

# WWT/JNCC/SNH Goose & Swan Monitoring Programme

## survey results 2007/08

### Greenland White-fronted Goose *Anser albifrons flavirostris*

## 1. Abundance

Coordinated spring and autumn censuses of the Greenland White-fronted Goose were carried out in Great Britain and Ireland for the 26th consecutive year. Censuses were organised by the Greenland White-fronted Study in Britain and by the National Parks and Wildlife Service in Republic of Ireland and Northern Ireland.

Coverage in Britain was complete, except for Jura, with the small isles around western and northern Scotland (not covered in many recent years) counted during an aerial survey of Barnacle Geese. Totals of 12,122 and 13,113 Greenland White-fronted Geese were recorded in autumn 2007 and spring 2008, respectively. The autumn total comprised nine birds in England, 77 in Wales and 12,036 in Scotland, of which 6,617 were found on Islay. In spring, 13 were recorded in England, 77 in Wales and 13,023 in Scotland, with 7,086 reported on Islay.

Complete coverage of Ireland was also achieved during the spring 2008 census, when a total of 10,095 geese were recorded, 7,536 of which were counted in Wexford. Results showed widespread declines throughout the range, particularly amongst the more southerly flocks where counts confirmed the loss of regular wintering flocks at a number of resorts.

Combining the results for Britain and Ireland from the spring census gives an overall population estimate of 23,208.

Autumn and spring census counts in Great Britain in 2007/08

Region	Autumn Census	Spring Census
Orkney	63	101
Caithness	292	292
North east Scotland	n/a	n/a
Western Isles	156	199
Inner Hebrides	55	54
Lochaber/North Argyll	1,415	1,647
South Argyll	3,026	3,244
Islay	6,617	7,086
Dumfries & Galloway	405	400
other sites in Scotland	7	n/a
Wales	77	77
England	9	13
<b>Great Britain total</b>	<b>12,122</b>	<b>13,113</b>
Wexford	n/a	7,536
Rest of Ireland	n/a	2,559
<b>Ireland total</b>	<b>n/a</b>	<b>10,095</b>
<b>Population estimate</b>	<b>n/a</b>	<b>23,208</b>

## 2. Breeding success

A total of 5,929 birds were aged in Britain during winter 2007/08 and brood size was assessed for a total of 124 families. The overall percentage of young was 9.7% and mean brood size was 3.03 young per successful pair. The percentage of young varied considerably between wintering sites, ranging from 0-28.6% young. Although the proportion of young amongst flocks on Islay was similar to the previous winter, and only slightly lower in the rest of Britain, numbers were still below average (10.1% compared with 13.1% average during 1982-2006 on Islay; 9.3% compared with 12.8% average for rest of Britain).

In Ireland, a total of 5,870 birds were aged, the majority of which were at the wintering site in Wexford. The overall percentage young was 9.5%, with 10% noted amongst the 5,292 aged at Wexford, where a mean brood size of 3.34 young per successful pair was also recorded, and 5.4% amongst flocks in areas away from Wexford.

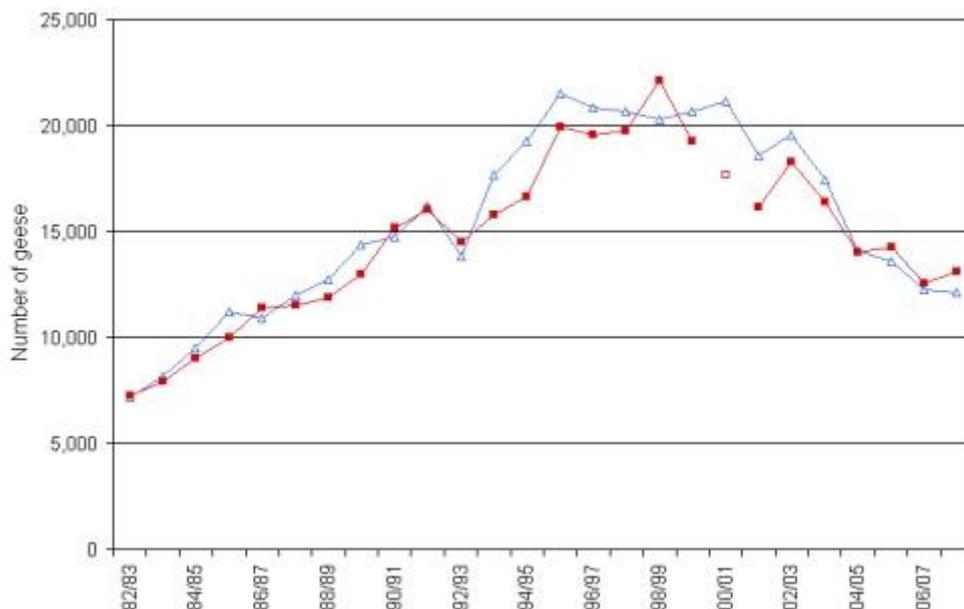
Percentage of young and mean brood size during winter 2007/08

	<b>% young</b>	<b>Mean brood size</b>
Islay	10.1	3.52
Britain excluding Islay	9.3	2.76
<b>Britain overall</b>	<b>9.7</b>	<b>3.03</b>
Wexford	10.0	3.34
rest of Ireland	5.4	n/a
<b>Ireland overall</b>	<b>9.5</b>	<b>n/a</b>

### 3. Discussion

Complete coverage of Britain and Ireland in spring 2008 provided the third overall population estimate since 2000. The total estimate was 6.8% down on the last estimate of 24,895 in spring 2006, and was also markedly lower than in spring 2002 (26,412) and 1999 (35,573).

In 2007/08, numbers in Britain were similar to the previous winter. The slight increase in spring 2008 may, in part, be due to the 18% increase on Islay between 2007 and 2008, which suggests there may have been an underestimation of numbers there in spring 2007, when the count was much lower than in 2006 (7,111 and 6,025 in spring 2006 and 2007, respectively).



Counts of Greenland White-fronted Geese in Britain, 1982/83-2007/08, showing autumn (open triangles) and spring (filled squares) census results for each season. Note the missing value for spring 2001 (unfilled square) on account of the outbreak of Foot and Mouth Disease that year (from Fox *et al* 2008).

In spring 2008, numbers in Ireland were slightly lower than the last complete census in 2006 (10,608). The count from Wexford was 22% lower than the previous spring, although this was also well down on counts from earlier in the year (9,053 in February and 8,838 in early March), which suggested a major departure before the census count later in March. This may also help explain the increase in numbers on Islay compared with the previous spring. Breeding success was again relatively poor and below the level required to replace annual losses.

The reasons for this continued low reproductive success remain speculative. The arrival of Canada Geese in west Greenland, however, may be implicated in the decline of reproductive performance of Greenland White-fronted Geese. Data from the breeding grounds in west Greenland indicate that the overall density of Greenland White-fronted Goose pairs has decreased three-fold since 1999, corresponding to a similar decline in families returning to Islay over the same time period. In addition, fewer non-breeding White-fronted Geese were seen in west Greenland in 2005 compared to 1999, with a 53% decline in density. Again, this decline mirrors that seen in numbers wintering on Islay over a similar time period.

In contrast, Canada Geese, which exhibit behavioural dominance over the White-fronted Goose, showed a seven-fold increase in density of non-breeding birds since 1999, although the overall density of breeding pairs did not change. Further studies on the spatial relationship and breeding biology of these two species are required to assess any causal linkage between the increase in Canada Goose numbers and a declining White-fronted Goose population.

The continued decline is surprising given that it follows the decision, in August 2006, to ban hunting of Greenland White-fronted Geese in Iceland. Until the ban was announced, this source of mortality accounted for some 3,500 birds per annum, so it might be expected that the removal of hunting mortality would have had a greater effect on annual survival and, hence, the overall population size.

Young birds were very much over-represented in the shooting bag so it will take a few years before these birds attain breeding age and recruit into the breeding population. The situation will continue to be monitored to look at the longer-term effects the ban will have on the numbers of Greenland White-fronted Geese. Monitoring of adult annual survival will also continue through the resightings of marked individuals, to see the long-term changes there.

## 4. References

Fox, TD, I Francis & A Walsh. 2008. *Report of the 2007/2008 International Census of Greenland White-fronted Geese*. Greenland White-fronted Goose Study. Kalo

This report should be cited as:

WWT. 2008. *Goose & Swan Monitoring Programme: survey results 2007/08 Greenland White-fronted Goose *Anser albifrons flavirostris**

WWT/JNCC/SNH, Slimbridge.

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# Goose & Swan Monitoring