Fulmar studies 1934-1949

Title
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Description and Summary of Results
The Fulmar *Fulmarus glacialis* was known to ornithologists since the earliest times, but until the later part of the 19th Century it was thought of primarily as an Arctic breeding bird which had established a large outpost in the islands of St Kilda, and as a winter visitor (particularly in November) to most British and Irish coasts. Since then its breeding distribution and population had increased very markedly.
172 individuals took part in the 1934 enquiry. The most intensively searched areas were England, Wales, the west lowlands of Scotland, and the east of Ireland, and the least intensive were in N Highlands, Orkney, Shetland and SW Ireland. The breeding population of St Kilda, which was thought to have remained stable from the late 1870s to the 1930s, was about 21000 breeding pairs; but since 1877 the population away from St Kilda had increased from 0 to about 40500 breeding pairs.
By 1939 it was nesting in 208 colonies – about 240 pairs in England and Wales, 225 in lowland Scotland, 4600 in the Highlands of Scotland, 34500 in Outer Hebrides, Orkney and Shetland, and 1100 in Ireland. There were also 61 other 'colonies' at which breeding had not yet been proved.
James Fisher continued to collect information on the spread of the species. In July 1943 the survey attracted the attention of the War Office as a potential diversion for troops stationed in out of the way places. In 1944 it was decided to attempt a more widespread census and to do this every fifth year. By then it had been proved to breed on Lundy and was seen regularly in the breeding season in S Devon, Dorset and the Isle of Wight, and to be prospecting in Norfolk and possibly Kent.
By 1949 it was being seen almost all around Britain and Ireland with at least 365 colonies and a further 212 places where birds were seen prospecting although not proved to breed. In all over 100000 nest sites were recorded with about a third of these on St Kilda.
The overall spread in Britain could not be attributed in the long run to its relation with man on St Kilda (where it had been harvested for many years although this ceased in 1921). A clear preference was noted for islands (large and small) and oceanic headlands as breeding places, but it also nested some distance inland. At first it was restricted to the highest cliffs, over 200ft (60m) asl, and often over 400ft (120m), but as the population increased there was a noticeable trend towards breeding on lower cliffs, although breeding on cliffs less than 50ft (15m) asl remained exceptional.
The published reports contain full details of the historical spread of the species in each colony as gleaned from the enquiries themselves and the literature.

Methods of Data Capture
Information was gleaned from:

a) the literature – all available books, notebooks and periodicals, including non-ornithological publications and some newspapers, were thoroughly searched for past references to the species;
b) a questionnaire sent out for 1934 circulated to members of the BTO, members of various local societies, and many private individuals, including lighthouse keepers, coastguards and fishermen. In addition, appeals for help were published in *British Birds* and in *The Scottish Naturalist*. Such a questionnaire and special appeals were repeated in 1939, 1944 and 1949.
Observers were asked: 1) name and position of every breeding and potential breeding station known to them; 2) description of the site including topography, height above sea-level and whether coastal or inland; 3) year in which the Fulmar was first seen in the neighbourhood of the station in the breeding season; 4) year in which the first eggs or young were definitely seen and the number of pairs that were then present on an ordinal scale of 0 (breeding not proved), 1 (under 10 eggs or young produced), 2 (under 100), 3 (under 1000), 4 (under 10000) and 5 (under 100000) -- the mean population of all colonies in Order n was taken to be $4 \times 10^{n-1}$; 5) the approximate number of pairs that bred; 6) details of any apparently suitable sites where Fulmars did not yet nest; and notes on any stray birds seen during the breeding season.

Purpose of Data Capture
To determine the numbers of breeding Fulmars around the the British Isles and to obtain as much information as possible about the history of the known increase.

Geographic Coverage
All of Great Britain and Ireland.

Temporal Coverage
The breeding seasons of 1934, 1939, 1944 and 1949 involved attempts at full censuses and each time as much historical information as could be gathered.

Other Interested parties
The 1934 fieldwork investigation was carried out by the BTO and the Advisory Scientific Committee of the Edward Grey Institute of Field Ornithology which sponsored, advised and took part in this inquiry at all its stages. Malcolm Stewart made a generous grant towards its expenses.
Later years were organised and run by James Fisher as Trust-aided enquiries.

Organiser(s)
George Waterston organised the fieldwork in 1934 but handed over the production of the report to James Fisher in 1938. Later surveys were all organised by James Fisher.

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Publications
The main results of the 1934 enquiry (and some of the 1939 one) were published in:
Fisher, J. & Waterston, G. 1941. The breeding distribution, history and population of the Fulmar (*Fulmarus glacialis*) in the British Isles. *Journal of Animal Ecology* 10: 204-272.
The 1944 and 1949 surveys were reported in:
Fisher, J. 1952. A history of the Fulmar *Fulmarus* and its population problems. *Ibis* 94: 334-354.
These all later contributed greatly to:
Fisher, J. 1952. *The Fulmar*. Collins, London (New Naturalist series).
The enquiry was noticed in *BTO Annual Report* numbers 1, 2, 3 and with a summary in number 5, and in *BTO Bulletin* number 15.
Later surveys were noticed in *BTO Annual report* numbers 9, 10, 11, 12, 13 and 16; and in *BTO Bulletin* numbers 20, 33(6pp) and 35.

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 large, 5 small archive boxes and 1 Transfer Case contain James Fisher's notes and letters on his Fulmar studies over many years. Data from the various surveys, many maps and draft reports, and a binder with a bibliography (nearly 1000 references are mentioned in the published report) are included. There is also some correspondence on the species up to 1965.

Notes on Access and Use

Other information

Notes on Survey Design

Specific Issues for Analysis