BI Protocol

BIRDS

Aim

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

Rationale

Observations of the devastating effects of agricultural pesticides on bird populations during the late 1950s and 1960s strengthened the view that only objective, regular and scientific monitoring of birds can give an insight into the changing situation of different species. It was also realised that such monitoring can also reflect perturbations affecting the wider environment which ultimately threaten man. Birds are relatively easy to observe and are thus good subjects for a monitoring programme. Moreover, the large number of bird species, over 200, which breed in the United Kingdom have different feeding patterns and occupy many different habitats, making it likely that at least some species will react to particular environmental changes of whatever type. It is well recognised that bird populations are affected by many man-induced factors in addition to pesticides and other agro-chemicals. Land use changes such as drainage and afforestation affect both nesting sites and food availability. Birds are also affected by variations in climate and in particular by periods of severe weather, either in the UK, for species over-wintering here, or in other countries for migratory species.

Whilst it is unrealistic to expect monitoring schemes to be able to identify the causes of population changes, they can be expected to provide an indication of the factors most likely to be responsible and allow unlikely hypotheses to be rejected quickly (Baillie 1990).

Method

The British Trust for Ornithology (BTO) is responsible for organising surveys and providing annual indices of population changes for British breeding bird species. Until recently there have been two major schemes, the Common Birds Census (CBC) and the Waterways Bird Survey (WBS), both of which use a territory mapping method and involve fieldworkers in making about ten visits to their usually subjectively chosen survey plot throughout the breeding season. The CBC (Marchant 1983) has been used for farmland plots, usually areas of at least 40 ha, and semi-natural woodland areas of at least 25 ha, since 1962 and is appropriate for many ECN sites, data from which can be placed in the wider regional and national context. Some ECN sites already had CBC surveys in operation when the ECN programme was initiated in 1993.

The CBC method, described below in more detail (see BC Protocol), is inappropriate for some bird species, particularly the waders, which breed on moorland. Some ECN sites have large areas of moorland and at these it has been necessary to adopt an alternative survey method devised for monitoring waders in the British uplands, supplemented by CBC methods for passerine species. This method is described below (see BM Protocol).

As a result of field trials carried out over the last several years, the BTO is in the process of replacing the CBC with a new census method based on counting breeding birds observed in randomly selected 1 km squares of the National Grid (BTO 1995). This new method, the Breeding Bird Survey (BBS), is therefore more representative of the countryside as a whole and is less labour-intensive than CBC, both in the field and at the analytical stage. The BTO intends to run the CBC and BBS in parallel for several years so as to maintain continuity and to provide a smooth transition from one system to the other.

ECN wishes to retain the advantages of linking to the national scheme for censusing breeding birds and therefore plans to convert to the BBS scheme, which will be appropriate for all ECN sites. In 1996, ECN will start a five-year period of overlap, using both CBC and BBS methods at the ECN lowland sites, and both the ECN moorland breeding bird method (see BM Protocol below) and BBS at upland sites. The BBS method, described below (see BB Protocol), is

thus expected to completely supersede existing methods at ECN sites in the year 2001.

All observers using any of the methods described below must be competent to identify readily by sight and by sound all species likely to occur at an ECN site.

Author

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References

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