

# WWT/JNCC/SNH Goose & Swan Monitoring Programme

## survey results 2006/07

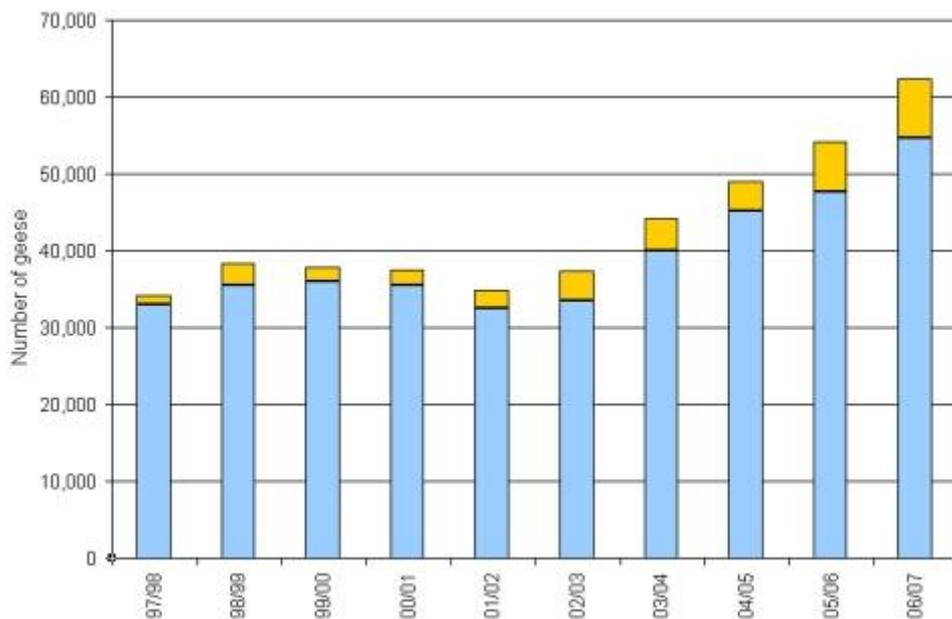
### Greenland Barnacle Goose *Branta leucopsis*

## 1. Abundance

A full census to estimate the size of the Greenland population is due in spring 2008 (International Greenland Barnacle Goose Census); annual counts, however, are undertaken at several important sites for this species in Argyll, the Uists, and South Walls, Orkney.

### *Argyll*

Count data were collected throughout Argyll during winter 2006/07 by Scottish Natural Heritage (SNH). Two coordinated counts were carried out in December and March, the spring count giving the highest total. Overall numbers during spring 2007 were the highest recorded by this survey, reaching 60,000 for the first time, and showed a large increase of 15.1% since the preceding year and 65.9% since 2000/01.



Numbers of Greenland Barnacle Geese counted in Argyll (blue section = Islay, orange section = other sites) 1997/98-2006/07 (SNH data).

Away from Islay, large numbers were also recorded at a number of other sites. The largest increase was on Oronsay, where the count of 1,901 was more than 52% larger than the previous highest count. Numbers were also high on Tiree, where the total increased by just over 30% compared to March 2006, and by 44% over the mean March count from the previous five years (2,999,  $\pm$  205.3 s.e.). The number on neighbouring Coll was also sustained following the large increase that took place between 2003/04, when numbers were generally less than 1,000, and 2005/06, when numbers rose to more than 2,000. The flock of 240 recorded on Mull was the first time Barnacle Geese have been counted there during the annual counts coordinated by SNH.

Numbers of Greenland Barnacle Geese in Argyll during 2006/07.

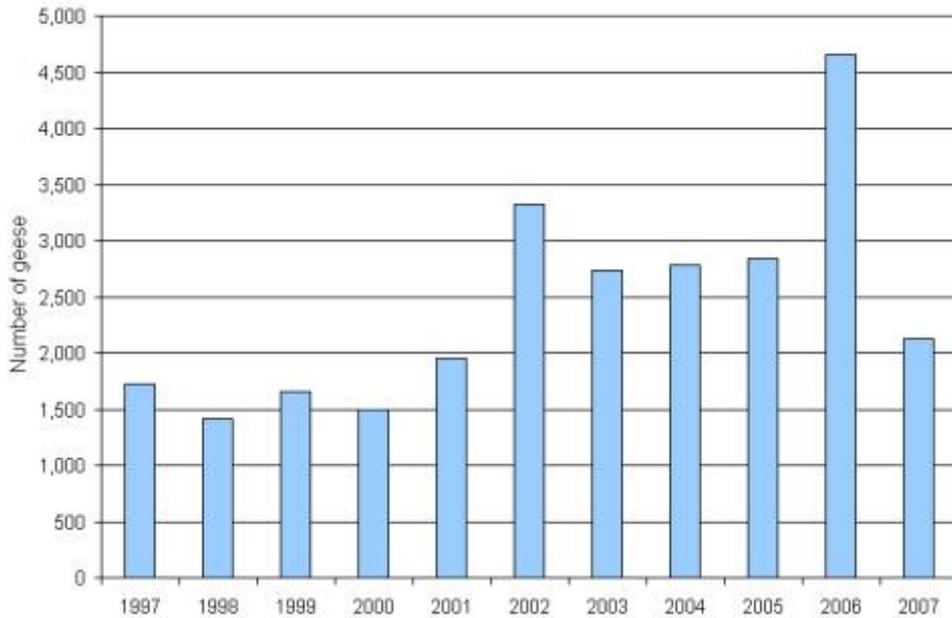
Location	December	March
Laggan	65	67
Tayinloan	3	0
Danna/Keills Peninsula	443	627
Bute	0	0
Mull	0	240
Coll	1,415	2,456
Tiree	2,427	4,323
Colonsay	87	0
Oronsay	1,245	1,901
Islay	45,721	52,709
<b>Total</b>	<b>51,406</b>	<b>62,323</b>

#### *Uists*

Greenland Barnacle Geese were counted in the Uists in February 2007 as part of the coordinated counts organised by the Uist Greylag Goose Management Committee. The combined total of 2,124 was the lowest count since February 2001, but two areas were not covered in 2007.

Numbers of Greenland Barnacle Geese in the Uists in February 2007.

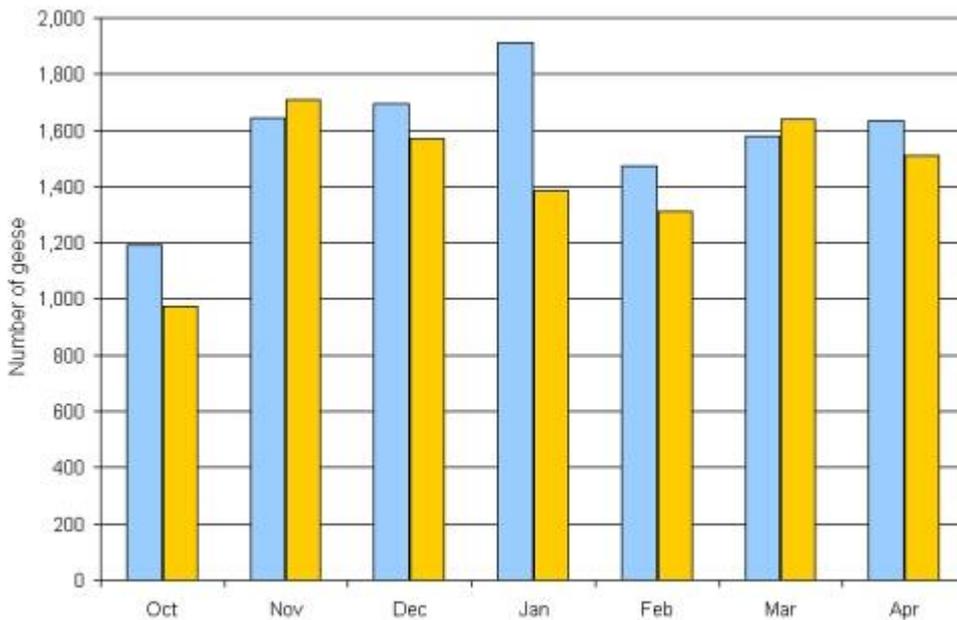
Location	No. of birds
North Uist: Baleshare/Carinish	306
North Uist: Clachan to Bayhead	60
North Uist: Paible	268
North Uist: Balranald, Clettraval & Tigharry	239
North Uist: Balmartin to Vallay	4
North Uist: Malaclate to Grenitote	470
North Uist: Trumisgarry to Newton	383
North Uist: Berneray	389
North Uist: Boreray & Lingay	not counted
North Uist: Pabbay & Shillay	not counted
South Uist: Howbeg to Bornish	5
<b>Total</b>	<b>2,124</b>



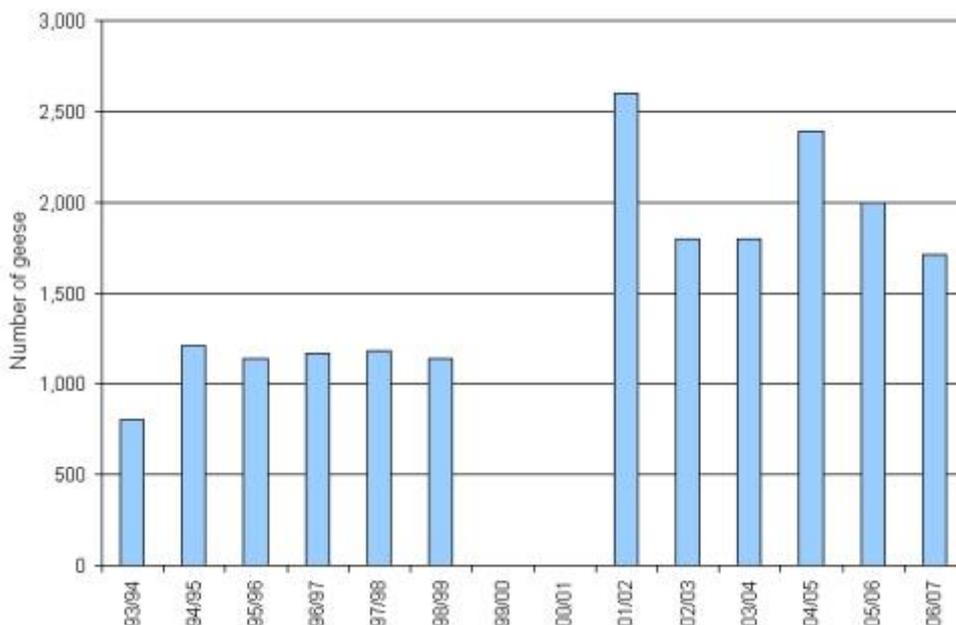
Numbers of Greenland Barnacle Geese in North Uist during coordinated February goose counts, 1997-2007. Note: two areas were not surveyed in 2007.

*South Walls, Orkney*

Monthly count data were collected by SNH throughout winter 2006/07 as part of the South Walls Goose Management Scheme. The peak count was 1,710, in November, a relatively low count compared to recent years - the peak mean over the previous five years (2001/02 - 2005/06) is 2,050 ( $\pm 189.3$  s.e.).



Peak monthly counts of Greenland Barnacle Geese at South Walls, Orkney (blue columns represent the mean of 2001/02 -2005/06; orange columns 2006/07).



Peak annual counts of Greenland Barnacle Geese at South Walls, Orkney, 1993/94-2006/07. Note: no data are available for 1999/2000 and 2000/01.

## 2. Breeding success

No productivity data are available for 2006/07. However, data for 2005/06 have yet to be reported and so are given here.

Greenland Barnacle Geese were aged at two localities in Scotland in 2005: Islay and Tiree. These sites regularly hold the greatest numbers during the winter months. The most recent census of the population in spring 2003 showed that almost 83% of the Scottish wintering population occurred at these two sites (77% on Islay and 5.5% on Tiree).

On Islay, 22 flocks totalling 23,182 birds were observed at 17 different locations during November, and 68% of these birds were successfully aged (15,852). The sample aged is thought to be approximately 37% of the early winter total. The percentage of young in flocks varied between 3.0% and 9.7%, with an overall mean of 6.62%. A total of 367 families was assessed for brood sizes. Of these, 41% contained one juvenile, 42% contained two young and only 17% had a brood size of three. No broods larger than three were observed. The mean brood size within each flock varied between 1.40 and 2.0 young per successful pair, with an overall mean of 1.76.

Two flocks totalling 1,850 birds were assessed at two different locations on Tiree in November, with 37% of these individuals successfully aged (equating to approximately 34% of the early winter total). The overall percentage of young birds in these combined flocks was 5.07%, lower than the overall mean of those flocks on Islay. Of 22 broods assessed, 54% contained one juvenile, 32% held two young and 14% had a brood size of three. Again, no broods larger than three were observed.

The proportion of young and mean brood size of Greenland Barnacle Geese during winter 2005/06.

	No. of flocks	No. of geese aged	No. of young	% young	Mean brood size
Islay	22	15,862	1,050	6.62	1.76
Tiree	2	690	35	5.07	1.59
<b>Total</b>	<b>24</b>	<b>16,552</b>	<b>1,085</b>	<b>6.56</b>	<b>1.75</b>

### 3. Discussion

Counts in 2006/07 indicate a continued increase in the size of the Scottish wintering population. Although not coordinated (and therefore should be treated with some degree of caution), combined counts for Argyll, Uists and South Walls using data from February and March totalled 66,087, exceeding the current population estimate based on the last complete census in spring 2003 (56,386; Worden *et al.* 2004) by 17%. Numbers on Islay, which in 2006/07 alone accounted for over 96% of the census total in 2003, continue to undergo sustained increase, with a 63% increase since the last complete census in spring 2003.

Results from age counts conducted during 2005/06 show that the 2005 breeding season was poor and it is the third time in the last five years that the percentage of young has not exceeded 7%. The figure of 6.6% is below that of the most recent 10-year mean (9.6%,  $\pm 1.1$  s.e.), and is also lower than any of the decadal means since monitoring began: 1961-70 14.7%  $\pm 2.3$  s.e., 1971-80 12.9%  $\pm 1.5$  s.e., 1981-90 12.1% ,  $\pm 1.3$  s.e. 1991-2000 8.3% ,  $\pm 1.0$  s.e.. Mean brood size was also low - the second lowest over the most recent ten years. Spring temperatures on the breeding grounds were recorded as average to above average, with an early spring reported in some areas of Greenland. However, rodent abundance was low in many areas during 2005 with high predation rates observed for several Arctic-breeding species.

This report should be cited as:

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## Goose & Swan Monitoring