

GREENLAND WHITE-FRONTED GEESE IN IRELAND 1988-89

A PROGRESS REPORT

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SUMMARY

The mean count of Greenland White-fronted Geese in Wexford increased from 7750 in 1987-88 to 10,000 in 1988-89. Numbers elsewhere in Ireland and in Britain have also continued to rise, albeit more slowly, after an average breeding season.

Some initial results from the marking programmes in Ireland and Greenland are summarised and the fortunes of an expedition to Greenland this summer are recounted by Alyn Walsh.

CENSUS RESULTS

International census dates were rather later in autumn (3-7 December) and spring (1-5 April) last winter than usual. Wexford birds were in good condition because of the mild winter and spring and most of the flock left early during a period of favourable winds from 12-15 April. The earliest departures were recorded on the 7th, after the spring census. A mid-winter count took place on 11-14 February (Ireland only).

BREEDING SUCCESS

The flock in Wexford contained an estimated 22.1% juveniles (mean brood size 4.32) on 10/1/89; pooled winter age counts for the Rest of Ireland gave 15.4% juveniles (mean brood size 2.70); (Table 4). Since protection in 1982/83 the Wexford and Rest of Ireland flocks have averaged 19.6% & 17.9% juveniles respectively.

WEXFORD

Counts in Wexford duplicated on the same day show little variation (Table 1, range 0.3 - 3.1% difference) indicating a very small counting error. In January numbers peaked at 11,000 (an all-time maximum) and dropped back to 9,300 - 9,800 for the rest of the season. The mean winter count (10,064) is a substantial increase on previous winters which have shown little change since 1985/86 (Fig. 1).

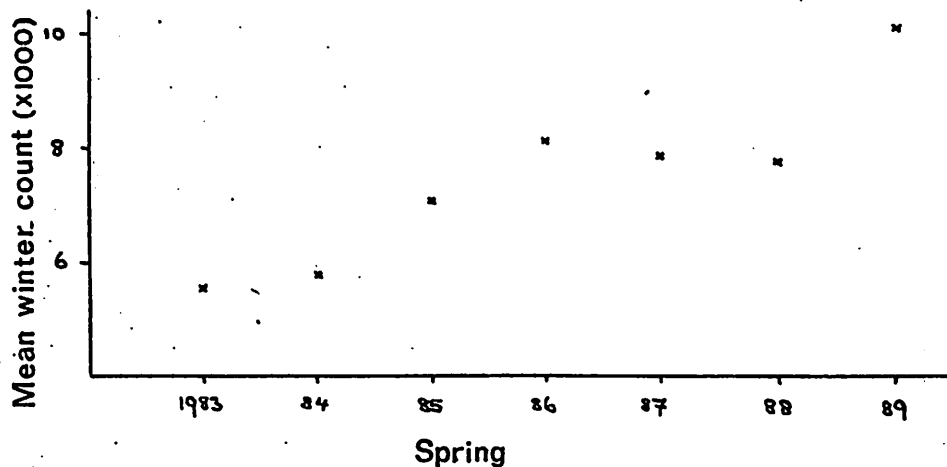


Fig. 1. Mean winter count, using higher figure from replicate counts, Co. Wexford, 1982-83 to 1988-89.

By and large goose numbers on the South Slob and at Cahore have remained constant and the North Slob farms accommodated the increased goose use in 1988/89. Indeed last winter licenced systematic scaring on grass over the eastern half of the North Slob from February onwards to protect the spring growth substantially reduced the area normally grazed by geese. While there have been other attempts in earlier winters to scare geese from these grasslands (which are important for dairy cows), none have been as systematic and sustained or as successful in their

objective. Grass availability was further reduced by the wintering of about four thousand sheep on parts of the North Slob until early March. Nevertheless grass in the Reserve never seemed in short supply. Presumably the extraordinarily mild winter helped grass growth throughout the winter.

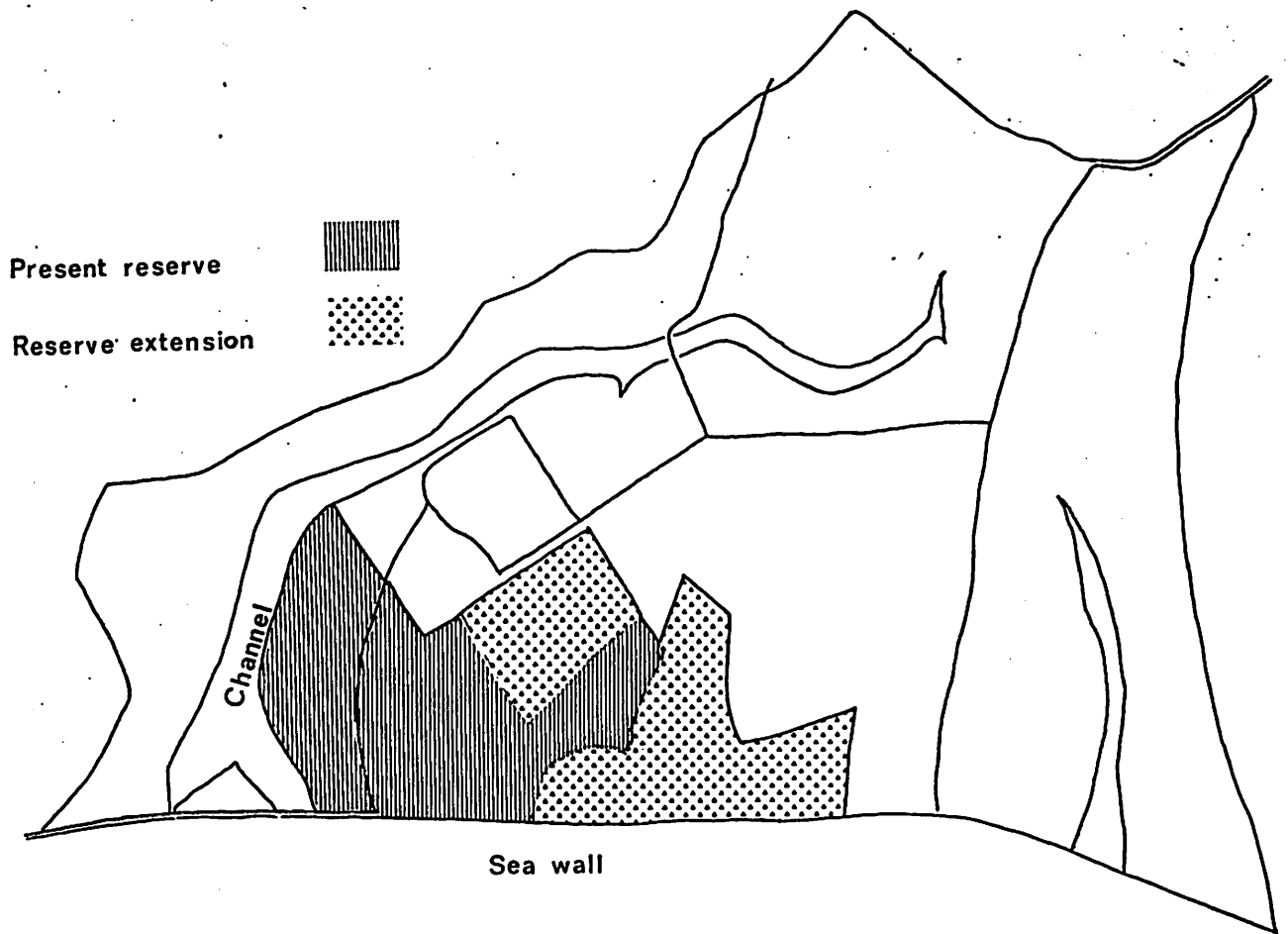


Fig. 2 Location of Wexford Wildfowl Reserve and Reserve extension, North Slob, Wexford.

A long-term aim to expand the current Reserve size of 250 ac. has recently been successful (Fig. 2). The Wildlife Service and Irish Wildbird Conservancy have secured agreement to purchase a further 207 ac. with 50% of the costs being provided by the E.C. under Council Regulation No. 2242/87, 'Action by the Community

relating to the Environment' (ACE funding). This extension adjoins the eastern edge of the existing Reserve and squares off the boundaries, making a more practical management unit. Most of the Reserve's new eastern edge is protected from disturbance by a raised ridge of land bisecting the North Slob. The additional protection afforded to the north-east and south by the freshwater channel and seawall and by the embankments flanking the road through the Reserve provide buffer zones from disturbance for a larger unit of land. Thus the extension is worth considerably more than the increased acreage alone provides, because of the control of access and disturbance to a natural block of land.

REST OF IRELAND

We achieved thorough coverage of almost all flocks in 1988-89. Counts were received on all flocks. A small proportion (1.6%) of the spring total was estimated as a result of flocks missing during the census period. However two bogland flocks, in Connemara and S.W. Mayo have always needed a different approach to censusing than that required for other flocks because of the number, dispersal and remoteness of feeding sites. Last April we organised a successful census of the Connemara bogs in a synchronised ground and air count using an Air Corps Cessna. Although the Wildlife Service and National Parks staff have counted geese here annually, this is the first comprehensive count in Connemara since 1985-86. Seven flocks of White-fronts were counted, totalling 134-137 geese, an increase from 98 estimated in 1985-86. Only two flocks were seen by both ground and aerial observers while one flock had been seen on the ground

prior to flushing by the plane, so good ground coverage is evidently needed to make the most of aerial surveys on bogland. This is a large-scale undertaking, even when combined with other work in the area and can only be repeated infrequently. For reasons of timing, ground coverage of S.W. Mayo could not be arranged for an aerial census immediately after the Connemara flight. The total seen (145) is well down on previous winters maxima (276 in 1986-87 and 210 in 1987-88) and is probably an underestimate, despite the experience of Oscar Merne and Alyn Walsh in the aircraft.

Both autumn (4328) and spring count totals (4315) in 1988/89 showed increases from the corresponding seasons in 1987/88 (of 9.5% and 1.6% respectively; Tables 2 & 3). However the spring total, which is typically 10-20% larger than the autumn count in fact dropped slightly during last winter. In part this unusual pattern may be due to the late 1988 autumn census which is usually one to two weeks earlier. Both the timing of migration and the timing of the count in autumn will affect the numbers on the wintering grounds during the autumn census

It is also apparent though that within-winter declines of several flocks have also depressed the spring total. We reported last year how trends in individual flocks were related to the degree of disturbance and the refuge qualities of the feeding range. This trend is continuing. White-front flocks on good quality feeding ranges have on average increased by 42% in the last seven years. Flocks on medium-quality ranges have also increased, though not as quickly. In contrast flocks at Bunduff, L. Macnean, Caledon, Kilcolman, Doo Lough and the Blaskets have few

small feeding areas and are generally declining. The rate of decline appears to have steepened amongst the latter group since 1985/86 but the change is not statistically significant. Nonetheless several flocks have now declined to the point of extinction. Between 1982-83 and 1987-89 one flock had become extinct at the Inny Valley, Co. Kerry. In 1988/89 no geese were seen at all on Lower Lough Derg, Co. Clare; while small numbers of geese were seen earlier in the winter in the Killarney Valley, Co. Kerry, the range was apparently deserted by the spring census. Both desertions, and some other less extreme declines, are understandable in terms of disturbance. However, two flocks currently declining despite comparatively good feeding ranges do not fit this general pattern;

1. Sheskinmore Lough (Co. Donegal) was an important site holding 400-500 White-fronts in the mid 1980's. Numbers have since declined, both between and within winters, so that only 90 were present in March 1989. The feeding range is relatively large and geese are tolerated in those parts of Sheskinmore owned by the Wildlife Service and NGO's or for which there is a management agreement with the Wildlife Service. Disturbance levels are low and did not seem to be the cause of the decline. Recently though there have been a number of changes reducing the quality and quantity of the grass sward. Most important has been competition on drier soils from rabbits. Myxomatosis was introduced annually by farmers to minimise the rabbit's impact on grass, but the disease has had little effect in the last two winters and rabbits are now very numerous. In addition weather related delays of the hay harvests in 1987 and 1988 have reduced aftergrowth and normal

rates of fertilizer application have been much reduced. Numbers of both White-fronts and Barnacle geese using Sheskinmore have declined as grass suitability deteriorated. The remaining White-fronts now use small grassland sites outside the Area of Scientific Interest at Sheskinmore where disturbance levels are high. Numbers of White-fronts have also declined within winters as grazing, rather than probing, became the predominant feeding technique in late winter and spring. Thus the available evidence is consistent with the idea of a recent limitation in the quantity and quality of available grazing being the primary cause of the decline.

2. The White-fronted goose flock using the Blasket Island and the tip of the Dingle peninsula, Co. Kerry has declined from about 90 in 1982-83 to 15-30 in the past three winters. The flock traditionally used the Blaskets from arrival until mid-winter when they moved to mainland sites. In recent years mainland sites have become less suitable because of intensive management for sheep. As a result White-fronts have tended to use the islands throughout their stay and during the same period numbers of sheep and rabbits have increased sharply. Although in this instance agricultural improvement caused the initial loss of mainland sites, a decrease during the survey again appears to be the result of competition from other herbivores.

We thank Pat Foley, Don McMahon and in particular John Hennigan for their observations about causes of declines and suggestions for future management of the Sheskinmore and Dingle White-front flocks. In discussion with local survey participants we have

also made management recommendations for seven further flocks which are currently threatened: these are Bunduff (Co. Sligo), Lower Lough Macnean (Co. Fermanagh), Caledon (Cos. Tyrone and Monaghan), Lough Conn and the Ox Mountains (Cos. Mayo and Sligo), Tullagher (Co. Clare), Doo Lough (Co. Kerry) and Killarney Valley (Co. Kerry). Disturbance is a major problem for all these flocks because of their small feeding ranges. Often flocks face disturbance problems from more than one quarter at once, or are likely to do so in the near future. Some problems, particularly those in the recreational category, seem intractable but we were surprised by the number of positive steps that could be taken to reduce disturbance pressures. We plan to keep a closer watch over the next few winters to monitor progress of those flocks where remedial management has been attempted.

TRAPPING AND RESIGHTING PROGRAMME

PRELIMINARY RESULTS

A joint paper based on work in Ireland and Britain 'Winter site fidelity in Greenland White-fronted Geese: implications for conservation and management' was presented by David Stroud of GWGS at a symposium on geese in Kleve, West Germany in February. In it preliminary results from the resighting of geese marked by GWGS expeditions to Greenland in 1979 and 1984 and by the Wildlife Service since 1984-85 are presented. Copies of the paper in its published format will be circulated when available (1990).

The paper emphasises the strong site fidelity shown by Greenland White-fronts between winters 85% of Wexford-marked and 92.5% of Greenland-marked geese remained in the flock where they were

originally caught or seen. Lower site fidelity estimates among Wexford-marked geese may simply be due to the increased likelihood of detecting moves and reading codes among neck-banded rather than leg-ringed geese. There was no evidence of different frequencies of moves by the sexes. Most movement was by younger birds, presumably as family parties broke up although many families evidently remain together for a number of years.

The proportion of geese recorded moving within winters was much smaller (less than 0.5% for all marked birds); geese staging in Islay en route for Wexford formed a large proportion of such within-winter moves. By the end of the 1988-89 winter Wexford ringed geese had been recorded from nine Scottish and fourteen Irish flocks, with the bulk of the records from Islay. More frequent moves to Islay appeared to be a result of the large wintering flock there though and were not disproportionately commoner when flock size was taken into account. If such extreme site loyalty proved typical among small, declining flocks in the west of Ireland, with geese remaining in adverse circumstances rather than moving elsewhere, then the protection of smaller flocks and enhancement of conditions there assumes a greater importance.

Marked geese in Islay and Wexford have also shown strong attachments to a small part of the wintering site, feeding almost exclusively within a few adjacent fields. Furthermore, individuals were faithful to the same restricted feeding area over several years (Fig. 3). It follows that care is needed to ensure that a representative and accurate picture emerges from sampling such a stable, structured flock.

North Slob, Wexford
9KM

Sightings in:
1984/85 ●
1985/86 ○
1986/87 ■
1987/88 ▲

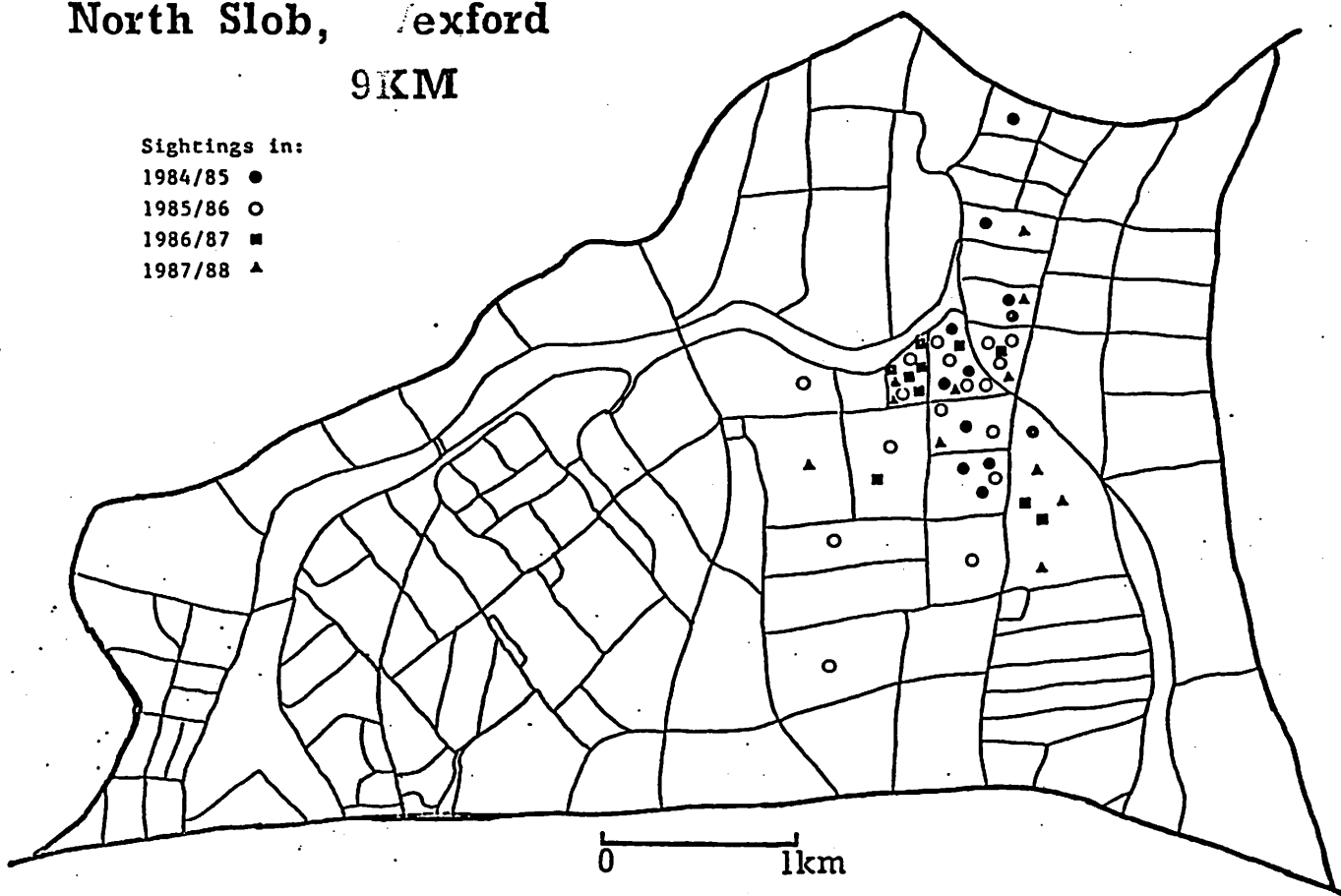


Fig. 3 Sightings and home-range of 9KM on the Wexford Slobs, 1984-85 to 1987-88

PROGRESS IN 1988-89

The cannon-netting team caught and neck-banded one hundred White-fronts on the Wexford Slobs and a further fourteen at Sheskinmore, Co. Donegal last winter. A further thirty-two birds (including six goslings which because of their size were only fitted with leg-rings) were caught and marked in Greenland during the summer. Table 5 lists neck-bands and leg-ring codes used to date.

Resightings of marked birds outside Wexford are detailed for last

winter in Table 7. As before, the bulk of Wexford-marked geese that remained faithful to Wexford have not been included in these tables.

GWGS have forwarded some very interesting resighting data from Johann Hilmarsson in Iceland. Most observations concerned geese marked in Wexford and are not detailed here but one Sheskinmore-marked bird was read on spring passage (Table 6).

GREENLAND EXPEDITION

by Alyn Walsh, Wexford Wildfowl Reserve.

The Greenland White-fronted Goose Study (GWGS) expedition took place from the 8th July to 8th August 1989, and concentrated its efforts on censusing and marking geese in the Eqalummiut nunaat-Nassuttuup nunaa region. This area is one of ten recently designated international wetland sites under the Ramsar Convention (1977), holding at least 10% of the population during the moulting period from July-August. Following a preliminary investigation of the area just north of the airbase at Søndre Strømfjord by two members of the GWGS group in 1988, it was decided to return and follow up the encouraging results with ground/aerial surveys and marking of flightless geese. The truly international team consisted of eight members from Ireland, England, Wales, Scotland and Denmark.

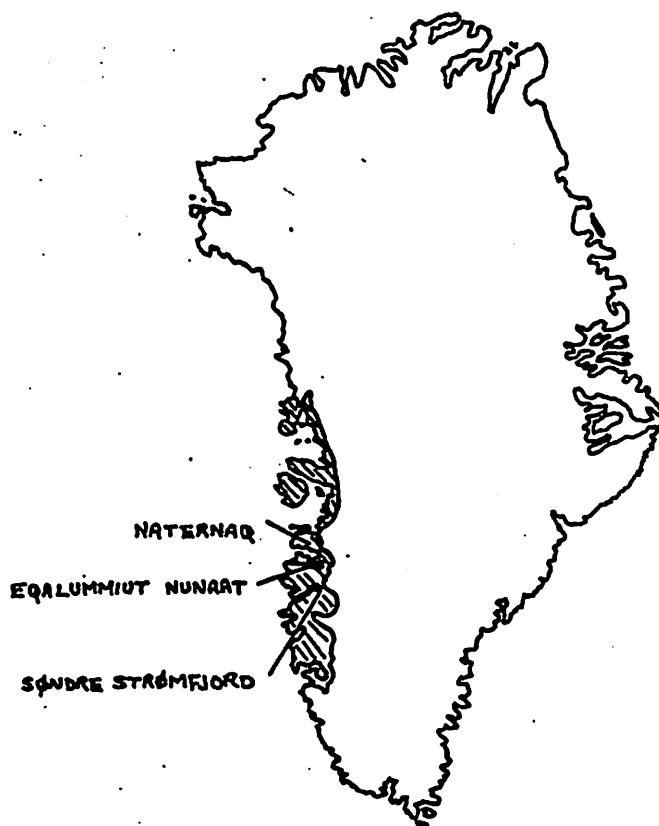


Fig. 4. Breeding distribution of Greenland White-fronted Goose (hatched), after Fox et al. (1983) and location of survey areas in Greenland.

Censusing and Marking

The expedition suffered a wet start, which was the tail end of one of the wettest summers on record for western Greenland. We were not deterred by this, and managed to cover approximately 500km². Within this area we counted 215 White-fronts including the first proved breeding of Canada Goose for the region; this species may be undergoing a range-expansion which could have serious consequences for the successful breeding of the smaller White-front.

A total of 150 miles of ground was covered by each of the four groups during recce's for White-fronts, which involved moving camp seven times. During the two and a half weeks of fieldwork we attempted seven round-ups which produced 26 adults and 6 goslings. Regrettably a large proportion of non-breeders were capable of some form of flight, and managed to escape either over the nets or by taking flight. It became all too clear that the moult was almost complete, despite the record wet summer, and any further catching attempts on moulting adults was futile. Neck bands were attached to White-fronts for the very first time in Greenland, bringing the total number of marked geese to over 216 since the first expedition to Eqalummiut in 1979. On the 31st July all equipment was moved down to the Airbase, where we could camp for the final week, and await the opportunity to carry out an aerial census of the region covered by foot and important breeding grounds further north at Naternaq/Lersletten. In 1988 the GWGS team flew over and censused this magnificent flat-plain wilderness, and found it to contain a large number of breeding and moulting adults. The area is approximately 1,500km² and lies at 68 degrees north. Our survey plane was based a Narsarsuaq

some 600 km south of the Airbase, and during favourable weather conditions conducted Whale Surveys off the west coast of Greenland. Finally after six days of waiting the weather turned in our favour and the plane was released. The four man crew consisted of two full time observers, a navigator/recorder, and pilot. The specially modified observer plane gave excellent all round vision. Our first flight was of 3 hour duration - in which we censused the region we had covered on foot immediately north of Søndre Strømfjord. After completing the transect flight we had observed a total of 230 White-fronts, just 15 more than our ground survey. The following day our flight took us further north over Eqalummiut and on to Naternaq. This area abounds in breeding waterfowl particularly Eider, Red-throated and Great northern Diver, and Long-tailed duck. The flight duration was 5 hours in which we had covered approximately 10,000km². We observed a total of 2032 White-fronts with a high proportion of broods. This successful aerial census highlights the fact that censusing of moulting geese from the air is feasible over very large tracts of landscape. It also shows that there is a need for international conservation measures for geese which are thinly-dispersed on the breeding grounds, and concentrated on the wintering sites, especially the Wexford Slobs and Islay.

Team Members

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 " Royal society for the Protection of Birds.
 @ Wildlife Service.

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TABLE 1: Counts of Greenland White-fronted Geese in Co. Wexford
1987/88.

DATE	WEXFORD SLOBS	CAHORE	TOTAL
5/12/88	10,399	--	10,399
5/12/88	10,510	--	10,510
6/12/88	--	8	
9/1/89	9,139	92	9,231*
9/1/89	10,597	92	10,689
9/1/89	10,924	92	11,016
13/2/89	9,262	36	9,298
13/2/89	9,233	36	9,269
14/3/89	9,472	--	9,472
14/3/89	9,025	672	9,697
3/4/89	9,473	326	9,799
3/4/89	9,406	326	9,732

Mean of higher figure from replicate counts: 10,064.

* An early count, probably missing geese which had not yet
flighted in from the roost.

TABLE 2: Summary of Autumn, Mid-Winter and Spring Censuses,
West and Midlands of Ireland, 1988-89.

	<u>CENSUS DATE</u>		
	3-7 December	11-14 February	1-5 April
<u>DONEGAL-DERRY</u>			
Foyle & Swilly	<u>267</u>	53	<u>256</u>
Dunfanaghy	117	<u>227</u>	<u>188</u>
Sheskinmore	<u>146</u>	108	<u>83</u>
Pettigo	33	<u>201</u>	<u>224</u>
<u>NORTH CENTRAL</u>			
Bunduff	<u>13</u>	6	<u>0</u>
Lower L. Macnean	<u>45+</u>	0	<u>60+</u>
L. Oughter	<u>49</u>	52	<u>47</u>
Caledon	<u>67</u>	70	<u>72</u>
Stabannon	<u>27</u>	-	<u>8</u>
<u>MAYO</u>			
L. Conn & Ox Mnts.	<u>175</u>	-	20
N.W. Mayo	129	<u>116</u>	101
<u>S. MAYO-GALWAY</u>			
Errif & Derrycraff	-	-	<u>145</u>
Connemara bogs	-	-	<u>134+</u>
<u>EAST GALWAY</u>			
Rostaff & Killower	<u>121</u>	<u>143</u>	<u>143</u>
Lr. L. Corrib	<u>105</u>	88	<u>90</u>
Rahasane	<u>101</u>	94	<u>105</u>
<u>CLARE-LIMERICK</u>			
Tullagher	<u>52+</u>	0	<u>47</u>
North Clare	<u>0</u>	40	<u>52</u>

3-7 December 11-14 February 1-5 April

CLARE-LIMERICK cont'd

Lr. L. Derg	<u>0</u>	0	<u>0</u>
Fergus & Shannon	<u>0</u>	8	<u>21</u>

SHANNON HEAD

L. Gara	371+	-	<u>605</u>
L. Drumharlow	<u>117</u>	87+	<u>176</u>
Is. Kilglass & Forbes	0	<u>144</u>	<u>148</u>

MIDLANDS

Midland Lakes	(320)		<u>343</u>
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MIDDLE & LOWER SHANNON

Inny & L. Ree	-	19	<u>84</u>
R. Suck	<u>429+</u>	<u>411</u>	<u>413</u>
L. Brosna	<u>485</u>	<u>300+</u>	<u>485+</u>

SOUTH MIDLANDS

R. Nore	<u>44</u>	52	<u>57</u>
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SOUTH WEST

Kilcolman	<u>9</u>	9	<u>9</u>
Doo Lough	<u>22</u>	25	<u>25</u>
Killarney Valley	<u>34</u>	9	<u>0</u>
Inny Valley	-	-	<u>0</u>
Dingle	<u>31</u>	16+	<u>16</u>

TOTAL	<u>4,328</u>		<u>4,315</u>
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A dash (-) indicates no coverage, a plus sign after a count denotes a minimum figure and brackets an approximate count. Counts used for the autumn and spring estimates have been underlined.

TABLE 3: Autumn & Spring Census totals of Greenland White-fronted Geese, 1985-86 to 1988-89. British data for Tables 3 & 4 from Stroud (1986, 1987 and in prep.)

	1985 - 86		1986 - 87		1987 - 88		1988 - 89	
	Autumn	Spring	Autumn	Spring	Autumn	Spring	Autumn	Spring
Wexford	7930	7940	7033	7780	7988	8781	10510	9799
Rest of Ireland	3565	3928	3185	4106	3952	4249	4328	4315
Britain	11026	10015	10952	11357	12404	11991	(13036)	(12178)
TOTAL	22521	21883	21170	23243	24344	25021	27874	26292

TABLE 4: Age Counts and Frequency Distribution of Brood Sizes for Wexford, Rest of Ireland and Britain.

DATE AND LOCATION	TOTAL AGED	% JUVS.	MEAN BROOD SIZE (n)	BROOD SIZE							
				1	2	3	4	5	6	7	8
Wexford 10/1/89	6275	22.1	4.32 (229)	6	21	40	50	50	37	14	2
Rest of Ireland	2551	15.4	2.70 (114)	31	27	27	11	13	2	3	0
Britain											

TABLE 5: Neck-band and leg-ring sequences used on Greenland White-fronted Geese by summer 1989.

<u>GREENLAND</u>			<u>WEXFORD</u>	
A01-25	1-5AA	1-OKK	1-OPP	1-OUC
A27-29	1-OJA	1-OKM	1-OPR	1-OUE
K01-07	1OJC	1-OKP	1-OPT	1-OUF
K10-17	1-OJE	1-OKR	1-OPU	1-OUJ
K20-27	1-OJF	1-OKT	1-ORA	1-OUK
K30-37	1-OJJ	1-OKU	1-ORC	1-OUM
K40-47	1-OJK	1-OKY	1-ORE	1-OUP
K50-55	1-OJM	1-2MA	1-ORJ	1-OUR
K60-66	1-OJP	1-OME	1-ORK	1-OUT
K70-77	1-OJR	1-OMJ	1-ORM	1-OUU
T01-07	1-OJT	1-4MK	1-ORP	1-OUY
T20-27	1-OJY	1-OPC	1-ORT	<u>REST OF IRELAND</u>
T30-33	1-OKA	1-OPE	1-ORU	3-OMA
F01-07	1-OKC	1-OPF	1-OTA	1-5MC
1-OCA	1-OKE	1-OPJ	1-OTC	1-OMM
1-OCC	1-OKF	1-OPK	1-OTE	1-OMP
1-6CE	1-OKJ	1-OPM	1-OUA	1-8MT

TABLE 6: Resightings of marked Greenland White-fronted Geese, 1988-89.

UPD = unpaired

UNR = not ringed

??? = marked, code not read.

Wexford-marked geese sighted elsewhere in Ireland

Darvic Site	1	2	3	4	5	6
	Date	Mate	Flock	Juv	Associating	Observer
2PT Killower, Co. Mayo	27/2/89	UPD	64			J.J.H
2PT Foxhall, Co. Mayo	1/3/89	UPD	64			J.J.H.
2RM Ardmore L., NW Mayo	3/1/89		31+			B.H.
2RM Termoncarragh L. NW Mayo	1/3/89	UPD	34		2UNR	B.H.
2RM Termoncarragh L. NW Mayo	4/4/89	UPD	38			B.H.
3JT Cloonlaughlin, R. Suck	16/11/88	9JP	170			D.S., D.N.
3JT Castlestrange Br. R. Suck	13/2/89	UPD	213			D.S.
3JT Castlestrange Br. R. Suck	3/4/89	UPD	236			D.S.
3MJ The Curragh, R. Nore	15/3/89	7UY	58		4MJ5ME8ME	J.W., J.C.
4PU Cloonagh, R.Suck	16/11/88		86		???	D.S., D.N.
4PU Cloonagh, R.Suck	24/11/88		93			D.S.
7RK Cloonagh, R.Suck	16/11/88	UPD	86			D.S., D.N.
?RK Cloonagh, R.Suck	24/11/88		93			D.S.

Geese ringed in the Rest of Ireland in 1986-87 and 1987-88

Darvic Site	Date	Mate	Flock	Juv	Associating	Observer
IMM Islay, Scotland	14/10/88	UNR				M.A.O.
IMM Sheskinmore, Co. Donegal	24/10/88		22			J.H.
IMM Sheskinmore, Co. Donegal	18/11/88		98			J.H.
IMP Sheskinmore, Co. Donegal	All winter				2MM4MM5MM9MM	J.H.
3MP Rangarvallasysla, Iceland	23/4/89	UNR	91			J.O.H.
6MA North Slob, Wexford	All winter			5UNR	7MA8MA3MC	PO'S. A.W
8MM Sheskinmore, Co. Donegal	All Winter					J.H.

Greenland-marked Geese sighted in Ireland

A10 Carrowmore L. NW Mayo	13/12/88	K56	37			B.H.
A10 Carrowmore L., NW Mayo	29/3/89	Missing	32			B.H.
K07 North Slob Wexford.	17/1/89				K27	PO'S., AW
K33 North Slob Wexford	7/3/89	25				PO'S., AW
K33 North Slob, Wexford	8/4/89	25				PO'S., AW

Observers

JC John Carroll, BH Brian Haran, JH John Hennigan, JOH Johann Hilmarsson, JJH John Higgins, DN David Norriss, MAO Malcom Ogilvie, POS Paddy O'Sullivan, DS Davide Silke, AW Alyn Walsh, JW John Wilson.

TABLE 7: Records of Darvic-ringed geese in Irish flocks up to 1988-89.

Foyle and Swilly:

1986-97: A minimum of 2 neck-collars (2 unread)

1987-88: 2 neck-collars (8JE, 4JM)

Sheskinmore:

1985-86: 2 neck-collars (3JT, 9JP)

1987-88: 14 geese trapped and marked 30.10.87 (1-OMM, 1-4MP); one additional neck-collar (7TE) and one, possibly, two leg-bands (unread). 1-OMM and 1-4MP remained at Sheskinmore and its environs for the duration of the season.

1988-89: 14 geese caught 26.10.88 and 10.11.88 (5-OMP, 1-8MT); eight additional neck-collars (1MM, 2MM, 4MM, 5MM, 8MM, 9MM, 1MP, 1 unread) and one leg-band (unread). 6-OMP and 1-8MT remained at Sheskinmore for the remainder of the season.

Lr. L. Macnean:

1987-88: 1 neck-collar (5MC)

1988-89: 1 neck collar (unread)

Caledon:

1986-87: 1 leg-band (unread)

Stabannon:

1987-88: 1 neck-collar (unread)

W. Bog of Erris:

- 1985-86: 3 leg-bands (A10, K07, K56)
1986-87: 3 leg-bands (A10, K56, 1 unread)
1987-88: 3 leg-bands (A10, K56, 1 unread)
1988-89: 2 leg-bands, 1 neck-collar (A10, K56, 2RM)

Rostaff:

- 1988-89: 1 neck-collar (2PT)

Clare River:

- 1985-86: 1 neck-collar (8KC)

Carran and Turkenagh:

- 1985-86: 5 neck-collars (4RJ, 4 unread)

L. Gara:

- 1985-86: 1 neck-collar, 1, possibly 2 leg-bands (unread)
1986-87: 2 neck-collars, (unread)

Kilglass and L. Forbes:

- 1987-88: 1 neck-collar (9PM)

Midland lakes:

- 1986-87: 13 geese trapped and marked (3-OMA, 1-5MC): one
additional leg-band (unread)
1987-88: 1 neck-collar (4KM)

Glenamaddy and R. Suck:

- 1985-86: 3 neck-collars, (3AA, 3JT, 9JP), 1 leg-band (unread)
1986-87: 7 neck-collars (3JT, 9JP, 5 unread)
1987-88: 9 neck-collars, (7RK, 8RM, 2RP, 4RT, ?RU, 3PC, 6PJ,
4PU, 4RJ), 2 leg-bands, (K07, one unread)
1988-89: 4 neck-collars (9JP, 3JT, 4PU, 7RK)

L. Brosna and Up. L. Derg:

1985-86: 8+ neck-collars (9KT, 4KU, 8KR, 6KY, 4RJ, 7RK, 8RM, ?RP)

1986-87: 9+ neck-collars, (4RJ, 7RK, 8RM, 6 unread). 2 leg-bands (2 unread)

1987-88: 9 neck-collars, (8KR, 4KU, 1PP, 4RT, 5 unread), 1 leg-band (unread).

1988-89: 1 leg-band (unread)

R. Nore:

1988-89: 5 neck-collars (5ME, 8ME, 3MJ, 4MJ, 7UY)

Kilcolman:

1985-86: 4 leg-bands (T11, T26, T27, ??8)

1986-87: 8 neck-collars, (1MA, 6-8MA, OMA, 1MC, 3-4MC), 1 leg-band (T26).

1987-88: 1 leg-band (unread)

1988-89: 1 leg-band (unread)