

WWT/JNCC/SNH Goose & Swan Monitoring Programme  
survey results 2015/16  
Iceland Greylag Goose *Anser anser*

## 1. Abundance

The 56th consecutive Icelandic-breeding Goose Census (IGC) took place during late autumn 2015, providing information on the abundance and distribution of Iceland Greylag Geese. Counts were conducted by a network of volunteer observers and professional conservation staff over the weekend of 14/15 November. Coverage in Britain was good, with 119 sites checked. Outside Britain, counts were made at several sites in Ireland, southwest Norway (no counts of Greylag Geese were made in southwest Norway during November, however, 502 birds, the number counted there in January 2016, was used as an estimated count for the November period since the counter considered little movement or addition of birds once the wintering flock had arrived) and Iceland.

The total count in November was 116,330 Greylag Geese (Table 1). Following adjustments for the presence of British Greylag Geese, which is significant in some areas, and the addition of estimated counts (for definitions and methods see full report, Mitchell 2016), a population estimate of 95,403 was derived. This represents an increase of 6.4% compared to 2014/15 (Figure 1), when a population size of 89,668 individuals was estimated.

At the time of the census, 68.4% of the population was present in north Scotland, with most of the remainder in Iceland (24.3%).

Table 1. *Regional distribution of Iceland Greylag Geese during November 2014 (nc = not counted).*

<b>Region</b>	<b>November</b>
Iceland	35,000
Southwest Norway	502*
Ireland	1,368
North Scotland	73,732
Northeast Scotland	1,537
East Central Scotland	2,719
Southeast Scotland/northeast England	645
Southwest Scotland/northwest England	827
<i>Total Counted</i>	116,330
<i>Adjusted counts</i>	-27,665
<i>Estimated counts</i>	+6,738
<i>Adjusted total</i>	95,403
<b>Population estimate</b>	<b>95,403</b>

\*Count made in January 2016

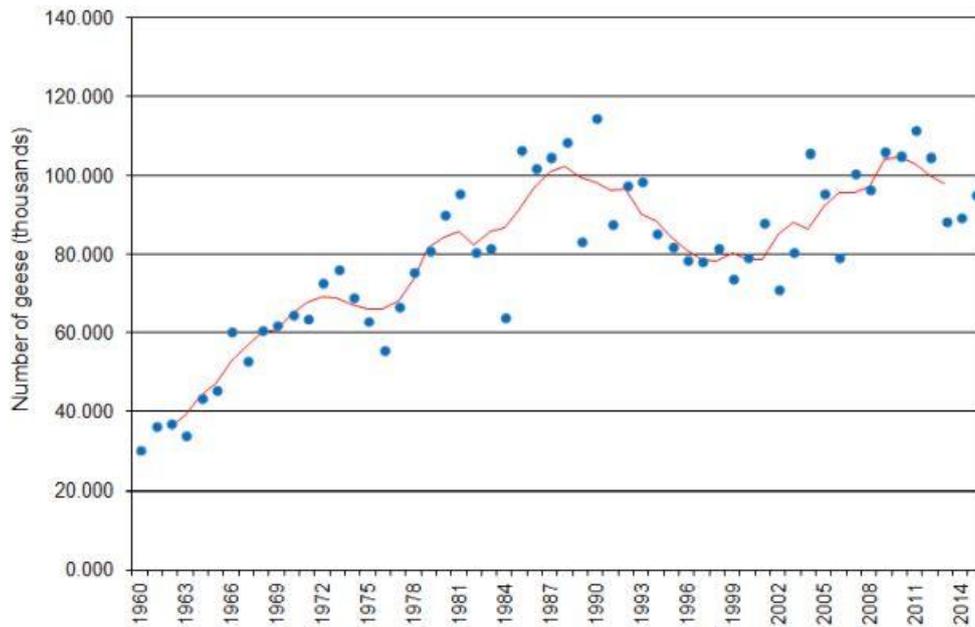


Figure 1. Annual census-derived estimates of Iceland Greylag Goose population size, 1960-2015. Five-year running mean shown as red line (e.g. mean for 2013 is from population estimates for 2011-2015).

## 2. Breeding success

During early December, 2,512 Greylag Geese from 10 flocks were aged at various localities in Caithness. The sample, expressed as a proportion of the 2015 population estimate, was 2.6%. The brood size of 30 families was also determined during this period. Breeding success was slightly below the recent mean, with flocks containing 20.4% young (mean 2005–2014: 22.2% ± 0.71 SE) (Figure 2). The mean brood size of 2.73 goslings per successful pair was slightly higher than the recent ten year mean (mean 2005–2014: 2.27 ± 0.08 SE).

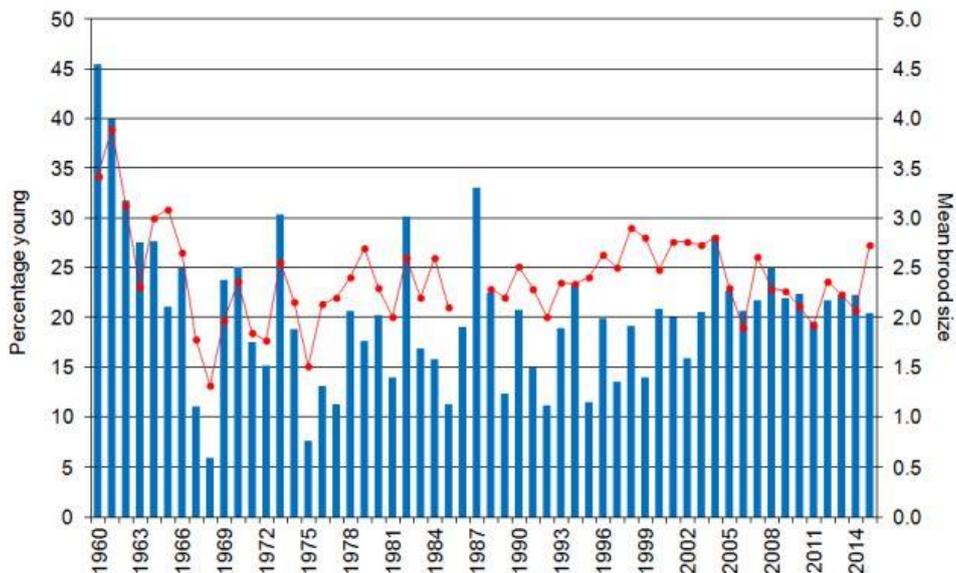


Figure 2. The percentage of young (blue columns) and mean brood size (red circles) of Iceland Greylag Geese, 1960-2015.

### 3. Discussion

The November 2015 count of Iceland Greylag Geese was thought to be reasonably comprehensive with sites being covered throughout most of the winter range. Coverage in Ireland was not complete (compared with an extensive survey carried out there in autumn 2007) and it is possible that the number of geese in Ireland, particularly in Northern Ireland, is greater than reported here. No count was carried out in the Faroes although the number of overwintering Greylag Geese there is currently unknown and those that are present may be residents.

The population estimate of 95,403 geese is slightly higher than that in 2014 and suggests a stabilisation in numbers, although there has been a recent decline from over 100,000 birds (as recently as 2012). Greylag Goose remains a favoured quarry species in Iceland, with 30,000 to 60,000 birds shot there annually (43,000 in 2014; mean 2005-14 42,928) and, as reported last year, there has been a marked increase in the number of Greylag Geese shot in Orkney to reduce the British Greylag Goose population on the archipelago, and it is therefore highly likely that more Iceland migrants are being shot there too.

Orkney continues to hold the bulk of the population during winter. After deducting the number of Greylag Geese thought to be resident on the archipelago, based on a summer survey carried out in August 2015 (Mitchell et al. 2015), and taking account of those shot under a pilot management programme, an estimated 38,101 Iceland birds were thought to be present in November, 17% lower than during the same month in the previous year (45,881). However, the Orkney count is influenced by the timing of the migration of birds from Iceland, and at the time of the November 2015 census, an estimated 35,000 birds still remained in that country, although the majority of these will have left in the weeks following the census and migrated to Orkney to winter. According to the traditional Iceland 'Christmas' bird counts, only 2,135 Greylag Geese (2.2% of the November population estimate) were counted in that country in early January 2016. For the first time, three Orkney islands were not counted and estimates, based on the mean count in the previous five years, were provided for Stronsay (5,096), Westray (1,196) and Egilsay (446).

Increasing numbers of British Greylag Geese in core wintering areas for the Iceland migrants, such as Shetland, Orkney, the Moray Firth, Bute and other parts of Scotland and Ireland means that assessing the abundance of the Iceland migrants remains difficult. Where there are reasonable estimates of the abundance of summering Greylag Geese (for example on Orkney) these are subtracted from winter counts. However, up to date information on the abundance of British Greylag Geese south and east of an arbitrary line from Bute east to Aberdeen is largely lacking and, simply as a precaution, any counts obtained through IGC from this area are matched by subtracting that figure (assuming that the majority of birds counted are British). This is unsatisfactory, and is only carried out as a precautionary measure. An analysis of movements of Iceland Greylag Geese based on sightings of individually marked birds in the late 1990s/early 2000s showed that some Iceland migrants moved south within Scotland to winter (Swann et al. 2005). It is not known if this is still the case since ringing of the population stopped in the mid 2000s. It is highly likely that a small proportion of Iceland migrants do still move south to winter in south east Scotland, but since the proportion is unknown, a precautionary approach has been adopted.

Breeding success in the Iceland Greylag Goose population, as measured on the wintering grounds, appeared to be average in 2015 (20.4%), although the figure was based on a small sample size. Due to their later migration and more limited range, age counts were only collected in one region (Caithness in North Scotland) during early December. Monitoring annual breeding success for this population is becoming more

difficult because the main wintering areas (Orkney, Caithness and around the Moray Firth) hold ever larger numbers of British Greylag Geese and separating birds from each population is impossible in the field. However, the results from summer counts suggest that the bulk of the birds found in Caithness in winter are from Iceland and it is therefore in this county that age counts were undertaken. The percentage of young in the Iceland bag was 44.2%, slightly lower than the previous ten year average of 47.4% (A. Sigfússon in litt.). The population dynamics of this population merit greater study since the population must sustain one of the highest rates of annual mortality through hunting of any goose population and is balanced, presumably, by particularly high rates of breeding success. The long term dynamics of populations that can sustain such mortality would be of particular interest to those wishing to control the abundance of goose populations

#### Acknowledgements

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## 4. References

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