

Notes

Barnacle Geese *Branta leucopsis* in Ireland, spring 2008

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A complete aerial and ground census of Greenland Barnacle Goose *Branta leucopsis* was carried out in spring 2008. The Irish census was part of a periodic census of the entire Greenland breeding population of Barnacle Geese which overwinter almost exclusively in Scotland and Ireland, with a very small flock also occurring in Wales. A total of 328 islands and mainland sites were surveyed along the west and north coasts of Scotland and Ireland. Most sites were surveyed from the air, while several ground-based counts were carried out also. The aerial census in Ireland was carried out on two days, 17 and 18 March. Approximately 11 hours flying was undertaken, surveying sites in a south to north direction along the west coast of Ireland from the Blasket Islands, County Kerry to Inishtrahull, County Donegal. Some 33 sites were found to hold 12,232 geese, which represents 17% of the population, and is an increase of 35% when compared with the last census in 2003. The majority (53%) of the geese present in Ireland were found at two key sites, namely Ballintemple/Lissadell in Sligo and the Inishkea Islands in Mayo. The combined Scottish, Welsh and Irish total of 70,501 Barnacle Geese is the highest ever recorded and represents an increase of 25.0% over five years.

Introduction

The Barnacle Geese which winter in Ireland, together with those in western and northern Scotland, and the small outlying flock in Wales, represent the entire breeding population from northeast Greenland (Ogilvie *et al.* 1999). Censusing of this population on the wintering grounds commenced in 1959/60 and has since been carried out at approximately five-year intervals. Over this period, the population has increased, from 8,277 birds to the current high level of 70,501.

In spring 2008 a census of Barnacle Geese was carried out, five years after the spring 2003 one (Merne & Walsh 2003). In Ireland the census was undertaken by the National Parks and Wildlife Service, while in Scotland the Wildfowl and Wetlands Trust (under contract to the Joint Nature Conservation Committee) was responsible for the census. The Irish census was carried out mainly by air, with ground counts being carried out at some key sites, either simultaneously or within a few days of the aerial census. This paper outlines the itinerary and findings of the Irish census and combines these with the Scottish and Welsh results to produce a total for the entire Greenland breeding population.

Methods

The aerial census methodology employed in the spring 2008 census was as described by Walsh & Merne (1988). The census was carried out over two days, 17 and 18 March 2008 using an Irish Air Corps Rheims Rocket Cessna R205. All sites where geese have been recorded over the last forty years or so, together with a small number of additional sites which looked to be attractive to Barnacle Geese, from the Blasket Islands in County Kerry to Malin Head and Inishtrahull in County Donegal were covered from the air, with the exception of inner Clew Bay (Inisheeny, Moynish More Island, Rosmurrevagh) in County Mayo, which was covered from the ground. The census commenced at the Blasket Islands (Great Blasket and Beginish) at approx 10.30 hours. From there the flight route was northwards along the Kerry, Clare and Galway coastline and islands as far as Slyne Head, and from Mannin Bay northwards along the Galway and Mayo coast checking islands from Turbot Island to Stags of Broad Haven, and the north Mayo coastline, completing the first days census at 16.47 hours. The survey recommenced on Tuesday 18 March at 09.58 hours, and proceeded along Drumcliff Bay, and west and north along the Sligo and Donegal coast and islands, from Inishduff to Inishtrahull, where the census was completed at 12.20 hours.

Simultaneous ground coverage was achieved at several sites, including Termoncarragh Lough and Roonagh Lough, Inisheeny, Moynish More Island, Rosmurrevagh, Inisheeny, Ballybeg Island, Ballintemple/Lissadell Loughrosbeg Bay, Trawbrega Bay and Malin Head.

Results

A total of 123 sites was visited, 31 of which supported flocks of Barnacle Geese (Fig. 1), and which are listed in Table 1. This included three flocks in the Clew Bay Group (Moynishmore Is., Rosmurrevagh and Inisheeny) and two flocks on Malin Head. Geese were absent at the remaining 92 sites (Table 1).

The total number of Barnacle Geese recorded in Ireland in spring 2008 was 12,232. Largest numbers were recorded at Ballintemple/Lisadell in Drumcliffe Bay in County Sligo, and on the Inishkea Islands in County Mayo. Together, these sites supported in excess of 50% of the total recorded.

Table 1. Irish sites holding Barnacle Geese in spring 2008.

County	Site	Number of geese	
Clare	1 Illaunonearaun	80	
	2 Mutton Is.	120	(p)
Galway	3 Birmore Island	121	(p)
	4 Inishmuskerry	20	
	5 Croaghnaekeela Island	330	(p)
	6 Inishshark	444	(p)
	7 Davillaun	320	
Mayo	8 Inishdalla	67	(p)
	9 Roonagh Lough	52	(m)
	10 Clew Bay group	472	
	11 Ballybeg Island	55	
	12 Inishgalloon	36	
	13 Duvillaun More	221	(p)
	14 Leamareha Is.	80	
	15 Inishkea Islands	2525	
	16 Inishkeeragh	50	
	17 Inishglora	90	
18 Termoncarragh Lake	850	(m) (g)	
19 Kid Island	35		
Sligo	20 Ballintemple	3930	(m) (g)*
Donegal	21 Rathlin O'Birne	370	(p)
	22 Loughros Beg Bay	203	(m) (g)
	23 Inishbarnog	5	
	24 Inishkeel	210	
	25 Roaninish	207	
	26 Inishkeeragh	164	(p)
	27 Inishmeane	32	
	28 Inishsirrerr	196	(p)
	29 Inishdooyey	190	
	30 Dunfanaghy	320	(m) (p)
	31 Malin Head	437	(m) (p) (g)
	Total		12,232

Other sites checked where no geese were found:

Kerry: Beginish Island, Great Blasket Island, Youngs Island, Smerwick harbour, Dunacapple Island, Brandon Bay, Lough Gill (Mainland m), Magharee Islands.

Clare: Bishop's Island, Killard (m), Carrownore Pt (m), Mattle Island.

Galway: Aran Islands (Inisheer, Inishmaan & Inishmore, Gorumna Island, Inishbarra Island, Illaumeeragh Island, Finish Island, Mweemish Island, Duck Island, Mason Island, St. Macdara's Island, Illaunnacroagh Island, Freaghillaun Island, Inishlakan Island, Inishdowros Island, Fox Islands, Carrigacummer Island, Illaunurra Island, Horse Island, Slyne Head (Chapel Island & Illaunamid Island), Inishkeeragh Island, Inishdugga Island, Turbot Island, Eeshal Island, Inishturk, Omev Island, Cruagh Island, High Island, Friar's Island, Inishgort Island, Inishskinny Island, Inishbofin, Inishlyon Island, Lecky Rocks.

Mayo: Inishbroon Island, Freaghillaun North Island, Crump Island, Shanvalleybeg Island, Inishdegil More Island, Frehill Island, Inishturk, Caher Island, Clare Island, Achillbeg Island, Duvillaun Beg Island, Gayhta Island, Falmore (m), Carrickmoyleenacurhoga Island, Stags of Broadhaven, Pig Island, Illaunmaster Island, Horse Island.

Sligo: Ardboline Island, Streedagh Pt (m), Inishmurray Island.

Donegal: Rotten Island, Fintragh Bay (m), Inishduff Island, Muckcross Head (m), Tormore Island, Gull Island, Sheskinmore (m), Illauncrone Island, Termon (m), Inishal Island, Inishfree Upper Island, Rutland island, Aran Island, Cruit Island, Owey Island, Inishfree Lower Island, Inishinny Island, Gola Island, Umfin Island, Inishbofin, Inishbeg Island, Glashedy Island, Garvan Islands, Inishtrahull Island.

(m) Mainland site; all other sites were islands

(p) Geese counted from aerial photographs

(g) Geese counted from the ground

* A ground count made close to date of aerial census at Ballintemple was considered to be more accurate than the aerial estimate.

Notes

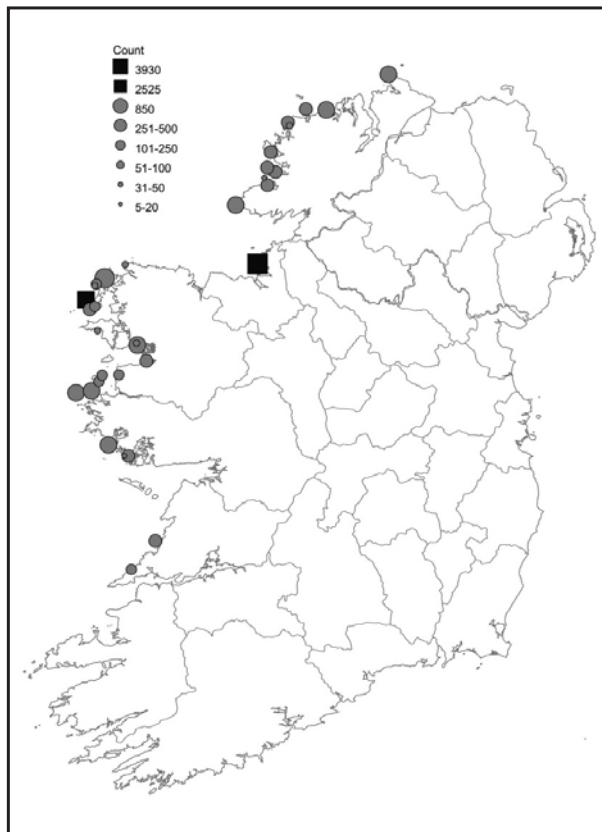


Figure 1. Map showing locations of Barnacle Goose flocks in Ireland, spring 2008.

Discussion

Count accuracy

Unlike the 2003 census, this survey was completed over a two day period, and within a very stable weather pattern, with excellent light and counting conditions. It is thought that all flocks present along the flight route were located. Thankfully, a ground-based count of the Inishkea Island flock was carried out prior to the aerial census, which supported the aerial count. A total of fourteen flocks, in Counties Clare, Galway, Mayo, Sligo and Donegal, totalling 4,637 birds, were photographed from the air (Table 1), and accurate counts were made from colour transparencies. The numbers corresponded very closely with those obtained from visual counts. Ground counts, both simultaneous and within a few days either side of the aerial census, were made at six sites (Table 1), and totalled 3,079 birds. The ground counters were satisfied that all birds present were visible and therefore these counts were taken as accurate. Thus, it is concluded that the spring 2008 census in Ireland was quite accurate.

Changes in numbers over time

Barnacle Geese in Ireland have been thoroughly censused on 13 occasions since 1959/60 (Merne & Walsh 2003). The total recorded in 2008 represents an increase of 35.3% compared with the total recorded during the last census in spring 2003, and a three-fold increase compared with the earliest surveys during the early 1960s (Merne & Walsh 2003).

There has also been a major increase in numbers in Scotland over the same period, to 58,269 in 2008, which represents a 23% increase compared with 2003 (Mitchell *et al.* 2008). No Barnacle Geese were found in Wales. Therefore, the combined count of this northeast Greenland breeding population was 70,501, and is the highest number recorded, representing an overall increase of 25% over the last five years.

The reasons for success and continued increase in this Barnacle Goose population are not clear, but could be related to improved winter feeding at some major sites (e.g. Islay in Scotland and Ballintemple in County Sligo), resulting in increased productivity, and also to a reduction in hunting mortality in Scotland.

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