

WWT/JNCC/SNH Goose & Swan Monitoring Programme  
 survey results 2016/17  
 Iceland Greylag Goose *Anser anser*

## 1. Abundance

The 57th consecutive Icelandic-breeding Goose Census (IGC) took place during late autumn 2016, 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 19/20 November. Coverage in Britain in November was average, with 102 sites checked (119 sites were checked the previous autumn). Outside Britain, counts were made at several sites in Iceland and southwest Norway. Counts in Norway took place in January rather than November, and the total from these counts was used as an estimated count for the November period.

The total count in November was 121,046 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 & Brides 2017), a population estimate of 90,471 was derived, and represented an decrease of 5.2% compared to 2015 (Figure 1), when a population size of 95,403 individuals was estimated.

During November, over half of the population was still in Iceland and 42.6% was present in North Scotland, principally in Orkney (Table 1).

Table 1. *Regional distribution of Iceland Greylag Geese during November 2016 (nc = not counted or no count received).*

| <b>Region</b>                              | <b>November</b> |
|--|-----------------|
| Iceland                                    | 50,000          |
| Southwest Norway                           | 700*            |
| Ireland                                    | nc**            |
| North Scotland                             | 63,544          |
| Northeast Scotland                         | 1,561           |
| East Central Scotland                      | 2,421           |
| Southeast<br>Scotland/northeast England    | 860             |
| Southwest<br>Scotland/northwest<br>England | 1,960           |
| <i>Total Counted</i>                       | 121,046         |

|                            |               |
|----------------------------|---------------|
| <i>Adjusted counts</i>     | -32,588       |
| <i>Estimated counts</i>    | +2,013        |
| <i>Adjusted total</i>      | 80,090        |
| <b>Population estimate</b> | <b>90,471</b> |

\*Count made in January 2017

\*\*An estimate of 2,013 Greylag Geese was used, but 690 were suspected summering birds.

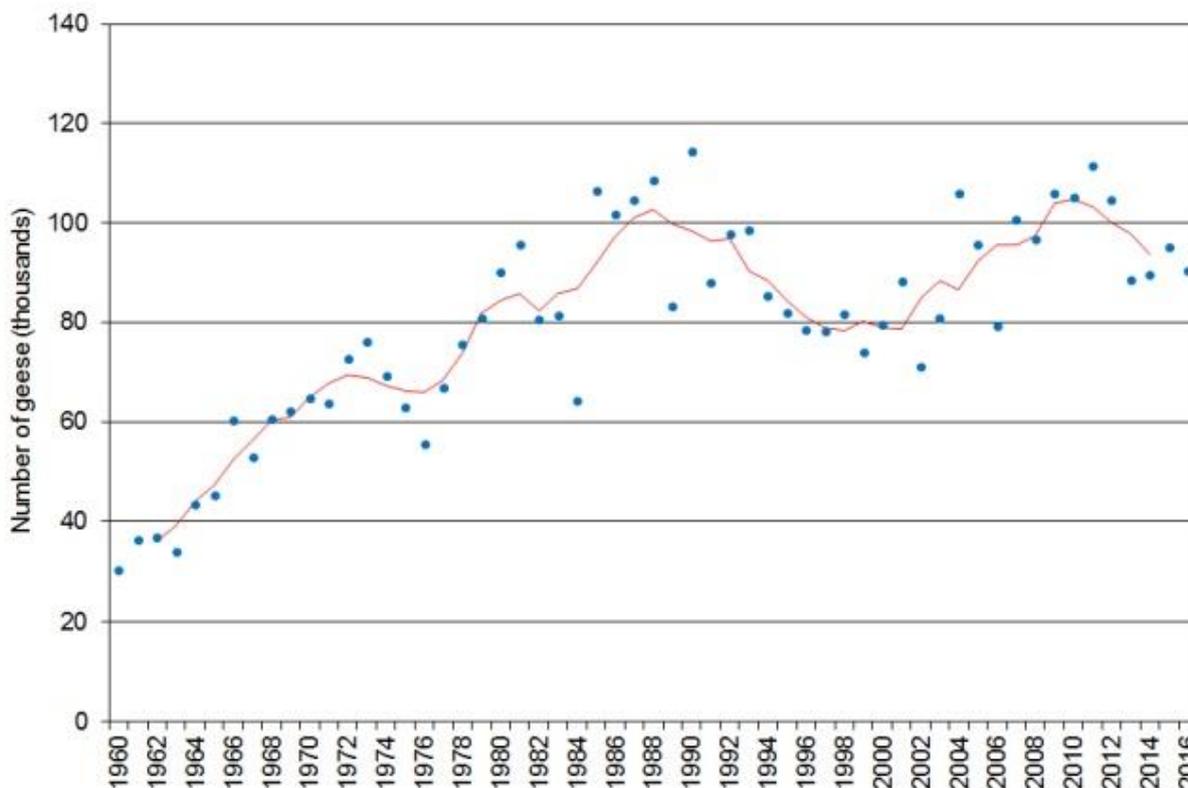


Figure 1. Annual census-derived estimates of Iceland Greylag Goose population size, 1960–2016. Five-year running mean shown as red line (e.g. mean for 2014 is from population estimates for 2012–2016).

## 2. Breeding success

During early December, 2,302 Greylag Geese from nine flocks were aged at various localities in Caithness. The sample, expressed as a proportion of the 2016 population estimate, was 2.5%. The brood size of 32 families was also determined during this period.

Breeding success was slightly higher than the recent mean, with flocks containing 23.5% young (mean 2006–2015: 22.0% ± 0.50 SE) (Figure 2). The mean brood size of 2.53 goslings per successful pair was slightly higher than that of the recent ten year mean (mean 2006–2015: 2.31 ± 0.09 SE).

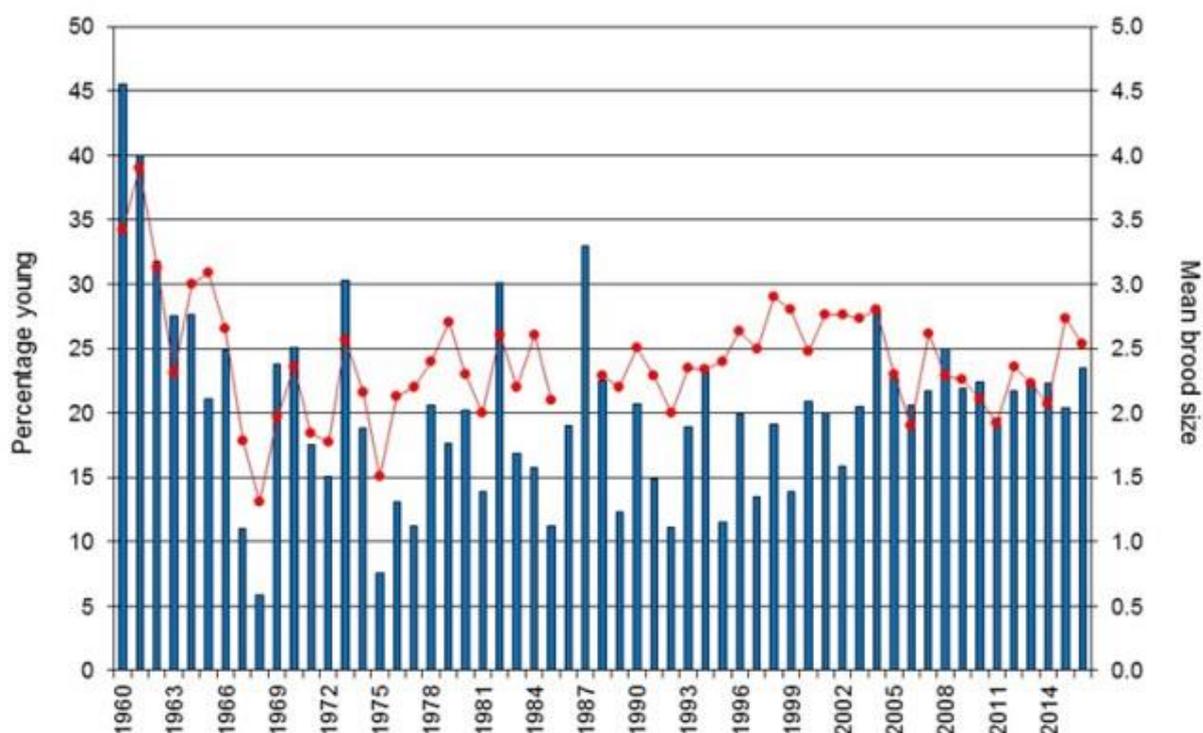


Figure 2. The percentage of young (blue columns) and mean brood size (red circles) of Iceland Greylag Geese, 1960–2016.

### 3. Discussion

The November 2016 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 reported and it is possible that the number of geese there, particularly in Northern Ireland, is greater than the estimate used. 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 90,471 geese is lower than that in 2015 and suggests 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) and, as reported in 2015, 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 winter stock. After deducting the number of Greylag Geese thought to be resident on the archipelago, based on a summer survey carried out in August 2016 (Mitchell *et al.* 2016), and taking account of those shot under a pilot management programme, an estimated 25,654 Iceland birds were thought to be present in November, a third lower than during the same month in the previous year (38,101). However, the Orkney count is influenced by the timing of the migration of birds from Iceland and, at the time of the November 2016 census, an estimated 50,000 birds still remained in that country. The vast majority of these birds will have left Iceland in the weeks following the census and

migrated to Orkney to winter. Thus the over-winter population of Iceland Greylag Geese on Orkney is likely to be around 75,000 birds.

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 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 2016 (23.5%), although the figure was based on a small sample size. Age counts were only collected in one region (Caithness in North Scotland) during late November due to their later migration and more limited range. 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 in this county that age counts were undertaken.

The percentage of young in the Iceland bag in autumn 2016 was 56%, higher than the previous ten-year average of 48% (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.

#### 4. Acknowledgements

As ever, thanks are extended to the many IGC counters who provided the basis of the population assessments. Of particular importance is the role of the Local Organisers. G. Gudmundsson and A. Sigfússon provided information from Iceland and Arne Follestad from Norway.

## 5. References

Mitchell, C. & K. Brides. 2017. *Status and distribution of Icelandic-breeding geese: results of the 2016 international census*. Wildfowl & Wetlands Trust Report, Slimbridge. Download

Mitchell, C., A. Leitch & E. Meek. 2016. *The abundance and distribution of British Greylag Geese in Orkney, August 2016*. Wildfowl & Wetlands Trust Report, Slimbridge. 30pp. Download

Swann, R.L., J.K. Brockway, M. Frederiksen, R. Hearn, C. Mitchell & A. Sigfússon. 2005. Within-winter movements and site fidelity of Icelandic Greylag Geese *Anser anser*. *Bird Study* 52: 25-36.

This report should be cited as:

WWT. 2017. *Goose & Swan Monitoring Programme: survey results 2016/17 Iceland Greylag Goose* Anser anser.  
WWT/JNCC/SNH, Slimbridge.

© Wildfowl & Wetlands Trust

All rights reserved. No part of this document may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission of the copyright holder.

This report was produced under the Goose & Swan Monitoring Programme (GSMP). This programme monitors numbers and breeding success of geese and swans in the UK during the non-breeding season. GSMP is organised by the Wildfowl & Wetlands Trust (WWT) and funded in partnership with the Joint Nature Conservation Committee (on behalf of Natural Resources Wales, Natural England and DAERA Northern Ireland) and Scottish Natural Heritage.



## Goose & Swan Monitoring