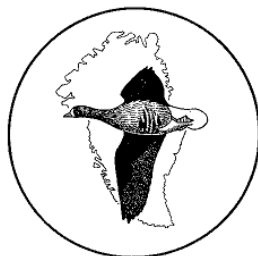


**REPORT
OF THE 2012/2013
INTERNATIONAL CENSUS OF
GREENLAND WHITE-FRONTED GEESE**

by

GREENLAND WHITE-FRONTED GOOSE STUDY



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Final report – November 2013

SUMMARY

The global population of Greenland White-fronted Geese in spring 2013 comprised 22,156 individuals, down 1% on the previous year. There were declines of 9% at Wexford, 8% in the rest of Ireland and 6% in Britain away from Islay, although numbers on Islay increased by a remarkable 27% over the previous year. Reproductive success was very low (only 5%) in Ireland, 10% in Britain. We sadly report that Oscar Merne, a long and loyal friend of the Greenland White-fronted Goose, passed away in January 2013.

This report presents the results of the surveys of the Greenland White-fronted Goose on the wintering grounds in winter 2012/13, combining counts from all the British resorts (coordinated by the Greenland White-fronted Goose Study) and those in Ireland (co-ordinated by the National Parks and Wildlife Service). The international count in spring 2013 located a combined global total of 22,156 Greenland White-fronted Geese, the lowest recorded since spring 1986, although down only 1.1% (247 birds) on the last world population estimate of 22,403 in spring 2012. This change was somewhat encouraging after the 13% decline on the previous year's total and perhaps not so great as might have been expected given the very low reproductive success everywhere on the wintering grounds (but especially in Ireland) after the summer of 2012.

The count network in Ireland achieved excellent coverage again in spring 2013, with 8,751 counted at Wexford (compared to 9,567 in spring 2012) and 2,465 (2,675 last year) from the rest of Ireland. Missing spring counts were substituted for six Irish regular wintering resorts from dates outside the international count period, amounting to only 2.7% of the Irish total. Complete censuses of all known Greenland White-fronted Goose wintering haunts in Britain found totals of 10,083 birds in autumn 2012 and 10,934 in spring 2013, compared with 8,493 and 10,161 respectively, reported in the previous season at the same times of year. The 2012/2013 totals comprised 5 and 6 birds reported in England, 55 in Wales, 5,321 and 5,449 on Islay (an encouraging increase compared with 4,670 and 4,309 respectively last season) and 4,702 and 5,424 in the rest of Scotland in autumn and spring respectively (compared with 3,774 and 5,775 respectively last season). Coverage in Britain was more or less complete, all resorts were counted at least once in the season, again including the Small Isles (not covered in many recent years), where 2 were seen in February. Spring counts were missing from the specified count period from 4 resorts, but all were substituted with counts undertaken very close to the defined international count dates, amounting to 2.4% of the British total.

Breeding success amongst geese wintering at British resorts continued to be well under the average since age ratios began, again well below the unusually high production of young in the summer of 2010 (21.2% young). After the 2012 breeding season, the average percentage young was 9.6% ($n = 6,884$ aged compared to 8.8% last year), mean brood size was 2.94 ($n = 148$ broods, compared to 2.93 last season). This included 11.1% on Islay, (below the 13.9% average for 1962-2012 inclusive, but better than 9.9% last season) where the mean brood size was 3.01 ($n = 91$ compared to 3.35 last year). The percentage of first winter birds at regular resorts exceeded 15% at nine resorts, but nine others were below 10% and four flocks contained no young at all this winter. In Ireland, the percentage young amongst aged flocks in 2012/13 was the lowest ever, 5.0% (based on 4,836 aged individuals) compared to 7.6% last season. Mean brood size at Wexford was again low at 2.63 ($n = 62$) compared to 2.62 last season (but 3.39 and 3.27 in the previous two seasons), but no brood size data were reported from flocks elsewhere in Ireland. The 4.9% young reported amongst the sample of 4,034 geese aged at Wexford was the lowest ever recorded since records began (compared to 7.1% recorded last year). Elsewhere in Ireland, reproductive success was marginally higher, 5.7% ($n = 802$) but still low compared to 9.9% last year.

INTRODUCTION

The 2012/2013 survey marks the thirty-first ever annual census of Greenland White-fronted Geese co-ordinated in Great Britain by the Greenland White-fronted Goose Study and in Northern Ireland and the Republic of Ireland co-ordinated by the National Parks and Wildlife Service. Table 1 shows the most recent six seasons of total census data available to the present. Unfortunately, we have no counts from southern Norway, where very small numbers may regularly winter, but otherwise the spring 2013 count represents a full survey of all known winter haunts for this population.

Table 1. Spring population census totals for Greenland White-fronted Geese, 2008-2013.

	Spring 2008	Spring 2009	Spring 2010	Spring 2011	Spring 2012	Spring 2013
<i>Wexford</i>	7536	8034	8381	9733	9567	8751
<i>Rest of Ireland</i>	2559	2623	2622	2777	2675	2465
<i>Islay</i>	7086	6429	5744	6911	4309	5449
<i>Rest of Britain</i>	6027	6076	6097	6344	5852	5491
<i>Population total</i>	23208	23162	22844	25765	22403	22156

AUTUMN ARRIVAL PATTERNS

The very earliest Greenland White-fronted Goose reported back on the wintering grounds was a single bird on Sanday, Orkney on 16 September, with two geese next day, surely geese that had overshot Iceland *en route* from Greenland, as this is around the date when first geese make landfall in Iceland from the breeding areas. At Wexford Slobs in SE Ireland, Alyn Walsh reported his first 8 geese back at 12:30 on 29 September 2012, building to 12 by 16:30 and 27 with 13 Whooper Swans the next day. Numbers built over the following days to 1,200 by 11 October, 1,300 by 18 October and 2,050 on 25 October. On Islay, Malcolm Ogilvie reported a large arrival of Barnacle Geese took place from 3rd to 8th October, when the bulk of that population came in. Several hundred Greenland White-fronted Geese were on the Gruinart reserve at the same time but seemed to have dispersed immediately afterwards. The main migration period on Tiree took place between 3 October (when the first five arrived rising to 70 on the 9th) and 17 October (John Bowler). Sixty-three flew south over Kilpheder on 3 October (Bill Neill), followed by 11 on 6 October, the earliest on the Western Isles (Steve Duffield). Roger Broad had 28 at Loch Lomond on 8 October and the first 2 were seen back at Fidden on Mull on 9 October (Carol Marshall) when birds were also heard at Broubster Leans, Caithness. Ian Hopkin saw his first 18 on Bute on 9 October, rising to 33 on 12 October (Doug Menzies); Rob McMillan saw 24 (including 1 juvenile) back at Kilmuir on Skye on 10 October, which turned out to be the majority of the wintering flock, and the earliest he has seen them back there. First geese heard at Broubster Leans were on 9 October and seven were back at Loch of Mey on 12 October, where Sinclair Manson had 46 (all adults) back on nearby stubble the next day. A single was seen at Grindon Lough on 15 October and Ruth Eastwood reported the first single Greenland White-fronted Goose back at West Freugh, Stranraer with Pink-footed Geese the same day. Arthur Thirlwell had his first birds (43 including a brood of 3 young) back at Loch Ken on the morning of 20 October, rising to 64 on 25 October, 86 on 27 October and 138 by 1 November. Although Catriona

White saw her first 11 geese on Lismore on 24 October, the first reported back at adjacent Benderloch were not until 25 were seen at Ardnaclach on 31 October (Robin Harvey), with 25 and later 33 next day (Andy Robinson and Alan Reid). Alan Leitch did not see the flock at the Loons, Orkney until 26 October, when 18 were present; first reports from Colonsay were 48 flying over on 28 October and 64 at Stranraer on 30 October were the first large numbers seen there (Paul Tarling). Finally, Russ Jones was only reporting 16 by 31 October from Ynyshir on the Dyfi.

In Northern Ireland, 4 were seen in County Antrim on 20 October, 2 flew over Lough Erne on 25 October, 4 were seen on Rathlin Island on 27 October, Colin Guy reported 40 flying over Portrush (28th) and 11 flew past Runkery Head, Bushmills (29 October). Twenty one geese were back at Lough Foyle by 29 October.

There seemed something of an influx of Greenland White-fronted Geese to south western England in late October 2012, starting with 4 in Thurstone Bay, South Hams in Devon which stayed until 3 November (Michael Passman). This was followed by groups of 2, 2, 5 and 10 seen arriving of the sea at Portgwarra near Land's End on 30 October and 24 the next day. The same day, 4 were seen at Land's End, 3 on the Lizard, 5 flew over Porthcurno and 4 more over Crowdy Reservoir. Six unaccompanied juveniles turned up on Porth Hellick Pool on St Mary's on the Scilly Isles on 30 October (which remained there until mid April 2013) and 12 others were seen flying over St Mary's eastwards. A single bird stayed at Maer Lake, near Bude from 2 to 7 November 2012.

SPRING DEPARTURE PATTERNS

On the Western Isles, 87 flying north at South Glendale, South Uist on 3 April were the first signs of the passage, with 22 flying into Baleshare, North Uist on 5 and 6 April and 65 north over Askernish on 5 April (Bill Neill). However, there was an impressive "fall" of Greenland White-fronted Geese involving what seemed like a big movement of birds on 7 April. It had clouded over the previous night, when a lot of snowy/sleety precipitation came in mostly over North Uist during the morning, whilst South Uist was dry and sunny on the afternoon of the 7 April. Andrew Stevenson reported 156 switching between Muir of Aird and Loch Mor on Benbecula, including T1K (which had wintered at Wexford), and he witnessed flocks of 80, 60 and 32 flying north past Culla Bay there between 13:30 & 14:00 hrs. On South Uist, Andrew counted 330 at Ardkenneth, Loch Bee (including 5 neck-collared birds, which he was unable to read, because the geese were too nervy and flighty, but included 1 bright fresh orange and 4 older more faded orange which were very likely also Wexford birds). There were also 277 at Kilauley/Ardivachar (including a further 8 neck collared birds, 5 newly ringed this spring at Wexford X2K, X2L, X0L, X4N and X7N and he read 2 other collars on birds marked at Hvanneyri in west Iceland in spring 2012 not reported this winter from anywhere on the winter quarters). As if these were not enough, Andrew had a further 73 at West Loch Ollay and 39 on the Bornish machair the same day. There were also reports of 156 on Benbecula where there were also flocks of 80, 60 and 32 heading north off Culla Bay between 13:30 and 14:00 the same day. Next day, 8 April, on North Uist, 200 flew north at Hougharry, 900+ were present at Loch nam Feithean (where Brian Rabbitts read collars P6T, which wintered at Wexford in 2012/13 and X3K and X5F ringed at Wexford in March 2013)

and 133 at Sollas. There were also 25 at Dun Gainmhich in the morning and 65 at Loch Mor on Benbecula the same day. Brian Rabbitts saw only 7 geese on 9 April, so this large group moved rapidly on after the frontal system passed through. Subsequently, 90 flew north at Cairnish, North Uist on 9 April and another 60 at the same site next day. Most of the geese also seem to have left Coll and Tiree on the night of 9 April (Ben Jones and John Bowler), but on the Uists 4 remained at Benbecula until 24 April and 13 on North Uist until 22 April. Brian Rabbitts had one final observation at Balranald on the now exceptionally late date of 3 May.

On Tiree, 80 geese were still present on 4 April, but most left on 9 April and the last was a lingering singleton on 29 April (John Bowler). Larry Griffin witnessed the majority of the Loch Ken flock departing on April 10 and the remaining 50 departed from there by 16 April. The Greenland White-fronted Geese at The Loons, Orkney were last seen on 6 April when 14 were present. Exceptionally there were still 55 birds (i.e. the full flocks complement) on the Dyfi on 18 April (Russ Jones) and 82 on Lismore the next day, where a single lone straggler remained until 1 May (Catriona White). The 6 Greenland White-fronted Geese that wintered on St Mary's on the Scilly Isles were still there on 18 April 2013 and there were still 5 on Lewis and 2 on North Uist on 26 April.

Jóhann-Óli Hilmarsson saw four Greenland White-fronted Geese at Forsæti in Floí, southern Iceland on 29 March. The very first geese arrived at Hvanneyri on 30 March (Björn Þorsteinsson), but by the time Mitch Weegman arrived at Hvanneyri on 3 April, there were 200 on site, rising to 700 by the evening of 4 April, 900 on 9 April and where the early arrival peak occurred on 10 April 2013.

COUNTS IN BRITAIN

Extremely good coverage of all known regular Greenland White-fronted Goose wintering sites was achieved in Britain during winter 2012/13. As usual, no data have been incorporated from the WeBS database, as these counts were not available at the time of writing. As well the fantastically loyal coverage achieved by the count network, we have gathered reports from the internet on other observations of the race. After the large numbers reported away from regularly used sites during 2011/12, there were very few reports away from the traditional wintering haunts in 2012/13, and we were delighted to be able report increases in general numbers at several resorts compared to the previous winter. A full breakdown of the count totals giving the maximum counts per month and the census period totals is presented in Table 2.

Up to 62 Greenland White-fronted Geese wintered at The Loons on Orkney, with reports of part of this flock at Loch of Swannay, with 63 reported during the spring census period, slightly up on last winter. Numbers at both wintering flocks in Caithness were in contrast slightly down on winter 2011/12, with up to 154 at Westfield (and only 110 during the spring census, compared to 168 last winter) and up to 151 in the Loch of Mey/Loch Heilen (compared to 170 last season). The Lewis flock numbered 38 for most of the winter, up again on 23 and 19 in the last two winters, which represents a very cheering increase amongst a

flock that has hung on with small numbers for many seasons. Uist flocks were slightly up on last season with 113 at Loch Bee (compared to 102 last year) and 36 at Kilpheder (versus 19), but numbers on Benbecula were down to 17 from 26 last season. The two Skye flocks were down on last season, as were numbers on the bogs of Kentra Moss and Loch Shiel and the Benderloch/Appin/Lismore flocks. Numbers on Tiree, Coll, Mull and Colonsay held their own, whilst number fell a little at Danna/Kiells. The little flock at Moine Mhor continues to hang on, with 16 in 2013 being cheerily up on just 6 at the end of last winter. The total numbers on Kintyre were similar in the last two winters at around 2,400 in all, despite very low breeding success amongst birds using these wintering resorts. Numbers were down on Bute to c.160 this winter from 190 in the spring 2012 count. Loch Lomond was back to over 200 geese in spring 2013 from 152 in the previous spring, but most cheerily, the autumn count on Islay was up from 4,670 in 2011 to 5,321 in 2012 and the spring count similarly up from 4,309 in 2012 to 5,449 in 2013. This very dramatic increase was very welcome news after the declines on Islay in many recent years, and this increase also counterbalanced the widespread declines elsewhere in Scotland. For instance, Loch Ken and Stranraer were both down compared to the previous winters, but the Dyfi held 55 geese through most of 2012/13, up slightly from 48 in the previous season. Overall, therefore, there was slight recovery in numbers after the disastrously low counts in 2011/2012 (see Fig. 1 below and Table 2 for details).

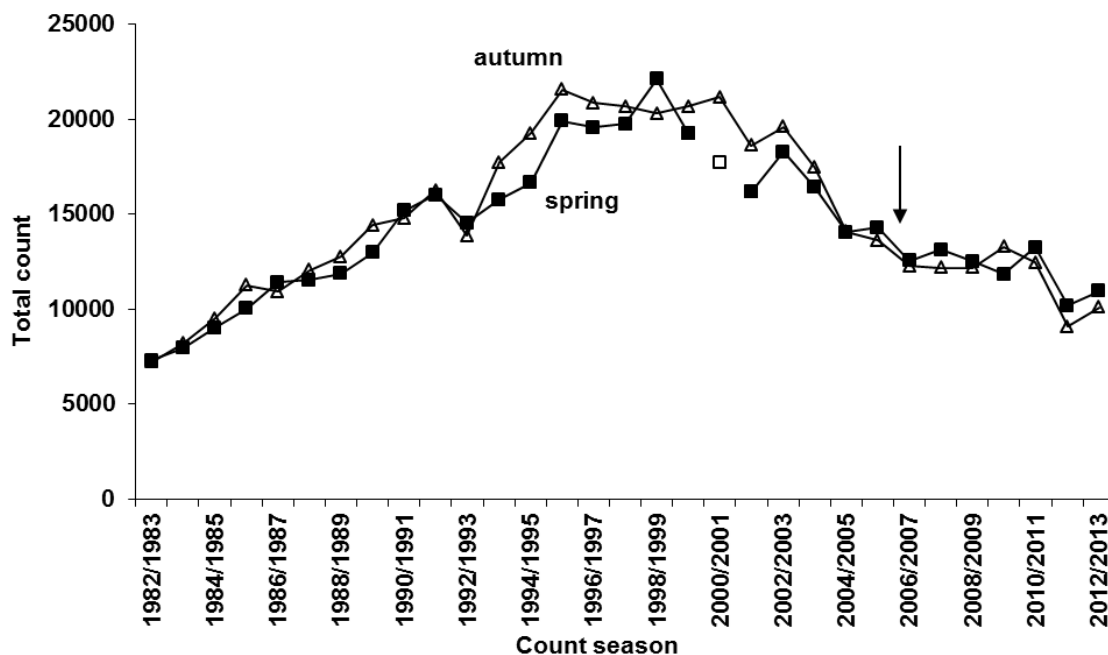


Figure 1. Counts of Greenland White-fronted Geese in Britain, 1982/1983-2012/2013, showing autumn (open triangles) and spring (filled squares) census results for each season. The value for spring 2001 (unfilled square) was missing on account of the outbreak of Foot and Mouth Disease that year and was therefore estimated from previous counts. Vertical arrow indicates start of hunting ban in Iceland in autumn 2006.

Table 2. Summary counts of Greenland White-fronted Geese in Britain 2012/13

Counts in shaded boxes are substituted counts for sites where no counts were received for the precise period of the international census periods

SITE NAME	SEP	OCT	NOV	AUTUMN CENSUS	DEC	JAN	FEB	MAR	SPRING CENSUS	APR
ORKNEY										
Loons		18	62	62	62	62	100	63	63	14
Swannay Loch						16	20			
Stenness/Burness							1	1		
CAITHNESS										
Westfield		36	94	112	130	132	41	154	110	180
Loch of Mey		100	137	135	135	151	46	112	112	
NE SCOTLAND										
Loch of Strathbeg			2	2	2					
WESTERN ISLES										
Barvas/Shawbost, Lewis				37	39	16+	39	38	38	5
Butt of Lewis										
North Uist			2	2	2	2	2	4	4	900
Kilpheder/Askernish, South Uist		11	21	22	22	23	25	36	36	
Loch Bee/Kilaulay, South Uist		50	62	113	113				113	
Bornish			1							
Benbecula			22	22	22	22	18	17	17	
INNER HEBRIDES										
Loch Chaliun Chille, Skye		24	24	24	24	24	24	27	27	
Broadford, Skye			17	13	13	12			11	11
LOCHABER/NORTH ARGYLL										
Muck/Eigg				0			2		0	
Loch Shiel/Claish Moss			18	24	24				24	
Lorn: Eriska/Benderloch			52	52					52	
Lorn: Appin			66	66	47	48	58	67	67	52
Lismore		62	125	120		177	220	185	202	82
Tiree		459	532	662	662	684	666	927	927	
Coll			147	256		198	249		255	
Fidden, Mull		20	20	20		25	25		25	25
Assapol, Mull										
SOUTH ARGYLL										
Colonsay/Oronsay		8	94	88	42	66	73		64	
Jura: Loch a'Chnuic Bhric				61					49	
Jura: Lowlandman's Bay			9	10	8				0	
Danna/Kiels/Ulva			187	219	219	221	130	199	190	
Moine Mhor			10	10	10	10	10	16	16	
Rhunahaorine				321	851				419	
Machrihanish				1600	1778				1611	
Clachan				176	155				168	
Gigha				38					147	
Glenbarr				0					0	
Isle of Bute			160	165	165	152	120	157	157	
Endrick Mouth, Loch Lomond			212			165	156	189	203	
ISLAY			5259	5321	5321	5100			5449	
DUMFRIES & GALLOWAY										
Loch Ken		86	157	150	155	158	155	164	141	139
Stranraer		64	146	120		188	188	188	176	
WALES										
Dyfi Estuary		16	37	51		55	55	43	55	55
Marloes Mere			4	4						
ENGLAND										
Woodhorn Flash, Northumberland			1	2	2	3	4	4	4	
Grindon Lough		1	1	1	1		2	1	1	
Lancs Mosses			1	1	1	1		1	1	1
Fleetwood, Fylde				1	1					
Eskmeals, Cumbria						8				
Isles of Scilly		6	6	6	6	6	6	6	6	6
TOTALS		961	7688	10089	10012	7709	2435	2599	10940	1470
Rest of GB less Islay		961	2429	4768	4691	2609	2435	2599	5491	1470
Rest of Scotland less Islay				4702					5424	
England				11					12	
Wales				55					55	

COUNTS FROM IRELAND

Excellent coverage was again achieved in Ireland such that most of the regular flocks were counted at some stage of the winter (see Table 3 for full details). Counts were substituted for a few sites using counts undertaken from the same resorts on dates outside the spring international count period for six sites (Owenduff, Errif and Derrycraff, Connemara, The Suck River, River Nore and Killarney) amounting to just 2.7% of the Irish total. No counts were reported from North Lough Ree again, so after substituting counts of 26 from the previous year last season, we have here treated this flock as potentially no longer in existence. The Caledon flock seems finally to have disappeared, but the appearance of 48 geese in November at Errif and Derrycraff with other sightings through the winter happily confirm that this flock has not finally disappeared. Searches at Drumharlow Lough and Kilglass and Castleforbes detected no geese again confirming these resorts have likely been abandoned.

Overall, most other resorts showed mixed trends, 4 flocks showed modest increases in number compared to last spring, Sheskinmore, Errif and Derrycraff, Rostaff and Killower and Little Brosna. However, there were noticeable declines at Loughs Foyle and Swilly (1,288 to 1,032), and at Dunfanaghy, where after the remarkable increase from 46 in 2010/11 to 169 last year, numbers slipped back to 135 in spring 2013. The Stabannan flock fell back to 32 from 52 in autumn 2011, as did totals at Lower Lough Corrib (50 to 23) although Lough Macnean numbers held even (69 and 67 in both years). Numbers at the Midland Lakes complex which had increased from 253 in spring 2010 to 305 the following year and which fell back to 250 in spring 2012 numbered up to 263 in winter 2012/13, although only 220 could be found during the spring count. The Pettigo flock continued its fall from 71 in 2011 to 58 in 2012 and 54 this year, but happily the Lough Gara flock which fell back to 54 in 2011/12 numbered 114-115 for most of winter 2012/13.

The spring 2013 count from Wexford was 8,751, down 8.5% on the 9,567 counted last spring, which in turn had been the highest spring count since 1996 (see Fig. 2). This decline represents a major contribution to the global decline and is something of a surprise, given that this time last year we were highlighting the fact that spring counts at Wexford in recent years have shown an increase since 2006, in contrast to the general pattern of totals elsewhere in Ireland showing relative constant levels over the same period. We interpreted this at the time as an indication that geese are attracted to the Slobs in a way that maintains high densities there, which suggested that the current management there retains the intrinsic attractiveness of this site compared to elsewhere! These sudden and major shifts in wintering distributions amongst geese that generally show high between-year site fidelity really underlines the urgent need to continue to monitor these geese simultaneously at all wintering resorts in order to track and hopefully better understand these major shifts between wintering resorts that continue to be a feature of this population.

Adding 8,751 at Wexford to the 2,465 in the rest of Ireland and the British totals gives a global total of 22,156 Greenland White-fronted Geese in spring 2013, very close (within 1.1%) of 22,403 counted in spring 2012 and potentially better than might have been expected given the overall breeding success in the population as a whole and in the Irish wintering element of the population in particular.

Table 3. Summary counts of Greenland White-fronted Geese in Ireland 2012/13

Counts in shaded boxes are substituted counts for sites where no counts were received for the precise period of the international census

	OCT	NOV	AUTUMN CENSUS	DEC	JAN	FEB	MAR	SPRING CENSUS
DONEGAL								
1.Loughs Foyle & Swilly	838	1171	922	922	842	1028	1032	1032
2.Dunfanaghy		0	124	32	124	132	135	135
3.Sheskinmore lough	19	46	46	31	45	31	45	45
4.Pettigo	30	42	55	55	41	26	54	54
NORTH CENTRAL								
6.Lough Macnean	3	51	61	61	61	61	67	67
7.Lough Oughter	0	0	0	0	4	6	6	0
8.Caledon	0	0	0	0	0	0	0	0
33.Stabannon			32				32	32
MAYO								
9.Lough Conn		49	49		0	54		54
10.Bog of Erris								
a. Mullet			2	2		1	15	1
b. Carrowmore			0	0	0		0	0
c. Owenduff		0		29	0	0	29	29
MAYO/GALWAY UPLANDS								
11.Errif & Derrycraff		48	48		15			48
12.Connemara			6					6
GALWAY LOWLANDS								
13.Rostaff & Killower		81	87	87	89	84	84	84
14.Lower Lough Corrib	0	0	30	30	0	23	23	23
15.Rahasane turlough		57	65	65	60	59	62	62
CLARE/LIMERICK								
16.Tullagher			21				21	21
17.North County Clare			48				48	48
SHANNON HEADWATERS								
20.Lough Gara		115	115			28	114	114
MIDDLE & LOWER SHANNON								
24.North Lough Ree								
25.River Suck	78	196	196	35	101	110	100	196
26.Little Brosna			200	200			176	176
MIDLANDS								
23.Midland lakes	200	165	200	200	232	263	220	220
27.River Nore				11				11
SOUTH WEST								
30.Killarney valley				7				7
SOUTH EAST								
Wexford	2048	8155	7908	7908	8725	8751	7770	8751
COUNT TOTALS								
Ireland without Wexford	3216	10176	10215	9675	10339	10657	10033	11216
			2307					2465

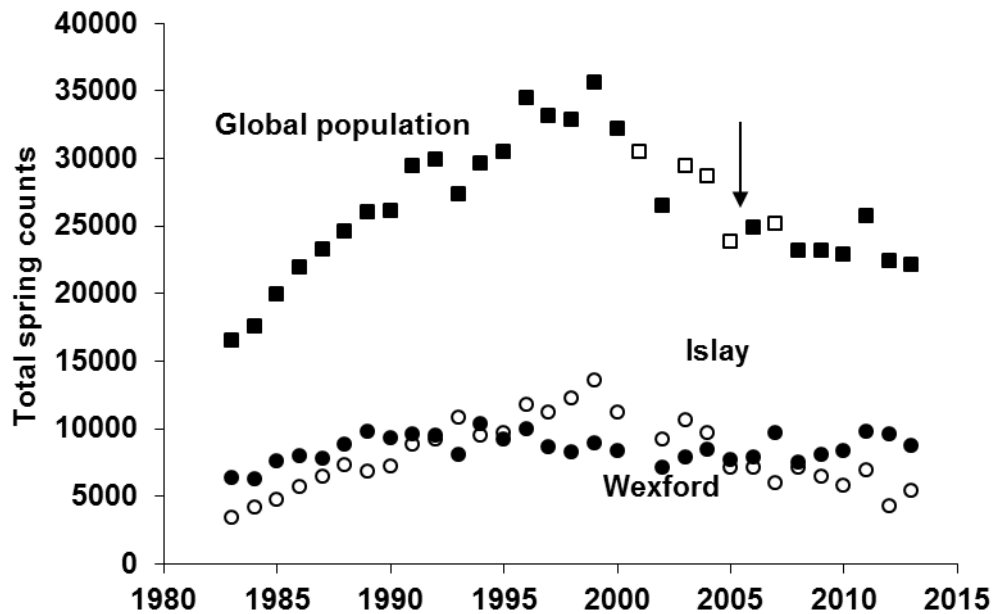


Figure 2. Spring counts of Greenland White-fronted Geese from Wexford Slobs, Islay and the global population count, 1983-2013. Values for the total population size are missing in some years when complete coverage could not be achieved. Values for spring 2001 were missing on account of the outbreak of Foot and Mouth Disease that year and were therefore also estimated from previous counts. The arrow marks the point at which autumn hunting in Iceland was stopped in 2006.

AUTUMN AGE RATIOS IN ICELAND

For some years now Arnor Sigfusson has been doing extensive age ratio sampling in Iceland and these data are proving to be an invaluable guide to the numbers we can expect on the wintering grounds. This year Arnor managed to sample an impressive number of Greenland White-fronted Geese in the west, mostly at Hvanneyri and in Mýrar on 11 October 2012, where he found an average of 11.7% young in a sample of 1,410 geese aged, with a mean brood size of $3.37 (\pm 0.25 \text{ SE}, n = 30)$. In the southern lowlands on 15 October 2012, he found 7.4% young amongst 448 aged, mean brood size $2.80 (\pm 0.76 \text{ SE}, n = 7)$.

AGE RATIOS IN BRITAIN

We received outstanding levels of coverage concerning the production of young amongst the wintering flocks during winter 2012/13 and we continue to be indebted to all of you who kindly supplied detailed assessments of brood sizes and age ratios. The summer of 2012 was another very poor breeding season for the population in what now seems to be a regular trend since the late 1990s. Excellent sampling coverage of many of the most important flocks in 2012/13 found 9.6% young in the flocks overall (see Table 4) up slightly on last winter (8.8%), but substantially lower than the unusually high levels in 2010 (21.2% see Fig. 3).

Table 4. Summary of age ratio determinations and brood sizes for Greenland White-fronted Geese wintering in Britain 2012/2013.

SITE	% YOUNG	AGED SAMPLE	MEAN BROOD SIZE	FAMILIES SAMPLED
The Loons, Orkney	29.03	62		
Loch of Mey, Caithness	17.39	23		
Westfield, Caithness	25.89	112	3.63	8
Loch Urrahag, Lewis	17.95	39		
Nunton, Benbecula	22.73	22		
Kilpheder, South Uist	0	22		
Loch Chaluim Chille, Skye	4.17	24		
Tiree	6.63	558		
Coll	5.88	204		
Fidden, Mull	25.0	20		
Lismore	15.0	20		
Appin	0	67		
Benderloch	1.52	66	1.0	1
Keills	13.33	45		
Moine Mhor	20.0	10		
Rhunahaorine, Kintyre ¹	7.44	551	3.0	11
Machrihanish, Kintyre ¹	6.27	1292	2.83	24
Clachan, Kintyre ¹	7.28	151	2.75	4
Colonsay	16.67	84	6.0	1
Islay ¹	11.12	2834	3.01	91
Lowlandman's Bay, Jura ¹	0	9		
Inver, Jura ¹	14.75	61	3.0	3
Bute	10.19	157		
Loch Ken	8.23	158	2.60	5
Stranraer	22.73	44		
Endrick Mouth	8.62	174		
Grindon	0	4		
Dyfi Estuary	0	55		
Marloes Mere, Pembs	0	4		
Scilly	100.0	6		
Eskmeals, Cumbria	33.33	6		
Britain, excl. Islay	8.59	4050	2.85	57
OVERALL	9.63	6884	2.94	148

¹Details from Jura, Islay and Kintyre courtesy of Dr Malcolm Ogilvie

Breeding success was quite elevated amongst some northern flocks with Orkney (29%), Westfield Caithness (26%), Benbecula (23%), Stranraer (23%), Mull (25%), and Moine Mhor (20%) having good proportions of young and Lewis (18%), Colonsay (17%) and Mey Caithness (17%) all exceeding 15% young. Despite the better showing on Islay after summer 2012 (11%, based on a sample of 2,834), the Kintyre flocks contained some of the lowest proportions of young geese of the year ever, all flocks containing 6-8% young, these being flocks that in recent years have maintained reasonable breeding success compared to elsewhere in the range. Away from Islay, the sample of 4,050 birds assigned to age groups showed 8.6% young, falling back to the levels we have seen in many recent years since the late 1990s (Fig. 3). Mean brood size was 2.94 (see Table 4) based on 148 families sampled from many sites, comprising a mean of 3.01 on Islay (n = 91) and 2.85 elsewhere.



Greenland White-fronted Geese at Hvanneyri, April 2013. Photo Tony Fox

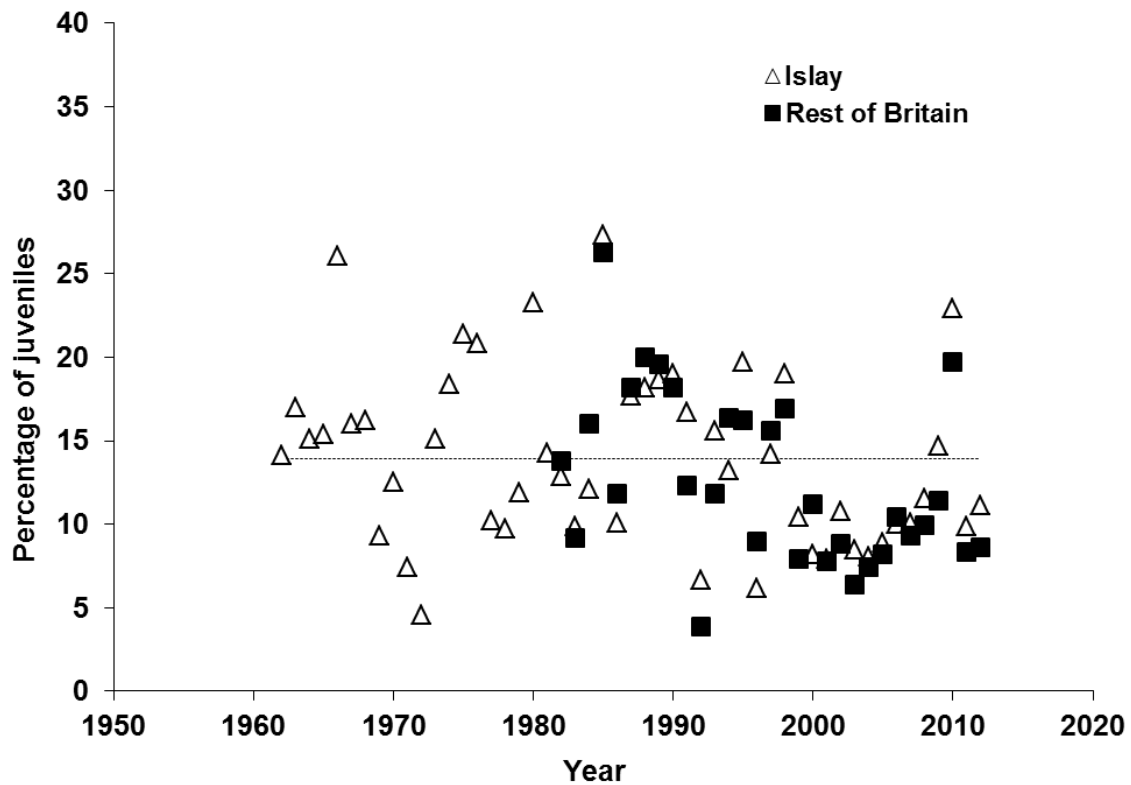


Figure 3. Age ratios sampled amongst Greenland White-fronted Geese at Islay 1962-2012 and compiled from other sites in Scotland and Wales, 1983-2012. The dotted line indicates the average percentage young amongst samples from Islay for 1962-2012.

AGE RATIOS FROM IRELAND

Breeding success was uniformly low at all Irish sites where age ratios were sampled, with only Lower Lough Corrib and Errif and Derrycraff exceeding 10% in samples (see Table 5). Most areas away from Wexford struggled to break 5% young so the average amongst all these flocks was 5.7% young (n = 802, compared to 9.9% last winter). At Wexford Slobs, 4.9% was the lowest ever production of young there since records began (n = 4,034, compared to 7.1% last winter). The increasingly low reproductive output of the Wexford wintering birds is a long established trend now since the late 1980s (see Fig. 4). The overall reproductive output amongst geese wintering in Ireland was generally worse than amongst Scottish flocks, many of which also suffered a less than good breeding season. However, the very low addition of birds of the year to flocks in Ireland following the summer of 2012 represents a very low ebb in the reproductive output of this element of the population that has not been reproducing well since the mid to late 1990s.

Table 5. Summary of age ratio determinations and brood sizes for Greenland White-fronted Geese wintering in Ireland 2012/2013.

SITE	% YOUNG	SAMPLE	MEAN BROOD SIZE	SAMPLE
Dunfanaghy	2.38	126		
Sheskinmore	3.33	30		
Pettigo	0.00	35		
Lough MacNean	3.03	66		
Lough Conn	3.70	54		
Owenduff	0.00	3		
Errif & Derrycraff	10.42	48		
Rostaff & Killower	2.30	87		
Lower Lough Corrib	13.04	23		
Lough Gara	9.68	31		
Little Brosna	1.49	67		
Wexford	4.86	4034	2.63	62
Ireland, excl. Wexford	5.74%	802	0	0
OVERALL	5.00%	4836	2.63	62

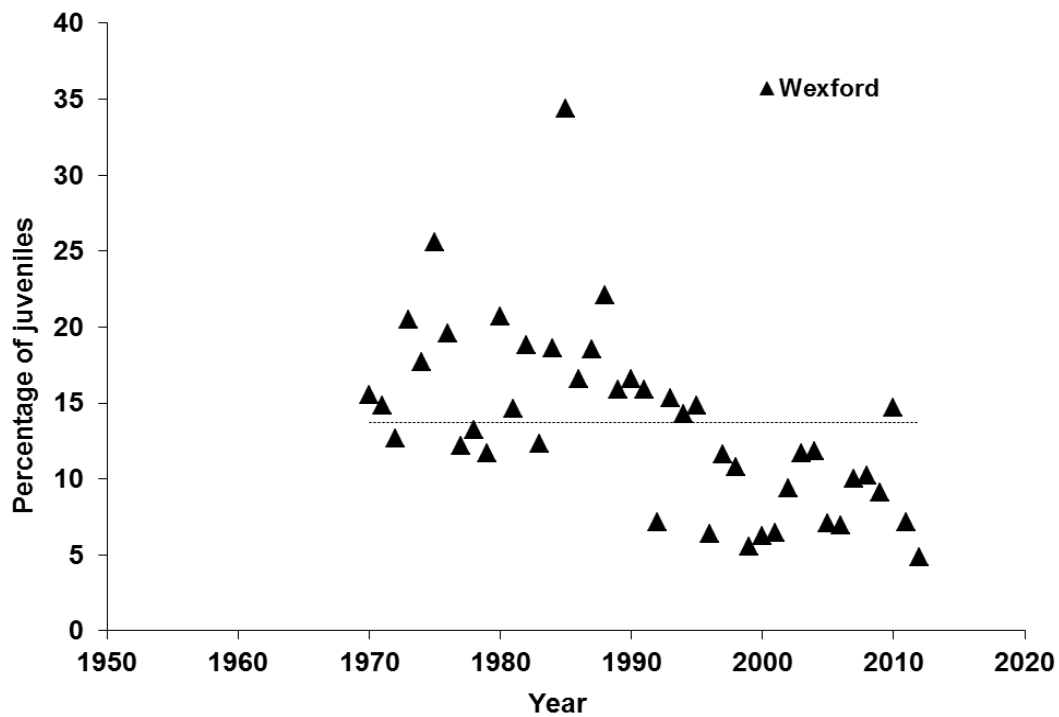


Figure 4. Age ratios sampled amongst Greenland White-fronted Geese at Wexford 1970-2012. The dotted line indicates the average percentage young amongst samples from Wexford for 1970-2012.

OBITUARY

OSCAR J. MERNE

During the last year, we lost one of the truly great figures associated with the study and conservation of Greenland White-fronted Geese in recent times. Oscar Merne passed away earlier this year after a long illness and although we all acutely feel his loss in our small world, the range and breadth of tributes to the man and his incredible contribution to Ireland's nature and its effective conservation bear witness to this larger than life, yet humble character. Here Alyn Walsh pays his special tribute to Oscar.

I worked with Oscar for over thirty years on many projects involving field work associated with a wide range of species. We shared wonderful experiences in some of the most beautiful landscapes on this island and consequently, I felt deeply saddened at his passing on 17th January 2013. Oscar's meticulous planning of these field trips usually resulted in a trouble-free, but always successful conclusion. This trade mark was just one of his many attributes.

It was his natural quality and his dedicated approach to work that always kept Oscar in demand, as well as his in-depth knowledge of a wide range of species, including waterfowl populations in Ireland. His pioneering approach to wildfowl monitoring goes back to the mid 1960s and gained even greater momentum when he was employed by the National Parks and Wildlife Service as the first warden of the Wexford Wildfowl Reserve in 1969 which started his long association with the Greenland White-fronted Goose. It was also at this point that his life-long passion automatically transformed into what would be a very successful professional career.

I was recently browsing through some old archival material of his original warden duties which provided a glimpse of this schedule of fieldwork that Oscar set for himself and performed with great enthusiasm:

Daily: Goose survey of both Western and Eastern refuges. Duck count on main channel between Pump Station and Begerin Bridge.

Twice Weekly: Goose, duck and wader survey of South Slob, Observations of dawn and dusk flights by the geese.

Weekly: Complete census of Greenland White-fronts of both North and South Slob, Main channel survey, Wader counts at Rosslare Back-strand and goose dropping samples to be collected from a range of grass and cereal crop types.

Regularly: Age census of Greenland White-fronts, observations of behaviour and finally – collect goose biometrics from shot specimens i.e. bill, wing, tarsus and weight, in addition to the collection of stomach contents for analysis.

All of this was an amazing achievement in itself, but Oscar did not stop there!

The annual spring migration of White-fronts in those early years of monitoring prompted many questions as to which routes the geese followed, their altitude and air speed. Of course there were many reports of geese seen migrating through the midland and north western

counties from members of the public, but the full scale of the migration and to what degree the flocks fanned out across the country, if they rested or staged en-route to Iceland was unclear. So Oscar set out to plot the migration of the geese over a seven year period which included a two year period of obtaining a “bird’s eye view” by observing the migration from a light aircraft and followed the geese along their chosen route up to a distance of fifty miles from the Slobs. You can read the full account of his observations and results in the 1974 Irish Bird Report pp. 62-71.

Even in those early days Oscar, as an experienced ringer, inevitably turned his thoughts to the possibility of catching and marking Greenland White-fronted Geese on the Slobs. However, there was no such expertise available in Ireland at that time, so a suitable and willing team of four was assembled in the UK. I remember in December 1976 waiting for several days for a message (via the local post office) from Oscar that cannon-netting would begin and the team would assemble in Wexford. However, despite his many frustrating months of arrangements, which necessitated the purchase of custom-made goose nets and cannon-netting equipment from the UK, in addition to countless phone calls, permissions from authorities, baiting sites and local arrangements for accommodation of the catching team, unfortunately, all this was to no avail. At the last minute, the UK team was refused permission on entry into Ireland and had to return home with some of the critical components for cannon-netting.

This was all pioneering work in a rather difficult period of our history. However, Oscar and his colleagues, though very disappointed at the time, were not deterred. It is no coincidence that to this day, the Wexford Slobs represents the hub for catching Greenland White-fronted Goose throughout its entire range and the research associated with resightings of these marked individuals throughout their range has played a central role in their effective conservation over several decades.

Oscar inevitably moved up the promotional ladder to an even more hectic work regime with his office initially based in Merrion Street Dublin. However, Oscar never relinquished his love or the opportunity for fieldwork. He routinely returned to Wexford to assist with the ageing of goose flocks and population surveys, resightings of banded geese and of course gave the benefit of his considerable experience to advise on many aspects of reserve management and goose biology. It was amazing how he always managed to refer to any one of the 117 individual field names on the North Slob with such clarity even after an absence of twenty five years!

When I first started counting geese in the early 1980s with Oscar on the Wexford Slobs, I was initially overwhelmed, trying to match Oscar’s count estimates and struggled to keep up with his in-depth knowledge of each field’s topography. This meant learning to “see” the geese everywhere and not just count the obvious flocks. Panic would really strike me when the entire North Slob flock of c.8,500 birds might take flight during mid-count in response to a low flying aircraft – but not Oscar. He would be quick to determine that the impact would only be minimal if the counted geese resettled back into the counted fields, and very often that was exactly what happened.

There have been many wonderful tributes to Oscar's achievements and contribution to Irish Ornithology in numerous journals from people that knew him and treasured his friendship (some of which are listed below).

These are just a few treasured memories that I wanted to share with you all. I was very privileged to have known and worked with Oscar over many decades and learned so much from him. The true depth of his loss to Irish ornithology will continue to be felt for many years to come.

Alyn Walsh

Some flavour of the contribution made by Oscar can be gleaned from just some of the many tributes and obituaries to him:

Irish Whale and Dolphin Group:

http://www.iwdg.ie/index.php?option=com_k2&view=item&id=2358:oscar-merne

IWeBS:

<http://www.birdwatchireland.ie/LinkClick.aspx?fileticket=yOvsjf8YJVY%3D&tabid=281>



Oscar Merne enjoying the scenery on Rathlin O'Birne Island in Co. Donegal during a seabird survey in 1987. photo Alyn Walsh

RESEARCH NEWS

There has been a huge amount of activity in the past year, as Mitch Weegman has continued his research for a doctorate at Exeter University, deploying more logging devices on birds caught at Loch Ken and Wexford. These incredible devices give detailed information about the routes taken by geese and their daily activities throughout year, and as we write he is downloading data at Wexford right now. Mitch is also well into a detailed analysis of the vast amount of resighting data accumulated over the last 30 years from the individual marking schemes which will give greater insight into their behaviour and family relationships and how all these interact to affect their individual survival and reproductive success. Mitch also organised another spring campaign at Hvanneyri in west Iceland, which involved a team of observers and goose catchers again to mark and follow more individuals. Spring 2013 was notable for more variable weather than of late, with much more snow than in the extraordinarily mild spring of the previous year. Much information was collected about the rate of feeding and fattening which is giving remarkable insights into the differences between the late 1990s and the mid-2010s. Now, the geese arrive earlier and spend a lot longer in Iceland and gain weight at much slower rates than in former times, suggesting they are under less time stress now than twenty years ago. Next year, 2014, will be his final year, so much more information will be forthcoming in the coming year – watch this space! Likewise, the Wildfowl & Wetlands Trust has secured a project funded by Scottish Natural Heritage on Islay to look at individual field, habitat and roost use on Islay which has just started on the island this winter, again relying upon the deployment of logging devices that provide details of individual movements by capturing positions of birds with great precision several times each day. The project will also assess the degree to which Barnacle Goose scaring and control affect the Greenland White-fronted Geese on the island, so hopefully there will be considerable news about this project next year as well.

ACKNOWLEDGEMENTS

As well as the sad loss of Oscar Merne, we have to report another loss to the network of Greenland White-fronted Goose observers. We were greatly saddened to hear of the untimely death of Nick Haycock, who previously counted the geese at Endrick Mouth. We wish to acknowledge all that he did following the fortunes of that flock.

We humbly apologise for the late delay of this report, caused by problems of compilation. We will try and do a lot better next year! As always, it is a great privilege to acknowledge the great efforts of you all that so kindly send us counts, details of the number of young and sizes of broods, ring readings and all the details and stories about your encounters with Greenland White-fronted Geese every year. We so enjoy hearing from you and deeply appreciate the flow of information that you continue to provide to continue to help us follow their fortunes. We try not to take all you do for granted and hope that as ever you will continue to help us by providing the same information next year. So thank you all very heartily again the year! For Britain during 2012/13, these include: John Adair, Bob Adam, Vicky Anderson, Izzy Baker, Paula Baker, Dave and Pat Batty, John Bowler, Roger Broad, Gavin Chambers, George Christie, Paul Collin, Robert Coleman, Andrew Dacre, Paul Daw, Alisdair Dawes, Tim Dean, Becks Denny, Pat Doughty, Steve Duffield, Keith Duncan, John Dye, Sandra Evans, Ian

Fisher, Michael Francis, Ian Fulton, Dominic Funnell, Mike Gear, Larry Griffin, John Halliday, Keith Hague, Nick Haycock, Dick Hewitt, Ian Hopkins, A. & E. Horner, Keith Hoey, Alan and Elaine Horner, Natalie Huss, Sandra Hutchinson, Tim Jacobs, David Jardine, Tracey Johnston, Ben Jones, Martin Jones, Russell Jones, Margaret Keirnen, Wilma Kelly, John Kemp, Andy Knight, Morven Laurie, Alan Leitch, Stephen Longster, Ruth Mathias, Dick Matson, Crystal Maw, Dennis McCullough, Stephen MacDonlad, Marco McGinty, Alison MacLennan, Rae McKenzie, Bob McMillan, Leigh Marshall, Paul Massey, Dick Matson, Eric Meek, Carl Mitchell, Brian Neath, Bill Neill, Malcolm and Carol Ogilvie, Hamish Patton, Mike and Val Peacock, Nicky Penford, Brian Rabbitts, Bryan Rains, John Raymond, Alan Reid, Brian Ribbands, Andy Robinson, Dave Rogers, Chris Rollie, Malcolm Russell, Martin Scott, Dave Sexton, Stuart Shaw, Alan Simpson, Ian Sims, Duncan Spencer, Dick Squires, Colin and Margaret Stead, Andrew Stevenson, David and Rachael Stroud, Paul Tarling, Arthur Thirlwell, James Towill, Andrew Upton, Jim Williams, Stuart Williams, Hazel White and Catriona White. For Ireland, these include: Joe Adamson, Wesley Atkinson, Penny Bartlett, Dominic Berridge, Helen Boland, Dermot Breen, Noel Bugler, Ed Burrell, Brian Burke, Andrew Butler, Mark Byrne, David Cabot, Sue Callaghan, John Carroll, Helen Carty, Cameron Clotworthy, Kendrew Colhoun, Pdraig Comerford, Dick Coombes, William Cormacan, Niall Cribbon, Fionnbar Cross, Olivia Crowe, Jack Cullen, Eamon Doran, Pascal Dower, Dave Duggan, Fintan Egan, Maurice Eakin, Trionna Finnen, Leonard Floyd, Ciara Flynn, Ciaran Foley, Kathryn Freeman, Jenny Fuller, Joe Gatins, Emma Glanville, Larry Griffin, Michael Hackett, Seamus Hassett, Stephen Heery, Gerry Higgins, John Higgins, Emmet Johnson, Stefan Jones, Elaine Keegan, James Kilroy, Tom Kealy, Annette Lynch, George Lett, Lee McDaid, David McDonagh, Maurice McDonnell, Graham McElwaine, Eoin McGreal, Frank McMahan, Emer Magee, Breffini Martin, John Matthews, Eleanor Mayes, Sue Moles, Enda Mooney, Gerry Murphy, Tony Murray, David Norriss, Irene O'Brien, John O'Connor, Aonghus O'Donaill, Ger O'Donnell, Pdraig O'Donnell, Barry O'Donoghue, Thomas O'Loughlin, Peter Phillips, Brian Porter, Brad Robson, Tim Roderick, Joe Shannon, Lorcan Scott, Ralph Sheppard, Andrew Speer, Raymond Stephens, Denis Strong, Dave Suddaby, Anthony Shultz, Rebecca Teesdale, Matthew Tickner, David Tierney, Pat Vaughan, Ross Watson, Nicky Walsh, Mitch Weegman, Fionna Wheeldon, Chris Wilson and John Wilson.

We really do try to remember to thank everybody here, but are extremely sorry if we may have unintentionally left off your name in this list! It does not mean we are any less appreciative, simply that the old grey matter is becoming increasing holey! We also very much acknowledge and appreciate the many folk who maintain web sites and blogs (too many to thank individually) that provided extra count data and interesting sightings in 2012/13.

We gratefully acknowledge the continuing programme of research and surveillance carried out by the National Parks and Wildlife Service and the count network in Ireland for another fantastic effort to gather all the data for this report. We are especially grateful for the continuing help and support of John Wilson who initiated the entire process of studying White-fronted Geese in Ireland, without whom this report would simply not be possible. Thanks to SNH for site coverage throughout Argyll, especially to Tracey Johnston, Morven Laurie and Margaret Morris, to the counter teams on Kintyre and Islay and to all the contributors for their kind help in preparing sections of the report. We also thank Christine

Urquhart at SNH for her incredible help and support relating to so many aspects of goose conservation in recent years.

The census is only possible thanks to the financial support of the Joint Nature Conservation Committee through a sub-contract from the Wildfowl and Wetlands Trust under their UK Goose and Swan Monitoring Programme, and we thank Rich Hearn and Carl Mitchell for their continued help and support for the project.

PLEASE NOTE THE AGREED COUNT DATES FOR THE COMING YEAR:

Internationally coordinated counts: 14-18 December 2013 and 15-19 March 2014

Preferred monthly counts: 16-20 November 2013, 11-15 January 2014, 8-12 February 2014 and 1-5 March 2014.



Greenland White-fronted Geese feeding at Westfield, Caithness. Photo Ian Francis