REPORT OF THE 2014/2015 INTERNATIONAL CENSUS OF GREENLAND WHITE-FRONTED GEESE

by

GREENLAND WHITE-FRONTED GOOSE STUDY

Tony Fox & Ian Francis,
c/o Department of Bioscience,
Aarhus University, Kalø, Grenåvej 14,
DK-8410 Rønde, Denmark

AND

NATIONAL PARKS AND WILDLIFE SERVICE

An Roinn
Ealaíon, Oidhreachta agus Gaeltachta
Department of
Arts, Heritage and the Gaeltacht

David Norriss[1] & Alyn Walsh,
National Parks and Wildlife Service,
Department of the Arts, Heritage and the Gaeltacht,
Wexford Wildfowl Reserve, North Slob, Wexford, Ireland.

[1]1 Springmount Cottage, Glenard Avenue. Bray, County Wicklow, Ireland

Final report – October 2015

SUMMARY

The global population of Greenland White-fronted Geese in spring 2015 comprised 18,854 individuals, a very sharp 9.3% reduction on 20,797 in the previous spring. This is the first time the population has fallen below 20,000 individuals since 1985. Half of the decline could be accounted for by the loss of 1000 geese on Islay between years, and another 500 from elsewhere in Britain; 10,266 were counted in Ireland, 8,588 were counted in Britain. Reproductive success was very low at only 6.1% in Ireland, but 12.9% in Britain.

This report presents the results of the surveys of the Greenland White-fronted Goose on the wintering grounds in winter 2014/15, 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 coordinated count in spring 2015 found a combined global total of 18,854 Greenland White-fronted Geese, the lowest recorded since spring 1985 and down 9.3% on the last world population estimate of 20,797 in spring 2014. This is the first time since 1985 that the global population has fallen below 20,000 and is grounds for a meeting of the Range States under the AEWA International Single Species Action Plan for the Conservation of the Greenland White-fronted Goose in order to consider responses to the continued deterioration of population status. This trigger for action is based on the continued declines of the global populations which has (i) now fallen below the alert limit of 20,000 individuals and because (ii) annual productivity has also now fallen below the 7% alert limit for three consecutive breeding seasons at Wexford (see below).

Good count coverage was again achieved in Ireland in spring 2015 which provided 7,984 from Wexford (compared to 8,110 in spring 2014) and 2,284 (i.e. down on last year's 2,512 in spring 2014) from the rest of Ireland. Missing spring counts were substituted for 15 Irish regular wintering resorts, amounting to 5.5% of the Irish total. Complete censuses of all known Greenland White-fronted Goose wintering haunts in Britain found totals of 8,374 birds in autumn 2014 and 8,588 in spring 2015, compared with 10,949 and 10,175 respectively reported in the previous season at the same times of year. The 2014/15 totals comprised 3 and 32 birds reported in England, 26 and 25 in Wales,4,772 and 3,995 on Islay (compared to 5,869 and 5,093 respectively last season) and 3,573 and 4,536 in the rest of Scotland in autumn and spring respectively (compared with 5,038 and 5,044 respectively last season). Coverage in Britain was more or less complete, all resorts were counted at least once and spring counts were only missing from the specified count period from 6 resorts, substituted with counts undertaken from close to international count dates, amounting to 4.1% of the British total.

Following the 2014 breeding season, the overall percentage of first winter birds returning in winter 2014/15 amongst British flocks was 12.9% (n = 6,563 aged, compared to 14.2% in 2013/14); mean brood size was 2.73 (n = 181 broods, compared to 2.88 last season). This included 14.7% on Islay, (actually just above the average of 14.0% for 1962-2014 inclusive, but down on last season's 17.0%) where the mean brood size was 3.11 (n = 75 compared to 3.28 last year). The percentage of first winter birds exceeded 10% at 14 out of 24 sites from which age ratio data were received, similar to last year. In Ireland, the percentage young amongst aged flocks returning in winter 2014/15 was again low, 6.1% (based on 4,092 aged individuals) compared to 6.9% last season. Mean brood size amongst the Irish flocks was 2.59 (n = 91) compared to 2.88 last season. There were 5.8% young amongst 3,578 aged at Wexford (the second lowest production on record, down on 6.8% last year), where the mean brood size was 2.69 (compared to 2.90 last season) based on 74 broods. Elsewhere in Ireland, reproductive success was poor but modestly better than at Wexford, with 8.2% young (n = 514), but brood size lower (based on available data from six sites) at 2.18 (n =17).

INTRODUCTION

The 2014/2015 survey marks the thirty-third 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 2015 count represents a full survey of all known winter haunts for this population.

Table 1. Spring population census totals for Greenland White-fronted Geese, 2010-2015.

	Spring 2010	**Spring 2011**	**Spring 2012**	**Spring 2013**	**Spring 2014**	**Spring 2015**
Wexford	8381	9733	9567	8751	8110	7984
Rest of Ireland	2622	2777	2675	2465	2512	2282
Islay	5744	6911	4309	5449	5093	3995
Rest of Britain	6097	6344	5852	5491	5082	4593
Population total	**22844**	**25765**	**22403**	**22156**	**20797**	**18854**

AUTUMN ARRIVAL PATTERNS

Generally arrivals were late, with many observers seeing very few well into October. Extremely early was the report of singleton at Loch a Phuill on Tiree on 14 and 15 September, Andrew Dacre reported 21-22 back feeding on Kentra Moss early afternoon on 28 September and there were 4 back at Moine Mhor the next day (David Jardine). The Western Isles witnessed little major autumn migration of geese, with first observations of obvious movement seemingly a small skein flying over Lochdon on Mull on 6 October and 10 back at Loch Bee on 7 October. John Bowler reported 7 at Loch a Phuill, Tiree, on 7 October rising to 18 on 12 October when there were also 15 on Loch an Eilein. The first 9 Greenland White-fronted Geese were reported back at Endrick Mouth, Loch Lomond on 9 October by Paula Baker. Tony Marr had a flock of 12 Greenland White-fronted Geese come in from the NE past the Butt of Lewis at 11.40 on 13 October which continued on SW down the west coast of Lewis. Greenland White-fronted Geese were noted moving through Tiree from 12 October onwards, but the all-island goose count only found 46 on 13/14 October. George Christie reported only 15 back at Loch Ken from 16 October but this had risen to 95 on 27 October (Larry Griffin). A singleton Greenland bird was reported from Bardsey Island on 21 October, when there were two seen back at Fidden on Mull; the total there had risen to 18 by 29 October. Mike Peacock reported 35 geese on Colonsay on 22 October, while Alison and Donald Omand first observed 24 adults back from the Caithness Westfield flock on 23 October. Two Greenland White-fronted Geese were reported from the west coast of North Ronaldsay, Orkney on 24 October (the same day as two also flew south over Fair Isle) and 31 October, with 12 flying south on 27 October. A single adult turned up amongst Pink-footed Geese at Whigstreet, Angus (between Forfar and Carnoustie) on 24 October, when more Greenland White-fronted Geese also arrived to Crom Mhin, Loch Lomond. A single juvenile was reported on North Uist on 22 and 26 October and a sea-watch off Rubha Ardvule, South

Uist witnessed 69 Greenland White-fronted Geese moving south on 27 October, the only substantial movement reported from the Western Isles in the autumn; on the same day skeins of 33 and 27 were seen moving through Broadford Bay on Skye. Ten Greenland White-fronted Geese returned to the Dyfi in mid-Wales on 28 October and Russell Jones reported a further adult with two juveniles the next day. Sixty-six were back at the Loons on Orkney on 28 October and there were 6 on Pabay, Skye the same day. David Jardine and Alan Reid had 38 geese back at Appin, Benderloch on 31 October and Karen Munro was reporting 80 back at Loch of Mey, Caithness by 1 November. Movement was possibly still occurring as late as 3 November when 16 were seen migrating SW over Oronsay (Colonsay). Sixty-seven geese were back on Colonsay by 4 November and 200 back at Tayinloan by 5 November, with 32 at North Shian on 9 November. An adult bird was seen in Nairn/Moray on 7 and 8 November and another at Fleetwood, Lancashire from 10 to at least 13 November, with 2 still present on 11 November. Four were reported from Niedersachsen in North Germany on 9 November.

In Norway, there was a string of reports from Rogaland after single Greenland White-fronted Geese were reported on 5, 8 and 9 November. Up to 23 White-fronted Geese present on the coastal area of Hårr, in Hå Kommune, Rogaland were considered of the *flavirostris* form, in part confirmed by the collared individual V8F first seen on 9 and 11 November and previously marked in Loch Ken in March 2011 (where it was last seen on 3 March 2014). The group of 23 remained until at very least 17 January 2015 having been reported multiple times by several observers. V8F was next reported from Big Waters Nature Reserve, Tyne and Wear on 4 February 2015 in the company of 21 other Greenland White-fronted Geese (suggesting the entire flock from Rogaland bar one made it to the UK), but left with 8 geese the next day and was not seen again that winter. It certainly never made it back to Loch Ken, where alerted diligent observers would certainly have seen it had it been there! The other 13 Greenland White-fronted Geese remained in the vicinity of Big Waters until at least 25 March and as such were included in the census table for the international spring count.

SPRING DEPARTURE PATTERNS

Numbers started to depart from Wexford as early as 19 March and although this ceased on 20 March, more departed over the weekend of 21/22 March when small flocks were noted moving northwards; adverse winds stopped any major movements immediately after that. Small numbers started departing on 25 March, with a major departure over 28/29 March when 4,000 left, with 3,500 still present on 2 April. The wind swung to the SE on the morning of 4 April and there was a major departure starting at 03:00 hr that continued all morning, such that by the end of the day most had departed. Four Greenland White-fronted Geese at Grenitote on 26 March and 27 at Loch Scarie on 27 March on North Uist were undoubtedly migrants starting to move northwards. Later movements included 25 flying north over Loch Cuin on 8 April (Mull Birds website). At Loch Ken, there were still 163 on 24 March, 153 on 27 March, 160 on 31 March, but only 103 on the evening of 3 April and again next afternoon, falling to just 12 on 5 and 6 April, with all gone next day (Arthur Thirlwell, George Christie and Larry Griffin). Larry Griffin also still had 150 odd at Stranraer on 31 March as well. Birds lingered at Appin until at least 1 April (40+ Alan Reid and David Jardine), at Stranraer until 7 April (66, Brian Henderson), on the Dyfi until 12 April (12, Russell Jones), Tiree until 19 April (3, John Bowler) on Colonsay until 21 April (2, Mike Peacock) and 8 were still at Barvas on Lewis at the very late date of 30 April (Victoria Anderson).

Jóhann Óli Hilmarsson saw the first reported arriving at Stokkseyri on the evening of 2 April, which turned and flew east towards Floì to land. Guðmundur A Guðmundsson counted 76 at Hvanneyri next day. There was a major arrival inland in Skeið on 5 April. These arrival dates were a little behind those reported from Iceland in very recent years.

COUNTS IN BRITAIN

Thanks to the amazing count network we achieved extremely good coverage during winter 2014/15. We remind you that no data have been incorporated from the WeBS database, but we have gathered reports from the internet on other observations of the race from around Britain, many of which come from non-regular sites supporting small numbers for short periods (see Table 2). The full breakdown of these counts, including the maximum counts per month for each site and the census period totals is presented in Table 3 and the long term trends in autumn and spring counts since 1982/83 in Britain are shown in Figure 1, where it is evident that there was another substantial decline in the year since the 2013/14 census.

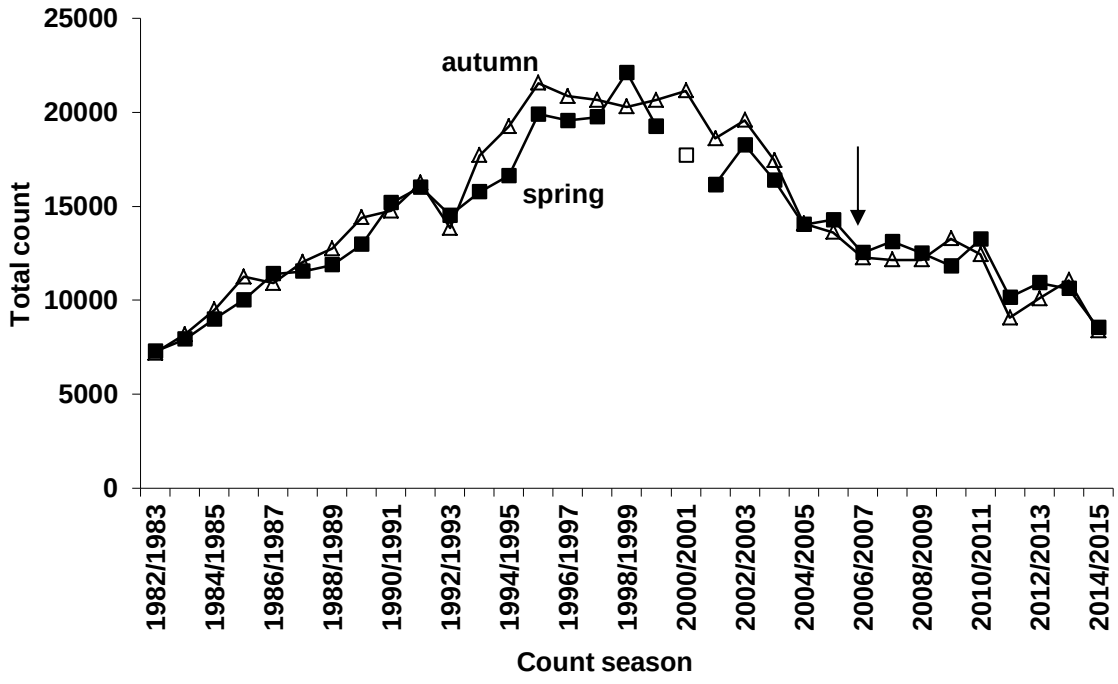

Figure 1. Counts of Greenland White-fronted Geese in Britain, 1982/1983-2014/2015, showing autumn (open triangles) and spring (filled squares) census results for each season. The value for spring 2001 (unfilled square) was missing on account of the outbreak of Foot and Mouth Disease that year and was 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 at irregularly used sites in Britain 2014/15

	OCT	NOV	AUTUMN CENSUS	DEC	JAN	FEB	MAR	SPRING CENSUS	APR
OTHER IRREGULAR SITES									
Barr Loch, Lochwinnoch						1			
Loch Spynie, Moray		1							
Rutland Water, Leicestershire		1	1	1	1	1	1	1	
Cley, Norfolk		2							
Ballaugh, Isle of Man		2							
Abbotsbury Swannery, Dorset		1	1	1	1	1	1		
Fleetwood Bird Obs, Lancs		2							
Ardgour, Sunart, Argyll		2							
Radipole Lake Dorset					1	1			
Bunrham Market, Norfolk					1				
Seaton Brun, Tyne & Wear					22	22	13	13	
Venus Pool, Shropshire			1	1	1				
Flamborough Head, Yorkshire						1	1	1	
Burton Mere, Cheshire					1				
Docking, Norfolk					1	1			
Slimbridge, Gloucestershire						1			
TOTALS									
England		10	3	3	29	28	16	15	
Scotland		1				1			

The counts showed declines across the entire British wintering range (Table3), with gains over last winter only evident at Rhunahaorine (up by 35% to 785 after low counts in autumn 2013 and spring 2014) and marginal increases at Loch Lomond (where 250 were counted in November 2014 compared to 176 in spring 2014) and Loch Ken (where there were 163 compared to 123 the previous season in spring and a peak of only 144). Numbers were more or less the same amongst many smaller flocks, such as on Lewis, Kilpheder (South Uist), Muck, at Loch Shiel, Appin and Moine Mhor, although most of these sites show an inexorable downwards trend. Numbers held up amongst some of the larger flocks, as on Tiree (748 in spring 2015 compared to 739 last year), at Stranraer (206 compared to 191 last season) and Keills/Danna 217 in spring 2015 versus 199 the previous year). Everywhere else, numbers showed declines across the board, with combined numbers on Skye dropping from 34 to 24 in the last year. The Loch Bee flock that was slightly enlarged last winter fell back to 121 in 2014/15. Caithness numbers totalled a disappointing 244 in spring 2015, compared to 317 in spring 2014. Even combined numbers on Kintyre could only manage 1,841 compared to 2,121 in spring 2014, and major differences between the component site totals suggest more movement between wintering areas than perhaps has been the case in recent years, confirming last year's impression that these (and many other flocks) seem to be far more dispersed in recent years which could add challenges to effective count coverage. Particularly saddening was the reduction of the Dyfi flock in Wales to just 25 birds in spring (and only 29 at peak), as well as only one sighting of 7 birds on Benbecula after a run of years with regular sightings of albeit small numbers of geese there. The consistently low counts on Islay failed to break 5,000 individuals and found only 3,995 in the international spring count, the lowest on the island since coordinated counts began in spring 1983, when there were 3,441 reported (see Figure 2). Due to difficulties in locating birds, bad weather and incomplete counts, we have had to substitute counts at six wintering resorts for counts missing during the international spring census count period. These counts were taken from those sites on dates close to the spring count dates and constituted 4.1% (353 birds) of the British count total (shown shaded in grey in Table 3).

Table 3. Summary counts of Greenland White-fronted Geese in Britain 2014/15

shaded values are estimates 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		66	66	66	66	42	66	66	70	
Holm								1		
North Ronaldsay		14	1	1	1	1	1	3	3	
CAITHNESS										
Westfield		24	120	120	97	110	40	114	114	
Loch of Mey			80	80		110	130		130	
NE SCOTLAND										
Loch of Strathbeg		1		1		2	2			2
WESTERN ISLES										
Barvas/Shawbost, Lewis			31	31			32	32	32	8
Benbecula						7				
North Uist		1	1			1	1	27		
Kilpheder/Askernish, South Uist			15	19	0	19	0	0	19	
Loch Bee/Kilaulay, South Uist			121	121					121	
INNER HEBRIDES										
Loch Chalium Chille, Skye			16	16		12	15	15	15	
Broadford/Pabay, Skye		6	5	5			9		9	
LOCHABER/NORTH ARGYLL										
Muck/Eigg				0					3	
Loch Shiel/Claish Moss		22	20	22	22	28	31	29	29	
Lorn:Eriska/Benderloch							21		21	
Lorn: Appin		38	38	43	43	50	53	28	53	40
Lismore		25	150	160	160	22	170	195	160	150
Tiree		46	641	521	521	639	660	748	748	
Coll			243	141			208	126	126	
Fidden, Mull		33	18	25					25	
Killichronan, Mull						3	3			
SOUTH ARGYLL										
Colonsay/Oronsay			74	53			52		66	8
Jura: Loch a'Cnhuic Bhric			31	0	0	0	0		0	
Jura: Lowlandman's Bay			5	5	0	0	0	4	4	
Danna/Kiells/Ulva		126	127	179		197	154	15	217	
Moine Mhor		8	8	8		12		8	8	
Rhunahaorine			596	293				645	785	
Machrihanish			1490	1047					893	
Clachan			66	0					33	
Gigha				89				15	130	
Glenbarr				0					0	
Isle of Bute			90	131	131		160		160	
Endrick Mouth, Loch Lomond		14	250	58	210	212	154	165	193	
ISLAY				4772	4772	4239		3995	3995	
DUMFRIES & GALLOWAY										
Loch Ken		15	120	141	141	133	163	163	163	
Stranraer			148	197	203	191	195	206	206	106
WALES										
Dyfi Estuary		13	20	26	26	25	29	29	25	25
Malltraeth Marsh						17	19			
ENGLAND										
Grindon Lough		1	1						14	4
Misc sites, Northumberland					3	9	6	3	3	
OTHER IRREGULAR SITES										
England			10	3	3	29	28	16	15	
Scotland			1				1			
TOTALS		**453**	**4603**	**8374**	**6399**	**6110**	**2403**	**6648**	**8588**	**343**
Rest of GB less Islay		453	4603	3602	1627	1871	2403	2653	4593	343
Rest of Scotland less Islay				3573					4536	
England				3					32	
Wales				26					25	

COUNTS IN IRELAND

Most known flocks were surveyed and counted at least once in the course of the winter in Ireland and the larger flocks were very well covered in 2014/15 (Table 4). It looks likely that the flock that formerly wintered at Caledon has now gone, and for the most part of the winter the Lough Oughter flock (which encouragingly supported 8 in December 2014) could not be found, including during the spring census. No birds could be found at Lower Lough Corrib throughout the winter which suggests this flock may have an alternative feeding site given that at least 23 birds were seen to be present last winter. No counts were received from the River Nore (where geese were heard, but not seen) and from Killarney Valley, where good coverage was achieved and field signs found, but no birds were seen (so 7 geese reported last winter from both sites have been substituted).

Surprisingly, numbers were relatively stable at many sites throughout Ireland. For instance, Dunfanaghy (with 101 consistently present compared to 91 last winter), Errif and Derrycraff (51 compared to 43 last winter), Connemara (where the flock lingers on the edge of extinction with 7 individuals again seen), Rahasane (60 compared to 58), Tullagher (18 compared to 13), North County Clare (38 versus 44), Lough Gara (114 compared to 122), Little Brosna (131 compared to 135) and Midland Lakes (220 compared to 218). Carefully co-ordinated counts between Durnesh and Pettigo found 103 geese on a number of occasions throughout winter 2014/15, which may contribute to the explanation of the improvement over the spring count of 63 in 2014. Numbers at the important resort on Loughs Foyle and Swilly were down to 990 from 1220 last season and counts were lower at Sheskinmore (where numbers continue to fall, with just 23 counted at maximum), as well as at Stabannon, Lough Conn, Bog of Erris, Rostaff and Killower and the Suck River (Table 4).

Counts were substituted for counts missing from 15 Irish flocks during the international spring count periods, including one (Lough Macnean, where 64 geese were inserted based on last winter's spring count) for which no counts were available in 2014/15. Birds were heard but not seen on the Nore River and Killarney Valley. The substituted counts amounted to 5.5% of the Irish total, but generally these substitutions were considered a very good reflection of numbers of birds present at these sites during the winter.

The spring 2015 Wexford count was 7,984, not so substantially down on the 8,110 counted in spring 2014, which had been a decline over the 8,751 counted in spring 2013 (Figure 2). Hence, it continues to be the case that Wexford somehow buffers declines elsewhere and, particularly compared to the rapid declines on Islay, does not seem so impacted by the overall decline in the population compared to many other resorts. As we mentioned last year in this report, Mitch Weegman's study shows that Wexford must receive substantial numbers of immigrants from other flocks to sustain its total numbers in the face of very low productivity locally (see below) and the overall decline in the population as a whole. It continues to be absolutely fascinating to understand why Wexford is such a draw for wintering birds and yet the geese that winter there continue to exhibit such low breeding success, even compared to elsewhere in Ireland. Given some of the worrying declines elsewhere, it is evident that these other down-country flocks cannot continue to support Wexford in maintaining numbers when so many of them are approaching levels where their own future is in doubt.

Table 4. Summary counts of Greenland White-fronted Geese in Ireland 2014/15

Shaded values are estimates for sites where no counts were received for the precise period of the international census periods

	OCT	NOV	AUTUMN CENSUS	DEC	JAN	FEB	MAR	SPRING CENSUS	APR
DONEGAL									
1.Loughs Foyle & Swilly	536	1050	1050	275	940	751	990	990	
2.Dunfanaghy		20	101		101	99		101	70
3.Sheskinmore lough	15		23	23	12	23	23	23	
4.Pettigo	49	40	103	103	57	15	63	103	
NORTH CENTRAL									
6.Lough Macnean			64					64	
7.Lough Oughter		0	8	8	0	0	0	0	
8.Caledon		0	0	0	0	0	0	0	
33.Stabannon			20					20	
MAYO									
9.Lough Conn		0	41	0	41	54		54	
10.Bog of Erris									
a. Mullet									
b. Carrowmore			29		29			29	
c. Owenduff		4	4		0		0	4	
d. Owenmore			4		4			4	
MAYO/GALWAY UPLANDS									
11.Errif & Derrycraff		40+	42	42	42	51		51	
12.Connemara		7	7					7	
GALWAY LOWLANDS									
13.Rostaff & Killower		60	87	87	60	0	87	87	
14.Lower Lough Corrib		0	0	0	0	0	0	0	
15.Rahasane turlough	13	57	57	0	0	60	0	60	
CLARE/LIMERICK									
16.Tullagher		18	18	18				18	
17.North County Clare			38			38		38	
SHANNON HEADWATERS									
20.Lough Gara	0	41	60	60		9+	114	114	
MIDDLE & LOWER SHANNON									
25.River Suck	69	108	108	56	150		80+	150	
26.Little Brosna			150	150	131			131	
MIDLANDS									
23.Midland lakes	10	195	220	220	230	224	220	220	
27.River Nore			7					7	
SOUTH WEST									
30.Killarney valley			7					7	
SOUTH EAST									
Wexford		7236	8092	8092		7685	7984	7984	
COUNT TOTALS	**692**	**8836**	**10340**	**9134**	**1797**	**9000**	**9481**	**10266**	**70**
Ireland without Wexford			2248					2282	

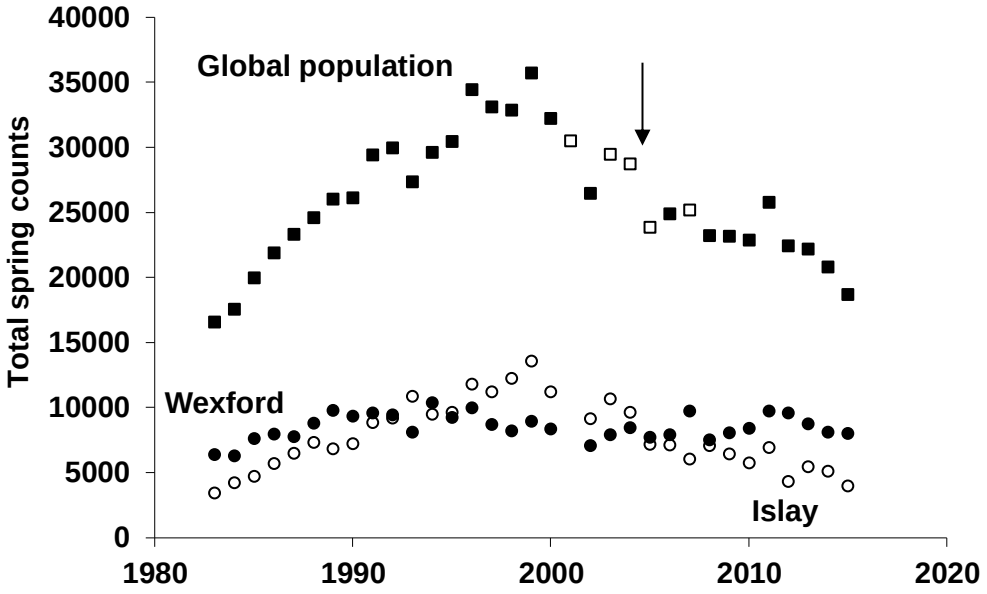

Figure 2. Spring counts of Greenland White-fronted Geese from Wexford Slobs (filled circles), Islay (open circles) and the global population totals for 1983-2015. Values for the total population size are missing in some years when complete coverage could not be achieved (open squares). Values for spring 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

Arnór Sigfússon continued his tradition of undertaking extensive age ratio sampling in Iceland during autumn 2014 and we are deeply grateful to him for his efforts, as this gives us a vital foretaste of the breeding success before the geese return to Ireland and Britain. Arnór again sampled an impressive number of Greenland White-fronted Geese in the west, mostly at Hvanneyri and in Mýrar on 5 October, where he found an average of 6.02% young (compared to 6.85% last year) in a sample of no fewer than 1,779 geese aged, with a mean brood size of 2.19 (n = 31). In the southern lowlands on 8 October, he found 11.7% young (compared to 15.92% last autumn) amongst 1,079 aged, mean brood size 2.65 (n = 34). As we explained in last year's report, geese staging in the western lowlands are generally those that tend to winter in Ireland, and those staging in the southern Iceland lowlands largely winter in Scottish resort, so this again fits remarkably well with the patterns described below based on samples subsequently derived from the winter quarters.

AGE RATIOS IN BRITAIN

We continue to be convinced that it is consistently poor reproductive success in recent years that has been the main driver of the rapid decline in Greenland White-fronted Goose numbers since 1999. There is no evidence from survival analysis of marked birds to suggest they are suffering higher mortality in recent years than in previous times. For this reason we are so extremely grateful for samples of age ratios and brood sizes from all of your flocks every winter as this is vital sign of the health of these geese and their ability to reproduce. We again

received excellent coverage from counters in 2014/15 as shown below in Table 5 and we thank all of you who took the trouble to attempt to gather these data for us.

Table 5. Summary of age ratio determinations and brood sizes for Greenland White-fronted Geese wintering in Britain 2014/2015.

SITE	% YOUNG	AGED SAMPLE	MEAN BROOD SIZE	FAMILIES SAMPLED
The Loons, Orkney	18.18	66		
Westfield, Caithness	9.69	62	3.00	2
Loch Urrahag, Lewis	0	32		
Kilpheder, South Uist	11.11	9	1.00	1
Loch Bee, South Uist	4.96	121		
Tiree	3.90	615		
Coll	19.90	196		
Lorn, Appin	0	50		
Lorn, Benderloch	0	17		
Keills	8.26	109		
Danna	12.50	216	2.70	10
Moine Mhor	12.50	8	1.00	1
Rhunahaorine, Kintyre[1]	16.77	328	3.60	10
Machrihanish, Kintyre[1]	10.40	471	2.26	23
Clachan, Kintyre[1]	18.18	132	2.71	7
Islay[1]	14.68	3420	3.11	75
Lowlandman's Bay, Jura[1]	0	5		
Bute	6.87	131		
Loch Ken	11.98	167	2.50	8
Stranraer	21.71	152	2.54	13
Endrick Mouth	10.38	212		
Malltraeth Marsh, Anglesey	35.29	17		
Dyfi Estuary	8.00	25	2.00	1
Seaton Burn, Tyne & Wear	18.18	22		
Britain, excl. Islay	11.03	3163	2.47	106
OVERALL	12.93	6563	2.73	181

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

Although the production of young continues to be well below the long term average, it was again a little cheering to see reasonable proportions of young in relatively many flocks that broke 10% again this year. The 2014 breeding season was not an outstanding one, particularly for geese wintering on Islay (see Figure 3) and amongst several other flocks, such as on Orkney, Coll, Kintyre and Stranraer (Table 5). Overall, the composite samples came to 12.9% young in the flocks (Table 5), quite substantially up on that of 9.6% in 2012 but not nearly as good as last season (14.2%). Away from Islay, the sample of 3,163 birds assigned to age groups showed 11.0% young (Figure 3 and Table 5 compared to 11.6% last winter). Mean brood size was 2.73 (compared to 2.61 in 2013, see Table 5) based on 181 families

sampled from many sites, comprising a mean of 3.11 on Islay (n = 75, compared with 3.28 last year), and 2.47 elsewhere (n = 106).

The reasonable rate of production of young recorded on Islay after summer 2014 was just above the average since 1962, but those from elsewhere in Britain were not especially impressive (Figure 3).

Figure 3. Age ratios sampled amongst Greenland White-fronted Geese at Islay 1962-2014 and compiled from other sites in Scotland and Wales, 1983-2014. The dotted line indicates the average percentage young amongst samples from Islay for 1962-2014. Note that the samples away from Islay have a different composition each year dependent on the availability of samples from flocks and are therefore not strictly comparable.

AGE RATIOS FROM IRELAND

Breeding success at Irish sites where age ratios were sampled showed highly variable production of young, with Big Isle, Lough Swilly (11.4%), Pettigo (14.7%), Rostaff & Killower (12.5%) and the River Suck (38.5%, but based on a relatively small sample) all exceeding 10% young following the 2014 nesting season (see Table 6). In areas away from Wexford, there was an average of 8.2% young (n = 514, compared to 8.5% last winter) but at Wexford, a very low 5.8% was recorded (n = 4,092, down again from 6.8% last year, but slightly better than that 4.9% after summer 2013, the lowest ever recorded - see Table 6 and Figure 4). This means that reproductive success at Wexford has now fallen below 7% for three consecutive breeding seasons amongst Greenland White-fronted Geese wintering at Wexford, which was one of the triggers for action under the AEWA International Single Species Action Plan for this population.

Table 6. Summary of age ratio determinations and brood sizes for Greenland White-fronted Geese wintering in Ireland 2014/2015.

SITE	% YOUNG	SAMPLE	MEAN BROOD SIZE	SAMPLE
Big Isle, Lough Swilly	11.38	536		
Dunfanaghy	1.98	101	2.00	1
Sheskinmore	4.35	23	1.00	1
Pettigo	14.71	34	1.25	4
Lough Conn	3.70	54		
Owenduff	25.00	4	1.00	1
Owenmore, Bog of Erris	0	4		
Errif and Derrycraff	0	42		
Rostaff and Killower	12.50	24		
Midland Lakes	8.91	202	3.60	5
Muckanagh, Suck River	38.46	26	2.00	5
Wexford	5.84	3578	2.69	74
Ireland, excl. Wexford	8.17	514	2.18	17
OVERALL	6.13	4092	2.59	91

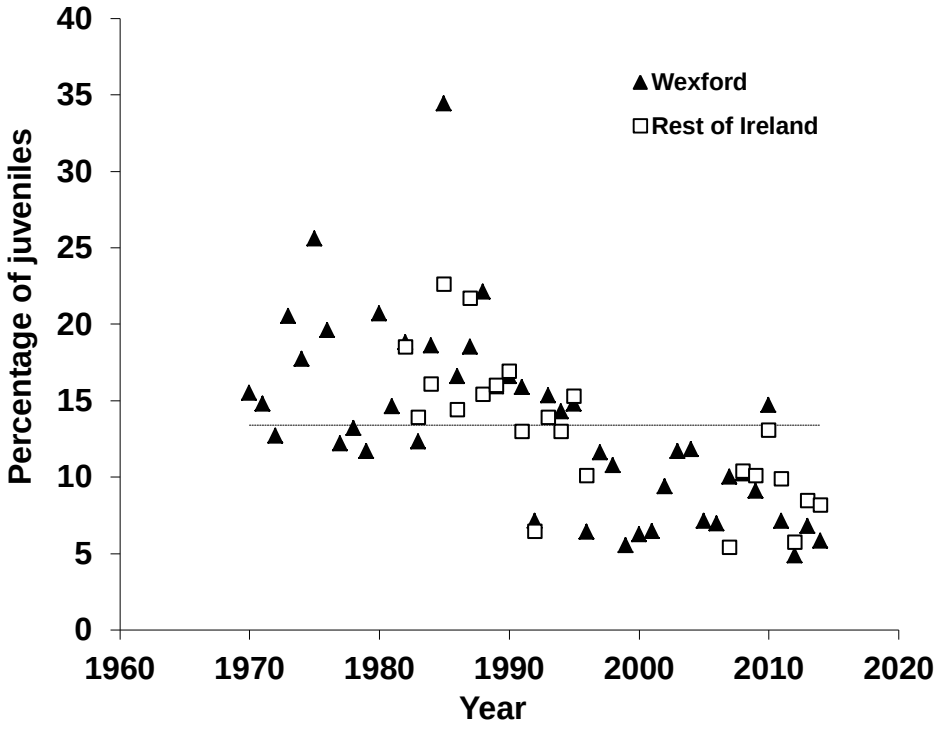

Figure 4. Age ratios sampled amongst Greenland White-fronted Geese at Wexford 1970-2014 and compiled from other sites elsewhere in Ireland for years in which there exist sufficient data. The dotted line indicates the average percentage young amongst samples from Wexford for 1970-2014.

RESEARCH NEWS FROM ISLAY

The Hebridean Isle of Islay is, by some margin, the most important UK wintering resort for Greenland White-fronted Geese and, with a wintering population of a little under 4,500 individuals in 2014/15, is numerically second only to the Wexford Slobs (SE Ireland) in global terms. However their population trajectories have been doing markedly different things; the Islay population has declined by 60% in the last 15 years (faster than the global average) whilst the Wexford population has remained relatively stable. In light of these changes, in autumn 2013, the Wildfowl and Wetlands Trust (WWT) – in partnership with Scottish Natural Heritage (SNH) – commenced a 2 year research programme on Islay Greenland White-fronts in an effort to better understand their wintering ecology and perhaps shed some light on what is driving the remarkable population decline on Islay. I've been the lucky chap who's spent the last two winters on this beautiful island with these truly captivating birds, so here's a brief overview of what we've done and where we're currently at.

Understanding the demography of the Islay population is an important first step to identify potential drivers of the decline. We know from counts that geese wintering on Islay have traditionally been amongst the more productive – and that pattern has continued through this study, with roughly 15% of Islay birds being first winter birds in both years. However, other key demographical parameters affecting Islay numbers are survival and the balance of immigration/emigration rates. To get to grips with these we need a marked population of birds to follow through time, but given so few Greenland White-fronted Geese have been caught on Islay in recent times, we have been pretty much starting from scratch to build up an Islay-caught marked population. Since December 2012 we have caught and marked 86 Greenland white-fronts on Islay, a subset (25 individuals) of which have been fitted with Ecotone GPS tags (see Figure 5).

Figure 5. GPS tagged bird "UCOL 24". Caught November 2014, Cornabus Farm, Islay.

During the two winters of fieldwork 1,307 collars were read. These re-sightings comprised 103 individuals, of which 31 had been caught elsewhere by WWT (Loch Ken), the Greenland White-fronted Goose Study group (Iceland and Greenland) or the National Parks and Wildlife Service (Ireland) from 1997 to 2013 including: six from Loch Ken, Dumfries & Galloway; three from Ballylawn, Lough Swilly, Ireland; 12 from Wexford, Ireland; five from Hvanneyri, west Iceland; and five from Isunngua, west Greenland. This fairly small dataset allows us, at least superficially, to examine survival of Islay birds and early indications are that "apparent" survival is very poor. Both actual survival and emigration rates contribute to the apparent survival estimate, but given a continued catching and re-sighting effort in future years we will be able to differentiate between the two and better define the underlying demography of the Islay population decline.

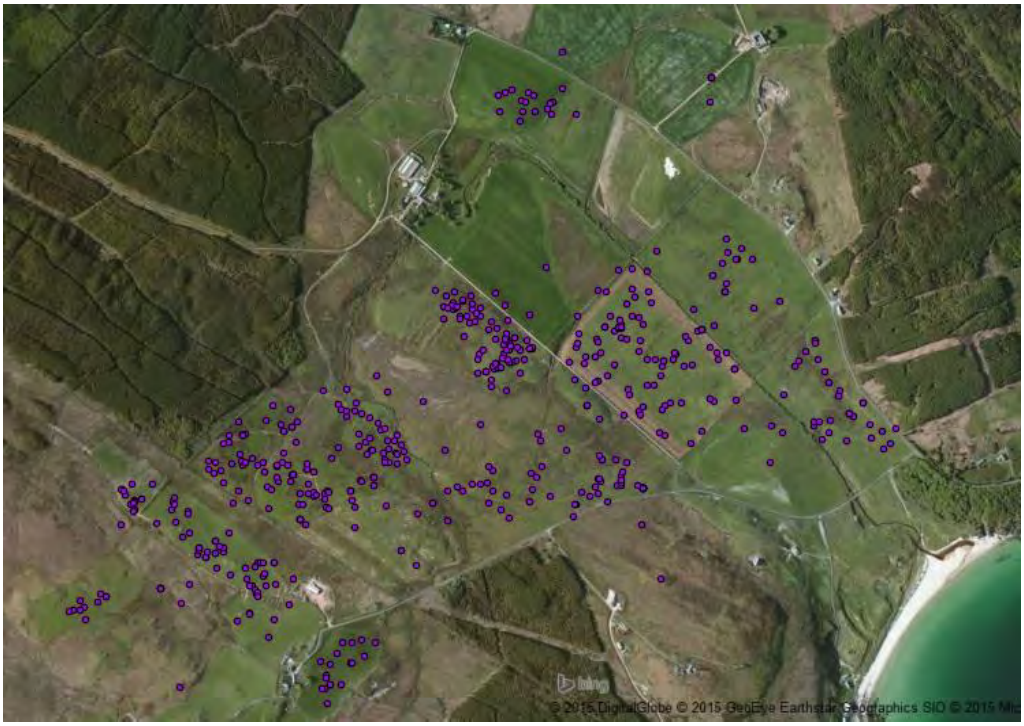

Figure 6. Daytime feeding locations of GPS tag "BLO 28". Note the concentrations of fixes in certain locations. We can characterise the habitat attributes of these points in an effort to understand Greenland white-front fine-scale habitat preferences.

A potential cause of the Islay decline is that the habitat on the island simply can no longer support the numbers of Greenland White-fronted Geese that it could before; perhaps through competition with Greenland Barnacle Geese for feeding resources or through changes in agricultural practices. To that end we are currently developing models for Greenland White-fronted and Barnacle goose feeding habitat selection on Islay. We are using high spec satellite imagery to classify vegetation across the island and we can relate this to the feeding distributions of both species across the island. The beauty of the GPS tags is that at a number of sites across the island we have a series of points that we know Greenland White-fronted Geese have actually selected as feeding sites (>14,000 daytime fixes at a 5m x 5m resolution). The distribution of feeding fixes within a birds home range is not uniform; they actively select favoured locations (Figure 6). This means we can visit a subset of these points and carefully classify the vegetation communities, then compare these with nearby un-used sites. This will

allow us, for the first time, to model between- and *within*-field habitat preferences of Greenland White-fronts. If successful, these models will form the basis for future analyses comparing (1) the distribution and habitat selection between the two species and assess the degree of feeding habitat overlap between them; and (2) to identify grassland management favoured by Greenland White-fronted Geese and the potential influence of Greenland Barnacle Geese grazing on grassland suitability for Greenland White-fronted Geese.

A second candidate cause for the high rate of population decline on Islay is the increased level of disturbance associated with the SNH led lethal scaring of Barnacle Geese as part of the local goose management scheme. We have attempted to quantify the level of disturbance of these activities on Greenland White-fronts in a couple of ways:

- Direct behavioural observations of birds during "normal" and scaring conditions.

- Using tag and SNH shooting data to map individual bird and shooting events in time and space. We can then model the effect of shooting events on the movements of individual Greenland White-fronts.

These methods will give an indication of any direct perturbing effect the Greenland Barnacle Goose scaring has on how the White-fronts spend their day – specifically the effect on their time-budgets and movements *i.e.* does the time they spend feeding or the distance they move differ because of disturbances? Because we can map the shooting effort, we can also build that variable into other analyses we run; for instance do areas with high levels of shooting disturbance have fewer feeding geese than we would expect given the habitat available?

A proximate result of both habitat inadequacies and disturbance pressures could be a difference in body condition between birds on different parts of Islay and between Islay and other wintering resorts, due to differences in food intake rates and/or different energetic costs of foraging between different areas. We can measure body condition in the field through the Abdominal Profile Index (API), or, put simply, scoring how fat each bird's bum appears. Over the two winters of the project, more than 26,000 API's were scored and, interestingly, early analysis shows significant local variation in API across Islay. At this stage we cannot determine whether this pattern is explained by habitat quality or levels of disturbance, but we should be able to do so in future analyses.

A separate aspect of the project has been to update roost survey work done in the early 1990s; counting birds at roost sites and identifying linkages between roosts and feeding areas. Remarkably, despite the current Islay population being less than half of what it was then, the vast majority of previously identified roost sites are still being used, though generally by fewer birds, and the flightlines birds use from the feeding areas to them are also amazingly conserved. There have been some notable changes though; for instance the flooding of fields by the RSPB at their Loch Gruinart reserve has created what is now by far the biggest single roost site on the island, with hundreds of birds coming in every night through the winter. From March onwards the numbers build to the point that up to 900 birds have been counted at that site in early April – more than a fifth of the Islay late winter population and quite a spectacle… I'd urge any readers visiting Islay in early spring to spend an evening in the hides at Loch Gruinart!

The data from the tagged birds has been particularly fascinating with respect to roosting behaviour. GPS tags reveal what no fieldworker ever could – such as where any given bird is at any hour of the night! The data confirms a few suspicions we might have had, like their diffuse use of the roosting bogs and moorlands, making use of any available bit of suitable habitat. The tags also reveal a great deal of within night movement, often totalling many kilometres each night. These GPS tracks are very suggestive of these birds actively feeding on the bogs at night, and this is backed up by the little bit of camera trap footage I managed and on any daytime walk up on the bogs you will find tell-tale uprooted *Eriophorum* around pretty much every boggy pool. They are also very quick to make use of moonlit conditions to head back to feeding fields when given the chance.

I hope the above has given a bit of flavour of what we have been up to over the course of this project and how we are trying to approach working out what it all means. As seems to be the wont of these mysterious birds, the more we find out, the more questions seem to crop up, but those traits and the beautiful places they choose to live are surely what makes them so addictive!

Ed Burrell, Wildfowl & Wetlands Trust, Slimbridge, Gloucester, GL2 7BT

BARNACLE GEESE ON ISLAY – HOW MIGHT THEIR MANAGEMENT AFFECT GREENLAND WHITE-FRONTS?

Islay is the single most important wintering site in Britain and Ireland for the Greenland Barnacle Goose and the second most important resort for Greenland White-fronts after Wexford. The density of wintering geese here has long been an issue for farmers on the island and a goose management scheme has been in place here for many years. However as noted in the article above, there has been a recent change in emphasis in the approach to goose management on Islay. The Scottish Government has moved towards the active population reduction of Barnacle Geese there through licenced shooting, in part aimed at reducing public expenditure on goose management in the longer term. The Scottish Government and SNH, in partnership with the National Farmers' Union of Scotland, have produced and started to implement the Islay Sustainable Goose Management Strategy 2014-2024, which aims to reduce goose damage by actively reducing the Islay Barnacle Goose population numerically by 25-30%, through licenced shooting.

The approach to the scheme is set out by Rae Mackenzie of SNH in the 2015 edition of "Goose News" (http://monitoring.wwt.org.uk/wp-content/uploads/2015/09/GooseNews14.pdf). According to SNH, the strategy aims to meet Scottish policy objectives for goose management, which include meeting the UK's nature conservation obligations for geese, within the context of wider biodiversity objectives. The main aim of the strategy is to manage the agricultural impacts and costs of Barnacle Geese, whose population is at a historic high. However, there could be impacts on the declining numbers of Greenland White-fronts, which frequently are present in the same areas as Barnacle Geese. The strategy aims to take account of this and intends to manage habitat to support feeding Greenland White-fronted Geese through development of diversionary feeding techniques and management of rush pasture and

to ensure that large areas of suitable habitat on Islay are available to geese as undisturbed roosting and feeding areas.

The scheme has been contentious from the outset, and in August 2015 RSPB Scotland and WWT jointly complained to the European Commission, based on concerns not only about the scheme (and its legality) in relation to Barnacle Geese, but also potential impacts on Greenland White-fronts.

Clearly, the status of Greenland White-fronts on Islay and elsewhere is unfavourable, and we need to keep a close watching brief on the impacts of the management scheme on the birds. The WWT/SNH research described above will help gain insights into the situation, but for Greenland White-fronts it is imperative that SNH and the Scottish Government act appropriately on Islay if it appears the enhanced Barnacle Goose shooting programme is adversely affecting them. The Greenland White-fronted Goose Study will be watching the situation closely.

Ian Francis

OBITUARY

CHRISTOPHER J. WILSON

It is with deep regret that we announce the recent death of Christopher John Wilson (1946-2015).

Chris was a loyal and relentless supporter of the Greenland White-fronted Goose project, not only in his previous role as warden on the Wexford Wildfowl Reserve from 1991-2007 but throughout his retirement years, when he freely offered his skills to the monitoring and catching programmes in Wexford, in addition to several Icelandic expeditions. Chris was a real enthusiast for a wide range of aspects of nature conservation both here in Ireland and around the globe.

Born in July 1946 at Sevenoaks in Kent, his parents, the Rev. Dr. Michael Wilson and his mother Dr. Mary Wilson, practiced in Kent and were noted medical pioneers at a research facility in Achimota, near Accra in Ghana. Chris entered the London Metropolitan Police in 1965 and served there for sixteen years. In 1968 Chris married Ann O'Brien and they moved to Cashel in Co. Tipperary in 1981. This is where Chris really developed his passion for all things to do with wildlife but, in particular, for bird ringing. He organized many Petrel ringing expeditions to Cape Clear Island in the mid-eighties and during those early years he was also very much an active secretary of the "Cappamurragh Cutover Reserve Project" committee, the results of which were published in 1990.

Figure 7. Chris Wilson: enjoying an armful of Ruddy Shelducks, Wexford 2006.

Chris joined the National Parks and Wildlife Service in 1991 as the third Reserve Warden to manage the Wexford Wildfowl Reserve and its wintering population of Greenland White-fronted Geese. An essential ingredient of the post required one to be a perfect diplomat on sensitive local issues and possessing a range of social skills that promoted conservation. Chris, naturally, filled these niches in the public and local broadcast media where it was previously deficient - a passion that continued to within days of his passing with his close friends Don Conroy and Alan McGuire.

Project work on geese demands a great deal of time and effort, which impinges to a large degree on private and social life. However, in Chris's case he was always ready to go - regardless of the hour or the day. He was never late but had an irritating habit of always being up and ready much earlier than anyone else on the team and this he continued to do for twenty-four years.

Refusing to stand still, Chris enrolled in an extra-mural Field Ecology Course with University Collage Cork and completed his diploma thesis on the breeding biology of Tree Sparrows on the North Sloblands in Wexford. This work was complimented by his election as a Scientific Fellow of the Zoological Society of London.

Chris was a difficult man to keep up with – his ever-youthful enthusiasm was infectious and difficult to suppress. Chris with his wife Ann embarked on a ranger exchange to Mount Gambier, South Australia in 2000-2001 and while there he successfully contaminated all who knew him with his joviality and forward thinking ideas – one of which was the initiation of Australia's first butterfly walk aimed at raising awareness of butterflies to the general public. This project continues to be an educational success story to this day.

Figure 8. Chris Wilson: holding one of his favourite birds with Jimi Conroy and Paddy Sullivan Wexford 2010.

In 2003 Chris was invited to lecture on "Antarctic Wildlife" on board a cruise ship that visited many of Antarctica's hotspots for Penguins, Albatrosses and Whales, but, most significantly for Chris, also in the footsteps of the many eminent polar explorers. As one can imagine, this was a gift of a lifetime and Chris grasped it with great enthusiasm together with his brother David. As a result, his expertise and historical knowledge of Antarctica was subsequently in demand year on year to the present day. The demands for such long periods away from home required his wife Ann naturally to accompany him on all following expeditions. However, Antarctica's gain was our loss as Chris finally took early retirement from the National Parks and Wildlife Service in 2007 so that he could devote all of his remaining time to this and other projects as an Environmental Consultant.

Chris particularly relished his family connection to his gifted great uncle, Edward Wilson, who perished alongside Captain Scott and other members of the team in Antarctica, as well as his famous uncle, David Lack, one of the world's most famous ornithologists, who published: "The Life of the Robin", "Darwin's Finches", and "Swifts in a Tower" to mention just a few landmark publications. Chris embarked with his brother David on the publication of the beautifully illustrated "Edward Wilson's Nature Notebooks" (2004) and "Edward Wilson's Antarctic Notebooks" (2011). However, by this time Chris was in full stride as he had already published "High Skies – Low lands– An Anthology of the Wexford Slobs and Harbour" with David Rowe (1996), "Wildlife – A guide to Irish Wildlife" with Don Conroy (1998), "A Wildlife Quiz Book" with Don Conroy (1999) and then more recently focused his attention on the publications: "The Lepidoptera of Co. Wexford" with Michael O'Donnell (2009), "Wexford's Wild Heritage" co-authored with Alan McGuire and Don Conroy (2014) and "The Odonata of Co. Wexford" with Nicholas Egan (2015).

Just to give a flavour of a few of the many projects that Chris was involved in, we can list: the Countryside Bird Survey, bat transects, moths surveys, butterfly monitoring, survey of cetaceans and birds on the Irish Sea from Rosslare to Pembroke, hedgerow surveys and I-WeBs surveys. Chris was also SE Radio Wildlife correspondent in conjunction with Wildside, as well as being an active member of Wexford Naturalist Field Club. Chris was also an accomplished photographer and illustrated many of his own publications and those of many others. He was an invaluable contributor to numerous journals and national bird atlas surveys.

With no prior warning, Chris was diagnosed with pancreatic cancer. One cannot possibly imagine the impact that such devastating news must have had – especially when it refers to one's own imminent demise. But I must confess, I was deeply inspired by Chris's positive attitude to death – he never complained once about his untimely death sentence. It was a true inspiration to witness his bravery. He wrote in a text – "I will fight on – a good fight, it will get my body but not me". He was right; his memory and that of his bravery will certainly live on in me, for the rest of my life. Chris finally lost his fight for life on the evening of Saturday 22nd August 2015. It was an honour to have known him, to have worked and socialized with him and his wife Ann. May I, on behalf of his many colleagues in the National Parks and Wildlife Service and even greater number of friends offer his wife Ann and his entire family our deepest condolences.

Alyn Walsh

ACKNOWLEDGEMENTS

It is so difficult writing every year to really adequately thank the huge network of volunteers that cheerfully make this census possible. Once again it is our great, GREAT pleasure to thank all of you for giving up your own time to count, gather data on age ratios, brood sizes, collars and ring readings and to have the care and patience to send all of this information to us. As always, it is a great source of pleasure to receive all your observations and anecdotes about Greenland White-fronted Geese but much of this extra information is of huge value, so do please keep it all coming, it is such a privilege to be able to receive all this information and hear of your experiences. It is depressing to see numbers falling every year as they are, but this makes it all the more vital we keep tabs on the population as it struggles to survive. Thanks very much to you, one and all!

Thank you all so very much for your support and help during yet another year! For Britain during 2014/15, these include: Victoria Anderson, Rebecca Austin, Paula Baker, Ian Bainbridge, Dave and Pat Batty, Yvonne Boles, John Bowler, Jack Brown, Ed Burrell, Gavin Chambers, Francois Chazel, George Christie, Paul Collin, Robert Coleman, Steve Duffield, John Dye, Alan Fraser, Anthony Fraser, Ian Fulton, Larry Griffin, Dick Hewitt, Ian Hopkins, Kath Hamper, Brian Henderson, Iain Jamieson, David Jardine, Tracey Johnston, Ben Jones, Dave Jones, Russell Jones, John Kemp, Morven Laurie, Alan Leitch, Allison Leonard, Stephen Longster, C. MacFarlane, Sinclair Manson, Paul Massey, Rae McKenzie, Bob McMillan, Eric Meek, Carl Mitchell, Brian Neath, Bill Neill, Donald Omand, Malcolm and

Carol Ogilvie, Mike and Val Peacock, Nicky Penford, Brian Rabbitts, Bryan Rains, Alan Reid, Robin Reid, Brian Ribbands, Andy Robinson, Chris Rollie, Andrew Stevenson, Paul Tarling, Arthur Thirlwell, Mike Wagemakers and Catriona White For Ireland, these include: Wesley Atkinson, Penny Bartlett, Dominic Berridge, Andy Bleesdale, Helen Boland, Alan Brady, Dermot Breen, Noel Bugler, Brian Burke, Andrew Butler, David Cabot, Sue Callaghan John Carroll, Helen Carty, Cameron Simon Clarke, Clotworthy, Kendrew Colhoun, Padraig Comerford, Dick Coombes, William Cormacan, Niall Cribbon, Fionnbar Cross, Olivia Crowe, Miriam Crowley, Jack Cullen, Eamon Doran, Dave Duggan, Maurice Eakin, Tom Fiske, Triona Finnen, Ciara Flynn, Ciaran Foley, Katherine Freeman, Jenny Fuller, Michael Furlong, Joe Gatins, Brian Gibbons, Emma Glanville, Michael Hackett, Seamus Hassett, Stephen Heery, Ian Herne, Gerry Higgins, John Higgins, Don Hodgers, Stefan Jones, Elaine Keegan, Donal Keown, James Kilroy, John Kinsella, Brian Laheen, Eamon Laressey, George Lett, Annette Lynch, Aine Lynch, David Lyons, Lee McDaid, David McDonagh, Maurice McDonnell, Graham McElwaine, Eoin McGreal, Dermot McLaughlin, Barry McMahon, Frank McMahon, Emer Magee, Mike Mannsell, Cian Merne, Jason Monaghan, Gerry Murphy, Gerard Murray, Tony Murray, David Norriss, Irene O'Brien, John O'Connor, Aonghus O'Donnell, Ger O'Donnell, Padraig O'Donnell, Thomas O'Loughlin, Ciara O'Mahony, Gerry O'Neill, Peter Philips, Brian Porter, Brad Robson, Tim Roderick, Joe Shannon, Lorcan Scott, Ralph Sheppard, Andrew Speer, Raymond Stephens, Denis Strong, Dave Suddaby, Peter Taylor, Rebecca Teesdale, Matthew Tickner, David Tierney, Nicky Walsh, Ross Watson, Mitch Weegman, Fionna Wheeldon, Ann Wilson, Chris Wilson, and John Wilson.

We do try and thank everybody who so kindly contribute every year and are very sorry if we have neglected to acknowledge you by name above, this is purely due to creeping old age so please do not take any of this personally! We are also deeply grateful to those folk who maintain web sites and blogs (too many to thank individually) that provided extra count data and interesting sightings in 2014/15. We could not do anything without your continued kind help and support, so thank you very much for all of your efforts! 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 and continues to be the source of great support. 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. 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: 12-16 December 2015 and 12-16 March 2016
Preferred monthly counts: 14-18 November 2015, 16-20 January 2016, 13-17 February 2016 and 27 February-2 March 2016.