

**Common breeding birds**

**Aim** *To record the annual distribution and abundance of breeding birds within selected areas of ECN sites*

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**Method**

The Common Birds Census, operated by BTO, was started in 1962 following trials in 1961, with the aim of monitoring bird population numbers, chiefly on farmland where the growing use of agricultural chemicals and the accelerating rate of hedgerow destruction was causing particular concern. Later other habitats, notably woodland, were included in the scheme. CBC uses a mapping method in which a series of visits are made to all parts of a defined plot during the breeding season, and contacts with birds by sight or sound are recorded on large-scale maps. Information from the series of visits is combined to estimate the number of territories found. Maps of the same plot from different years can be used to assess changes in species densities and to relate these to changes in habitats. CBC results also provide indices of population change for those species which are sufficiently numerous to provide large samples when considered across the sites participating in the scheme. At ECN sites the method will provide information on year-to-year changes in species abundance and allow the sites to be linked to equivalent regional and national patterns.

The method described below summarises the procedures set out in the instructions to BTO observers (Marchant 1983), from which publication further details may be obtained.

**Location**

The census is carried out in a plot which, for CBC purposes, should be a minimum of 40 ha in farmland (arable, horticultural or grazing land except unenclosed sheepwalk) and 10 ha in woodland (semi-natural broadleaved and mixed woodland, excluding parkland, scrubby heathland and even-aged coniferous plantations). These areas should also be targets for ECN sites, though it is recognised that it will sometimes be impossible to achieve the minimum size. Edge effects, which give rise to inflated estimates of territory density, should be minimised by reducing the edge/area ratio as far as practicable.

Plot boundaries must be clearly discernible features, such as permanent landscape features or an artificially marked grid.

The boundaries of the plot are marked on a 1:2500 map, together with internal detail such as tracks, buildings, hedges, isolated trees, and other easily distinguishable features. If there are insufficient natural features to enable the observer's position to be judged accurately, the area should be gridded at 50 m intervals and the grid positions marked so as to be easily visible and semi-permanent.

**Sampling****Habitat recording**

Habitat recording enables bird populations to be related to habitat features and to changes in those features. Habitat features of the plot, and extending for 50-100 m beyond the plot boundaries, are recorded on a map before the start of the first year's recording. Important changes in habitat which occur either during the recording year or from year to year are mapped separately. Instructions for habitat description are provided (see page 174).

## Frequency and timing

Ten visits should be made between mid-March and late June at southern sites, though these times will need to be adjusted further north. Visits should be spaced evenly through the season and weekly visits are ideal. A complete visit will take approximately 3-4 hours. It is suggested that eight morning visits, starting before 0900 BST, should be combined with two early season evening visits, starting after 1700. Cold, windy and wet days are to be avoided and on particularly fine days an early start is advisable.

## Bird recording

The objective of the observer is to mark on the map the location and movements of every bird present or flying over during a visit, but to record each individual only once. A standard list of conventions for species and activities is provided (see pages 177-178) to allow clear and unambiguous recording by observers. Some species are treated differently, as follows.

1. Grey heron (*Ardea cinerea*), rook (*Corvus frugilegus*), sand martin (*Riparia riparia*), feral pigeon (*Columba livia*), and all gulls and terns: if nesting, active nests are counted or estimated and recorded on the map; if present but not nesting, their presence is noted on the margin of the relevant visit map.
2. Wood pigeon (*Columba palumbus*), swift (*Apus apus*), swallow (*Hirundo rustica*), house martin (*Delichon urbica*), magpie (*Pica pica*), jackdaw (*Corvus monedula*), carrion crow (*Corvus corone corone*), house sparrow (*Passer domesticus*) and starling (*Sturnus vulgaris*): these species are censused by a nest count on the plot, or by a combination of nest counts and normal registrations.
3. Fieldfare (*Turdus pilaris*), redwing (*Turdus iliacus*), brambling (*Fringilla montifringilla*) and other common winter visitors will be ignored.

Coverage of the plot should be as even as possible, but more time should be allowed for areas where bird density is higher. The direction and starting point of the route should be varied between visits. A code identifying the visit, the date, starting time, and weather are recorded at the start of each visit; finishing time and the extent of plot coverage are recorded subsequently.

In farmland, progress can be quite fast because the number of birds detectable from any one point is usually rather limited, but the route should take the observer at least once along every major internal hedgerow, as well as completely around the perimeter of the plot. In woodland, a route should be followed which takes the observer within 50 m of every part of the plot at least once during each visit, and a compass may be necessary to enable the observer to follow a marked grid line. The majority of contacts in woodland will be by sound.

Separate species maps are compiled at the end of the season, combining the information from each visit to show the location of birds of the same species on different visits. These are subsequently analysed to show the number of territories occupied by different species.

### Author

J. M. Sykes (from Marchant 1983)

### Reference

**Marchant, J.** 1983. *BTO Common Birds Census instructions*. Tring: British Trust for Ornithology.

### BC Protocol

## Specification of results and recording conventions

The measurement variables listed below are those required for each BC sampling location at an ECN Site. Sites submitting data to the ECNCCU should refer to the accompanying Data Transfer documentation for the specification of ECN dataset formats, available on the restricted access Site Managers' extranet. Contact [ecnccu@ceh.ac.uk](mailto:ecnccu@ceh.ac.uk) if you need access to this documentation.

The first 4 key parameters uniquely identify a sample or recording occasion in space and time, and must be included within all datasets:

- [Site Identification Code](#) (e.g. T05)      Unique code for each ECN Site
- [Core Measurement Code](#) (e.g. PC)      Unique code for each ECN 'core measurement'
- Location Code (e.g. 01)      Each ECN Site allocates its own code to replicate sampling locations for each core measurement (e.g. for different surface water collection points)
- Sampling Date (/time)      Date on which sample was collected or data recorded. This will include a time element where sampling is more frequent than daily

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### Core measurement: vertebrates – birds (BI Protocol)

#### Common birds (BC)

Ten visits to map the location and behaviour of birds in a selected area are made per year, between mid-March and late June. The British Trust for Ornithology (BTO) Common Birds Census (CBC) method records habitat and bird movements and activities on to large-scale maps using standard notations, given overleaf. The information is then analysed to show the territories occupied by different species. A summary sheet is produced which gives presence of birds and nest counts by species.

Variable	Units	Precision of recording
<i>Map-based recording for each visit</i>		
Site Identification Code		
Core Measurement Code		
Location Code		
Recording (Sampling) date		
Start time	BST 24-h clock	1 min
Finish time	BST 24-h clock	1 min
Visit code	BTO character code - A-K	
Habitat features	BTO CBC method <sup>1</sup>	
Species/nest location	BTO codes <sup>2</sup>	
Bird activity	BTO codes <sup>3</sup>	
Weather description		
<i>Form-based recording derived from the interpretation of the maps</i>		
Site Identification code		
Core Measurement Code		
Location Code		
Year of recording		
Visit (Sampling) date		
Visit codes	BTO character code - A-K	
Duration of recording	h, min	1 min
Area of survey	ha	0.1
Altitude (median and range)	m	1
Species present	BTO codes <sup>2</sup>	
Territories (by species)	count	1

**Recording forms**

1. Standard CBC summary sheets and BBS field recording forms are available from the Census Unit, British Trust for Ornithology, The Nunnery, Thetford, Norfolk IP24 2PU, UK. (Note that the CBC summary sheets are normally completed by the BTO from interpretation of the maps sent in by recorders.) The BTO normally arrange for the preparation of CBC outline maps of the survey area.
2. A field recording form for moorland birds is available from the CCU.

**Notes**

1. [BTO CBC habitat mapping instructions](#) (pp174-176)
2. [BTO species codes](#) (p177)
3. [BTO bird activity mapping symbols](#) (p178)