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DARK-BELLIED BRENT GESE 1985-6

PRELIMINARY ASSESSMENT OF BREEDING SUCCESS, OCTOBER 1985

A report to the Nature Conservancy Council.
By M.A.Ogilvie, Wildfowl Trust, Slimbridge, Gloucester.

Summary

The 1985 breeding season appears to have been quite successful but not outstandingly so. The percentage young found in flocks in Britain during the second half of October was close to 20% after initial observations earlier in the month had revealed very few young among the first geese to arrive. Information from West Germany, Denmark, the Netherlands and France confirms the pattern of non-breeding birds arriving ahead of the breeders. It is predicted that the final figure will show a further increase to perhaps 30%, which would lead to an increase in the population to around 160,000-170,000 from its last winter's level of 149,000.

Report and Results (see Tables)

Preliminary information on the breeding success of the Dark-bellied Brent Geese in 1985 has been gathered in three ways. Personal visits have been made to haunts in Essex and on the south coast. Secondly, contacts have been established with experienced goose counters in different areas, including north Norfolk, Essex and Hampshire. Thirdly, through the good offices of the International Waterfowl Research Bureau, goose workers in West Germany, Denmark, the Netherlands and France were contacted and asked for any data they had so far gathered.

Personal visits were paid to Langstone and Portsmouth Harbours, and Southampton Water, on 11th October. At this date some 1000 birds had arrived in the first-named and a total of 471 were aged. Only very small numbers were present at the other sites and none were available for ageing. The Langstone Harbour flock contained almost no young, and local contacts confirmed that they had arrived in late September without any subsequent major influx.

On 20th October, Brent Geese at Two Tree Island and Leigh Marsh, south-east Essex, were surveyed and a large sample of 5000 birds aged. The following weekend, 27th and 28th October, a repeat visit was paid and the survey was extended to include areas within the MOD land at Wakering Stairs and Foulness Island. A further considerable sample was aged and brood sizes obtained. This latter survey was carried out together with my colleague, Mr Roy King of the Abberton Reservoir Ringing Station, and he will

be continuing age surveys over the next few weeks. In each case the number of birds aged comprised very significant proportions of the total flocks present and so can be regarded as very representative. In addition, care was taken to age birds from all parts of the flocks in order to eliminate the biases due to family parties moving to the leading edges of feeding groups.

Information on the proportion of young birds elsewhere in Britain has been obtained from Mr D.Billett, the Farlington Marshes Nature Reserve Warden, through Mr Reg Arthur, the Essex Coast Warden of NCC, and from Mr D.Henshilwood, the NCC warden at Holkham NNR. The south-east corner of Essex traditionally receives far more Brent Geese in October than any other of the major wintering haunts so that samples from elsewhere will inevitably be much smaller.

The International Waterfowl Research Bureau, whose headquarters are at the Wildfowl Trust, Slimbridge, maintains contacts with researchers in many countries. Those known to be involved in studies on the Brent Goose in West Germany, Denmark, the Netherlands and France, were contacted a number of times during October and the information received from them is summarised in Table 4.

Discussion

The overall figure obtained from age counts in south-east Essex in the latter part of October was 19.5% (Tables 1 and 2). The sample of 13,000 birds aged includes some duplication as between the two visits paid on 20th and 27th/28th October to the Two Tree Island/Leigh Marsh area, but is felt to be entirely representative of the 15,000-20,000 birds present in the area. The percentage is lower than that obtained from the smaller samples from the south coast and north Norfolk haunts in the latter half of October, but much higher than the early October figures for those two areas. There seems little doubt that the first arrivals in the country were largely non-breeding birds, which had migrated earlier than the breeding ones, and that the very first age counts to be carried out were not representative of the true state of affairs.

The figures for mean brood size obtained from Essex in the second half of October and set out in Table 3 show it to be comparatively high at 2.6, implying good rearing success by successful parents. There are no brood size figures available at present from any other source.

The information obtained from the continent confirms the initial arrival of unsuccessful breeding birds and the subsequent steady increase in percentage young in the flocks as the successful breeders arrived in their turn. The Dutch and West German workers, who perhaps have the greatest experience in this field, predict a final figure for the percentage young of not more than 30%. As can be seen from Table 4 there have been higher percentages obtained from some samples, but these have been of birds feeding on saltmarsh or fields, the traditional feeding place for family parties, while more representative, and larger, samples from mudflat areas have contained fewer young.

Information derived from ringed birds returning to the Netherlands shows that some of the early arrivals included adult pairs which had been seen in the spring in good condition yet had returned this autumn without any young. It is believed that in a really good breeding season such birds would certainly have bred successfully.

Prediction of final population size

Calculations based on population size and breeding success over recent years suggest an average annual mortality of around 15%. Applying this rate to last winter's population total of 149,000 and then adding on a production of 30% young, produces a total of about 160,000-170,000, still some way below the 188,000 of winter 1983-4, and well below the peak 202,000 reached in 1982-3. This predicted total should be treated with caution as it is based on preliminary information only.

The two previous breeding seasons of 1983 and 1984 were both virtual failures, so that every bird in the population in summer 1985 was of potential breeding age. It would appear from the evidence now available that a sizeable proportion of the birds have not, however, bred successfully, and that the population has increased by less than its theoretical potential.

Further age counts will be made in the course of the next six weeks, followed by full censuses in mid-December and mid-January. Results of these, together with the further breeding success data will be made available as soon as possible after each census.

M.A.Ogilvie
31st October 1985

Table 1. Age counts of Dark-bellied Brent Geese, obtained in Britain, October 1985. Detailed counts.

Date	Place	Total present	Total aged	Young No.	%	Observer
5.10	Norfolk: Scolt	43	43	0	0.0	DAH
7.10	Wells	500	338	11	3.3	DAH
8.10	Scolt	110	110	1	0.9	DAH
11.10	Hants: Langstone	1000	471	3	0.6	MAO
15.10	Norfolk: Scolt	200	100	7	7.0	DAH
	Essex: Colne	15	15	3	25.0	RA
16.10	Norfolk: Scolt	300	108	24	22.2	DAH
18.10	Wells	1000+	805	29	3.6	DAH
20.10	Essex: Colne	84	84	20	23.8	RA
	Leigh	9000	5000	927	18.5	MAO
24.10	Norfolk: Scolt	1000+	482	80	16.6	DAH
26.10	Hants: Langstone	3000	1140	295	25.9	DB
	Norfolk: Cley	500+	294	154	52.4	PG
27.10	Essex: Wakering	2500	2218	538	24.3	MAO, RK
	Two Tree Is.	1500	800	136	17.0	MAO, RK
	Leigh	5000	1700	360	21.2	MAO, RK
28.10	Essex: Foulness	6000	3150	515	16.3	MAO, RK
29.10	Essex: Stour	410	135	56	41.5	RL
30.10	Norfolk: Stiffkey	500+	208	52	25.0	DAH

Observers: R.Arthur, D.Billett, P.Gotham, D.A.Henshilwood, R.King, R.Leavett, M.A.Ogilvie.

Table 2. Breeding success of Dark-bellied Brent, Britain October 1985. Summary of data in Table 1.

Date	Area	Number aged	Young No.	%
1-18.10	Hampshire	471	3	0.6
	Essex	15	3	20.0
	Norfolk	1504	72	4.8
	TOTAL	1990	78	3.9
20-30.10	Hampshire	1140	295	25.9
	Essex	13087	2552	19.5
	Norfolk	984	286	29.1
	TOTAL	15211	3133	20.6

Table 3. Brood sizes of Dark-bellied Brent Goose, October 1985
All obtained in Essex by R.King and M.A.Ogilvie.

Broods	1	2	3	4	5
No.	30	68	85	32	7
Mean brood size: 2.63					

Table 4. Breeding success of Dark-bellied Brent Goose: information
from West Germany, Denmark, the Netherlands and France,
October 1985.

Country	Date	Breeding success information
West Germany	16.10	27% young in 1000 birds
	16.10	24% young in c.10,000 birds on mudflats
	24.10	Up to 50% young in small samples on saltmarsh.
Denmark	8.10	2 young in 500 birds - early arrivals
	21.10	Up to 50% young in 1000 birds, but samples not representative.
The Netherlands	30.10	30-34% young in small samples on inland sites.
France	15.10	8% in sample of early arrivals.
	27.10	17.2% in sample of 900 out of 8300 birds present.

Information from: Dr P.Prokosch, J.Madsen, Dr B.Ebbinge, and Dr R.Maheo, through the gratefully acknowledged assistance of Mr M.Smart, Assistant Director (Conservation), I.W.R.B.