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NEW WILD BIRD INDICATORS FOR ENGLAND

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The BTO's *David Noble, Alex Banks* and *Stuart Newson* explain how these new indicators will be used.

NUEVOS INDICADORES DE AVES SILVESTRES PARA INGLATERRA
David Noble, Alex Banks y *Stuart Newson,* del BTO, explican cómo estos nuevos indicadores serán utilizados.

BTO volunteers have a long history of collecting valuable survey data, allowing us to generate long-term trends and so monitor the status of birds in the UK. These are reviewed annually, species by species (see www.bto.org/birdtrends) and were recently used to update the red and amber lists (see *The Population Status of Birds in the UK*).

For this information to be readily accessible at a government level, masses of data must be condensed into simple statistics. Bird population trends, summarised into wild bird indicators, simplify patterns of change in groups of species. These have been adopted for the government's headline indicators of sustainable development and 'Quality of Life', alongside similar trends for other social, economic and environmental factors (www.sustainabledevelopment. gov.uk/ar2002/index.htm). The 'wild bird index' incorporates the population trends of 105 UK breeding species, with separate trends for farmland and woodland species.

INDICATORS FOR THE ENGLISH BIODIVERSITY STRATEGY (EBS)

Recently, BTO, together with RSPB, developed new wild bird indicators for the government's new strategy for biodiversity in England, 'Working With the Grain of Nature'. Launched in December 2003, the strategy aims to engage society in biodiversity issues, and specifically to make biodiversity an essential consideration in the management of key habitats. To help achieve this goal, we developed wild bird indicators for the five broad habitats in the strategy:

- Agricultural land
- Marine/coastal environment
- Urban areas
- Water and wetlands
- Woodland

These indicators will be used to monitor progress towards specified biodiversity targets.

CONSTRUCTING WATER & WETLAND BIRD INDICATORS

Following the techniques used for generating 'Quality of Life' indicators, we relied upon those data sources most appropriate for the target habitat. For the water and wetland indicator, data from the BTO's Common Birds Census (CBC) and Waterways Bird Survey (WBS) were used. We calculated population trends for species typically associated with wetlands or

waterways, where data were sufficient to do so, for the period 1975 to 2000. From these individual species indices, a mean trend across species was calculated.

This trend was positive (see Figure 1), increasing 7% by 2000. One of the disadvantages of 'all species' trends is that they can mask interesting patterns of change, because rapidly increasing populations of one bird species can hide the declines of other species. More than a third of the species were actually declining over the same period (see Figure 2).

To explore these differences, we produced separate trends for birds connected with running water, birds of slow moving or still water, and birds of wet meadows (Figure 1). These trends reveal that species of slow or still water have increased markedly over the past 25 years, largely due to the influence of rising populations of Mallard, Mute Swan, Tufted Duck and also Cetti's Warbler — a species that colonised England within the last 30 years. However, fast water species — essentially birds of upland streams such as Common Sandpiper, Dipper and Grey Wagtail — have declined by over 20% (see also Marchant, 2001; *BTO News* 236), and populations of wet meadow species — predominantly waders such as Lapwing, Redshank and Snipe counted in floodplains — have declined by more than 50%. Although the latter two groups feature only four species each, these indicators nevertheless raise concerns about these habitats, confirmed by the results of the recent survey of breeding waders on lowland grassland (Wilson & Vickery, 2003; *BTO News* 247).

As the UK also provides important habitat for non-breeding waterbirds, such as waders and geese from all over Europe, Greenland and Canada, a second indicator was produced to illustrate trends in wintering populations (see Figure 3). This indicator utilises data collected from the BTO/WWT/RSPB/JNCC Wetland Bird Survey and the WWT/JNCC National Goose Counts. Non-breeding waterbirds underwent consistent increases over the period 1970/71–1997/98. Although that is a positive message, these counts are derived mainly from large concentrations on estuaries. Analyses of counts that also include nonestuarine coastline have revealed declines in a number of wintering wader species such as Turnstone and Purple Sandpiper (see Rehfisch et al., *BTO News* 248)

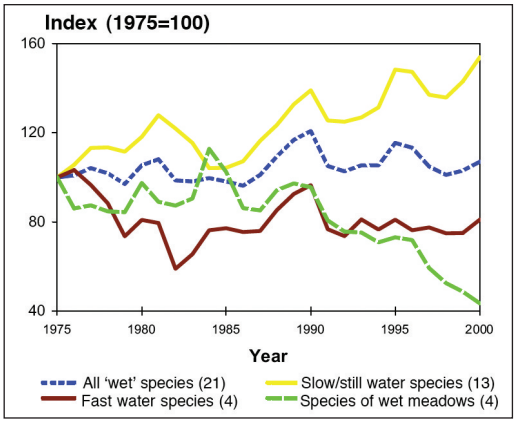

FIGURE 1. Water and wetland indicator.

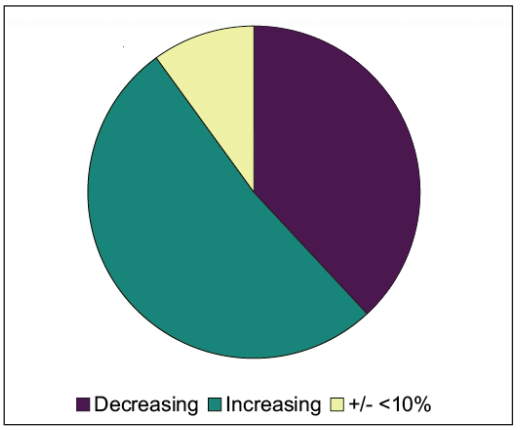

FIGURE 2. Status of populations in water and wetland indicator.

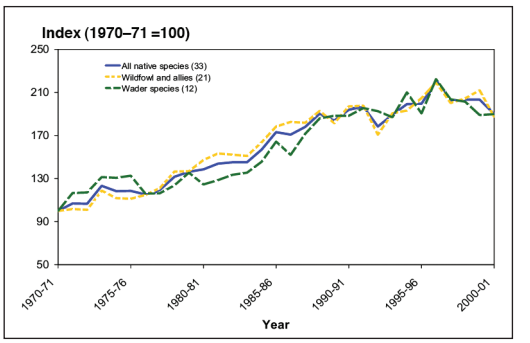

FIGURE 3. Wintering waterbird indicator.

CONSTRUCTING THE REMAINING EBS INDICATORS

Like the 'Quality of Life' indicators, provisional farmland and woodland bird indicators for

England were based on a combination of CBC and BTO/JNCC/ RSPB Breeding Bird Survey (BBS) data covering the period 1970 to 2002, and were separated into generalist and specialist species (depending on nesting habitat and feeding preferences). The farmland bird indicator declined by almost 50% and the woodland bird indicator by almost 20%. In both habitats, specialist species are declining more steeply.

To formulate an indicator for town and garden birds, we looked at the results of public-participation surveys such as the BTO's Garden BirdWatch (GBW) and the RSPB's Big Garden Bird Watch (BGBW). Focusing on common species in participants' gardens, these surveys compensate for their non-random design with the sheer amount of data. The GBW version, based on reporting rates in participating gardens of 16 common species, showed a slight decline between 1995 and 2002. The BGBW version, based on maximum numbers during a single timed count in each garden since 1979, fluctuated but showed little overall change in a suite of 10 species. In both versions, House Sparrows and Starlings showed steeper declines than other species.

For the coastal and seas indicator, trends in marine bird species were calculated using data from the JNCC Seabird Monitoring Programme and special surveys such as tern nest counts on RSPB reserves. The provisional indicator, based on population trends of nine species, was broadly stable between 1986 and 2002.

THE FUTURE FOR EBS INDICATORS

The government will use these wild bird indicators, along with other information on the status of wildlife, to monitor progress towards their biodiversity targets. The EBS indicators described here are provisional, and new data sources will be incorporated as they become available, to update trends on a yearly basis. None of this could be accomplished without the huge effort of the network of volunteers associated with the BTO and other organisations. Your contributions to BTO surveys, and initiatives such as the development of indicators, should have increasingly important and direct consequences for bird conservation in the UK.

ACKNOWLEDGMENTS

Work on the EBS wild bird indicators was supported by Defra, and carried out in collaboration with RSPB.

REPORT AVAILABILITY

The biodiversity strategy for England, containing these indicators is available at: www.defra.gov.uk/wildlife-countryside/ewd/biostrat/indicators031201.pdf