

WWT/JNCC/SNH Goose & Swan Monitoring Programme

survey results 2015/16

Greenland White-fronted Goose *Anser albifrons flavirostris*

1. Abundance

Coordinated spring and autumn counts of the Greenland White-fronted Goose were carried out in Britain and Ireland for the 34th consecutive winter. The censuses 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.

The internationally coordinated count in spring 2016 found a combined global total of 18,879 Greenland White-fronted Geese, up just 0.13% (25 birds) on the last world population estimate of 18,854 in spring 2015.

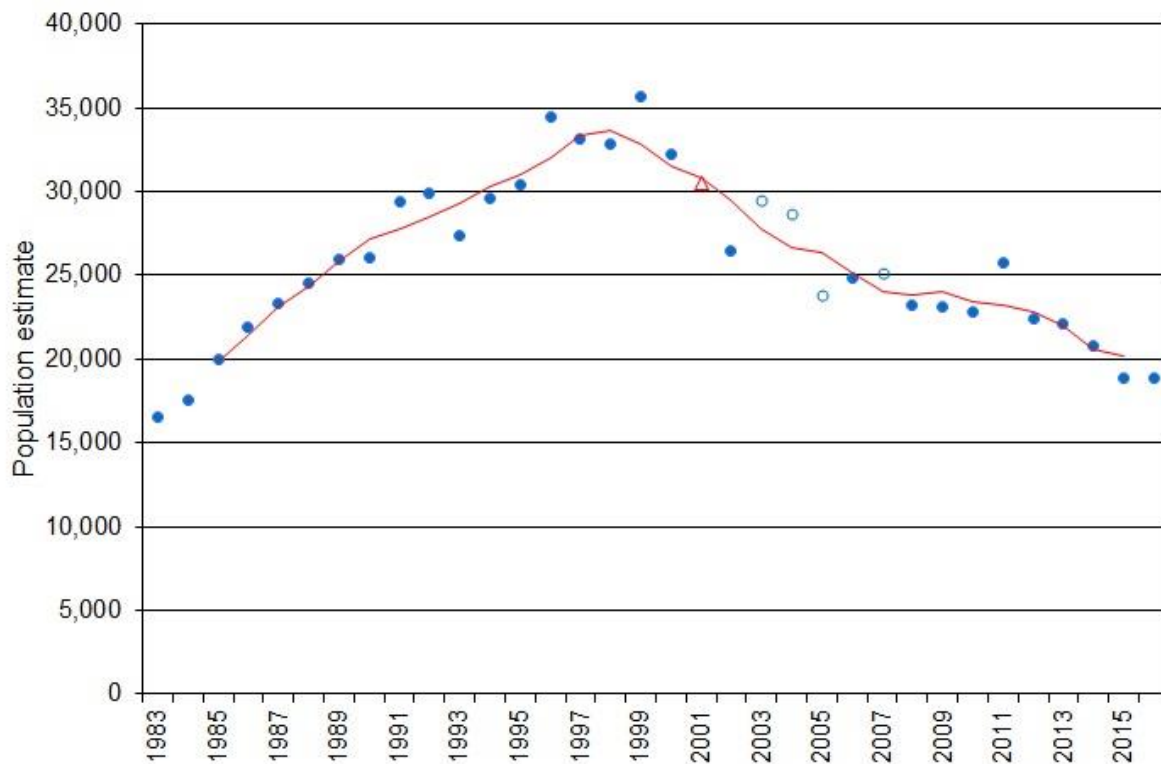


Figure 1. Annual population estimates of Greenland White-fronted Geese, spring 1983-2016 (filled circles) (Fox et al. 2016). The five-year running mean (e.g. mean for 2008 is from population estimates for 2006-10) is shown as a red line. The open circles indicate estimated values for years when data 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.

Almost all wintering resorts in Britain were covered at least once during the 2015/16 season. For any sites not covered during the census period, counts were substituted with those undertaken close to the defined dates; amounting 5.3% of the British spring total and 3.1% of the autumn total. Overall, totals of 9,390 and 10,286 Greenland White-fronted Geese were recorded in autumn and spring, respectively (Table 1). This

represents an increase of 12.1% compared with autumn 2014 and an increase of 19.8% compared with spring 2015 (Figure 2).

During the autumn census, just under half of the birds were recorded on Islay, which held 4,644, 2.7% lower than in autumn 2014. The majority of the rest of the birds (4,711) were seen elsewhere in Scotland, with 14 also reported in England and 21 in Wales. During the spring census, 10,244 geese were recorded in Scotland, of which 5,183 were observed on Islay (29.7% higher than in spring 2015), six were seen in England and 36 in Wales.

Count coverage in Ireland was reasonably good, with most of the known flocks counted at least once over the course of the winter. Rather more missing spring counts needed to be substituted than usual, contributing total for ten Irish regular wintering sites, amounting to 21.0% of the Irish spring total and 7.2% of the autumn total. A total of 7,692 Greenland White fronts was recorded in autumn 2015 (25.6% lower than in autumn 2014), with 5,908 seen at Wexford (compared with 8,092 in 2014) (Table 1). During the spring 2015 census, a total of 8,593 was recorded (16.3% lower than in 2014), with Wexford again holding the majority of birds (6,421 compared with 7,984 in spring 2015).

Table 1. Autumn and spring counts in Britain and Ireland, 2015/16 (includes substituted counts; see text) (From Fox et al. 2016).

Region	Autumn Census	Spring Census
Orkney	63	62
Caithness	281	288
NE Scotland	1	—
Western Isles	153	156
Inner Hebrides	26	26
Lochaber/North Argyll	1,094	1,159
South Argyll	2,756	3,027
Islay	4,644	5,183
Dumfries & Galloway	338	343
Wales	21	36
England	14	6
Britain total	9,390	10,286
Donegal	876	1,219

North Central	103	99
Mayo	42	65
Mayo/Galway Uplands	21	21
Galway Lowlands	143	152
Clare/Limerick	57	57
Shannon headwaters	101	101
Middle & Lower Shannon	231	248
Midlands	201	201
Southwest	9	9
Wexford	5,908	6,421
Ireland total	7,692	8,593
Population estimate	—	18,879

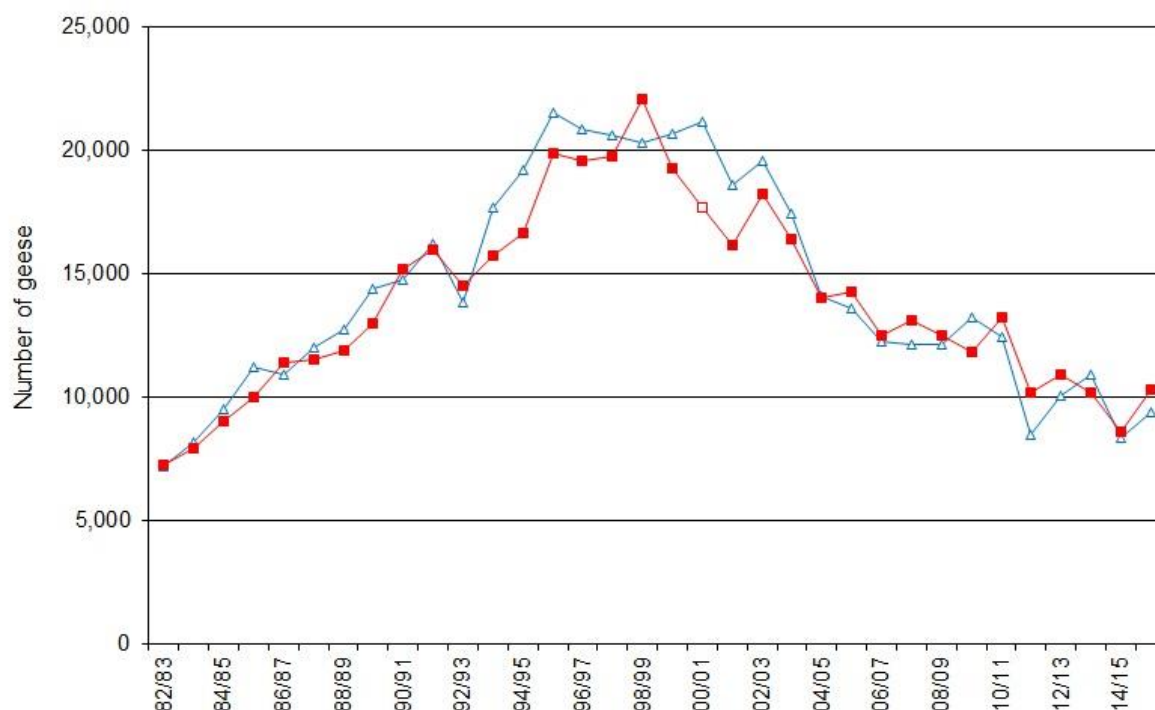


Figure 2. Coordinated count totals of Greenland White-fronted Geese in Britain, 1982/83-2015/16, showing autumn (open triangles) and spring (filled squares) census results for each season. Note the missing value for spring 2001 (unfilled square) due to the outbreak of Foot and Mouth Disease that year (from Fox et al.2016).

2. Breeding success

A total of 5,556 Greenland Whitefronts were aged at 25 sites across Britain during 2015/16 (Table 2), of which 15.5% were young birds; higher than in 2014/15 (12.9%) and also the previous ten-year mean (11.9% for 2005/06–2014/15) (Figure 3). Mean brood size was 2.96 young per successful pair (253 families assessed), slightly higher than the previous winter (2.73) though below the previous ten-year mean (3.02 for 2005/06–2014/15).

Across the British sites, the percentage of young ranged from 0% to 30.4%, with 20 sites exceeding 10% young in flocks. On Islay, the percentage young was 16.1% (compared with 14.7% in 2014/15), whilst elsewhere in Britain 14.9% of the birds aged were young (compared with 11.0% in 2014/15).

In Ireland, 4,010 birds were aged at seven sites, resulting in an overall percentage young of 6.0%; only fractionally lower than the previous winter (6.1%) but below the previous five-year mean (8.0 % for 2010/11–2014/15). Overall, the mean brood size was 2.61 young per successful pair (77 broods assessed); fractionally higher than recorded in 2014/15 (2.59) but slightly below the previous five-year mean (2.80 for 2010/11–2014/15) (Table 2; Figure 4).

The percentage young varied between sites ranging from 0% to 14.0%. The majority of the birds were aged at Wexford (3,599), with flocks there holding 5.8% young, whilst a higher percentage of young was seen amongst flocks elsewhere in Ireland (7.3%; n = 441).

Table 2. Percentage of young and mean brood size of Greenland White-fronted Geese in Britain and Ireland during winter 2015/16 (Fox et al. 2016).

Region	Percentage (%) of young (n)	Mean brood size (n)
Islay	16.1 (2,442)	2.92 (134)
Britain excluding Islay	14.9 (3,114)	3.01 (119)
Britain overall	15.5 (5,556)	2.96 (253)
Wexford	5.8 (3,599)	2.57 (68)
Rest of Ireland	7.3 (411)	2.89 (9)
Ireland overall	6.0 (4,010)	2.61(77)

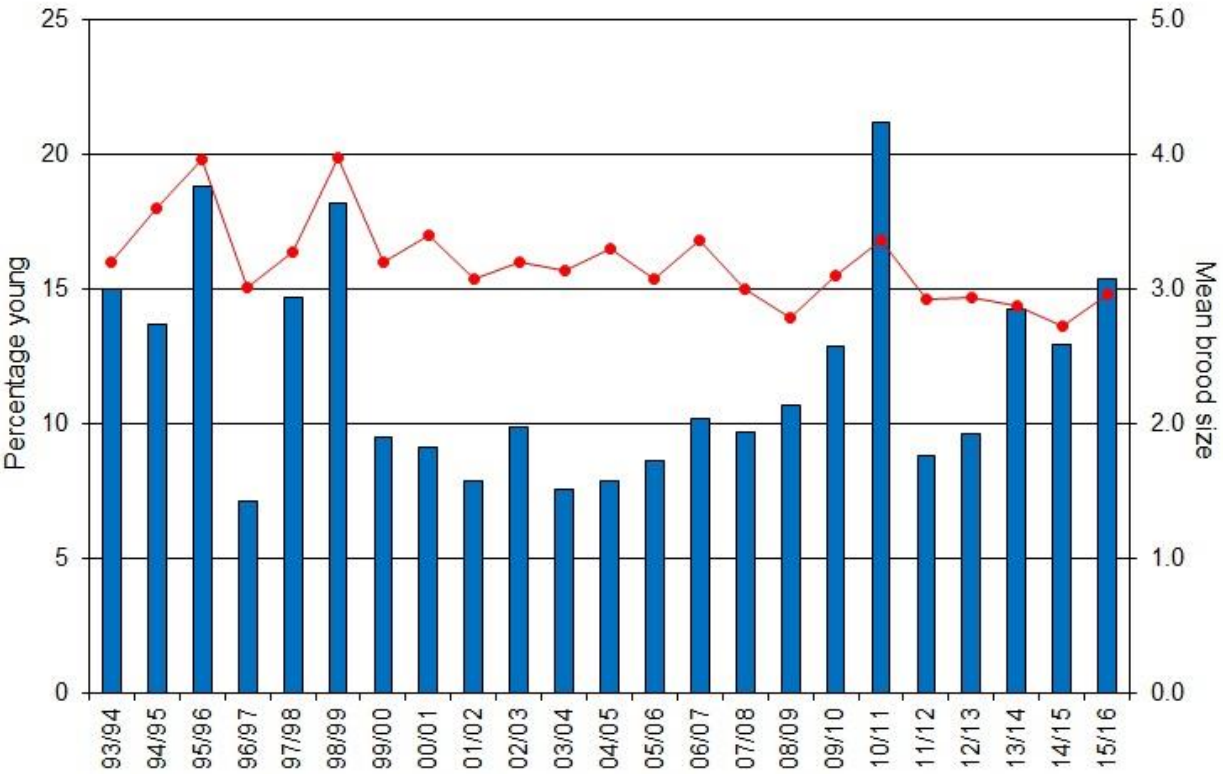


Figure 3. The percentage of young (blue columns) and mean brood size (red circles) of Greenland White-fronted Geese in Britain, 1993/94 – 2015/16 (from Fox et al. 2016).

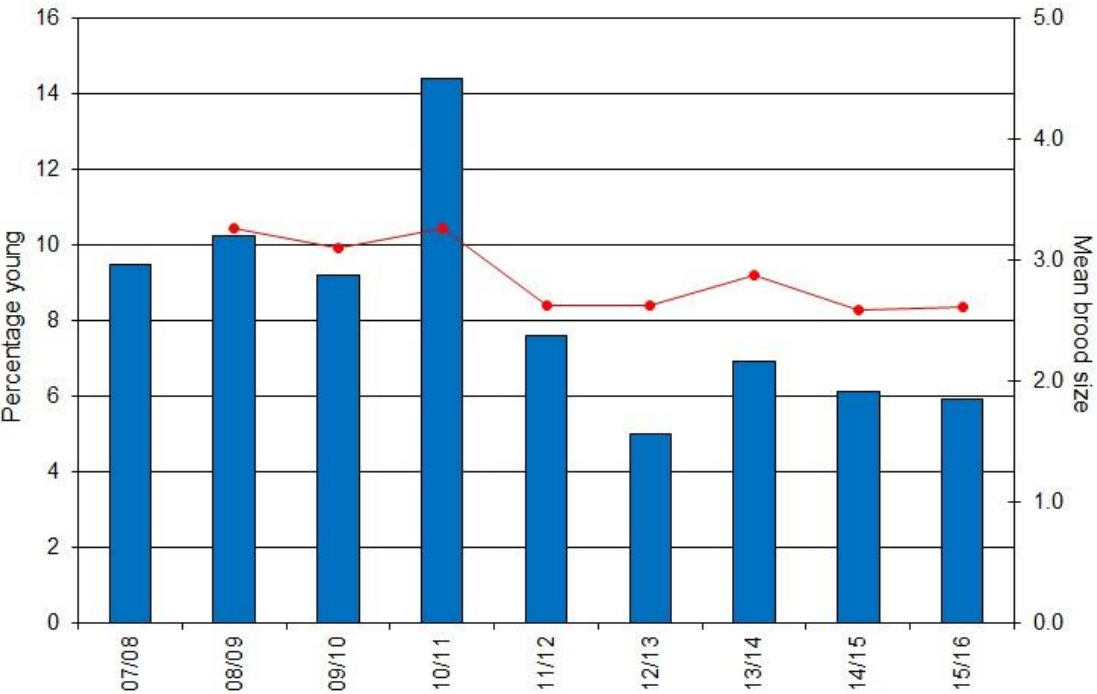


Figure 4. The percentage of young (blue columns) and mean brood size (red circles) of Greenland White-fronted Geese in Ireland, 2007/08 – 2015/16 (from Fox et al. 2016).

3. Discussion

Since the mid-1990s, this small global population of Greenland White-fronted Geese has shown consistent declines to the present day. 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). The main driver of the decline is still thought to be the population's consistently poor breeding success, as results from survival analyses of marked birds have not suggested that mortality within the population has been higher in recent years compared with previous years.

Total numbers counted in Britain in 2015/16 showed a slight recovery in numbers, with improvements in the autumn and spring census totals compared with 2014/15. Conversely, total numbers in Ireland fell, with the 2015/16 counts being well below the previous five-year means: 10,550 for autumn 2010-2014 and 11,371 for spring 2011-2015.

Numbers at many sites are mirroring that of the whole population, with declines observed across the entire wintering range. Islay in particular has seen a gradual decrease in the size of its flock, which in spring 2015 was 61.8% lower than the peak count recorded there in 1999 (Figure 5). The spring 2016 Wexford count was unusually low, being the lowest count since 1985. This is remarkable insofar as it represents a continued decline in the Wexford area, which, until 2012, had been relatively unaffected by the overall increase in the population up to 1999 or by the subsequent decline.

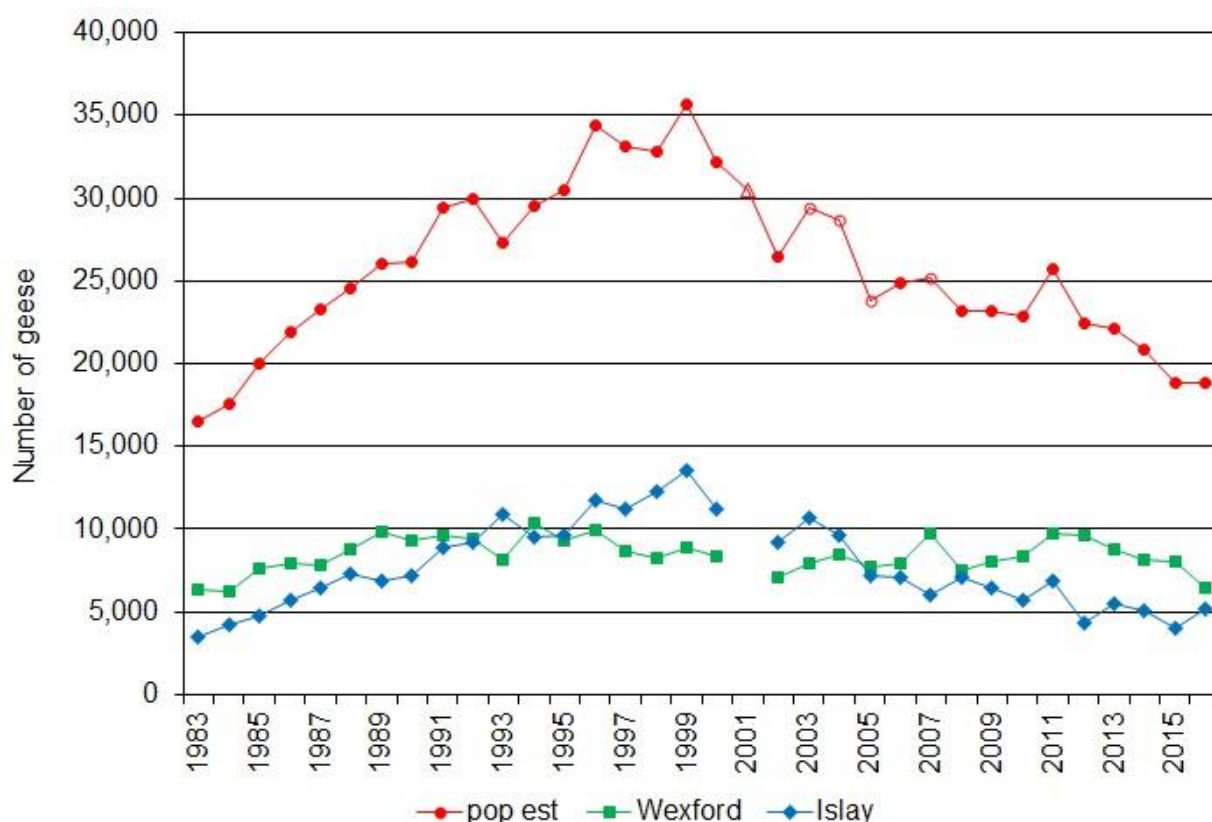


Figure 5. The annual population estimate of Greenland White-fronted Goose (green squares), with numbers recorded at Wexford (blue diamonds) and Islay (red circles), spring 1983-2016 (Fox et al. 2016)

For further information see Fox et al. 2016

4. References

Fox, A.D, I. Francis, D. Norriss & Alyn Walsh. 2016. *Report of the 2015/2016 International Census of Greenland White-fronted Geese*. Greenland White-fronted Goose Study / National Parks & Wildlife Service report, Kalo.

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Goose & Swan Monitoring