

WWT/JNCC/SNH Goose & Swan Monitoring Programme survey results 2016/17

Greenland White-fronted Goose *Anser albifrons flavirostris*

1. Abundance

Coordinated counts of the Greenland White-fronted Goose population in Britain and Ireland were carried out in autumn 2016 and spring 2017, representing the 35th annual census. The counts were organised by the Greenland White-fronted Goose Study in Britain and by the National Parks & Wildlife Service in Republic of Ireland and Northern Ireland.

Combining the results from the spring 2017 coordinated counts in Britain and Ireland gives a population estimate of 20,556, an increase of 8.9% compared with spring 2016 (Figure 1).

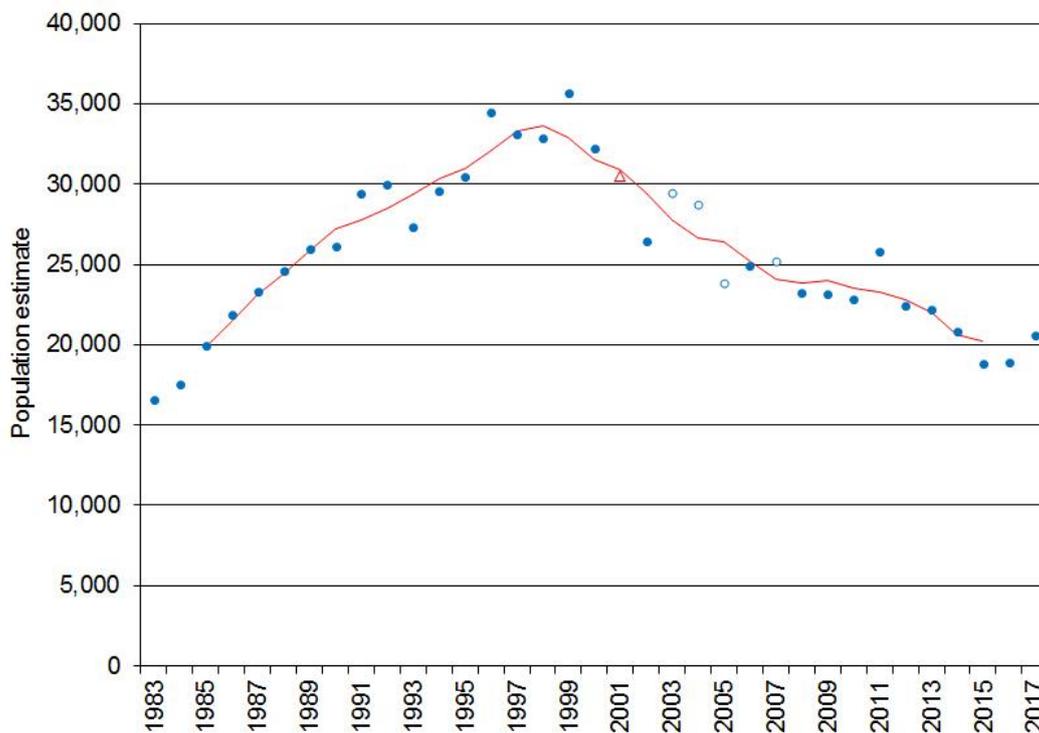


Figure 1. Annual population estimates of Greenland White-fronted Geese, spring 1983–2017 (filled circles) (from Fox et al. 2017). The five-year running mean (e.g. mean for 2008 is from population estimates for 2006–10) is shown as a red line. The open circles indicate estimated values for years when data were missing from Ireland. The open triangle indicates the estimated value for 2001 when data were missing due to the outbreak of Foot and Mouth disease that year.

All wintering resorts in Britain (except for the Small Isles where there no longer seem to be regularly wintering geese) were covered at least once during the 2016/17 season. For any sites not covered during the census period, counts were substituted with those undertaken close to the defined dates: amounting 3.8% of the autumn total and 3.0% of the spring total.

Overall, totals of 10,326 and 11,597 Greenland White-fronted Geese were recorded in autumn 2016 and spring 2017, respectively (Table 1). This represents an increase of 10.0% compared with autumn 2015 and

an increase of 12.7% compared with spring 2016 (Figure 2). During the autumn census, over half of the birds were recorded on Islay, which held 5,585, 20.3% higher than in autumn 2015. The majority of the rest of the birds (4,715) were seen elsewhere in Scotland, with one also reported in England and 25 in Wales. Similarly, during the spring census, more than half the geese were seen on Islay, with a total of 6,141 recorded there (18.5% higher than in spring 2016). Scotland supported the rest of the birds (5,420), with the exception of the 36 recorded in Wales.

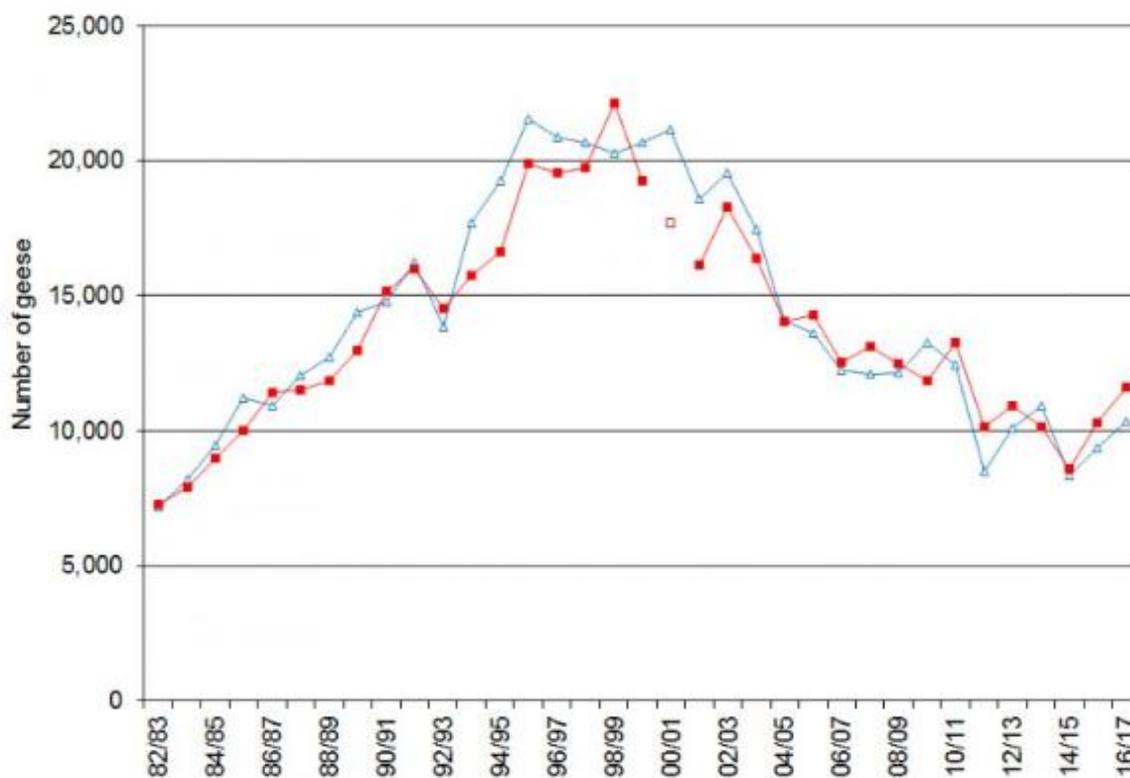


Figure 2. Coordinated count totals of Greenland White-fronted Geese in Britain, 1982/83–2016/17, showing autumn (open triangles) and spring (filled squares) census results for each season. Note the missing value for spring 2001 (unfilled square) due to the outbreak of Foot and Mouth Disease that year (from Fox et al.2017).

Count coverage in Ireland was reasonably good, with most of the known flocks counted at least once over the course of the winter. Counts for nine sites were substituted for the autumn 2016 census, representing 4.2% of the autumn total, whilst counts for 15 sites were substituted for the spring 2017 census, representing 18.3% of the season’s total.

Overall, totals of 8,880 and 8,959 Greenland Whitefronts were recorded in autumn 2016 and spring 2017 respectively (Table 1). This represents a 4.3% and 9.7% increase compared with the autumn 2015 and spring 2016 censuses, respectively (Figure 3). During both censuses, the majority of geese were recorded at Wexford, with 6,977 seen there during autumn (18.1% higher than in 2015) and 7,047 in spring (9.7% higher than in 2016).



Figure 3. Coordinated count totals of Greenland White-fronted Geese in Ireland, 2008/09–2016/17, showing autumn (open triangles) and spring (filled squares) census results for each season (from Fox et al. 2017).

Table 1. Autumn and spring counts in Britain and Ireland, 2016/17 (includes substituted counts; see full report) (From Fox et al. 2017).

Region	Autumn Census	Spring Census
Orkney	78	73
Caithness	259	260
Western Isles	184	218
Inner Hebrides	27	29
Lochaber/North Argyll	1,159	1,479
South Argyll	2,726	2,984
Islay	5,585	6,141
Dumfries & Galloway	281	377
Wales	25	36
England	1	0

Region	Autumn Census	Spring Census
Other irregular sites (Scotland)	1	0
Britain total	10,326	11,597
Donegal	846	875
North Central	93	99
Mayo	90	91
Mayo/Galway Uplands	43	59
Galway Lowlands	175	148
Clare/Limerick	60	60
Shannon headwaters	114	100
Middle & Lower Shannon	264	281
Midlands	218	199
Wexford	6,977	7,047
Ireland total	8,880	8,959
Population estimate	–	20,556

2. Breeding success

A total of 4,028 Greenland White-fronted Geese was aged at 25 sites across Britain during 2016/16, of which 16.5% were young birds (Table 2); slightly higher than in 2015/16 (15.5%) and above previous ten-year mean (12.6, 2006/07–2015/16) (Figure 4). Overall mean brood size was 2.78 young per successful pair (254 families assessed, at 13 sites) which was slightly lower than the previous season (2.96) and also the previous ten-year mean (3.01, 2006/07–2015/16) (Table 2 & Figure 4).

Across the British sites, the percentage of young ranged from 0% to 75% (with sample sizes ranging from four to 2,380 birds), with 20 sites exceeding 10% young in flocks (see Fox et al. 2017 for details). On Islay (where the highest number of birds were aged), the percentage young was 18.4% (compared with 16.1% in 2015/16), whilst elsewhere in Britain, 15.3% of the birds aged (4,028) were young (compared with 14.9% in 2015/16) (Table 2).

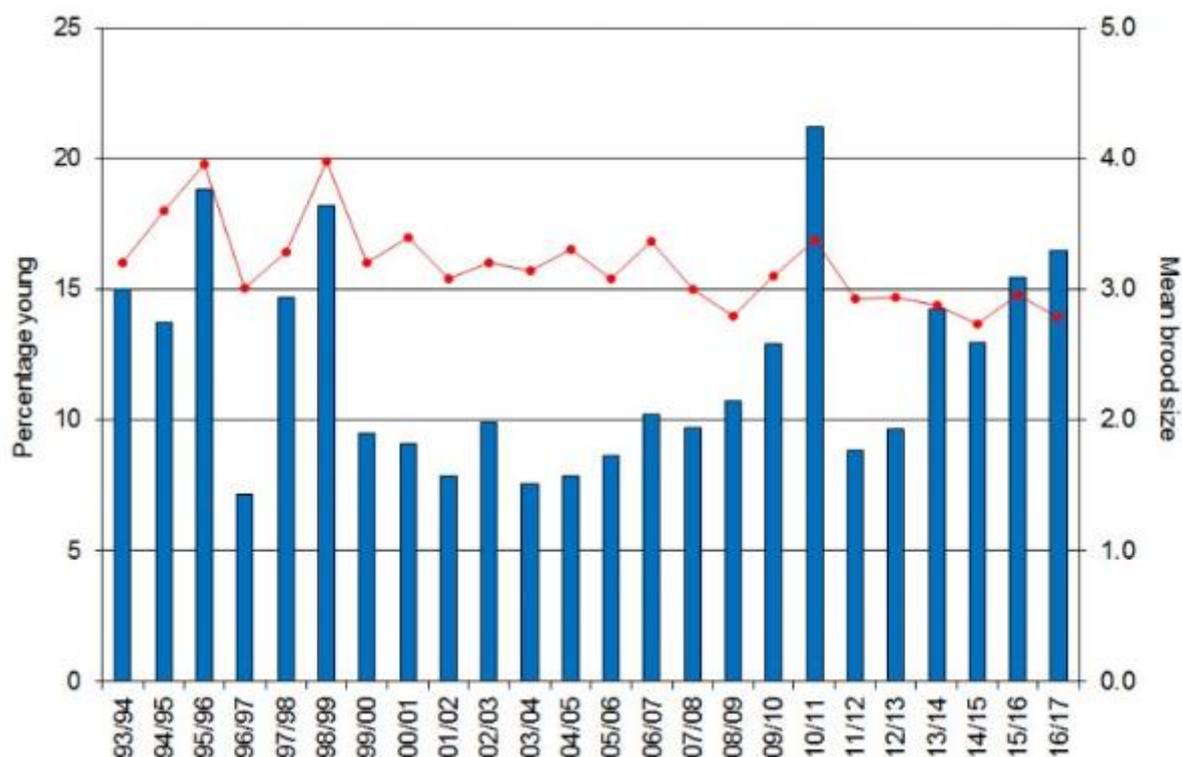


Figure 4. The percentage of young (blue columns) and mean brood size (red circles) of Greenland White-fronted Geese in Britain, 1993/94–2016/17 (from Fox et al. 2017).

In Ireland, 3,881 birds were aged at ten sites, resulting in an overall percentage young of 12.5%, this being the highest recorded since 2010/11 and well above the previous five-year mean (6.3%, 2011/12–2015/16) (Table 2 & Figure 5). Overall, mean brood size was 3.04 young per successful pair (of 112 families assessed at five sites), which was also higher than in 2015/16 (2.61) and also the previous five-year mean (2.7, 2011/12–2015/16) (Table 2 & Figure 5).

The percentage young varied between sites ranging from 0% to 38.5% (with samples sizes ranging from two to 3,439 birds), with four sites exceeding 10% amongst flocks (see Fox et al. 2017 for details). The majority of the birds were aged at Wexford, of which 12.2% were young birds, whilst a higher percentage of young was seen amongst flocks elsewhere in Ireland (14.9%; $n = 442$) (Table 2).

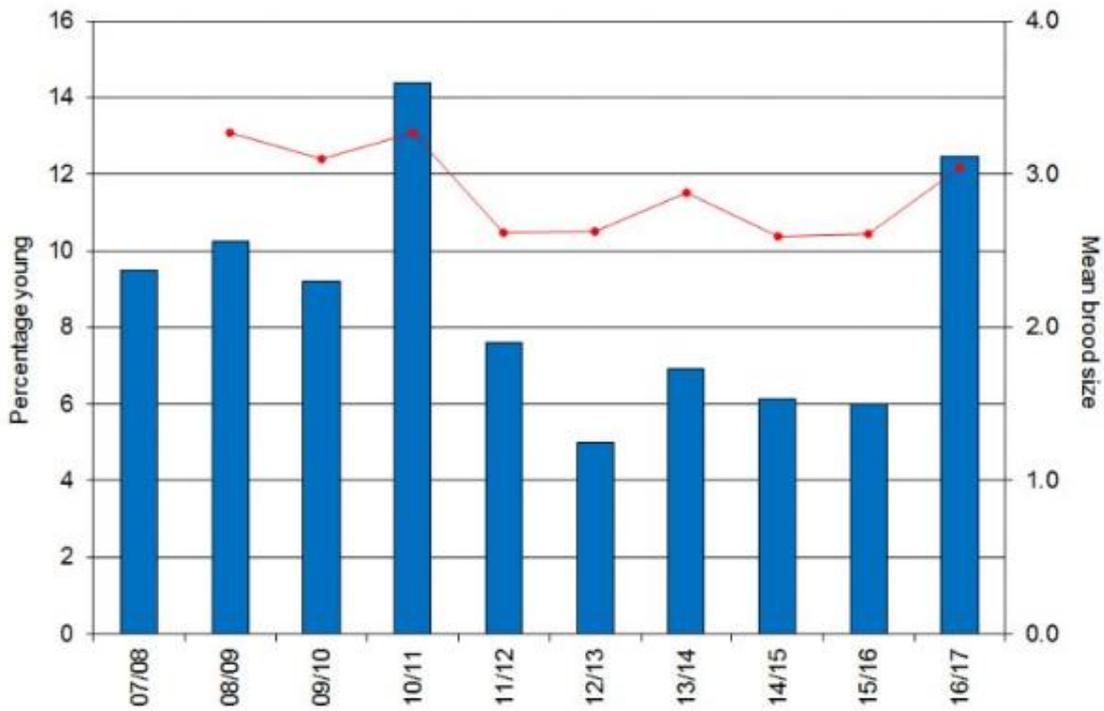


Figure 5. The percentage of young (blue columns) and mean brood size (red circles) of Greenland White-fronted Geese in Ireland, 2007/08 – 2016/17 (no overall brood size data are available for 2007/08) (from Fox et al. 2017).

Table 2. Percentage of young and mean brood size of Greenland White-fronted Geese in Britain and Ireland during winter 2016/17 (from Fox et al. 2017).

Region	Percentage (%) of young (n)	Mean brood size (n)
Islay	18.4 (2,380)	3.04 (120)
Britain excluding Islay	15.3 (4,028)	2.55 (134)
Britain overall	16.5 (6,408)	2.78 (254)
Wexford	12.2 (3,439)	3.13 (105)
Rest of Ireland	14.9 (442)	1.71 (7)
Ireland overall	12.5 (3,881)	3.04 (112)

3. Discussion

Since the mid-1990s, this small global population of Greenland White-fronted Geese has shown consistent decline. Despite what appeared to be some level of stability between 2008 and 2013, there have since been further declines, with the 2016 population estimate being 47.1% lower than the peak in 1999 (35,692). It was, therefore, encouraging to see the population raise above 20,000 in 2017, with a c.9% increase on the previous year. This increase is likely due to the good breeding season in 2016, which was particularly noticeable amongst flocks in Ireland where the percentage of young rose above 10% for the first time since 2010/11.

The increase in the population was reflected in the spring count total at Wexford, where numbers rose for the first time since spring 2011; and for the second consecutive year, numbers on Islay were also notably higher compared with the previous spring (Figure 6).

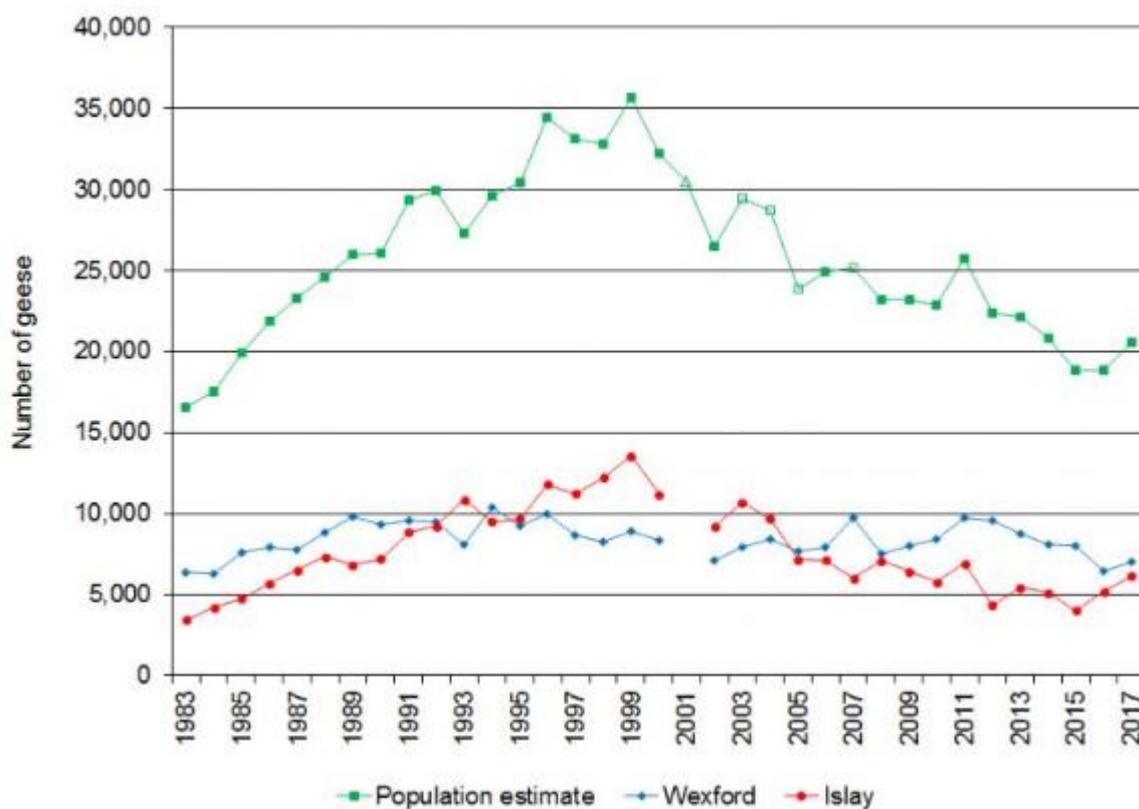


Figure 6. The annual population estimate of Greenland White-fronted Goose (green squares), with numbers recorded at Wexford (blue diamonds) and Islay (red circles), spring 1983–2017 (from Fox et al. 2017).

For further details see Fox et al. 2017.

4. References

Fox, A.D, I. Francis, D. Norriss & Alyn Walsh. 2017. *Report of the 2016/2017 International Census of Greenland White-fronted Geese*. Greenland White-fronted Goose Study / National Parks & Wildlife Service report, Kalo. [Download](#)

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Goose & Swan Monitoring