

WILD BIRD INDICATORS FOR THE ENGLISH REGIONS

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Sarah Davis, David Noble and Andrew Joys, of the BTO's Census Unit, report on the generation and value of these new indices.

INDICADORES DE AVES SILVESTRES PARA LAS REGIONES INGLESAS

Sarah Davis, David Noble y Andrew Joys, de la unidad de censos del BTO, informan sobre el desarrollo y el valor de estos nuevos índices.

In March 2006 Defra released updated regional wild bird indicators for England. These are produced by the BTO, in collaboration with the RSPB, and are based primarily on data from the BTO/JNCC/ RSPB Breeding Bird Survey (BBS). The BBS is a national survey, which started in 1994, designed to monitor changes in the breeding populations of widespread bird species in the UK. There are currently more than 2,200 participants, the vast majority being volunteers, who survey over 2,800 randomly selected 1 km by 1 km squares across the UK. This provides enough data to monitor the population trends of over 100 bird species. These population trends are generated, not only for the UK, but also for England, Scotland, Wales and Northern Ireland, and the nine English Government Office regions.

The English regional versions of the wild bird indicators cover the period of 1994–2004 and are calculated for North West, North East, Yorkshire and Humberside, East Midlands, West Midlands, East of England, South East, South West and London. The London region indicator uses a relatively large proportion of data from neighbouring areas, potentially biasing the indicator, and so has not been included in this report. They are produced using a similar approach to that used to

produce the UK Sustainable Development Framework wild bird indicators, with separate composite indices for all native bird species, for farmland species and woodland species. The index is therefore an 'average trend' being composed of the population trends for each constituent species.

Due to the relatively short time period covered by the regional indicators caution must be used in their interpretation. The large declines in farmland and woodland birds, which occurred between the mid 1970s and early 1990s, as can be seen in the England Biodiversity Strategy Indicator (see Figure 1), have slowed down, and populations have stabilised at a much lower level than in 1970.

The indicators for several regions have changed by more than 10% over this 10-year period, which earlier work suggests represents a significant change.

Interestingly, there appears to be a roughly north-south pattern in the changes in bird populations between 1994 and 2004 (see Figure 2). However, drawing comparisons between regions should be undertaken with some caution as some species do not occur in all regions, leading to small differences in species composition. Moreover, for a species where

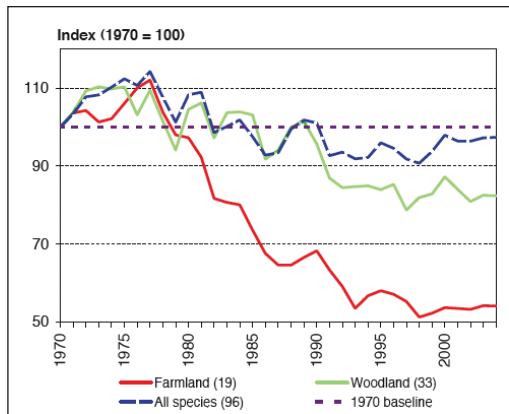


Figure 1. England Biodiversity Strategy Indicator for farmland, woodland and all species.

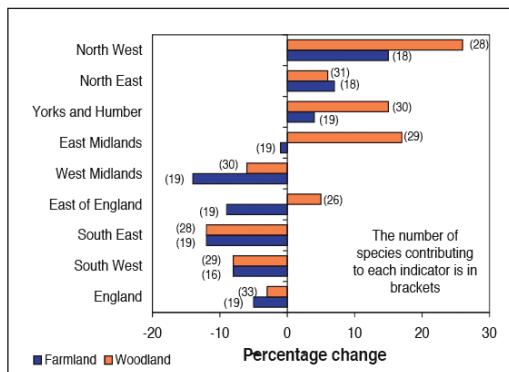


Figure 2. Percentage change in wild bird indicators by region between 1994 and 2004.

there are insufficient data to generate a regional trend, estimates of population changes in areas outside the specific region are incorporated, in order to generate a population trend for a broader region. This approach was employed to minimise differences in species composition.

FARMLAND BIRD INDICATORS

The regional farmland bird index increased by 15% in the North West, decreased by 14% in the West Midlands and 12% in the South East, whilst changing less than 10% in the other regions between 1994 and 2004.

Comparison of the regional farmland bird indices are probably fairly reliable as five of the regions include all 19 farmland species, including two of the three regions that show the most significant changes (West Midlands and

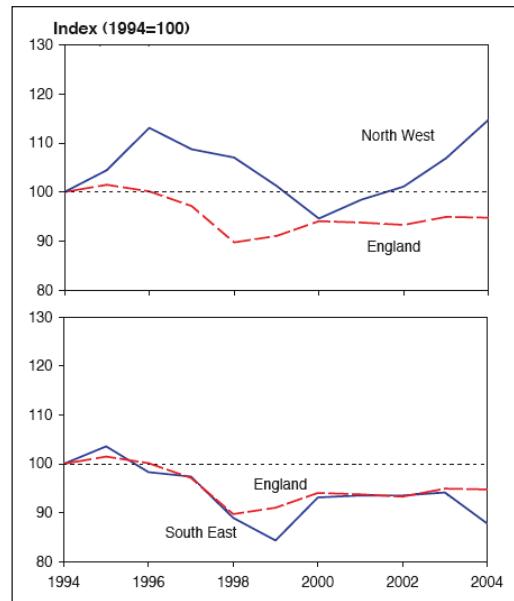


Figure 3. Farmland bird indicators for the North West and the South East compared to the England indicator.

South East). Due to scarcity (defined as occurring on less than 2% of the BBS squares surveyed in that region) Turtle Dove is excluded from the North West and North East regions and Turtle Dove, Tree Sparrow and Yellow Wagtail are excluded from the South West region. However, as Turtle Dove and Yellow Wagtail are declining, and Tree Sparrow is increasing in England, if these species had been included then the South West regional index would probably be slightly more negative. Including Turtle Dove in the North West and North East indices would make them slightly less positive.

The reason for the north-south gradient in farmland bird change (partly reflected by regional trends for Kestrel and Stock Dove) is not clear. Skylark, Yellowhammer and Starling do not show this north-south gradient and declines are similar across England.

WOODLAND BIRD INDICATORS

The regional woodland bird index increased by 26% in the North West, 17% in the East Midlands, and 15% in Yorkshire and Humberside, and decreased by 12% in the South East, whilst changing less than 10% in the other regions between 1994 and 2004.

None of the regional indices include all of the woodland bird species used to generate the England woodland bird indicator. However, of the species used for the woodland bird index, Nightingale, Lesser Spotted Woodpecker and Hawfinch are too scarce to be included in any of the regional indices, and therefore do not affect regional comparisons. Also, of the regions with greater than 10% changes in woodland bird populations, only the North West and South East are missing any species with significantly changing English populations (Willow Tit and Redstart respectively). The reason for the north-south gradient in woodland bird population changes is also not clear. Both resident species such as Jay, Chaffinch and Long-tailed Tit, as well as migrants such as Willow Warbler and Chiffchaff exhibit this trend.

USING THIS INFORMATION

Indicators such as these are very useful in providing a 'snapshot' of the state of the environment and wider countryside, as they summarise complex information, which often differs across species. However, because of this approach, the trends for individual species are, to an extent, hidden. It is usually necessary to carefully investigate the changes in the abundance of particular species to best understand responses to changes in land management practices.

The Farmland Bird Indicator has been adopted by the government as a Public Service Agreement target, with a commitment to reverse the decline in farmland birds by 2020. The Forestry Commission also has a target to reverse the decline in numbers of woodland birds, by

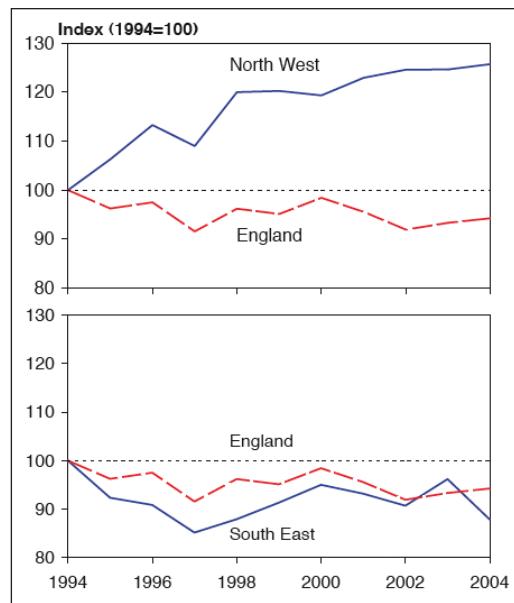


Figure 4. Woodland bird indicators for the North West and South East regions compared to the England indicator.

2020, using the woodland bird indicator.

Further information on wild bird indicators can be found on the BTO website (www.bto.org/research/indicators/index.htm) and the full report on the production of these BBS-based Regional Indicators is available on the Defra website www.defra.gov.uk/news/2006/060316a.htm

ACKNOWLEDGEMENTS

Like their constituent BBS trends, the production of these indicators is dependent ultimately on the hard work of BBS participants and we thank them all for that.