

Common Birds Census

Title

Common Birds Census (CBC)

Description and Summary of Results

The Common Birds Census (CBC) was a major volunteer fieldwork project run by the BTO from 1962 to 2000, designed to monitor the numbers of common breeding birds in the UK. The main result each year was the number of territories of common breeding bird species on a series of plots (mainly farmland and woodland) which could be compared to the numbers recorded on the same plots in the previous year. This monitoring function was taken over by the BTO/JNCC/RSPB Breeding Bird Survey (BBS) completely in 2001 following a period of overlap to ensure that the results were compatible.

The field methods were a full version of the territory-mapping census, as described in depth in the *CBC Instructions* of 1983. So, as well as simple numbers of territories on each plot in each year, the survey produced a map for each species on each census plot in each year to show exactly where the birds were (and were not) holding territory, a map which could then be compared directly to the habitats present.

About 250 plots were surveyed each year. Plots in any habitat were accepted but there was a stated strong preference for those in 'ordinary' farmland or woodland. Others were classed as 'Special'. The survey required a large commitment of time which needed to be sustained over several years so the project only really appealed to the dedicated fieldworker. Those who took on a plot though usually supported the project very enthusiastically and several achieved more than thirty consecutive years of mapping censuses.

It was the work of CBC volunteers that first drew attention to major and steep declines of several common and widespread species, such as Skylark and Willow Tit, and provided the evidence by which they (alongside a number of rare birds) have become high priorities for conservation effort. The CBC also documented how, for species such as Sparrowhawk and Stock Dove, environmental change brought recovery and population expansion (in these cases caused by the reduction in the use of organochlorine insecticides). It also documented sharp drops and the subsequent recovery of populations of, for example, Wrens and other small birds after cold winters (eg 1962/63) and Whitethroats after the failure of rains in the Sahel zone of West Africa (beginning in 1968), and helped to demonstrate the importance of these factors in determining the abundance of these species.

Overall more than 10000 CBC surveys were completed, at more than 1500 different sites. The results to 1988 were summarised and documented fully in a semi-popular book, *Population Trends in British Breeding Birds* published by the BTO in 1990.

Although the CBC is no longer running as a fieldwork project, data from the survey remain constantly in use for the assessment of long-term population changes, and are displayed --

as the earlier parts of the trend graphs -- in the annually updated report on the BTO website *Breeding Birds of the Wider Countryside* (www.bto.org/birdtrends). Over a quarter of a million bird territory maps are stored in Thetford, and they can be accessed on request. The field methods of the CBC are no longer used for large-scale bird population monitoring in the UK. CBC mapping remains, however, the most accurate practical way to determine the numbers and local distribution of breeding birds within a particular (relatively small) study site, and is widely used by BTO staff and other researchers for studies where a high level of detail is required such as for habitat requirements. The original *CBC Instructions* (12 A4 pages) are out of print but can be supplied from BTO HQ as a photocopy or pdf.

Methods of Data Capture

Full details and instructions are published as a separate 12-page leaflet.

Volunteers visited their chosen site (plot) 10 times (ideally) each breeding season between about late March and early July. On each visit the location of every individual bird seen or heard was plotted onto a large scale map (normally 1:2500) with codes for each species (the now-standard 1- or 2-letter codes used by BTO for many surveys) and activity -- for example singing males had the species code circled. Observers were asked to cover the whole plot on each visit, and on average a visit would last 2-3 hours and cover about 70ha in farmland and 10-20ha in woodland.

At the end of the season all the records of each species were transferred from the 'Visit Maps' to 'Species Maps'. These were all returned to BTO headquarters where the species maps were analysed by one of the trained analysts to determine how many and where were the territories of each species.

Observers were also asked, when first taking up a plot, to provide a detailed map of the habitats present with as much detail as they could provide. Each year too they were asked to provide details and notes of any changes which, in farmland, included a cropping plan.

Purpose of Data Capture

The end product each year was a map of the locations of all registrations (and when analysed the territories) of each species on each plot. The total numbers of territories of each species over all plots (often split into main habitat types) were then compared to the total numbers of that species on the same plots in previous years to provide an index of population level and hence longer-term trends.

Geographic Coverage

All of the UK. In practice there were relatively few plots in Northern Ireland, Scotland and Wales.

An explicit study found that farmland CBC plots were representative of ITE lowland land-classes throughout England (excluding the extreme north and southwest), and closely reflected the agricultural statistics for southern and eastern Britain.

Temporal Coverage

1962 - 2000 (with some fieldwork done in 1961 and in later years). Visits were carried out in the breeding season from late March to early July.

Other Interested parties

The project was run entirely by the BTO and was funded from the start as part of the contract to the BTO from the Nature Conservancy Council. This support was continued by the Joint Nature Conservation Committee partnership after the NCC was split up.

Organiser(s)

The CBC was started by Ken Williamson and was successively organised by him, Roger Bailey, Leo Batten and John Marchant who held the main responsibility for territory analysis from 1973 until the project ceased in 2000. Several others had major inputs at various stages including Gwen Bonham, David Snow, Caroline Hunt, Phil Hyde, Phil Whittington, Liz Murray, Raymond O'Connor, Rob Fuller, Kenny Taylor, Richard Thewlis and Susan Waghorn.

Current Staff Contact

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Publications

Data from the survey are used as the earlier parts of the trend graphs in the annually updated report on the BTO website *Breeding Birds of the Wider Countryside* (www.bto.org/birdtrends).

An annual report was produced noting the population changes from one year to the next. Until the report for 1982 this was published in *Bird Study*. After this it was published in *BTO News*.

The instructions were formalised in:

Marchant, J.H. 1983. *Common Birds Census instructions*. BTO, Tring. 12pp.

A major summary of the results (and included results from some other BTO surveys) up to 1988 was included in a BTO book:

Marchant, J.H., Hudson, R., Carter, S.P. & Whittington, P. 1990. *Population Trends in British Breeding Birds*. BTO, Tring.

The paper showing that farmland plots are representative of agricultural practice is:

Fuller, R.J., Marchant, J.H. & Morgan, R.A. 1985. How representative of agricultural practice in Britain are Common Birds Census farmland plots? *Bird Study* 32: 56-70.

In addition there have been many research papers on individual or groups of sites, and on individual or groups of species, both on their population trends and their habitat requirements. Many of these have been authored or co-authored by BTO staff and

published in *Bird Study* but papers have appeared in many other journals and as chapters of books.

Available from NBN?

No.

Computer data -- location

The BTO network Unix system central area.

Computer data -- outline contents

The number of territories of each species on each plot in each year. A computerised catalogue contains some essential details of each plot (habitat, years censused etc).

Computer data -- description of contents

The annual plot data consist of a header line (plot number, year, area, region, altitude etc) and then the birds identified by a number and the number of territories recorded (or P (=present but no territory) or for some species the number of nests found). Basic data extraction programs run in Fortran, use a binary version of the full data.

Information held in BTO Archives

Visit and species maps from each plot in each year are arranged by plot number. A total of ca 250,000 maps is stored either as originals or tracings. In addition there is a folder for each plot containing the original habitat map, any annual changes to this, photographs and any other relevant information and including some letters to or from the observer.

Notes on Access and Use

Other information needed

Notes on Survey Design

Specific Issues for Analysis

The trends produced through the whole period of the survey have been shown statistically to be robust when used to infer trends over the countryside in general for most species, and also to be comparable to those produced by the Breeding Bird Survey allowing results from the two surveys to be plotted as a continuous trend.