WWT/JNCC/SNH Goose & Swan Monitoring Programme survey results 2017/18

Dark-bellied Brent Goose *Branta bernicla bernicla*

1. Abundance

The abundance of Dark-bellied Brent Geese in the UK during 2016/17 was monitored through the Wetland Bird Survey (WeBS). Results are available on WeBS Report Online.

2. Breeding success

The winter of 2017/18 marked the 33rd consecutive winter that experienced volunteer observers assessed the breeding performance of Dark-bellied Brent Geese (for methods see Hall 2008). Geese were aged at 86 localities within eleven estuaries or coastal areas along the south and east coast of England, from North Lincolnshire to Portland Harbour in Dorset (Figure 1 & Table 1). Data were collected between 23 September 2017 and 26 March 2018.

A total of 42,706 geese were aged, an increase on the previous year when 24,804 were aged. The largest samples came from the North Lincolnshire Coast (7,801 birds aged), Chichester Harbour (5,942), North Norfolk (5,886) and Portland Harbour (5,865) (Figure 1 & Table 1). At all other sites, fewer than 4,000 birds were aged. Of the 131 flocks assessed, the majority were aged in November (28.2%), January (24.4%) and December (21.4%) with 12.2% aged in October, 7.6% in February and 3.1% in September and March.

The overall percentage of young was 1.0% and of the 157 broods recorded the mean brood size was 1.91 (±0.09 SE) young per successful pair (Figure 2 & Table 1).

The percentage of young in flocks remained fairly consistent throughout the winter and below 2.0% in all months (Table 2). The mean brood size of successful pairs peaked in February at 2.23 (±0.34 SE) and ranged between 2.20 (±0.20 SE) and 1.63 (±0.15 SE) during other months.

Figure 1. Sites in the UK at which Dark-bellied Brent Geese were aged during winter 2017/18. See Table 1 for a key to the sites.

Table 1. *Numbers of Dark-bellied Brent Geese aged at UK estuaries and coastal areas in winter 2017/18.*

	Sample flocks							
Estuary	**First count**	**Last count**	**Number of flocks**	**Number of sites**	**Total aged**	**% of young**	**Mean brood size**	**SE**
1 Portland Harbour	19/10/17	15/11/17	3	1	5,865	0.2	1.8	0.26
2 The Solent	08/11/17	08/11/17	1	1	459	0.0	-	-
3 Langstone Harbour	27/09/17	16/11/17	8	7	2,252	0.3	2.00	1.00
4 Chichester Harbour	31/10/17	21/12/17	19	17	5,942	1.0	2.07	0.2
5 Crouch Estuary	22/02/17	15/02/18	5	4	4,657	1.0	1.43	0.23
6 Blackwater Estuary	23/01/17	23/02/18	1	1	690	0.4	1.00	0.00
7 Hamford Water	27/10/17	22/02/18	12	2	3,962	0.8	1.50	0.26
8 Stour Estuary	12/01/17	12/02/17	4	3	368	1.1	1.00	0.00
9 North Norfolk	23/09/17	10/03/18	20	17	5,886	1.6	2.38	0.36
10 The Wash	25/09/17	26/03/18	21	12	4,824	0.5	1.50	0.18
11 North Lincs Coast	01/10/17	07/03/18	37	21	7,801	1.6	2.14	0.17
Total	**23/09/17**	**26/03/17**	**131**	**86**	**42,706**	**1.0**	**1.91**	**0.09**

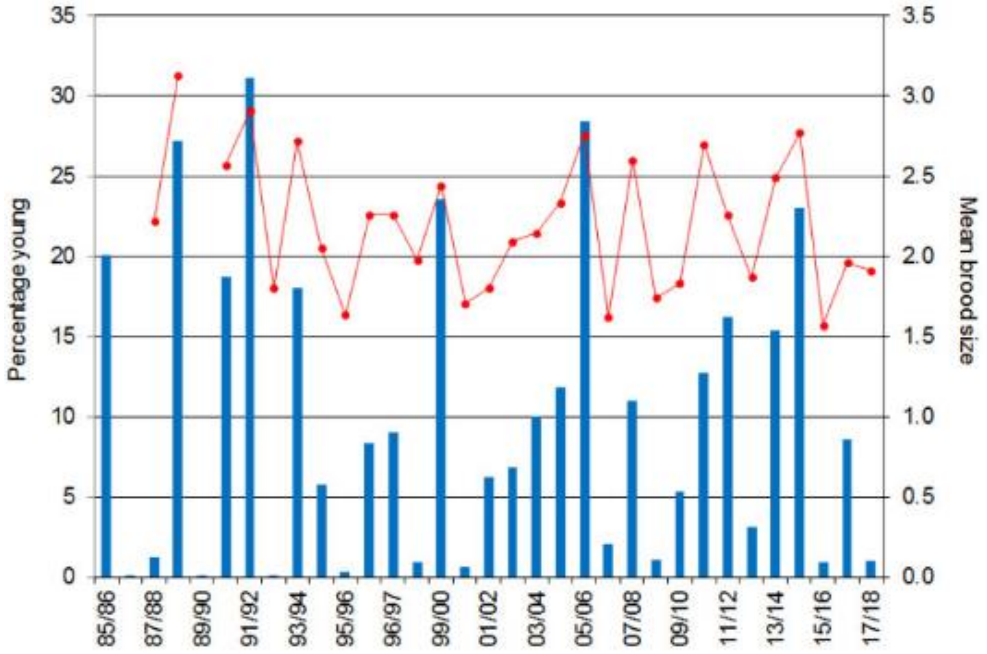

Figure 2. The percentage of young (blue columns) and mean brood size (red circles) of Dark-bellied Brent Geese recorded in the UK, 1985/86–2017/18. No brood size data were collected in 1985/86, 1986/87 or 1989/90.

Table 2. Monthly variation in the percentage of young and mean brood size of Dark-bellied Brent Geese in the UK during winter 2017/18.

	Percentage young	**Mean brood size**			
Month	**%**	**n**	**Mean**	**SE**	**n**
September	0.4	559	–	–	–
October	2.0	3,756	1.89	0.45	9
November	0.4	13,441	2.20	0.20	35
December	1.1	8,300	1.95	0.15	40
January	1.1	11,654	1.63	0.15	56
February	1.0	4,150	2.23	0.34	13
March	1.3	846	2.00	0.70	4
Total	**1**	**42,706**	**1.91**	**0.09**	**157**

3. Discussion

Results from age assessments made at wintering sites in the UK indicate that the breeding success of Dark-bellied Brent Geese in 2017 was low and well below the previous ten-year mean (9.7% ± 2.30 SE). The mean brood size was slightly lower than in 2016/17 and below the previous ten-year mean (2.2% ± 0.13 SE).

During the most recent three winters, the percentage of young amongst wintering flocks has remained below 10% and the population appears to have skipped a good breeding season, which is usually expected with the three-yearly cycle of lemming and predator abundance which greatly influences Dark-bellied Brent Goose breeding success.

At the time of writing, no data were available on the breeding success of Dark-bellied Brents wintering elsewhere along the flyway, so it is uncertain how representative the estimates from the UK are of the population as a whole.

Reports from monitoring stations in the breeding grounds in Arctic Russia (Soloviev & Tomkovich 2018) suggest that weather conditions were far from suitable, with the air temperature in May 2017 being lower than the average for the last 38 years and for the last 15 years in June. A combination of poor weather during the incubation and early gosling rearing stages, and prolonged spells of snow reported in most days of June, is likely to be the main contributing factor to the very poor breeding season for the Dark-bellied Brent Geese wintering in the UK in 2017.

4. Acknowledgements

As always our thanks go to the network of dedicated GSMP volunteers for their help with collecting age assessments.

5. References

Hall, C. 2008. T*he breeding success of Dark-bellied Brent Geese* Branta bernicla bernicla *in 2007, as assessed in the UK*. Wildfowl & Wetlands Trust Report, Slimbridge.

This report should be cited as:
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