

REPORT OF THE  
CAITHNESS GREENLAND WHITE-FRONTED  
GOOSE, SPRING CENSUS 1985

S Laybourne, A D Fox (Eds)

and

J Bratton  
J Claricoates  
D Gilbert  
M Green  
J Hesp  
C McKay  
C Mitchell  
J Moore  
N Penford  
S Ridgill

Greenland White-fronted Goose Study, School of Biological Sciences,  
University College of Wales, Penglais, Aberystwyth, Dyfed SY23 3DA

Nature Conservancy Council  
Fraser Darling House, 9 Culduthel Road, Inverness IV2 4AG

## INTRODUCTION

The world population of Greenland White fronted Geese (Anser albifrons flavirostris) breeds in West Greenland and winters exclusively in Ireland, Scotland and two sites in Wales. Ruttledge and Ogilvie (1979) estimated 14,300 - 16,600 birds in the population in the late 1970s, a decline from 17,500 - 23,000 in the 1950s.

The first simultaneous census undertaken in November 1982 gave a British population of 7,189 (Stroud 1981), increasing to 8,188 by November 1983 (Stroud 1984), and to 9,616 in November 1984 (Stroud 1985), mainly due to improved counting techniques at the major Scottish site on Islay.

Simultaneous counts at the remaining Irish sites have been undertaken by the Forestry and Fisheries Department, Dublin, and have yet to be fully published. Numbers broadly resemble those reported by Ruttledge and Ogilvie (1979) with continuing serious declines in numbers away from the major haunt at Wexford.

A major cause for concern regarding Greenland Whitefronts is the continuing alarming loss of its traditional peatland wintering habitat, a feature Ruttledge and Ogilvie (1979) cited as the prime cause of population decline from the 1950s to the present time, particularly in Ireland. The rate of Irish bog destruction continues unabated to the present (Reynolds 1984, Ryan and Cross 1984).

In Scotland permission to commercially cut peat at the largest Greenland Whitefront roost site in Britain has been granted at Eilean na Muich on Islay (Stroud 1984). This development and a steady loss of important sites to forestry developments on Islay have severe implications for the geese at their most important winter haunt.

Knowledge of daytime feeding sites used by the geese is in many cases good, but then roost sites are poorly known. Geese increasingly are forced to utilize agricultural land, but the roost areas tend to remain in undamaged bog areas or small lochans in peatland areas which may be used to a greater or lesser extent as partial feeding areas. These roost sites are at high risk from commercial peat cutting and forestry activities.

## GREENLAND WHITE FRONTED GEESE IN CAITHNESS

White fronted geese were described as "not an uncommon species in Caithness" at the end of the last century (Harvie-Brown and Buckley 1887), but little was known of their status before the early 1960s when they were recognised as Greenland birds. Some five hundred birds were present throughout the 1970s, with a simultaneous count of 640 in 1978/79. Numbers have been less since, with a maximum of 464 in spring 1983 and a mere 358 in February 1985. Even accounting for this decline, the county total is still of international importance.

S Laybourne has identified the major feeding sites in the county, but the relative relationship between feeding flocks and their specific roost sites are inadequately understood. Recent rapid expansion of commercial afforestation of the Caithness peatland flows and continued commercial peat cutting has put the extensive areas of the northern peatland under enormous threat. It has thus become imperative to identify those peatland roost sites of significant importance to Greenland whitefronts.

Sites utilised by geese fall into several geographically discrete areas, although interchange between these groups is poorly understood.

1. Westfield area

This group is apparently the most discrete sub-population, utilizing agricultural land south-west of Thurso, with consistently similar numbers and the consistent appearance of darvic-ringed birds. The flock feeds at sites such as Assery (39/0662), Lythmore (39/0565), Knockglass (39/0463), Stemster (39/0365), Bardnaheigh (39/0365) and Hallam (39/0367). This flock roosts consistently at Broubster Leans (39/0360) or when disturbed may roost on the northern end of Loch Calder (39/0661).

2. Loch Heilen

This north-eastern flock utilises several feeding areas, both in the vicinity of the loch (39/2568) and adjacent areas including Schoolary (39/2968) and Syster (39/2769). Loch of Mey (39/2773) is frequently used as a feeding site and is undoubtedly an alternative roost when birds are feeding in the vicinity. Adjacent feeding areas include Rattar (39/2673), Charleston (39/2671) and Wester by St John's Loch (39/2272). Birds stubble feeding in the nearby Lyth Valley on Blackpark Farm (39/2864) were probably also from this group.

3. Loch Scarmclate

In the centre of the county, the main feeding sites are pasture and some arable fields around the loch (39/1959), as well as adjacent fields to the north-west end of Loch Watten (39/2157) and in the wet reseeded areas between the two lochs south of Gillock (39/2059). Birds feeding at Lochquoy (39/2064), Hoy (39/2062) and Camster (39/2061) have been watched flying to Loch Heilen in the past to roost, but the Scarmclate birds are known to feed by Camster farm (39/2161) from recent counts. Outliers of this group include Knockglass (39/1753) and Houstry (39/2154) where birds feed on rough pasture and have been seen departing after roosting on Loch Toftinghall (39/1952).

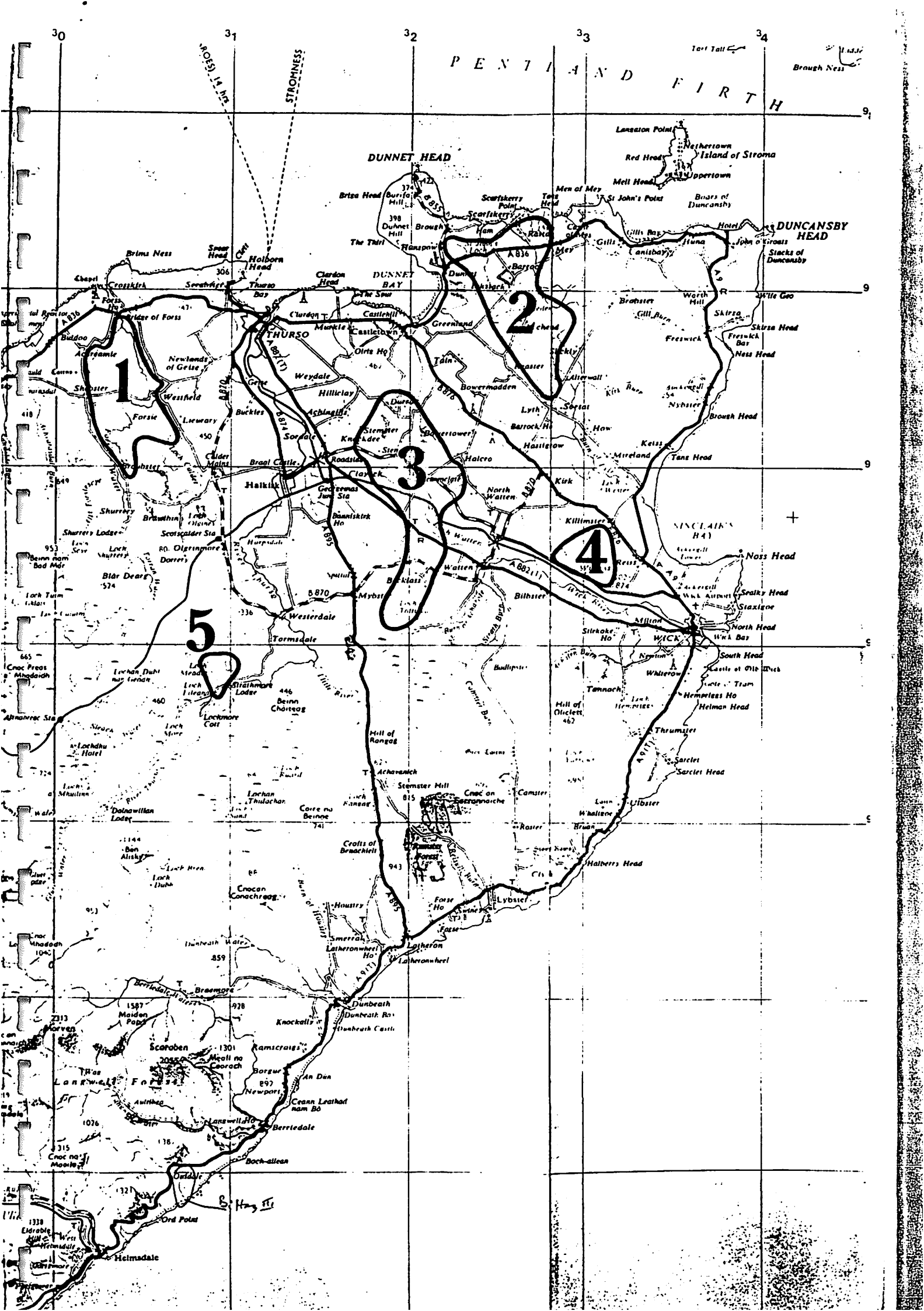
4. Loch of Killiminster

This was a very poorly known group north-west of Wick, feeding at Loch of Winless (39/2954) and adjacent pasture, Westerloch (39/3258) and Loch of Wester (39/3159). Until the present survey, these birds were thought to emanate from the Loch Heilen group.

5. Loch Meadie

A roost is known at Loch Meadie (39/0948) and adjacent lochs on the peatland areas south-west of Strathmore and Stan Laybourne has regularly watched birds flying from here to Loch Heilen in past years. The huge peatland area around this area clearly offers considerable tracts of suitable feeding and needs further survey.

Choice of feeding areas are clearly affected by season, with stubble feeding important early in the season. Attractiveness of stubble depends on quality of the crop and the nature of the harvest, with some areas such as Blackpark



PENTLAND FIRTH

DUNNET HEAD

DUNCANSBY HEAD

THURSO

DUNNET BAY

SINCLAIR'S H4

WICK

1

2

3

4

5

ROSES LAKE

STROHNESS

Tort Tull

Brugh Ness

Lesser Point  
Netherstown  
Island of Stromo  
Red Head  
Melt Head  
Upper town  
Men of Mey  
St John's Point  
Beans of Duncansby

Brisa Head  
Dunnet Hill  
The Thirl  
Dunnet  
Scarfberry Point  
Tort Head  
Ham  
Rake  
Carn  
Mer  
Gills  
Lanibay  
Hotel  
John o' Kiroas  
Stacks of Duncansby

Brims Ness  
Spar Head  
Holborn Head  
Clarton Head  
The Swa  
Greenland  
Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Clarton Head  
The Swa  
Greenland  
Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

Westfield  
Lewary  
Buckles  
Cider Mill  
Braal Castle  
Halkirk  
Geowmas  
Dunniskirk Ho

Weydale  
Hillclay  
Ashnall  
Sofale  
Halkirk  
Geowmas  
Dunniskirk Ho

Worth Hill  
Skirza  
Skirza Head  
Freswick Bar  
Ness Head  
Brough Head  
Tane Head

(39/2864) apparently only occasionally used and then exclusively by stubble feeding birds. Bog feeding may also be most prevalent early on in the season, although the inaccessibility of these areas urgently requires more information on this aspect of Greenland White front ecology in Caithness. In mid-winter, rough wet pasture, often with some standing water seems most attractive, with cleaner reseeded pasture becoming more important as the season progresses.

#### GREENLAND WHITE FRONTED GOOSE STUDY CAITHNESS SURVEY SPRING 1985

The Greenland White fronted Goose Study (GWGS) is an independent research group established in 1978 to investigate all aspects of Greenland White front ecology. The study has organised two major expeditions to west Greenland to study the summer ecology of the geese on the breeding grounds and co-ordinates annual spring and autumn census counts at all known wintering sites in Britain in conjunction with counts at Irish sites by the Forestry and Wildlife Service, Dublin.

As part of the continuing accumulation of material regarding the characterisation of all wintering areas in the British Isles, the Study is currently compiling an inventory of Greenland White front sites. With this aim in mind, it was considered important to carry out a detailed survey of the Caithness sites, about which generally less is known than in any remaining Scottish sites.

With the generous assistance of the Nature Conservancy Council, the Royal Society for the Protection of Birds, the Scottish Ornithologists' Club and the Wildfowl Trust, GWGS organised a detailed survey of the Caithness area during February and March/April of 1985. The team comprised John Bratton, Jane Claricoates, Tony Fox, Dougie Gilbert, Mick Green, John Hesp, Clive McKay, Carl Mitchell, Jerry Moore, Nicki Penford and Steve Ridgill, most ably assisted by Stan Laybourne. The team were in Caithness from 24 March to 3 April, with a reconnaissance trip by Tony Fox and Stan Laybourne 8-10 February.

#### SITE DESCRIPTIONS

The following site descriptions define areas known to Stan Laybourne as having been used for spells of a few days to several weeks at a time, although in some cases, not in every year. This formed the starting point for the spring survey, although many areas were scanned from main roads throughout Caithness and some more remote areas thought suitable for geese were actively surveyed in spite of there being no past records of goose use.

#### DARVIC-RINGED BIRDS

Of 96 geese caught and ringed in Eqaungmiut Nunaat (67°37' N, 50°23' W), West Greenland all bar one ("pegleg") were fitted with white darvic plastic leg rings bearing letter-digit-digit codes (Fox and Stroud 1981). Another 88 were similarly ringed in the same area in summer 1984 and the search for geese bearing these rings formed an important aspect of the survey.

KEY TO MAP SYMBOLS



Clean reseeded pasture.



Ploughed



Rough pasture, ie poor tussocky grassland frequently with clumps of Juncus effusus.



Arable root-crop cultivation.



Stubble



Roost

1a Knockglass 39/048635  
Bardnaheigh 39/036647  
Lythmore Strath 39/049658  
Stemster 39/038658  
Hallam 39/035674

Gently rolling farmland, cereal and permanent reseed on the slopes on deeper fertile soils with rougher pasture towards the hill tops and some peaty accumulations on the very top. This area and the fields across the Forss Water are the main wintering areas of White fronts in the Westfield area. The valley floor by Forss Water is bog and rough pasture rarely used by geese, except in spring and during severe weather in winter when they break up into small groups. Geese start on stubble, transferring to pasture, thence to spring bite on the best quality reseed and some sown barley.

#### Drainage and Agricultural Changes

Some rough grazing reclamation on the ridge slopes and some plastic pipe field drainage in the last five years or so, producing reseeded clean pasture. Rough pasture on ridge at Bardnaheigh being improved as of April 1984, and further work was being carried out on the ridge top south of Stemster in February and April 1985.

#### Disturbance

A little shooting (A35 was shot here) due to the heavy passage of greylags in this area in spring. Mr M Pöttinger (farming Bardnaheigh) was granted a licence for 1983/4 to control greylags, but in that season did not use the permission because geese were never a problem that year. Morning shooting on these areas dispersed birds away and hence geese were never shot here, merely disturbed. Similarly in the same season J B Pottinger was granted a DAFS goose licence for Baillie Farm; he again regularly disturbs geese by early morning shooting, although two greylags were shot on 11 and 23 February 1984. While these licences are granted for passage greylag geese passing through in large numbers, it is unfortunate that all these farms are frequented by White fronts which undoubtedly suffer equal disturbance at what may be a critical time of the year approaching migration. In addition, there is some RAF low flying aircraft disturbance and many farmers feed their ewes in the in-fields once a day. A road was carried up onto the ridge top at Bardnaheigh during summer 1983, and there was intensive drainage activity in the area used by the geese in the late winter/spring of both 1984 and 1985 (see above).

#### Knockglass

##### Numbers

1976/77: 05/12: c 150; 16/01: 68  
1977/78: 18/11: small groups; 15/01: 175; 20/02: 1; 04/03: some  
1978/79: 04/11: 130; 05/11: 130; 12/11: 150; 17/12: c 40 in flight;  
31/01: 17; 18/03: 207  
1979/80: 15/03: many  
1980/81: 12/10: 60-80; 12/11: 18; 21/02: c 150; 23/02: 202-208;  
01/03: 9; 14/03: 164; 15/03: c 170; 21/03: c 130;  
22/03: 150+  
1981/82: 21/03: c 120





1982/83: 24/10: 237-246 (including 34 j)  
1983/84: 18/03: 122; 12/04: 130-140  
1984/85: 21/04: 4

### Darvics

1979/80: 15/03: A16, A33, A35, A76, A78, A81 + pegleg  
1980/81: 21/02: 7 darvic rings including A36, A76, A78 + pegleg;  
23/02: A16, A27, A33, A36; 15/03: A76, A78 + pegleg and  
2 others unread; 21/03: A76, A78 + pegleg; 22/03: A16,  
A27, A33, A76, A78 + pegleg  
1982/83: 24/10: female, probably A33

### Bardnaheigh

#### Numbers

1981/82: 08/04: 62  
1983/84: 23/12: 50+; 01/04: 90; 15/04: c 162  
1984/85: 25/11: 140 (including 1, 1 and 3 j); 05/12: 150;  
10/03: 131

#### Darvics

1984/85: 25/11: 2 darvics unread; 10/03: A33, A76

### Lythmore Strath

#### Numbers

1979/80: 18/11: 150+  
1980/81: 29/03: 211+; 04/04: 109; 05/04: 135; 06/04: 220-230;  
08/04: 180; 09/04: 90-100; 10/04: c 60; 11/04: c 130;  
12/04: possible departure 10.00 hr; 17/04: 1 pricked bird  
1981/82: 19/12: 4; 08/04: 23  
1982/83: 14/10: 36; 02/11: c 30; 15/04: 7  
1983/84: 18/11: 3; 13/04: c 150  
1984/85: 09/02: 123 (2 single j)

#### Darvics

1980/81: 29/03: 4 unread + A76, A78 + pegleg; 04/04: A16, A33, A78;  
05/04: A16, A27, A36; 10/04: A16, A27  
1984/85: 09/02: 1 unread (probably A16 on belly bars)

### Stemster

#### Numbers

1979/80: 31/12: 223; 03/01: 200+; 05/01: 200+; 12/01: 200+;  
27/01: 120; 22/02: 200; 09/03: 207+  
1980/81: 14/03: 22  
1981/82: 26/12: 174-180; 28/12: 175; 29/12: 175; 02/01: 45;  
28/02: c 100  
1982/83: 07/11: "whole flock"; 13/11: 224 (29 j); 07/01: c 165 (10 j)  
1983/84: 19/11: 91  
1984/85: 07/02: 116 (4, 2, 1, 1 and 1 j)

### Darvics

1979/80: 31/12: family with 3 young carrying darvics; 20/01: A27, A33, A35; 22/02: A16, A27, A33, ?A34, A35, A76, A78, A81 + pegleg; 30/03: A27, A33, A35  
1980/81: 26/12: 1 darvic not read; 29/12: 4 darvics + A78  
1982/83: 13/11: A16, A33; 07/01: A16 (based on belly bar patterns) + 2 unread darvics  
1983/84: 19/11: 2 darvics not read but probably A16, A33 on belly bar patterns  
1984/85: 07/02: 2 darvics not read

### Hallam

#### Numbers

1978/79: 14/01: 150  
1979/80: 25/11: 64  
1981/82: 22/02: 170+; 28/02: c 160; 14/03: 179  
1983/84: 19/11: 52; 23/12: 25  
1984/85: 09/12: c 120; 29/03: 124 (1 j out of 72); 30/03: 119

#### Darvics

1981/82: 22/02: 4 darvics unread + pegleg; 28/02: A16, A27, A33, A78 + probably A36 + pegleg; 14/03: 4 darvics unread

### Westfield

#### Numbers

1975/76: 22/11: 20  
1978/79: 07/01: c 150  
1979/80: 02/12: c 150  
1980/81: 29/12: 160; 30/12: 120; 14/01: 11  
1984/85: 12/04: 94 (Shebster)

#### Darvics

1979/80: 02/12: 1 unread  
1980/81: 29/12: 6 unread; 30/12: A33, A76, A78 + pegleg and 4 others unread; 31/01: A35 shot at Shebster (027632)  
1984/85: 12/04: A33, A76

### Roost

Broubster Marsh is the general roost, but when disturbed they use Loch Calder; observed flight lines have been used over several years.

### Census

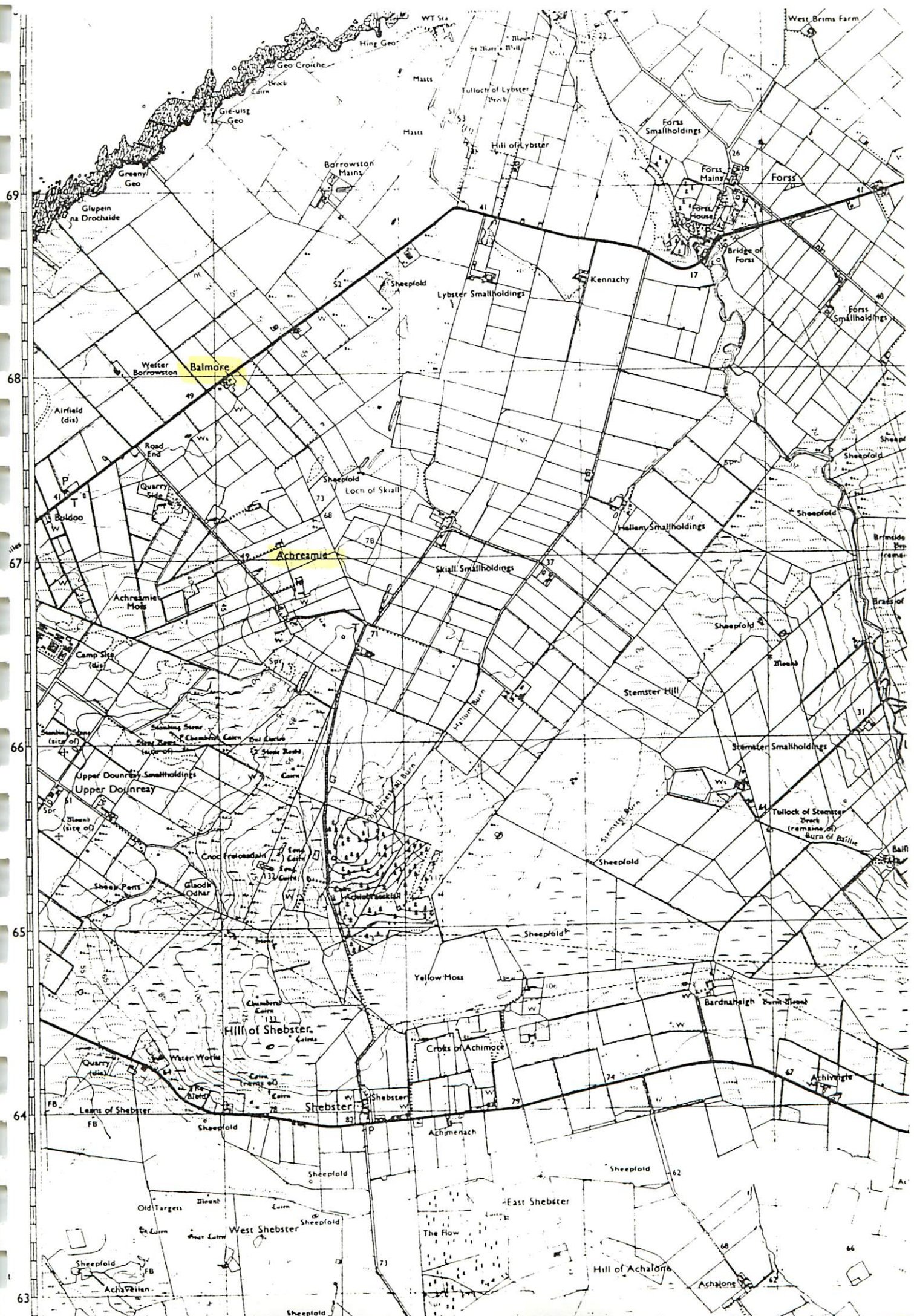
All known feeding sites in this area were searched on 29 March, including the roosting areas at Broubster Leans and Loch Calder where birds have been known to remain during the day. Part of the flock was present at Hallam at 39/038602 at mid-day, numbering 98 birds in a field adjacent to Forss Water, although these had risen to 124 (based on several good counts) by 16.00 hrs (39/039674). A count only carried out in the Lythmore Strath/Bardnaheigh area the following day produced only 119 geese, again in the Hallam area. Birds were consistently grazing reseeded pasture.

1b Balmore 39/008684

Coastal fields probably only used by geese in emergency during prolonged freeze-up conditions. This area was visited on 29 March during conditions of 100% snow cover but no birds were present in the vicinity, nor were any geese present as far west as Dounreay.

Numbers

1979: 18/02: c 120 on snow-free fields at Achreanie (ND007687)



69

68

67

66

65

64

63

Balmore

Achrairie

Hill of Shebster

Shebster

Forss Smallholdings

Forss

Lybster Smallholdings

Hallery Smallholdings

Stemster Smallholdings

Yellow Moss

Crofts of Achimoe

Achmenach

East Shebster

Hill of Achalora

Achalora

Glupen na Drochaide

Airfield (dis)

Baldoo

Camp Site (dis)

Upper Dounreay Smallholdings

Upper Dounreay

Sheep Pans

Quarry

Leats of Shebster

Sheepfold

Achalora

Borrowston Mains

Sheepfold

Sheepfold

Loch of Skiall

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Kennachy

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

West Brims Farm

Forss

Forss Smallholdings

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Tulloch of Lybster

Hill of Lybster

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Stemster Hill

Stemster Smallholdings

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Tulloch of Stemster

Brook (ramaine of)

Burn of Baillie

Ball

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Bardnaigh Burn

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Sheepfold

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

Mass

1c Assery-Achaeter 39/058620

Area of rough pasture, part of the Westfield complex. Geese roost on Loch Calder when disturbed at Broubster. This area was searched on 29 March but no geese were found despite the 26 bird discrepancy between the mid-day and afternoon counts.

Numbers

1975/76: 04/01: c 100; 15/02: 206; 14/03: 200; 03/04: c 50  
1976/77: 05/12: 7  
1977/78: 18/10: 75; 13/11: 315; 18/11: "several"; 15/01: 27;  
12/03: 192; 27/03: 150+  
1978/79: 12/11: c 10  
1979/80: 28/12: 1; 29/12: 100+  
1980/81: 12/10: 27; 08/11: 220+  
1981/82: 17/10: 170; 09/04: 109; 12/04: 110; 13/04: 75-80;  
14/04: c 70  
1982/83: 07/11: 4; 26/03: 6 (4 j); 14/04: c 130  
1983/84: 06/04: 140; 09/04: 135-140; 14/04: 120+

Darvics

1981/82: 12/04: 1 female unread  
1983/84: 06/04: 2 unread; 14/04: 2 unread



1d Broubster Leans SSSI 39/035610

Complex base rich valley mire with a range of developing wetland plant communities from open water, swamp to fen and willow carr.

Drainage and Agricultural Changes

None, area is an SSSI and is extremely wet and difficult to drain.

Disturbance

No disturbance on the roost site which is marshy and relatively inaccessible.

Numbers

1970/71: 27/10: heard over Thurso in evening; 07/11: numbers not recorded; 15/11: c 100  
1972/73: 07/01: c 70  
1974/75: 23/02: 100+  
1975/76: 22/11: c 150  
1977/78: 18/11: 7; 12/02: 10-15  
1978/79: 04/11: 240  
1979/80: 27/01: 10+; 23/02: 213+  
1980/81: 26/10: c 200; 07/12: c 200; 25/01: 2; 21/03: 6; 04/04: 55  
1982/83: 24/10: 246 (families 8, 7, 5 and 2, total 34 j); 09/01: 60+; 18/02: 10+; 26/03: 180+; 12/04: 170+; 15/04: 149; 16/04: 6 (2 j)  
1983/84: 04/04: 130  
1984/85: 31/03: c 120

Darvics

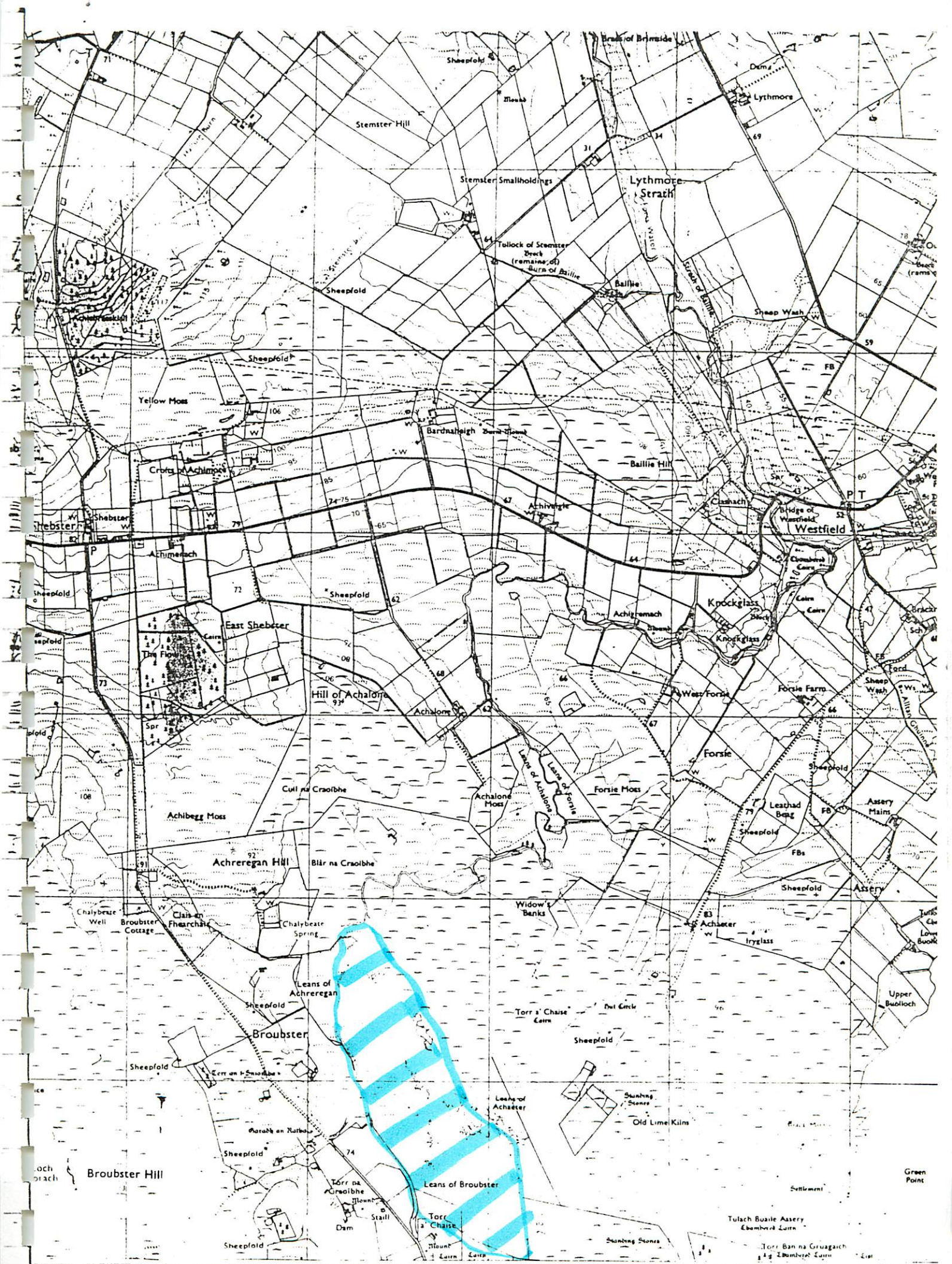
1982/83: 24/10: 1 unread

Roost

The area occasionally used as a feeding area on the bog and on peripheral agricultural land but the birds do roost on the marsh complex which forms the main roost of the Westfield flock.

Census

This site was visited during the day on 29 March and the roost flight of c 120 birds was witnessed from the daytime feeding areas north of Westfield on 31 March.



02 03 04 05 06  
 HIGHLAND REGION

1 mile = 1.6



1e Loch Calder 39/06-61-

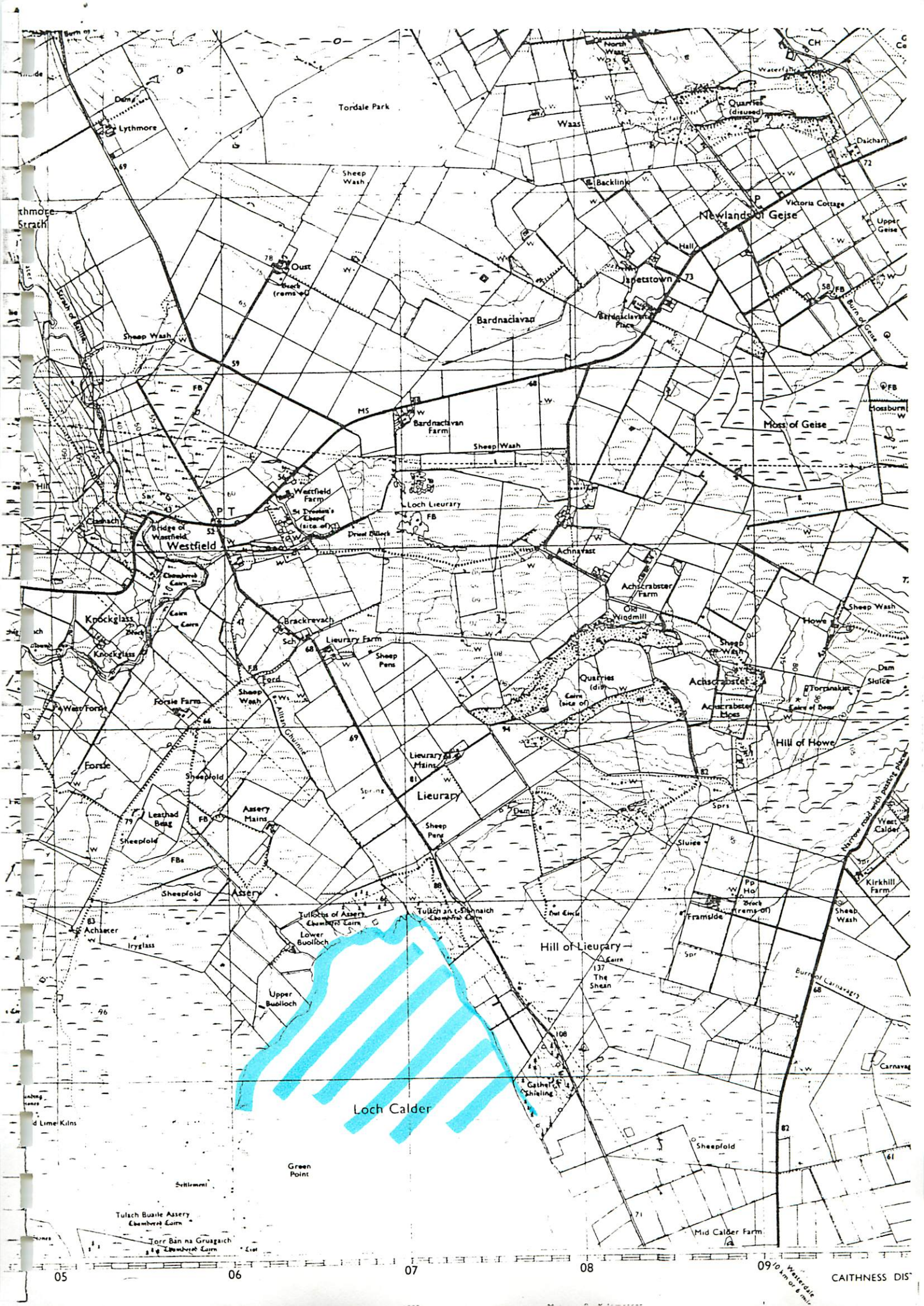
This large lowland loch fringed by rough pasture and moorland appears currently to be a safe refuge for birds disturbed from Broubster Leans, but also seems in the past to have been a frequent feeding area. In previous years, there seems to have been some interchange with the Loch Meadie group with birds seen flighting to and from the south-east.

Numbers

1970/71: 15/11: 17 flew SE; 14/03: 128; 08/04: 56  
1971/72: 17/10: 65 (14 flew in from SE); 24/10: 40 (9 flew to  
Broubster); 14/11: 24 flew in from SE; 16/01: 15;  
13/02: 38; 12/03: c 130  
1972/73: 15/10: 8; 12/11: 1; 17/12: 5; 18/02: 12  
1973/74: 18/11: 24; 16/12: 18; 20/01: 18; 17/03: 1  
1974/75: 15/12: 22  
1975/76: 13/12: 230; 18/01: 150; 15/02: 20  
1976/77: 20/03: 150  
1978/79: 14/01: 1 on ice  
1982/83: 03/11: 7 on Lieuary Hill, east of loch  
1984/85: 17/10: 6 (4 j) Achavrole, east of loch; 18/02: 2 (Skinnet  
128623, east of loch)

Census

Visited on a number of occasions, but no birds seen in this area.



Loch Calder

Lythmore  
Strath  
Hill  
Knockglass  
Forsie  
Leathad Beag  
Acher  
Lymglass  
Lime Kilns  
Settlement  
Tulach Buailte Assery  
Torr Ban na Gruagach

Tordale Park  
Sheep Wash  
Oust  
Bardnachievan  
Bardnachievan Farm  
Westfield Farm  
Loch Lieurary  
Brackvach  
Lieurary Farm  
Lieurary  
Lieurary Mains  
Hill of Lieurary  
Green Point

Newlands of Geise  
Victoria Cottage  
Japetown  
Bardnachievan Place  
Moss of Geise  
Achnavast  
Achnabster Farm  
Old Windmill  
Achnabster  
Hill of Howe  
Kirkhill Farm  
Carnavag  
Mid Calder Farm

CH  
Co  
Daichan  
Upper Geise  
Glossburn  
Sheep Wash  
Dam  
Sluice  
Tortanach  
Ears of Dam  
Sprs  
Framside  
Sheep Wash  
Burn of Larnavag  
68  
61  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99

2a Loch Heilen SSSI 39/255685

Mesotrophic loch with marginal fen set amidst links of windblown sandy pasture from Dunnet Dunes. The site is sometimes used as a roost by Greenland White fronts; peripheral pasture and stubble are used by these and Greylag geese as an important feeding site. During 8-9/2/85 there were, however, but two geese present in the area, and the loch was apparently not used as a nighttime roost site.

Drainage and Agricultural Changes

Rough grazing at the north end of the loch, drained in recent years, has probably become less attractive to geese; the base-rich but wet pasture, a much favoured patch in the past, has become much drier.

Disturbance

There seems to be a high level of shooting here. Hamish Pottinger, master at Greenland Marks, is one of four farmers in Caithness requesting licences for shooting and he does suffer disproportionately with greylags in autumn/spring. He does say that wildfowlers come from as far away as North East England for the goose shooting, but insists he keeps the shooting under strict control. As elsewhere, ewes are fed daily in this area and this as much as anything would be a regular source of disturbance, although with a large area of feeding like this, alternative sites are rarely far away so disturbance is probably slight.

Numbers

1971/72: 05/03: 68+; 12/03: 100+  
1975/76: 15/11: c 50  
1977/78: 25/02: 107  
1979/80: 23/02: c 38  
1980/81: 06/01: 140  
1981/82: 18/10: 42  
1982/83: 14/11: 5; 18/12: 160; 19/12: 1 on ice; 01/01: 151  
(including one family of 5); 02/01: 34; 04/01: 147  
1983/84: 26/12: c 120  
1984/85: 19/10: 109; 18/11: 80+; 05/02: 2 (1 j); 10/03: 102;  
25/03: c 50

Darvics

1979/80: 23/02: 1 unread; 30/03: A48 in 92 which flew to Schoolary  
1982/83: 01/01: ?A05; 04/01: 1 bird with metal ring on right leg

Roost

Thought to be the regular roost when birds are feeding in this area. Loch of Mey is probably an alternative roost.

Census

Visited daily throughout the census period, with c 50 present on 25 March only. This area, formerly a very important feeding area for Greenland

White fronts seems less attractive in recent years. It was not being used as a roost on 8 or 9 February or 26 March, suggesting the flock feeding in north-east Caithness were using Loch of Mey exclusively as a roost at this time.

HIGHLAND REGION

24

25

26

27

28

