

# WWT/JNCC/SNH Goose & Swan Monitoring Programme

## survey results 2009/10

### Greenland Barnacle Goose *Branta leucopsis*

## 1. Abundance

A full census to estimate the size of the Greenland population was last undertaken in spring 2008 (International Greenland Barnacle Goose Census), however, counts from five of the most important areas for Greenland Barnacle Goose in Scotland in winter 2009/10 include:

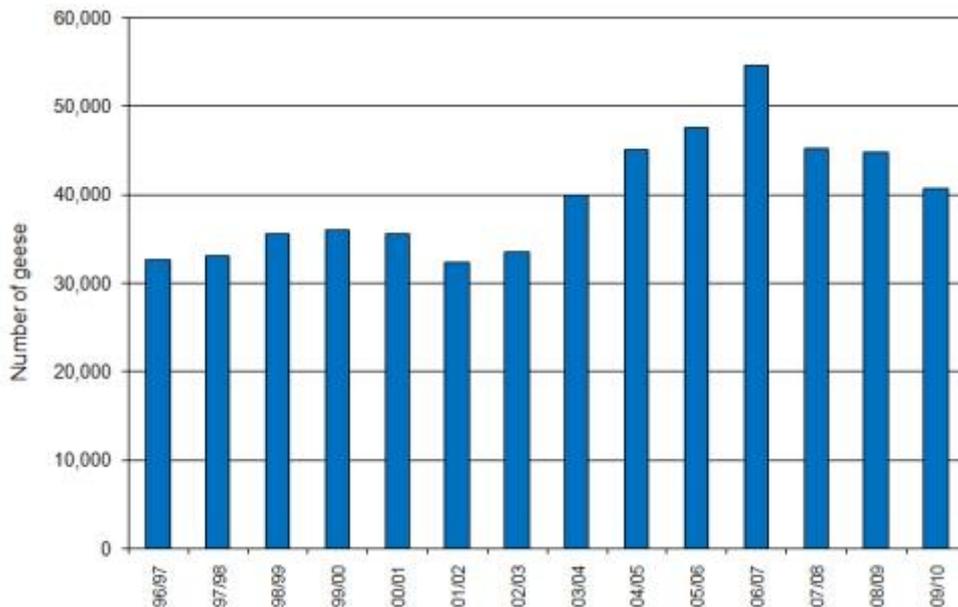
*Islay*: Count data were collected in Islay in December 2009 (40,727 birds) and March 2010 (38,621) by Scottish Natural Heritage (SNH). The winter peak was 9.3% lower than the peak count in the previous winter and 25.4% lower than the highest count recorded on Islay, 54,610 geese in 2006/07.

*Tiree & Coll*: Greenland Barnacle Geese were counted on Tiree and Coll by RSPB. The winter peak on Tiree was the highest ever winter count on the island at 3,729 birds, and some 10.9% higher than the previous winter. On Coll, the winter peak was 880 birds, 30.7% lower than the peak in the previous winter, and 61.1% lower than the highest ever count of 2,264 birds in winter 2006/07.

*Uists*: Greenland Barnacle Geese were counted in the Uists in February 2010 as part of the coordinated counts organised by the Uist Greylag Goose Management Committee. The combined total of 2,392 geese in February 2008 was 28.9% lower than the peak in the previous winter and only a half of the highest count of 4,659 birds in winter 2005/06.

*South Walls, Orkney*: Monthly count data were collected by SNH throughout winter 2009/10 as part of the South Walls Goose Management Scheme. The peak count was 1,600 geese in January. This figure was 11.1% lower than the peak in the previous winter and a third lower than the highest ever count of 2,390 birds in winter 2004/05.

Since complete censuses of the entire population are carried out only once every five years, tracking the trend at five of the most important sites ought to reflect changes at the population level.



Winter peaks at Islay, the most important wintering site for Greenland Barnacle Geese in Scotland, 1996/97-2009/10

The peak count was recorded on Islay in 2006/07, and since then there has been a 25% reduction in numbers counted there. Elsewhere, combined counts for four other important sites show a similar trend; a peak count in winter 2005/06 followed by a decline. For both counts on Islay and the four other important sites, peak numbers occurred before the most recent population census.

## 2. Breeding success

On Islay, 9,878 birds were aged during November and December 2009. The sample is thought to be approximately 25% of the early winter total. The percentage of young in flocks showed an overall mean of 4.0%. A total of 263 families was assessed for brood sizes. Of these, 29.2% contained one juvenile, 60.8% contained two young and 10% contained three young. No broods larger than three goslings were observed. The mean brood size showed an overall mean of 1.80 goslings.

On Tiree in November, the overall percentage of young birds in a total of 600 birds aged was 2.5%, slightly lower than the overall mean of those flocks on Islay. Of 15 broods assessed, all contained one juvenile.

These data give an overall estimate of breeding success of 3.91% young and 1.76 mean brood size.

The proportion of young and mean brood size of Greenland Barnacle Geese during winter 2009/10.

	No. of geese aged	No. of young	% young	Mean brood size
Islay	9,878	395	4.0	1.80
Tiree	600	15	2.5	1.00
<b>Total</b>	<b>10,478</b>	<b>1,412</b>	<b>3.9</b>	<b>1.76</b>

## 3. Discussion

Several key sites in Scotland hold the majority of geese with the majority wintering on Islay. Combined numbers at the key sites, including Islay, underwent a continued high rate of increase up to 2006/07, however, subsequent counts indicate an apparent decrease in the size of the Scottish wintering population compared to the peak year. Annual breeding success has been low in the last ten years (see below) and this is undoubtedly important in terms of population dynamics. In addition, c 3,000-4,000 Greenland Barnacle Geese are shot in Iceland each year and licences to shoot c 1,000 on Islay have been issued by the Scottish Government in recent years. Mortality, through hunting and control, and low breeding success appear to have halted the long term increase. The next international census is due in later winter 2012/13 and will give the opportunity to determine whether this trend is representative of the entire population.

However, it is thought that increased disturbance on Islay in recent years may have led to a redistribution of Greenland Barnacle Geese within Scotland and possibly to Ireland. Despite this, counts from four of the other most important sites in Scotland fail to back this up, and indicate that numbers are decreasing at those sites too.

Results from age counts conducted during 2009/10 show that the 2009 breeding season was, once again, poor; the figure of 3.9% young being lower than the previous 10-year mean of 8.8% ( $\pm 1.1$  se). Since 2000, annual breeding success has been below 10% in six out of ten years, and in the most recent four years (2006-2009), and since the peak in numbers at the most important sites in Scotland, it has averaged just 6.3%. Mean brood size in 2009 was also low at 1.76 young per successful pair, and lower than the previous 10-year mean of 1.92 young ( $\pm 0.1$  se).

This report should be cited as:

WWT. 2010. *Goose & Swan Monitoring Programme: survey results 2009/10 Greenland Barnacle Goose* Branta leucopsis. WWT/JNCC/SNH, Slimbridge.

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This report was produced under the Goose & Swan Monitoring Programme (GSMP). This programme monitors numbers and breeding success of geese and swans in the UK during the non-breeding season. GSMP is organised by the Wildfowl & Wetlands Trust in partnership with the Joint Nature Conservation Committee (on behalf of Natural Resources Wales, Natural England and the Council for Nature Conservation and the Countryside) and Scottish Natural Heritage.



## Goose & Swan Monitoring