

WWT/JNCC/SNH Goose & Swan Monitoring Programme
survey results 2006/07
Greenland/Iceland Pink-footed Goose *Anser brachyrhynchus*

1. Abundance

The 47th consecutive Icelandic-breeding Goose Census (IGC) took place during autumn and winter 2006, providing information on the abundance and distribution of Greenland/Iceland Pink-footed Geese. In addition to the two usual counts undertaken in October and November, a third count in December (introduced in 2005) was also conducted, although this is primarily as part of a three year trial to re-assess the most suitable time for a complete census of Iceland Greylag Geese.

Counts were conducted by a network of volunteer observers and professional conservation staff over the weekends of 14/15 October, 11/12 November and 16/17 December 2006. Coverage in Britain and Ireland was lower than the preceding year, with 78 sites visited in October, 130 in November, and 127 in December. Outside Britain and Ireland, counts were made at several sites in the Faroe Islands in all three months and an estimate of the maximum number in Iceland in October was also provided. No data were received from Norway.

Totals of 161,357 Pink-footed Geese were counted in October, 203,168 in November and 189,756 in December. The total numbers counted in October, November and December were 45.6%, 21.3%, and 22.3%, respectively, lower than the counts in the preceding year. After the addition of estimated counts, the peak winter total in November was used to derive a population estimate of 229,123. This represents a significant decrease of 24.3% since 2005/06, when a population size of 302,774 individuals¹ was estimated.

The distribution varied considerably over the three counts. East central Scotland held the greatest numbers of birds in October with higher than average proportions also present in West and East England at this time. Lower concentrations were found in North Scotland and Southwest Scotland/Northwest England. The proportion of birds¹ in Northeast Scotland during October was also lower than usual, with particularly low numbers at the Loch of Strathbeg, although more typical numbers for the region were present during November (22.0%). By November, numbers had decreased in East central Scotland but had increased substantially in East England. Over half of the population (53.8%) was present in East England in December, whilst numbers in Northeast Scotland and East central Scotland declined.

¹Revised population estimate following receipt of additional data since Worden (2006). See below for further details.

Regional distribution of Pink-footed Geese during October, November and December 2006. Regional counts do not include estimated counts for sites where no data were received.

Region	October	November	December
Iceland	3,000	nc ¹	nc
Faroe Islands	6	0	1
Ireland	nc	1	0
North Scotland	171	4,940	1,452
Northeast Scotland	25,680	44,732	28,717
East central Scotland	54,297	37,136	20,586
Southeast Scotland/Northeast England	6,353	4,654	4,461
Southwest Scotland/Northwest England	1,500	1,409	4,253
West England	35,565	39,030	21,070
East England	34,785	71,266	109,216
Total counted	161,357	203,168	189,756
Estimated counts	52,831	25,955	n/a
Adjusted total	214,188	229,123	189,756
Population estimate	229,123		

¹nc = not counted

Revised 2005 population estimate

Late data were received for Westwater Reservoir, Tweeddale, where estimated counts had been calculated for use in the population estimate presented in the 2005/06 report (Worden 2006). In addition, large counts of roosting Pink-footed Geese were received from a new site in Lancashire (Simonswood Moss). These counts were used to revise the 2005 population estimate as follows.

At Westwater Reservoir, the count on the October census weekend recorded 57,382 Pink-footed Geese, an increase of 38,738 over the estimated count of 18,644 used in the 2005 population estimate. A further 5,000 Pink-footed Geese were at Simonswood Moss, a new roost where counts have not been previously made and thus where there was no estimated count incorporated into the 2005 population estimate given by Worden (2006). The addition of these data brings the population estimate to 302,774 - the first time it has reached 300,000.

Revised Pink-footed Goose counts and population estimates for 2006.

	Worden (2006)	New data
Raw count totals	234,120	296,502
Estimated counts	24,936	6,272
Population estimate	259,056	302,774

2. Breeding success

Between mid September and mid November, a total of 28,642 Pink-footed Geese, in 54 flocks, was aged at various localities throughout Scotland and England. The proportion of the 2006/07 population estimate was 12.5%. The brood size of 262 families was also determined during this period.

Breeding success was slightly above average for the previous decade, with 19.3% young (mean proportion of young 1996-2005: 18.6%, \pm 0.5 s.e.). The mean brood size of successful pairs was 2.2 goslings, which equalled the mean recorded during the preceding ten years (mean brood size 1996-2005: 2.2, \pm 0.06 s.e.).

There was evidence of regional variation in the percentage of young Pink-footed Geese, from 16.2% in East central Scotland to 21.7% in Northeast Scotland. Similarly, mean brood size varied from 1.7 goslings in West England to 2.4 in both Southeast Scotland and East central Scotland.

The highest number of birds aged was in East England with counts conducted throughout October and in early November. No region was surveyed throughout the autumn period with the majority of birds being aged during early October (94%). Only in Northeast Scotland and East England were counts conducted during three periods. The temporal range in other regions was limited and varied between them. The highest proportion of young was found in flocks surveyed during late September.

The percentage of young and mean brood size of Pink-footed Goose flocks in autumn 2006.

	Total aged	% young	No. of broods	Mean brood size
Northeast Scotland	6,769	21.7	118	12.3
East central Scotland	7,655	16.2	51	2.4
Southwest Scotland	1,717	19.0	6	1.8
Southeast Scotland	2,511	21.0	25	2.4
East England	8,418	20.1	53	2.0
West England	1,572	17.1	9	1.7
Total	28,642	19.3	262	2.2

3. Discussion

The 2006 Icelandic-breeding Goose Census revealed a 24.3% decrease in the population estimate of Pink-footed Goose since 2005. The 2006 estimate of 229,123 is the lowest recorded since 1999 (212,493), when a substantial undercount is likely to have occurred.

However, this population estimate is almost certainly a substantial underestimate as it is very unlikely that a decrease of this magnitude is real given the average breeding success found during 2006. Bag statistics from Iceland for autumn 2006 are not yet available, but it is not expected that these were significantly greater than other recent years (c. 13,000). Pink-footed Geese were particularly late in reaching British shores in 2006, with strong to galeforce northerly winds towards the end of October (Met Office 2007) likely to have reduced goose movement at this time. Certainly counts at WWT Martin Mere, Lancashire, were very low until around mid October. Counts in Iceland during October were likely to underestimate the number present there at that time, because coverage is patchy and this species often remains dispersed in inaccessible areas at this time. However, this is unlikely to explain the low numbers recorded at key sites such as Loch of Strathbeg, during November, and it is likely that extensive flooding in many areas (notably Perthshire) affected the count that month as it resulted in greater dispersal of Pink-footed Geese than is usual and it is therefore likely that more birds than usual were missed during the count as they exploited alternative areas. The counts from the infrequently used roosts at St Fergus Gas Terminal and New Pitsligo Moss highlight the dispersed nature of Pinkfeet in Aberdeenshire at this time. Unidentified grey geese also had to be excluded from the counts (eg 4,407 grey geese counted at Inner Cromarty Firth, Ross & Cromarty, on 13 November, though it is likely these were predominantly Greylag Geese).

Late departures from Iceland have not just been a feature of 2006, however. The peak count of Pink-footed Geese has occurred in November in three of the past five years, whereas prior to this period, the peak count had only occurred in November on two occasions (in 1990 and 1999). Further censuses are required to clarify whether the population is now best censused in November due to this later arrival from the breeding grounds.

4. References

Worden, J. 2006. *Status and distribution of Icelandic-breeding geese: results of the 2005 international census*. Wildfowl & Wetlands Trust Report, Slimbridge.

This report should be cited as:

WWT. 2007. *Goose & Swan Monitoring Programme: survey results 2006/07 Greenland/Iceland Pink-footed Goose Anser brachyrhynchus*. WWT/JNCC/SNH, Slimbridge.

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Goose & Swan Monitoring