

WWT/JNCC/SNH Goose & Swan Monitoring Programme survey results 2018/19

Svalbard Barnacle Goose *Branta leucopsis*

1. Abundance

The adopted total for this population wintering on the Solway Firth in 2018/19 was 40,400 geese (the mean of the maximum count of 41,286 and the other two counts within 10% of this, rounded up to the nearest 100). This represents a decrease of 2,200 birds on last winter's adopted total of 42,600 geese (Figure 1).

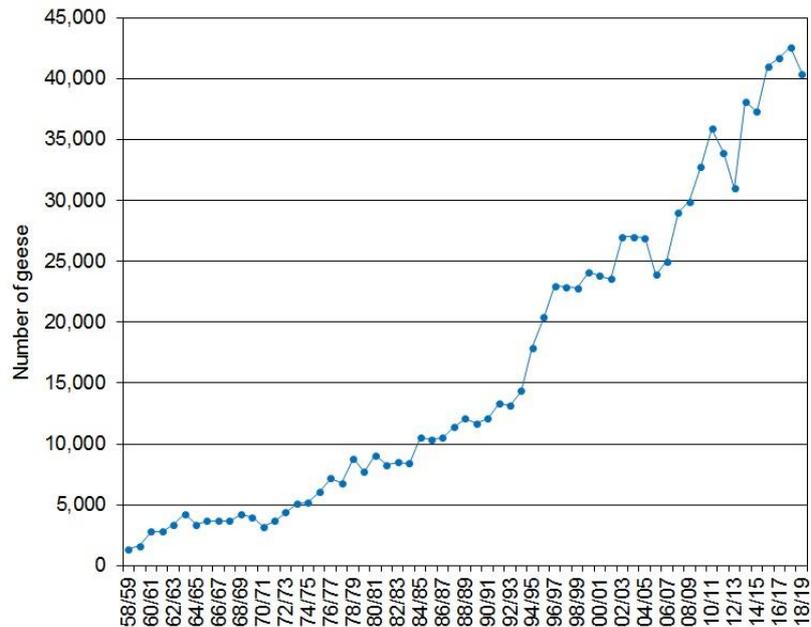


Figure 1. Annual census-derived estimates (for the Solway Firth only) of the Svalbard Barnacle Goose population size, 1958/59–2018/19.

The first arrival of Barnacle Geese thought to be genuine migrants from Svalbard was a flock of 36 recorded on the saltmarsh at WWT Caerlaverock on 23 September 2018, with 220 the following day. In contrast to the previous year, the number of geese built up very rapidly on the Solway as a whole with 22,583 present by the morning of 3 October. By 8 October further flocks had arrived and almost 40,000 Barnacle Geese were recorded on the Solway (with 14,500 of those being in the Caerlaverock area) which was close to the peak count of 41,286 recorded on 12 December 2018 for the estuary.

Over 36,000 geese were recorded quite regularly on the Solway: six out of eight census counts between the start of October 2018 and the end of April 2019.

Significant numbers of birds again staged/wintered on the east coast at Budle Bay, Northumberland with an estimated 4,000 there on 8 October dropping to a more sustained 1,250 to 1,600 for the rest of the winter until mid-March by which time numbers had dropped to nearly 500, with zero present after mid-April 2019. With no obvious increase in numbers on the Solway as the Budle Bay counts declined in March and early April it is not clear where these birds went; it is likely that only colour-marking or GPS tagging a sample of these short-stopping birds would reveal whether or not they are early migrants back to Norway or if they still head southwest to the Solway for a short period before heading northeast again.

The first evidence of significant spring migration was seen by 25 April with at least 32,000 geese gathered at the east end of the Solway on Rockcliffe Marsh, Cumbria (including Burgh Marsh and Redkirk Marsh) with

less than 5,000 elsewhere on the Solway. By 1 May all birds remaining on the Solway (except for 68 at Mersehead) were on Rockcliffe Marsh (including Redkirk Marsh) and numbers had more than halved to 15,270. This number had dropped to 9,380 by 7 May and by 15 May only 934 birds were present with zero by 18 May and one (lame) at each of Eastpark and Rockcliffe on 24 May; a much more abrupt decline in the counts than usual.

Due to count variation, with possible inaccuracies and the chance of double-counting, an adopted count total for the Solway population is derived by averaging those counts within 10% of the maximum recorded during the winter. In 2018/19, the counts of 39,940 on 8 October 2018, 39,920 on 31 October and 41,286 on 12 December 2018 fulfilled this criterion and were thus averaged to produce an adopted Solway population total of 40,400 Svalbard Barnacle Geese (rounded up to the nearest 100; c.f. 42,600 in 2017/18).

2. Breeding success

The breeding success of Svalbard Barnacle Geese sampled on the Solway Firth from October 2018 to December 2018 ranged from 0% to 11.2% (c.f. 0.5% to 15.9% in 2017/18) with a mean of 6.3% young derived from 19 flocks with 10,829 geese sampled (c.f. 4.8%; n = 14 flocks; 13,862 geese sampled in 2017/18) (Figure 2). Across the same area, the total number of broods sampled was 151, with a mean family size of 1.74 young, ranging from 1–6 young (c.f. 1.8 young; n = 151 broods; range 1–4 young in 2017/18).

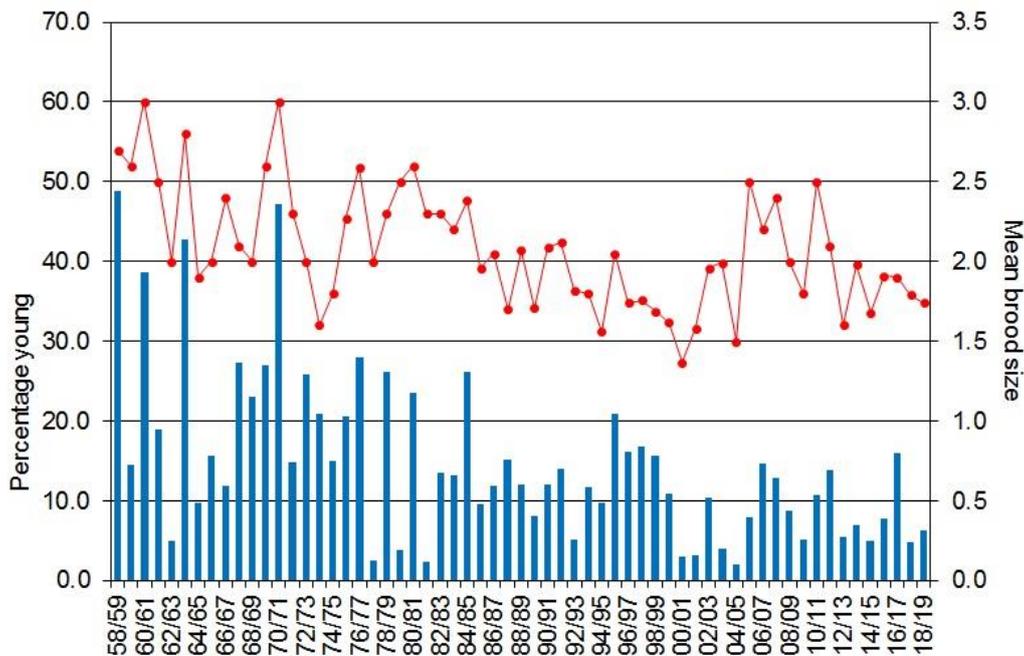


Figure 2. The mean percentage of young (blue columns) and mean brood size (red circles) of Svalbard Barnacle Geese, 1958/59–2018/19.

3. Discussion

Only one count of ~41,000 or over was recorded this winter from the Solway, suggesting the population on the estuary had stabilised or declined somewhat. The adopted count of 40,400 represents a moderate decrease in the Solway population as might be expected given the run of poor breeding seasons in the last seven years (except for 2016) at or about 5% young.

The counts for the Solway were consistently above 36,000 through the period from mass arrival in October until departure in April, but it does still remain a challenge to count the large mobile flocks using Rockcliffe Marsh and the other English marshes in a coordinated fashion at most times of the year, not only in terms of the flocks on the marshes themselves but also for any flocks moving inland from those marshes which does happen irregularly. Counting in those areas due to the flat landscape and tall hedges can be very difficult.

WWT have always reported annually on the numbers of Barnacle Geese wintering on the Solway because traditionally this has been believed to be the wintering grounds for ~99-100% of the Svalbard population in most years after the initial arrival period. In some years groups of birds have lingered at east coast sites from Loch of Strathbeg to the Humber, but mostly either the numbers at these sites fell away or the birds were thought to be of mixed origins. However, again this winter, a substantial proportion of the population has short-stopped in the Budle Bay area, Northumberland. Based on the timings of this population build up at Budle Bay in relation to visual migration activity down the coast of Norway in autumn and the coincident build-up of numbers at Caerlaverock, the presence of leucistic birds at Budle Bay and the numbers of rings of Svalbard origin being recorded there, even if just based on the colours with codes not being read due to the tricky terrain, it seems these birds are highly likely to be ~100% Svalbard in origin.

Of course it might only take a harsher east coast winter or two to change this trend, as in March 2018 when the “beast from the east” seemed to dislodge these birds and push them to the Solway, but at present it is useful to report on numbers there separately to the Solway population so that different population metrics can be established which can be used going forward as well as being compatible with reported historical counts which have always been based solely on the Solway WWT counts. The peak count for the flyway population across the Solway and Budle Bay sites on 8 October 2018 was 43,740; a date on which other flocks could have been migrating down the coast of Norway, across the North Sea or staging at various UK east coast sites. Any backward calculation of historical flyway totals would have to take account of WeBS counts for these other east coast sites to be comparable with the population total given here.

Up until at least the first week of February 2019, 1,250 to 1,600 Barnacle Geese were still staging/wintering at Budle Bay with at least 3,800 originally having stopped off there on 8 October 2018, a day of active migration, with a lot of turnover in the days preceding that count. By 13 March 2019, just over 500 were still present and by mid-April these birds had also gone. There was no obvious climatic cause for the decline in numbers this spring and it is not clear if the birds moved southwest to the Solway for a short period before heading northeast again on spring migration or if they headed straight for Norway. The destinations of these short-stopping birds dispersing from Budle Bay from mid-February to late April could probably only be elucidated by the catching and colour-ringing of birds in the Budle Bay area and/or the GPS tracking of a sample of those birds.

It will be interesting to see if this east coast site increases in importance as the total population grows; in the previous decade the RSPB Loch of Strathbeg site seemed to be increasing in importance as a staging/wintering site, but this has since largely dropped out of use by Svalbard birds.

4. Acknowledgements

Many thanks to the Solway census team and to the counters at Budle Bay for sending us their observations.

This report should be cited as:

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Goose & Swan Monitoring