

Greenland White-fronted Geese

in Britain; 1985-86



INTRODUCTION

This year was the fourth successive year in which co-ordinated counts of the Greenland White-fronted Goose population of Britain have been made. The year has seen the high level of conservation activity concerning Greenland Whitefronts continue, as well as the regular autumn and spring international counts, monthly counts on Islay and trips to search for darvic ringed geese. In the spring, a three week visit was made to south-west Iceland to investigate the spring migration through that country. As well as gathering very useful information, the visit was intended as a prelude to further, more intensive studies there.

The British total in autumn was 11,026, a 16% increase on the total counted in November 1984. The continued increase in the population is welcome, and reflects reduced shooting pressure following protection over much of the winter and summer range. The large increase in numbers noted this year was due, however, to a remarkably good breeding season. Breeding success on Islay was greater than has ever been previously recorded, and was more than twice the long term mean value. This productivity has inflated the population with large numbers of young birds. It is hoped that the population increase will continue following return to more normal levels of productivity.

The controversy over Eilean na Muice Dubh (Duich Moss) on Islay continued during 1985/86. However, following the direct intervention of the European Commission in a legal case against the British Government, it seems that the case will be resolved without further damage to the site. The case is not finally over yet, but has shown the value of designations of international importance, in particular those of the RAMSAR Convention and the Special Protection Areas of the European Wild Birds Directive. It should not be necessary to need such additional designations, but they can be useful in bringing international involvement to protect threatened sites as a last resort to strengthen protection measures given under UK law.

Work has continued on the publication of information collected in the past few years. A formal summary of the past four years counts in Ireland and Britain is under preparation, a ringing analysis has been completed (Kampp *et al* in press), a review of Greenland White-fronts in Wales has been published (Fox & Stroud 1986), and the full site inventory is well advanced.

AUTUMN ARRIVAL DATES

Although there were a few September sightings, the main arrival of the population did not take place until the second week of October. Six geese were seen at Kilphedder, South Uist on 18 September, whilst there were reports of three at Airds bay Loch Etive on 22 September, and 12 flew over Coll in mid-September. First arrivals on Islay were three on 30 September. The next birds seen on Islay were on 8 October, but the main arrival of hundreds of Greenland White-fronts, Brent and Barnacle Geese did not occur until the morning of 9 October, the same day as the first birds seen on Colonsay. Two Whitefronts seen on Bodmin Moor the same day are most probably of the same race and were probably wind-drifted off course. A total of 200+ at Loch Gruinart on the 9th had risen to 385 by the 11th.

At Loch Ken a flock was seen to arrive from the north-east on 8 October, whilst the first birds at Rhunhaorine were 68 on 9 October with the first 29 on the Dyfi on the 10th. The following day 9 were seen at Skeabost, Skye and on 14 October 27 were present on Danna.

First reports, although possibly not arrivals, of geese elsewhere were received for Loch Lomond on 18 October, Stranraer on 20 October, Caithness on 21 October and a vagrant seen in Perthshire on 22 October. It is of some interest that darvic ringed goose A67 was shot in Iceland on 12 October, some three days after the main arrival on Islay. This confirms that departure from staging areas in Iceland is staggered, at least over several days, perhaps weeks. Recent information from Iceland suggests that a few birds linger until the end of October.

DEPARTURE DATES

In spring 1985 it was possible, for the first time, to relate observations of birds departing from British wintering grounds to those of arrivals in Iceland. The first report of migrating birds was a flock of 29 seen by NCC's Seabirds at Sea Team heading north-west near Sula Sgeir on 18 April. Barnacle Geese began leaving Islay on 21 April, and departures of 40, 25 and 87 Whitefronts were observed on 24 April (C.R. McKay, S. Percival). On 27 April, a major departure of 341 Whitefronts from Islay (in flocks of 10, 25, 15, 80, 11, 70, 25, 55, 50) occurred at the same time as the departure of many Barnacle Geese. All movements noted were diurnal, although in previous years major departures from Islay have been noted at night. Any other significant departures within the dates above would have been noticed by observers on Islay.

The departures from Islay all coincided with periods of southerly winds. Departures from other areas of the wintering range were generally similar to those from Islay.

The first geese seen in Iceland were on 23 April, and observations in Landeyjar on 19 April found no White-fronts, although substantial numbers were present in this area later in the month. Later, on 29 & 30 April, during census work close to the coast, several flocks were apparently seen arriving from the direction of the sea. A major arrival of 1,205 grey geese was noted at Breidamerkursandur in south Iceland between 23 - 25 April. Of these, at least 206 were definite Whitefronts. The mean flock size of arriving Whitefronts (23; n=9) was smaller than that of arriving Pink-footed Geese (46; n=10) with which they were mixed.

Conditions during the arrival at Breidamerkursandur were variable, but winds were generally light and southerly. Departure from Islay on 27 April occurred as winds which had been force 0-2 from the south-west changed to force 5-6 south-south-easterly. The geese became restless and left as winds increased, heading north and north-west. One flock was observed to fly at 60 mph with a following wind across Islay. North Atlantic weather maps for the latter half of April show generally unsettled conditions, with a deep depression between Iceland and Britain from 19 - 22 April causing generally north-westerly winds, although a ridge of high pressure with calmer, clearer conditions existed on 18 April. The 23 and 24 April also exhibited a ridge of high pressure with light winds, which probably encouraged the departures and arrivals which were witnessed and described above. A depression was present over the north Atlantic for the last 6 days of April, which would have introduced south-easterly winds in Scotland on the 27th.

It is interesting to speculate upon how long goose migration flights from Britain to Iceland might take. Published figures indicate an average speed for geese of 55 kph at 300 - 1000m height. Assuming following winds (adding to cruising speed) and no head or cross winds, then in conditions similar to those witnessed on Islay on 27 April, a flock of geese could theoretically fly from Islay to south-east Iceland in less than 12 hours.

I.S. Francis

POPULATION SIZE

Spring 1985

The census of November 1984 found 9490 Greenland Whitefronts in Britain, but the census report (Stroud 1985) gave a total of only 8826 in March/April 1985. Since the publication of that total several counts have come to light which have suggested that the latter figure was a slight underestimate. Revised monthly totals are given in Table 2 whilst area totals are presented in Table 1. The slight increase of the spring total means the difference between autumn and spring counts amounts to 538 geese or a 5.7% shortfall.

Autumn 1985

The census of November 1985 found a total of 11,026 geese in Britain. Of these, some 6,332 (57.5%) were on Islay. This is a slight proportional rise on Islay from the 55.3% of the population found there in autumn 1984. Such a tendency for an increasing proportion of the population to occur on Islay has been apparent for some years. The first systematic census in autumn 1982 found only 48.7% of the population on Islay. The cause of such a disproportionate increase on Islay could be due to a number of factors. It is a worrying trend however, since very large concentrations of geese usually create agricultural problems. Fortunately, Greenland Whitefronts on Islay are found scattered over a very large area in small flocks such that local densities are usually very low compared to other, more numerous species.

Elsewhere numbers seem to have generally increased by the same degree and several new sites were recorded as being used for the first time (below). Most of the increase in numbers can be attributed to the exceptionally good breeding season in Greenland during 1985. A few wintering flocks did not increase significantly in numbers however. These usually seem to be the smaller, more remote flocks - a finding that has also been noted in Ireland.

Spring 1986

The census of March/April 1986 found only 10,015 geese, a fall of 992 from the autumn count. This amounts to a 9.0% decline in numbers. This fits the pattern observed in previous years, when spring counts have been consistently lower than the autumn total. At least some of the decrease can be attributed to a slight increase in numbers in Ireland from autumn to spring. This appears to correspond to the Scottish decline in winter numbers and may reflect small numbers of geese staging on Islay through November, before moving south in mid-winter. Recent movements of Irish neck-collared birds from Islay to Wexford also suggest there is a small degree of population movement in late autumn/ mid-winter.

BREEDING SUCCESS IN 1985

By any standards, 1985 was an exceptional year for Greenland Whitefronts on the breeding grounds. Numbers of young in most flocks were almost double previous average figures.

There were early indications that returning flocks would contain large numbers of young, since by early April there was little snow cover at Søndre Strømfjord (central west Greenland) and the glacial drainage rivers had already started to thaw. This was at least a month earlier than usual. The good weather had effects throughout the west Greenland eco-system. Many passerines produced two broods of young, and Arctic Foxes were reported with exceptionally large families. The long-term effects of weather patterns on Greenland White-fronted Goose breeding success is the subject of current research. There is no doubt, however, that not only was the weather exceptional but also its effect on the geese.

Table 4 summarises details of productivity collected in the autumn. A sample of 3,136 geese on Islay contained 27.3% young (S. Percival), whilst an independent sample of 2,124 geese contained 25.8% young (M.A. Ogilvie). This compares with the average for the period 1962 - 1984 of only 14.5% young. Mean brood sizes were correspondingly high with averages of 3.56 and 3.4 for the two samples respectively.

There was little significant variation in productivity between wintering areas within Britain, with an overall mean of 26.7% young in a sample of 5,580 (more than half the population). Figures from Wexford, which are usually greater than those from Scotland, were correspondingly high.

In mid-December, a sample of 3,801 geese contained 34.4% young. As on Islay, the productivity at Wexford was the highest ever recorded. Elsewhere in Ireland, there was an overall mean of 22.6% young in a sample of 2,056 geese.

Whereas in most years only small numbers of birds breed successfully (a product of low productivity and high brood sizes), in 1985 it can be calculated that some 842 families containing 2,939 young wintered in Britain. This compares with a total production of 1,323 young in 448 families during 1984.



COUNT COVERAGE IN 1985/86

Count coverage was good, with virtually all wintering sites being visited during the season (Table 3). A higher proportion of the spring census was estimated when compared with the autumn census. However, as in previous years, further counts may come to light allowing this total to be revised.

The Nature Conservancy Council continued their monthly counts on Islay. The area totals from these counts are presented in Table 5. The highest count of the winter was of 6,332 on the 26 November (autumn census). Numbers appeared to fall from this peak to c4,500 - 5,000 through January to March. In late spring, numbers appeared to climb slightly to a total of 5,669 on 13 April. It is difficult to interpret these counts. They follow trends noted in previous years, and the mid-winter fall in numbers is probably more apparent than real. Such trends have been previously related to the increased spread of wintering flocks through Islay in mid-winter, affecting the accuracy of the count.

No counts were made of the very small flock wintering at Llyn-y-tarw, Powys. Considerable amounts of fresh goose droppings were found at the site in November, but as Canada Geese have been previously seen here, it is conceivable that it could have come from this species. However, there were reports of Whitefronts being seen in the area, and it looks as though small numbers were present at least in the autumn.

The Danna flock was counted regularly through the winter, as was the small flock at Moine Mhor, Argyll. Both flocks show a considerable site-faithfulness.

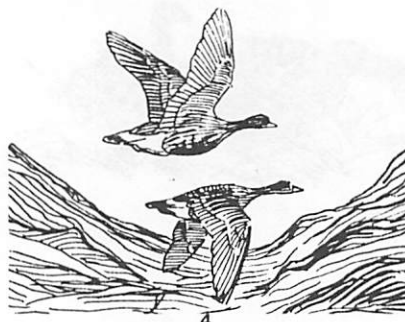
A NEW WHITEFRONT SITE IN SUTHERLAND

During a visit to Loch na Moine in North Sutherland (NC623515) on 9 April, an extensive area of goose feeding remains was found. The site is oceanic patterned blanket bog close to an extensive area of basin mire around the loch. Much evidence of Greenland Whitefront use was found, with many grazed plants of Cotton-grass Eriophorum angustifolium floating in the bog pools. Although no droppings or geese were seen, the method of extraction of the Cotton-grass plants from the Sphagnum lawns, and the way the base had been eaten, were unmistakably those of Greenland Whitefronts. The nature of the bitten shoots indicated that the plants had been consumed recently, probably within the preceding two weeks.

The quantities of plants eaten were not such as to indicate long use of this particular area of pools. However, a large, very suitable area of bog pools immediately adjacent to Loch na Moine was not closely inspected. The area is of a size that could hold a small over-wintering flock and is only one of several such suitable bogs in northern Sutherland.

During a visit to another peatland some 7 km to the south, and close to the southern end of Loch Loyal, similar Eriophorum remains were found in July. This peatland also held extensive areas of suitable feeding for Greenland Whitefronts.

No regular, over-wintering flock of Greenland White-fronts is known from Sutherland. Similar evidence at a site in Wester Ross (below) lead to the discovery of a flock of c130 geese in October 1985. These two sites appeared to be of high quality as goose bogs and it was not surprising to find signs of use there. How they are used, when and by how many geese remains to be resolved. The possibility remains that further such areas in this remote part of Scotland are used by the geese. Only thorough mid-winter surveys will be able to confirm this.



THE GAIRLOCH WHITEFRONTS OF WESTER ROSS

The late Major Lennox Hunter first noted a flock of geese grazing on the grass fields of Badachro Farm in March 1963. Closer inspection proved them all to be Greenland Whitefronts, numbering about 20 in all. Subsequently, these birds appeared daily, sometimes on Badachro Loch, or on the nearby Loch Bad na h-Achlais or amongst the peat-cuttings of the area. The Hunters also saw the geese at Red Point some 7 km to the south-west.

In subsequent years the geese were also noted, although the Major's detailed observations, logged in a diary sadly lost in 1980, are not available. The Major did recall that he rarely saw the geese at the Badachro site before February, and recalled "If lucky, one could see the geese flying in from Longa Island to Red Point, presumably to graze. It is an area of short grass, heather and small lochans. Unfortunately, ... (in around 1974)... the Estate decided to do an open drainage scheme and lime the ground, with a view to improve the grazing for an augmented flock of sheep." This land-use change coincided with the decline of the geese, and despite the Major's interest in these birds, there were no further sightings by the time of his death in 1983.

It was thus assumed that the Wester Ross birds were lost until signs of goose feeding were discovered on a huge expanse of mire 15-20 km north of the Badachro area in July 1985.

The site is a long shallow valley, with a steep escarpment on the south-western side but with a more complex topography eastwards towards Loch Ewe, the adjacent large sealoch. At its southern end lies Loch Sguod, the largest freshwater loch in the area. Close to the loch are a raised bog and peat cuttings, but the remainder of the valley to the north is a complex of patterned bogs, lochs and lochans. The whole area is of outstanding nature conservation importance due to the variety and quality of the peatland habitat. The habitat is also classic Greenland Whitefront mire, with abundant pools and Sphagnum lawns and, naturally, an abundance of the food plants Eriophorum angustifolium and Rhynchospora alba.

With the prospect of relocating the Gairloch Whitefronts, the Sguod Valley area was visited in October 1985. The weather was atrocious, with very heavy rain and thick low cloud, but signs of freshly uprooted Cotton-grass gave considerable confidence that the geese were not far from Loch Sguod. Eventually, a flock of 110 was flushed and flew away to the north-east. Most of the bog area which seemed suitable for Whitefronts was searched, but in poor conditions. Similar numbers in one group were not seen subsequently, although a rough count of several scattered groups came to c.130 geese in all. In spite of the huge expanse of suitable habitat throughout the valley, the patches of severely uprooted Cotton-grass were concentrated, and relatively few in number. Most of the geese eventually flew away along the coast to the north-west, and were lost out of sight around Rubha Reidh.

The geese were not present in December during a brief visit, although only half the valley was searched, nor were birds seen during an extensive site visit in the April census period. During this visit, most of the suitable wetlands in the valley were thoroughly searched for geese.

The status of this flock thus remains enigmatic. The areas of agricultural land at Badachro, Red Point and Longa Island were all checked (although the latter only by telescope from the mainland) on all occasions, but no geese were seen. However, this entire coast is highly convoluted, and there are vast areas of mire and moor rarely visited. All these areas experience the same mild, oceanic conditions so favoured by Greenland White-fronted Geese in winter. Even a goose flock numbering over a 100 birds could be very easily overlooked in such an area rarely visited by birdwatchers in winter.

The possibility remains that this site, and the new site in Sutherland (see above) are sites used by birds for a short period after making initial landfall in Scotland, and before dispersing on to other sites in Scotland or even Ireland. Clearly a great deal more survey needs to be undertaken in these remote areas before we can be confident about the status of these sites and the geese which use them.

CONSERVATION AND SITE THREATS
MAJOR TOURIST DEVELOPMENT ON ISLAY

With the Eilean na Muice Dubh (Duich Moss) case still to be resolved, another threat to Greenland Whitefront peatland habitat on Islay has recently developed. During the summer, planning permission was sought for a major, £1,000,000 + holiday complex which would effect substantially the whole of north-west Islay. The proposals include the construction of 32 new buildings and associated roads and infrastructure, construction of facilities such as 'polygyms', swimming pools, sports halls, pear and apple orchards, and much else besides.

GWGS does not object to the principle of such 'Aviemore'-type developments. Indeed, correctly and thoughtfully planned, such a development could have a major positive effect on the local economy. However, the site proposed is totally inappropriate for such a development. It encroaches on Glac na Criche SSSI and Loch Corr which are both major Whitefront roost sites. Apart from the effects upon the geese, the inevitably high level of visitor pressure will adversely affect many rare breeding birds of prey and Choughs, whilst construction work will destroy important botanical sites.

The application has met with a great deal of local opposition. This has come from islanders who have realised that far from creating long-term jobs, such an ill-conceived complex will damage Islay's long-term potential to attract tourists in search of peace, solitude and birds.

Needless to say, despite this level of opposition, the planning application was approved by the Argyll and Bute District Council with less than 8 minutes consideration. Concern as to the effects of the complex on the island community and landscape appeared minimal. Because the area is of Nature Conservation Review status, the application has been called in for consideration by the Scottish Office. At the time of writing it seems likely that a public enquiry will be called to determine the case at some time in early 1987.

GREENLAND

The complete ban of shooting Greenland Whitefronts continues in force in Greenland. Greenland is increasingly thinking in terms of site conservation measures for important wildlife areas. Although, Greenland is a contracting party to the Ramsar Convention, no wetland sites have been designated. In view of this, there are current moves to designate important wetlands for Greenland White-fronts as Ramsar sites. At present a list of candidate sites is being prepared on the basis of information collected by the Greenland White-fronted Goose Study.

ICELAND

The shooting situation in Iceland is discussed later in this report. It seems that any legal attempts to restrict shooting are unlikely to succeed without an extensive programme of information first to explain the need for protection. Possibly of greater importance is the need to identify and protect the most important peatland areas used by the geese whilst in Iceland. In the Myrar area of west Iceland, and on the Snaefellsnaes Peninsula, are important areas of blanket mire. These are of a quality that compares with the best British examples of this habitat, which themselves are of international importance. It is crucially important that the best of these areas are protected before indiscriminate draining, for little agricultural gain, destroys these bogs for ever.

IRELAND

Results of the three year programme of intensive research into Greenland White-fronted Goose numbers and distribution in Ireland have recently been summarised by Wilson & Norriss (1985) and Norriss & Wilson (1986). Although the Irish Wildlife Advisory Committee recommended the continuance of a complete shooting ban throughout Ireland in 1985/86, a limited season was announced for Wexford. The season was from 16 November - 4 January and a quota of 480 geese (7% of the mean 1984/85 population) was allocated. Syndicate shoots were held fortnightly within this period and alternated between the North and South Slob on two consecutive days (dawn to 12 noon). The total bag returns indicated that 448 birds had been shot during the season.

The Greenland White-fronted Goose Study regretted the introduction of sport shooting at Wexford. It was thus a considerable positive step to the recovery of a healthy population when the Minister for Tourism, Fisheries and Forestry announced the reimposition of a complete moratorium throughout Ireland during 1986/87. This will allow the consolidation of recent population increases and in particular allow the large numbers of young produced in the exceptional summer of 1985 to approach breeding age. Whilst Wexford holds internationally important numbers of geese, sites elsewhere in Ireland are still threatened by a multitude of factors. It is particularly important that shooting is not reintroduced at these sites so that these flocks can slowly recover to their former numbers.

During the year the Forest & Wildlife Service scheduled two bogland nature reserves which are used by Greenland White-fronts. The first of these is located on the headwaters of the Owenduff River and totals some 1700 ha. The second bog also lies in Co. Mayo and is an area of quaking bog some 480 ha in extent (Norris & Wilson 1986). Whilst the preservation of these areas is to be applauded, they are a drop in the ocean compared to the rapid and continuing loss of Irish peatlands to agriculture, forestry, peat-cutting and drainage schemes. Much more habitat protection is urgently required in order to preserve the full range of peatland habitats important to Greenland Whitefronts.



The access road across Eilean na Muice Dubh to the Phase 1 peat-cutting area. The considerable depth of peat, through which the road has been constructed, can be seen at the sides of the road.

Eilean na Muice Dubh (or Duich Moss as it has become more widely known), is the most important Greenland White-fronted Goose wintering site in Britain. Following the granting of planning permission by the Secretary of State for Scotland in July 1984, enabling Scottish Malt Distillers Ltd to extract peat from the bog, the case has been of intense concern to many conservation bodies including the Greenland White-fronted Goose study. Events leading up to the planning permission and subsequent developments were described in previous annual reports and elsewhere (Stroud 1984, 1985a, 1985b; Greenland White-fronted Goose Study 1986). This account continues that of last years report (Stroud 1985a).

"It would have been a nonsense to dig a boundary ditch where it was on the plan"

The most significant development has been the direct involvement of the European Commission. Following formal complaints that the planning permission breached the European Directive on the Conservation of Wild Birds, representatives of the European Commission visited Islay in October 1985. The aim was to see the site, inspect what work had already been undertaken, and to view the various alternative bogs on Islay from which peat could be taken for distillery use. During the course of the site inspection, a large drainage ditch was discovered which had been dug outside the initial development zone or 'Phase 1' area for which planning consent existed. This was a clear breach of the conditions of planning permission which stated, both that "no drainage of Phases 2 or 3 shall be carried out until at least 12 years after cutting operations have begun", and that further, "before any drainage work for Phase 2 is begun, all the (planning) conditions shall be reviewed by the planning authority in consultation with Scottish Malt Distillers and the Nature Conservancy Council...."

Following discovery of the illegal ditch, dug mere months after work had started on the site, the Scottish Office reviewed the situation with the District Council, NCC, GWGS and Scottish Malt Distillers (SMD).

Scottish Malt Distillers admitted that the large ditch was in breach of planning conditions. They stated that the ditch was necessary to drain the northern part of Phase 1 and thus had necessarily to be in Phase 2. Their Managing Director stated that "It would have been a nonsense to dig a boundary ditch where it was on the plan". This implied SMD regarded themselves as able to ignore inconvenient planning conditions. It was claimed that when the map showing the boundary between Phases 1 and 2 was drawn, SMD did not anticipate (that) specific conditions of planning would be given in (the Scottish Office's) letter of 18 December 1984". Yet SMD had a full eight months, after receiving those conditions, in which to apply for supplementary permission to amend the boundaries of Phases 1 and 2. It was significant of their attitude that they did not do so, and dug the ditch in Phase 2 without raising their boundary concerns with the planning authority. On a point of principal, it was worrying that if this breach of planning conditions had occurred once, it could happen again.

Of more immediate concern was the direct effect of the ditch which was seriously damaging the hydrology of the site. NCC regarded the ditch and the consequent hydrological damage as "very serious". There was considerable concern about the widespread effects of the ditch in areas of significant importance to the geese and to the core of the bog.

Following consultation, the Scottish Office agreed that restoration of the ditch was essential to prevent further serious damage to the hydrology of the site. However, restoration was complicated by the fact that condition 3 of the planning consent states that no work is to be undertaken on the bog between 30 September and 1 April each winter in order to minimise the disturbance to the geese. Yet, both NCC and GWGS felt that the damage being done necessitated immediate restoration, and in the long-term, the benefits to the site would outweigh any short-term disturbance to the geese. Accordingly, the Scottish Office wrote to SMD on 17 January 1986 giving a formal relaxation of condition 3 and stating that:

"The Secretary of State is prepared to allow a relaxation of the condition (to enable restoration). The Secretary of State does not intend to specify a precise period during which the condition is relaxed, but any necessary operations should be carried out in the minimum period necessary for the proper restoration of the ditch to its conditions before your company extended and deepened it."

The restoration of the ditch was not going to be merely a matter of replacing the excavated peat, since this had shrunk due to drying. A series of wooden dams were to be placed along the new ditch to ensure the water-table was raised to its former level, and that no further seepage of water from the core of the bog occurred.

Following the relaxation of the planning condition, work for the construction of the dams was taken out on site in February and work was due to start on the 24 March....

In November 1986 the wood is still there, with the illegal ditch still draining the site, and still causing serious damage to the bog well over a year since it was discovered. This is a disgraceful state of affairs.

Scottish Malt Distillers, in an about turn, claim that the owners of Duich Moss, Laggan Estate Trustees, have instructed them not to restore the ditch. Yet inspection of the conditions of the lease between SMD and Laggan Estate (appended to SMD's original planning application) show that the Estate have no such powers to constrain the restoration of the ditch.

Despite the site being a Grade 1 SSSI, and that drainage of this sort is extremely damaging to such a peatland, NCC is powerless to enforce restoration. Since Phase 2 lies within the area covered by the overall planning consent, the breach of conditions is one of the Town & Country Planning (Scotland) Act 1972. NCC is thus unable to take action under the Wildlife & Countryside Act 1981 to enforce restoration. The Scottish Office have washed their hands of the case and have declined to enforce restoration claiming that this is now the responsibility of Argyll & Bute District Council.

The District Council, who have vigorously supported SMD's planning application to dig peat, have declined to take any action to enforce restoration. This is in full knowledge of the damage being caused to this internationally important wetland. In April they stated that "the present position is that no further action will be taken on this matter until such time as the intentions of the European Court to prosecute the UK Government for permitting peat extraction from Duich Moss has been clarified". This stance has not changed more recently.

During the summer, it appeared that the take-over of Distillers Company Ltd by Guinness might have resulted in a break-through. Previously Guinness had given their support to campaigns to save tropical rain-forests, and one of their advertisements states:

"Guinness ... applaud conservation - and practise it. Since 1759, we have brewed all of our beers with care and a keen concern for the natural sources from which the goodness of Guinness springs."

It seemed that not only might the Phase 2 ditch be restored, but there would be a proper consideration of alternative peat sources, saving the whole site. Yet their present position (November 1986) is that Guinness appear to be uncritically supporting the actions of the SMD management. In recent correspondence Guinness have stated: "Work on installing dams has not taken place because the Landlords, acting within their rights, did not wish this work to go ahead. On a practical point, the company is not permitted by the Scottish Development Department to undertake any work on the Moss after the first of October each year, so it is not possible to act on damming until spring." Both these claims are patently false.

The Greenland White-fronted Goose Study views the situation with profound concern, both because the illegal ditch is causing direct, serious and unnecessary damage to an internationally important wetland, and also that the intransigence on the part of the developer and District Council has resulted in the current situation. The current impasse highlights the weakness of NCC in such cases, in being unable to legally intervene, despite such a flagrant breach of the law which is resulting in direct and serious damage to a key wildlife site.



UK prosecution by the European Commission: the approaching Cavalry ??

The Greenland White-fronted Goose is listed on Annex 1 of the European Communities Council of Minister's Directive on the Conservation of Wild Birds. This Directive requires member states to take measures to protect the most important areas in each country for each scarce Annex 1 species as 'Special Protections Areas' (SPA). Under the Treaty of Rome, this Directive has the status of British domestic law and is not, as perceived by some, an imposition by the EEC.

Following the granting of planning permission in July 1984, RSPB, GWGS and many others wrote to the Commission to formally object that the permission was a breach of the Directive since serious and irreversible damage would be caused to the site. In the long-term this would detrimentally effect the quality of the habitat for the geese, as had happened elsewhere especially in Ireland. Thus, on 10 September 1984 the Commission wrote to the UK Government requesting that Eilean na Muice Dubh be added to the UK list of Special Protection Areas and that it be given protection.

Having 'lost' the letter for a period (Stroud 1985a), the Government did not reply to the Commission until 1 July the following year. In the meantime planning permission had been confirmed by the Scottish Office. The serious issues raised by the breach of the Directive resulted in the visit to Islay by official representatives of the Commission on 4 October 1985. At this point, the Government decided to play down the importance of the site inspection by describing it in a Parliamentary Answer as "an informal visit" - despite a clear statement from the Commission that the representatives were "on an official mission".

During that visit, the representatives saw clear evidence of both the abundant alternative supplies of peat at Laggan Moss (Stroud 1985a) and the extent of peat resources at Castlehill, Islay, where SMD originally held the peat-cutting lease. Towards the end of 1985 it became clear that the Commission were preparing to make Eilean na Muice Dubh a test case for the enforcement of the Birds Directive. The case was straightforward: the UK Government knew before granting planning permission that the bog was internationally important for Whitefronts; the evidence that peat-cutting would severely damage the quality of the peatland habitat was clear and unequivocal, and yet despite this planning permission had been given.

In view of these considerations and the high public profile of the case, many conservationists felt that, if in future the Directive was to be worth more than token gestures, it was crucial that Eilean na Muice Dubh become a test case. What was unprecedented about the situation was that, at the time of granting planning consent, the site was not formally notified as a SPA. Rather, since the Government knew of its international importance, this was seen as a breach of the Directive. This has profound implications for the future implementation of the Birds Directive.

Informal contacts were made between the Scottish Office and the European Commission in the hope that planning consent would be withdrawn without recourse to European Law. This was not, however, to be and in March 1986, the Commission decided to instigate legal proceedings by issuing the Government with a formal complaint under Article 169 of the Treaty of Rome. This is the first formal stage in a legal process leading to an action in the European Court of Justice. The Commission also made it clear to the Government that if extraction operations continued on the site after the submission of its complaint, it would consider taking proceedings for an interim interdict in the European Court of Justice to halt such operations.

Rather than attempt a policy U-turn, the Scottish Office decided to take the bend rather more slowly. On 29 May 1986 the Scottish Office announced that at the request of the Commission, the feasibility of extracting peat from the alternative site of Castlehill was to be investigated. Whilst this work was being undertaken, no further work was planned at Eilean na Muice Dubh. This was not as great a concession as at first seemed since the unfilled drains on the bog continue to dry the site out.

Misleadingly, and in a continuance of the misinformation surrounding this case, the Scottish Office Press Release stated that "Legal proceedings are suspended for the time being, with each side reserving its position." This was not the situation however, and on 1 August, the Commission clearly stated that "Up to now, the Commission has not suspended legal action." Legal action cannot be both suspended and not suspended, yet the Scottish Office are unable to explain why their statement is at variance to that of the Commission's.

The announcement of the investigation of the peat quality and quantity at Castlehill is most welcome. The Greenland White-fronted Goose Study hopes that it presages the acceptance of this site as a long-term source of peat from the distillery. The existence of alternative peat-supplies on Islay has never been at doubt, and even more immediate than Castlehill, which would require a long period of drainage and preparation before extraction could begin, is the peat from Laggan Moss. As demonstrated previously (Stroud 1985a), this site could supply 100 years of peat at present rates of use and over 20 years even if the distillery were working at full capacity. We hope that the present investigation will demonstrate once and for all, the quantity and quality of alternative peat on Islay and thus lead to the long-term conservation of Eilean na Muice Dubh.

Both Castlehill and Laggan Moss were identified in NCC's original planning objection in February 1984. Their current investigation is thus not a result of their 'discovery', but as stated by the Scottish Office " as a result of an intervention by the European Commission". The tragedy of the situation is that despite knowledge of these alternative sites from the earliest stages of the planning process, their investigation has only been started as a direct result of the European Commissions involvement. A rational planning decision would have considered these areas in the first instance, not in the last.

International pressure to protect Eilean na Muice Dubh

During September 1986 the International Mire Conservation Group visited Scotland on a study tour. The Group, which is comprised of professional peatland ecologists and conservationists from Alaska, Austria, Canada, Finland, Sweden, West Germany, Republic of Ireland, Northern Ireland and Britain, visited blanket bogs throughout western and northern Scotland. Having identified Britain and Ireland's blanket bogs as "unique and of global importance", they were particularly concerned at the rapid rate of loss of many important areas. At the end of their visit, they issued a resolution concerned with Eilean na Muice Dubh. The text of this resolution is as follows:

In view of the close association of the Greenland White-fronted Goose with peatlands throughout its world range, effective long-term conservation of this scarce international race will depend on effective conservation of peatland feeding and roosting habitats.

The IMCG views the continued loss and degradation of these peatland habitats throughout Scotland and Ireland with grave concern.

The IMCG resolves to:

1. Inform the European Commission of its grave concern as to the existence of planning consent for peat extraction at the most important Greenland White-fronted Goose roost in Britain, namely Duich Moss, Islay;
2. Call on the British Government to rescind planning consent for peat cutting at Duich Moss, Islay, in view of the numerous alternative sources of peat for distilling purposes on the island;
3. Call on the Government of the Republic of Ireland to publish a full inventory of important peatlands and to give these statutory protection in line with their international importance.

Edinburgh 20 September 1986.

"Our irreplaceable heritage for future generations"

After the public meeting on Islay during July 1985, there appeared to be little public support on Islay for the conservation of Eilean na Muice Dubh. The consistent media misrepresentation of the issue as one of 'jobs versus geese' had been accepted by most islanders. Those few that did understand the case and realised the issues involved were not prepared to speak out.

One who has spoken out forcefully for the geese is Councillor Arra Fletcher. At the time of the Friends of the Earth meeting, Cllr Fletcher was totally eclipsed by the flamboyant Cllr McKerrrell, despite the fact that the bog falls within Arra Fletcher's ward. However, unlike so many, he was prepared to listen to the facts presented by the conservationists and to weigh the issues himself. When the illegal Phase 2 ditch was dug, he came out firmly and publically in support of the conservation of the bog. In doing so, many islanders, appalled by the events at the Bowmore meeting and the media misrepresentation of the true issues, found a spokesman.

Feeling on Islay is far from the unanimous opposition to conservation that the media and others would have believe, yet it needed Arra Fletcher to speak out for this growing groundswell of support. He vigorously put the conservation case to the European Commission, the Scottish Office and others,

arguing that there was no need to cut peat from the site when there were other, suitable alternative sources of peat on Islay. He argued that such a wanton act would needlessly destroy a site of great intrinsic importance and also part of the natural attraction which brings so many tourists to Islay all the year round.

As a result of his firm support for the conservation case, in a situation that has often been personally hostile, in September this year Wildlife Link gave Arra Fletcher an award. Wildlife Link is the national co-ordinating body representing all the major non-governmental conservation organisations in Britain. Their annual award goes to an individual, not professionally involved in conservation, who has made an outstanding contribution to conservation. The award was presented to Arra by Lord Melchett at a meeting of the International Mire Conservation Group in Edinburgh. In giving the award Lord Melchett said:

"Arra Fletcher feels very strongly that Islay's heritage and the rights of islanders should be protected. It was because of this, his love for Islay, and his integrity, that the local people asked him to stand as a District Councillor. Councillor Fletcher has continued to fight to protect Islay's heritage, including Eilean na Muice Dubh. Wildlife Link wants to encourage people in all walks of life to work to protect our natural heritage. Wildlife all too often takes second place in the face of many powerful interests. It is a credit to the wildlife movement that Councillor Fletcher has fought so hard to protect some of our natural heritage from unnecessary destruction. We hope that many more will follow his example."

In a letter to the European Commission, Arra summed up the conservation case better than most. After the cynicism and obfuscation of the Scottish Office and others, it is refreshing to find a local politician prepared to vigorously support conservation.

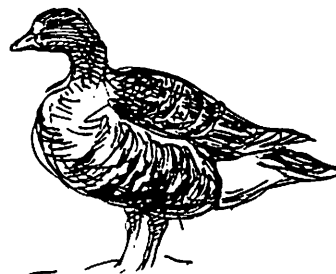
"I am a native born islander, whose ancestors arrived here centuries ago and am very concerned at this threat to something that is our irreplaceable heritage for future generations. It must not be wantonly destroyed. With a high unemployment rate in Islay, we must explore every avenue for work and I believe that the already established, but as yet undeveloped wildlife tourism on Islay will provide a thriving industry.

Posterity demands that we preserve what we have today, that they in turn will have it tomorrow. Duich Moss belongs to them!"

The future.....

The future for the conservation of Eilean na Muice Dubh looks considerably rosier than it did a year ago. Yet there is still cause for concern. The attitude of SMD/ Guinness makes it look increasingly unlikely that the illegal Phase 2 ditch will be rapidly restored.

The long-term protection of the site now rests in the hands of the European Commission. The UK Government has not changed its stance that peat-cutting will not damage the bog, and only the Commission can intervene in the case. The Greenland White-fronted Goose Study applauds the Commission's decision to involve themselves in the case. We await the outcome of the investigation at Castlehill with interest. We can only hope that the current situation will be resolved in favour of both conservation and whisky production - as has been possible all along.



GREENLAND WHITE-FRONTED GEESE IN EAST SCOTLAND GREY GOOSE FLOCKS

The occurrence of birds outside their normal wintering range is a potential source of error when undertaking complete population counts. Consultation of Scottish Bird Reports (1979-1983) and Perthshire Bird Reports (1976-1979) revealed that Greenland White-fronts are often found, outside their normal wintering range, feeding with flocks of Pink-footed or Greylag Geese. A compilation has been made of these records and is presented below in order to estimate the likely numbers involved.

In Perthshire, Greenland Whitefronts seem quite regular in small numbers almost invariably associating with Pink-footed Geese. The Pink-foot flocks are rarely adequately searched, and it is possible that small numbers (possibly up to a dozen or so birds) winter regularly in the area. Whether these are different vagrants which get mixed up with the Pink-feet each year, or a regular group of birds, is difficult to determine although local goose counters suspect the former.

From whatever source, these birds behave quite differently to the regular wintering population in the west of Scotland. They have been seen exclusively on arable land and on every occasion have associated with large flocks of Pink-feet (except one record with Greylags). It is not known if they share the Pink-foot roosts but this is suspected.

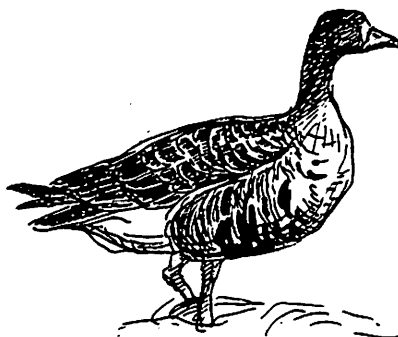
Behavioural observations suggest that when a single bird is present with a flock of another species, it integrates well and is frequently seen in the middle of the flock. However, when groups of 3 or more are seen, they maintain cohesion and remain on the edges, or even slightly apart from the main flock. Greenland White-fronts have been seen in all four types of feeding fields in the area (grain stubble, potato stubble, grass and winter cereals), although few feeding preferences are apparent. Feeding location is presumably determined by the Pink-foot flock with which they are associated.

Although no thorough checks of all Pink-foot flocks have been made, the small numbers in the samples searched suggest that these vagrant birds are unlikely to constitute a significant source of error in overall population assessments.

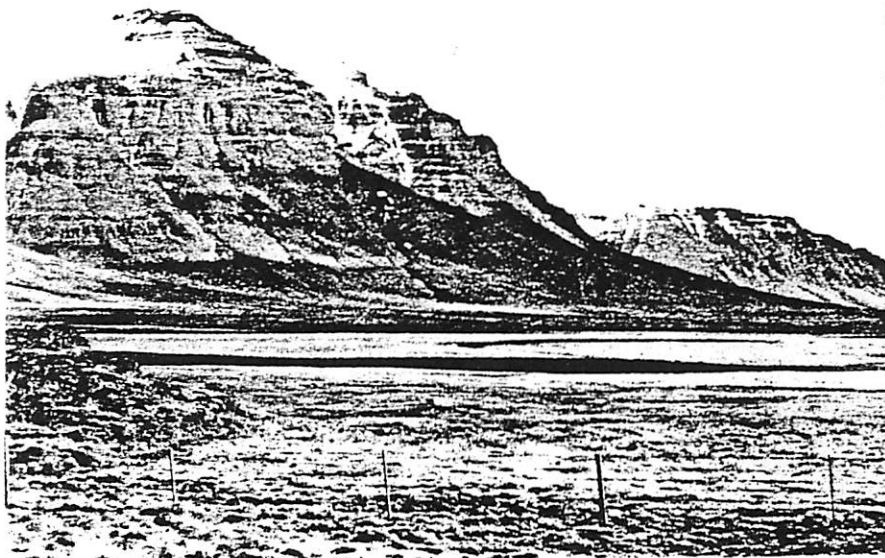
J.G. Steele

Compilation of records of Whitefronts in grey goose flocks

Year	Number	Flock	Location	Location
1983/84				
January	1ad	270 Greylags	on winter cereals/grass	Montrose, Angus
1984/85				
October	1juv 2ads+1j	Pinkfeet Pinkfeet	on stubble	Tibbermore, Perthshire Strathbeg, Aberdeenshire
November	4ads	Pinkfeet	on stubble	Perthshire
January	6			Meikle Loch, Aberdeenshire
March	2ads		grass/winter cereals	Meikle Loch, Aberdeenshire
1985/86				
October	1ad	8000 Pinkfeet	grass	Tibbermore, Perthshire
November	1ad (different bird)	Pinkfeet	stubble	Tibbermore, Perthshire
January	1ad	Pinkfeet	stubble	Tibbermore, Perthshire
	7ads+3j	Pinkfeet	stubble	Tibbermore, Perthshire

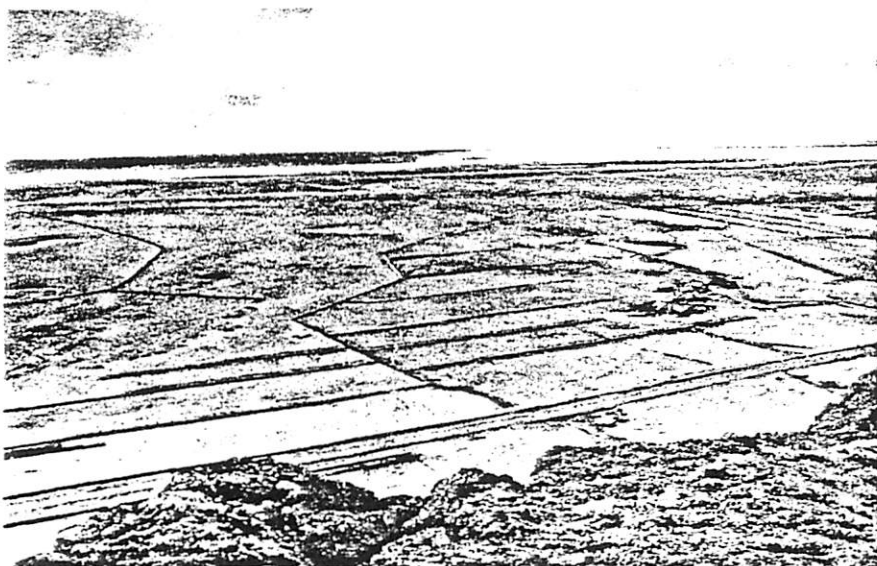


A party of four people from the Greenland White-fronted Goose Study visited Iceland this spring (16 April - 10 May) to carry out preliminary counts of Whitefronts on migration, look for leg darvics and neck collars, assess the habitat used by the geese and discuss their conservation with the Icelandic authorities.



Fields used by Whitefronts near Eldborg, northern Myrar, west Iceland: May 1986

Although it was quickly apparent that several people in Iceland were well aware of the general situation concerning Greenland White-fronts, there is no-one in the country studying the geese and there remains a great deal to be understood about patterns of migration. Dr Arnthor Gardarsson at the Department of Zoology, University of Reykjavik is an acknowledged authority on the wildfowl of Iceland and was extremely helpful in giving his general impressions of Greenland Whitefronts in Iceland, however, as he admitted, much of this was gleaned in passing, whilst studying other species of wildfowl. He had carried out aerial census work which included Whitefronts in autumn, but the situation in spring (with all the consequences that migration staging may have for breeding success) was not well understood. Indeed, prior to this years visit, it was far from clear how many, (if any, according to some) White-fronts stopped in spring, what habitats were used and where the major concentrations occurred.

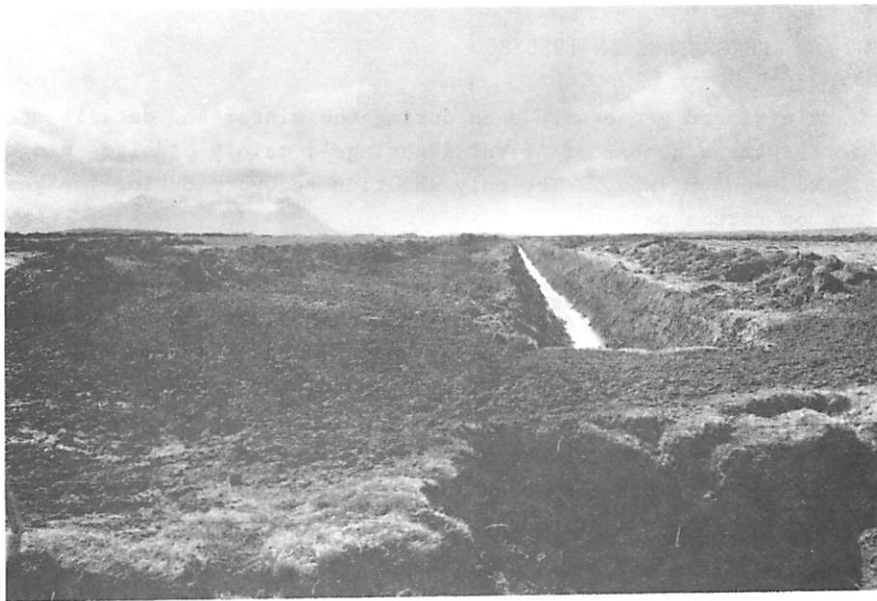


Many Greenland Whitefronts seen here at Olfuse, near Hvergerdi, South Iceland in April 1986. Note the extensive scale of the agricultural drainage schemes.

Some 3,500 geese were counted in a simple drive around census. Clearly, this greatly biased counts to those areas accessible by road, but nevertheless this method did guarantee coverage of a substantial part of lowland south and west Iceland. Efforts were made to count different habitats within each staging location on each day, but it is not clear if this eliminated all chances of duplicate counting, since birds were clearly moving through some areas. Overall, and given the vast area which the geese could potentially use, it was felt that the total counted can only represent a minimum figure for spring passage in Iceland.

Surprisingly, many of the staging areas known from both spring and autumn are relatively close to Reykjavik. These were the areas visited during 1986: the south-western coastal plain (Olfusa - Landeyjar) and along the west coast north of the capital (Myrar - Snaesfellsnes). An initial visit was also made to Hofn in the extreme south-east of the country, where the exciting spectacle of arriving White-fronts and Pink-feet coming in off the sea was observed on 23-25 April. It may be that there are further important staging areas in this barren and remote corner of the island.

The majority (80%) of White-fronts were found on improved hayfields or stubble in the lowland coastal plains, with only 20% feeding on the more traditional habitat, Carex-Eriophorum mires. In fact, large areas of wetland and bog have been drained over the last few years with the encouragement of subsidies and co-operative schemes, and there has been a consequent increase in the area of improved and unimproved grassland. Certainly geese used to graze the traditional wet sedge-hay fields which were managed by flooding to produce rich winter feed. However, the White-fronts seem now to be showing preference for the new dry grass-hay fields which were just showing the first signs of green spring bite at the time of their migration. Whether this is due to the more attractive forage quality, a decrease in other suitable habitat, or indeed to our restricted observations it is difficult to say.



Example of a typical drainage ditch near Borganes, west Iceland. Such ditches are resulting in widespread loss of peatland habitats and modification of agricultural regimes.

At present, the White-fronts are rarely present long-enough or in sufficient numbers to constitute anything approaching an agricultural problem, despite occurring in areas which are intensively farmed. By law, in the spring, all grey geese are protected from shooting after March (excepting localised control of greylags under licence). However, as with all grey geese in the autumn, the Greenland White-front is still legitimate quarry. We discussed the shooting position with the national shooting club and were surprised to learn that on their own initiative, and based on the general decline of numbers in Iceland, they had instituted a voluntary ban on shooting White-fronts which they urge members and non-members alike to adhere to.

In addition to the general observations on when and where birds were occurring, the project also aimed to locate and identify individually marked geese so we might be able to show that those birds which bred in summer 1986 had staged in Iceland on the way to the breeding grounds. Considerable effort was put into finding darvic-ringed birds, and 26 Wexford neck-collared birds were read together with one Greenland ringed bird T10. In addition, 5 other birds with white leg darvics

only were seen. Since some may have been Irish ringed geese which had lost their collars, it is not possible to say that these were definitely Greenland ringed individuals.

Ageing of flocks was relatively easy in short grass areas, and an average of 18.3% young was recorded overall from large samples. Mean brood size was found to be 3.38. It was apparent that birds were remaining and migrating as family groups, although some lone first year birds had clearly got lost on the way!

As always, a trip such as this raises more questions than it answers. It is clear that further study is required to assess the turnover of numbers in the spring, the precise extent and importance of the staging areas, and the features of the habitat which make them important for the geese. It is important to ascertain the importance of these staging areas for specifically breeding birds, as well as to examine the features of the autumn passage. The latter aspect will be examined in September/October 1986 when a second team from the Greenland White-fronted Goose Study travels north to look at the White-fronts as they make their way south towards our shores for another winter.

Ian Francis

A Winston Churchill Travelling Fellowship supported this study.

DARVIC RINGED GEESE AND RESIGHTINGS IN 1985/86

A large number of darvic ringed geese were seen during the winter and details of these are tabulated separately. Of interest are a number of 'first sightings', mainly of birds ringed in 1984, but including one 1979 bird seen on Islay. The only shooting recovery during the year was of one bird (A67) shot in Iceland on autumn passage.

A total of 141 Greenland White-fronts were cannon-netted on the Wexford Slobbs in November and December (Norriss & Wilson 1986). 135 were fitted with neck-collars and two unusually small birds with leg-darvics only; four geese that had already been ringed in November were recaptured later. An increasing number of these birds are occurring in Scottish flocks, and sightings of these provide a useful check on the data derived from the more inconspicuous leg-ringed birds. Of particular interest has been the resighting of five geese caught in 1984/85, staging in Islay during the autumn before wintering at Wexford. It has long been suspected that small numbers of geese may stop temporarily on Islay and these sightings confirm this.

Fears have been expressed about the effects of neck-rings on productivity of Greenland Whitefronts. In this context it is interesting to note that at Wexford there was no difference between the productivity of ringed and unringed geese in 1985. Likewise on Islay, the mean brood size of leg-ringed geese (1979 & 1984 combined) was 3.62 (n=8), not significantly different from that of unringed geese (mean of 3.56, n=66).

A spring visit to Iceland described elsewhere in this report was highly productive in terms of sightings of ringed birds. Most of these were of neck-collared birds from Wexford, but at least one was a Greenland ringed goose. The success of this trip is an encouragement for further work in Iceland.

Interesting movements during the year were of three birds (A07, A10 and A65) previously seen on Islay, moving to Wexford, Co. Mayo and Loch Ken respectively. A65 is known to have re-paired between being last seen on Islay and occurring at Loch Ken. This process is thought to be important in the initiation of moves between sites by adult birds. Additionally, A33 which had been seen in Caithness every year since 1979/80 moved to Islay.

Norriss & Wilson (1986) have presented preliminary totals of the numbers of Wexford Greenland Whitefronts marked, recovered and seen.

During the year a complete review of the recoveries of the Copenhagen ringing scheme (1940 - 1980) was made, together with an assessment of mortality and site fidelity based on Darvic sightings and bag records (Kampp, Fox & Stroud in press). Copies of this paper are available on request.

SIGHTINGS OF DARVIC RINGED GEESE IN BRITAIN DURING 1985/86

Geese neck-collared at Wexford and seen in Britain

5AA	Machrihanish Kintyre	No longer with 3AA as last year.
4KK	Machrihanish, Kintyre	
7KM	Machrihanish, Kintyre	
6KP	Kintra, Islay	
1JA	Leorin, Islay	
3JA	Leorin, Islay	
4JA	Leorin area, Islay	
0JJ	Mulindry, Islay	Probably paired, no young.
3JJ	Gorm area, Islay	Paired to 6JK
6JK	Gorm area, Islay	Paired to 3JJ
8JM	Skerrols, Islay	
6JP	Rockside, Islay	
8JP	Kiells, Islay	
3JU	Gruinart, Islay	

Geese leg-ringed in Greenland in 1979 and resighted 1985/86

A07	Wexford, Ireland	Last seen Knocklearach, Islay in December 1980
A10	Carrowmore Lough, Co. Mayo	Moved from Loch Lomond were seen last 1980/81. Seen in Greenland
A14	Avenvogie, Islay	Present at same site since 1979/80
A19	Avenvogie, Islay	Present at same site since 1979/80
A24	Avenvogie, Islay	Present at same site since 1979/80
A26	Avenvogie, Islay	Present at same site since 1979/80
A31	Avenvogie, Islay	Present at same site since 1979/80
A33	Rockside, Islay	Moved from Caithness where present 1979/80 - 1984/85
A38	Kilennan, Islay	Present since 1979/80
A56	Sunderland, Islay	First sighting since March 1981 when at Eorrabus, Islay
A60	Eallabus, Islay	Present since 1980/81
A62	Ardnave, Islay	Present since 1984/85
A65	Loch Ken, Galloway	Last seen December 1979 at Avenvogie, Islay. Repaired since then
A66	Cluanach, Islay	Present since 1979/80
A67	Sperdill, V.-Landeyjahr, Iceland	Shot on 12 October whilst on autumn passage
A72	Uisgeantsuidhe, Islay	Present since 1982/83. Paired to K14.
A82	Eorrabus, Islay	Present since 1982/83
A90	Eorrabus, Islay	First sighting since ringing in 1979. Where has it been ???

Geese leg-ringed in Greenland in 1984 and resighted 1985/86

K02	Eorrabus, Islay	Same site as 1984/85. Paired K03
K03	Eorrabus, Islay	Same site as 1984/85. Paired K02
K07	Carrowmore Lough, Co. Mayo	First sighting since ringing in 1984
K10	Robolls, Islay	Same site as 1984/85
K11	Eorrabus, Islay	First sightings since ringing in 1984
K14	Uisgeantsuidhe, Islay	Same site as 1984/85. paired A72
K16	Rockside & Ellister, Islay	Paired K45. Autumn stubble feeding @ Loch Gorm then moved south
K23	Leorin, Islay	Paired K41
K25	Wexford, Ireland	Same site as 1984/85. Paired K33
K26	Coultorsay, Islay	Same site as 1984/85
K31	Bridgend, Islay	Same site as 1984/85
K32	Wexford, Ireland	First sighting since ringing in 1984
K33	Wexford, Ireland	Same site as 1984/85. Paired K25
K34	Leorin, Islay	Same site as 1984/85
K36	Eorrabus, Islay	First sighting since ringing in 1984
K40	Carn, Islay	Same area as 1984/85
K41	Leorin, Islay	Same site as 1984/85
K44	Knocklearoch, Islay	First sighting since ringing in 1984
K45	Rockside, Islay	Paired K16. Same wintering flock as last winter.
K51	Eallabus, Islay	Move from Wexford in its second winter (a 1984 gosling)
K54	Wexford, Ireland	First sighting since ringing in 1984
K56	Carrowmore Lough, Co. Mayo	First sighting since ringing in 1984
K57	Balulive, Islay	Paired K60. Same site as 1984/85
K60	Balulive, Islay	Paired K57. Same site as 1984/85
K61	Totronald, Coll	Paired K62. Same site as 1984/85
K62	Totronald, Coll	Paired K61. Same site as 1984/85
K66	Robolls, Islay	First sighting since ringing in 1984
K77	Uisgeantsuidhe, Islay	First sighting since ringing in 1984
T01	Laggan area, Islay	Moved from Little Brosna, Shannon in its 2nd winter: a 1984 gosling
T10	Rangarvallasysla, Iceland	Seen 30 April during spring migration to Greenland
T11	Kilcoman, Ireland	First sighting since ringing in 1984
T17	Octomore, Islay	Same site as 1984/85
T21	Octomore, Islay	Same site as 1984/85
T26	Kilcolman, Co. Cork	First sighting since ringing in 1984
T27	Kilcolman, Co. Cork	First sighting since ringing in 1984
T31	Octomore, Islay	Same site as 1984/85

In addition, three birds ringed with white darvics on the left leg (ie 1984 birds) were seen on Orkney during the winter. The ring on one of these was seen to start with K??.

Summary table of Greenland ringed birds resighted in 1984/85

	<u>1979 ringed</u>	<u>1984 ringed</u>
Total birds seen in 1985/86	18	37 (+3)*
Total birds dead in 1985/86	1	0
Total of 'first sightings' seen	1	15
Total recorded to date	69/96 = 72%	46/88 = 52%

* = three birds recorded, but not read, on Orkney

ACKNOWLEDGEMENTS

We continue to be indebted to all those who have supported the work of the Greenland White-fronted Goose Study during the year. This report would not have been possible without the work of very many observers undertaking regular counts of 'their' geese. Counters have braved miserable weather to obtain counts as well as other problems: "I managed to count 92 adults with 18 young.... .. but I had to pack it in due to a cold which gave me the shivers, so was unable to keep the telescope still". The Greenland Whitefront is indeed fortunate to have so many friends.

S. Benn, Dr E. Bignal, S. Bignal, Bodmin Moor Bird Observatory, H. Boyd, R.A. Broad, P. Burnham, P. Campbell, S. Clinton Davies, P. Campbell, D. Coleman, J. & P. Clarke, G. Cresswell, W.A.J. Cunningham, A. Currie, P.E. Davies, Dr G.M. de Mornay, R.C. Dickson, D & B. Dix, Dr & Mrs R.H. Dobson, Rev. & Mrs A.R. Duncan-Jones, P.B. Duncan, Dr N. Easterbee, European Commission, Cllr. A. Fletcher, V. Fletcher, A.E.M. Fox, L. Fox, D. Forshaw, I.S. Francis, M. Birtwell, Friends of the Earth, Friends of the Earth (Scotland), A.Gammell, A.G. Gordon, M.J.P. Gregory, M. Green, C. Davis, D. Boardman, P. Goriup, B.Haran, R. Hawley, International Council for Bird Preservation, C. Huton, G. & M. Jackson, Dr A.R. Jennings, A. Kerr, Dr J. Kirk, S. & E. Laybourne, R. Livsey MP, C. MacKay, I. Macleod, M.Madders, D. Dick, E. Mayes, D. McMahon, J. Matthews, Lord Melchett, C. Mitchell, D. Minns, J. Mitchell, J. Moore, E. Meek, P. Moore, D. Morris MEP, Dr M. Moser, Nature Conservancy Council, B. Neill, D. Norriss, Dr M.A. Ogilvie, I. Patterson, N. Penford, Dr M.W. Pienkowski, J. Porritt, P. Reynolds, V. Reynolds, A. Riley, Royal Society for the Protection of Birds, RSPB volunteers at Loch Gruinart Reserve, J. Skilling, R. Smith, I. Smitton, J.G. Steele, Sandy Payne, L. & S. Street, Dr J.M. Stroud, P. Thompson, K. Vaegter, A. Walsh, K. Kamp, Dr J. Watson, R. Lindsay, T. Weir, H.J. Wilson, W. Wilkinson, M. Wynn, D. McAllister, S. Aspinall.

And, of course anyone we may have inadvertently forgotten.

Special thanks go to S. Percival who undertook most of the darvic searching on Islay this winter and well as undertaking much ageing and counting of the flocks there too.

REFERENCES

- Fox, A.D. & Stroud, D.A. (1986). The Greenland White-fronted Goose in Wales. Nature in Wales 4(1&2): 20-27.
- Greenland White-fronted Goose Study (1986). Duich Moss: a minor administrative hitch. Ecos 7:24-31.
- Kamp, K; Fox, A.D. & Stroud, D.A. (submitted). Mortality and movements of Greenland White-fronted Geese Anser albifrons flavirostris. Dansk Ornith. Forens. Tidsskr.
- Laybourne, S. (in prep.). Greenland White-fronted Geese in Caithness. mss.
- Norriss, D.W. & Wilson, H.J. (1986). Greenland White-fronted Geese in Ireland 1985/86. A progress report. Unpublished report of Forest & Wildlife Service, Dublin. 14pp.
- Stroud, D.A. (1984). Greenland White-fronted Geese in Britain; 1983/84. GWGS, Aberystwyth. 12pp.
- Stroud, D.A. (1985a). Greenland White-fronted Geese in Britain; 1984/85. GWGS, Aberystwyth. 20pp.
- Stroud, D.A. (1985b). The case of Duich Moss. Ecos 6: 46-48.
- Wilson, H.J. & Norriss, D.W. (1985). The Greenland White-fronted Goose in Ireland; 1982/83 to 1984/85. Unpublished report of Forest & Wildlife Service, Dublin. 37pp.

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Table 1. Summary of Greenland White-fronted Goose counts 1982/83 - 1985/86

AREA	Autumn 1982	Spring 1983	Autumn 1983	Spring 1984	Autumn 1984	Spring 1985	Autumn 1985	Spring 1986
North-east Scotland	457	576	315	410	376	518	119	184
North-west Scotland	185	80	177	136	176	79	192	402
North Argyll	873	1068	985	896	1304	1110	1448	1032
South Argyll: Islay	3501	3441	4592	4198	5256	4715	6332	5669
: others	1723	1413	1342	1484	1659	1761	1993	1893
Galloway	595	631	683	720	633	668	848	737
England	33	0	1	4	10	13	1	0
Wales	73	73	93	78	76	88	93	98
BRITISH TOTAL	7189	7282	8188	7926	9490	8952 ^a	11026 ^b	10015 ^c

a) The total for spring 1985 has been revised slightly up in the light of recently received counts, and the totals here supercede counts given in the 1984/85 report (Stroud 1985).

b) Of the total, only 1.2% derives from estimates.

c) Of the total, only 15.6% derives from estimates.

Table 2. Revised counts for 1984/85 census. Peak monthly counts
Additional data updating counts given in Table 3 of Stroud (1985a).

	OCT	NOV 1-16	NOV 17-30	DEC	JAN	FEB	MAR 1-22	MAR 23-7A	APRIL 8-31
COLL						306			
COLONSAY & ORANSAY									14
BUTE			49	56					
LOCH LOMOND: Endrick Mouth				120	200+				210
PERTSHIRE	1	4							
ABERDEENSHIRE	3				6		2		

Table 4. Summary of British productivity in 1985

Autumn 1985

	Total aged	Number of young	% of young	Number broods	Mean brood size	Frequency of broods of size:							
						1	2	3	4	5	6	7	
ISLAY	3136	855	27.3%	66	3.56	2	13	18	16	13	4		
REST OF SCOTLAND	2404	633	26.3%	150	3.45	7	29	46	37	21	8	2	
ENGLAND	0												
WALES	40	0	0%	0									
BRITAIN	5580	1488	26.7%	216	3.49	9	42	64	53	34	12	2	

Table 5. Area totals for Islay Greenland White-fronted Goose counts; 1985/86

	OCTOBER 24	NOVEMBER 26	NOVEMBER 27	DECEMBER 17	DECEMBER 18	JANUARY 18	JANUARY 19	FEBRUARY 15	FEBRUARY 16	MARCH 8	MARCH 9	APRIL 12	APRIL 13
RHINNS	265	802	579	244	560	454	324	364	514	616	622	706	1164
GORM	432	349	306	663	708	721	674	351	464	361	272	689	778
GRUINART	374	633	860	723	419	413	421	405	280	161	303	266	280
KILMENY	1129	2197	2070	1105	1515	1007	1626	1125	1836	1223	1655	1534	1611
LAGGAN	170	1005	462	652	706	501	708	455	614	521	649	422	381
GLEN	461	60	228	245	117	105	432	428	267	399	203	211	325
ARDTALLA	0	0	0	0	107	262	224	156	328	0	0	0	0
OA	390	1286	1199	855	1332	503	705	473	582	679	784	1078	1130
ISLAY TOTAL	3221	6332	5704	4487	5464	3966	5114	3757	4885	3860	4498	4906	5669

Table 3. Peak monthly counts at Greenland White-fronted Geese wintering sites in Britain; 1985/86

Site	September	October	November 1-17	November 18-30	December	January	February	March	April 1-9	April 10-31
NORTH-EAST SCOTLAND										
ORKNEY: Stronsay				0					48	
Tankerness/ Holm		21	26	0	0	0	48	40+	0	
Loons/ L. of Ibister			<u>34</u>	49	39	39	0	0	<u>43</u>	
Calf of Flotta				9						
CAITHNESS:										
Westfield area		10		40	100+	180-200		c150	157	93
Loch Heilen area		0		19	0	0		100+	15	
Loch Scarmclate area		0		0	0	0			0	
Loch of Killiminster		0		0	0	0		64	<u>54</u>	
Loch Meadie area		0		0	0	0			0	
CROMARTY:										
Loch Eye		0		0	0				(0)	
Morrich More						17				
NORTH-WEST SCOTLAND										
SUTHERLAND: Loch na Moine		+?						+?	+?	
LEWIS: Barvas/Shawbost			17		17	9		9	9	
BENBECULA: Nunton Griminish										
SOUTH UIST: Loch Hallan area	6	16	c20	22	22	22	22	19	19	
Loch Bee				<u>46</u>			39		<u>42</u>	
NORTH UIST				(0)					(0)	
SKYE: Snizort		16	46	47		36	38		41	
Broadford/Pabay area				<u>17</u>					<u>70+</u>	
GAIRLOCH: Longa Island		0		0	0				0	
Loch Sguod mires		110-130			0				0	
MUCK				(43)					43	
EIGG				(0)					(0)	
NORTH ARGYLL										
TIREE: several sites				708		272			497	
COLL: several sites				<u>548</u>						396
LISMORE Is./BENDERLOCH*			44	<u>44</u>	84	82	70			<u>74</u>
Fords, Benderloch*							34	32		
SOUTH SHUNA					7					
LOCH SHIEL				26	21	0	24	10	14	
MULL: L. Poit na h-I/ Fiddin				49	0?	0	0		<u>51</u>	
Loch Assapoll				<u>26</u>	26	28	1		0	
Kintra (NM309243)							12		0	
EAST SCOTLAND										
PERTHSHIRE: Tibbermore		1	1		11					
SOUTH ARGYLL										
COLONSAY		7			78			23		50
JURA: Lowlandmans Bay				34					(34)	
Loch a' Chnuic Bhric				0					<u>84</u>	
ISLAY	3	3221	6393	<u>6332</u>	5464	5114	4885	4498		<u>5669</u>
DANNA		27	110	<u>110</u>	104	82	83	98	c40	
MOINE MHOR			40	<u>51</u>			35	33		<u>40</u>
RHUNAHORINE			730	<u>852</u>					(852)	
KILLEAN				45						
MACHRIHANISH			540	<u>590</u>					(590)	
BUTE				(43)					(43)	
LOCH LOMOND: Endrick Mouth		115	<u>190</u>		300+				<u>200+</u>	
GALLOWAY										
STRANRAER		220		530					460	
BLADNOCH VALLEY				(43)					(43)	
CREE VALLEY				(0)					(0)	
LOCH KEN: Parton/ Mains of Duchrae		112	c250	<u>275</u>		297	c150	<u>234</u>		334
AYRSHIRE				(0)					(0)	
ENGLAND										
LANCASHIRE	1					1				
CUMBERIA				1						
WALES										
CLWYD: Anglesey				(0)					(0)	
DYFED: Dyfi Estuary		59	85	<u>93</u>	108	85	108	98		<u>98</u>
POWYS: Bryn-Du				+	+					

NOTES * Counts for Benderloch Peninsula (Eriska Island) and Lismore Island have been combined due to evidence of frequent flock movements between these two sites.

Totals given are peak monthly counts and those counts used in the derivation of spring and autumn census totals are underlined. If counts during the census period were either missed or obviously incomplete, the closest accurate count to the census period was used. Estimates are bracketed.