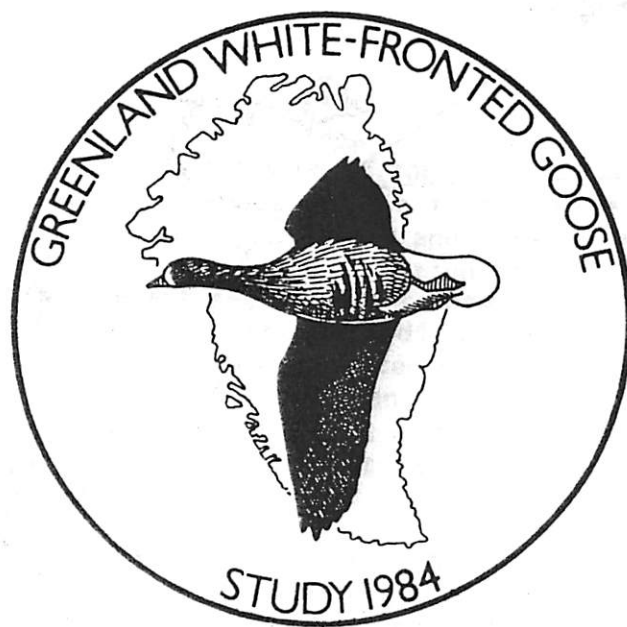


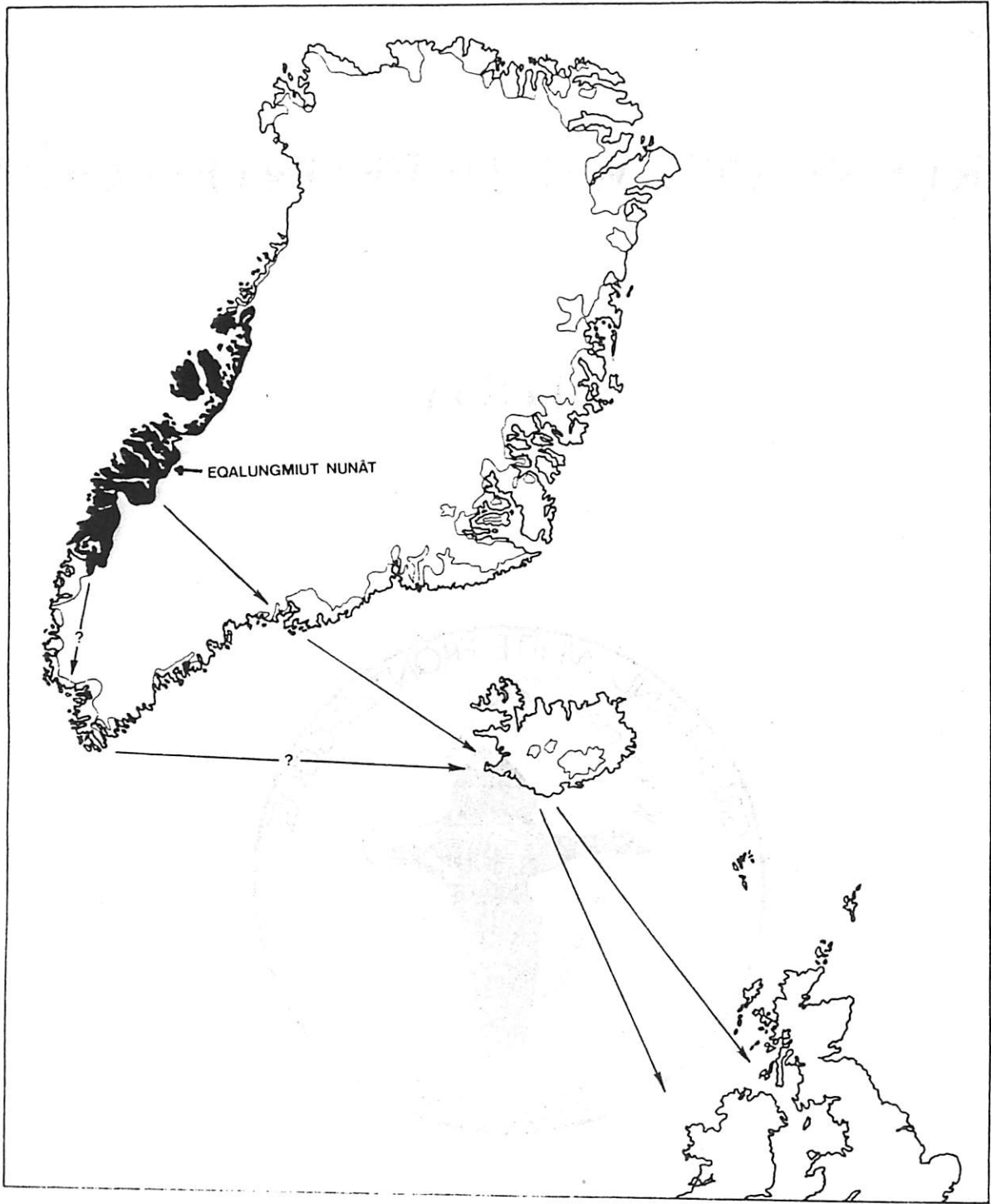
# GREENLAND WHITE-FRONTED GOOSE

## STUDY

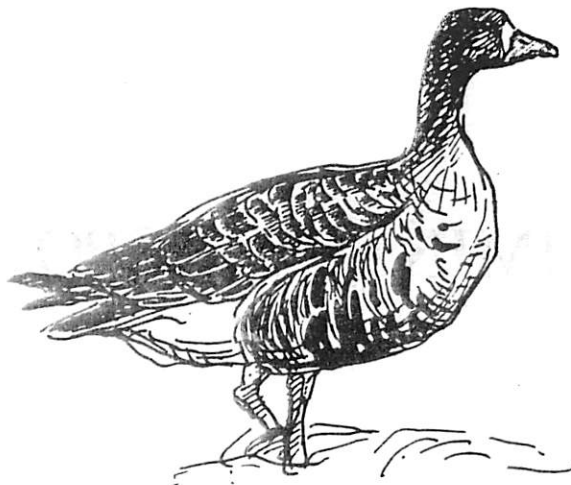


1984 EXPEDITION

PRELIMINARY REPORT



The world distribution of the Greenland White-fronted Goose (*Anser albifrons flavirostris*). Shaded area in west Greenland indicates the breeding range, whilst the arrows indicate the autumn migration route through south-west Iceland. The population winters exclusively in Ireland, west and north Scotland and Wales, although there are regular sightings from the eastern seaboard of America.



1984 EXPEDITION TO EQALUNGMIUT NUNAAT, WEST GREENLAND

26 April - 11 September

PRELIMINARY REPORT

**MEMBERS**

Johnny D.S. Birks  
Jane Claricoates  
Peter F. Coveney  
Phil C.S. Davies  
Tony D. Fox (Leader)  
Ian S. Francis  
Melanie J. Heath  
Jimmy P. McCarthy  
Clive R. McKay  
Jerry W. Moore  
Nicola Penford  
Peter Reynolds  
Steve C. Ridgill  
David A. Stroud  
Judy M. Stroud  
Colin E. Wells

**PATRONS**

Sir Peter Scott, CBE, DSc, LL.D.  
Major R.F. Ruttledge, MC, DSc.

**SPONSORS**

The Wildfowl Trust  
The British Association for  
Shooting and Conservation

**INTRODUCTION**

The Greenland White-fronted Goose breeds in the interior regions of west Greenland and winters in Ireland, Scotland and Wales. These geese are amongst the rarest in the world with a total population of some 16,000, half of which winter in Scotland. In recent years, numbers have declined drastically due to reclamation and disturbance of their traditional winter peatland habitat. Although now protected in Scotland, the temporary ban on shooting in Ireland looks as though it will soon be lifted, and they are still legitimate quarry species in Greenland, Iceland and Wales. The population characteristically produces few young in any year, and it is estimated that only 724 pairs successfully bred in 1983.

It is against this background of decline that the Greenland White-fronted Goose Study was established in 1978 to study and co-ordinate research on this goose. The Study mounted a four month expedition to Greenland in summer 1979 to study the little known summer ecology of the geese. As part of this work, a total of 96 geese were individually ringed with coded plastic 'Darvic' leg rings to enable identification of the geese on the wintering grounds. In addition to expeditions to the wintering areas to search for these ringed geese, the Study has organised a detailed investigation of the winter feeding ecology of the geese on Islay in the Inner Hebrides as well as mounting annual census counts of all currently known wintering sites in Britain. This work is co-ordinated with similar surveys in Ireland organised by the Department of Forestry and Fisheries in Dublin.

The 1979 project gave a great deal of information about the habits of the geese in Greenland, but failed to adequately investigate the underlying cause of the poor breeding success of the geese. The considerable insight gained from the 1979 expedition gave several important avenues of research which were pursued in the summer of 1984 on a return expedition to the same area of west Greenland. This brief report has been produced to announce the successful conclusion of the Greenland expedition and as an expression of gratitude to the vast number of people and organisations which made the project possible. While no attempt has been made to summarise the scientific results of the

expedition, this report presents some of the themes to be discussed more fully in the main report of the expedition which will be produced in due course.

#### SUMMER IN GREENLAND 1984

Greenland White-fronted Geese leave their wintering areas in the British Isles in late April and fly 2,500 miles back to their breeding grounds. They stop in Iceland en route before crossing the ice-cap to their nesting areas between 64 N and 73 N on the west coast of Greenland.

With considerable local knowledge from 1979, the group planned to return to the same study area (Eqalungmiut Nunaat, at 67 30'N) and duly arrived by chartered helicopter on 2 May to find complete snow cover. This was a considerable contrast to the less than 20% snow cover experienced at the same time five years earlier, but hardly surprising, following as it did on the heels of one of the worst winters on record in west Greenland. The first geese were heard on 6 May (a day earlier than in 1979) and on 8 May, six skeins totalling 150 birds flew over strongly northwards.

Many projects linked to the arrival and feeding behaviour of breeding pairs had been planned, based on experience from 1979, but with total snow cover, no running water and certainly no available feeding areas, we had to restructure our work. In 1979, geese arrived in early May in lowland zones, nested at mid-altitude marshes and moved to the plateau lakes where the feeding was the last to thaw. This season, the early part of the year saw all areas frozen and the thaw, when it came, was not progressive from the lowlands to the tops, but rather more instantaneous at all altitudes. Geese were thus able to move up onto the plateau immediately and nested at much higher altitudes and in different habitats compared with 1979.

With no feeding available, geese were not seen in any large numbers between 10th and 20th May and apart from the flight northwards earlier, we have no information as to their movements or behaviour during this time. By 22 May however, large aggregations were building in the slowly thawing lowland marshes and detailed investigations of the time spent feeding and their diet were made. Amongst the 180 geese we observed during this period were a pair captured the previous winter and ringed with distinctive orange neck-bands at Wexford, Ireland by the Forestry and Wildlife Service. The news that one of these birds was later shot elsewhere in Greenland shows that at least part of this aggregation did not summer in the immediate area, but rather used Eqalungmiut Nunaat as a staging point before moving further north. It is thought that during this important pre-nesting phase, the breeding females are able to feed up whilst being protected by their attendant ganders. Thus their condition is influenced by the feeding available in the early season, later affecting breeding success. At this stage the frozen ground and poor conditions made us fear that the late spring would adversely affect the success of the breeding birds in the area.

The first nest was discovered on 6 June, considerably later than 1979 (18 May) and in total seven nests were found. Egg predation by Arctic Foxes was again high and these animals were present in much greater numbers than during 1979. It may be that the recent decline of the Caribou population in the area, which has resulted in the availability of large quantities of carrion has helped a larger number of foxes to survive the recent severe winters than usual. As in 1979, we mounted a continuous watch on the first nest to log the behaviour of the goose and gander throughout incubation. The female incubated her six eggs for four weeks, leaving the nest only six times, each for less than 30 minutes. Her perseverance, even when a fox approached to some four metres of the nest may go some way to explain why she was one of the only two birds to successfully hatch her clutch from the seven nests followed. On 6 July all the eggs hatched and two days later she led the six goslings down through the rough vegetation to the river where the gander had spent a more leisurely four

weeks, several hundred metres from the nest.

We knew nothing more of the family until nearly a month later when they were found on a small lake, 500m up a nearby massif. This was a feature noted in 1979 - it seems that all families are led steeply up-hill onto the plateau tops to feed on the lush vegetation newly released by thaw.

As in 1979, we capitalised on the flightless moult period in July (when the geese renew their flight feathers), to catch and ring the birds. From early June, family parties and groups of non-breeders were discovered throughout the lake-studded uplands. Whilst flightless, geese take to water to avoid terrestrial predators, so we carried out a census of all the lakes in the area, finding 220-250 individuals including about 60 young. It seemed as if the breeding season had been better than we had feared.

The first catch was made on 11 July and by the end of the moult, 88 birds had been caught and marked with metal and Darvic leg rings for future identification, whilst a further three, to our delight, were birds that had been marked in 1979. Two of these had not been seen in winter during the intervening years, but the other had been recorded at Loch Lomond in Scotland in 1980 and 1981.

Unfortunately we were forced to leave Eqaqungmiut Nunaat before the geese in order to catch the last freight boat back to Europe, so their activities during the last few weeks before they leave on migration for Iceland, and ultimately the British Isles, remains a mystery. However, many non-breeders had completed moult and were flying by the time of our departure on 14 August and some small goslings would have been fully fledged and able to fly by the end of the month. We now await the coming winter with great interest for reports of our ringed geese from their wintering grounds.

#### ACKNOWLEDGEMENTS

A huge project such as this expedition could only have been made possible by the help, advice and support of large numbers of friends and supporters who kept us going when it would have been easier to give up. This document, and the work we are now undertaking to write-up, is a very inadequate way of saying "Thank you".

#### SPECIAL THANKS TO:

Knud Vaegter for extraordinary generosity (at the price of a Henry Hall album). Knud and his remarkable kindness will live long in the memories and hearts of all who met him.....

Captain Mike Cordell for permission to use the various facilities of Søndre Strømfjord Air Base, for transport, considerable logistical support and regularly digging our food out of the snow during winter 1983.....

Steen Malmquist for being Steen Malmquist, unflappable and helpful at all times.....

Jens Barndorff for his comforting voice in the ether, considerable assistance in communications and excellent hospitality together with his wife Ellen..

Neils Thingvad for København Hotel facilities, tremendous hospitality to troops of people passing through his flat with vast rucksacs and impedimenta, and general arctic nostalgia..... and the sewing machine.....

Dave Hanford for advice and assistance throughout and his enormous forbearance after the failure of the 1983 project.....

Archie White for the development of the radio telemetric egg, all the high-tech backup and the Private Eyes..... Sgt. Dribble and his pickup truck for saving the day.

Anne Fox and Lindsay Bovey for assistance and strength throughout, especially

for hosting meetings which turned into whole weeks of visitors. Flying Officer Jerry Knights for organising the storage of all our freight with the USAF in Søndre Strømfjord during 1983 and to Andrew Agnew for letting his two itinerant students loose upon the arctic again, and for his continued support and advice to the project.

#### INSURANCE

Nigel Windser (RGS, EAC) for advice on insurance and to David Wilson for eventually arranging insurance through Hosken Insurance Brokers on our behalf, completely free of charge.

#### LOANED INSTRUMENTATION

Brigadier G.A. Hardy (RGS) and J.A. Taylor (Geography Department, UCW) for loan of Met and other equipment. John Harradine (BASC) for loan of telescope and camera. Nigel Dunstone (Durham University) for loan of radio-tracking equipment. Birkbeck College for the loan of various items. Islay Natural History Trust for loan of tubes and collecting equipment. Opticron for loan of an high quality Optolyth telescope. Bent Fredskild (GBU) for loan of plant press papers and advice on plant collecting. John Bratton for loan of a McArthur microscope. Gwyn Lloyd of MAFF/ Welsh Office, Llandrindod Wells for loan of fox-snares. Kaj Kampp, Dr N.O. Preuss and the Zoological Museum, Copenhagen for vast numbers of rings. Lt.Col.C.N. Clayden, MOD Conservation, and Lt.Col.A.J. Muston loaned high-quality tentage. Huw Griffith of Gryphon, Aberystwyth designed, built and donated a superb hide for use on the expedition. Tony Hutson (BM(NH)) for advice and loan of entomological collecting equipment. Royal Holloway College Climbing Club for climbing equipment; City of London Polytechnic for scientific equipment.

#### RADIO COMMUNICATIONS

RACAL-TACTICOM Ltd. for the loan of invaluable high quality radio equipment, Mike Hoyle (RACAL) for arranging radio frequency permission with the GTO, and Mr E. J. Peett, Peter Hartwell and Grahame Boast (RACAL) for much help, organisation and supply of the equipment. Mr E. Gade-Jorgensen (GTO) arranged permission for radio use in Greenland.

We are especially grateful to Dr Stig Bak Jensen (GGU) for arranging for GGU parties operating in west Greenland to listen for us, and especially Ole Olesen (GGU Tasersiaq) and Roger Roger (GGU Qamanarssiaq) for talking with us - even though they did not have any Test Match scores! Thanks too, to Mr Kristiansen (Danish Civil Aviation Authority) for organising our radio schedules to be listened to by a rota of 15 radio operatives - to whom our sincere thanks go for being our safety link to the outside world.

#### DIPLOMATIC PERMISSION

Gregers E. Andersen, his staff at the Scientific Commission for Research in Greenland and the Ministry for Greenland, Copenhagen granted permission and made access so simple. Also thanks, under trying circumstances to Else Ochu, Vice-consul of the Danish Embassy in London for issuing the necessary visas, with minutes to spare before a major revision of travel plans would have been required.

#### SUPPORT

Professor Mike Hall and Dr A.D.Q. Agnew for permission to operate from the School of Biological Sciences, UCW and the generous use of facilities. Robin Bovey for steering the 1983 craft and for his enormous help and encouragement with the 1984 project.

John Nelson at Aberdata for the use of their Sirius Microprocesser in April 1983. Adrian Fowles, equipment officer 1983 for enormous amounts of assistance in both years - we wish you could have come.....

Alison Higgs for the monumental task of planning, ordering and overseeing packaging of food for the entire expedition; no one could have reasonably complained about either quality or quantity !  
Chris Thomas for running the 1983 Adopt-a-Goose Scheme so efficiently. Fay Ridgill for accommodation at untoward times.  
Coral Davies, Chris Thomas, Mick Green, Alison and Will Higgs, Tony Cross, Andrew Agnew and his Borth Cubs troupe and all the Bovey family for helping to pack food; and especially to Lindsay Bovey for the intrusion and endless cups of tea. Mr. N. Warnes for telex communications with USAF.  
John Davies (SOC) for his enormous assistance in fund-raising. Marjorie Lewis (ICSS) for prompt and friendly printing services. Richard Coomber for Adopt-a-Goose assistance. C. Meade & BTO for registering Darvic scheme.  
Kieran Knox, Cathy and Andy and John Marsh of the RAF west Greenland expedition for liaison. Micheal O'Brien and Terence O'Carrell of the Irish Brent Goose Expedition for liaison and being such good company. Mrs. S. McCarthy for celebration cake.  
UCW, Aberystwyth, Jane Dawson and Dr. & Mrs R.A. Stroud for assistance with telephones. Lawrence Jones for help and advice with assessing solar battery recharging panels. Jim Taylor for allowing ISF time to participate on the expedition, and NCC and E.M. Matthew for granting PR special leave.  
Tony Jones, Henry Lamb, Lindsay Collin & Neil Chisholm (Geography Dept. UCW) for help and advice with various projects. International Centre for Conservation Education, Guiting Power, for support and printing facilities. Paul Leonard for the 1984 logo, and David Griffiths and Anthea Cull (Geography Dept.) for printing at incredibly short notice. Carol Parry in the Geography Department for taking innumerable phone calls.  
We are indebted to Pall Hersteinsson, Pat Doncaster, David MacDonald and Annie Seddon for much help and advice throughout the planning of the Arctic Fox project. Thanks too to Mrs Theodora Rudge (Red Cross) for First Aid course.  
Dr Juel-Jensen, Radcliffe Infirmary, Oxford for advice on rabies immunisation and for administering injections; Ken Bruce (Kirkcudbrightshire Police) for loan of fox handling gloves, and for arranging the release of JDSB on generous bail terms. Durham University Science Workshop for modifications to fox snares.  
Tri-Wall for their excellent boxes; D. Hopkin for "Easi-Grip" cord fasteners and to Mountain Equipment for discount we were unable to take up. Dr G.B. White, London School of Tropical Medicine for advice on mosquito repellent.

#### 1983 EXPEDITION MEMBERS

There was quite a flux of members after the postponement of the project in 1983 and we are indebted to those 1983 members who were not, in the finish, able to accompany us to Greenland. Their misfortune was as much ours:  
Dave Hanford, Chris Thomas, Adie Fowles, Mick Green, Robin Bovey, Tony Cross, & Alan Clements.

#### FINANCE

Thanks go to everyone who helped with the 1982 Raffle, especially Robin Bovey for the organisation of the event. Most importantly, we gratefully thank all the donors of prizes, namely: Long John International Ltd., The Highland Distilleries Ltd., Morrisons' Bowmore Distilleries Ltd., The Invergordon Distillers Ltd, Sir Peter Scott, Franklin Coombs, Martin Withers, Islay Woollen Mill.

Thanks to all our helpers and sponsors of the 1983 Sponsored Birdwatch in 1983, with particular thanks to Mark Cole, Anna Culwick, Rosie Quick, Thomas Penny, Richard Newall-Price for their endeavours.

Thanks to Brigadier SEM Goodall, the Wildfowl Trust, for processing grant awards on our behalf.

For substantial financial support we are grateful to those listed in the

financial section as well as the following:

The Islay Museums Trust; World Wildlife Fund (UK); Thorpe Womens Club; Gwent Ornithological Society; Bernd Mlody; Nature Conservancy Council; Alison Wilkinson; North Wales Naturalists Trust; John MacKendrick; M.S. Verrall; J. Plummer; Miss J. Bracey; Peter Hope Jones; L.C. Farmer; Colin Campbell; Cathy Blundell; J.G. Hughes; Bill Seger; Rosie Quick; Wendy Rotarides; Lyn & Gaye Callard; W.R. Outhwaite & Sons; John Gee; C.G. Booth; and finally to Bruno Schroder for advice on fund raising.

Thanks especially to all adopters of geese.

The Royal Society gave a £1000 grant and an interest-free £1000 loan in support of the cost of the 1979 expedition report.

#### TRAVEL

Leslie Roylance of Luxitours, Aberystwyth. John Wootton of J.W. Travel, Aberystwyth. Audur Jacobsen, Clive Stacey and Karen of Sonicworld Travel UK Ltd. Grahame Hutton and the early morning boys at SAS, Heathrow and Steve at SAS, Heathrow Bookings. Commander Angus Erskine for advice on travel arrangements

Group Capt. Heal, Sqdr Ldr O'Toole, Flt. Lt. Dave Hourston and Cpl. Brian Liggett at Whitehall for RAF support and liaison.

Capt. Beresford and all the crew of Hercules 202 (ASCOT 5939) of 24 Sqn for delivering all our food and equipment safely to Søndre Strømfjord and for a staggering tour around the arctic.

Flt Lt. Field, Flt. Lt. Griffin, S/L Brownless, FS Iddon, Sgt Morriss, Cpl McKenzie, Cpl Borley, Cpl Bissell, C/T Danner, C/T Toogood, all of ASCOT 2863 VC10 of 10 Sqn for the holiday of a lifetime, and to the other flight crews involved in our transit in 1984.

David Niven, Henning Erikksen, Jacobine Petersen, Poul Lubbert and all David's girls at Grønlandsfly. The pilots and crews of OY-HAG and OY-HAF, as well as the lovely Birgitta Sundquist for services rendered. Pall Hersteinsson for much help in investigating the feasibility of 'the Iceland route'. Dr. and Mrs. R.A. Stroud for general logistical help in 1983 and 1984.

Mr Tollisen of SAS for assistance in 1983, the Danish Tourist Board for friendly help and advice.

Finally, and by no means least, to Bill Mattox's Peregrine project for the loan of their helicopter and all their friendly logistical help.

#### SØNDRE STRØMFJORD

John Hansen (Police); Peter Lind (Esso); John at Grønlandsfly Luftsfragt; Capt. Jones (USAF); Col. Stice and Col. Hamilton Kennedy for all the hospitality of USAF SøndreStrom. Erik Brun for advice and help with telecommunications; Kent Mathieson at KGH for saving the day when we thought we'd missed the boat. Hogens Bendsen and Ellen Barndorff for Meteorological data.

#### FREIGHT

Maxine Sherrington (Jardine Transport); Lt. Col.A.J. Muston (Joint Services Mountain Training Centre, Tywyn); W. Hart (SAS, Glasgow); Otto Eriksen (KGH Ålborg); Graeme Young (DFDS); Kate and Jo for the van; Sarah Lazenby and her parents for use of their van and kind hospitality, and of course the red armchair for just being there.....

#### GOODS AND SERVICES DONATED OR GIVEN AT DISCOUNT

Weetabix Ltd - Alpen; Uniroyal - Wellington boots and waders; Waverly Cameron Ltd. - Aldwych notebooks; Colmans of Norwich Ltd. - food; Percy Thrower & Murrell's of Shrewsbury - bamboo canes; Servier Laboratories Ltd, Merieux Division - Rabies vaccine; Jacksons of Picadilly - vast quantities of superb tea; W.H. Smith & Sons - stationery to excess; Field and Trek - general equipment; Jordans Ltd - Crunchy Bars - the most popular food on the expedition !!; Roche Products Ltd. - Redoxon Vitamin tablets and empty tubes;



Ingasetta Ltd - Sketostik; Survival Aids - fly repellent; Lever Bros - soap and detergent; Jansen Pharmaceuticals Ltd - Stugeron; Eric & Sue Bignal - Honey and Bar; Dr & Mrs R.A. Stroud and Mrs Sue McCarthy - Celebration cakes; Maes-y-Meysydd - Oats and Provisions; Bryant and May - matches; Sterling Health - drugs and dressings; Islay Creamery & Mr John Kissock - Islay Dunlop Cheese; Dave Hanford - First Aid Kit; Kodak Ltd - film; Booker Belmont Cash and Carry - chocolate; D.H. Dell - bulk black & white film; Netlon - netting for goose exclosures; Twinings for tea; Camera Care Systems - camera bags.

We hope we have not left any of our main supporters out, but if we have our sincere thanks (and apologies.....).

<u>INCOME</u>		<b>FINANCIAL SUMMARY</b>		<u>EXPENDITURE</u>	
Personal contributions	£6400 00	Helicopter charter		£6309 02	
NATO Eco-Sciences Panel	6202 19	Travel to Greenland & back		3509 91	
Adopt-a-Goose Scheme	1690 43	Equipment		1643 46	
Outstanding loans	802 00	Freight		1625 69	
British Ecological Society	700 00	Food		1047 20	
University College of Wales	500 00	Expenses in Greenland		903 00	
Raffle - 1983 (profit)	438 45	Insurance		850 00	
Sponsored Bird Watch (profit)	423 64	Office expenses		263 80	
Gino Watkins Memorial Fund	300 00	Census		209 88	
Gilchrist Educational Trust	300 00	Telegrams		86 28	
Ernest Kleinwort Charities	250 00	Expenses in Canada		75 42	
Wildfowl Trust	250 00	Raffle - 1984		20 00	
Royal Geographical Society	250 00	Subsidy to 1979 Report (incl.			
Scottish Ornithologists Club	250 00	Royal Society loan		2466 14	
Whitley Animal Protection Trust	250 00	<b>TOTAL EXPENDITURE</b>		<b>£19009 80</b>	
Frank Chapman Memorial Fund	239 51				
Forestry & Fisheries Department	202 92				
BASC	200 00				
Augustine Trust	200 00				
Sales	109 76				
Dave Hanford	100 00				
Vincent Wildlife Trust	100 00				
MacDonald-Buchanan Trustees	100 00				
Misc. South Wales Drug Reps.	70 00				
Radio fees	30 00				
West Midlands Bird Club	20 00				
Others less than 10	63 00				
<b>TOTAL INCOME</b>	<b>£20461 80</b>				

These figures are provisional only and most categories are liable to alteration. Independantly audited accounts will be published in the final expedition report. The following balance gives the financial position on 5 November 1984.

Income	20461 80
Expenditure	19009 80
	£1452 00

Current balance in hand	909 00
Cheques to clear	543 00
	£1452 00

Projected expenditure:	Repayment of Royal Society loan	£1000 00
	Repayment of other loans	£802 00

Projected debt: £350 00	£1802 00
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#### FURTHER INFORMATION

As mentioned previously the Greenland White-fronted Goose Study has undertaken and published studies of the geese in both summer and winter. If you are further interested in any aspect of our work, please write for more information.

A 320 page report was published by the Study detailing the results of the 1979 Greenland expedition and are now available at £5.00 (including post & packing in GB) while stocks last. Reports of the two complete winter censuses completed to date (1982/83 and 1983/84) are also available on request.

In order to defray the costs of the 1984 expedition and the related follow-up work on the wintering grounds, we are running an Adopt-a-Goose scheme. For a nominal £4.00 for one bird, or £8.00 for a flock of 20, one can 'adopt' one of the individually marked geese. As well as information about the birds in Greenland, regular reports will be produced giving sightings of the ringed birds in winter. Further information about the scheme is available on request (sae please).

Greenland White-fronted Goose Study,  
School of Biological Sciences,  
University College of Wales,  
Aberystwyth,  
Dyfed, GB.

