

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

1. Abundance

International Census 2013

The most recent flyway-wide census of Greenland Barnacle Geese took place in March 2013, and included the remote parts of the winter range that need to be checked using a light aircraft. Flyway censuses are carried out once every five years. In Scotland, 226 sites were surveyed, including 190 islands by aerial census, and in Ireland, a further 72 sites were checked. Barnacle Geese were found at 38 sites in Scotland and 31 in Ireland. In total, 80,670 birds were counted, a 14.4% increase on the last complete census conducted in 2008 (70,501 counted). In Scotland, the total was 63,170 birds, an increase of 8.4% since 2008. Islay was the most important site with 44,914 birds – an almost identical count to the one recorded there five years previously. In Ireland, 17,500 birds were counted, an increase of 43% since 2008. The results from this census have been presented in Mitchell & Hall 2013.

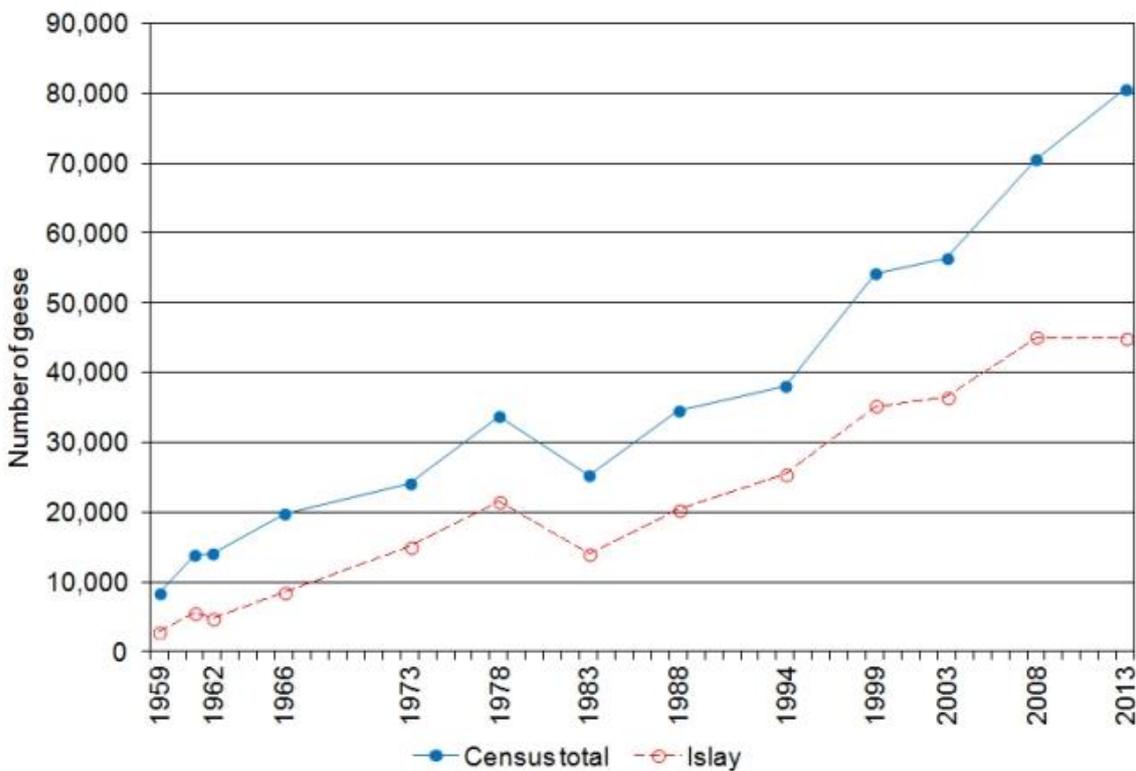


Figure 1. The population estimate of Greenland Barnacle Geese counted in Britain and Ireland from 1959 to 2013 (blue circles) based on periodic flyway censuses, shown with the total number counted on Islay (open red circles) at the time of the census.

Annual counts at key sites.

Each winter, up to four comprehensive counts (where emphasis is placed on obtaining greatest coordinated coverage) are organised on Islay, the most important wintering site for Greenland Barnacle Geese, by Scottish Natural Heritage (SNH). The Islay population size is estimated from the mean of these counts and, in winter 2016/17, this figure was 46,714, 9.0% higher than the previous year (42,845 geese) (Figure 2).

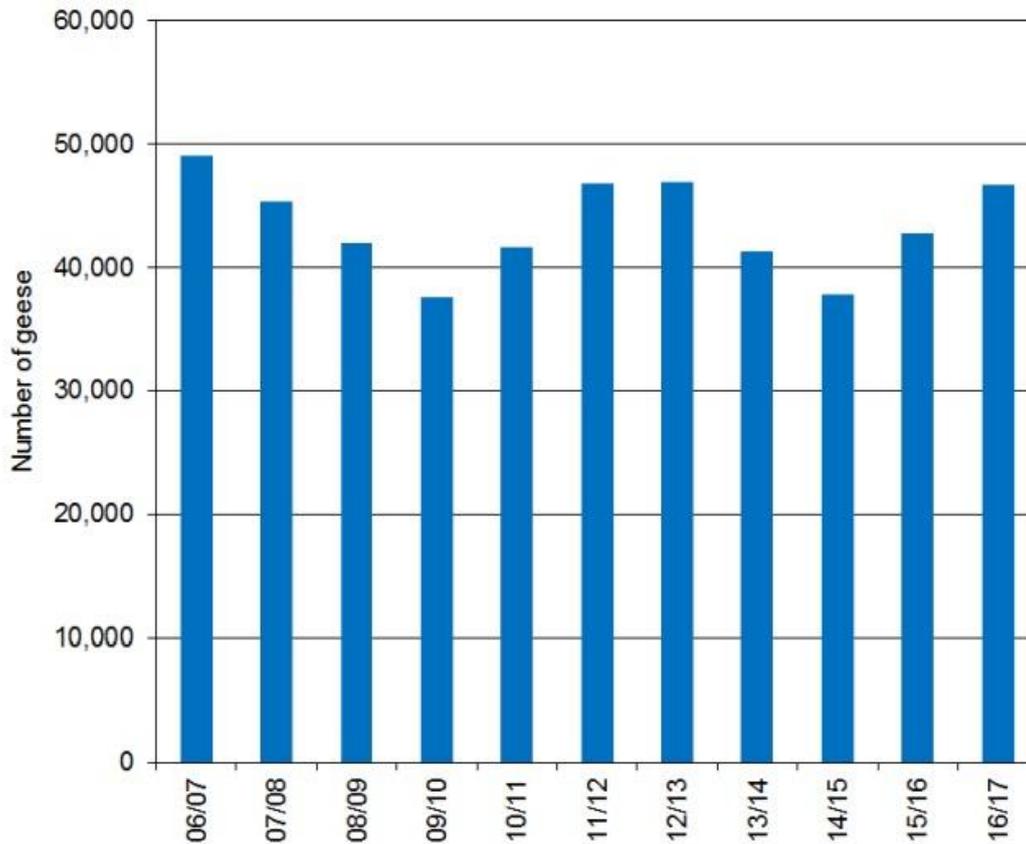


Figure 2. Adopted counts (mean of the winter counts) of Greenland Barnacle Geese on Islay, 2006/07–2016/17.

Not all sites holding Greenland Barnacle Geese were counted in winter 2016/17, since complete coverage of all known wintering haunts is only checked once every five years; however, winter peak counts of 4,644 on Tiree, 1,062 on Coll, 3,690 on Colonsay/Oronsay and 60 on Danna were recorded. No data were available for South Walls (Orkney) or the Uists.

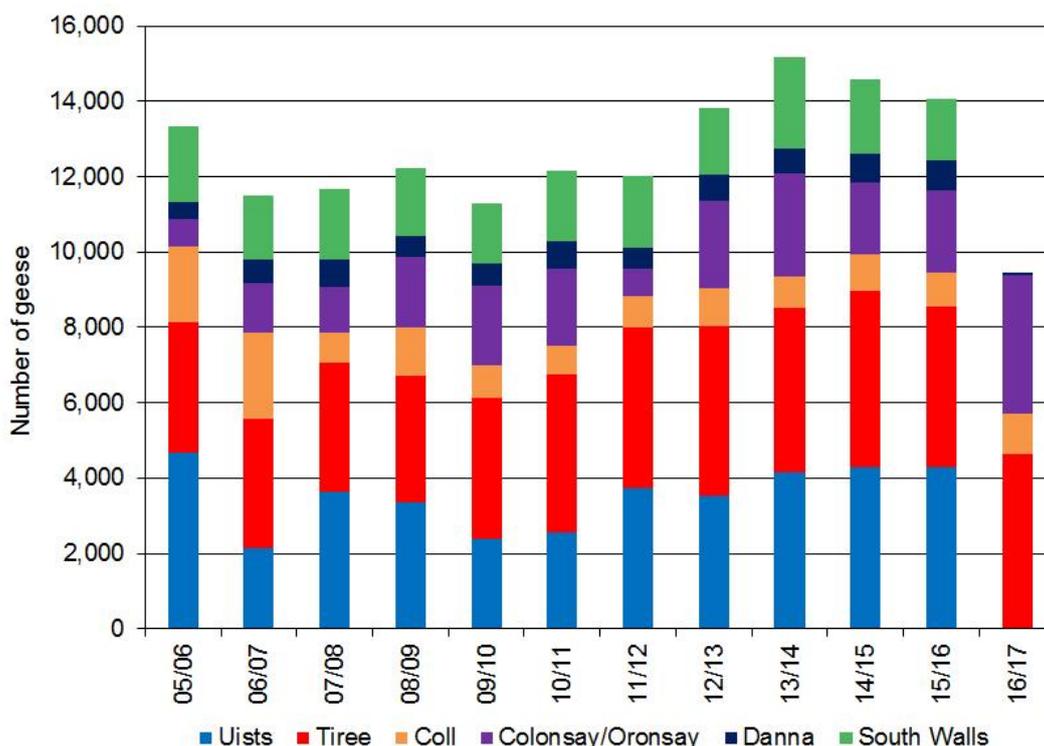


Figure 3. Winter peaks of Greenland Barnacle Geese at Uists, South Walls, Tiree, Coll, Colonsay/Oronsay and Danna, 2006/07–2016/17. No data from the Uists or South Walls were available for 2016/17.

2. Breeding success

Breeding success in the population was assessed on Islay (Argyll), Tiree (Argyll) and Durness (Sutherland). The Islay sample was much the larger and sampled flocks held 17.9% young, with a mean brood size of 2.12 young per successful pair (Table 1 and Figure 3). On Tiree, 500 birds were aged and these contained 16.2% young, with a mean brood size of 1.62 young and at Durness, 212 birds were aged and these contained 15.1% young, with a mean brood size of 1.77 young (Table 1). On Islay, for seven out of the last ten years, breeding success has been below 10% young, and the value of 17.9% young constitutes the highest proportion of young recorded there since 1990/91.

Table 1. The percentage of young and mean brood size of Greenland Barnacle Geese during winter 2016/17.

Site	Number aged	Percentage of young (%)	Mean brood size
Islay	12,010	17.9	2.12
Tiree	500	16.2	1.62
Durness	212	15.1	1.77

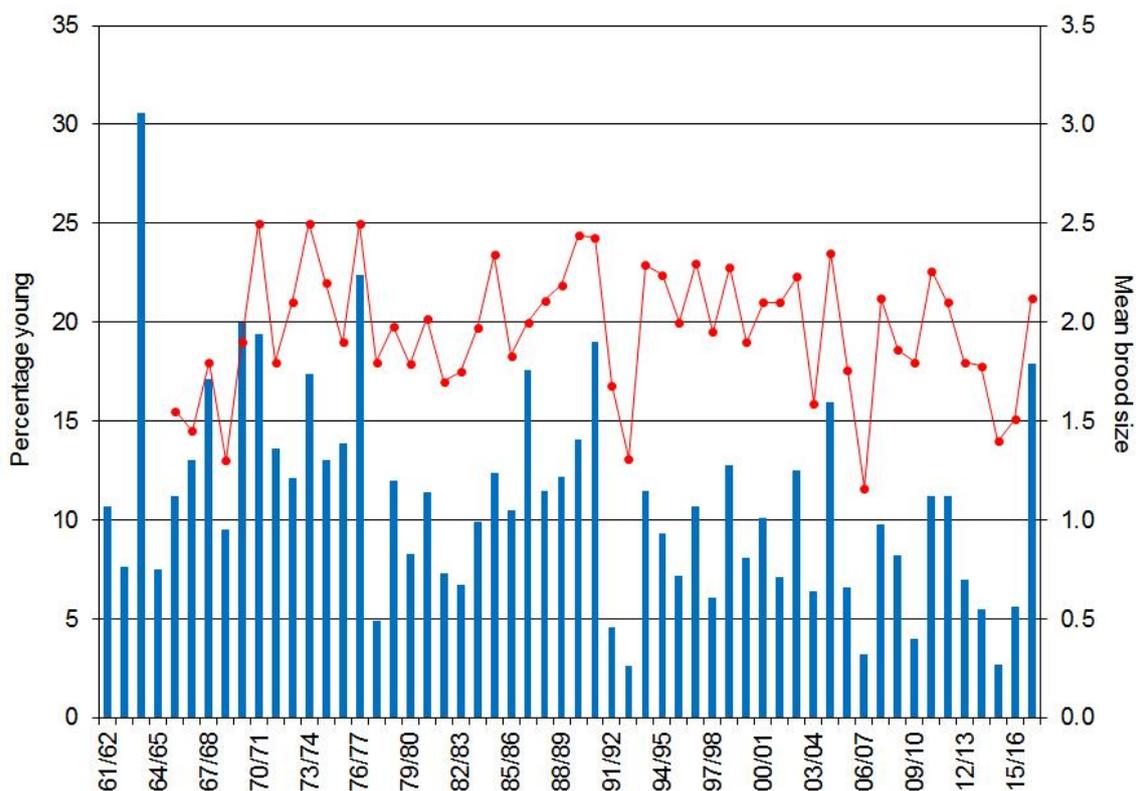


Figure 4. Percentage young (blue columns) and mean brood size (red circles) of Greenland Barnacle Goose on Islay (where data have been collected regularly), 1961/62–2016/17.

3. Discussion

Several key sites in Scotland hold the majority of Greenland Barnacle Geese with the majority wintering on the Inner Hebridean island of Islay. Combined numbers at the key sites, including Islay, underwent a sustained increase up to 2006/07; however, counts in the following winters indicated an apparent decrease in the size of the Scottish wintering population compared to the peak year.

Up to *c.* 2,000 Greenland Barnacle Geese are shot in Iceland each year and licences to shoot up to 2,400 on Islay have been issued by the Scottish Government in recent years. It may be that this level of mortality, combined with relatively low annual productivity in the last ten years is keeping population growth in Scotland in check, and there were signs of a decrease in numbers wintering there.

The increase in number on Islay of 9.0% compared to the previous winter, and following an increase of 13% between 2014/15 and 2015/16, reveals that the numbers on Islay have recovered. The mean figure (46,714) is influenced by a high count of 54,363 birds in November. Ring-recovery information has shown that November counts on Islay include some transients (birds that stage on Islay during the autumn and move on to winter elsewhere within the range). Excluding the high November counts would give an over winter average for 2016/17 of 43,388 birds, an increase of 9.9% on the previous winter.

Since a complete census of the entire population is carried out only once every five years, tracking the trend at seven of the most important sites in Scotland (*i.e.* Uists – Outer Hebrides; Islay, Tiree, Coll, Colonsay/Oronsay and Danna – Inner Hebrides; and South Walls on Orkney) was, traditionally, thought to have reflected changes at the population level. However, the large difference in the rate of increase between

Scotland (8.4%) and Ireland (43%) since the 2008 census suggests this may no longer be the case, and the annual counts in Scotland only allow us to track changes in the Scottish wintering population (which is approximately three quarters of the total population).

Results from age assessments conducted during 2016/17 on Islay (from where the largest sample is provided) show that the 2016 breeding season was good; the figure of 17.9% young recorded on Islay being higher than the previous ten-year mean of 6.8% (± 1.0 SE). Since 2007, annual breeding success has been below 10% in seven out of the ten years. Mean brood size on Islay in 2016 was also higher than average at 2.12 young per successful pair, compared to the previous ten-year mean of 1.78 young (± 0.1 SE).

4. Acknowledgements

Thanks are extended to Malcolm Ogilvie and John Bowler for providing age counts. SNH provided additional counts.

5. References

Mitchell, C. & C. Hall. 2013. *Greenland Barnacle Geese Branta leucopsis in Britain and Ireland: results of the international census, spring 2013*. Wildfowl & Wetlands Trust Report, Slimbridge.

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Goose & Swan Monitoring