

# 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 2020/21 was monitored through the Wetland Bird Survey (WeBS). Results are available on the WeBS Report Online.

### 2. Breeding success

2020/21 marked the 36th consecutive season that experienced volunteer observers assessed the breeding performance of Dark-bellied Brent Geese wintering in Britain (for methods see Hall 2008).

Geese were aged at 100 locations within ten estuaries or coastal sites along the south and east coasts of England from the North Lincolnshire coast to The Solent in Hampshire (Figure 1 & Table 1). Data were collected between 13 October 2020 and 23 February 2021. Due to Covid-19 restrictions, counts were only undertaken where counters were legitimately able to do so: such as undertaken as part of their permitted daily exercise or where surveys were carried out by reserve staff.

In total, 20,827 geese, within 87 flocks, were aged across the season which represents an increase of 11.1% on the previous year when 18,738 birds were aged. The largest samples were assessed at Langstone Harbour (6,427 birds aged), Southampton Water (3,728) and North Norfolk (3,681) (Table 1 & Figure 1). At all other sites, fewer than 3,000 birds were aged. Mean brood size data was collected at four of the estuaries/coastal areas.

The overall percentage of young recorded amongst flocks was 9.1% and, of the 74 broods recorded, the mean brood size was 1.79 ( $\pm 0.14$  SE) young per successful pair (Table 1 & Figure 2).

Across the season, the percentage of young in flocks peaked at 10.7% in November and ranged between 7.4% and 9.6% during other months (Table 2). The mean brood size of successful pairs peaked at 2.50 ( $\pm 0.25$  SE) in November and ranged between 2.00 ( $\pm 0.41$  SE) and 2.42 ( $\pm 0.40$  SE) during the other months.



Figure 1. Estuaries / coastal sites in the UK at which Dark-bellied Brent Geese were aged during winter 2020/21. See Table 1 for a key to the estuaries / coastal sites.

Table 1. Numbers of Dark-bellied Brent Geese aged at estuaries and coastal areas in Britain during 2020/21.

Estuary		Number of sites	Sample flocks			Total aged	Percentage of young (%)	Mean brood size	SE	Number of broods
			First	Last	Number of flocks					
1	The Solent	1	10/12/2020	10/12/2020	1	30	40.0			
2	Southampton Water	23	03/11/2020	01/02/2021	23	3,728	9.9			
3	Portsmouth Harbour	2	10/11/2020	22/11/2020	2	235	6.0			
4	Langstone Harbour	25	17/10/2020	23/02/2021	12	6,427	8.9			
5	Chichester Harbour	15	13/10/2020	20/01/2021	15	2,913	7.3			
6	Blackwater Estuary	1	30/11/2020	30/11/2020	1	4	100			
7	Stour Estuary	3	24/11/2020	29/11/2020	3	580	13.1	1.50	0.05	4
8	Hamford Water	7	30/10/2020	29/01/2021	7	322	23.0	3.83	0.47	6
9	North Norfolk Coast	13	16/10/2020	16/02/2020	13	3,681	9.4	1.75	0.07	165
10	North Lincolnshire Coast	10	17/10/2020	21/02/2021	10	2,907	7.3	1.72	0.11	46
<b>Total</b>		<b>100</b>	<b>13/10/2020</b>	<b>23/02/2021</b>	<b>87</b>	<b>20,827</b>	<b>9.1</b>	<b>1.79</b>	<b>0.14</b>	<b>221</b>

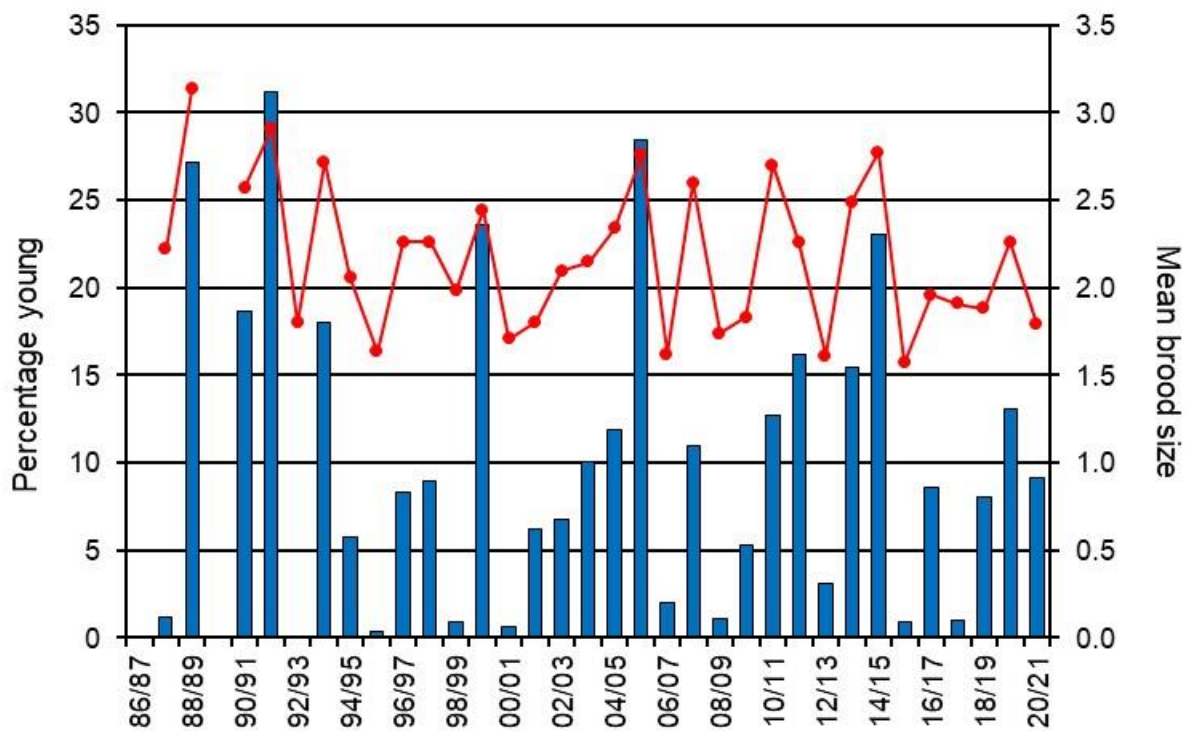


Figure 2. The percentage of young (blue columns) and mean brood size (red circles) of Dark-bellied Brent Geese recorded in Britain, 1985/86–2020/21. No brood size data were collected in 1985/86 or 1989/90.

Table 2. Monthly variation in the percentage of young and mean brood size of Dark-bellied Brent Geese in the UK during winter 2020/21.

Month	Percentage young			Mean brood size		
	%	Number of flocks	Number aged	Mean	SE	Number of broods
October	8	9	1,440	2.12	0.18	33
November	10.7	30	5,556	1.86	0.13	69
December	9.6	19	5,095	1.71	0.9	77
January	7.4	22	5,106	1.68	0.24	19
February	8.7	7	3,630	1.48	0.18	23
<b>Total</b>	<b>9.1</b>	<b>87</b>	<b>20,827</b>	<b>1.79</b>	<b>0.14</b>	<b>221</b>

### 3. Discussion

Results from age assessments made at wintering sites in Britain suggest that the Dark-bellied Brent Geese had a below average breeding season in 2020: the percentage young recorded amongst flocks (9.1%) was lower than the previous year (13.1% in 2019/20) and lower than the previous ten-year mean (2010/11–2019/20;  $10.2\% \pm 2.28$  SE). However, the mean brood size of successful pairs during 2020 (1.79) was lower than the previous year (2.26 in 2019/20) and higher than the previous ten-year mean (2010/11–2019/20;  $2.17 \pm 0.12$  SE).

Reports from monitoring stations in the breeding grounds in Arctic Russia suggest that the 2020 breeding season was generally average and conditions were seemingly good for breeding geese (Soloviev & Tomkovich 2020). The weather was reportedly good with many areas experiencing above average temperatures, and rodents were reported in abundance at some monitoring stations: in years with high rodent numbers, predators are able to exploit this resource and prey less on eggs and young goslings.

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

#### **4. Acknowledgements**

As always, our grateful thanks go to the network of dedicated GSMP volunteers for undertaking the 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.) 2020. *Arctic Birds: an international breeding conditions survey*. Online database: <http://www.arcticbirds.net/>. Accessed 08/06/2021.

This report should be cited as:

WWT. 2021. *Goose & Swan Monitoring Programme: survey results 2020/21 Dark-bellied Brent Goose*  
*Branta bernicla bernicla*. WWT/JNCC/NatureScot, Slimbridge.

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This report was produced under the Goose & Swan Monitoring Programme (GSMP). This programme monitors numbers and breeding success of geese and swans in the UK during the non-breeding season. GSMP is organised by the Wildfowl & Wetlands Trust in partnership with the Joint Nature Conservation Committee and NatureScot.



## Goose & Swan Monitoring