

# WWT/JNCC/SNH Goose & Swan Monitoring Programme

## survey results 2011/12

### Pink-footed Goose *Anser brachyrhynchus*

## 1. Abundance

The 52nd consecutive Icelandic-breeding Goose Census took place during autumn and winter 2011, 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 targeted at Iceland Greylag Geese. The results of the December count are, therefore, not shown here, but are within Mitchell 2012. This year a spring count was also undertaken in February, for the first time since the mid-1990s, in order to identify key concentrations at this time of year; count totals are shown below and further details are in Mitchell 2012.

Counts were conducted by a network of volunteer observers and professional conservation staff over the weekends of 1/2 October, 5/6 November 2011 and 25/26 February 2012. Coverage in the UK was good and similar to the preceding year, with 106 sites visited in October, 133 in November, and 137 in February. Outside the UK, counts were made at several sites in Iceland during October, when some birds have yet to leave breeding areas.

Regional distribution of Pink-footed Geese during October and November 2011, and February 2012 (nc = not counted). Regional counts do not include estimated counts for sites where no data were received.

Region	October	November	February
Iceland	20,000	0	0
Southwest Norway	0	0	0
Ireland	0	0	0
North Scotland	425	9,165	43,811
Northeast Scotland	44,900	49,298	34,890
East Central Scotland	28,708	49,322	25,793
Southeast Scotland/Northeast England	38,835	32,528	11,218
Southwest Scotland/Northwest England	17	4,823	26,371
West England	23,808	49,688	25,894
East England	5,849	49,901	8,351
<b>Total counted</b>	<b>162,542</b>	<b>244,725</b>	<b>176,328</b>
Estimated counts	5,000	2,000	n/a
<b>Adjusted total</b>	<b>167,542</b>	<b>246,725</b>	<b>176,328</b>
<b>Population estimate</b>	<b>246,725</b>		

Totals of 162,542 and 244,725 Pink-footed Geese were counted in October and November, respectively. The total numbers counted in October and November were 45.4% and 9.8% lower than the respective counts in the previous year. Only one estimated count needed to be added to the unadjusted total (for definitions see full report, Mitchell 2012), and the peak winter total in October was used to derive a population estimate of 246,725 geese. This represents a decrease of 17.2% since 2010/11, when a population size of 297,798 individuals was estimated.

North east Scotland held the highest number of birds in October with a high percentage also present in east central Scotland and south east Scotland/north west England. By November, large movement of birds into West England (south west Lancashire) and East England (Norfolk) had occurred.

## 2. Breeding success

Between late September and early November, a total of 13,759 Pink-footed Geese, in 41 flocks, was aged at various localities throughout Scotland and west England. This sample, expressed as a proportion of the 2010/11 population estimate, was 5.6%. The brood size of 79 families was also determined during this period. Breeding success was much lower than the mean for the previous decade, with 8.5% young (mean 2001-2010: 19.4%  $\pm$  0.5 SE). The mean brood size of successful pairs was 1.77 goslings, which was also lower than the mean recorded during the previous ten years (mean 2001-2010: 2.14  $\pm$  0.01 SE). There was evidence of modest regional variation in the percentage of young Pink-footed Geese, which varied from 6.9% in north west England to 10.3% in east central Scotland. Similarly, mean brood size varied from 1.35 goslings in north east Scotland to 1.89 in east central Scotland. The percentage young was highest in late September and typically quickly declined by late October, suggesting that successful families arrived earlier on the winter quarters. A slightly higher percentage young was recorded in a late sample of 500 birds in early November.

The percentage of young and mean brood size of Pink-footed Goose flocks in autumn 2011.

	Total aged	% young	No. of broods	Mean brood size
Northeast Scotland	6,026	7.8	17	1.35
East Central Scotland	4,842	10.3	62	1.89
Northwest England	2,891	6.9	0	-
<b>Overall</b>	<b>13,759</b>	<b>8.5</b>	<b>79</b>	<b>1.77</b>

## 3. Discussion

The mass arrival of Pink-footed Geese had shown signs of occurring earlier in the autumn in the late 2000s. In autumn 2010, several important roosts experienced exceptionally large arrivals in the last week of September (e.g. 65,060 Pinkfeet counted at Montrose Bain on 1 October). In order to monitor a possible shift in the arrival patterns and to avoid a full moon on 23 October, an early date was chosen for the 2011 October count.

Unfortunately, the last weeks of September brought exceptionally warm conditions to northern Britain and associated southerly winds. This no doubt affected the timing of the autumn migration and the October 2011 census weekend proved to be too early for mass arrivals. An estimated 20,000 Pink-footed Geese remained in Iceland in early October and, given that most of the geese remain in the remote interior, this figure must be treated as an underestimate. For the last four years, the largest numbers of Pink-footed Geese have been counted in October, suggesting that the November counts were lower than the true population figure, and this may have been the case in 2011 too. There is little evidence of an underestimate, however, since the major roosts were all covered, yet the population figure of 246,725 was 17.2% lower than in 2010, and a third lower than the 2009 population estimate. There has never been a two year decline of such a magnitude before.

However, breeding success in summer 2011 was very low compared to the long term average of 19.4% and the lowest since 1977 (also 8.5% young). Seemingly, snow and cold temperatures in May and early June affected breeding conditions in both the remote interior and lowlands of Iceland. The Greylag Geese nesting in Iceland appeared to have escaped the effects of the cold weather, perhaps because they started nesting earlier in milder conditions. Furthermore, both winters 2009/10 and 2010/11 saw periods of harsh weather with prolonged snow cover and freezing temperatures over much of Britain. Over winter mortality may have increased during these prolonged periods of severe weather, although there were no reports of mass deaths. It is thus possible that a combination of higher than normal over winter mortality in the previous two years and a particularly poor breeding season in 2011 have contributed to a decline in the population of up to one third. Unfortunately, bag statistics are not yet available for 2011 from Iceland to see if the delayed autumn migration exposed more Pink-footed Geese to hunting mortality there. However, given the circumstances explained above, it might be prudent, for now, to consider the 2011 population figure as an underestimate.

By the end of February, Pink-footed Geese had already begun to shift their winter distribution north. Large numbers of Pink-footed Geese left Norfolk in mid January (J.Scott pers. comm.) and the sites holding the largest number of geese were generally to the north.

## 4. References

Mitchell, C. 2012. *Status and distribution of Icelandic-breeding geese: results of the 2011 international census*. Wildfowl & Wetlands Trust Report, Slimbridge.

This report should be cited as:

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## Goose & Swan Monitoring