

WWT/JNCC/SNH Goose & Swan Monitoring Programme  
 survey results 2013/14  
 Greenland Barnacle Goose *Branta leucopsis*

1. Abundance

**International Census**

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. 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.

**Annual counts at key sites**

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) each winter. The Islay population size is estimated from the mean of these counts and in winter 2013/14, this figure was 41,259 (Figure 1).

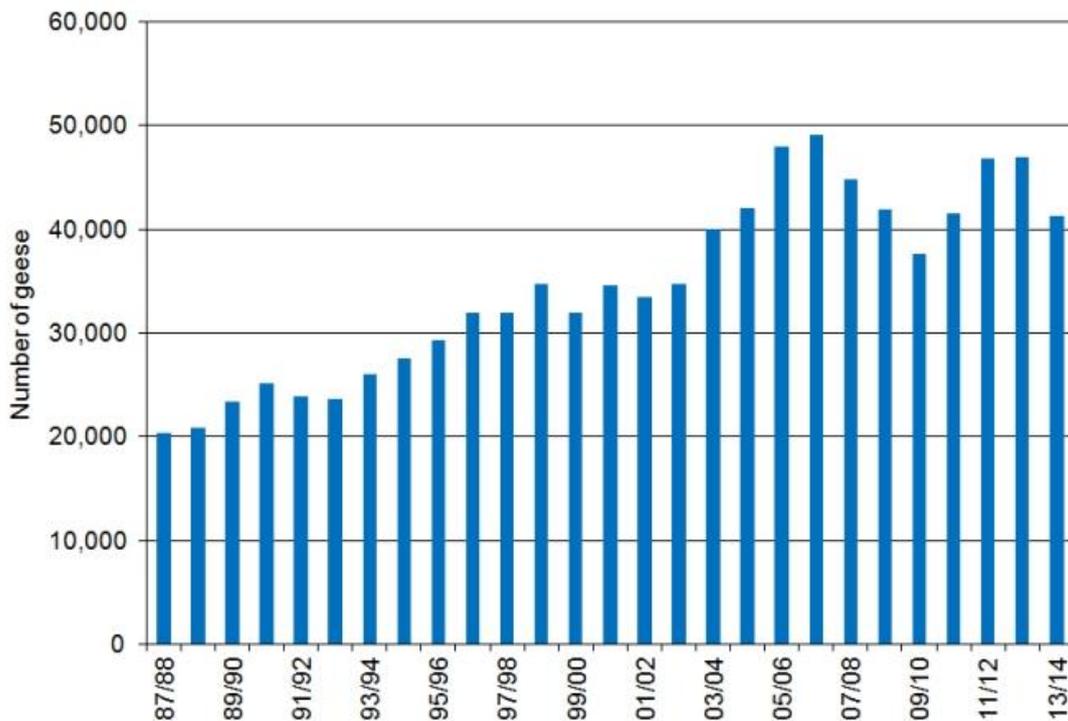


Figure 1. Adopted counts (mean of the two winter counts) of Greenland Barnacle Geese on Islay, 1996/97-2013/14.

Since 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). The sum of the peak winter counts of geese at the six major wintering sites, out with Islay, have continued to steadily increase (Figure 2).

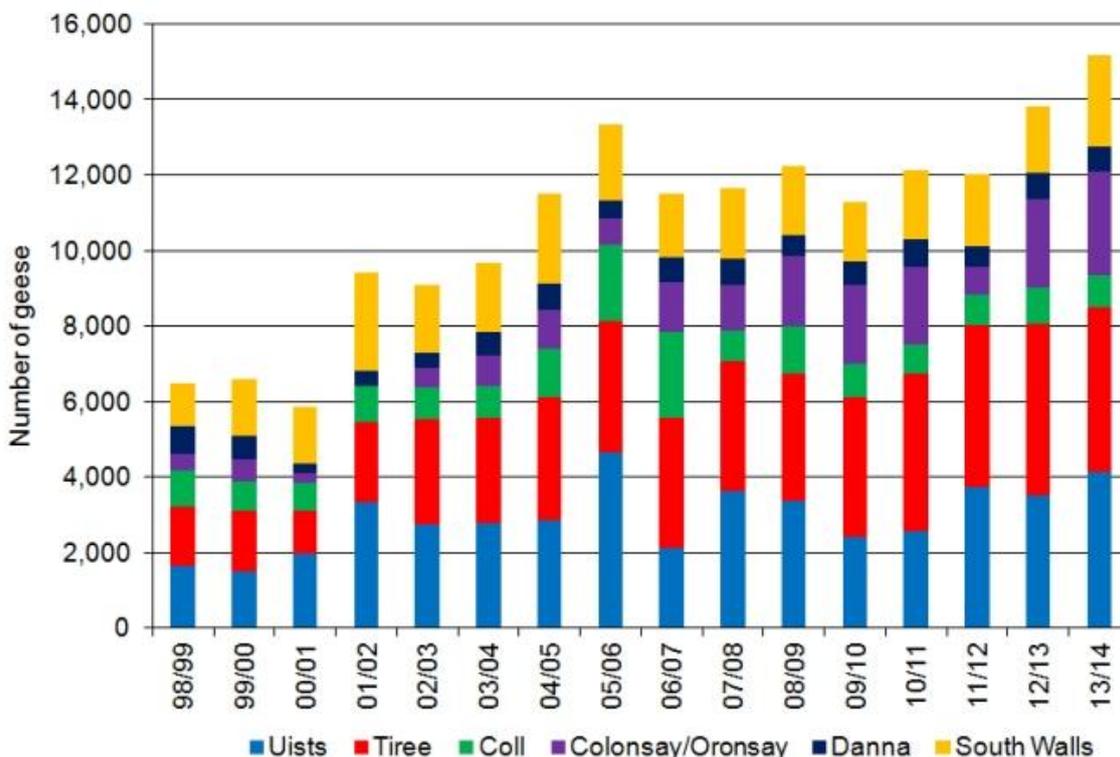


Figure 2. Winter peaks of Greenland Barnacle Geese at Uists, Tiree, Coll, Colonsay/Oronsay, Danna and South Walls, 1999/2000-2013/14.

## 2. Breeding success

Breeding success in the population was assessed on Islay and Tiree. The Islay sample was much the larger and sampled flocks held 5.5% young, with a mean brood size of 1.78 young per successful pair (Table 1 and Figure 3). On Tiree, 1,220 birds were aged and these contained 6.5% young, with a mean brood size of 1.44 young (Table 1). On Islay, for seven out of the last ten years, breeding success has been below 10% young.

Table 1. The percentage of young and mean brood size of Greenland Barnacle Geese during winter 2013/14.

Site	Number aged	Percentage of young (%)	Mean brood size
Islay	8,014	5.5	1.78
Tiree	1,220	6.5	1.44
<b>Overall</b>	<b>9,234</b>	<b>5.6</b>	<b>1.77</b>

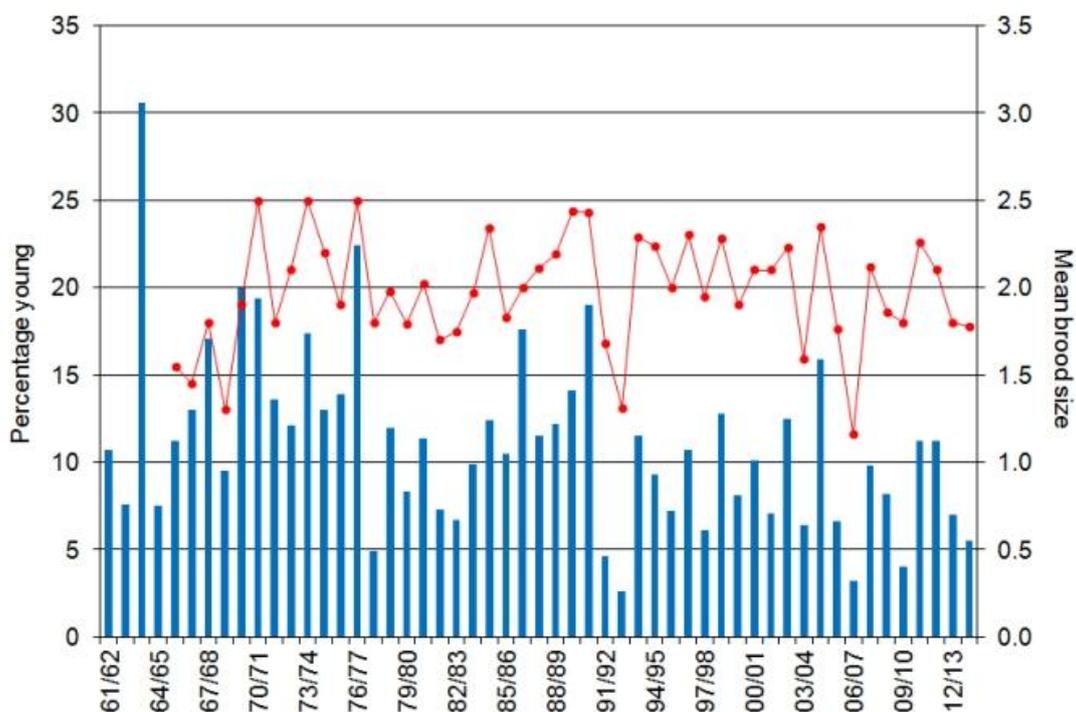


Figure 3. Percentage young (blue columns) and mean brood size (red circles) of Greenland Barnacle Goose on Islay (where data have been collected regularly), 1961/62-2013/14.

### 3. Discussion

Several key sites in Scotland hold the majority of Greenland Barnacle Geese with most of these wintering on Islay. Combined numbers at the key sites, including Islay, underwent a sustained increase up to 2006/07, however, counts in the following winters indicate an apparent decrease in the size of the Scottish wintering population compared to the peak year, followed by a levelling off. 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 check.

Results from age assessments conducted during 2013/14 on Islay (from where the largest sample is provided) show that the 2013 breeding season was again low; the figure of 5.5% young recorded on Islay being lower than the previous ten-year mean of 8.4% ( $\pm 1.2$  SE). Since 2004, annual breeding success has been below 10% in seven out of the ten years. Mean brood size on Islay in 2013 was also below average at 1.78 young per successful pair, lower than the previous ten-year mean of 1.88 young ( $\pm 0.1$  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