

WWT/JNCC/SNH Goose & Swan Monitoring Programme

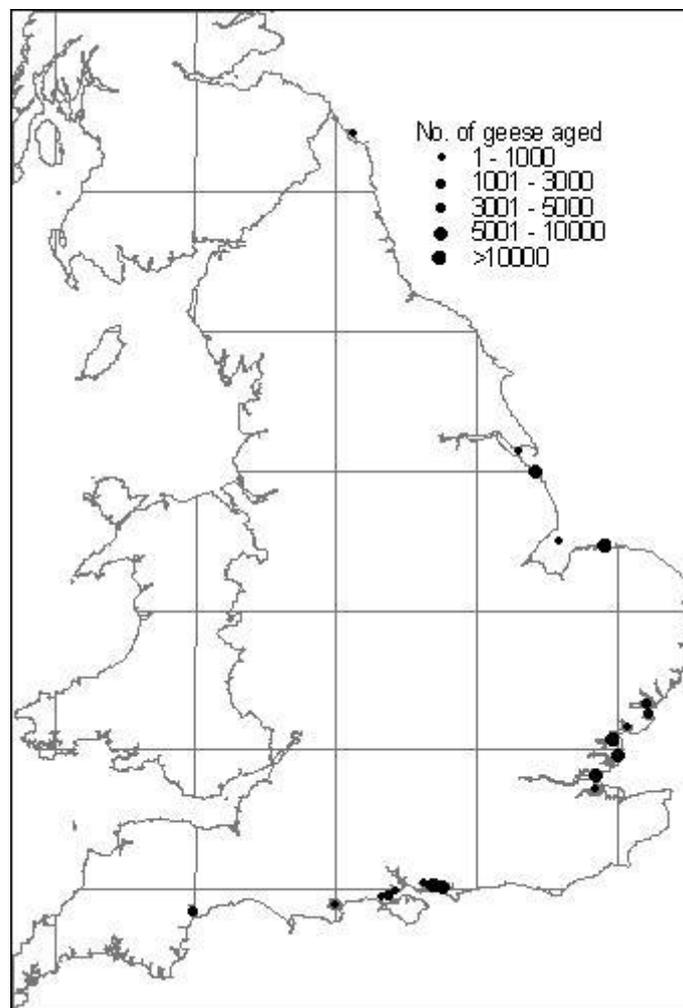
survey results 2005/06

Dark-bellied Brent Goose *Branta bernicla bernicla*

1. Breeding success

The breeding performance of the Dark-bellied Brent Goose was assessed for the 21st consecutive winter by experienced volunteer observers. Geese were aged at a total of 133 localities within 20 estuaries or coastal areas on the English east and south coasts from Northumberland to Devon in winter 2005/06.

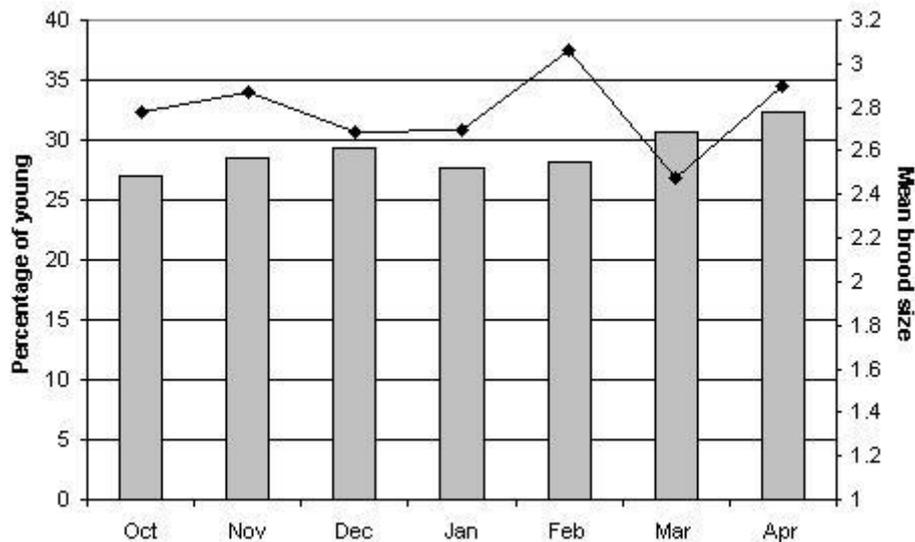
Of the 332 flocks assessed, 18.7% were in October, the majority were in November and December (24.7% and 25.6%, respectively), with decreasing numbers as the winter progressed. A total of 77,949 geese were aged, with the largest numbers at Langstone Harbour (16,240), North Norfolk (14,117) and Blackwater Estuary (10,798). Between 5,000 and 7,200 birds were aged at four sites, with sample sizes at all other estuaries and coastal areas smaller than 5,000 birds. The overall proportion of young birds was 28.4% and, of the 1,284 broods recorded, the mean brood size was 2.76 young per successful pair.



Sites at which Dark-bellied Brent Geese were aged in Britain during winter 2005/06.

The percentage of young present in flocks remained high throughout the winter, the highest occurring in March (30.7%) and April (32.3%), although the sample size was small in the latter month. Mean brood size of successful pairs varied little during the winter period, although it declined slightly in March (2.48) following a peak of 3.06 in February. The percentage of young within individual flocks varied from 0% to 84.6%. Most flocks consisted of 15-30% or 30-50% young (38.6%, n=128 in both classes). Though the percentage young was highest in small flocks (those with fewer than 100 birds) (32.9%), it was fairly consistent across flock size, with the lowest

observed in flocks of 1,000-1,999 birds (25.8%). Mean brood size was greatest in flocks of 500-999 geese (3.06), although there was little variation with flock size.



The mean percentage of young (bars) and mean brood size (diamonds) of Dark-bellied Brent Geese in Britain in different months during winter 2005/06.

The percentage of Dark-bellied Brent Geese recorded in different habitats during age counts has changed over recent years despite coverage of the survey areas remaining similar. Numbers on intertidal habitats, including *Enteromorpha*, *Ulva*, *Zostera* and saltmarsh, have declined, while numbers have increased on grass fields (including improved, unimproved and amenity grassland). Habitat data collected during age counts also suggest a shift in habitat preference throughout the winter. The proportion of geese recorded on intertidal habitats was highest in October but as winter progresses, grassland and cereal fields were increasingly favoured.

2. Discussion

Productivity data received from wintering sites in Britain indicate that 2005 was a particularly successful breeding year for Dark-bellied Brent Geese. Following the poor breeding season in 2002, the proportion of young and mean brood size recorded in flocks of geese in Britain have gradually increased and in 2005 were markedly higher than in the previous five years. Furthermore, this is only the second time in the last 12 years that the proportion of young has exceeded the average annual rate of mortality (15%, Summers & Underhill 1991).

The breeding success of Dark-bellied Brent Geese has previously been shown to follow a three-year cycle of good, poor and variable success (Dhondt 1987), and is greatly influenced by interactions between lemming abundance, predator pressure and other factors such as weather. Though 2005 was a good year, as was expected according to the cycle, it follows a number of years in which productivity figures did not follow this pattern, suggesting a disruption to the three-year cycle of lemming abundance, or the connection between lemming abundance and breeding success.

Reports from monitoring stations in the Arctic indicated that conditions on the breeding grounds in 2005 were favourable. Outposts along the Taimyr, Gydan and Yamal Peninsulas in Russia, noted exceptionally high numbers of lemmings and above average temperatures for the time of year, with spring arriving early in many parts (Soloviev & Tomkovich 2006). Early observations from the Pyasina Delta, on the Taimyr Peninsula, pointed towards 2005 being an extraordinarily good breeding season for Brent Geese, with the possibility that flocks in western Europe may consist of 40% first-winter birds (B. Ebbinge pers. comm.). Preliminary information also suggests a similar percentage occurred amongst flocks in the Netherlands (K. Koffijberg pers. comm.).

3. References

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Soloviev, M & P Tomkovich. (Eds.) 2006. *ARCTIC BIRDS: an international breeding conditions survey*. Online database: <http://www.soil.msu.ru/~soloviev/arctic/index.html>. Accessed 29 June 2006.

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Goose & Swan Monitoring