

WWT/JNCC/NatureScot Goose & Swan Monitoring Programme survey results 2020/21

Dark-bellied Brent Goose *Branta bernicla bernicla*

1. Abundance

The abundance of Dark-bellied Brent Geese in the UK during 2019/20 was monitored through the Wetland Bird Survey (WeBS). Results are available on WeBS Report Online.

2. Breeding success

The winter of 2019/20 marked the 35th consecutive winter that experienced volunteer observers assessed the breeding performance of Dark-bellied Brent Geese (for methods see Hall 2008).

Geese were aged at 46 sites within ten estuaries or coastal sites along the south and east coasts of England from the Humber Estuary in Yorkshire to the Exe Estuary in Devon (Figure 1 & Table 1). Data were collected between 22 September 2019 and 4 March 2020.

Of the 58 flocks assessed, only one was aged in September (1.7%), 13.8% were aged in October, the majority were aged in November (29.3%), followed by a gradual decrease as the winter progressed: 22.4% in December, 15.5% in January, 12.1% in February and 5.2% in March.

A total of 18,738 geese were aged, a notable decrease on the previous year when 27,899 were aged. The largest samples came from the Blackwater Estuary (4,258 birds aged), North Lincolnshire Coast (4,001), North Norfolk Coast (3,371) and the Crouch Estuary (2,933) (Table 1). At all other sites, fewer than 1,100 birds were aged. Mean brood size data was collected at four of the estuaries/coastal areas

The overall percentage of young was 13.1% and, of the 160 broods recorded, the mean brood size was 2.26 (± 0.10 SE) young per successful pair (Table 1 & Figure 2).

The percentage of young throughout the winter peaked at 26.0% in October and ranged between 6.0% and 17.0% during the other months (Table 2). The very small sample assessed in September did not include any young birds. The mean brood size of successful pairs peaked at 3.43 (± 0.43 SE) in October and ranged between 1.98 (± 0.13 SE) and 2.77 (± 0.41) during other months.



Figure 1. Estuaries / coastal sites in the UK at which Dark-bellied Brent Geese were aged during winter 2019/20. See Table 1 for a key to the estuaries / coastal sites.

Table 1. Numbers of Dark-bellied Brent Geese aged at UK estuaries and coastal areas in winter 2019/20

Estuary		Sample flocks			Number of sites	Total aged	% young	Mean brood size	SE	Number of broods
		First	Last	Number of flocks						
1	Exe Estuary	22/09/2019	22/12/2019	7	2	648	15.3	—	—	—
2	Langstone Harbour	19/12/2019	19/12/2019	3	3	1,097	5.9	—	—	—
3	Chichester Harbour	19/12/2019	07/02/2019	4	4	1,079	17.5	2.4	0.28	27
4	Thames Estuary	04/10/2019	19/10/2019	2	2	637	31.4	—	—	—
5	Crouch Estuary	30/11/2019	11/01/2019	4	2	2,933	21	—	—	—
6	Blackwater Estuary	01/11/2019	17/12/2019	5	4	4,258	12.2	—	—	—
7	Hamford Water	04/11/2019	12/02/2020	5	5	264	27.3	3.33	0.8	6
8	North Norfolk Coast	30/10/2019	03/02/2020	14	10	3,371	11.2	2.75	0.19	75
9	Lincolnshire Coast	12/10/2019	14/02/2020	13	13	4,001	7.2	1.77	0.19	52
10	Humber Estuary	04/03/2020	04/03/2020	1	1	450	5.3	—	—	—
Total		22/09/2019	04/03/2020	58	46	18,738	13.1	2.26	0.1	160

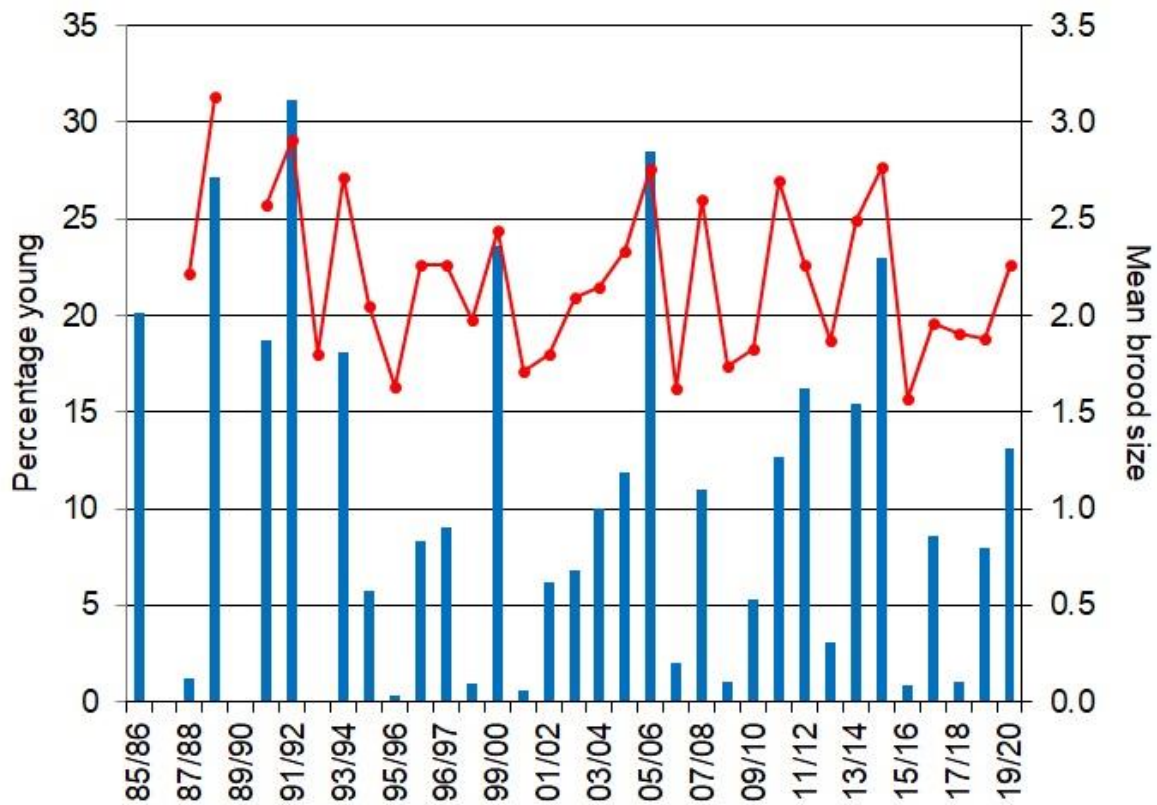


Figure 2. The percentage of young (blue columns) and mean brood size (red circles) of Dark-bellied Brent Geese recorded in the UK, 1985/86–2019/20. No brood size data were collected in 1985/86 or 1989/90.

Table 2. Monthly variation in the percentage of young and mean brood size of Dark-bellied Brent Geese in the UK during winter 2019/20.

Month	Percentage young	Mean brood size	Number aged	Mean	SE	Number of broods
	%	Number of flocks				
September	0	1	10	-	-	-
October	26.0	8	1,004	3.43	0.43	7
November	11.3	17	5,784	1.98	0.13	83
December	11.5	13	6,450	2.62	0.35	13
January	17.0	9	3,515	2.42	0.23	36
February	11.6	7	1,370	2.77	0.41	13
March	6.0	3	605	2.00	0.42	8
Overall	13.1	58	18,738	2.26	0.1	160

3. Discussion

Results from age assessments made at wintering sites in the UK suggest 2019 was the most successful breeding year for Dark-bellied Brent Geese wintering in the UK since 2014/15. In 2019, the percentage of young recorded in flocks was higher than the previous year (8.0% in 2018) and the previous ten-year mean (2009/10–2018/19; $9.4\% \pm 2.30$ SE). The mean brood size was also higher than in 2018 (1.88) and the previous ten-year mean ($2.1\% \pm 0.13$ SE). This compares with 2014/15 when 23.0% young was recorded, with the percentage of young in 2015/16 to 2018/19 ranging between 0.9% and 8.6%.

At the time of writing, no data were available on the breeding success of Dark-bellied Brent Geese 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 2019) suggests that the breeding season was generally average, although one monitoring station did indicate that they had recorded a significantly high abundance of geese. The abundance of rodents and arctic foxes and other predators varied between monitoring stations, from low to high. All in all, the conditions were favourable for breeding geese in 2019.

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.

Soloviev, M. & P.S. Tomkovich (Eds.) 2019. *Arctic Birds: an international breeding conditions survey*. Online database: <http://www.arcticbirds.net/>. Accessed 14 July 2020.

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Goose & Swan Monitoring