

A PRELIMINARY ASSESSMENT OF BREEDING SUCCESS IN THE DARK-BELLIED  
BRENT GOOSE, 1990

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SUMMARY

Some 48,751 Dark-bellied Brent Geese were counted at 45 coastal localities in Britain between 11 September and 30 October 1990, and both the proportion of juveniles present and brood sizes were recorded for many of the flocks. Of 23,050 geese aged, 16.8% were juveniles, thus revealing a moderate level of breeding success for the population in summer 1990. Average brood size was 2.3 juveniles per pair overall. Using these data, it is predicted that some 89-134,000 Dark-bellied Brent Geese will resort to British estuaries in midwinter 1990/91.

INTRODUCTION

For the sixth consecutive autumn, breeding performance in Dark-Bellied Brent Geese (Branta bernicla bernicla) was assessed by experienced voluntary observers at a number of coastal sites in Britain. Here we report the results of observations sent to us prior to 09 November and made between 11 September and 30 October 1990. On the basis of these, we make a first prediction of the likely size of the 1990/91 winter population in Britain. There are further data to collate from autumn 1990 and thus the results presented here are preliminary. A second, more comprehensive, report will be finalized in late December.

Both the proportion of young birds in flocks and family sizes were recorded during observations on 25 dates during early autumn. During this time, a total of 74 counts were made at 45 different localities. Only three counts were made in September and most (46%) took place over the two weekends of 20/21 October and 27/28 October. Most of the included sites (55.5%) were counted only once, but Fagbury (on the Orwell Estuary) and Langstone Harbour were each counted on five occasions.

RESULTS AND DISCUSSION

Table 1 shows total numbers of birds counted and maximum flock sizes at various localities, and provides information on the proportions of juveniles in the recorded flocks. The grand total of 48,751 birds at these sites probably includes repeat counting of the same birds on different days at the same and nearby sites. Summing the maximum flock sizes (30,290) probably provides a more realistic estimate of total numbers, but even this will not be completely accurate as not all counts were not done on the same day. The largest counts were at Leigh-on-Sea, Essex where 10,000 birds were present on 13 October and 9,000 on 20 October.

All geese recorded were seen on the sea, mudflats or tidal saltmarshes except for those at Benington/Butterwick (The Wash), Wells (North Norfolk coast) and West Wittering (Chichester Harbour), which frequented grass fields and a putting green (at Wells)! No birds were recorded feeding on winter crops or other agricultural land.

Table 1. Numbers of Dark-bellied Brent Geese and the proportions (%) of juveniles recorded at a number of British coastal localities. For the positions of each estuary, refer to Salmon *et al.* (1989).

SITE	No. OF VISITS	TOTAL COUNT	LARGEST FLOCK	No. AGED	No. OF YOUNG	% YOUNG	% TOTAL YOUNG
Humberston, Humber	1	15	15	-	-	-	-
Horse Shoe Point, Humber	2	456	431	80	10	12.5	0.3
Saltfleetby, Humber	1	7	7	-	-	-	-
Skidbrooke, Humber	2	1,609	1,400	1,179	150	12.7	3.9
The Wash	4*	3,032	2,952	2,943	476	16.2	12.3
Scolt Head, N Norfolk	3	489	346	489	67	13.7	1.7
Burnham Norton, N Norfolk	1	32	32	-	-	-	-
Wells, N Norfolk	2	655	655	464	87	18.8	2.2
Orwell	8*	954	541	367	162	44.1	4.2
Stour	8*	2,098	1,635	1,568	375	23.9	9.7
Blackwater	2	390	390	390	77	19.7	2.0
Foulness, Thames	2	9,500	5,000	3,899	465	11.9	12.0
Leigh-on-Sea, Thames	2	19,000	10,000	4,518	445	9.9	11.5
Chichester Harbour	18*	5,640	3,462	3,771	559	14.8	14.5
Langstone Harbour	5	1,181	528	1,181	478	40.5	12.4
Lepe, Beaulieu	4	336	227	99	11	11.1	0.3
Beaulieu	2	151	151	151	8	5.3	0.2
Sowley, NW Solent	1	30	30	-	-	-	-
Keyhaven, NW Solent	1	700	348	500	145	29.0	3.7
Lymington, NW Solent	4	576	240	564	147	26.1	3.8
Exmouth, Exe	1	1,900	1,900	850	205	24.1	5.3
TOTALS	74	48,751	30,290	23,013	3,867	16.8	100.00

NB. A '-' means that too few birds were present for reliable age statistics to be obtained.

The totals flagged with an asterisk include visits to several individual sectors of the site on the same day.



Of all geese aged (23,013), 16.8% were juveniles (Table 1), indicating that 1990 was an average breeding season for this species. This compares with 34.4% young in 1988 and less than 1% young in 1989. The areas with by far the highest proportion of juveniles were the Orwell (44.1%) and Langstone Harbour (40.5%). The Wash held remarkably few juvenile birds, even though large numbers of birds were present there. Over 50% of all juvenile Brent recorded were found on the Thames and in Langstone and Chichester Harbours.

Most of the pairs recorded with juveniles had either two (31.5%), one (29.9%) or three (21.7%) young with them (Table 2) and the average brood size was 2.3. This compares with an average 3.2 young per pair in 1988, the most productive season of recent years. In 1989, only one pair was accompanied by six young.

The world population of the Dark-bellied Brent Goose was estimated at approximately 218,000 in January 1990 (A. St Joseph, pers. comm.) and approximately 90,000 were present in Britain in midwinter (Kirby & Salmon 1990). Assuming an average annual mortality of 15% (Summers & Underhill, In press.) and 16.8% productivity in 1990, the world population should reach ca. 222,700 birds in winter 1990/91. Of these, 40-60% will resort to British estuaries (Salmon & Fox, In press.) and thus the midwinter 1990/91 population size in Britain may well be in the region of 89-134,000 birds.

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Table 2. Brood sizes of Dark-bellied Brent Geese.

SITE	BROOD SIZE					
	6	5	4	3	2	1
Skidbrooke			3	6	4	
Scolt Head		3	4	5	8	5
Wells		1	3			
Orwell		2	2			
Stour				1	4	6
Foulness		2	3	8	13	14
Leigh-on-Sea				9	11	13
Blackwater		2		4	8	13
Chichester Harbour	1	2	8	12	19	15
Langstone Harbour			5	8	12	7
Lepe			2	1		
Beaulieu				1	1	3
TOTALS	1	12	30	55	80	76
FREQUENCY (%)	0.4	4.7	11.8	21.7	31.5	29.9

30 November 1990