

**GREENLAND WHITE-FRONTED GEESE IN IRELAND 1985/86**

**A PROGRESS REPORT**

**D.W. NORRISS**

**AND**

**H.J. WILSON**

**DEPARTMENT OF TOURISM, FISHERIES AND FORESTRY**

**FOREST AND WILDLIFE SERVICE**

**1986**

## INTRODUCTION

In July 1985, following the three-year shooting moratorium, recent changes in the status of the Greenland White-fronted goose were reviewed. As a result the Minister for Fisheries and Forestry opened controlled goose shooting in Co. Wexford while the moratorium continued in the rest of the country. Elsewhere the species received statutory protection in Northern Ireland in February 1985 and remains protected in Scotland. Shooting continues in Iceland while in Greenland a moratorium, introduced in spring 1985, is to be reviewed early in 1987.

In Ireland the completion of three seasons counts has provided a good population estimate. So in 1985/86 count frequency outside Wexford was reduced from seven (monthly) to three counts. The continued monitoring of numbers and productivity is planned from the 1986/87 season onwards. We feel this monitoring programme is important for white-front conservation and we would be grateful for the continued participation of voluntary goose counters from the IWC and the Northern Ireland conservation organisations.

## Census Results

Autumn and spring international censuses were held on 23-27 November and 5-9 April. The rather late spring count resulted from a need to avoid the Easter weekend and migration had probably started by this date. The earliest departure record was of a flock of 40 from Wexford on the 6th April.

### Wexford

Following normal practice, same day counts were held in Wexford and Islay. Numbers in Co. Wexford increased substantially from

last winter despite the reintroduction of shooting. This is consistent with the very successful 1985 breeding season. The mean post shooting-season population (mid-January to mid-April) in 1985/86 was 7,979 and a further 448 were shot (see below and Table 1), compared to 7,278 for the corresponding period in 1984/85. Table 1 records flock numbers on monthly counts, the cumulative number of geese shot and the sum of counts and shot geese.

There was no obvious sudden increase in white-front numbers this winter, for the first time in the past four seasons. That such mid-winter influxes were not noted prior to the introduction of the moratorium in 1982/83 either, suggests they were masked by the lack of accurate early-season counts and accurate bag records.

The geese show strong preferences for certain areas of the Wexford Slob, in particular for sections of the North Slob. In part this is a reflection of the present agricultural regime, partly the topography and comparative disturbance levels. During the three year shooting moratorium, numbers increased and there was an increase in the proportion of the flock grazing off-Slob. A small flock of up to 33 white-fronts started regularly using a new site at Cahore Point, 23 km to the N in 1984/85. This dispersal was largely due to protection as evidenced by the increase in the percentage and actual use of the N. Slob in 1985/86 when shooting reopened. However, in the last two seasons geese in mid-winter have been increasingly grazing on fields outside the Slob boundaries and the Cahore flock built up during the 1985/86 season from 54 in mid-January to 96 by mid-March. Present levels of grazing on favoured areas of the N. Slob are now near the upper limits quoted in the literature for present grassland management practices. Also each spring goose numbers on the N. Slob increase once there is a net growth of grass. This pattern suggests that goose use is approaching the carrying capacity of the N. Slob grasslands and that further increases would increasingly overspill from there.

## Rest of Ireland

Recent counts have clarified uncertainties about the number of flocks and flock sizes in several areas. The changes entailed for previously published census figures (Wilson & Norriss, 1985) are minor but maximum population estimates for 1982/83 and 1983/84 have been increased by 4-600 (Table 2).

Almost complete coverage was obtained on the international census dates and preliminary early-season visit (November 1-14) but some observers managed to count flocks monthly, as in previous years (Table 2).

The spring 1986 census total was 3,928, a 14.4% increase since spring 1985 and an increase of 26.3% from 2896 in our first census in spring 1983. The spring census figure is still (marginally) smaller than the maximum population estimates for previous years (Tables 2 and 3). There is therefore no clearcut increase in this population segment as yet.

Almost all flocks have done well. However, we have good reason to believe some illegal shooting is continuing. Unfortunately this seems to be heaviest on the smallest and most remote white-front flocks where there was a strong goose-shooting tradition in the past. In three flocks the potential for increase is creamed off annually by poaching. Unless local attitudes can be changed, their prospects seem bleak. The flock on the Blasket Is./Dingle Peninsula in Co. Kerry is the only other flock to have declined since the 1984/85 season. The reason remains obscure but is not related to shooting. Other flocks in the south-west region have also declined at some time during the past three seasons.

The very wet summer of 1985 caused prolonged flooding of callows. Even when floods receded little hay could be saved and few areas were grazed for fear of damage by poaching. Callows retained a tall dead mass of vegetation throughout the winter, which in some areas was burnt during the unseasonably dry January and February. Many flocks, particularly along the Shannon, were forced to find alternatives to their traditional callows feeding

areas. The Little Brosna floodplain was used progressively less from November onwards and white-fronts moved to better-drained farmland (E. Mayes, pers. comm.).

Last winter's fodder shortage followed by dry spring conditions encouraged farmers to put much of their stock out early. Because of the unusually late spring too, grass was in short supply almost everywhere at least until the end of March, even for geese. Scaring devices were reported in several areas. In these circumstances White-front flocks, particularly in the Midlands and along the Shannon, sought new feeding grounds and their movements became unpredictable. Some flocks could not be found during the spring census but the proportion of the total which has had to be estimated (9.4%) is similar to usual.

White-fronts were evidently able to adapt satisfactorily to these conditions since the abdominal profiles (a visual assessment of condition in the field) in spring were not significantly different from the previous years in either the Wexford or the Little Brosna flocks.

#### Shooting in Co. Wexford

In 1985/86 the shooting season on Greenland White-fronted geese was reopened in Co. Wexford only. The size and rate of increase of the goose flock in Wexford means that the population can withstand limited winter shooting at an estimated maximum sustainable rate of 7% per year (retrieved birds), (Wilson & Norriss, 1985).

The quota of 480 geese (7% of the mean 1984/85 population) was shared between syndicate shoots on the Wexford Slob and the traditional wildfowling represented by the Wexford Harbour Wildfowling Association and foreshore licence-holders.

The shooting season ran from 16 November to 4 January. Syndicate shoots were held fortnightly and alternated between North and South Slob on two consecutive days (dawn to 12 noon). There was no restriction on the frequency of shooting on the foreshore and

harbour (dawn to 9 a.m.), the season ending when the quota had been reached (10 December). The FWS received excellent co-operation from these bodies and bag returns totalled 448 geese (Table 1).

The Department will review the quota annually.

### Breeding Success

The 1985 breeding season was exceptionally good, following an early thaw and a fine summer in Greenland (D. Stroud, pers. comm.).

The proportion of young in the Wexford flock (34.4%, Table 4) was the highest ever recorded and more than twice the long-term mean. An earlier sample on 26.11.85 in which 26.8% young were counted was thought to be an underestimate since 1000-1500 geese on unharvested barley, used preferentially by family parties, could not be aged. However, the higher figure results in a very high estimate of annual mortality (calculated from population counts and breeding success) after allowing for winter shooting mortality and despite the sample size (> 50% of geese were aged) the accuracy of this breeding success estimate remains questionable. Mean brood size was large and a single brood of eight and two broods of nine were seen in Ireland in 1985/86, compared to one brood of eight in the previous three years.

Breeding success was not as high in the rest of Ireland (22.6% young, mean brood size 2.99, Table 4), in contrast to previous years where figures for the two population segments have been similar.

### Total winter population

The autumn '85 and spring '86 census totals differ by 600 and the discrepancy is smaller when the 272 geese shot in Wexford after the autumn census are taken into account. It now seems clear from counts that there is movement of geese from Scotland to Ireland after November. While the scale and pattern of this

movement are not clear, observations of neck-collared geese to date have shown small numbers staging in Islay en route to Wexford.

Spring census totals have increased by 24% in the three years since 1982/83. Different mortality and recruitment rates, in Britain, Wexford and the Rest of Ireland, have combined to give similar rates of increase and the relative sizes of the three population segments have not changed significantly (Table 2).

#### Protection of goose sites

The FWS has scheduled two bogland nature reserves within the last year which are used by Greenland White-fronts.

The first is located on the headwaters of the Owenduff River, 16 km south of Bangor Erris, Co. Mayo in two blocks totalling about 1700 ha. A flock of c. 40 White-fronts range from Fahy L. eastwards through the Owenduff to the L. Feeagh catchment. Three important bogland feeding sites (50% by area of those known within the flock's feeding range), many smaller ones and four roost lakes are contained within the scheduled boundaries.

The second nature reserve, also in Co. Mayo, is 10 km west of Crossmolina, north of the Owenboy River. The area of scientific interest is 480 ha in size and almost completely owned by the FWS. It contains areas of quaking bog on domes and a wet plateau which are used by White-fronts, probably from L. Conn. Both areas are of great botanical importance.

Finally, last summer a botanical survey of the south Connemara peatlands was undertaken by the FWS to identify the intact areas of conservation interest. The area is being rapidly fragmented by afforestation and turbary. Since a great deal of botanical interest is focused on the wettest areas, the areas identified largely coincide with the distribution of the main Greenland White-front feeding sites. A preliminary report in April 1986 identified areas of scientific interest. Further areas will be notified this year as the bogland survey is almost complete.

### Trapping and Ringing

A total of 141 Greenland White-fronts and 2 Pink-footed Geese were cannon-netted on the Wexford Slobs in November and December 1985. 135 were fitted with neck-collars and two unusually small birds with leg-bands only; 4 geese that had already been marked in November were recaptured later. Numbers caught are on target for the investigation of patterns of movement in wintering Greenland white-fronts (Table 5).

Following the success on the Wexford Slobs of cannon netting over small ( $1/10$  - 1 ha) plots of unharvested barley, arrangements were made with farmers to net geese in three flocks in the 'rest of Ireland' population segment. Unfortunately the wet summer and autumn prevented some crops, including those in our trapping areas, from being harvested and trapping opportunities never arose. Plans have been rescheduled for the 1986/87 season.

### Resighting of marked birds

A contract in 1986 for computerised tabulation of the resighting data was unfortunately cancelled due to budgetary cuts so no detailed analyses have been made. Table 5 summarises the number of sightings/recoveries for 1985/86 by year of ringing. The great majority of marked birds were faithful to Wexford, both within and between winters. One interesting result has been the resighting of five geese caught in 1984/85, staging in Islay before wintering in Wexford.

However, neck-collared geese are now turning up in other parts of the wintering range. Neck-collars were reported from the ranges of six flocks in the rest of Ireland and from two in Scotland (including Islay) and we recorded instances of within-winter movements by two families. One further neck-collared goose, probably marked in 1983/84, was seen but not read on L. Gara, Co. Sligo.

Ten birds marked in Greenland (1979 and 1984) were also resighted in Ireland and a further three or four were seen but their codes were not read. Altogether eight were seen outside Wexford, an



increase on previous years that probably stems from more thorough searching now neck-collared geese are being encountered more widely.

A welcome series of resightings have also been received from a spring expedition by the Greenland White-fronted Goose Study to Iceland.

A summary of codes used in Wexford and Greenland is listed in Table 6. All rings read from the bottom up and have a three-character code. Some Wexford birds have now lost their neck collars so Darvic leg-rings may belong to either Wexford or Greenland sequences. Neck-collars are bright orange when new but become bleached brown and much less conspicuous by the second winter.

Observers are asked, when reading rings, to note the number of marked and unmarked adults and juveniles in the family group, if birds are paired, date, location, grid reference, flock size and habitat.

#### Study of winter feeding ecology

Eleanor Mayes is two years into a study on the winter feeding ecology of Greenland White-fronts and has been working on the flocks at the Little Brosna, Cos. Offaly and Tipperary and on the Wexford Slobs. Unfortunately her contract has also been terminated in the middle of the project due to budgetary cuts and she is now seeking alternative sources of funding to complete the study.

#### Acknowledgements

Our grateful appreciation to all who have contributed to the counts and helped in conserving their local white-fronts in various ways:

D. Allen, P. Behan, R.J. Bleakley, K. Blehein, V. Breslin, D. Browne, J. Byrne, D. Cabot, J. Carroll, S. Casey, P. Cosgrove,

D. Cotton, C. Crowley, D. Devlin, E. Doran, D. Duggan, T. Durkan, M.J. Feehan, J. Flynn, P. Foley, J. Gatins, J. Greene, M.J. Hackett, P.J. Hall, B. Haran, S. Heery, J. Hennigan, S. Hession, G. Higgins, J.J. Higgins, D. Hogan, B. Kilroy, L. Lenihan, M. Lohan, G. Luke, R. Lundy, J. Magee, R. McDonald, M.P. McDonnell, D.J. McLaughlin, D. McMahon, E. Mayes, E.A. Meskill, A. Molloy, J. Moore, P. Morgan, C. Murphy, G. Murphy, B. Nelson, P. O'Connell, T. O'Connell, B. O'Connor, T. O'Donoghue, M. O'Sullivan, P. O'Sullivan, P.J. O'Sullivan, A. Prins, M. Ridgeway, D. Scott, R. Sheppard, D. Silke, K. Stanfield, D. Stanley, M. Sweeney, R. Tottenham, P. Vaughan, P.B. Waldron, E. Wallace, A. Walsh, P.J. Warner, T. Wilde and J. Wilkinson and to D. Browne, C. Murphy and N. Sharkey for administrative help.

Many thanks also to E. Bignal, N. Easterbee, T. Fox, M. Ogilvie, S. Percival, P. Reynolds and D. Stroud for information on counts and neck-collared geese in Scotland and Iceland.

We acknowledge the co-operation and contribution of B. Fiske, D. Gallagher and D. Lett in relation to organising shooting in the Wexford area.

#### References

Wilson, H.J. & Norriss, D.W. (1985). The Greenland White-fronted goose in Ireland 1982/83 to 1984/85. A report on its status, distribution and the impact of shooting. FWS Report, 37 pp.

TABLE 1: COUNTS AND NUMBERS OF GEESE SHOT IN CO. WEXFORD 1985/86

| Location                    | <u>25.11</u>                         | <u>16.12</u> | <u>16.12</u> | <u>17.12</u> | <u>20.1</u> | <u>20.1</u> | <u>17.2</u> | <u>18.2</u> | <u>11.3</u> | <u>11.3</u> | <u>7.4</u>               | <u>7.4</u> |
|-----------------------------|--------------------------------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------------|------------|
| Wexford                     |                                      |              |              |              |             |             |             |             |             |             |                          |            |
| Slobs                       | 7930                                 | 8204         | 7710         | 7848         | 8137        | 7849        | 8219        | 7762        | 7888        | 7834        | 7940                     | 7921       |
| Cahore                      | -                                    | -            | -            | -            | 7           | 7           | 36          | 36          | 96          | 96          | 0                        | 0          |
| Tacumshin                   |                                      |              |              |              |             |             | 4           |             |             |             |                          |            |
| Total                       | <u>7930</u> <sup>1</sup>             | 8204         | 7710         | 7848         | 8144        | 7856        | 8259        | 7798        | 7984        | 7930        | <u>7940</u> <sup>1</sup> | 7921       |
| % Diff.                     |                                      | 6.0%         |              |              | 3.5%        |             | 5.6%        |             | 0.7%        |             | 0.2%                     |            |
| Means                       | 20.1 to 7.4, 7979: all counts, 7960. |              |              |              |             |             |             |             |             |             |                          |            |
| Cumulative<br>no. shot      | 176                                  | 432          | 432          | 448          | 448         | 448         | 448         | 448         | 448         | 448         | 448                      | 448        |
| Total<br>(counts +<br>shot) | 8106                                 | 8636         | 8142         | 8280         | 8592        | 8304        | 8707        | 8246        | 8432        | 8378        | 8388                     | 8369       |

<sup>1</sup>Autumn and spring census figures underlined

TABLE 2: AUTUMN AND SPRING CENSUS TOTALS OF GREENLAND WHITE-FRONTED GEESE, 1982/83 TO 1985/86, WITH REVISED CENSUS FIGURES AND MAXIMUM POPULATION ESTIMATES (BRACKETS) FOR 'REST OF IRELAND'.

|                    | Spring<br>1983 | Autumn<br>1983 | Spring<br>1984 | Autumn<br>1984 | Spring<br>1985 | Autumn<br>1985 | Spring<br>1986    |
|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|
| Wexford            | 6363           | 4758           | 6267           | 6097           | 7590           | 7930           | 7940              |
| Rest of<br>Ireland | 2896(4196)     | 2879           | 3344(4175)     | 3030           | 3361(3977)     | 3565           | 3928(4644)        |
| Britain            | 7282           | 8188           | 7926           | 9490           | 8862           | 10858          | 9884 <sup>1</sup> |
|                    | 16541          | 15825          | 17537          | 18617          | 19813          | 22353          | 21752             |

<sup>1</sup> Total for Britain provisional at time of writing

TABLE 3: REGIONAL SUMMARY OF PEAK MONTHLY COUNTS AND CENSUSES, 1985/86

|                | Nov.        | Dec.       | Jan. | Feb. | Mar. | Apr.        |
|----------------|-------------|------------|------|------|------|-------------|
| Donegal/Derry  | <u>619</u>  | 261+       | 42   | 669  | 170+ | <u>842</u>  |
| N. Central     | <u>170</u>  | 72         | 206  | 101  | 27   | <u>204</u>  |
| Mayo           | <u>206</u>  | 58         | 119  | 221  | 139  | <u>219</u>  |
| Connemara      | <u>261</u>  | 66         | 88   | 70+  | 87   | <u>271</u>  |
| Corrib/Galway  | <u>200</u>  | 191        | 217  | 225  | 181  | <u>260</u>  |
| Clare/Limerick | <u>119</u>  | 67         | 53   | 179  | 168  | <u>161</u>  |
| Shannon Head   | <u>658</u>  | 562        | 626  | 616  | 379  | <u>543</u>  |
| Midlands       | <u>388</u>  | -          | -    | -    | -    | <u>373</u>  |
| Middle Shannon | <u>685</u>  | 719        | 713  | 726  | 345+ | <u>828</u>  |
| South Midlands | 0           | <u>62+</u> | 60   | 66   | 66   | <u>66</u>   |
| South West     | <u>197</u>  | 192        | 176  | 147  | 54   | <u>161</u>  |
| TOTAL          | <u>3565</u> | 2250       | 2300 | 3020 | 1616 | <u>3928</u> |

The two regions, Middle Shannon and Ir. Shannon have now been combined into Middle Shannon.

TABLE 4: AGE COUNTS AND FREQUENCY DISTRIBUTION OF BROOD SIZES FOR WEXFORD, REST OF IRELAND AND BRITAIN, 1985/86.

| Date and location | Total aged | % juvs. | Mean brood size (N) | Brood size |    |    |    |    |    |                | Calculated totals of |          |
|-------------------|------------|---------|---------------------|------------|----|----|----|----|----|----------------|----------------------|----------|
|                   |            |         |                     | 1          | 2  | 3  | 4  | 5  | 6  | 7              | Young                | Families |
| Wexford           |            |         |                     |            |    |    |    |    |    |                |                      |          |
| 26.11.85          | 3695       | 26.8    | 3.88 (170)          | 6          | 23 | 42 | 44 | 34 | 14 | 5 <sup>1</sup> |                      |          |
| 18.12.85          | 3801       | 34.4    | 3.89 (173)          | 5          | 24 | 37 | 51 | 38 | 11 | 7              | 2725                 | 700      |
| Rest of Ireland   | 2056       | 22.6    | 2.99 (85)           | 12         | 23 | 22 | 16 | 9  | 2  | 0 <sup>2</sup> | 888                  | 297      |
| Britain           |            |         |                     |            |    |    |    |    |    |                |                      |          |
| Autumn '85        | 5546       | 26.7    | 3.50 (213)          | 9          | 41 | 62 | 53 | 34 | 12 | 2              | 2881                 | 818      |

1 Single broods of 8 and 9

2 Single brood of 9

TABLE 5: RESIGHTINGS AND RECOVERIES OF WEXFORD-MARKED GREENLAND WHITE-FRONTED GEESE, 1985/86

| Ringed                             | 1983/84 | 1984/85 | 1985/86 | Total |
|------------------------------------|---------|---------|---------|-------|
| Number marked                      | 45      | 162     | 137     | 344   |
| Number recovered<br>(1983 to date) | 7       | 16      | 5       | 28    |
| Number resighted                   | 20      | 111     | 131     | 262   |
| Total resighted/<br>recovered      | 27      | 125     | 132     | 284   |

TABLE 6: NECK-COLLAR (WEXFORD ONLY) AND LEG-RING CODE SEQUENCES USED ON GREENLAND WHITE-FRONTED GEESE.

| Wexford <sup>1</sup> |                      |         | Greenland <sup>2</sup> |         |
|----------------------|----------------------|---------|------------------------|---------|
| 1983/84              | 1984/85 <sup>3</sup> | 1985/86 | 1979                   | 1984    |
| 1AA-5AA (white)      | 2JJ-0JJ              | 1KR-0KR | A01-A25 (white)        | K01-K07 |
| 1JA-0JA (orange)     | 1JK-0JK              | 1KT-0KT | A27-A97                | K10-K17 |
| 1JC-0JC              | 1JM-0JM              | 1KU-0KU |                        | K20-K27 |
| 1JE-0JE              | 1JP-0JP              | 1KY-0KY |                        | K30-37  |
| 1JF-0JF              | 1JR-0JR              | 1RJ-0RJ |                        | K40-47  |
| 1JJ                  | 1JT-0JT              | 1RK-0RK |                        | K50-55  |
|                      | 1JU-0JU              | 1RM-0RM |                        | K60-66  |
|                      | 1JY-0JY              | 1RP-0RP |                        | K70-77  |
|                      | 1KA-0KA              | 1RR-0RR |                        | T01-T07 |
|                      | 1KC-0KC              | 1RT-0RT |                        | T10-T17 |
|                      | 1KE-0KE              | 1RU-0RV |                        | T20-T27 |
|                      | 1KF-0KF              | 1TA-0TA |                        | T30-T33 |
|                      | 1KJ-0KJ              | 1TC-0TA |                        |         |
|                      | 1KK-0KK              | 1TE-5TE |                        |         |
|                      | 1KM-0KM              |         |                        |         |
|                      | 1KP-0KP              |         |                        |         |
|                      | 1MA-2MA              |         |                        |         |

9AC, 0AC, 1AE, ringed with leg-rings only.

<sup>1</sup> Darvic leg-rings on the left leg when ringed as an adult; on right leg when ringed as a juvenile.

<sup>2</sup> Darvic leg-rings on right leg in 1979; on left leg 1984.

<sup>3</sup> Wexford leg-rings white from 1984/85 on; all Greenland leg-rings white.