

WWT/JNCC/SNH Goose & Swan Monitoring Programme

survey results 2018/19

Dark-bellied Brent Goose *Branta bernicla bernicla*

1. Abundance

The abundance of Dark-bellied Brent Geese in the UK during 2018/19 was monitored through the Wetland Bird Survey (WeBS). Results are available on WeBS Report Online.

2. Breeding success

The winter of 2018/19 marked the 34th consecutive winter that experienced volunteer observers assessed the breeding performance of Dark-bellied Brent Geese (for methods see Hall 2008). Geese were aged at 79 localities within fourteen estuaries or coastal areas along the south and east coast of England from Lindisfarne in Northumberland to the Exe Estuary in Devon (Figure 1 & Table 1). Data were collected between 10 October 2018 and 4 March 2019.

A total of 27,899 geese were aged, a decrease on the previous year when 42,706 were aged. The largest samples came from the North Lincolnshire Coast (5,409), the Humber (3,865), North Norfolk (3,664) and Chichester Harbour (3,457) (Figure 1 & Table 1). At all other sites, fewer than 3,000 birds were aged. Of the 103 flocks assessed, the majority were aged in November (38.2%) and January (24.5%) with 12.7% aged in December, 9.8% in October and February, and 4.9% in March.

The overall percentage of young was 8.0% and of the 382 broods recorded the mean brood size was 1.88 (± 0.05 SE) young per successful pair (Table 1 & Figure 2).

The percentage of young throughout the winter peaked at 9.7% in October and ranged between 5.1% and 9.0% during other months (Table 2). The mean brood size of successful pairs peaked in March at 2.67 (± 0.33 SE) and ranged between 1.71 (± 0.09 SE) and 2.00 (± 0.28 SE) during other months.



Figure 1. Sites in the UK at which Dark-bellied Brent Geese were aged during winter 2018/19. 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 2018/19.

Estuary		Sample flocks			Number of sites	Total aged	Percentage of young	Mean brood size	SE	Number of Broods
		First	Last	Number of flocks						
1	Exe Estuary	11/11/18	17/02/19	8	6	1,492	5.1	3.5	1.5	2
2	The Solent	15/11/18	19/01/19	2	2	1,445	3.7	3.7	-	-
3	Langstone Harbour	05/11/18	30/01/19	5	4	1,496	7.4	7.4	2.08	53
4	Chichester Harbour	27/10/18	28/01/19	13	11	3,457	8.4	8.4	1.82	49
5	Thames Estuary	19/10/19	24/10/18	3	2	1,888	11.9	11.9	1.82	44
6	Roach Estuary	20/10/18	20/10/18	1	1	-	-	-	1.65	34
7	Crouch Estuary	25/12/18	27/02/19	4	2	2,415	8.8	8.8	-	-
8	Blackwater Estuary	28/11/18	28/11/18	1	1	278	5	-	-	-
9	Hamford Water	13/11/18	03/02/19	7	2	1,768	12	2.32	0.21	34
10	Stour Estuary	25/11/18	30/11/18	4	4	127	15	-	-	-
11	North Norfolk Coast	20/10/18	01/03/19	18	16	3,664	9.4	2.58	0.17	50
12	North Lincolnshire Coast	10/10/18	15/01/19	24	23	5,409	6.8	1.47	0.07	116
13	Humber Estuary	05/11/18	04/03/19	9	1	3,865	7.2	-	-	-
14	Lindisfarne	06/11/18	03/02/19	4	4	595	4	-	-	-
				103	79	27,899	8.0	1.88	0.05	382

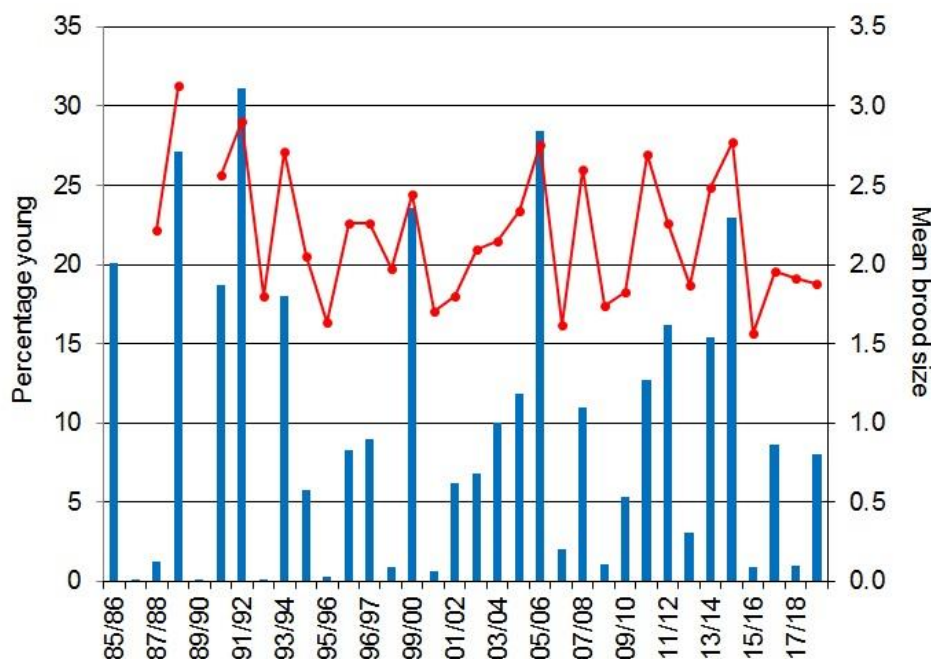


Figure 2. The percentage of young (blue columns) and mean brood size (red circles) of Dark-bellied Brent Geese recorded in the UK, 1985/86–2018/19. No brood size data were collected in 1985/86, 1986/87 or 1989/90.

Table 2. Monthly variation in the percentage of young and mean brood size of Dark-bellied Brent Geese in the UK during winter 2018/19.

Month	Percentage young		Mean brood size		
	%	n	Mean	SE	n
October	9.7	2,721	1.71	0.09	103
November	8.2	8,590	1.98	0.09	144
December	7.1	4,375	1.92	0.23	26
January	7.5	7,644	1.88	0.1	89
February	9	3,519	2	0.28	17
March	5.1	1,050	2.67	0.33	3
Total	8	27,899	1.88	0.05	382

3. Discussion

Results from age assessments made at wintering sites in the UK indicate that the breeding success of Dark-bellied Brent Geese in 2018 was 7% higher than the previous year, although it remained below the previous ten-year mean ($8.7\% \pm 2.45$ SE). Mean brood size was also lower than the previous year and below the previous ten-year mean ($2.1\% \pm 0.13$ SE).

The results during 2018 follow a poor breeding performance in 2017 (1.0% young), a relatively poor breeding season in 2016 (8.6% young) a poor breeding year in 2015 (0.9% young).

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 not ideal with snowfall in June and strong winds that adversely affected the nesting attempts of many species of bird. The breeding season was moderately late starting and monitoring stations reported that in some areas Dark-bellied Brent Geese did not attempt to nest at all. There is also some indication that early moult migrations were carried out by Dark-bellied Brent Geese, possibly suggesting an early finish and abandonment to the breeding season as moult got underway. Fox abundance was considered high; it is therefore likely that a mixture of predator pressure and weather conditions resulted in another relatively poor breeding season for Dark-bellied Brent Geese.

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. The breeding success of Dark-bellied Brent Geese *Branta bernicla bernicla* in 2007, as assessed in the UK. Wildfowl & Wetlands Trust Report, Slimbridge. Download

Soloviev, M. & P.S. Tomkovich (Eds.) 2018. Arctic Birds: an international breeding conditions survey. Online database: <http://www.arcticbirds.net/>. Accessed 3 April 2019.

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