

THE WATERBIRDS OF GREENLAND

by

FINN SALOMONSEN

(The Loon, Grebe, Duck and Goose chapters from Finn Salomonsen's 'Fuglene på Grønland' [1967: Rhodos, Copenhagen], translated by R. G. B. Brown.)

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TRANSLATOR'S INTRODUCTION

This is the second Canadian Wildlife Service translation from Finn Salomonsen's important book 'Fuglene på Grønland'. After the first part, on seabirds, came out it was obvious that I should have added the sea-ducks to it as well. I had intended this translation to cover only the eiders, but it soon became obvious that in a country like Greenland, with a totally ice-bound interior and a long, indented coastline, almost every duck is a 'sea-duck'. In the end I translated all the duck chapters, and those on loons, grebes and geese as well for good measure. I hope it will draw the attention of Canadian waterfowl biologists to the extremely interesting results of the Greenland banding programme which Finn Salomonsen has been organising since 1946.

The translation covers everything in the chapters in question except the brief description of each species which prefaces every chapter. Such information is readily available from field-guides, and so is omitted for brevity. The translation is an unofficial one. Finn Salomonsen was kind enough to check the text of 'The Seabirds of Greenland' for me, but he is not in good health and I do not want to bother him with the Waterbirds. My Danish is far from fluent and so, though I don't think I have made any glaring errors, I can't guarantee it. The reader is hereby warned.

R. G. B. Brown

White-fronted Goose Blisgås Nedleq Anser albifrons flavirostris (Dalgety  
and Scott)

The White-fronted Goose occurs in the lowarctic part of West Greenland, south to the area around Godthåbsfjord, north to southern Upernavik District (Prøvens Laksefjord). It reaches its greatest abundance in the broad inland area between Sukkertoppen and Disko Bay, but is still common in the interior of Christianshåb and Jakobshavn Districts, in Arveprinsens Ejland, in Mudderbugten and its adjacent valleys in eastern Disko, also in the southern part of Nûgssuaq Halvøen. It seems to be absent from the mountainous Umanak District, apart from the southern part of Svartenhuk Halvøen, where there is quite a good population. It once bred commonly on islands in Egedesminde District south to Kangatsiaq, and also in the expanse of? big [bredning] Nivâp suvdlua, but it has now practically disappeared from this area on account of persecution.

The Whitefront occurs in the low plains in the interior of the country where there are many lakes and dense vegetation in the form of heaths and bushes. It only reaches the outer coast itself in a few places, as described above. It avoids mountainous landscapes, but is found on level plateaux to nest up to a height of ca. 700 m. It usually arrives at its breeding place in the first half of May and laying takes place in the last days of the month. The nest is a scrape in the vegetation lined with straw and twigs and the bird's own down and feathers. The 5-7 eggs are yellow-white. Only the female incubates, but the male stands watch nearby. When the young have hatched both the parents lead them down to the banks of lakes or rivers, and the adults moult their flight feathers when the young are a couple of weeks old.

Non-breeding young birds remain in small flocks in the breeding area and are already moulting their flight feathers in June. They slowly begin to migrate south in August, and in September the adult birds also

abandon the nesting area along with their young to undergo the fall migration.

The Greenland Whitefront's migration behaviour is well known, mainly through the extensive banding which has taken place in Greenland. No less than 1,300 birds have been banded, and there have been over 300 recoveries. Included are 5 recoveries of birds banded in 1934 at Christianshåb by A. Bertelsen; these recoveries are included in the analysis which follows. When the geese leave the breeding areas, in the last half of September as a rule, they keep to the interior and almost never visit the coast. There are virtually no recoveries of migrants from the coastal area south of the breeding grounds, and it is only known to occur there from the geese collected there, namely single young birds taken respectively at Sukkertoppen, 28 September 1904 and Julianehåb, 5 October 1909. Among the many recoveries within Greenland only one has occurred during the fall migration, a young bird from Sarqaq, Nûgssuaq Halvøen, taken at Fiskenaesset, Godthåb District, 13 September. There is another recovery from South Greenland, a bird banded as a gosling at Ikamiut, Christianshåb District, which was taken as a 1-year-old at Narssalik, Frederikshåb, 16 June, but this may be considered the wandering in summer of a non-breeding young bird, which has come this far south.

Banding has shown that Greenland Whitefronts winter in Ireland, and there is scarcely any doubt that a significant part of the population on fall migration from the breeding grounds migrates over the inland ice, all in one stretch without resting on the way, en route to the winter quarters. They pass Angmagssalik District, where they are seen between 19 September and 14 October, though only in small numbers. It must therefore follow that the migration passes by very high up, probably often at night, and that, as stated, the birds almost never

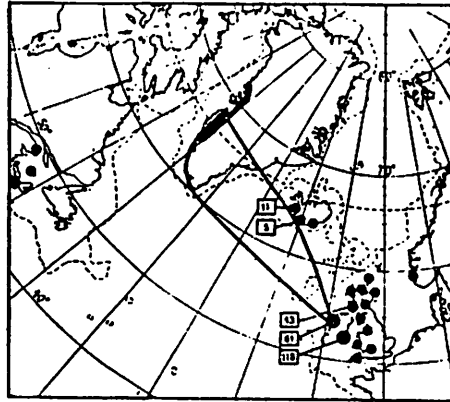


Fig. 4. Recoveries outside Greenland of White-fronted Geese. The number of recoveries is shown by the figures beside the localities. The breeding area in West Greenland is in black, and the lines refer to the migration routes discussed in the text.

rest there. A stray was shot at Kap Tobin, Scoresby Sund District, 4 September 1928, and another was seen a little farther north is Ørsteds Dal, 18 July 1963, the only known occurrence in Northeast Greenland. The migration goes from there across the Atlantic south of Iceland and a small proportion of birds stray to the southwest coast of that country, where they occasionally rest and are shot by people. There are in all 8 recoveries from such fall visits, from Mýrasýsla (3) southeast to Arnessýsla (1), and Rångarvallasýsla (4) from 2-31 October, though one as remarkably early as 26 August. Despite the few observations in Southwest Greenland there is however scarcely any doubt that a part of the population on migration follows the West Coast south all the way to Kap Farvel and crosses the Atlantic far south of Iceland.

The geese arrive in Ireland in the middle of October as a rule, though some in late September. The landfall is over the northwest corner of the island, over Counties Donegal, Sligo and Mayo. Some remain there, others move to the central part of the island, and others again cross over Ireland to the southeastern corner where they winter in the large bogs of County Wexford, the so-called 'Slobs'. According to Irish estimates, about half of the Whitefronts winter in Wexford and the other half in the rest of the country; in all the overwintering population of Greenland Whitefronts amounts to 14,000 individuals. The banding totals do not completely agree with such a division because there is a greater proportion of birds from Wexford than one would expect statistically, namely 66% (118 of the total of 179 Irish recoveries. To explain this discrepancy one may suggest that the West Greenland population of Whitefronts does not migrate as a unit, but that the different parts of it behave differently. The northern breeding populations have on migration a strong tendency to 'overfly' the southern populations and winter to the south of them. This is the same phenomenon which has

been described above for Great Cormorants in their West Greenland winter quarters. To get an impression of which areas in Ireland the various Greenland populations use in winter, one may group these according to their sites. In Table 3 these are NW (= North West)- Donegal, Sligo and Mayo, and thus the arrival area; C (= Centre) - Fermanagh, Leitrim, Cavan, Roscommon, Galway, Longford, Westmeath, Meath and Offaly; NE (= North East) - Antrim and Louth; S (= South) - Clare, Kerry, Tipperary and Kilkenny; and, finally, Wxf indicates Wexford which, because of its great importance as a wintering area, has its own symbol. The localities for banding are similarly in Districts, though the actual localities are named. The figures give the total recoveries, and for each group the percentage of recoveries from Wexford is also given.

It follows from this summary that 80-90% of the northern population, south to Jakobshavn, winter in Wexford, though even in the southern part of Jakobshavn the percentage only reaches 67%. South of that, in the northern part of Christianshåb, it drops to 22%, and for the southern part of that District it is no higher than 17%. Farther south, in Sukkertoppen, the percentage does not drop any lower. In other words one can divide the West Greenland population into two groups, a southern groups which breeds in the West Coast shores north to the plains at Sydøst Bugt, and of which only ca. 15% winter in Wexford, and a northern group, occurring south to Disko and Nugssuaq Halvøen and with ca. 85% wintering in Wexford. The switch between the two groups occurs on the east side of Disko Bugt, from Arveprinsens Ejland to the middle part of Christianshåb District. The southern group winters in the North West and Central areas in the great majority of cases, while only a very small part of the northern group winters there. 80% of the southern group winters there, against 11% of the northern group, since the transition zone

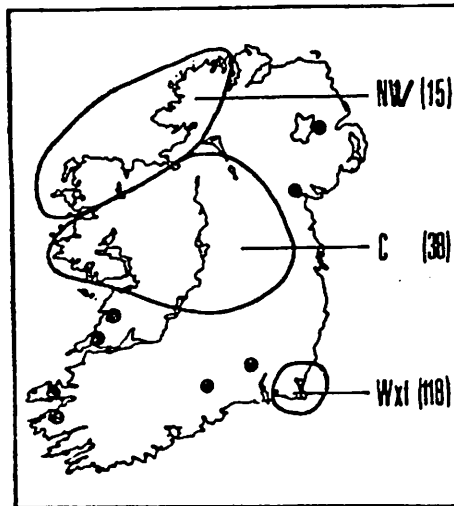


Fig. 5. Recoveries of Greenland White-fronted Geese in Ireland. The numbers refer to the total recoveries in North West Ireland (NW), Central Ireland (C) and Wexford (Wxf). The solid circles outside these areas each refer to a single recovery.



Table 3. Recoveries of Greenland White-fronted Geese in regions of Ireland.

	NW	C	NE	S	Wxf	Total	% Wxf
Banding Region:							
Upernavik Syddistrikt (Amitsorssuaq, Prøvens Laksefjord)	3				9	12	75
Umanak Norddistrikt (Svartenhuk)	1		1		10	12	83
Jakobshavn Norddistrikt (Sarqaq, Qeqertaq)	2	6		2	70	80	88
Godhavn Distrikt (Skansen)		1			14	15	93
Jakobshavn Syddistrikt (Atâ, Ritenbenk, Rodebay, Jakobshavn)	2	1	1		8	12	67
Christianshåb Norddistrikt (Laksebugten, Qarajaq)		6		1	2	9	22
Christianshåb Syddistrikt (Ikamiut)	2	16		2	3	23	17
Egedesminde Distrikt (Sarqardlit, Iginiafrik)	1	2				3	0
Sukkertoppen Distrikt (Søndre Strømfjord)	4	6		1	2	13	15
<b>Total</b>	<b>15</b>	<b>38</b>	<b>2</b>	<b>6</b>	<b>118</b>	<b>179</b>	

Regions (see also fig. 5): NW = North West; C = Central; NE = North East;

S = South; Wxf = Wexford.

along the east side of Disko Bugt is not included in this percentage calculation. Very many geese winter in the Central and Northwest areas, in the case of the southern group, over four times as many (30 against 7 recoveries), but the Central area is by far the greatest. It thus appears that the southern group's population may be in some way separate in dividing between the Northwest and Central areas. Only 8% (2 out of 24) of the population from Christianshåb District winter in the Northwest area but 92% in the Central area, while 39% (5 out of 13) of the Egedesminde-Sukkertoppen population winters in the Northwest area - almost five times as many. This seems to show that within the southern group itself there is a tendency for the northern population (from Christianshåb) to overfly the southern (Egedesminde-Sukkertoppen) on migration, though the data are too sparse for any definite conclusions.

It appears that account must be taken of the recoveries in Ireland in October (there are none in September), since the fall migration is still taking place and the recovered birds need therefore not have moved as far onwards as the winter quarters. 6 birds are involved, but three were probably taken on migration, namely one bird from Ikamiut taken in Clare 7 October, and two young birds from Sarqaq taken respectively in Clare 15 October and in Kilkenny (lying to the west of Wexford) 27 October. All three recoveries come from the South area (S), from which there are otherwise only three winter recoveries (Kerry 2, Tipperary 1). In that area therefore, Greenland Whitefronts only winter in very small numbers. In the Northeast area (NE) there are only two recoveries (Antrim 1, Louth 1), both coming from the northern group (Svartenhuk, Atâ), undoubtedly birds which held to a slightly more northerly course on the fall migration and reached land in Northeast Ireland. On the whole, it seems that the northern group has a slightly greater tendency to take a northerly course than has the southern group and, conversely, the southern group has a greater

tendency to take to the south than has the northern group. Of the birds recovered in Argyllshire in Scotland (i.e. which have flown north of Ireland), only 2% are from the southern group (1 out of 49), but 8% (12 out of 143) are from the northern group. Conversely, if one looks at recoveries on the west coast of Ireland south of the landfall area in the Northwest (Donegal-Mayo), i.e. Counties Glaway, Clare and Kerry, only 2% of the recoveries from the northern group (3 out of 131) occurred there, but no less than 29% of the southern group (14 out of 48). On the migration across the Atlantic the northern group therefore takes on average a slightly more northerly course. In this connection it is interesting that the flocks of geese which stray on migration to the southwest coast of Iceland practically all come from the northern group. All 8 fall recoveries are from there, as are 8 of the 9 spring recoveries (Svartenhuk, Sarqaq, Atâ), along with only one from Ikamiut.

Whitefronts are shot in Ireland mainly in the months November-February, and the hunting must be astonishingly uniform in these four months since the total of recoveries in each month is almost identical, namely around 40 (November: 39; December: 39; January: 43; February: 43). Otherwise there are 6 from October, 3 from March, 1 from April and 1 from 1 May, along with 4 for which there is no information about the date.

A lesser proportion of Whitefronts do not winter in Ireland but are found, either on migration or in the winter months, in other countries, mainly Scotland. The 13 recoveries from Argyllshire have already been referred to. There are also recoveries from the Isle of Skye, Moray Firth, Caithness, Kirkwall (Orkney Islands), Angus and Kircudbrightshire. There are a few recoveries from England, namely from Wales, Somerset, Westmoreland and Gloucestershire. Apart from these there is a bird from Atâ recovered on 7 November in Rogaland, west Norway.

Finally there are three recoveries from the east coast of Canada, which shows that Whitefronts may occasionally take a completely different migration route. A young bird from Christianshåb was recovered from Metis Beach, St. Lawrence River, 12 October, a 1-year-old bird from Sarqaq was reported from the Magdalen Islands, Quebec, ca. 1 October, and a young bird from Sarqaq was reported from the Bay of Chaleur, New Brunswick, 22 October. All three, therefore, were shot on fall migration. Besides these there are only two Scottish recoveries from fall migration; all other recoveries outside Ireland are purely winter occurrences. In all there are 27 recoveries outside Ireland. Among these there is an interesting example of tradition, characteristic of goose migration routes. A flock of geese banded at Sarqaq in 1950 flew to Argyllshire, where three young birds were shot the following winter. The flock adopted these winter quarters again the next year, because there was again a recovery of a gosling banded in Sarqaq in 1950, by then however a 1-year-old.

The return from Ireland takes place from the end of April to the middle of May. The northern group also occurs in Iceland on spring migration, but is concentrated in a rather more northerly part of the southwest coast, namely in the Faxafjörður area, with recoveries from Borgarnes (1), Mýrasýsla (4), Hvítá (1) and Bargarfjardarsýsla (2). The birds were found here 3-27 May, though one comes from April. Otherwise there is a single recovery which occurred quite separately from the others and from a very easterly area, namely Vestur-Skaftafellsýsla 20 May. This is the bird referred to earlier from the southern group (from Ikamiut), and which obviously took a completely wrong migratory direction.

The last part of the migration either passes over Angmagssalik and on over the inland ice, or round Kap Farvel and up along the West

Greenland coast to the north. There are no recoveries for this part of the migration, apart from a bird from Svartenhuk shot at Akunãq, Egedesminde District, 7 May, and a bird from Christianshåb at Aulatsivik, Egedesminde District, 13 May, but these two migration routes do not tell us much about the migration routes which they had chosen. One would think it likely that the northern group as a rule migrates over Iceland -Angmagssalik and the southern group along the West Coast, but there is no certain proof of this supposition. Small flocks or single Whitefronts occur fairly commonly at Angmagssalik in the spring, recorded from 3 May - 4 June, and are likewise regularly found along the West Coast at this season, reported from 27 April to 30 May, usually in the first half of May. They are reported all the way up from Kap Farvel to Umanak District, and unlike the fall migration often move out to the coast itself, probably because the inland lakes are still frozen.

Greenlanders only hunt Whitefronts in modest proportions. According to banding, only 7% are shot in Greenland itself, against ca.16% outside the borders of the country. Those shot in Greenland are virtually all taken only on the breeding grounds, because migration proceeds so quickly and without stopping, so that it is extraordinarily difficult to shoot them during migration itself. By far the most hunting (or capture) takes place in the month of July. Of 90 recoveries on the breeding grounds from 17 May to 29 September, 20% occurred in May, 11% in June, 55% in July, 9% in August and 5% in September.

As is well known, geese almost always return to the area where they were born, and so only a small amount of mixing between the different populations takes place. This point is also clearly made from the banding of Greenland Whitefronts. Of the 90 summer recoveries mentioned above, 76 occurred in the area in which banding had taken place in one of the preceding years, while only 14 cases suggested movement to new breeding

grounds. Of these fourteen recoveries two are from the middle of May (respectively, from 12 May and 18 May), and it cannot be ruled out that the birds in question might still have been on migration. The remaining 12 recoveries are from 22 May to 4 August. The displacement is usually short: from Sarqaq to Qeqertaq, Ritenbenk, Rodebay and Jakobshavn, from Christianshåb to Jakobshavn, and from Ikermiut to Sarqardlit in Egedesminde District. However four birds had moved rather farther, one from Prøvens Laksefjord to Qaersut in southern Umanak District, one from Svartenhuk to Sarqaq, and two from Sarqaq to Niaqornârssuk in Egedesminde Syddistrikt. A couple of these cases are also interesting in that they are instances of a shifting from the breeding grounds of the northern group into the southern (Sarqaq-Niaqornârssuk) and vice versa ((Christianshåb-Jakobshavn)..

Of the 12 cases mentioned above of displacement, one is of a bird of unknown age. No less than 8 of the remaining 11 (73%) are 2-year-old birds; the remaining three are respectively 3, 4 and 4 years old. This age division shows that the 1-year-old birds remain in the older birds' breeding area, while a portion of the 2-year-olds wander quite widely, because they no longer feel attached to the family. These 2-year-old wanderers can certainly not be mature, and there is little doubt that when they reach 3 or perhaps 4 years of age and begin to breed, they come back to where they were born. If the wandering birds were mature breeding birds, the majority would not be 2-year-olds - but the statistics show quite a different division by age classes. However it is possible that the few 3- and 4-year-olds recovered in the breeding season in other areas could have been breeding birds. Whether or not this is so, the figures show that mixing of the populations is very slight, and this explains the consistency with which the entire population follows their traditional migration routes. It follows that 'abmigration' (see Mallard for this

term) plays no role in the Whitefronted Goose.

Since many of the banded Whitefronts have no information on the age at the time of banding, or they are banded as birds of unknown age, no analysis of age groups can be carried out. However it is clear that hunting mostly takes the 1- and 2-year-old birds, which are the most inexperienced and so the easiest to hunt. However many older birds are taken, of which a large proportion are 7-9 years old, some also up to 11 years old, rather few 12 years old, and a single bird, banded as an adult, was recovered 16 years later and so must have been at least 18 years old.

Whitefronts are not protected in Greenland but and mentioned above they are only hunted to a small degree on the breeding grounds and are in no way endangered. Hunting in the winter quarters is much more severe, but that represents no danger to the population either. It is rather more critical that the Irish Ministry of Agriculture has no given permission to ditch and drain 'The Slobs' in Wexford and reclaim the area for agricultural uses. As mentioned, about half of the West Greenland population of Whitefronts winters in that area, the majority of the birds belonging to the northern group of breeding birds. These will now become homeless in winter. These plans have awoken a considerable stir in conservation circles throughout Europe and protests have not been lacking both from inside and outside the country, nor on the part of the Danish conservation authorities, who wish to ensure the Greenland Whitefront's continued survival. These appeals have so far had a favourable reception, insofar as they have resulted in <sup>our?</sup> [visse] plan for maintaining a reserve in its natural state in a smaller part of 'The Slobs'. However the plans have met with resistance, and at the present it looks as though they may be abandoned, although no final decision has been made. The Greenland Assembly has protested too, and in view of the Irish Government's silence is proposing a reduction of the hunting season in Greenland, to provide a contribution to the population's continued survival.

This conservation proposal will be put before the Assembly in the course of this year (1967).

The Greenland Whitefront belongs to a distinct geographical subspecies (flavirostris), which is distinguished from all other populations by having a yellow, not pink bill. Moreover it differs from the Asiatic subspecies, which often winters in Europe, by having a darker brown plumage, stronger black barring on the underparts, and by being a little larger.

The Whitefronted Goose is distributed in the arctic zone, especially in the higharctic part, breeding from northeastern Russia through arctic Siberia to the Pacific and farther east through arctic Alaska and Canada to West Greenland. The subspecies flavirostris is indigenous to West Greenland and is the only subspecies which is exclusively lowarctic. Whitefronts are migratory birds, principally wintering in the temperate zone.

Pink-footed Goose Kortnaebbet Gås Nerdleq Anser fabalis brachyrhynchus  
Baillon

The Pink-footed Goose breeds in the middle part of East Greenland, from Scoresby Sund north to Hochstetter Forland, and also from Mikis Fjord south to the Blossville Coast, isolated from the species' main distribution. It appears generally to occur rather scattered as a breeding bird, and the population hardly totals more than a few thousand nesting pairs.

The arrival at the breeding grounds takes place in the last half of May, usually around 23-24 May, and laying begins only a few days later. The nest is situated as a rule on islands in river deltas, but also on shelves on steep cliffs or by itself on open heathland. Colonial nesting is common, but the colonies seldom total more than 30-40 pairs. The eggs are dull white and the clutch consists as a rule of 3-5 eggs. After the young hatch at the beginning of June, the family moves to grassy lakeshores, and early in August the old birds moult their flight feathers. Fall migration occurs late in August or in the first few days of September.