

WWT/JNCC/SNH Goose & Swan Monitoring Programme

survey results 2012/13

Pink-footed Goose *Anser brachyrhynchus*

1. Abundance

The 53rd consecutive Icelandic-breeding Goose Census took place during autumn and winter 2012, 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 (2013).

Counts were conducted by a network of volunteer observers and professional conservation staff over the weekends of 13/14 October and 10/11 November 2012. Coverage in the UK was good and similar to the preceding year, with 121 sites visited in October and 127 in November. Outside the UK, counts were made at several sites in Iceland during October, when some birds had yet to leave breeding areas.

Totals of 353,840 and 314,828 Pink-footed Geese were counted in October and November, respectively (Table 1). The total numbers counted in October and November were 112.7% and 21.9% higher 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 2013), and the peak winter total in October was used to derive a population estimate of 359,175 geese. This represents an increase of 37.9% since 2011/12 (Figure 1), when a revised population size of 260,325 individuals was estimated.

East central Scotland held the highest number of birds in October with a high percentage also present in northeast Scotland and west England (Table 1). By November, large movement of birds into west England (southwest Lancashire) and east England (Norfolk) had occurred.

Table 1. Regional distribution of Pink-footed Geese during October and November 2012 (nc = not counted).

Region	October	November
Iceland	6,200	0
Southwest Norway	nc	nc
North Scotland	18,165	20,567
Northeast Scotland	55,855	71,815
East central Scotland	110,438	85,086
Southeast Scotland / northeast England	32,216	24,773
Southwest Scotland/ northwest England	14,123	8,807
West England	77,863	62,240
East England	38,980	39,540
<i>Total counted</i>	353,840	314,828
<i>Estimated counts</i>	5,335	-
<i>Adjusted total</i>	359,175	314,828
Population estimate	359,175	

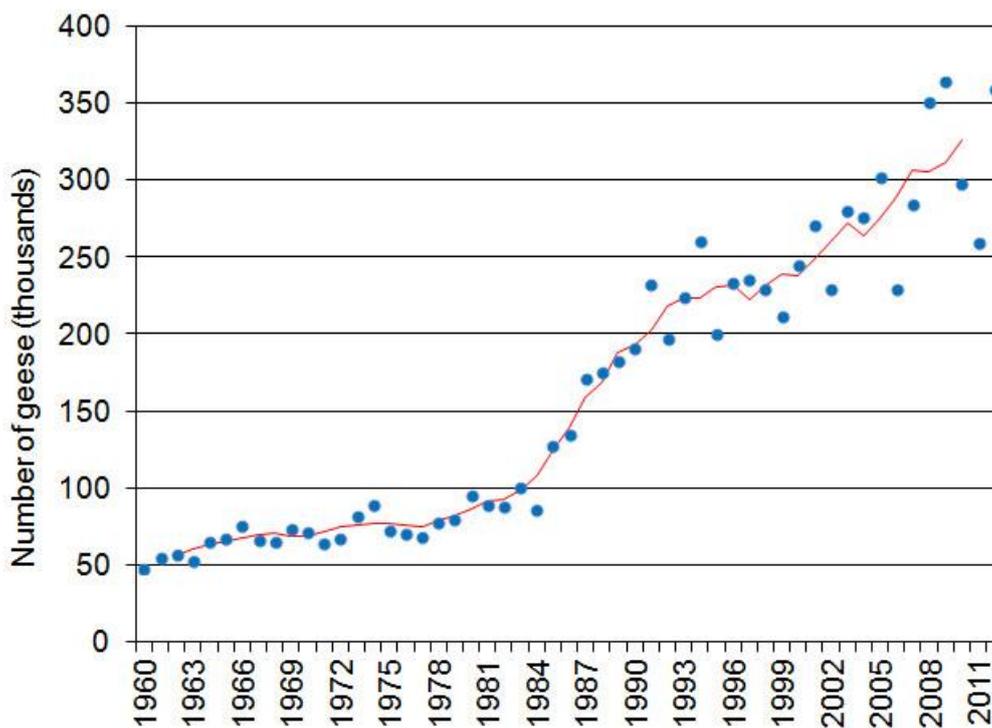


Figure 1. Annual census-derived estimates of Pink-footed Goose population size, 1960 – 2012. Five-year running mean shown as red line. (e.g. mean for 2009 is from population estimates for 2007-2011).

2. Breeding success

Between late September and early November, a total of 10,441 Pink-footed Geese, in 32 flocks, was aged at various localities throughout Scotland and east England (Table 2). This sample, expressed as a proportion of the 2012/13 census-derived population estimate, was 2.9%. The brood size of 88 families was also determined during this period.

Breeding success was higher than the mean for the previous decade, with 21.1% young (mean 2002-2011: 18.5% \pm 1.22 SE) (Figure 2). The mean brood size of successful pairs was 2.3 goslings, which was also higher than the mean recorded during the previous ten years (mean 2002-2011: 2.08 \pm 0.07 SE).

There was evidence of modest regional variation in the percentage of young Pink-footed Geese, which varied from 19.9% in east central Scotland to 23.4% in north east Scotland (Table 2). Similarly, mean brood size varied from 2.24 goslings in north east Scotland to 2.66 in south east 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.

Table 2. The percentage of young and mean brood size of Pink-footed Geese in autumn 2012.

Region	Total aged	Proportion of young (%)	Number of broods	Mean brood size
Northeast Scotland	3,061	23.4	72	2.24
East central Scotland	6,412	19.9	13	2.62
Southeast Scotland	928	21.4	3	2.66
East England	40	20.6	0	-
Overall	10,441	21.1	88	2.30

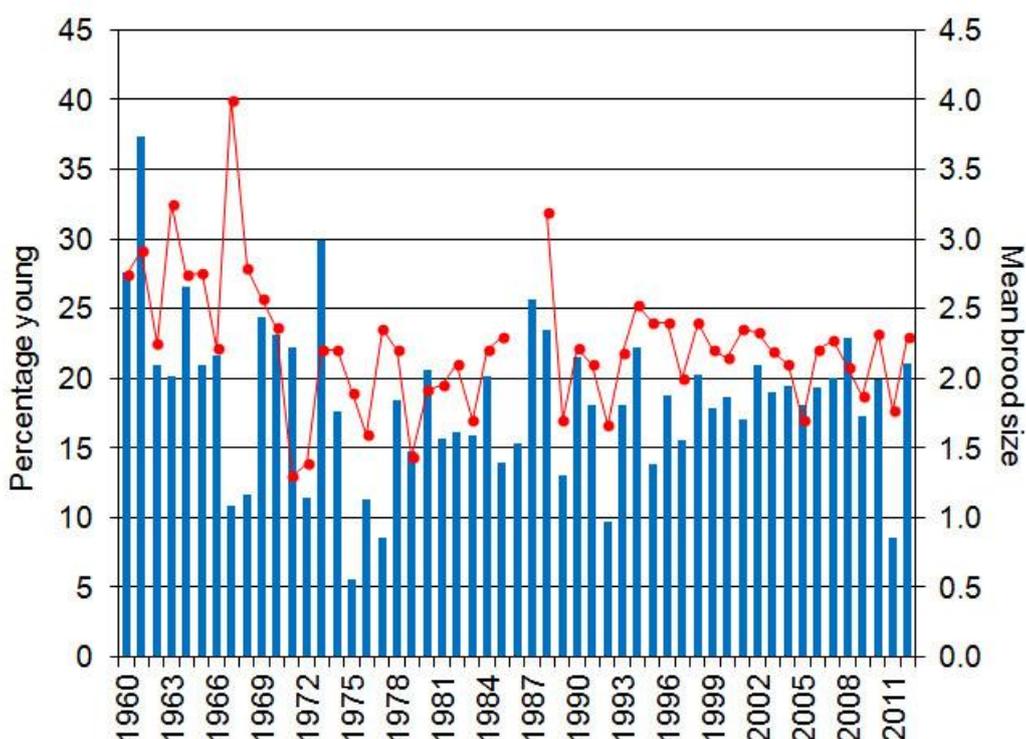


Figure 2. The proportion of young and mean brood size of Pink-footed Geese, 1960 – 2012.

3. Discussion

A mass arrival of Pink-footed Geese occurred in early autumn 2012 with large numbers of geese reported at a number of key sites; Montrose Basin, Angus, for example, held 63,844 on 21 September. Allan Brown organised a separate goose count in Fife, Lothians and Borders on 29/30 September 2012. Counters found a total of 57,483 Pink-footed Geese, some 16,708 more than were present at the time of the IGC count in mid-October. It is well known that some key wetland sites support higher numbers of geese soon after they arrive in northern Britain, and numbers decline as geese move south within Scotland or onto Lancashire and Norfolk. Unusually heavy snowfall in early to mid-September affected many part of Iceland, particularly in the north of the country, and this may have prompted an early migration south.

The 2012 population estimate of 359,175 was 37.9% higher than the revised figure for 2011 (260,325). This is the second highest population estimate ever recorded, the highest being 364,212 in 2009. Breeding success in 2012 was slightly above average but cannot alone account for the large increase between years. This confirms that the counts of autumn 2011, and probably in 2010, underestimated the total number of geese in the population in those years. A late, or staggered, departure from Iceland, where large numbers of Pink-footed Geese can remain uncounted (and probably uncountable) can hinder the assessment of the true population size. However, in 2010 the November count was lower than the October count, suggesting that an overall decline in numbers had probably occurred and that mass arrivals did not occur after the October census. In 2011, migration occurred later in the autumn and clearly geese were still in Iceland at the time of the October census since the November count was c. 80,000 higher than in October. It is suspected that between 2009 and 2011, the population of Pink-footed Geese did decline, particularly given that the 2011 breeding season was very poor (see Mitchell 2012), but the precise magnitude of the decline is difficult to gauge.

Despite the year on year variation in counts, the long term trend appears to be one of continued increase. The population appears to have bounced back to over 350,000 individuals and is considered to be in favourable conservation status. Given the unpredictability of the timing of departure from Iceland, it is prudent to maintain annual survey of sites holding Pink-footed Geese in both October and November, and, whenever possible, choose weekends dates near the middle of the month for the coordinated census.

Pink-footed Goose breeding success in summer 2012, at 21.1%, was slightly higher than the long term average of 18.5%. Reports from Iceland suggest reasonable weather during the spring and summer months with no late snowfall or prolonged rain. The high productivity was also confirmed by the proportion of young in the Iceland bag; at 45%, this was the highest recorded since data was first collected in 1993 (A. Sigfússon in litt.). Hunting of Pink-footed Geese in Iceland appears stable with 11,855 shot in 2011 (the year for which the most recent data are available) compared to a mean of 14,291 for the ten year period 2001 to 2010. Unfortunately, no comparable data exists for the number shot in the UK.

Revised population estimates

Due to late submission of data and a small number of errors, there have been five revisions to the Pink-footed Goose census-derived population estimates over the last eight years. It is proposed that these revised population estimates are adopted and used in future analyses and publications. See Mitchell 2013 for further details.

4. References

Mitchell, C. 2013. *Status and distribution of Icelandic-breeding geese: results of the 2012 international census*. Wildfowl & Wetlands Trust Report, Slimbridge.

This report should be cited as:

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WWT/JNCC/SNH, Slimbridge.

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Goose & Swan Monitoring