Upland Common Birds Census

Title
Upland Common Birds Census 1999-2000

Description and Summary of Results
The Common Birds Census (CBC) provided population trend data for many bird species in the UK from the early 1960s to 2000, and several sites were located in the 'marginal' uplands. Some of these sites provided specific data on the birds for the late 1960s and 1970s, and this presented an opportunity to assess population change over 25-30 years, the period when the steepest declines occurred in breeding bird numbers on lowland farmland. On lowland grassland, management practices such as reseeding, fertilizer application, frequent cutting for silage and high livestock densities have contributed to simplified vegetation characteristics and a low abundance and diversity of invertebrate species. These conditions were thought likely to reduce habitat suitability for foraging and nesting birds, with evidence of such in both lowland and upland areas. There had been less research undertaken on upland farmland than in the lowlands but qualitative changes to large areas of rough and semi-natural grassland continued as a result of management practices. Change to the Common Agricultural Policy had also led to large increases in sheep densities across many areas of upland Britain from the late 1970s, particularly in marginal upland areas of England and Wales, where sheep numbers more than doubled between 1980 and 1990.
The impact of intensive grazing and grassland improvement schemes is complex, but they tend to reduce floristic complexity and increase the occurrence of shorter and denser grass swards with likely impacts on breeding birds. Grazing can also increase the vulnerability of eggs and young to predators or trampling. In contrast to the lowlands, many bird populations in upland areas of Britain have been poorly monitored. This has been particularly true of common passerines, such as Skylark *Alauda arvensis*, Meadow Pipit *Anthus pratensis*, Whinchat*, Saxicola rubetra* and Wheatear *Oenanthe oenanthe* although breeding waders and species of high conservation concern, such as Corncrake *Crex crex* and Black Grouse *Tetrao tetrix,* have attracted greater attention.
This new project looked for population changes for a range of bird species on mainly grassland, marginal upland sites drawn from England, southern Scotland and Wales which had been surveyed for the Common Birds Census previously. Statistically meaningful results were obtained for 35 species. Significant declines in abundance were recorded for 13 species among gamebirds, waders and passerines, and 11 of these habitually nest and forage on or near the ground in grassland habitats. Skylark, Yellow Wagtail *Motacilla flava*, Whinchat, Wheatear, Ring Ouzel *Turdus torquatus* and Yellowhammer *Emberiza citrinella* all declined by over 80% in numbers; and, in terms of distribution (number of survey plots on which the species was recorded), these 13 declined on average by 51%, with 12 found on fewer plots in 1999/2000 than during the early period. This compared to an average 10% decline in plot-occupancy for increasing or stable species, with 11 of the 22 species found on fewer plots in 1999/2000. Redshank *Tringa totanus*, Yellow Wagtail, Dipper *Cinclus*

cinclus, Whinchat, Wheatear, Ring Ouzel and Yellowhammer were all recorded on less than a half the original survey plots.
Significant increases in abundance were recorded between the survey periods for Wood Pigeon *Columba palumbus*, Pied Wagtail *Motacilla alba*, Carrion Crow *Corvus corone,* Jackdaw *C. monedula* and Goldfinch *Carduelis carduelis* with Jackdaw increasing by over five times on the number of occupied survey plots and over 3000% in abundance, and Wood Pigeons on over twice the number of plots, and by 900% overall.

Methods of Data Capture
Thirteen plots that were originally covered by the Common Birds Census were resurveyed in 1999 or 2000. Each of the revisited plots was: a) predominantly grassland in character and surveyed ideally during or close to the 1970s; and b) located within 'marginal upland' or 'upland' landscapes of Great Britain (Centre for Ecology and Hydrology 1-km land classifications). Each of the 13 plots was visited five times between April and June (thus avoiding late non-breeding groups or juveniles). Plots comprised unquantified and variable mixtures of improved and unimproved grassland or rough pasture, since no distinction was made between grassland types during the 1970s survey period. One plot contained 40% cultivated land, but all data for this site refer to birds recorded from pastoral habitats only. The Common Birds Census was a long-term monitoring programme of breeding bird populations in the UK operated between 1962 and 2000. On each plot, an observer surveyed a site up to ten times a year from April to July, walking around the boundaries of all fields recording all birds seen or heard (registrations) onto 1:2500 scale maps. The methods used strict codes and guidelines to record the activities and movements of individual birds, such as singing, displaying, feeding and flying, and these were all repeated.

Purpose of Data Capture
To resurvey some sites containing upland pasture which had been surveyed for the Common Birds Census for a period between the late 1960s and early 1980s.

Geographic Coverage
A sample of Common Birds Census plots meeting some specific criteria in the upland areas of Wales, SW Scotland, and the Pennines in Cumbria, Lancashire, Derbyshire and South Yorkshire.

Temporal Coverage
1999 and 2000 with each site visited in one of the two years. A survey was five visits between April and June.

Other Interested parties
Funding for the survey was from the BTO. The Common Birds Census was at various stages funded by the Joint Nature Conservation Committee (on behalf of Natural England, Scottish

Natural Heritage, the Countryside Council for Wales (now Natural Resources Wales) and the Environment & Heritage Service in Northern Ireland) and its predecessors.

Organiser(s)
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Publications
The main report of the survey is:
Henderson, I.G., Fuller, R.J., Conway, G.J & Gough, S.J. 2004. Evidence for declines in populations of grassland-associated birds in marginal upland areas of Britain. *Bird Study* 51: 12-19.

Available from NBN?
No.

Computer data -- location
BTO Windows network central area.

Computer data -- outline contents
An Excel spreadsheet containing the counts (registrations) of all relevant species both from the new survey counts and visits from earlier years.

Computer data -- description of contents
The main datafile (in Directory Data) is an Excel spreadsheet containing columns:
Plot Number; Species code (2-letter); Year; v1 Date: date of Visit 1; v1 Reg: no. of registrations on visit 1; v1 Nest: no. of nests of visit 1; v2 Date, v2 Reg, v2 Nest ditto and v3 v4 v5 and v6 ditto.
The data from 1999 or 2000 and data from the early years used for comparisons are in the file.
Also directories containing some analyses and reports etc.

Information held in BTO Archives
1 Transfer Case containing the survey maps.
The earlier survey maps are filed in the archive of the Common Birds Census.

Notes on Access and Use

Other information needed

Notes on Survey Design

Specific Issues for Analysis