Bird Populations 9:221-224
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BTO News 267:4-5

NRS CONCERN LIST— FIVE NEW SPECIES ADDED

DAVE LEECH, CARL BARIMORE AND HUMPHREY CRICK
British Trust for Ornithology
The National Centre for Ornithology
The Nunnery, Thetford
Norfolk, IP24 2PU, United Kingdom

The results of the latest Nest Record Scheme analyses are soon to be published in the 2006 Breeding Birds of the Wider Countryside Report — *Dave Leech, Carl Barimore* and *Humphrey Crick* provide BTO members with a sneak.

LA LISTA DE ALERTA DEL NRS AÑADE CINCO ESPECIES

Los resultados de los últimos análisis del Programa de Registro de Nidos (NRS) están a punto de publicarse en el Informe sobre Aves Reproductoras en la Campiña 2006. *Dave Leech, Carl Barimore* y *Humphrey Crick* presentan un resumen en primicia.

Unfortunately, if you are an owl you are unlikely to be reading this article, but should any of you *Strigiformes* have chosen to flick through this particular edition of BTO News then we would like to offer you our sincere condolences on what must have been a particularly trying and unproductive season. A proliferation of unused nesting sites early in the year indicated that the number of Tawny Owl pairs attempting to breed was below average in many parts of the country, possibly due to a combination of low vole densities and poor weather. Although the nest site occupancy of Barn Owls appeared to have been affected to a lesser degree, some adults were obviously still having problems finding enough food for their offspring, resulting in high levels of chick mortality and small brood sizes at fledging, particularly in the south-west of the country.

Thanks to our amazing network of volunteer nest recorders and their insatiable appetite for monitoring the breeding activities of Britain's birds, the Nest Record Scheme (NRS) is able to collate this type of information as the season progresses (see also David Glue's article on page 251). But while it may be the dramatic fluctuations in breeding success, such as those experienced by owls in 2006, that ornithologists, amateur and professional alike, find so fascinating, we need to be able to put this sort of information into a long-term context if it is to be of use to conservationists and policy makers. After all, Barn Owls produce reasonably large clutches and may nest more than once in a single year, so they can potentially recover from any drop in numbers relatively quickly. A smaller, steadier decline in breeding success over a 20-year period, however, could have severe implications for the size of the population.

It is for this reason that the records submitted to the Nest Record Scheme are analysed annually and the results are published in the web-based *Breeding Birds in the Wider Countryside Report* (www.bto.org/ birdtrends) along with those of other surveys including the BTO/JNCC /RSPB Breeding Bird Survey (BBS). The report summarises trends in laying date, clutch size, brood size and nest failure rates for around 90 species each year — approximately 375,000 nest records were used in the current analysis!

LATEST CHANGES TO THE NRS CONCERN LIST

Each year the BTO produces the NRS Concern List incorporating those species that are currently demonstrating statistically significant declines in breeding performance along with declines or uncertainty in their abundance trends (see Box 1 for details). The list is intended to act as an early-warning system, focusing attention on those species that may be in greatest need of conservation action in the future and, as such, it is sent to the Joint Nature Conservation Committee (JNCC), the UK government's conservation advisor and joint funding body of the NRS under the BTO/JNCC partnership.

Using data up to 2005, there are currently 21 species on the NRS Concern List (Box 2), of which

BOX 1. NRS DATA ANALYSIS

Species are placed on the NRS Concern List if a) they demonstrate significant declines in some aspect of breeding performance over at least the last 15 years and b) they have been placed on the Red or Amber Birds of Conservation Concern list due to population declines or if there is some uncertainty over their population status.

NRS data for 94 species were analysed using the methods outlined in a recent review paper in *Bird Study* 50: 254–270. Trends in laying date, clutch and brood sizes, and in daily nest failure rates over the egg and chick periods are described by linear or quadratic regression, as appropriate. Trends were not calculated for those species which have a mean annual sample size of fewer than 10 records and species with a mean annual sample size of between 10 and 30 records were given the caveat of "small sample size."

BOX 2. NRS CONCERN LIST

Species	Years on list	Significant decline in:	Breeding population trend
Kestrel	New	Brood size	>25% decline
Moorhen	14	Clutch size & Nest survival (E)	Fluctuating
Ringed Plover	10	Nest survival (E)	Uncertain
Barn Owl	3	Brood size	Decline
Skylark	2	Nest survival (E)	>50% decline
Tree Pipit	New	Nest survival (C)*	>50% decline
Yellow Wagtail	7	Brood size*	>50% decline
Grey Wagtail	4	Clutch size & Brood size	Probable decline
Pied Wagtail	3	Clutch size & Brood size	Uncertain
Dunnock	4	Nest survival (E)	>25% decline
Whinchat	New	Nest survival (E & C)*	Probable decline
Wheatear	3	Brood size	Possible decline
Willow Warbler	8	Nest survival (E)	>50% decline
Spotted Flycatcher	2	Clutch size, Brood size & Nest survival (E & C)	>50% decline
Starling	2	Brood size	>50% decline
House Sparrow	3	Brood size	>50% decline
Linnet	15	Brood size and Nest survival (C)	>50% decline
Bullfinch	New	Nest survival (E & C)*	>50% decline
Yellowhammer	4	Brood size, Nest survival (E & C)	>50% decline
Reed Bunting	15	Nest survival (E)	>50% decline
Corn Bunting	New	Brood size*	>50% decline

(E) indicates nest survival at the egg stage. (C) indicates nest survival at the chick stage.
* indicates that the average annual sample size is small (between 10 and 30 records per year).
Breeding population trends are taken from www.bto.org/birdtrends.
The inclusion of each species on the Red (**Bold**) and Amber (*Italic*) Lists of Conservation Concern is indicated (see www.bto.org/psob).

17 have been on the list for at least one previous year. Mistle Thrush, the numbers of which had declined by approximately 40% over the last 25 years, was added to the list in 2005 because of a significant decline in brood size, but has been removed again this year as the decline now falls just below significance. However, a further five species have been added to the latest list:

Kestrel — along with other raptors in the UK, Kestrels were affected by the detrimental side-effects of the agricultural use of organochlorine pesticides such as DDT and dieldrin in the 1950s and 60s. Its population recovered as these were withdrawn from use, but then fell back, probably as a result of the intensification of agriculture affecting the grassland habitat of its main small mammal prey. The BBS suggests a fairly rapid decline in Scotland since 1994. Brood sizes have declined significantly since the early 1990s, suggesting that more pairs are now rearing three chicks instead of four or even five (Figure 1).

Tree Pipit — this species is one of a number of long-distance migrant visitors to woodlands in the UK that appear to be in trouble at the moment — it could even be a candidate for being put on the Red List of *Birds of Conservation Concern* due to its steep population decline. While the causes of this decline might lie on its migration route or on its wintering grounds, the significant upturn in the failure rate of its nests at the chick stage detected recently, might suggest a problem on the breeding grounds. It should be noted that annual sample sizes are relatively small, but average nest failure rates have increased from 22% to 38% over the 13 day chick period.

Whinchat — another long distance migrant, but this time of open moorland and heath, Whinchats were not monitored by the BTO until the advent of the BBS, which dectected a population decline of more than 25% since 1994. *The New Atlas of Breeding Birds in Britain and Ireland 1988–91* also showed a significant range contraction and now the NRS has detected increases in nest failure rates at both egg and chick stages. In combination, failure rates from egg laying to fledging have increased from 33% to 52% since 1987. This might reflect a decline in the quality of the marginal agricultural habitats that it inhabits.

Bullfinch — this species has featured on the NRS Concern List previously and appears to show significant declines in breeding performance. It has been suggested that Bullfinch declines are related to changes in the quality of woodland understorey and edge habitats. The NRS shows increased failure rates at both egg (Figure 2) and chick stages which may be an indication of declining habitat quality or of increased predation rates. Overall nest failure rates, from egg-laying to fledging, have increased from 45% to 71%.

Corn Bunting — this once common agricultural species is now declining over most of Europe and has disappeared from large parts of the UK. Although previous analyses had not suggested that these declines were linked to breeding success, it is worrying that brood sizes are now apparently declining. Although sample sizes are inevitably small, average brood size increased from a low in the early 1960s, which may have been due to organochlorine pesticides.

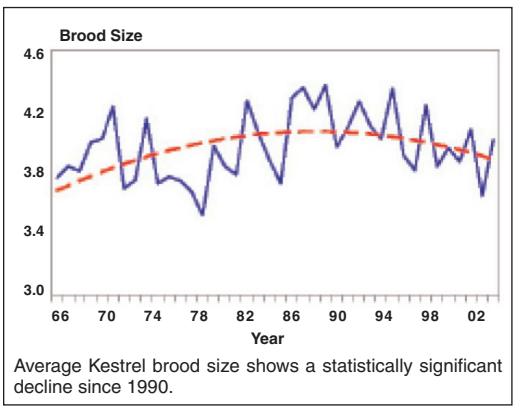

FIGURE 1. Kestrel brood size.

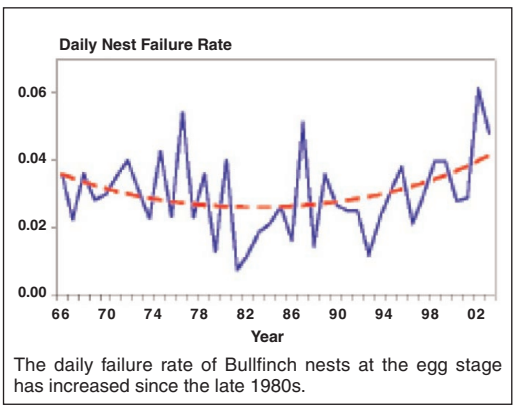

FIGURE 2. Bullfinch nest failure rate.

They peaked in 1986 at just over four young per nest, but have now declined again to about three young per nest (Figure 3). This is a potentially very worrying trend.

Please note that for the last four of these species, we received only very small numbers of records and urgently need more. In fact, there is a worrying decline in the numbers of records submitted for all open–nesting species (*BTO News* 250: 6–7), so please do think about sending in your own records, even for the Blackbird or Song Thrush in your garden!

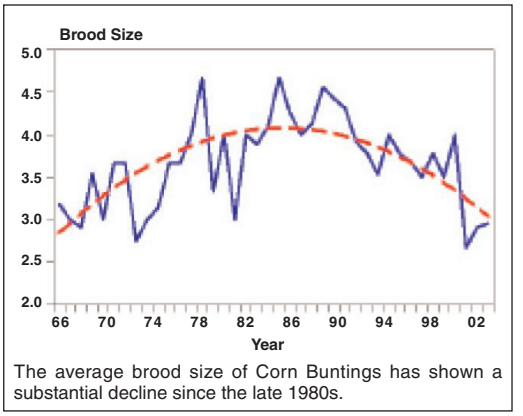

FIGURE 3. Corn Bunting brood size.

THANK YOU

None of this research would be possible without the fantastic amount of time and energy that nest recorders invest in collecting these data each year, so thank you very much to everyone who has contributed to the NRS dataset. If you have not yet, but would like to in the future, contact us at nest.records@bto.org or look at our web pages at www.bto.org/survey/ nest_records/index.htm for more information.

Thanks also to Mandy Andrews for ensuring the NRS runs smoothly, to Karen Wright for all her work on the NRS database, to Mark Cubitt for the design and continued development of the IPMR home-inputting program, which has revolutionised record submission, and to David Glue for his contributions to the scheme. The Nest Record Scheme is funded by the BTO/JNCC partnership.