

WWT/JNCC/SNH Goose & Swan Monitoring Programme

survey results 2014/15

East Atlantic Light-bellied Brent Goose *Branta bernicla hrota*

1. Abundance

The abundance of East Atlantic Light-bellied Brent Geese in the UK during 2014/15 was monitored through the Wetland Bird Survey (WeBS). Results are presented in survey reports that are available on the WeBS website.

2. Breeding success

Age assessments were undertaken at two sites in Britain, Lindisfarne (Northumberland) and Nairn (Highlands), between January and March 2015. A combined total of 107 birds were aged at the sites in January, of which 8.4% were young. The largest sample was taken at Lindisfarne in February, when 249 geese were aged with the flock comprising of 6.4% young (Figure 1). Only 20 geese were aged at Nairn in March, which included one young bird. No brood size data were collected in 2014/15. Taking the two largest samples for each site results in an overall breeding success of 6.3% young amongst flocks in Britain.

Outside of Britain, a total of 895 birds were aged in Denmark during October, with flocks containing 16.2% young (Figure 1) and a mean brood size of 2.19 young per successful pair (n=19). Combining counts undertaken in Britain in February and March with samples from two Danish sites visited in March revealed a post-winter overall breeding success of 8.9%.

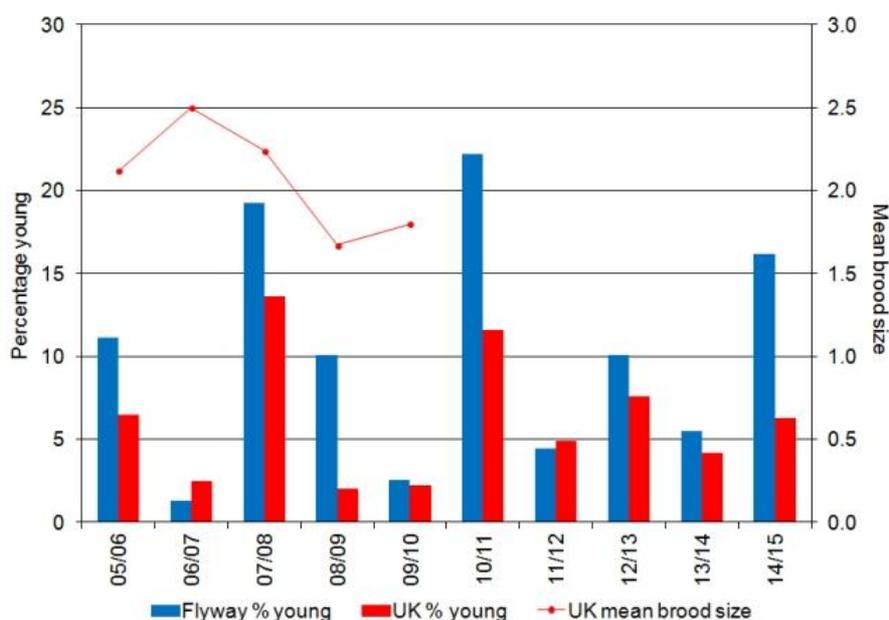


Figure 1. Percentage of young (blue columns) and mean brood size (red circles) of East Atlantic Light-bellied Brent Geese in Britain, and the percentage young for the flyway population (blue columns), 2005/06-2014/15.

3. Discussion

Results from age assessments of East Atlantic Light-bellied Brent Geese made in Britain indicate that breeding success was similar to the previous ten-year mean (6.1% young) and slightly higher than the previous year (4.2%).

Results from counts made elsewhere in the flyway indicate an above average breeding success for the population as a whole in 2014/15 (average of 10% young for 2004/05–2013/14). However, the decline from 16.2% young to 8.9% between October and February/March suggests that almost half the young birds, some 576, may have died over winter. It is, however, known that family groups tend to cluster together soon after the autumn migration and the percentage young may have been overestimated in October or alternatively underestimated in February/March.

To confirm whether this is the case will require an alternative mortality estimate to be calculated, based on apparent survival rates. This will be done after the October 2015 count, when the number of adults in early autumn will be compared with the previous season's total population size: the difference will suggest the number of birds that have probably died.

These mortality estimates are calculated on an annual basis following methods and formulae given in Clausen *et al.* 1998. In 1998, the average annual recruitment was estimated as 14.5% young, and for 1980/81–1994/95 the estimated mortality rate was 12.7%. This suggested the potential for a 1.8% positive growth rate per annum (Clausen *et al.* 1998). However, for the period 2005/06–2014/15, the average recruitment rate was 10.3% young and the estimated mortality rate was 10.8%, resulting in a current annual growth rate of -0.5%.

The lower mortality rate seen in the most recent ten years probably reflects the geese having experienced fewer severe winters compared to previous years; whereas, the reasons for the lower breeding success is not fully understood. However, it may be explained by observed phenological mismatches in Svalbard (Clausen & Clausen 2013) or perhaps increased competition with Barnacle Geese in Svalbard or observed longer flight distances to the breeding grounds. The two latter hypotheses are subject to current research.

4. Acknowledgements

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5. References

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