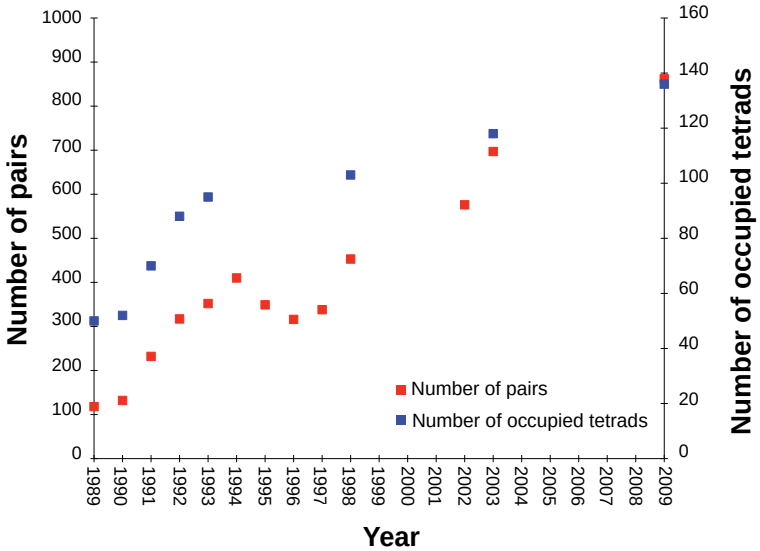
Conservation action for **cirl buntings** has focused on delivering their year-round habitat requirements through agri-environment scheme prescriptions, such as the Countryside Stewardship (CS) scheme. Between 1992 and 2003, **cirl buntings** increased by 146% on land in CS compared to 58% on non-CS land. CS was superseded by Environmental Stewardship in 2005, however, and ongoing analysis will assess whether this new scheme is creating similarly good conditions for **cirl buntings**.

Corncrake

In 2009, we made the first full survey of **corncrakes** since 2003, although the bulk of the population is surveyed every year as it lies in "core" areas of North and West Scotland, where much conservation action for this species is targeted. This annual surveying had suggested that the ongoing recovery of **corncrakes** had peaked in 2007, with 2008 returning the first fall in numbers for 10 years. In 2009 the core areas in the Inner and Outer Hebrides and Orkney were surveyed, but in addition extra effort was exerted in areas with the potential to hold **corncrakes** through north and west mainland Scotland, and records from throughout the UK were collected through a "**corncrake** hotline" and followed up by surveyors.

The core area survey found 1,098 calling males, a further slight fall but still 141% higher than the number in 1993. The recovery of the **corncrake** has demonstrated how targeted conservation action – in this case the modification of mowing and grazing regimes to reduce the loss of nests and chicks, and the provision of spring cover – can produce major responses. However, despite encouraging results of the reintroduction project at the Nene Washes in Cambridgeshire – the 23 calling birds recorded in 2009 was by far the highest recorded to date – otherwise **corncrakes** do not appear to be spreading from the core areas. Other than birds in the reintroduced population, only 41 calling males were reported from outside the core range, only five more than in 2003.

Trend in the cirl bunting population between 1989 and 2009



Trends in common breeding birds in the UK

This table shows the estimated long-term (1970–2008) and short-term (1995–2008) trends for common breeding birds in the UK, based on the results of four annual bird surveys; the Common Birds Census (CBC) from 1970 to 2000, its replacement – the Breeding Bird Survey (BBS) from 1994 to 2008, the Waterways Bird Survey (WBS) from 1974 to 2007, and its replacement the Waterways Breeding Bird Survey (WBBS) from 1998 to 2008.

Trends in common breeding birds in the UK

Species	Long-term trend % (1970–2008)	BBS trend % (1995–2008)
Mute swan	179*	22
Greylag goose	na	144
Canada goose	na	106
Shelduck	161*	6
Mallard	98	18
Tufted duck	111	39
Red grouse	na	-9
Red-legged partridge	-11	29
Grey partridge	-90	-50
Pheasant	74*	33
Grey heron	24	1
Little grebe	-39*	22
Great crested grebe	na	19
Red kite	na	418
Sparrowhawk	84*	-7
Buzzard	392*	63
Kestrel	-36*	-20
Hobby	na	23
Moorhen	-2	18
Coot	83*	38
Oystercatcher	na	-11
Golden plover	na	-4
Lapwing	-45*	-13
Woodcock	-83*	na
Snipe	na	39
Curlew	-60*	-42
Redshank	na	-30
Common sandpiper	-38	-15
Feral pigeon	na	-8
Stock dove	75*	0
Woodpigeon	124*	35
Collared dove	403*	26
Turtle dove	-89	-70
Ring-necked parakeet	na	696
Cuckoo	-58*	-44
Barn owl	na	464
Little owl	-38	-24
Tawny owl	-18*	-7

Species	Long-term trend % (1970–2008)	BBS trend % (1995–2008)
Swift	na	-29
Kingfisher	-5	-2
Green woodpecker	123	47
Great spotted woodpecker	348	129
Lesser spotted woodpecker	-72*	na
Skylark	-53	-11
Sand martin	0	22
Swallow	22	34
House martin	-41*	1
Tree pipit	-73*	-5
Meadow pipit	-43*	-20
Yellow wagtail	-73	-52
Grey wagtail	-26	27
Pied wagtail	38	0
Dipper	-31	na
Wren	55	23
Dunnock	-30	21
Robin	52	23
Nightingale	na	-53
Redstart	17*	-2
Whinchat	na	-57
Stonechat	na	168
Wheatear	na	-5
Blackbird	-13	26
Song thrush	-48	27
Mistle thrush	-48	-13
Grasshopper warbler	na	24
Sedge warbler	-12	9
Reed warbler	132*	28
Blackcap	155	61
Garden warbler	3	-13
Lesser whitethroat	20	2
Whitethroat	-2	20
Wood warbler	na	-61
Chiffchaff	41	43
Willow warbler	-41*	-8
Goldcrest	-11*	8
Spotted flycatcher	-85	-39

Species	Long-term trend % (1970–2008)	BBS trend % (1995–2008)
Pied flycatcher	na	-50
Long-tailed tit	89	13
Marsh tit	-66	-18
Willow tit	-91	-73
Coal tit	23	5
Blue tit	21	1
Great tit	90	43
Nuthatch	176	50
Treecreeper	-21	-5
Jay	3	13
Magpie	94	-3
Jackdaw	119	36
Rook	na	-8
Carrion crow	82	10
Hooded crow	na	-3
Raven	na	10
Starling	-76*	-38
House sparrow	-67	-9
Tree sparrow	-93	55
Chaffinch	34	9
Greenfinch	10	12
Goldfinch	81	56
Siskin	na	18
Linnet	-57	-23
Lesser redpoll	-90*	3
Common crossbill	na	24
Bullfinch	-49	-8
Yellowhammer	-55	-16
Reed bunting	-30	33
Corn bunting	-89	-29

All short-term trends are based on the smoothed BBS estimates of change in the UK between 1995 and 2008 except for six riverine species (**little grebes, tufted ducks, grey wagtails, sand martins**, **dippers**, **kingfishers and common sandpipers**) for which a similar measure is calculated by combining the WBS and WBBS data, and **grey heron** which is based on the Heronries Census. For most species, the long-term trends are based on the smoothed estimates of change between 1970 and 2008 in a combined CBC-BBS analysis. However, for species with evidence of marked differences in the population monitored by the BBS and its predecessor the CBC (coded *) we use the CBC results until 1994, and solely the BBS from 1994 to 2008. Hence, long-term trends for these species may not be representative of the UK population prior to 1994, due to the more limited geographical and habitat coverage of the CBC (mainly farmland and woodland sites in England). Long-term trends for the six riverine species are based on smoothed WBS-WBBS estimates of change between 1975 and 2008. Although all data including the most recent from 2009 are included in these analyses, we report measures of change from 1970 or 1995 to the penultimate year – 2008, to avoid unreliable effects due to smoothing at the endpoints of time series. Apart from the six riverine species, long-term trends cover shorter time periods due to the later availability of reliable data, as follows: 1972–2008 for **collared doves**, 1975–2008 for **sparrowhawks** and 1977–2008 for **house sparrows**.

More details on the BBS, including The Breeding Bird Survey 2009 report, can be found at **www.bto.org/bbs**

Population trends of common terrestrial birds are monitored through the efforts of volunteer birdwatchers taking part in the BBS. If a species is found to be declining, additional demographic information can be extremely valuable in helping to determine the mechanisms underlying the decline. Data collected by bird ringers operating Constant Effort Sites (CES) allow trends in survival and overall seasonal productivity to be constructed, whilst observations made by participants in the Nest Record Scheme (NRS) enable estimates of the mean number of fledglings produced per breeding attempt to be calculated annually. This suite of surveys operates at a national scale, providing up-to-date information on many of our breeding birds.

More than 100 species are monitored by the BBS, of which 20 have shown declines severe enough to warrant red-listing. This suite of species includes a high proportion of resident farmland species such as **grey partridge**, **lapwing**, **skylark**, **starling**, **tree sparrow**, **linnet**, **yellowhammer** and **corn bunting**. Two of these species, the **linnet** and **yellowhammer**, are amongst the eight that have shown declining trends in the numbers of fledglings produced per nest over the past 20 years. Winter food availability has been identified as a key factor in the declines of both species, and it may be that a resulting loss of body condition leads to reduced investment in subsequent breeding attempts, with fewer offspring reared the following spring.

National Governments within the UK are attempting to reverse the loss of biodiversity in farmland ecosystems through the implementation of agri-environment schemes. Work is

Species showing significant declines in productivity from Nest Record Scheme data

Species	Trend period (years)	Trend over period (%)[1]
Nightjar[2]	43	-56
Tree pipit[2]	20	-47
Dunnock	20	-14
Spotted flycatcher	24	-15
Treecreeper[2]	19	-21
House sparrow	15	-7
Chaffinch	23	-20
Linnet	43	-18
Bullfinch[2]	22	-54
Yellowhammer	18	-34
Reed bunting	43	-24

[1]Decline in number of fledglings produced per breeding attempt
[2]Small sample size – fewer than 25 records per year

Species showing significant declines in productivity between 1984 and 2007 from Constant Effort Scheme data

Species	Trend over period (%)[1]
Nightingale[2]	-92
Blackbird	-29
Song thrush	-44
Sedge warbler	-59
Blackcap	-32
Garden warbler	-47
Willow warbler	-24
Blue tit	-59
Great tit	-40
Goldfinch	-62
Linnet	-73
Lesser redpoll[2]	-88
Reed bunting	-53

[1]Decline in mean ratio of juvenile to adult birds, a measure of productivity
[2]Small sample size

underway to assess their effectiveness by analysing spatial variation in population trends in relation to levels of uptake of stewardship options and, although limited evidence for short-term effects of the English Entry Level Stewardship scheme has been found, numbers of **corn buntings** and **starlings** have both shown positive associations with areas of land under agri-environment scheme management.

While populations of some medium-distance migrants such as **chiffchaffs** and **blackcaps** continue to increase, population declines in many long-distance migrants remain apparent. These include farmland birds such as **turtle doves** and **yellow wagtails**, and woodland species such as the **spotted flycatcher** and **nightingale**, as well as **cuckoos** and **grasshopper warblers**. NRS data show that the mean number of fledglings produced by **spotted flycatchers** has declined over time, and changes in the ratios of juvenile and adult birds caught at CES sites suggest the breeding success of a number of long distance migrants, including **nightingales**, **garden warblers**, **sedge warblers** and **willow warblers**, has also fallen.

Drivers of migrant demographic trends can be difficult to identify as they may relate to factors acting on the breeding grounds, on the wintering grounds or during the migratory journey itself. The declines reported above may have been caused by climate-mediated disjunction with invertebrate prey (if changes in the timing of the availability of invertebrates move out of synchrony with the timing of bird breeding attempts) or by other breeding ground changes. Falling productivity could also be associated with habitat degradation or climatic

changes in Africa impacting on the body condition of birds arriving back in the UK to breed.

However, not all species monitored by the BBS are declining. Seven species formerly exhibiting negative population trends – **snipe**, **grey wagtail**, **dunnock**, **song thrush**, **whitethroat**, **tree sparrow** and **reed bunting** – have all shown significant positive trends over the last 10 years, although where the earlier decline was severe or enduring, such as for the **tree sparrow**, numbers typically remain severely depleted. The **reed bunting** was red-listed until 2009, but its recent positive population trend has moved it to the amber list, and the increase in the **song thrush** is particularly welcome. Rapid population increases have been identified for a number of other species, with 19 showing increases of 100% over the last 40 years. Top of this list is the **buzzard**, populations of which have risen by more than 400% as the species continues to recover from the impacts of persecution.


Andy Hay (rspb-images.com)

Health check 2010

Trends amongst our common and widespread breeding species vary widely, with tremendous increases (up to three-fold post-1994) counterbalanced by dramatic declines (losses of up to two-thirds). While we should celebrate recoveries of species such as the **buzzard**, it is clear from these trends that biodiversity loss in the UK has not been halted. Continued declines, particularly in a number of farmland and woodland species, are serious enough that they could conceivably lead to the complete loss from the UK of species such as the **lesser spotted woodpecker** and **turtle dove**.


Andy Hay (rspb-images.com)

100 years of ringing birds in the UK

The BTO Ringing Scheme celebrated its centenary year in 2009, having originally grown out of two schemes set up in 1909 (through the journal *British Birds* and at Aberdeen University). During the centenary year, ringers held numerous ringing demonstrations, taking the Ringing Scheme out to people. Through evening talks, the history of ringing was presented to members of 45 local bird clubs across the country.


Andy Hay (rspb-images.com)

The scheme itself is a great leveller, with amateurs working to the same high standards as professionals and academics. Around 85% of ringers are amateurs, and with record numbers of ringers (2,602 at the end of 2009), their contribution is a very significant one indeed.

Ringing has widespread uses in both monitoring numbers and demography. The structured Constant Effort Sites (CES) and Retrapping Adults for Survival (RAS) projects help answer specific demographic questions, whilst ringing generally contributes more than 13,000 recoveries (subsequent reports of ringed birds, alive or dead) annually, allowing for more general assessments of movements and survival for a wide range of species.

Ringers computerise their ringing data and currently more than 97% of ringing and recapture data are submitted electronically. These data are now readily available for analysis, including feeding into the BTO's Integrated Population Monitoring Programme **(www.bto.org/survey/ipm.htm).** Recent analyses of survival rates have also shed light on the factors driving population changes in hirundines and **blackbirds**.

The scheme recently passed a milestone, holding details of 10 million ringed birds in a central electronic database, out of 36 million ringed over the 100 years of the scheme. Ringers also collect and submit biometrics of birds caught and these data are also available for analysis. Recent analyses have highlighted the impact of cold weather on body condition in estuarine waders and how birds deal with the trade-off between the dual risks of predation and starvation.

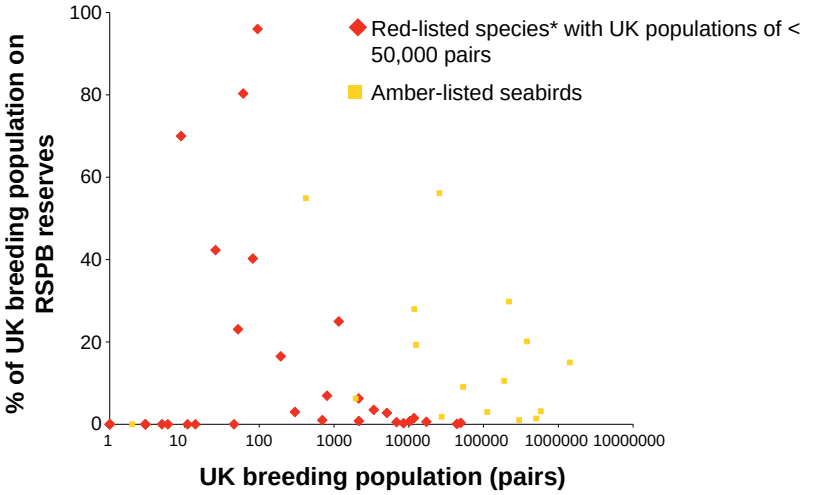
Ringing also has a vital role to play in the recent upsurge of interest in the winter ecology of migrants. Many of our sub-Saharan migrants are showing very worrying declines, with species such as the **yellow wagtail**, **wood warbler** and **cuckoo** joining the red list at the recent review (see *SUKB 2008*). Others species, including the **nightingale**, **pied flycatcher** and **whinchat** are also exhibiting significant population declines. A project is currently being carried out jointly between the BTO, RSPB and the BirdLife partners in Ghana and Burkina Faso. This focuses on the use migrants make of a suite of habitats across sub-Saharan Africa, from the semi-desert Sahelian region in Burkina Faso to the lush tropical forests of Ghana. The aim is to understand how Palearctic-African migrants use and move around the different vegetation zones found in West Africa (see **http://migrantbirdsinafrica.blogspot.com**).

Rare breeding birds in the UK

In our assessment of the health of the UK's birds we highlighted the tendency for species with small populations and restricted ranges to fare better – possibly responding to conservation action – than common and widespread species. One reason for this may be the ability to target these species by designating land for their benefit (as Sites of Special Scientific Interest and Special Protection Areas, for example), and managing land as nature reserves.

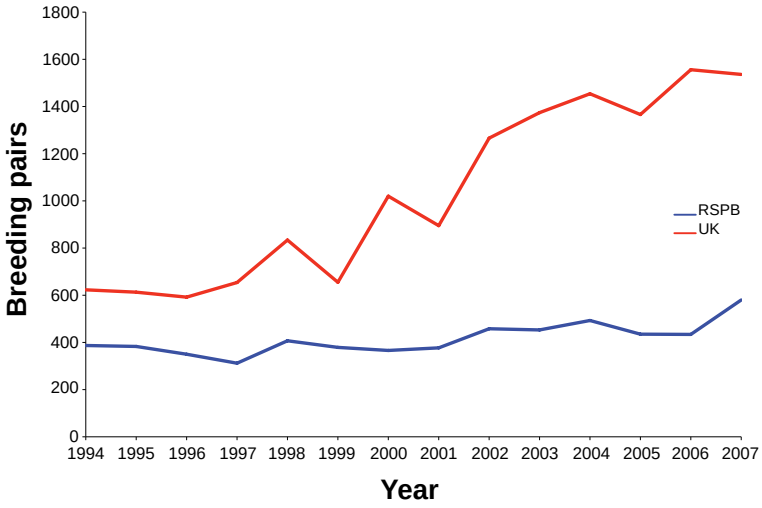
This approach may be inappropriate for species that are mobile and unpredictable in their choice of breeding site: those that although rare, use a habitat that is widespread, such as **redwings** (Scottish woodlands) and **quail** (arable crops). Some species have begun to outgrow the reserve network; as **marsh harrier** numbers have grown, they have spread from protected reedbed sites to neighbouring farmland, for example. Nevertheless, for many species the UK's network of protected sites and nature reserves are vital, providing undisturbed sites where suitable habitat can be created and maintained. As data are not available for all the UK's reserves, the graph shows the percentage of the UK breeding population found on RSPB reserves (206 reserves covering just over 1,420 square km) for 28 species red-listed on account of their UK breeding populations. Although this percentage tends to be very low for the very rarest species, which are often unpredictable in choice of nesting location, RSPB reserves support an average of 20% of the population of species with UK populations of less than 1000 pairs. The figure shows how with increasing population size, a lower percentage of species' populations occur on RSPB reserves, and site protection thus become less powerful as a conservation tool. The figure also shows amber-listed seabirds, to illustrate how nature reserves can be important for species with larger populations if they are localised in distribution (i.e. in seabird breeding colonies).

Percentages of the UK breeding populations of red and amber-listed species breeding on RSPB reserves



*We have only included species that are on red-listed on account of their UK breeding populations, and of these, only species with UK populations of < 50,000 pairs as commoner species are not monitored regularly on all RSPB reserves. Cuckoo, twite and lesser redpoll are omitted because they are not monitored regularly across all RSPB reserves on which they breed.

Trends in breeding avocets



The graph above demonstrates how, as numbers of breeding avocets have increased in the UK over recent decades, the share on RSPB reserves has declined as the range expands and birds have colonised new sites away from the large coastal wetlands in East Anglian sites. The number of sites occupied has nearly doubled in a decade (35 in 1997, 68 in 2007) and the range has spread north to Durham, west to Gwent, and inland to Cambridgeshire and Worcestershire. However, nearly all the avocet population remains on nature reserves.

Breeding seabirds in the UK

The UK Seabird Monitoring Programme has, since 1986, co-ordinated the monitoring of breeding seabird populations in the UK, through an extensive sample of colonies monitored by partner organisations, supplemented with more intensive monitoring of behavioural and demographic parameters at key colonies. This information is helping us to understand how the main drivers of change are affecting the UK's internationally important breeding seabird populations.

The table shows the differing fortunes of species monitored by the Seabird Monitoring Programme. Since 1986 substantial declines have occurred in **shags**, **little terns**, **roseate terns**, **kittiwakes**, **Arctic skuas** and **herring gulls**, with the latter three species continuing to show rapid declines recently (since 1999). **Lesser black-backed gulls**, **great black-backed gulls** and **fulmars**, although showing little overall change since 1986, have shown large declines in the last 10 years. **Roseate tern** numbers declined rapidly during the late 1980s and early 1990s, but their numbers have started to increase since 2002.

Some species have increased over the monitoring period and continue to do so: **great skuas** and **gannets** are up by 46% and 73%, respectively. **Guillemots** and **razorbills** have also increased; the former having now apparently stabilised while the latter has shown signs of a decline in the last few years.

Health check 2010

While there are probably more breeding seabirds in the UK today than there were 40 years ago, the populations of many have now stabilised or are decreasing. Greatest declines include those of **shags**, **kittiwakes**, **Arctic skuas** and **herring gulls**. By contrast, **gannets** and **great skuas** have increased markedly. Since the adoption of the UK BAP in 1994, the UK seabird index has declined by 5%. The main drivers of change are climate change (mainly through indirect impacts lower down the food chain), the introduction of non-native mammalian predators (which limit the number and distribution of ground-nesting seabirds), and fisheries management (which can have both negative and positive impacts on seabird populations).


Andy Hay (rspb-images.com)

Trends in seabird numbers in the UK, 1986–2009 and 1999–2009

Species	1986–2009 trend %	1999–2009 trend %
Fulmar	-17	-38
Gannet[1]	55	22
Cormorant	19	-2
Shag	-37	-9
Arctic skua	-52	-33
Great skua[1]	46	18
Black-headed gull	16	-6
Lesser black-backed gull	0	-31
Herring gull	-35	-43
Great black-backed gull	-20	-30
Kittiwake	-48	-40
Little tern	-27	-8
Sandwich tern	29	22
Common tern	18	4
Roseate tern	-71	81
Arctic tern	25	14
Guillemot	33	3
Razorbill	32	-11

[1]trend derived from census interpolations and extrapolations

In this section we look in more detail at the trends in abundance and breeding success of six widespread and abundant seabird species, which represent a range of foraging niches, to investigate possible common factors responsible for change across species. **Kittiwakes** and **gannets** represent the offshore surface-feeder niche; **fulmars** the offshore surface feeder/scavenger niche; **Sandwich terns** the inshore surface-feeder niche; **guillemots** the offshore diving niche; **shags** the inshore diving niche.

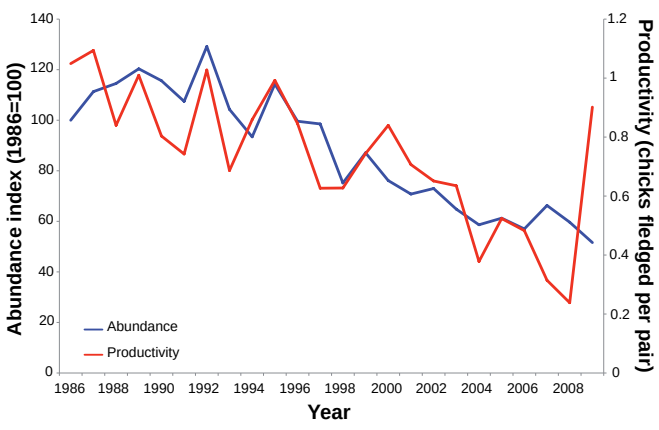
Kittiwakes have undergone a major population decline since 1986; productivity has declined too, such that by 2008 around one quarter of the number of chicks were produced compared with the mid 1980s. However, in 2009 productivity was higher than it had been for 14 years. **Kittiwakes** rely largely on small shoaling fish, especially sandeels, to be present at the sea surface; the availability of this food is thought to be a key determinant of **kittiwake** productivity. Therefore **kittiwake** productivity can be used as an indicator of sandeel availability, which appears to have declined through the period. There is evidence that increases in sea surface temperature (SST) have reduced the abundance of sandeels and therefore the productivity (and adult survival) of **kittiwakes**. The presence of a sandeel fishery in the North Sea is thought to have exacerbated the effects of SST change, though no sandeel fishery currently operates within the **kittiwakes**' foraging range. Evidence suggests that sandeel availability was high in 2009, resulting in increased productivity of **kittiwakes** and other species.

Gannet numbers have increased substantially over the period monitored. **Gannet** productivity has been consistently high, which has contributed to this population increase, together with high rates of adult survival. Unlike **kittiwakes**, **gannets** can travel great distances from the colony to find food and their diet is varied, including mackerel, herring and other large fish. These factors help **gannets** to maintain consistently high productivity.

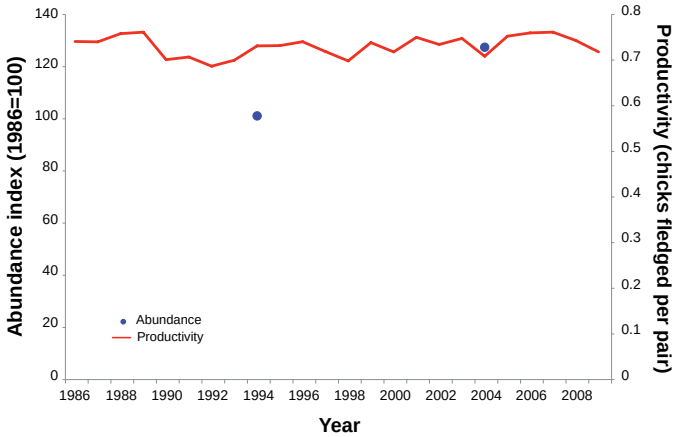
Fulmar breeding numbers in the UK have undergone a long term increase, which continued until the end of the 1990s, after which a decline is apparent. Unproductive breeding seasons during the last decade may lead to further declines, although these could be buffered by relatively small increases in adult survival. As **fulmars** gain a large proportion of their food from fishery discards, the recent decline may in part be a result of reductions in fishing activity. Indeed it is possible that **fulmar** populations have been bolstered by historically high fishing levels. **Fulmars** are caught accidentally by long-line fishing in the Norwegian Sea, although this impact has not yet been quantified. Reductions in sandeel abundance driven by changes in the zooplankton community is also likely to be a factor in recent **fulmar** declines.

The UK **Sandwich tern** population has fluctuated since 1986 but shown no clear trend. The index increased sharply between 2008 and 2009, with the recolonisation of Minsmere, which had been effectively abandoned in 1977. It is thought that birds may have moved from an abandoned colony on the continent. Productivity of **Sandwich terns** - as with other terns - typically fluctuates and is influenced by food supply (eg sandeels and sprats) but predation plays a major role, especially that from foxes. Productivity was

Trends in kittiwake abundance and productivity

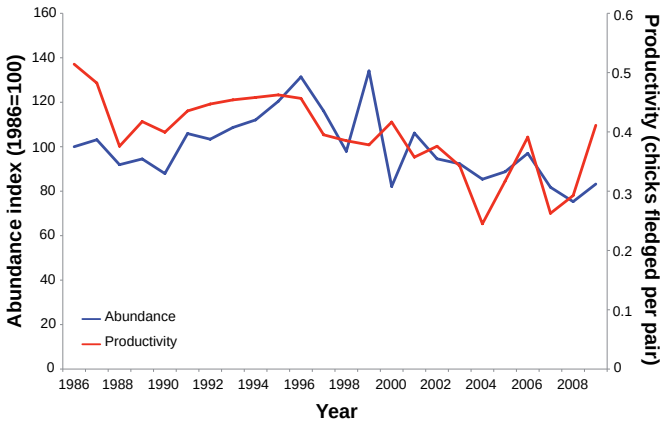


Trends in gannet[1] abundance and productivity

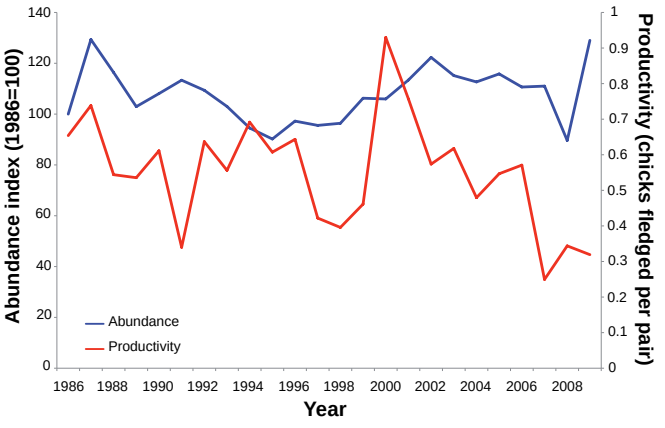


[1]Gannets are not monitored annually: the points show the results of ten-yearly population censuses

Trends in fulmar abundance and productivity



Trends in Sandwich tern abundance and productivity

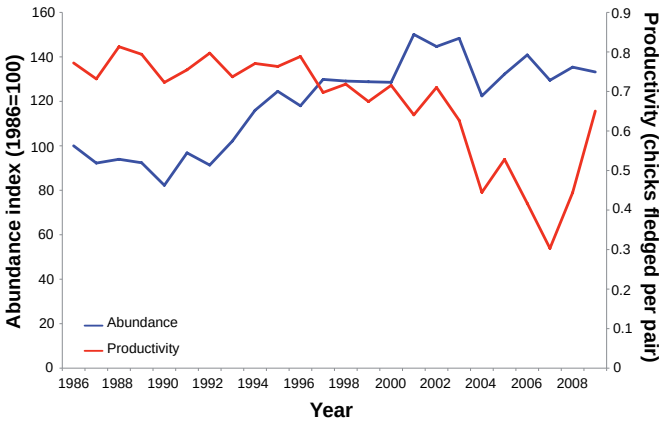


particularly low in 2007–09. Because many tern species nest near the tide edge on sand or shingle spits and islands, they are vulnerable to tidal inundation; this threat is likely to increase in some areas given climate change predictions of rising sea levels and increased incidence of storm events, although managed realignment of coastal defences may create new opportunities for nesting.

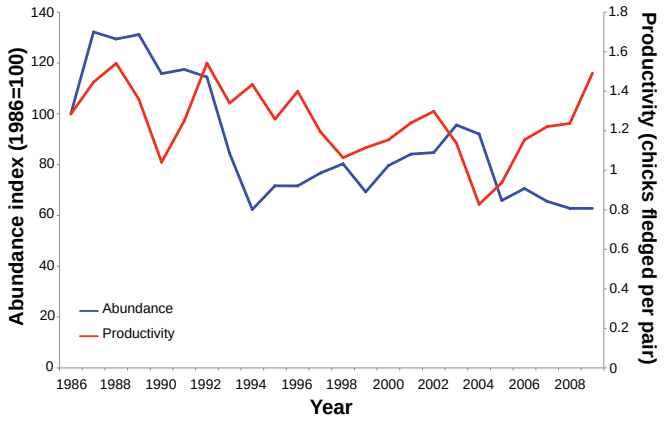
The number of **guillemots** – an offshore diving species – increased through the 1960s to 1980s, with a levelling off or slight decline during the 2000s. Productivity declined in the late 1990s and fell to extremely low levels in 2004–8, which is likely to result in further population declines in coming years. Declines in productivity are associated with reduced sandeel availability, probably mediated by increases in SST. As with other sandeel feeders, productivity of **guillemots** increased markedly in 2009, when sandeel abundance appeared to be high.

Population change in the **shag** is heavily affected by the incidence of mass mortality events – or "wrecks" – which occur during prolonged periods of onshore gales, when birds such as **shags** find it hard to forage. Severe events, such as those in 1994 and 2005, knocked back the population considerably, and subsequent recovery has been slow. Predictions of increased storminess due to climate change suggest such mortality events may become more frequent. **Shags** are also heavily reliant on sandeels and food shortages linked to increases in SST are likely to have contributed to periodic low productivity and population decline. However, productivity in 2009 was comparatively high, in common with other sandeel specialists.

Trends in guillemot abundance and productivity



Trends in shag abundance and productivity



Recent surveys

Greylag geese in Scotland

Greylag geese were once depleted to a remnant breeding population in north-west Scotland. It has been known for some time, however, that **greylag geese** in Scotland from both of the recognised populations (native in Northwest Scotland and re-established elsewhere) have been expanding in numbers and distribution. In order to quantify this, a comprehensive random stratified survey of summering **greylag geese** throughout Scotland was undertaken in the summers of 2008 and 2009. Counts were conducted at sites where moult gatherings were known or thought to occur, and a random stratified survey of nearly 500 other lochs was carried out.


Peter Cairns (rspb-images.com)

The population estimate of **greylag geese** summering in Scotland in 2008–09 was 47,405 birds (range 44,059 to 51,763). Breeding success, measured as the proportion of juvenile birds, was estimated at 23.1% in 2008 and 13.3% in 2009, and the mean brood size was 3.19 goslings per successful pair in both years. Using previous surveys as a baseline, the annual rates of increase were estimated at 11.9% in north and west Scotland (the range of the Northwest Scotland population) (1997 to 2008–09) and 9.7% in south and east Scotland (re-established population) (1991 to 2008–09).

The largest concentrations were found on Orkney, the Uists, Shetland, Tiree, Harris and Lewis and Islay. In mainland Scotland, the largest gatherings of moulting **greylag geese** were at Black/White Lochs, Stranraer and Loch Leven, Perth & Kinross.

In 2000, there was an estimated 24,500 re-established **greylag geese** in Britain (including Scotland) and numbers were increasing at an average rate of 9.4% p.a. – similar to the figure of 9.7% given for south and east Scotland above. Assuming a continued rate of annual increase across Britain, the number of re-established **greylag geese** was likely to have risen to some 50,000 birds by 2008. Combining that estimate with the number of **greylag geese** recorded in north and west Scotland in the current study (about 34,000 birds) suggests the total number of **greylag geese** summering in Britain is probably 84,000 birds, highlighting the extent of what can now be considered the successful re-establishment of British **greylag geese**.

Merlin

A national **merlin** survey was conducted in 2008, with 10-km squares being sampled throughout the species' range, which extends through all of the UK's constituent nations. A population estimate of 1,160 breeding pairs (95% confidence limits 912–1,532) was extrapolated from these sampled squares and the areas surveyed by Raptor Study Groups. The estimate for Britain (not including Northern Ireland, which was surveyed for the first time in 2008), of 1,128 pairs can be compared with that from the previous survey in 1993–94 and indicates a slight decline, albeit not statistically significant, of 14%.

On a regional level, there appears to have been considerable variation in trend. **Merlins** have virtually disappeared from South-west England (there was just one pair left) and numbers in Yorkshire, Bowland and the South Pennines have nearly halved. A similar level of decline was recorded in South and West Scotland, but the substantial population in North Scotland had increased and 40% of the UK's **merlins** are now found in that region. A number of reasons for these interesting regional patterns have been postulated – changes in prey abundance, forestry cover and the age of existing commercial forests, and moorland management such as grazing and burning – but further research will be needed to understand the causes fully.

Wintering waterbirds in the UK

Every winter, the UK plays host to millions of waterbirds, which visit to take advantage of our varied and extensive wetland habitats, notably the main estuaries. The fact that such large numbers of birds are able to find sufficient food to survive the winter here is partly a result of the relatively mild climate, due to the Gulf Stream keeping us warmer than equivalent latitudes of continental Europe. In the spring, most of these birds depart from our shores to head for breeding areas as far away as northern Canada and Siberia. Due to the critical roles they play in the life cycles of so many waterbirds, many of the most important UK sites are designated as Special Protection Areas and Ramsar sites (ie wetlands of international importance).

Trend figures are derived from the Wetland Bird Survey and Goose & Swan Monitoring Programme. Lower coverage of some habitats (such as non-estuarine open coast, rivers and farmland) means that trends for species found largely on such habitats (such as sanderling, mallard and lapwing) may be less representative than those for species found in habitats with better survey coverage.

Long-term trends are the percentage changes between the smoothed index values for 1981–82 and 2006–07. Ten-year trends are the percentage changes between the smoothed index values for 1996–97 and 2006–07. Calculation of smoothed indices by use of a generalized additive model is detailed further at www.bto.org/webs/alerts/alerts/index.htm. National monitoring of North west Scotland **greylag goose**, Canadian **light-bellied brent goose**, **little grebe**, **great crested grebe**, **coot** and **cormorant** started later than for other species, so only 10-year trends are shown.

Trends in wintering waterbirds

Species/population	Long-term trend %	Ten-year trend %
Mute swan	140	7
Bewick's swan	-10	-46
Whooper swan	296	80
Pink-footed goose	201	18
European white-fronted goose	-80	-75
Greenland white-fronted goose	72	-43
Icelandic greylag goose	4	13
Northwest Scotland greylag goose	n/a	52
Re-established greylag goose	629	60
Canada goose	136	24
Greenland barnacle goose	165	63
Svalbard barnacle goose	204	18
Dark-bellied brent goose	34	-17
Canadian light-bellied brent goose	n/a	16
Svalbard light-bellied brent goose	303	13
Shelduck	4	-15
Wigeon	84	1
Gadwall	347	21
Teal	45	2
Mallard	-34	-21
Pintail	15	7
Shoveler	71	23
Pochard	-27	-46
Tufted duck	21	-13
Scaup	127	60
Eider	-5	-5
Goldeneye	2	-39
Red-breasted merganser	-7	-32
Goosander	-10	-42
Ruddy duck	59	-48
Little grebe	n/a	23
Great crested grebe	n/a	-1
Cormorant	n/a	12
Coot	n/a	-8
Oystercatcher	6	-13
Avocet	>1000	125
Ringed plover	-6	-27
Golden plover	472	29
Grey plover	71	-30
Lapwing	177	-15
Knot	18	5
Sanderling	73	33
Purple sandpiper	-39	-21
Dunlin	-25	-41
Black-tailed godwit	506	56
Bar-tailed godwit	-24	-35
Curlew	38	-11
Redshank	24	-12
Turnstone	17	-6

The wintering waterbird indicator on page 5 of this report shows trends in overall abundance for 46 native species or populations, derived from the Wetland Bird Survey (WeBS) Core Counts and the Goose & Swan Monitoring Programme. It shows that there was a steady increase in wintering waterbirds in the UK from the mid-1970s to the mid-1990s, due in part to a network of protected wetland sites. For some species, reductions in shooting pressure have also contributed to the increases. However, since the mid-1990s, the indicators suggest that average waterbird numbers have levelled off, both for wildfowl and waders, and are now indicating an overall decline, particularly for wildfowl. Results from waterbird monitoring schemes in other parts of Europe have demonstrated that this is at least partly attributable to "short stopping", whereby an increased proportion of a waterbird population is able to winter closer to its breeding area (usually further east or north) due to milder winters. However, it is crucial that the influence of short stopping on observed waterbird trends in the UK is understood so that true declines are not overlooked.

It should always be remembered that the indicators can give only a general indication of change in the abundance of the UK's waterbirds since the mid-1970s. When individual species or populations are examined separately, markedly different patterns are often apparent.

Long-term trends indicate that 75% of species populations have increased over the last 25 years. However, during the short term there has been a change of fortunes, with 52% of species in decline over the course of the last 10 years.

Waders

The sight of large flocks of waders feeding across intertidal areas or flying to high tide roosts is an inspiring element of the British winter, and these birds are also a very important element of the UK's contribution to global biodiversity. Through the efforts of WeBS volunteers, waders are among the most well monitored groups of birds in the UK, enabling effective study of trends in abundance and distribution.

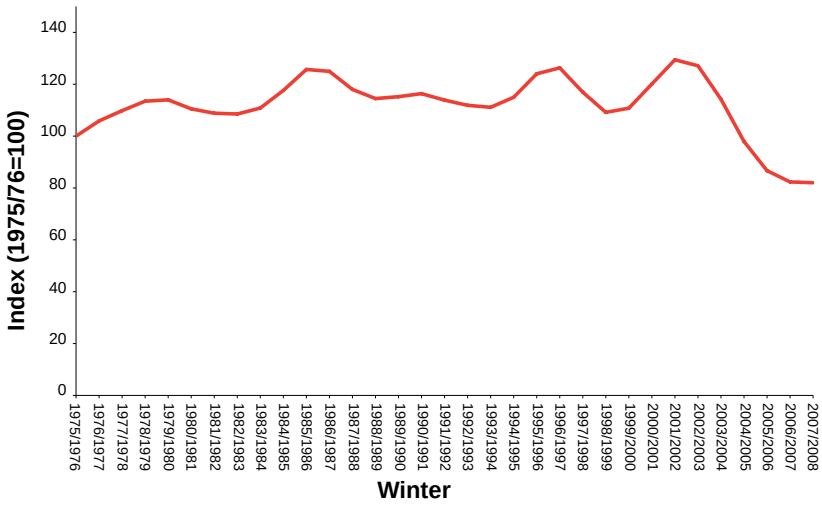
The wader indicator shows an overall 8% decline since its peak in 2000/01, providing some cause for concern. This decrease may be either a direct result of declining populations or due to changing distributions, and for some species it is probably attributable to both.

A number of familiar estuarine species have decreased in the UK in recent years. These include the **dunlin**, **curlew** and **redshank**, whose winter population trends have shown slow yet steady declines. However, there has been a recent suggestion of improved fortunes for other species, such as the **oystercatcher** and **grey plover**, while **knot** numbers remain largely stable.

The reasons for a recent increase in the number of **sanderlings** on estuarine habitats are unclear, but may be associated with a shift away from the open coast. Other non-estuarine shoreline specialists have all shown recent declines – **ringed plovers**, **purple sandpipers** and, to a lesser extent, **turnstones**. **Ringed plovers**, in particular, are giving cause for serious concern, having reached their lowest level since monitoring began. This may be linked to an eastward shift in winter distribution, but British breeding numbers are also known to be falling (as documented in *SUKB 2008*) and so some decrease in overall abundance is considered likely.

The trends for the two godwits contrast markedly. **Bar-tailed godwits** have exhibited an unprecedented slump on our estuaries in the last four years. This is thought to be due to a greater proportion of the wintering population remaining on the other side of the North Sea, particularly on the Dutch Wadden Sea. However, a more detailed understanding of movements is required to be certain of this, and

Trend in bar-tailed godwits



continued monitoring is required to determine whether the species will recover to levels recorded during the preceding peak. In contrast, a steep increase in the number of **black-tailed godwits** (red-listed due to historical decline in the breeding population) wintering in Britain has been a striking feature of recent decades, although there is some indication that the wintering population may now be stabilising.They are an increasingly conspicuous sight on the south and east coasts in winter, and there are now 29 sites in Britain supporting internationally important numbers.

Similarly, wintering numbers of **avocets** have continued to increase on southern estuaries. Trends for the **lapwing** and **golden plover** both typically tend to fluctuate more than for other species – probably due to a more marked influence of cold weather on the continent, and because they tend to use agricultural land as much as well-monitored coastal wetlands. In general, **golden plovers** are increasing whereas **lapwings**, after a longer-term increase, now appear to be exhibiting a decline.

Wildfowl

The overall trend of abundance of wildfowl wintering in the UK increased from the mid 1970s to the mid 1990s. Since then there has been a small decline in six successive years and, in terms of individual species, 15 populations show short-term decreases.

Changes in the numbers of swans and geese are reasonably well understood due to the availability of detailed long-term data on breeding success and distribution. Recent years have seen an increase in **whooper swans** contrasting with a worrying decline in **Bewick's swans**. This decline during the period 1995–2005 has recently been clarified with the publication of figures from the international censuses in 1995, 2000 and 2005. These show that the Northwest European population declined by 20% between 1995 and 2000 and a further 8.5% to 2005; an overall decrease from 29,500 birds to 21,500.

Our wintering goose populations are also experiencing mixed fortunes, although there is some slightly better news regarding the **Greenland white-fronted geese** whose long-term decline has been of considerable concern. The most recent international census suggests that the decline has now stabilised; numbers in spring 2009 were very similar to the previous year. This may be a reflection of the cessation of shooting in Iceland, where around 3,500 birds were harvested annually prior to 2006/07. However, the status of this population remains a major concern and so close attention will continue to be paid to trends.

Amongst ducks, reasons for apparent population changes are less well understood, as individual populations are much less studied. However, short-term trends of several species are highly suggestive of the influence of climate change. For example, ongoing monitoring of wintering ducks in Scandinavia has shown that numbers of dabbling and diving species have increased in response to the ice-free conditions in the last 20 years.

In the UK, the **mallard**, **pochard** and **red-breasted merganser** continue to be three of the species showing the most serious declines – suggesting that the impacts of milder winters are affecting birds within all ecological groups (ie dabbling and diving, coastal and freshwater species).

Health check 2010

The steady increase in numbers of many species of wintering waders and wildfowl can be regarded as one of the UK's conservation successes over recent decades, a testament to the protection and management of a network of wetland sites that have supported ever-larger numbers of birds. The recent onset of declines in many species is therefore cause for concern. Careful monitoring and research is needed, both in the UK and elsewhere on flyways, to determine whether this is the result of climate-mediated range shifts, or indicative of population-level declines.

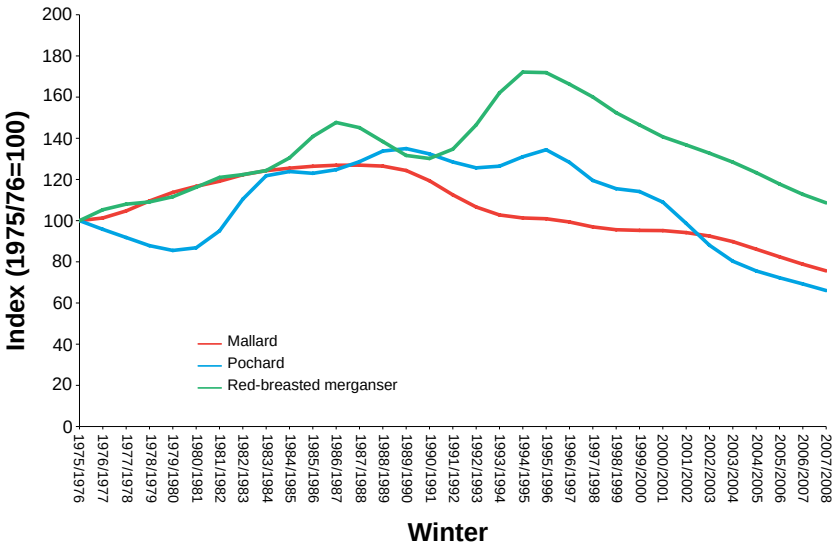
Andy Hay (rspb-images.com)

Trends for some coastal diving ducks are also a cause for concern, with **goldeneyes** and **eiders** showing recent declines. With the exception of the **mallard**, dabbling species are generally doing better, with the **wigeon**, **teal** and **pintail** all faring relatively well over both the long and short term. However, the trend of several duck species show marked contrasts between Northern Ireland and Britain, with declines of **wigeons**, **gadwalls** and **shovelers** noted in Northern Ireland compared to increasing trends in Britain. This suggests that distributional change is a major factor driving these trends.

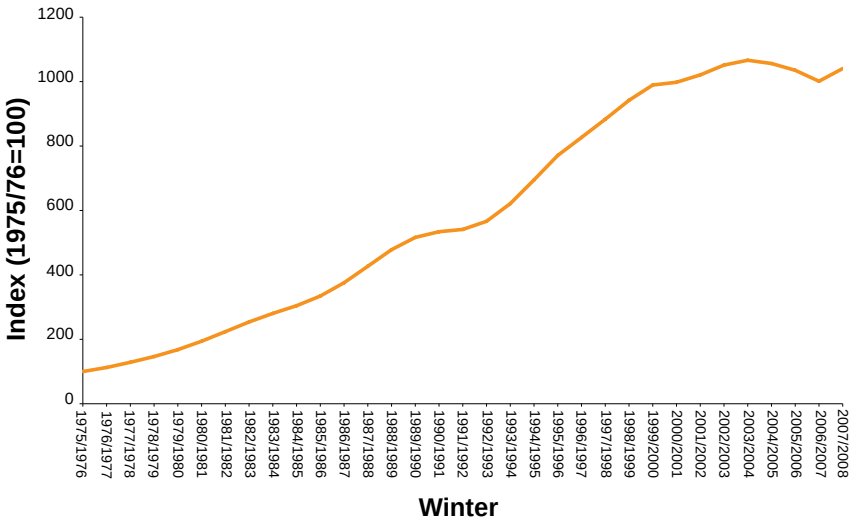
One major success story among wildfowl since standardised monitoring began has been the **gadwall**. Numbers have increased considerably over the course of 30 years, probably at least partly due to wetland creation, but there are signs that the wintering population may now have reached a plateau.


Andy Hay (rspb-images.com)

Trends in mallards, pochards and red-breasted mergansers



Trend in gadwalls

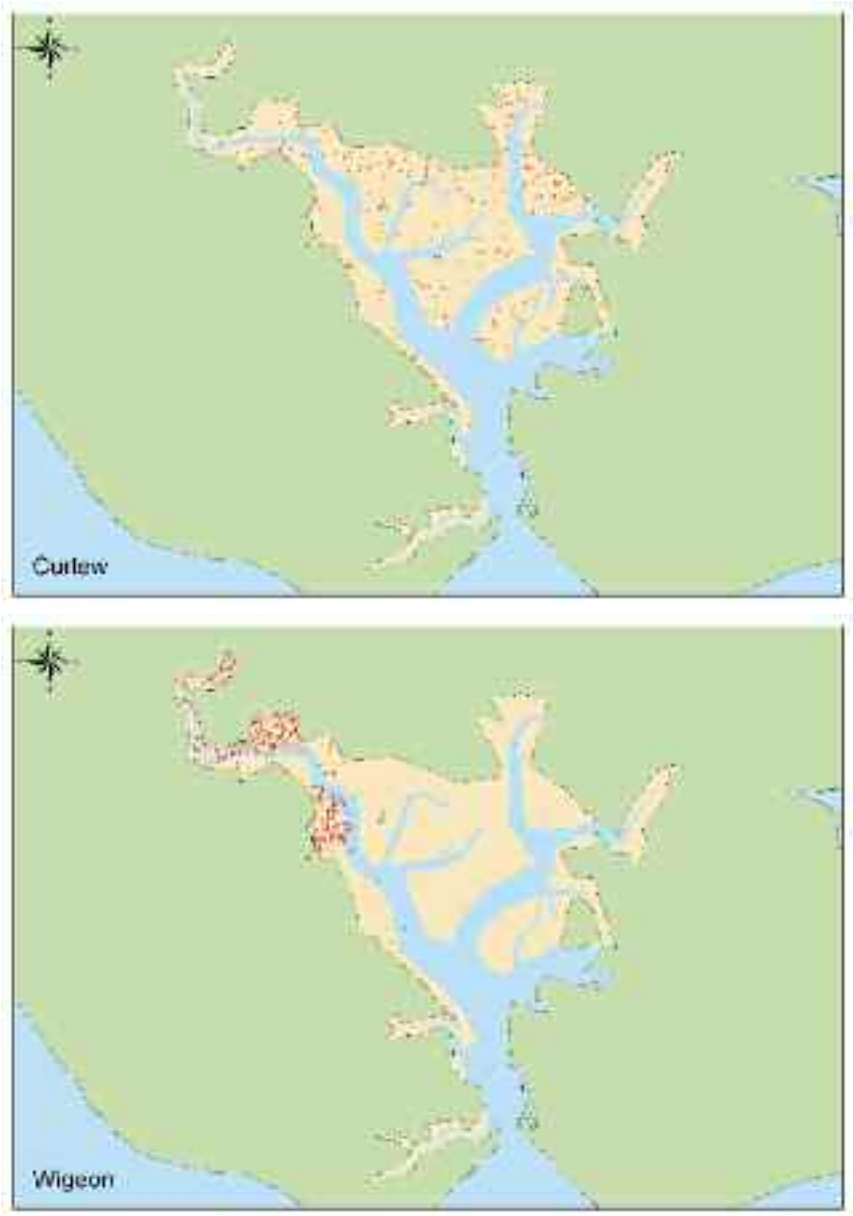


Use of estuaries at low tide

Despite involving only a relatively small number of sites, estuaries collectively represent the most important habitat for wintering waterbirds in the UK. They are also inherently different from the thousands of inland sites counted for WeBS. The influence of the tide means that the birds have to be much more mobile, both within and between sites. WeBS Core Counts on estuaries have, in general, been based around high tide roosts because counts are much easier at this time. Although safe roost sites are essential for water birds to see out the high tide period without being predated or losing hard earned energy reserves, they are usually secondary in importance to the areas used for feeding. The WeBS Low Tide Counts scheme, initiated in the winter of 1992/93, aims to monitor, assess and regularly update information on the relative importance of intertidal feeding areas within UK estuaries for wintering waterbirds, thus complementing the information gathered by WeBS Core Counts.

As an example of the information produced by the scheme, the low tide distribution of **wigeons** and **curlews** in Portsmouth Harbour in the winter of 2008/09 shows that, whilst **curlews** feed widely across the open mudflats of the harbour, **wigeons** are more concentrated in the narrower creeks in the north-west corner. Every winter about 20 estuaries are surveyed in this way, with most estuaries counted about once every six years giving a fine level of detail on how areas within them are used. Some of these areas may be affected by human activities and so this information can be used to help manage potential conflicts between waterbirds and such activities as dock developments, proposals for recreational activities, tidal power barrages, marinas and housing schemes.

Low tide maps of curlews and wigeons in Portsmouth Harbour



Red dots indicate locations of birds

The data gathered contribute further to the conservation of waterbirds by providing supporting information for the establishment and management of the UK network of Ramsar sites and Special Protection Areas (SPAs), other site designations and whole estuary conservation plans. In addition, WeBS Low Tide Counts enhance our knowledge of the low water distribution of waterbirds and provide the data that highlight regional variations in habitat use. A more recent and pressing role is that they help us to understand, predict and plan compensation for the effects of sea-level rise on the UK's internationally important estuarine waterbird populations.

A healthcheck for birds in the UK's Overseas Territories

The UK's Overseas Territories (UKOTs) and Crown Dependencies are small in geographical extent but are disproportionately important for their biodiversity. They include arguably the world's most important seabird assemblage on Gough Island, and a significant number (24) of bird species found nowhere else in the world. Indeed, this is more than the total number (20) of endemic bird species found in the whole of continental Europe – an area vastly larger. Collectively the territories support about 50 million seabirds – about 20% of the world's seabird population, including a third of the world's albatrosses. Yet as noted in *SUKB 2007*, they are also a global hotspot for bird extinctions, with 10 species recorded as having become extinct.

How is the status of birds within the UKOTs changing?

The Red List Index has been developed by BirdLife International as a means of summarising the overall conservation status for any defined group of species. It ranges from theoretical values of 1, which represents a state when no species are listed on IUCN's Red List (which indicates the threat of extinction), to 0 – where all species are extinct.

BirdLife International has generated a Red List Index for bird species occurring within metropolitan UK, as well as within the UK's Overseas Territories. This shows:

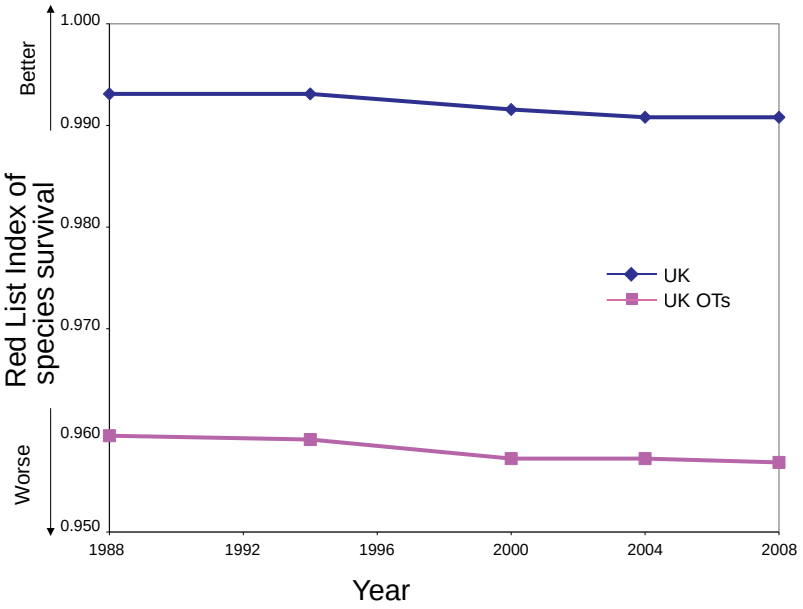
- the markedly poorer overall status of birds in the OTs compared with metropolitan UK, and
- the declining status (with respect to the IUCN Red List) of birds both in the UK as well as in the OTs.

Several globally threatened seabird species in particular are continuing to decline in numbers thus driving the fall in the index.

Summary of the status of birds of global conservation concern in the Overseas Territories

Critically Threatened	4 species	All OT endemic
Endangered	8 species	4 OT endemic
Vulnerable	20 species	12 OT endemic
Near Threatened	15 species	2 OT endemic

Red List Index for the UK, and the UK's Overseas Territories



As well as impacts from predatory non-native mice on young birds (see below), the Critically Endangered **Tristan albatross** is also suffering increased adult mortality as a result of pelagic long-line tuna fisheries in the South Atlantic. Mortality from such long-line fishing is also impacting a range of other species from the UKOTs, such as **sooty** and **black-browed albatrosses** (both Endangered). Responses to reduce the impact of such fisheries are being developed and trialled on many fishing vessels, and this and other work aimed at the conservation of albatrosses and petrels is being taken forward by the Agreement on the Conservation of Albatrosses and Petrels (ACAP). However, there remain major challenges to the widespread uptake of seabird-friendly fishing gear and practices.

The tiny population of wirebirds or St Helena plovers fell from 450 individuals in 1988–1989 to 350 in 1998–2001, and then to 200–220 between November 2005 to January 2006. This was because of land-use change (particularly a decrease in grazing pressure) and predation by invasive species. As a consequence, its status has declined from Endangered to Critically Endangered, which triggered a number of recent conservation projects to try to reverse this trend. Subsequently numbers have risen again, with 397 adults counted in early 2010, and continued recovery may lead to the Critically Endangered status being downgraded in the future.

Wetland protection

Since the last summary of birds in the UKOTs in *SUKB 2007*, the UK government, working with the governments of the Territories concerned, has made several significant classifications of new wetlands of international importance under the Ramsar Convention. Especially notable was the classification of Gough and Inaccessible Islands within the Tristan da Cunha group of South Atlantic islands in October 2008.

These two sites (which already have World Heritage status) include all of the islands and their surrounding seas out to the 12-nautical mile limit of territorial waters. Gough Island is one of the largest relatively unmodified cool temperate island ecosystems in the southern hemisphere and the island has been described as "a strong contender for the title of the most important seabird colony in the world."

Impacts from non-native species

Whilst overall numbers of birds on Gough Island are huge, impacts from non-native house mice threaten some of these species. Recent research has elaborated how mice eat young **Tristan albatross** chicks. The status of the species continues to decline and it is becoming increasingly clear that measures to eradicate non-native mice from Gough will be essential if this, and other threatened bird species on the island, are to survive. Further south, on South Georgia, recent research has highlighted how climate change is enabling the further spread of non-native species with implications for birds. Here, both non-native rats and reindeer are restricted to certain parts of the island by glaciers that restrict the movement of non-native mammals along the coast.

Populations of birds within the newly designated Gough Island Ramsar sites

Name	Population size (breeding pairs)	% of world population	IUCN status	Position in range/endemism
Northern rockhopper penguin	65,000	c. 28%	Endangered	
Tristan albatross	2,500	>99%	Critically Endangered	Endemic
Atlantic yellow-nosed albatross	5,300	c. 17%	Endangered	Restricted to Tristan Islands
Sooty albatross	5,000	c. 32%	Endangered	
Southern giant petrel	250	<1%	Least Concern	Most northerly breeding locality
Grey petrel	At least 10,000	c. 13%	Near Threatened	
Atlantic petrel	1,800,000	100%	Endangered	Endemic
Soft-plumaged petrel	400,000	c. 12%	Least Concern	
Great shearwater	980,000	c. 17%	Least Concern	
Broad-billed prion	1,750,000	c. 8%	Least Concern	
Tristan skua	1,000	c. 83%	Least Concern	
Brown noddy	200	<1%	Least Concern	Most southerly breeding locality
Gough moorhen	3,500 (very rough estimate)	100%	Vulnerable	Endemic
Gough bunting	1,000	100%	Critically Endangered	Endemic

Michael Gore (rspb-images.com)

Studies by the British Antarctic Survey have shown the progressive and rapid retreat of nearly all South Georgia's glaciers. This gives an increased risk of rat invasion to those coastal regions that are currently protected by glacial barriers, and has significant implications for the important breeding populations of ground-nesting birds on South Georgia.

Success for species recovery projects: turning the tide

In recent years there has been a much better understanding of the importance of the UKOTs for biodiversity and the scale of the conservation problems faced. This welcome awareness has been reflected in the development and funding of a range of different conservation initiatives.

The tiny **Cobb's wren**, an endemic bird of the Falkland Islands, forages amongst the boulder beaches of offshore islands in the Falklands and now only occurs on those islands which are free from introduced cats, foxes and rodents. Recent funding has enabled rat eradication to occur on 44 islands and surveys for wrens and rats on at least 70 others as part of a progressive programme of rat eradication from offshore islands in the Falklands. This is a crucial activity to expand the extent of habitat for this globally threatened species.

In Bermuda, 2009 saw the corner turned in the fortunes of one of the world's rarest birds, the Critically Endangered **Bermuda petrel** or **cahow**. Although in the early 1500s there were thought to have been about half a million pairs on Bermuda, pigs, rats, cats and dogs introduced to the main island by early settlers decimated the population and by 1620 they were thought to be extinct.

However, in 1951 small numbers were rediscovered nesting on small islets off Bermuda.

The rediscovered population was tiny with just 18 breeding pairs producing as few as eight fledged chicks in 1962. Since then, a long-term conservation programme has aimed to restore the suitability of other offshore islands for the petrels and so expand its potential range beyond the rapidly eroding small islets where they were rediscovered. At Nonsuch Island, a major long-term programme eliminated predators from the island and restored its ecology. The **Cahow** Recovery Project has worked to establish a new colony there by translocating near-fledged chicks from their natal nest sites to a new group of artificial nests built at a new colony site.

Over a five-year period between 2004 and 2008, 105 **cahow** chicks were translocated from the tiny eroding nesting islets to nest burrows on Nonsuch. Nearly all of these fledged successfully. In 2009, 15 **cahows** from the 2005 and 2006 translocations were recorded in nest burrows on Nonsuch, with at least six pairs of birds recorded together building nests and the first chick fledged successfully on 17 June 2009.

Although the **cahow** remains one of the rarest seabirds, the Recovery Project has increased its breeding population to a record 86 nesting pairs producing 47 fledged chicks in 2009. This programme of intensive management has certainly prevented the species from going extinct and the techniques pioneered in Bermuda have much wider applicability.
The events of 2009 certainly suggest that the **cahow** is truly "back from the brink".

Health check 2010

Our UKOTs contained a vast avian wealth, with a number of island endemics and huge seabird colonies that easily surpasses that of metropolitan UK. Similarly, the threats to, and loss of, this avian biodiversity is greater than in the UK, with a rising number (47 at present) of species at risk of global extinction. Although we are able to report some conservation successes, it is clear there needs to be a step change in the support for conservation in the UKOTs to prevent additions to the 10 species to have gone extinct already. Most urgently, steps need to be taken to remove the non-native species that threaten the unique communities on the likes of Gough and Henderson Islands.


Richard Revels (rspb-images.com)

Bird Atlas 2007–11


Tom Marshall (rspb-images.com)

Fieldwork for the Bird Atlas started in November 2007 and we have now completed three winter and three breeding seasons. Progress has been excellent, thanks to more than 13,000 dedicated volunteers who have been visiting all corners of Britain and Ireland. The winter of 2009/10 was challenging for fieldwork with prolonged periods of freezing temperatures, heavy snow and icy conditions.

The Bird Atlas aims to map the distribution and relative abundance of birds in both winter and the breeding season, and to produce revised population estimates. Previous atlases have been carried out in the winter (1981—84) and breeding seasons (1968–72 and 1988-91), so we have the opportunity to assess changes in range over the last 30–40 years. The Atlas is organised by BTO, BirdWatch Ireland and the Scottish Ornithologists' Club, who work closely with networks of regional Atlas Organisers across Britain and Ireland. The regional Atlas Organisers, all volunteers themselves, perform a fantastic task co-ordinating volunteers who undertake fieldwork.

The aim over the four years of the project is to produce comprehensive species lists for every 10-km square in Britain and Ireland in both seasons. In the breeding season, recording the breeding evidence of birds is a key part of the fieldwork. Standard codes are used to categorise breeding as possible, probable or confirmed. The 10-km square species lists are generated from casual birdwatching sightings (Roving Records), records submitted to BirdTrack (**www.birdtrack.net**) and "top-up" records from other schemes such as Ringing and the Nest Record Scheme which provide valuable information on breeding evidence. In order to produce maps of relative abundance, timed counts (Timed Tetrad Visits) are carried out in at least eight of the 25 tetrads (2 x 2 km squares) in every 10-km square.

For the first time in the history of national atlases we have used the internet to gather records from volunteers. We are delighted that more than 90% of records have been submitted online, which allows us to produce summary species lists for every tetrad and 10-km square, regional maps and up-to-date maps of coverage. The statistics are impressive with 121,000 Timed Tetrad Visits and 2.1 million Roving Records submitted and more than 2.3 million records from BirdTrack incorporated into the Atlas. Geographical coverage has been very good across much of England, mainland Scotland and most of Wales. Considerable volunteer effort is still required in mid and west Wales, the Scottish islands, Isles of Scilly and Ireland. Detailed maps of coverage can be found online at **www.birdatlas.net**

Even at this stage of the Atlas we are beginning to pick out species that show significant changes in their range – both expansion and contraction. As birdwatchers, we will have noticed the eastward expansion of **buzzards**, the northward spread of the **little egret** and **nuthatch**, and that **cuckoos**, **spotted flycatchers** and **yellow wagtails** have all become scarcer. More subtle patterns of change are also emerging for other species, such as the **green woodpecker** and **little owl**, and further fieldwork will provide a clearer picture.

Winter weather has an important influence on **stonechat** population levels and a decline in a severe winter is usually followed by recovery after a succession of mild winters. Breeding season monitoring suggested a decline through the 1970s and 1980s but since the early 1990s numbers have increased (up 168% between 1995 and 2008 on BBS) and the species has recently been moved from the Amber to the Green list of Birds of Conservation Concern reflecting its more favourable status across Europe as a whole. Fieldwork for Bird Atlas 2007–11 has shown a considerable range expansion in both winter and the breeding season since the previous national atlases, helped along by successive mild winters in the 1990s and 2000s, coupled with

good breeding success (see map). It will be interesting to see how the cold winter of 2009/10 affects numbers and distribution, and the Breeding Bird Survey and the Atlas will play a key role in reporting this.

The decline in the abundance of farmland birds such as **yellowhammers**, **corn buntings** and **lapwings** is well documented, but it is only through atlases that we can look at changes in range. Provisional results for the **yellowhammer** (see map) show range contraction in Ireland, Wales, western Scotland, south-west England and the fringes of the Pennines. Further fieldwork in the west of Britain and in Ireland, where not all 10-km squares have been covered, will give us a clearer picture of the full extent of the range contraction.

Yellowhammer map

Provisional breeding season distribution for the **yellowhammer**. Three sizes of dot indicate possible (small), probable (medium) and confirmed (large) breeding.

Stonechat map

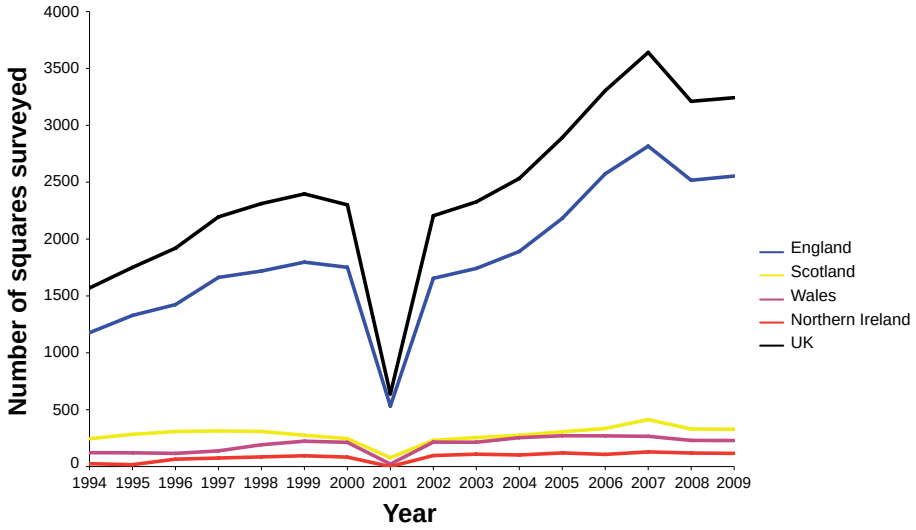
Provisional winter distribution for the **stonechat**. Each dot represents presence in a 10-km square.

Ben Hall (rspb-images.com)

The value of volunteers in bird monitoring

Have there ever been more people involved in monitoring the UK's birds? The answer depends upon the definition of "monitor". Does it mean "to keep an eye on" or is it the more rigorous "check and measure"? Right now, in the middle of Bird Atlas 2007–11, a huge number of people are identifying and counting birds – contributing key monitoring information. Looking at the question more broadly, however, there are far fewer who have a connection with the annual cycles of the countryside than was the case a century ago, when millions more lived and worked in rural areas.

Number of participants in the Breeding Bird Survey



The drop in numbers of squares covered in 2001 was due to restrictions during the Foot & Mouth disease outbreak

Recent research has attempted to understand what motivates up to 40,000 people each year to count birds as part of BTO-led surveys. Their contributions vary from weekly Garden BirdWatch counts through to the Breeding Bird Survey, the survey that underpins the national wild bird indicators shown on page 5. This research revealed that these important activities fulfil a range of common needs: solving puzzles, getting involved, being part of something purposeful, developing personal knowledge and receiving recognition.

Bird survey work is a challenge; in the same way that a crossword is a challenge. There are always new techniques to be learned. Not only do volunteers count the **bullfinches** in their survey squares, they also learn the types of hedgerow in which they are going to be found. A BBS volunteer might encounter the first singing **skylarks** in a cereal field but the second breeding attempt may well be in a field of beans. Outside the breeding season, for someone undertaking a WeBS count on an estuary, the subtle relationships between habitats and species will be revealed as the months go by. **Bar-tailed godwits** can always be found in sandy bays whereas **black-tailed godwits** are found in muddy areas, for example. Developing an understanding of how birds use their habitats, at a local level, provides self-fulfilment for many observers. This feeling is reinforced by the belief that national figures will reveal patterns that feed into conservation planning and action, thanks to the powerful databases held by conservation organisations such as those involved in this report: for example the database of 100 million records maintained by the BTO.

The value of volunteer involvement in monitoring and conservation work is huge. Each year, the JNCC collects information on the contribution made by volunteers (**www.jncc.gov.uk/page-4253**). Skilled surveyors spend 1.68 million hours in the field or inputting data each year, a commitment that has an estimated value of £34 million annually. The partnership of conservation scientists and birdwatchers facilitates the collection of a much greater volume of robust information than could be provided by salaried fieldworkers alone. According to the JNCC survey, between 2000 and 2008 there was a 50% increase in time spent volunteering, much of the rise being associated with bird surveys. Breaking down the figures, we can see that the effort that is going into the Bird Atlas 2007–11, with an estimated 13,400 online contributors, has affected the Breeding Bird Survey. The number of squares covered has dipped since the maximum level of 3,641 in 2007, just before the start of the atlas period, to 3,211 in 2009: this is still massively bigger than the 280 who used to undertake its more complex predecessor, the Common Birds Census, in the 1980s.

Although the number of volunteer bird surveyors has increased hugely, we cannot be complacent. It is already

hard to find volunteers in some parts of the UK (particularly the north and west) and many of the key surveyors and local organisers are unlikely to be still out birdwatching in 20 years' time. This is a good time to be looking for their understudies and successors; birdwatchers who can hone their skills whilst walking along a canal doing a WBBS count and then take the lead for Bird Atlas 2027–2031. Volunteers become very committed; many of the 500 people who contributed to the Birds of Estuaries Enquiry in 1970, for example, are at the heart of WeBS, which now has 3,000 contributors.

Realistically, the number of volunteers prepared to get involved in monitoring work is limited, by personal confidence and skill levels, but the fact that an estimated 530,000 took part in the RSPB Big Garden BirdWatch in 2010 indicates the huge potential. To increase involvement, birdwatching organisations are trying to encourage more local "patch" birdwatching. BirdTrack has 19,154 registered users submitting between 2,000 and 5,000 visit lists every week, depending upon the time of year. When bird lists are combined, regionally and nationally, interesting patterns appear, such as the annual arrival trends of migrants or the frequency of occurrence of birds in different years. A long run of spring information about birds such as whitethroat and swallow is going to provide interesting evidence of the challenges of changing weather patterns, for instance, whilst the decline of goldcrests during the cold spell of January 2009 shows up clearly in BirdTrack data.

Coming back to monitoring, there is one final challenge to set. Focusing on the "checkers and measurers" and providing them with the encouragement and training they ask for is relatively straightforward. However, as lives become more focused on indoor activities, it may be harder to increase the number of people in the wider population who "keep an eye" on birds – the people who appreciate what is happening around them and who understand why surveying, red lists, indicators and conservation action are so important. The future of monitoring and conservation as a whole, depends on us continuing to nurture an interest in nature in young people.

What you can do to help

Current and planned surveys

The information summarised in *The state of the UK's birds 2010* is drawn from the annual and periodic monitoring programmes described below and from the work of individual ornithologists. Anyone interested or wishing to take part in these surveys should contact the relevant organisations at the addresses given on the following pages.

The **Breeding Bird Survey (BBS)** is the monitoring scheme for common and widespread breeding land birds throughout the UK and aims to provide data on populations trends to inform and direct conservation action. It is a partnership between the British Trust for Ornithology (BTO), the Joint Nature Conservation Committee (JNCC) – on behalf of Natural England (NE), Scottish Natural Heritage (SNH), the Countryside Council for Wales (CCW) and Northern Ireland Environment Agency (NIEA) – and the RSPB [contact BTO].

The **Wetland Bird Survey (WeBS)** is the monitoring scheme for non-breeding waterbirds in the UK, which aims to provide the principal data for the conservation of their populations and wetland habitats. It is a partnership between BTO, the RSPB and JNCC (on behalf of NE, SNH, CCW and NIEA) in association with Wildfowl & Wetlands Trust (WWT) [contact BTO].

Goose and swan data are collected by the **Goose & Swan Monitoring Programme**, funded under the WWT/JNCC partnership [contact WWT].

The **Waterways Bird Survey (WBS)** and the **Waterways Breeding Bird Survey (WBBS)** have been running since 1974 and 1998 respectively. These schemes aim to monitor riverside breeding birds, particularly waterway specialists, across the UK [contact BTO].

The **Seabird Monitoring Programme** gathers information on breeding numbers, breeding success and other parameters to help us understand drivers of change and to target conservation action. Coordinated by JNCC, it is a partnership between the statutory nature conservation agencies, research and conservation organisations; see **www.jncc.gov.uk/page-1550**

The **Barn Owl Monitoring Programme** was started in 2000 to monitor populations, through standardised recording at a set of **barn owl** sites representative of the distribution in the UK [contact BTO].

The **Big Garden Birdwatch** is the largest wildlife survey in the world – a simple design (one hour watching birds in the garden each January) means over half a million people have taken part in recent years. The data provide an excellent snapshot of garden bird numbers across the UK [contact the RSPB].

Garden Bird Watch is a year-round scheme recording the weekly occurrence and numbers of birds in participants' gardens. The data collected provides valuable information on changes in bird use of rural and urban habitats that can be related to population trends in the wider countryside [contact BTO].

BirdTrack is a year-round online bird recording system run by BTO, the RSPB, BirdWatch Ireland and the Scottish Ornithologists' Club. The collection of list data from a large number of observers will enable the fulfilment of a range of national research and monitoring objectives [contact BTO/RSPB or see **www.birdtrack.net**].

An advance programme of UK-wide surveys of other priority breeding species has been established under the Statutory Conservation Agencies and RSPB Annual Breeding Bird Scheme (**SCARABBS**) Agreement. **Hen harriers** were surveyed in 2010, whilst we hope to survey **dotterels**, **snow buntings** and **ring ouzels** in 2011 [contact the RSPB].

Bird Atlas, 2007–2011. Twenty years since the last breeding atlas, and 30 years on from the last winter atlas, the BTO, BirdWatch Ireland and Scottish Ornithologists' Club are teaming up to produce the next landmark atlas to document the changing distribution of Britain's and Ireland's avifauna. This atlas combines winter and breeding season fieldwork. More details can be found at **www.birdatlas.net**

About us

The state of the UK's birds 2010 is also available online on the websites of the BTO, the RSPB and WWT (see addresses below).

Acknowledgements

Monitoring of birds in the UK, such as that covered in this report, involves a broad partnership of government agencies, NGOs, sponsors and independent ornithologists, including:

Anglian Water; BirdWatch Ireland; *British Birds*; British Trust for Ornithology; British Waterways; Centre for Ecology and Hydrology; CJ WildBird Foods; Countryside Council for Wales; Department for Environment, Food and Rural Affairs (Defra); Environment Agency; Environment Wales; European Bird Census Council; European Social Fund; European Union Life Programme; Forestry Commission; Forest Enterprise; Game and Wildlife Conservation Trust; Greenland White-fronted Goose Study; Hawk and Owl Trust; Irish Brent Goose Research Group; Joint Nature Conservation Committee; Manx BirdLife; Ministry of Defence; National Trust; National Trust for Scotland; Natural England; Northern England Raptor Forum; Northern Ireland Environment Agency; Northumbrian Water; Raptor Study Groups; Rare Breeding Birds Panel; the Royal Society for the Protection of Birds; Scottish Executive Rural Affairs Department; Scottish Natural Heritage; Scottish Ornithologists' Club; Scottish Raptor Study Groups; Scottish Wildlife Trust; Seabird Group; Severn Trent Water; Shetland Oil Terminal Environmental Advisory Group; Thames Water; University of Cambridge; University of Exeter Centre for Ecology and Conservation; Wales Raptor Study Group; Welsh Kite Trust; the Wildfowl & Wetlands Trust; the Wildlife Trusts; Woodland Trust.

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The BTO:
Headquarters, The Nunnery, Thetford, Norfolk IP24 2PU
Tel: 01842 750050 Fax: 01842 750030

BTO Scotland, School of Biological and Environmental Sciences, Cottrell Building, University of Stirling, Stirling FK9 4LA
Tel: 01786 466560

Visit the BTO website: **www.bto.org**
Registered charity no 216652

The WWT:
WWT, Slimbridge, Gloucestershire GL2 7BT
Tel: 01453 891900 Fax: 01453 891901

Visit the WWT website:
www.wwt.org.uk
Registered charity no 1030884

The RSPB:
UK Headquarters, The Lodge, Sandy, Bedfordshire SG19 2DL
Tel: 01767 680551 Fax: 01767 692365

Northern Ireland Headquarters, Belvoir Park Forest, Belfast BT8 7QT
Tel: 028 9049 1547 Fax: 028 9049 1669

Scotland Headquarters, Dunedin House, 25 Ravelston Terrace, Edinburgh EH4 3TP
Tel: 0131 311 6500 Fax: 0131 311 6569

Wales Headquarters, 2nd Floor, Sutherland House, Castlebridge, Cowbridge Road East, Cardiff CF11 9AB
Tel: 029 2035 3000
Fax: 029 2035 3017

Visit the RSPB website:
www.rspb.org.uk
Registered charity number 207076

Countryside Council for Wales:
Maes-y-Ffynnon, Penrhosgarnedd, Bangor, Gwynedd LL57 2DW
Tel: 0845 1306229 Fax: 01248 355782

Visit the CCW website:
www.ccw.gov.uk

Joint Nature Conservation Committee:
Monkstone House, City Road, Peterborough, PE1 1JY
Tel: 01733 562626
Fax: 01733 555948

Visit the JNCC website:
www.jncc.gov.uk

Natural England:
1 East Parade, Sheffield, S1 2ET
Tel: 0845 6003078

Visit the Natural England website:
www.naturalengland.org.uk

Northern Ireland Environment Agency:
Commonwealth House, 35 Castle Street, Belfast, BT1 1GU
Tel: 028 90251477 Fax: 028 90546660

Visit the NIEA website:
www.ni-environment.gov.uk

Scottish Natural Heritage:
Great Glen House, Leachkin Road, Inverness, IV3 8NW
Tel: 01463 725000

Visit the SNH website:
www.snh.org.uk

Andy Hay (rspb-images.com)

The RSPB speaks out for birds and wildlife, tackling the problems that threaten our environment. Nature is amazing – help us keep it that way. We belong to BirdLife International, the global partnership of bird conservation organisations.

The BTO is the UK charity dedicated to research on wild birds. Through its volunteer network, it monitors populations by organising long-term surveys such as the Breeding Bird Survey, the ringing scheme and the nest records scheme, and carries out research related to bird conservation.

The Wildfowl & Wetlands Trust (WWT) is a leading wetland conservation organisation saving wetlands for wildlife and people across the world. Founded in 1946 by the late Sir Peter Scott it has a network of visitor centres across the UK and has organised national waterbird monitoring schemes for over 50 years.

The Countryside Council for Wales is the statutory adviser to government on sustaining natural beauty, wildlife and the opportunity for outdoor enjoyment in rural Wales and its inshore waters.

Natural England works for people, places and nature to conserve and enhance biodiversity, landscapes and wildlife in rural, urban, coastal and marine areas. We conserve and enhance the natural environment for its intrinsic value, the wellbeing and enjoyment of people, and the economic prosperity it brings.

The aim of **Northern Ireland Environment Agency** is to protect and conserve the natural and built environment and to promote its appreciation for the benefit of present and future generations.

Scottish Natural Heritage is the Government's adviser on all aspects of nature and landscape across Scotland. Their role is to help everyone understand, value and enjoy Scotland's nature now and in the future.

Joint Nature Conservation Committee is the statutory adviser to UK Government and devolved administrations on UK and international nature conservation. Its work contributes to maintaining and enriching biological diversity, conserving geological features and sustaining natural systems.

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