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COMMON BIRD TRENDS 1994-2005

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Mike Raven and *David Noble* report on the results of the BTO/JNCC/RSPB Breeding Bird Survey: 1994–2005.

TENDENCIAS EN AVES COMUNES 1994-2005
Mike Raven y *David Noble* informan sobre los resultados del Censo de Aves Reproductoras del BTO/JNCC/RSBP: 1994-2005.

The BTO/JNCC/RSPB Breeding Bird Survey (BBS) is now the main survey that tracks changes in numbers of widespread terrestrial breeding bird species across the UK. Good information on the status of bird populations is fundamental to their conservation and BBS results are already being used by governments and non-government organisations to set conservation priorities.

The BBS is an annual survey with randomly selected 1-km squares allocated to participants within each BTO Region by volunteer Regional Organisers (ROs). It uses line-transect methods, with each observer visiting their square on two occasions between April and June to count all the birds they see and hear along a 2-km route. Although many parts of the country have reached a near-optimum level of coverage, other areas are still in need of participants. We are particularly keen to increase the number of squares surveyed in Northern Ireland, Scotland and North East England, where increasing the coverage would allow us to monitor regional population changes of more bird species.

SURVEY COVERAGE

This carefully designed yet simple survey attracted more than 2,300 participants in the spring of 2005, who collected information on bird numbers from a record total of 2,879 1-km squares. Record coverage was achieved in all four constituent countries of the UK (England 2,172, Scotland 302, Wales 269 and Northern Ireland 120) and all nine English Government Office Regions. This enabled us to calculate population trends for a greater number of species, with trends produced for England, Scotland, Wales and Northern Ireland and the nine English Government Office Regions as well as for the UK overall.

SPECIES AND HABITAT COVERAGE

A total of 221 species was recorded in 2005 and, of these, 101 species were noted on an average of 40 or more squares each year across the April to June survey period, enabling UK population trends to be calculated. The Wood Pigeon continued to be much the most abundant species on BBS squares in the UK, with 64,011 birds counted and distantly followed by Starling (41,189), Blackbird (33,342) and Rook (33,274). Wood Pigeon was also the most widespread species in the UK, being noted on 2,651 or 93% of surveyed squares but followed very closely by Blackbird (2,649), Chaffinch (also 2,649) and Wren (2,638). At the

other end of the spectrum, two species were recorded for the first time on BBS squares in 2005 (a very late Lapland Bunting seen on the Inner Hebrides on 19th April and three Little Stints in Cheshire on a more typical date in late April). Red Kite (95 squares), Little Egret (44 squares) and Egyptian Goose (20 squares) all continued to increase in occurrence in 2005, while Quail were heard in 21 squares, indicating that more-than-average numbers were present in the UK last year. Several species usually considered as escapes from captivity were also recorded, including the Peacock, which was noted in a remarkable 30 squares. This probably reflects how frequently they are kept in captivity or more interestingly, a possible growing feral population!

POPULATION TRENDS

Table 1 shows the population changes between the last two seasons (2004 and 2005) and for the entire survey period to date (1994 to 2005). Trends are estimated using a log-linear regression model that corrects for differences in coverage among regions. Across the UK, 51 species increased significantly, 22 species declined significantly, and 28 species showed no significant change in numbers between 1994 and 2005. The following are some of the more interesting ups and downs.

GREY PARTRIDGE

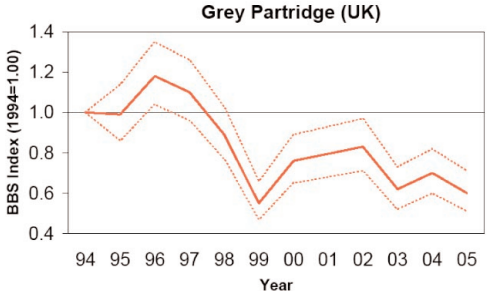
There was no halt to the decline in Grey Partridge, with numbers down by 14% between 2004 and 2005, which means that they are down by 40% over the entire BBS survey period (1994–2005). This species has been declining for several decades (87% since 1978 — as revealed from long-term analyses). Our native Grey Partridge is now a scarce bird across much of the country, being found on only 9% of surveyed BBS sites in 2005, a figure which compares very badly with that for introduced gamebirds such as Red-legged Partridge (22%) and Pheasant (69%).

This decline has largely been caused by the effects of agricultural intensification, more specifically the effects of herbicides on the food plants of young chicks' insect prey. Despite years of research and evidence of recovery on land managed specifically for Grey Partridge, the continuing decline shown by the BBS suggests that efforts to boost the population in the wider countryside have not yet been successful. Perhaps good take-up of options such as conservation headlands and game cover crops in the new Environmental Stewardship scheme will have more success.

GREY WAGTAIL

Numbers of Grey Wagtail increased by an impressive 52% on BBS squares between 2004 and 2005 and are now 75% higher than they were at the start of the survey in 1994. In the past, the UK population has been severely affected by hard winters, such as those in the early 1960s, after which numbers reached a high point during the mid 1970s. This was followed by a steep decline and then a period of relative stability during the late 1980s and 1990s. A new period of increase started in 1998, identified from both BBS and Waterways Bird Survey results.

Grey Wagtails occur at their highest densities along fast-flowing upland streams, with breeding birds favouring watercourses bordered by deciduous woodland, and it is not surprising, therefore, that they are most abundant in



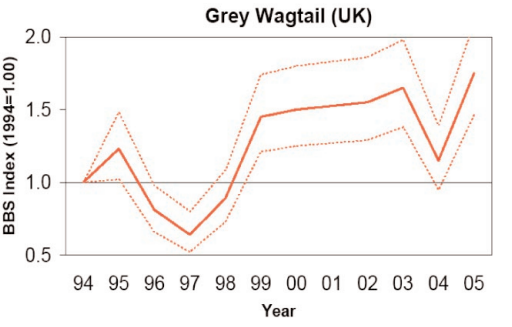


TABLE 1. Population changes of common and widespread species 2004–05 and 1994–2005.

Species	Sample	Change 2004-2005	Change 1994-2005	lcl 1994-2005	ucl 1994-2005
Mute Swan	192	21	26 *	8	45
Greylag Goose	107	31	255 *	183	345
Canada Goose	346	43 *	153 *	123	187
Shelduck	120	134 *	59 *	36	87
Mallard	1013	1	25 *	17	33
Tufted Duck	127	5	38 *	13	68
Red Grouse	102	–11	–15	–32	6
Red-legged Partridge	421	2	55 *	40	72
Grey Partridge	215	–14	–40 *	–49	–29
Pheasant	1370	–4	32 *	25	38
Little Grebe	55	30	56 *	15	113
Great Crested Grebe	59	–24	7	–18	41
(Cormorant)	175	–12	22 *	4	43
(Grey Heron)	535	7	29 *	17	43
Sparrowhawk	288	21	–2	–15	13
Buzzard	582	5	60 *	46	76
Kestrel	545	5	–18 *	–26	–9
Hobby	31	–13	–23	–49	17
Moorhen	538	–2	20 *	9	32
Coot	212	7	79 *	55	107
Oystercatcher	251	–5	–12 *	–21	–3
Golden Plover	52	–6	–8	–31	22
Lapwing	573	–9	–21 *	–27	–14
Snipe	125	–12	36 *	13	62
Curlew	433	–3	–36 *	–41	–31
Redshank	71	–28	–12	–31	12
Common Sandpiper	59	14	–5	–25	19
(Common Tern)	50	–32	–20	–42	11
Feral Pigeon	567	2	7	–3	17
Stock Dove	633	–15	9	–2	20
Wood Pigeon	1967	6	19 *	15	24
Collared Dove	1077	–2	38 *	31	46
Turtle Dove	182	2	–45 *	–54	–34
Cuckoo	711	–9	–29 *	–35	–23
Little Owl	91	–4	–19	–38	6
(Tawny Owl)	79	51	–2	–23	26
Swift	895	1	–21 *	–27	–15
Kingfisher	45	9	–5	–35	38
Green Woodpecker	615	–2	31 *	20	44
Gr Sp Woodpecker	705	11	120 *	101	141
Skylark	1434	–3	–13 *	–17	–10
Sand Martin	102	–25	38 *	11	71
Swallow	1535	6	32 *	26	39
House Martin	786	5	38 *	27	50
Tree Pipit	119	–37 *	–27 *	–40	–10
Meadow Pipit	656	–6	–6 *	–11	–2
Yellow Wagtail	151	–11	–33 *	–43	–20
Grey Wagtail	177	52 *	75 *	46	109
Pied Wagtail	1048	0	21 *	13	29
Dipper	47	8	6	–25	50
Wren	1936	9 *	24 *	20	28
Dunnock	1618	8	22 *	17	28
Robin	1867	4	17 *	13	21
Redstart	133	–9	18	0	40

TABLE 1. (Continued)

Species	Sample	Change 2004-2005	Change 1994-2005	lcl 1994-2005	ucl 1994-2005
Whinchat	72	–28	–36 *	–50	–18
Stonechat	104	28	227 *	153	322
Wheatear	250	–9	–4	–15	9
Blackbird	1952	4	22 *	18	25
Song Thrush	1538	4	18 *	12	24
Mistle Thrush	1014	–4	–7	–14	0
Grasshopper Warbler	62	–4	50 *	11	104
Sedge Warbler	251	–7	10	–3	25
Reed Warbler	95	–3	43 *	19	72
Blackcap	1167	5	61 *	52	71
Garden Warbler	381	–4	–8	–18	3
Lesser Whitethroat	214	–6	–35 *	–44	–23
Whitethroat	1057	–9	27 *	19	35
Wood Warbler	53	–15	–65 *	–74	–54
Chiffchaff	1081	–27 *	30 *	22	38
Willow Warbler	1215	2	1	–4	5
Goldcrest	613	9	71 *	57	85
Spotted Flycatcher	195	21	–26 *	–37	–14
Pied Flycatcher	41	8	–30 *	–48	–5
Long-tailed Tit	701	–7	0	–10	11
Blue Tit	1825	6	24 *	19	28
Great Tit	1689	7	44 *	38	50
Coal Tit	607	24 *	35 *	25	45
Willow Tit	53	–5	–65 *	–75	–51
Marsh Tit	129	8	33 *	8	64
Nuthatch	340	10	71 *	51	93
Treecreeper	283	13	23 *	6	41
Jay	571	–6	–5	–14	5
Magpie	1511	4	3	–1	8
Jackdaw	1298	19 *	40 *	33	49
Rook	1059	–3	–7	–14	1
Carrion Crow	1847	–1	12 *	7	18
Hooded Crow	117	–1	–15	–32	5
Raven	192	7	124 *	87	168
Starling	1527	20 *	–21 *	–26	–16
House Sparrow	1309	4	1	–3	5
Tree Sparrow	137	–15	23 *	1	50
Chaffinch	1953	6	15 *	11	18
Greenfinch	1440	4	43 *	35	50
Goldfinch	1153	6	35 *	26	45
Siskin	112	59 *	–3	–20	17
Linnet	1064	6	–7 *	–14	–1
Lesser Redpoll	125	71 *	40 *	15	71
Bullfinch	484	15	–1	–10	10
Yellowhammer	1022	6	–17 *	–21	–12
Reed Bunting	366	23	30 *	17	43
Corn Bunting	136	–8	–32 *	–43	–19

Population changes of widespread species 2004–05 and 1994–2005. The sample size indicated is the mean number of squares occupied each year over the 11 years (excluding 2001, and squares which were surveyed in only one year). The figures presented are the percentage changes in population levels for the respective time periods: those marked with an asterisk were significantly different at a 5% level. For the 1994–2005 period, the lower and upper 95% confidence limits (lcl, ucl) are given. Species in **bold** are red-listed, and species in *italics* amber-listed in The Population Status of Birds in the UK, Birds of conservation concern: 2002–2007. Trends for species in parenthesis must be treated with caution, because it is considered that the species is either poorly covered by the BBS method, or a high proportion of the counts were made away from breeding sites.

northern and western Britain. Over the past 70 years however, breeding has occurred on an increasingly regular basis in lowland areas, with birds taking a particular liking for rivers containing millstreams and weirs.

HOBBY

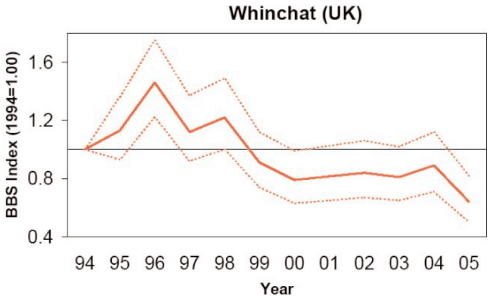
Due to the increase in survey coverage in England over the past four years, we are now able to calculate trends for Hobby for the first time. Although Hobby numbers have shown no significant change on BBS sites since 1994, there is strong evidence to suggest that this species has increased in both numbers and range over the past 50 years. From an estimated British population of less than 100 pairs in the 1950s, numbers have increased to 2,200 pairs by 2000. Results from the two Breeding Bird Atlases have shown a significant spread northwards in England from the 1970s to the 1990s. This is possibly linked to increases in its dragonfly prey and a decreasing dependency on its traditional heathland habitat, which is largely confined to southern England.

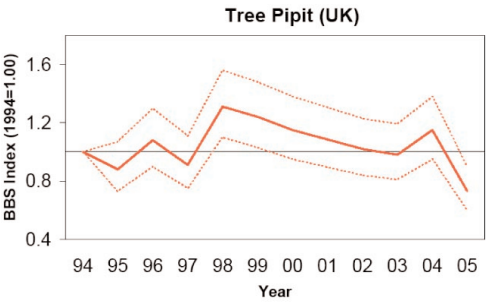
WHINCHAT

On a less positive note, the Whinchat is now recorded on too few squares in England for accurate trends to be calculated, being noted on only 1.2% of squares surveyed in 2005, compared to 2.3% in 1994. This species may be a strong candidate for future inclusion on the red list of Species of Conservation Concern, having largely disappeared as a breeding species from much of lowland Britain. Results from the Breeding Bird Atlases of 1968–72 and 1988–91 highlighted a major contraction in range away from lowland areas, although declines were noted in many southern counties of England as far back as the 1930s. More recently, the Whinchat has declined by 36% on BBS sites since 1994 and this may indicate a fall in numbers on their more traditional upland breeding grounds. The cause of the decline in lowland habitats has been linked to the continued loss of damp marginal land. Similar downward trends have also been reported from a number of northern European countries, including Finland, where a very large population still exists. Work is under way to enable us to improve the monitoring of widespread upland species such as Whinchat using BBS methods.

TREE PIPIT

The increase reported for many of our summer-visitor species between 2003 and 2004 was unfortunately not repeated between 2004 and 2005, with 17 of the 26 species monitored by the BBS declining. Of particular note were the significant declines in Chiffchaff and Tree Pipit, with numbers of the latter species falling by 37% between 2004 and 2005 and by 27% since the start of the survey in 1994. These figures highlight the fact that numbers of our long-distance migrants are prone to large annual variations, driven by factors such as breeding productivity and conditions on their wintering grounds and migration routes. However, this species has recently been moved from the green to the amber list, on the strength of its longer-term population decline in the UK. Tree Pipits occur in greatest abundance in northern England, Scotland and Wales, but Welsh numbers have declined by 29% since 1994, albeit from a rather small sample of survey sites. A contraction in range was noted in central and southeast England between the two atlas periods and anecdotal evidence from the county bird reports suggests that the decline is continuing in

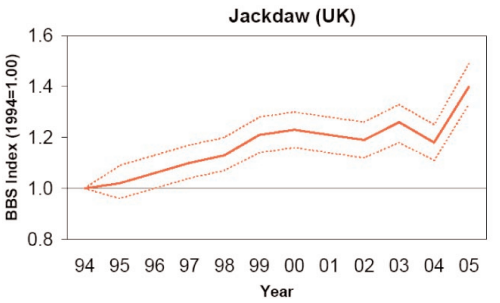




these lowland counties. The causes of this are unclear, but may be linked to changing forest structure, as new plantations mature, and reduced management of lowland woods.

JACKDAW

In common with many of our corvid species, the Jackdaw continues to flourish in the UK, with numbers up by 19% between 2004 and 2005 and up by 40% since 1994. The longer-term trend shows that the population has almost doubled since the 1960s. Regionally, the Jackdaw has increased in Wales and in most English regions, but has remained relatively stable in Scotland and Northern Ireland. As with Magpie, Rook and Carrion Crow, the increase has been associated with improvements in breeding performance and probably reflects the species' generalist feeding habits, which allow the



Jackdaw to exploit a wide range of habitats throughout the year.

BBS-ONLINE UPDATE

2005 was the second year for which BBS observers were able to submit their counts electronically using the BBS-Online application developed and supported by the BTO's Information Systems Unit. Data for 1,146 squares (40% of the total number surveyed) were submitted online in 2005, representing a considerable increase on the 721 squares (29% of the total) in 2004. Electronic submission continues to reduce data checking and entry costs and allows us to provide BBS observers and general visitors to the BTO website with up-to-date results. UK colour maps showing relative abundance for 78 species are now also available on the website (using geostatistical methods to predict abundance at non-surveyed sites). For more information about BBS-Online and results from the scheme please visit www.bto.org/bbs. The latest BBS report can be downloaded from this website.

THE FUTURE

The 2005 fieldwork season was the most successful in the history of the BBS, with more squares being surveyed than in any other year since 1994. This success has been achieved primarily through the hard work carried out by the BTO's network of Regional Organisers who have recruited many new BBS observers across the UK. In addition, many new volunteers continue to be encouraged to participate in the scheme through the BTO's website, and as a result of e-mailing Garden BirdWatch participants and BirdTrack users. This increased coverage is enabling us to monitor the population trends of an increasing number of species. BBS results are increasingly being used by government agencies and nongovernment organisations to set conservation priorities, and BBS results form an important part of the annual report, *The State of the UK's Birds*, which summarises results from a wide range of breeding and wintering bird surveys. Joint CBC/BBS trends are now being used to routinely report on long-term population changes published in the *Breeding Birds in the Wider Countryside: their conservation status 2005* and available on the BTO website (www.bto.org/birdtrends). These joint trends will be used to periodically update the red and amber lists of bird species in *Birds of Conservation Concern* (used to highlight particular species that need special conservation measures).

INCREASING IMPORTANCE

BBS results also form an integral part of the Government's Wild Bird Populations Quality of Life Indicators, which are used to report on progress towards sustainable development. At a wider scale, BBS results are being used to monitor birds at a European level in the Pan-European Common Bird Monitoring initiative and to produce Europewide farmland and woodland multi-species indicators, the former now being used by the European Union.

We are also working to produce trends for species in particular habitats such as woodland and farmland using BBS habitat data. This will enable us to see if species are faring better or worse in certain habitats.

BBS mammal counts are now routinely used to produce population trends for nine species, which are being fed into the Tracking Mammals Partnership (www.trackingmammals.org), which is collating and publishing mammal monitoring results from over 20 different schemes.

ACKNOWLEDGEMENTS

We are extremely grateful to all the ROs, observers and BTO members who took part in the BBS last year. We would also like to thank the farmers and landowners for their support and co-operation in allowing BBS volunteers onto their land. If you would like to take part in the scheme, please contact your local RO or Mike Raven at BTO HQ (e-mail: bbs@bto.org).

The BBS is a partnership between BTO, JNCC and RSPB.

FURTHER READING

Baillie, S R *et al.* (2006) *Breeding Birds in the Wider Countryside: their conservation status 2005.* BTO Research Report 435. BTO, Thetford. (www.bto.org/birdtrends).

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