

WWT/JNCC/SNH Goose & Swan Monitoring Programme  
 survey results 2016/17  
 Svalbard Barnacle Goose *Branta leucopsis*

1. Abundance

The adopted total for this population wintering on the Solway Firth in 2016/17 was 41,700 geese (the mean of the maximum count of 43,425 and the two counts that were within 10% of this, rounded up to the nearest 100). This represents an increase of 700 birds on last winter's adopted total of 41,000 geese (Figure 1).

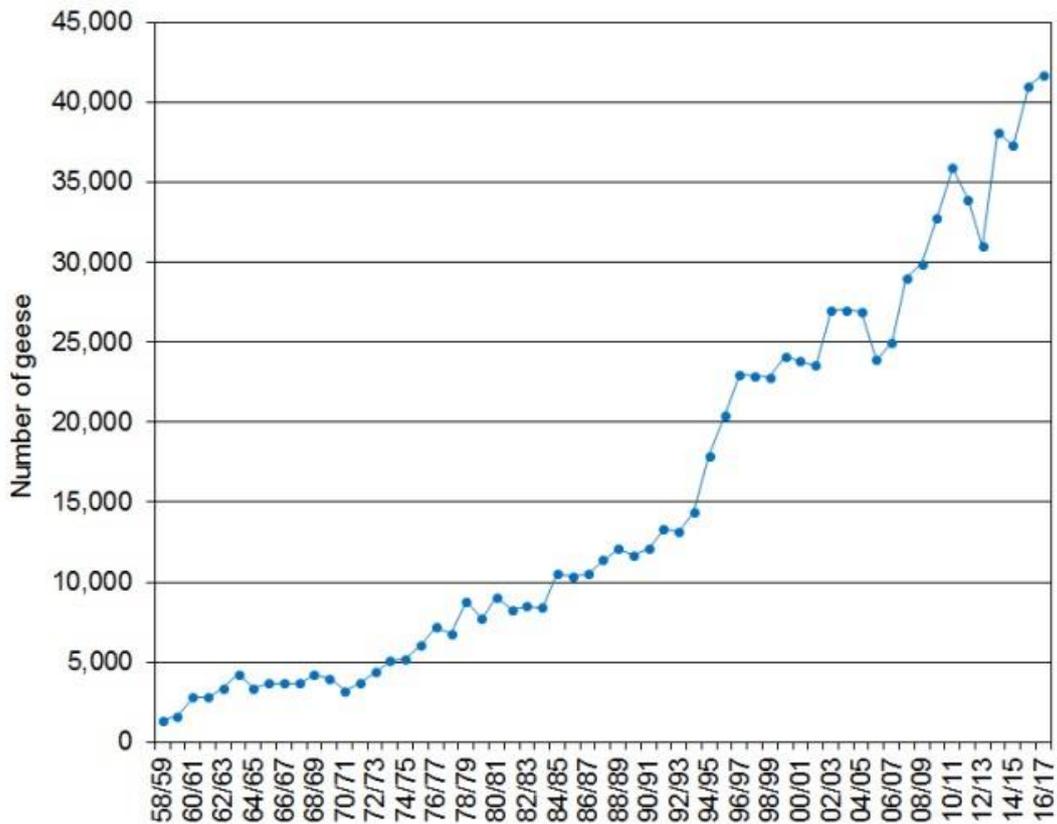


Figure 1. Annual census-derived estimates of Svalbard Barnacle Goose population size, 1958/59–2016/17.

The first arrival of Barnacle Geese thought to be genuine migrants from Svalbard was a flock of 29 recorded on the saltmarsh at WWT Caerlaverock on 19 September 2016. The number of Barnacle Geese built up unusually slowly on the Solway as a whole with only 180 present by the morning of 5 October 2016. By late afternoon that day more birds were arriving and on the afternoon of 7 October there were almost 16,000 in the Caerlaverock area. By 12 October there were nearly 26,000 on the Solway as a whole and by 26 October the highest census count of 43,425 for the 2016/17 season was recorded. Over 38,000 geese were recorded quite regularly – five out of six census counts – between the end of October 2016 and the end of April 2017.

The first evidence of spring migration was noted by 19 April by which time over 24,000 geese had gathered on Rockcliffe Marsh, Cumbria (including Redkirk Marsh). By 26 April the Solway total had already dropped by about 15,000 birds, with a small flock lingering on Kirkconnell merse and less than 1,000 in the Mersehead area. By 3 May 2017, the only birds on the Solway remained at Rockcliffe, the remainder having migrated to Norway. The total on Rockcliffe had dropped to just over 3,000 by 9 May; a much lower total than usual for that time of the year.

Due to count variation, with possible inaccuracies and the chance of double-counting, an adopted count total for the population is derived by averaging those counts within 10% of the maximum recorded during the winter. In 2016/17 the counts of 43,425 on 26 October 2016, 41,687 on 16 November 2016 and 39,829 on 19 April 2017 fulfilled this criterion and were thus averaged to produce an adopted population total of 41,700 Svalbard Barnacle Geese (rounded up to the nearest 100; *c.f.* 41,000 in 2015/16).

## 2. Breeding success

The breeding success of Svalbard Barnacle Geese sampled on the Solway Firth from October 2016 to December 2016 ranged from 0.0% to 42.5% (*c.f.* 2.2% to 18.8% in 2015/16) with a mean of 16.0% young derived from 15 flocks with 7,352 geese sampled (*c.f.* 7.8%;  $n = 16$  flocks; 6,654 geese sampled in 2015/16). Across the same area, the total number of broods sampled was 67, with a mean family size of 1.9 young, ranging from 1-4 young (*c.f.* 1.9 young;  $n = 95$  broods; range 1-4 young in 2015/16).

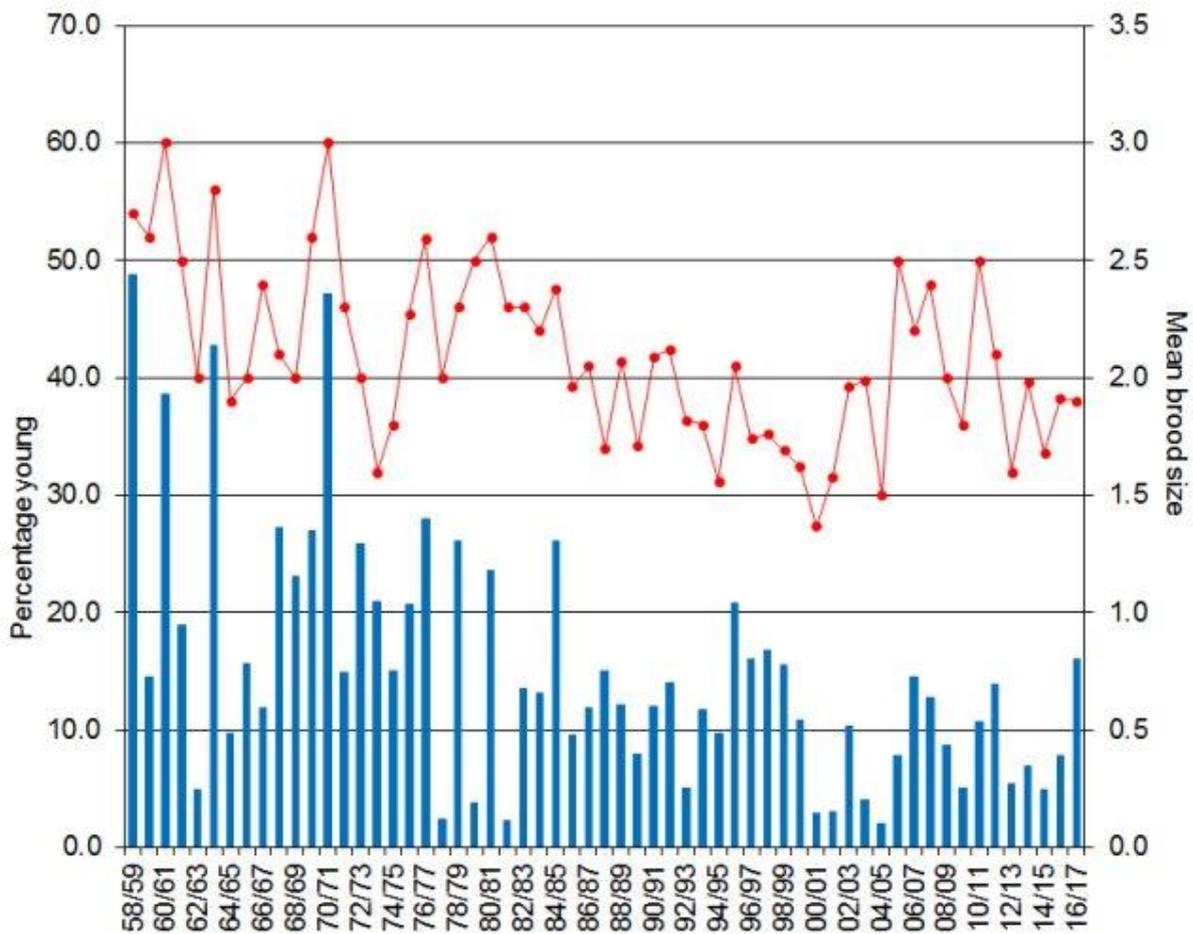


Figure 2. The mean percentage of young (blue columns) and mean brood size (red circles) of Svalbard Barnacle Geese, 1958/59–2016/17.

## 3. Discussion

Three counts of ~40,000 or over were recorded this winter confirming that the Svalbard Barnacle Goose population has now passed 40,000 (Griffin 2017). While the adopted count does not show as large an increase in the population as might be expected given the 2016 breeding success, this is perhaps an artefact of the averaging process by which the adopted population total is derived.

The consistency in the counts recorded between late October and mid-April, as with last winter, was perhaps due to the constancy of the weather during the winter in that very few episodes of freezing conditions were recorded and so it was felt the geese did not have to spread out across the Solway as much as usual due to food resources being largely maintained by continued grass growth throughout the winter.

This is a remarkable example of population recovery, from less than 400 birds just 70 years ago, which can be attributed to the conservation actions implemented throughout the flyway. The population remains reliant on just a handful of roosting sites on the Inner Solway and in that regard should still be considered vulnerable.

#### 4. Acknowledgements

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#### 5. References

Griffin, L. 2017. *Svalbard Barnacle Goose distribution around the Sowan Firth 2016–2017: flock counts from the Solway Goose Management Scheme area*. 19pp.

This report should be cited as:

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## Goose & Swan Monitoring