

Great Crested Grebe 1965

Title

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Description and Summary of Results

An extremely thorough and detailed survey of the Great Crested Grebe *Podiceps cristatus* in Britain was carried out in 1931, a sample count was made in 1935 and a sample census during 1946-1955. Also some post-mortems in 1963 had found quite high levels of organochlorine pesticides in the species. So the first stage in the present investigation was to carry out a national survey, in particular to ascertain whether or not the Great Crested Grebe had undergone a sudden severe and widespread decline similar to that of the Peregrine *Falco peregrinus* and Sparrowhawk *Accipiter nisus*. The declines of both these species had been found to be caused largely by the introduction of the organochlorine insecticides into agriculture.

Most waters in England, Wales, Scotland and the Isle of Man were covered, and a report was received for some parts of Northern Ireland. (Counts for individual waters in every county are listed in the published report together with the 1931 numbers.) Results showed the species to be more numerous in Britain in 1965 than it was in 1931, with 4532 to 4737 individuals compared to 2824 to 2842.

Comparing these figures to those from the 1946-1955 sample census suggested there had been a steady increase from 1949. Counties showing the greatest proportional increases were those with many new reservoirs and gravel pits; those with a decrease had had few new waters since 1935.

Most of the information on breeding success came from England, so all analyses to evaluate possible effects of organochlorine insecticides on breeding used only English data -- detailed observations of 772 pairs on 154 different waters (mostly lakes). The results showed there was similar breeding performance in the east and west halves of England in 1965, and also in both north and south, and all were very similar to the figures for 1931. Therefore it was concluded that there was no reason to think that the use of organochlorine insecticides in England had had any large scale effect on the breeding performance of this species.

There were no summer counts available for 1956-1964, a period which was considered important in respect of possible effects of the pesticides, but the 1965 breeding figures suggested that there could well have been a fairly continuous increase through the period. So the winter counts were examined. A sample of 37 waters was used and an index calculated because not all were counted every winter. The results suggested a slight upward trend through the period, although not as obvious as the increase in summer figures. There was no indication of any sudden large population decrease in the period 1956-64, so they did not therefore provide any contrary evidence to the original conclusion of a steady increase from 1949 to 1965. The minor fluctuations in the winter figures appeared to be related more to the winter temperature and the movement of birds from inland to the coast in autumn and return during the late winter.

Methods of Data Capture

The 1965 enquiry was organised and based on the experience gained from the previous enquiries, particularly that of the sample census. This provided the double advantage of using a tried method and obtaining results which could be compared with existing data. Non-breeding birds were known to move around so ideally all waters which could hold a Great Crested Grebe would be visited on the same day but, in view of the large number of potential waters, it was decided that at least two days would be required and 29-30 May were selected. (The 1946-1955 sample census used 7 June, but in 1965 this was a public holiday and was therefore unsuitable.) In remote areas, eg parts of Scotland, where the number of waters is large and the number of observers small, the period was extended to 5 June. In addition to a count of birds seen, observers were asked to record the number of birds thought to be out of sight on nests. They were not, however, asked to distinguish between breeding and non-breeding birds.

Observers were invited to make a detailed record of the breeding success of the birds on a selected water, but this was not insisted on.

Counters were provided with a printed card for each stretch of water to be surveyed. Data required were: the name and location, date, number of adult Great Crested Grebes counted and the estimated number present. For observers prepared to give additional help, space was provided on the back of the card for details of breeding and a description of the surrounding land.

During winter most Great Crested Grebes move to the sea, but the National Wildfowl Counts record the species where present. These counts are made once each month from September to March. Winter counts were extracted from 37 waters which had been counted fairly consistently during the 13 winters 1955/56 to 1967/68. Most were in Shropshire (11) and Leicestershire (10), with 4 each in Somerset and Cheshire, 3 in Scotland, 2 in Essex and one each in Flintshire, Hertfordshire and Staffordshire. They consisted of 23 lakes and 14 reservoirs.

Purpose of Data Capture

The primary objective was a census of adult Great Crested Grebes in England, Scotland and Wales. The aim was for a complete breeding season census and some winter counts were used to back up the results.

Geographic Coverage

All of Britain and a few in Northern Ireland.

Temporal Coverage

The breeding season of 1965 with counts specifically to be carried out on 29-30 May 1965. Winter counts were extracted from Wildfowl Counts carried out in the winters 1955/56 to 1967/68.

Other Interested parties

The survey was carried out in co-operation with the Nature Conservancy. Many of the winter data were extracted from the counts by wildfowl counters, organised by Wildfowl Trust.

Organiser(s)

Ian Prestt (England and Wales), David Mills (Scotland).

Current Staff Contact

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Publications

The main reports of the survey are:

Prestt, I. & Mills, D. 1966. A census of the Great Crested Grebe in Britain 1965. *Bird Study* 13: 163-203;

Presst, I. & Jefferies, D.J. 1969. Winter numbers, breeding success and organochlorine residues in the Great Crested Grebe in Britain. *Bird Study* 16: 168-186.

The survey was noticed in *BTO News* numbers 8 and 9; and in *Bird Study* vol. 11 no.4 (December 1964) and vol.12 no.1 (March 1965).

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

2 boxes containing data cards and letters. Note that most of the counts are published in the first paper noted.

Data cards have been scanned.

Notes on Access and Use

Other information

Notes on Survey Design

Specific Issues for Analysis