

Mute Swan 1983

Title

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Description and Summary of Results

The Mute Swan *Cygnus olor* was surveyed in 1955-56, 1961 and 1978 as well as being part of the 1968-1972 Breeding Atlas.

In 1978 it was beginning to be realised that lead poisoning from anglers' weights was affecting Mute Swans. So, following an investigation by the Nature Conservancy Council (reported in 1981), the recommendation was to have regular monitoring of the species. Hence a survey was organised for the breeding season of 1983, the results of which could be compared with results from both the 1968-1972 Breeding Atlas and the 1978 survey. It is one of the easiest birds to count, both because it is obvious and because it has relatively limited habitat requirements, essentially waterways and lakes. So the 1983 census was an attempt at complete coverage. However the coverage actually achieved was disappointing. It was necessary, therefore, to adopt the same extrapolation procedures as in 1978, using the available information from each county to calculate how many swans would have been counted had everywhere (10-km squares were the units used for the survey) been covered. The total number of swans estimated for Britain in 1983 was 18750 birds, an increase of about 6.5% on 1978 but around 8% less than in 1955-56. This masked some large regional differences, with an 11% increase in England, a 19% increase (but of a much smaller total number) in Wales, and a decrease of 12% in Scotland. In more detail the regional picture remained similar to 1978, with continuing declines over much of central England and southern Scotland, but continuing increases in most coastal counties, especially in East Anglia, North Wales, and N and NE Scotland.

No major changes in habitat use since 1961 were shown though there was a sharp increase between 1978 and 1983 in the use of canals and drains, the latter including quite small drainage ditches which had started assuming some importance in a few areas, for example eastern Norfolk, as they are free of fishing and other disturbing forms of recreation.

In conjunction with trends in numbers counted in winter and comparing to trends in other waterbird species it was clear that the Mute Swan population was seriously out of line in not showing a 20-30% increase over the previous 20 years or so which had been shown by several other waterfowl species occurring in similar habitats. Lead poisoning was thought to be a prime candidate for the cause of this.

Methods of Data Capture

The 1983 census attempted complete coverage of all 10-km squares, because the census was intended both to measure what had happened to the Mute Swan population since 1978 as accurately as possible and to provide a good baseline for future censuses. Two forms were distributed, one for breeding and territorial pairs, the other for non-breeding flocks, with one of each type being requested for each 10-km square. Observers were asked

for details of the locality where swans were observed (exact position within the square to be marked on a grid map), the National Grid Reference, habitat, and dates of observations. For breeding pairs, information was requested on the status: whether merely territorial, with a nest, with a brood, or were failed breeders; for non-breeding flocks only the number of birds present was requested.

The census was restricted primarily to April and May for breeding birds, and to April for non-breeding flocks, as in 1978.

The census relied primarily on known observers contacted by local organisers but there was a press release in March 1983 which led to much wider publicity for the survey than for most BTO surveys. Several hundred letters were received although not many reported birds or flocks not otherwise recorded.

Purpose of Data Capture

The aim was to count the total number of pairs and numbers in non-breeding flocks in the breeding season.

Geographic Coverage

All of Britain with the aim of obtaining complete coverage of all 10-km squares.

Temporal Coverage

The breeding season of 1983, with information primarily from April and May.

Other Interested parties

The survey was organised and run by the BTO in co-operation with the Wildfowl Trust (now Wildfowl and Wetlands Trust). Malcolm Ogilvie's post at WT was funded by the Nature Conservancy Council. The Angling Foundation funded the inputting of all data (from the 1978 and 1983 surveys) to a computer.

Organiser(s)

Malcolm Ogilvie in England and Wales, and Allan and Lyndesay Brown in Scotland.

Current Staff Contact

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Publications

The main report of the survey is:

Ogilvie, M.A. 1986. The Mute Swan *Cygnus olor* in Britain 1983. *Bird Study* 33: 121-137.

The survey was noticed in *BTO News* numbers 122, 124, 131 and 137.

Available from NBN?

No.

Computer data -- location

BTO Windows network central area

Computer data -- outline contents

Datafiles from the 1978, 1983 and 1990 surveys in the same format and various programs used to analyse these.

Computer data -- description of contents

The root directory contains:

extract83.out (and similar for 1978 and 1990). This has 3 columns: a list of 10-km squares, the number of pairs and the third is unclear. For some the number of pairs is -1 and probably means not covered and not specified as being unsuitable.

A data directory for the 1983 survey contains 3 files called xxxx.apr xxxx.jun xxxx.sor although the differences are not clear. Each contain a long string of characters which appear to be:

cols 1-4 10-km square; col 5 Site (A is the first pair or flock in the 10-km square, B the second etc, if blank appears to be a summary of the 10-km square which may or may not have birds in); cols 7-46 Site Name; cols 47-54 BTO Region; cols 55-62 Starting (or Central) Grid Reference (for river stretches); cols 63-70 Ending Grid Ref (for river stretches); cols 71-82 Type of site (one of the following: pond or lake, reservoir, gravel (or other) pit, river stream, canal, ditch (or rhine or dyke), estuary, sea-shore or give details); cols 83-86 Year; cols 87-88 NB (nonbreeder) or 'space B' (breeder); 10 x (2 cols for Day, 2 cols for Month and 5 cols for count, all right justified numbers); 70 cols for notes; 2 cols for code (T=Pair on territory, but without nest, N=Pair with nest, B=Pair with cygnets, D=Pair known to have nested, but failed); 1 space; 4 cols of code for habitat

Other directories (progs oldprogs swanprogs) are mostly (or entirely) FORTRAN programs originally written by Jeremy Greenwood to analyse the data.

The directory Miscellaneous containing various reports etc and oddments.

Information held in BTO Archives

2 A4 boxes and 1 Folder contain all data and associated material. All data have been scanned.

Notes on Access and Use

Other information

Notes on Survey Design

Specific Issues for Analysis