

A SURVEY OF BREEDING WADERS AND WILDFOWL IN CAITHNESS

(Summary of talk at WSG Meeting at Uttoxeter)

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Caithness district, NE Scotland, contains approximately 700 km² of peatland flow country, at an altitude of 150 - 350m. This habitat, consisting largely of expanses of a composite of heather Calluna, cotton grass Eriophorum, and deer grass Trichophorum, has traditionally been maintained for its sporting interests, particularly Red Deer Cervus elaphus and Red Grouse Lagopus lagopus. A recent trend in the district has been an upsurge in forestry proposals, involving planting extensive areas of peatland.

The British Trust for Ornithology Atlas of Breeding Birds in Britain and Ireland shows the distribution of breeding birds on a present or absent classification, but no information has been available on the size and densities of the wader and wildfowl populations breeding in the area. The Nature Conservancy Council undertook a two year survey of Caithness starting in 1979, to expand the knowledge of the breeding bird communities.

The two principal aims of the survey were to estimate the size of the waterfowl populations dependent upon the peat flows of Caithness and to identify the general features which were especially important to the breeding birds.

In each season 10 survey plots, each of about 750 ha of peatland, were selected for detailed census work. The census method involved two observers walking along 200 m parallel transects across each site and recording bird observations on to 1:25,000 (2½ inch to 1 mile) base maps. Repeated visits throughout the season to the study areas distinguished breeding birds from non-breeding or passage individuals and hence it was possible to assess the numbers of each species of wader breeding on the plots.

Over 90% of breeding pairs could be detected by two site visits timed to coincide with the peak of breeding activity, between the last week of May and the first week of July. In order to maximise the efficiency of the census, a minimum of three visits were made to all survey plots, with at least two of these during the peak period.

Considerable differences in the distribution and densities of birds were found between the selected sites. The following tabulation indicates the range of densities for the principal breeding species on the study sites:

<u>Species</u>	<u>Pairs/km² (1979-1980)</u>	<u>Species</u>	<u>Pairs/km² (1979-1980)</u>
Greylag Goose	0 - 0.6	Redshank	0 - 0.5
Mallard	0 - 0.5	Greenshank	0 - 1.1
Teal	0 - 1.3	Curlew	0 - 2.2
Wigeon	0 - 0.3	Arctic Skua	0 - 5.0
Golden Plover	0.7 - 3.8		

Dunlin were widely distributed, breeding in broken colonies in the particularly wet areas. The average density for all the plots was 2.4 pairs/km².

Several of the species encountered were associated with localised habitat types such as burns or loch shores, and consequently the density figures for wildfowl are low. The wader species associated with the open peatland were widely distributed throughout the district. An estimate of the total Caithness breeding populations, tabulated below, was found by extrapolating the mean density from the survey plots over the area of available habitat. Fluctuations in density will inevitably cause errors but the figures act as a useful assessment of population levels.

<u>Species</u>	<u>No. of Pairs on Study Area</u>	<u>Estimated Total Caithness Population (pairs)</u>
Golden Plover	183	1,470
Dunlin	250 [±]	2,235 [±]
Redshank	15	120
Greenshank	31	250
Curlew	57	460

Detailed vegetation maps were made of all survey areas and work is currently in progress to analyse the breeding bird distribution in relation to the particular habitat types. It is hoped that a technique will emerge for evaluating upland habitat, based upon the bird associations with vegetation type and/or topographical features.

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