

Heathland Birds

Title

Heathland Birds 1934

Description and Summary of Results

The scientific programme of the then recently formed BTO included studies into the factors affecting bird populations. It was decided that heathland would be a good habitat to deal with as it forms one of the simplest bird habitats in Britain. However even with attempts to exclude areas with trees and bushes, the variations in habitat within "heath" proved extremely large – differences in the composition of the vegetation (ling, heather, grass, bracken, whortleberry, etc), in vegetation height (connected with the degree of exposure, water supply, grazing etc) and in some areas the presence of rock outcrops or even a few bushes all seemed to have major effects and could not be avoided.

Observers were found for most of the important regions of heath and moorland in England, one in Scotland and one in Ireland. Counts were made in 16 areas and covered about 1700 acres (nearly 700ha). As a result, several estimates were made for the density of the breeding population on British heaths and moorland, with a few on downs and grassland for comparison. The range was mainly 20 to 100 adults per 100 acres (40ha), with a minimum of 3 and maximum about 224 adults. (The last may well have included some young which had left the nest.)

The variations in vegetation were associated with very marked differences in the bird population density, even in closely adjoining areas. Hence no particular area of heathland in any region could be termed typical. Nor could any particular density of birds be considered typical for British heathland. It followed that breeding density figures for an area meant almost nothing without an extremely detailed description of the significant features of the area concerned, and were complicated further because these significant features often varied greatly even within the space of ground occupied by one breeding pair of birds. Rather different species inhabited different regions but the differences were completely masked by the habitat variation.

Four observers also noted the winter populations in the same areas which they had studied in summer.

Methods of Data Capture

Observers were asked to select an area if possible devoid of trees and bushes, and ideally with heather (*Calluna*), but in some cases grass, a mixture of the two, and other habitat features, were unavoidably included.

It was noted that only close observation throughout the breeding season could establish the full number of breeding pairs in an area. This was usually impossible, so the ideal time for a count was said to be as late as possible in the season but before the first young flew from the nest.

Three methods were to be tried:

- 1) Nests -- find all the nests in the area concerned and to observe carefully any resident non-breeding birds. This was thought to be best method for estimating density but the most time-consuming.
 - 2) Observation -- repeated observations in an area to determine the exact number of resident adult birds but without necessarily finding their nests. Quicker but did not differentiate breeding from non-breeding adult birds.
 - 3) Rope method -- a rope (suggested length 40-45m) held taut between two people and with one or two others walking between the rope holders, with the aim to count all birds rising between the outside pair. It was deemed practicable only in the very open types of vegetation such as are found on heaths, and was thought to be more accurate than simple observation, allowing a greater area to be covered comprehensively.
 - 4) Walking -- a number of observers walking in a line 20-30m apart, working the selected area in strips until the whole had been covered. However some birds fly out to the side into parts of the area not yet counted and, especially with higher densities, it was extremely difficult to check for double counting these. This was thought to be much the quickest method, but also the most liable to error. It could be useful to get a rough idea of the density in areas with a comparatively sparse population.
- Some comparisons of the different methods were made.

Purpose of Data Capture

The plan was to obtain estimates of the density of breeding birds on areas of heathland, chosen as a habitat as it was thought to be simpler than any other.

Geographic Coverage

Potentially all of Britain and Ireland wherever heathland or moorland occurred.

Temporal Coverage

The breeding season of 1934 and some observers also provided some winter counts from the same areas.

Other Interested parties

The enquiry was conducted by the BTO as part of its initial scientific programme.

Organiser(s)

David Lack

Current Staff Contact

archives@bto.org

Publications

The main results of the survey are published in:

Lack, D. 1935. The breeding bird population of British heaths and moorland. *Journal of Animal Ecology* 4: 43-51; with an appendix: Lockley, R.M. 1935. A census over seven years, on Skokholm, Pembrokeshire. *Journal of Animal Ecology* 4: 52-57.

A further specific publication for one site is:

Lack, D. & Venables, L.S.V. 1937. The heathland birds of South Haven peninsular, Studland Heath, Dorset. *Journal of Animal Ecology* 6: 62-72.

The enquiry was mentioned in the *BTO Annual Report* numbers 1 and 3 and *BTO Bulletin* number 1.

Available from NBN?

No.

Computer data -- location

None.

Computer data -- outline contents

N/A.

Computer data -- description of contents

N/A.

Information held in BTO Archives

Nothing has been found in the BTO archives and there is no mention in the catalogue of David Lack archives in the Edward Grey Institute. The paper data are presumed to have been disposed of.

Notes on Access and Use

Other information

Notes on Survey Design

Specific Issues for Analysis