

NORTHERN IRELAND GREENLAND WHITE-FRONTED GOOSE
MONITORING PROJECT 1994

Report by Rachel Bain and Clive Mellon

August 1994

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GREENLAND WHITE-FRONTED GOOSE MONITORING PROJECT 1994

BACKGROUND AND INTRODUCTION

The Greenland white-fronted goose *Anser albifrons flavirostris* is included in Red Data Birds in Britain, (L A Batten, C J Bibby, P Clement, G D Elliott and R F Porter), as a wintering sub-species of international importance which is localised and vulnerable due to its concentration at a small number of sites. The estimated world population of 27,000 birds breeds in Greenland and winters predominantly in western Scotland and Ireland. Up to 10,000 birds winter at the Wexford slob in south east Ireland, with 7-8,000 on Islay in the Inner Hebrides. A relatively small population, around 300 birds, are found in Northern Ireland. The Northern Ireland total represents around 1% of the world population, although this is divided between four or five main wintering sites.

The RSPB's Greenland white-fronted goose Action Plan indicates that the main threats to the species on its wintering grounds arise from habitat loss and disturbance and that the contraction of its range is a prime concern.

The Northern Ireland population seems to have decreased since the 1960's when about 500 wintered. Several traditional upland sites have been lost to drainage, peat cutting and afforestation. There are five sites in Northern Ireland now known to regularly hold birds in winter - Annaghroe (Co Tyrone), Lough Foyle (Co Londonderry), Lower Lough Macnean, Pettigoe Plateau, and Upper Lough Erne (all Co Fermanagh) - although it is possible that small distinct flocks are still to be discovered in remote upland areas.

The aim of the 1994 monitoring project was to establish the pattern and extent of usage of these sites by flocks of Greenland white-fronted geese, in order to confirm the sites' true status. In particular, information was required on the extent of the network of sites within the five main areas and whether there was any inter-relationship either between these sites or with sites in the Republic of Ireland. The work was therefore to be centered on the five Important Bird Areas (IBAs) which regularly hold goose flocks where the movements and behaviour of these flocks had not previously been systematically monitored. Annaghroe, Lower Lough Macnean and Pettigoe Plateau were identified as IBAs largely on the basis of their populations of Greenland white-fronted geese, since it was considered that maintenance of Northern Ireland's internationally important numbers would be best achieved by protection of the principal wintering sites in the Province.

In the recent document on Ireland's Internationally Important Bird Sites, the Department of the Environment (NI) has excluded these three sites from its list of candidate Special Protection Areas. It was therefore considered an urgent requirement that additional information on the importance of these areas as feeding or roosting sites for part of the larger Northern Ireland population, should be obtained.

MONITORING METHODS

Monitoring work was carried out between early January and late March, and was initially concentrated on the four main sites (Annaghroe, Lough Foyle, Lower Lough Macnean and Pettigoe Plateau) where goose flocks were known to be present. Later in the season work extended to Upper Lough Erne where a flock, which had been historically recorded, was rediscovered. A number of other sites from which historical records had been received, were also visited.

An attempt was made to visit each of the main sites a minimum of once a week. Each visit would begin by making a search for the geese at all their main feeding sites in the area where this was already known. If they were not found in these core areas then the search would be extended to other potential sites in the area or to historical sites. Once the geese were located, an accurate count was taken, and individuals aged if possible. Their behaviour and the type of habitat they were using was also recorded. All information was recorded on a goose recording form (see Figure One).

To obtain more information on the location of their roost sites, the geese were monitored at dusk, to establish the direction in which they flew from the feeding sites. Monitoring would continue until approximately an hour after dark, as geese would often be heard arriving at roost sites only after darkness had fallen. In addition, the shores of potential roosting loughs were walked to search for feathers which had been washed up.

A variation of the survey method was employed for the Pettigoe Plateau, which was the only blanket bog site to be extensively monitored. The entire area was walked, recording all the areas where there was evidence of feeding, such as uprooted *Eriophorum*, cast feathers or droppings. All loughs were checked for signs of roosting and all sightings of geese were noted. The majority of the Northern Ireland section of the plateau was covered by the end of the project, while some monitoring was also done in Co Donegal.

Where sites which had historical records were being surveyed, a search of the area was made by car. Some apparently suitable feeding or roosting areas were walked, while others were mapped for future monitoring. Local people often provided useful information on the recent or historical presence of geese.

RESULTS

Goose flocks were found to be regularly present at the four main sites referred to above. In the case of Annaghroe, Pettigoe Plateau and Lough Foyle they were found to use a number of distinct areas within each 'site', some of which had not previously been recorded. Some of these satellite sites were located in the Republic of Ireland. A flock was also confirmed as using a number of sites at Upper Lough Erne, at least later in the winter. Upper Lough Erne had for some time been considered to support a flock, but sightings had been sporadic and thought possibly to relate to passage birds. Evidence of recently roosting geese was found at one other site at Slieve Beagh, Co Tyrone, although it is unknown whether a distinct flock exists or whether birds from Annaghroe use this area.

A number of sites with historic records of Greenland white-fronts throughout Northern Ireland were visited but no evidence of usage by geese

was found. The detailed accounts of geese usage of each site are contained in the site accounts and tables below.

SITE ACCOUNTS

The following site accounts are accompanied by a set of maps and tables of records which are contained in the annex to this report.

Lower Lough Macnean

(See Maps 1-4 and Table 1). This flock appears to be very stable, and is generally located at either of two main feeding sites; semi-improved fields on Cushrush Island and the improved grass fields to the south of the island near Gortatole Outdoor Centre. The birds are also known to roost on the lough. The maximum count was 62, although the most consistent count was of 61 birds. The flock contained three neck-banded birds and one with a darvic leg ring, but no neck band. Two of the neck bands have been read: 2XX and A4X. These birds are a pair and were known to be in Islay at the end of October. The neck-banded birds remained at this site for the duration of the project. This flock proved particularly difficult to approach and only three birds were positively identified as being juveniles.

Although the geese spent the vast majority of their time in this small area, there were occasions when, they were not found, suggesting the use of an alternative site when they are disturbed. The most likely alternative site is Cuilcagh Mountain, from where there are previous records of feeding geese. Prior to the project, the geese have been observed flying from the lough towards Cuilcagh. It is thought that the Cuilcagh peatlands could also support a distinct flock, so an increased search effort is required to establish this area's relevance to the Lough Macnean flock.

ANNAGHROE

(See Maps 5-9 and Table 2). The geese at Annaghroe on the river Blackwater use three main improved grassland feeding sites: Annaghroe and the Annacramp meadows in County Tyrone and Leek across the river in the Republic of Ireland. Annaghroe was usually considered to be the principal site and was accordingly named as an IBA. During the Blackwater arterial drainage scheme, agreement was reached between RSPB, Caledon Estates and the Department of Agriculture to instal sluice gates which are closed between October and March to flood part of the site. The table for Annaghroe shows, however, that the geese were just as likely to be present at either Annacramp or Leek and occasionally could not be found at any of the three sites.

The maximum count for this area is 92 geese, although generally they would be found in smaller groups, ranging in size from about 15 to 60 birds. All feeding sites are improved open grassland. Despite extensive searching, their roost site has not yet been located, although evidence was found of geese using Lough na Heery at Slieve Beagh at some point during the season. It is possible that these were birds from Annaghroe. Other loughs in this area do warrant further monitoring. The fact that there were occasions when the birds were not found at any of the three main feeding sites, also suggests that there is another feeding site/sites yet to be found.

PETTIGOE PLATEAU

(See Maps 10-12 and Table 3). This was the only bogland site regularly monitored during the project. It is a large expanse of low altitude blanket bog, most of which lies in Donegal, which supports a dispersed and mobile population of geese, estimated to number around 150 birds.

For these reasons it is very difficult to provide an accurate estimate of the number of birds using the County Fermanagh section of this area. There is an extensive network of bog pools used for feeding, which are situated throughout the whole Plateau, both in the North and the Republic. One lough in particular, in Co Fermanagh, appears to be very important as a roost site; Meenaghmore Lough was extensively used throughout the project period for roosting, with a maximum count of 60-70 birds flying in.

It appears that the geese disperse and feed in small, family groups on the bog during the day, and in the evening return to one or more of the small loughs to roost in a larger flock. Evidence of roosting was also found at Mallybreen, Tullywanna and Breen Lough but no birds were actually observed. Extensive loss of suitable habitat through afforestation or peat cutting on both sections of the plateau may have contributed to this habit of birds feeding in small groups; there appear to be very few areas of blanket bog large enough to sustain large numbers of geese at any one time. One regular flock, at Brownhall in County Donegal, now uses improved fields at the edge of the plateau. The largest feeding flock recorded during the project was here, with a maximum count of 45 birds. Evidence of feeding birds was found at a number of locations in County Fermanagh, but no birds were actually seen.

It is considered possible that a flock at Lough Derg in County Donegal may feed in the Pettigo Plateau area, although there is no direct evidence of this. It is also unknown whether there is a particular pattern to the feeding or roosting habits of the geese on the plateau, or whether this is largely governed by presence or absence of disturbance.

It is therefore important to continue monitoring this area, both in the North and the Republic, with the cooperation of the National Parks and Wildlife Service Rangers, to establish a clearer picture of exactly how the birds use this area, and ensure that this net-work of traditional and vulnerable sites is not lost.

LOUGH FOYLE

(See Maps 13-15 and Table 4). At Lough Foyle the geese use stubble or reseeded grass fields adjacent to the lough, often feeding in association with greylag geese and whooper swans.

The main feeding area is around Myroe where the geese arrive early in the season. When shooting activity reaches a peak, they appear to leave the area and return again after the shooting season ends. In this project they were not found at Lough Foyle in January and February, but a flock of 70 geese re-appeared in early March. Within this number were two neck banded birds, which unfortunately could not be identified. However, there is strong evidence that there is substantial movement between the Foyle and the Inch Levels at Lough Swilly in Donegal, where there is a resident flock

of over 300 birds. The two neck-banded birds seen at the Foyle were for some time in a distinct group of 14 birds. A similar group, including the neck-banded birds had been present at Inch Levels earlier in the season. As yet there is no information to confirm this, but there are continuing efforts to read the neck bands on the Foyle and the Inch Levels birds.

The situation on the Inch Levels has been assisted recently by a management agreement with a large farm on the levels. The Foyle birds are likely to have moved here in mid winter, and perhaps more regularly throughout the season. This year there has been a lot of disturbance in the Foyle area from construction work on the flood defences at Myroe, which may have contributed to their disappearance from the Foyle for such a long period. It is essential to continue monitoring the area and to be able to confirm where the birds go mid season. It is also still unknown where the Lough Foyle geese go to roost. While it is thought that they roost either on the Foyle or at Inch Island, this too has to be confirmed. There are also historical records of roosting at small loughs on the Inishowen Peninsula, County Donegal, although no evidence was found during searches there.

UPPER LOUGH ERNE

(See Maps 16-19 and Table 5). Flocks of Greenland white-fronted geese have been reported from this large wetland complex in recent years, but no evidence relating to regular usage had been found, leading to speculation that the area was used as a migration route by passage birds. More extensive monitoring during this project uncovered some evidence that the lough is used as a regular site, at least in late winter.

There were six sightings of geese on the Upper Lough this season, the largest flock being of 33 birds. Although only recorded from mid-February, discussions with local people suggest that it is likely that this flock is regularly resident in the Inishcollan, Inishroosk and Bunnahola Island area. One local farmer reported that the geese were there every year using the above sites, plus Inishleague Island. This island cannot be seen easily from any point on the mainland, which could explain why the flock was not always found. Further work will be concentrated on this area next season.

Occasional records of a flock of 28 geese at Glasshouse Lake in County Cavan were received this season; it is unclear whether they are the same birds which have moved north to the Upper Lough Erne, or a distinct flock. More information is required on the Upper Lough Erne birds before this will be known. A separate, permanent flock is located at Eonish Island, Co Cavan in the Republic of Ireland.

HISTORIC AND OTHER RECORDS

(See Maps 20 and 21 and Table 6). No geese, or evidence of geese, were found during searches of historic sites which are listed in the tables below. Greenland white-fronted geese are regularly reported on passage from a number of sites in Northern Ireland, such as Strangford Lough and Lough Beg, where flocks of several hundred birds are often recorded. A record of six birds from Lough Fea in Co Tyrone in October was also thought to relate to passage birds, although the habitat does appear suitable for supporting wintering geese. No evidence of goose activity was found on a follow up search during the project.

The maximum numbers of Greenland white-fronted geese wintering in Northern Ireland can be summarised as follows:

	(max counts)
Lower Lough Macnean	62
Annaghroe	92
Pettigoe Plateau (approx)	60
Lough Foyle	70
Upper Lough Erne	33

DISCUSSION

While the fieldwork carried out during this project has clearly raised many more questions relating to the movements of the geese, a clearer picture of the usage of each of the key sites has emerged. With the possible exception of Upper Lough Erne, no entirely new populations were discovered. However, a number of important "satellite" feeding and roosting sites within the main areas were confirmed. This underlines the fact that lack of systematic monitoring has led to assumptions being made about their distribution, and that more sites are now known to be important for the winter survival of this sub-species. In the case of Annaghroe, for example, Annacramp and Leek have been shown to be just as important as the nominate site.

While no individual site within Northern Ireland can be claimed to hold internationally important numbers of geese, the Northern Ireland total is clearly of international significance. This sub-species is listed in Annex 1 of the EU Directive on the Conservation of Wild Birds and is therefore subject to "special conservation measures concerning their habitat in order to ensure their survival....in their area of distribution."

This prompted the inclusion of Greenland white-fronted goose sites in "DE Pritchard, SD Housden, GP Mudge, CA Galbraith and MW Pienkowski (Eds.). 1992 Important Bird Areas in the UK including the Channel Islands and the Isle of Man".

The JNCC/DOE NI/OPW review of Ireland's Internationally Important Bird Sites stresses the importance of providing wider countryside conservation measures to protect the habitats and prevent disturbance of these birds and other species. In the case of Greenland white-fronted geese, however, the birds display such dependence on certain key areas that specific site protection can be employed. Where a number of feeding or roosting areas are used within a 'site', all these areas should be covered by designations, thereby forming a number of clusters of protected goose sites.

The justification for protective measures increases when the international nature of our goose population is considered. Most of our goose sites are in border areas with the Republic of Ireland, and there is frequent interchange between sites on both sides of the border. There is also possible movement between sites in the north, for example Annaghroe and Slieve Beagh, although this is less clearly understood. Therefore, those birds at any one site are often only part of a much larger population using a number of sites on both sides of the border.

Since the north and west of Ireland represent part of the natural range of these geese, every effort should be made by both Governments to maintain and increase the numbers occurring here, rather than being content to rely on the Wexford population. It may be argued that some of these sites are not immediately threatened by development or land-use change. Nevertheless, protection is required as a precautionary measure to counter future changes in land management or inappropriate built development. Control of disturbance is also an important factor in managing sites for Greenland white-fronted geese. Geese have certainly disappeared from areas which formerly held concentrations, such as some of the west Tyrone bogs and the Downpatrick marshes. Any further contraction in range would increase the peripherality of the sub-species and threaten the internationally important population which Northern Ireland currently holds.

In conclusion, it is essential that Northern Ireland maintains and increases its internationally important population of Greenland white-fronted geese. This may be best achieved through consideration of the population as a whole. Thus, appropriate protection and management measures are required for all the key sites, since loss of any one would jeopardize the status of the Northern Ireland population. This would clearly involve close co-operation with the authorities in the Republic of Ireland, since most of our geese have a cross-border distribution.

Further monitoring in winter 1994/5 will focus on providing additional information on the networks and interchange of feeding and roosting areas within the five main sites. This information will be invaluable in deciding the measures which will be taken to provide the requisite protection for these birds.

ACKNOWLEDGEMENTS

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Michael Hackett	OPW
Dennis Higgins	OPW
Joe Gatins	OPW
Dave Norris	OPW
John McGhie	DANI
Ian Thompson	DANI
Dick Blakiston-Houston	Caledon Estates
Keith Stanfield	DOE NI
Hugh McCann	DOE NI
Jim Wells	
Graham McElwaine	
George Gordon	NIBA
Don Scott	
Richard Grey	
Dave Andrews	National Trust
Julie Stevenson	RSPB
Karen Maneely	RSPB
Nessie Spence	RSPB

LOWER LOUGH MACNEAN

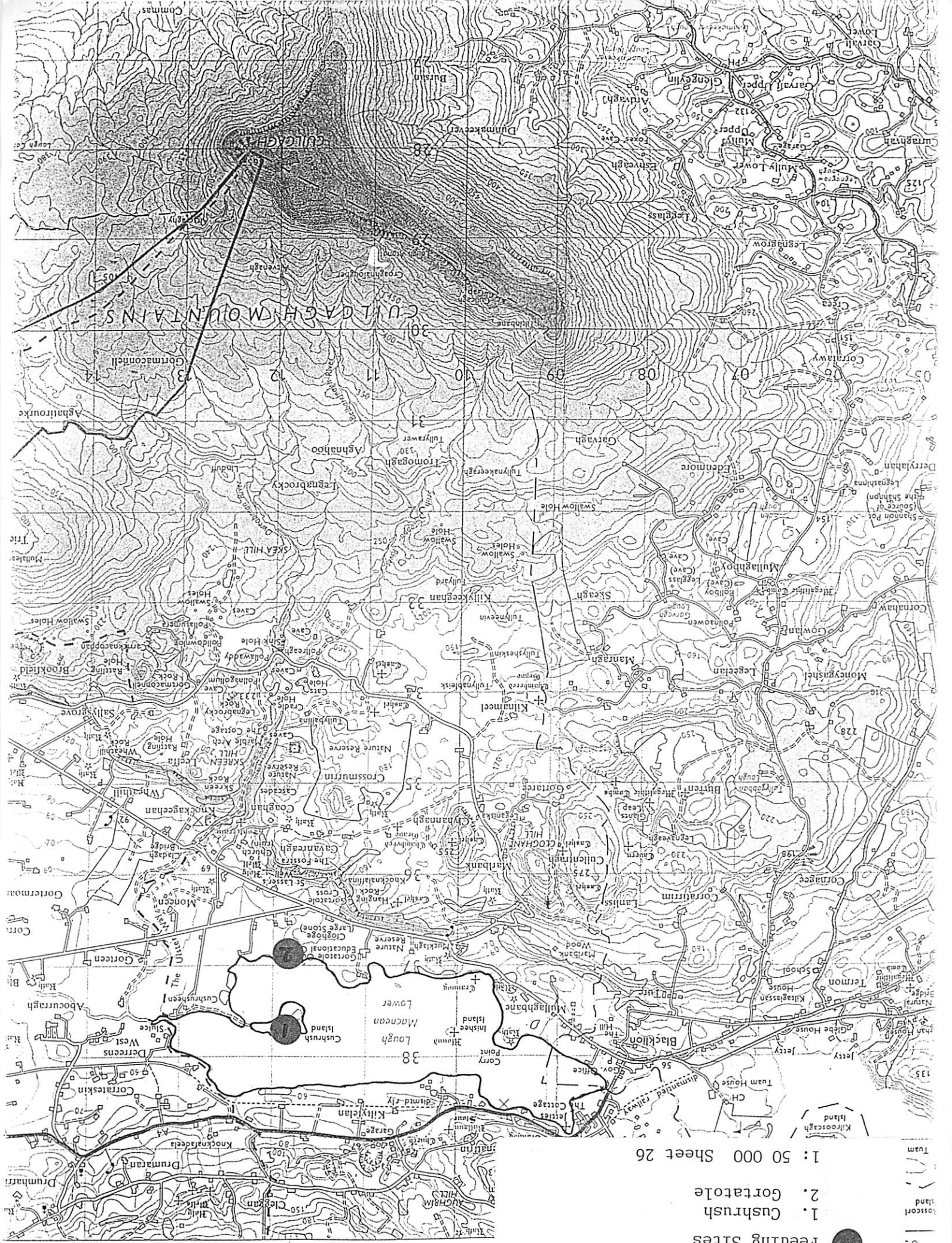
CO FERMANAGH


Map 1

Feeding Sites

- 1. Cushrush
- 2. Gortatole

1 : 50 000 Sheet 26



 Feeding Sites
 1. Cushrush
 2. Gortatole
 1 : 50 000 Sheet 26

LOWER LOUGH MACNEAN

Map 2

● Geese Feeding Sites

1: 10 000

EEMALL

BM 216.1

Creenagho House

BM 224.0

LYCOVET

A R P
56 0 32

ILTYFELAN

Sort

Sort

DRUMCONLAN

DRUMCONLAN WEST

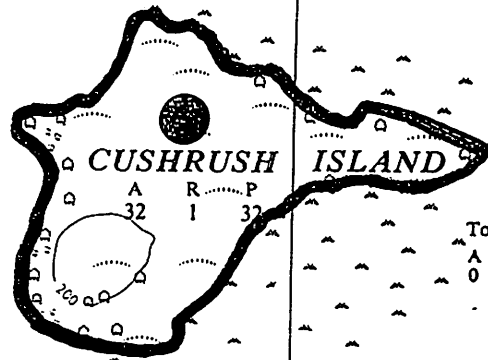
DRUMAWILLIN

SLIGO LEITRIM & NORTHERN COUNTIES RAILWAY (Disused)

DORNOGAGH

GRE

LOWER



Toppan
A R P
0 2 18

Cushrusheen

Ardreagh

Gortatole

GORTATOLE

KILLERNAM

A R P
190 189 330
1 15

A R P
72 2 39

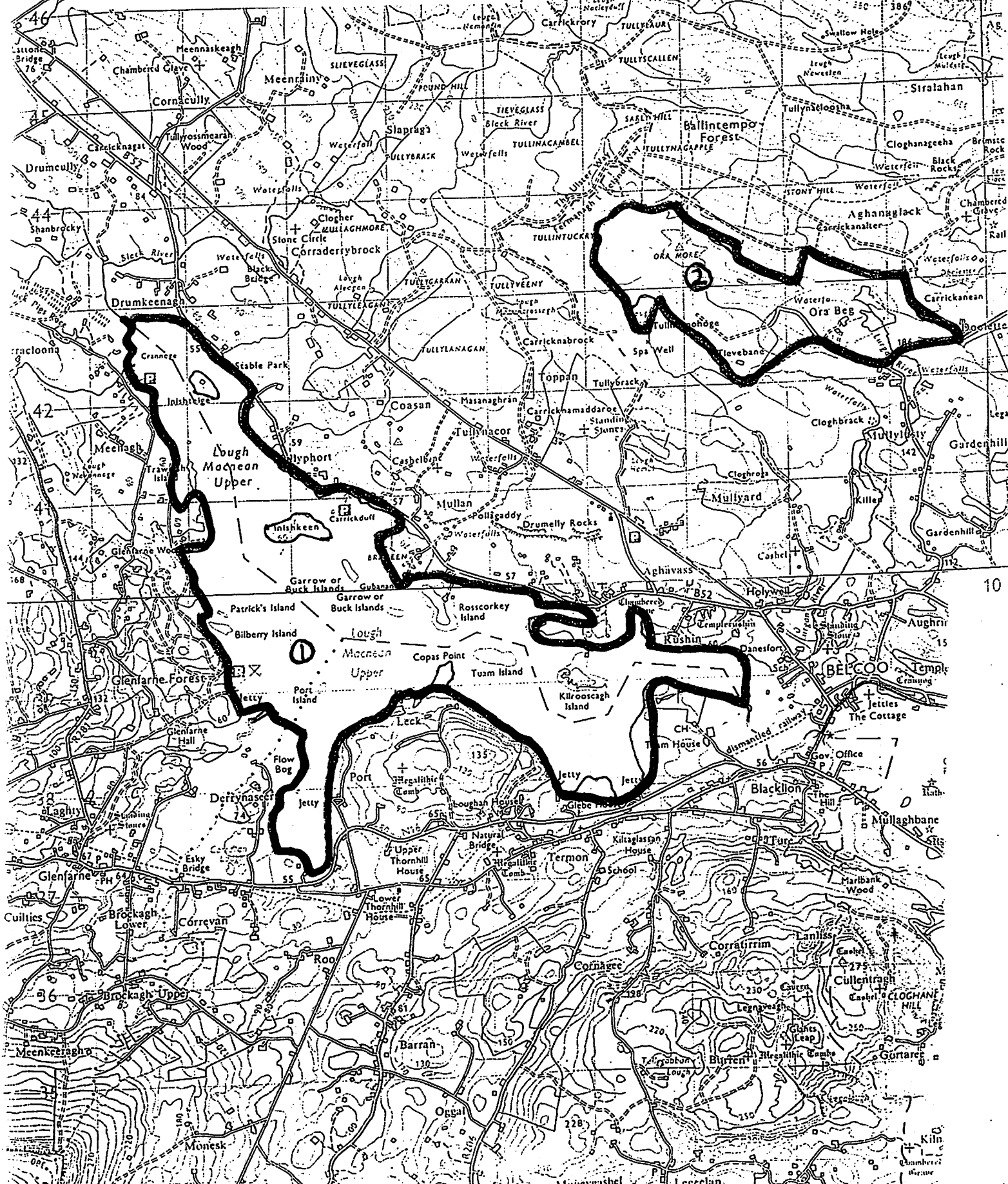
LOWER LOUGH MACNEAN

Map 3

Search Areas

- 1. Upper Lough Macnean
- 2. Ora More and Lough Ora

1: 50 000 Sheet 26



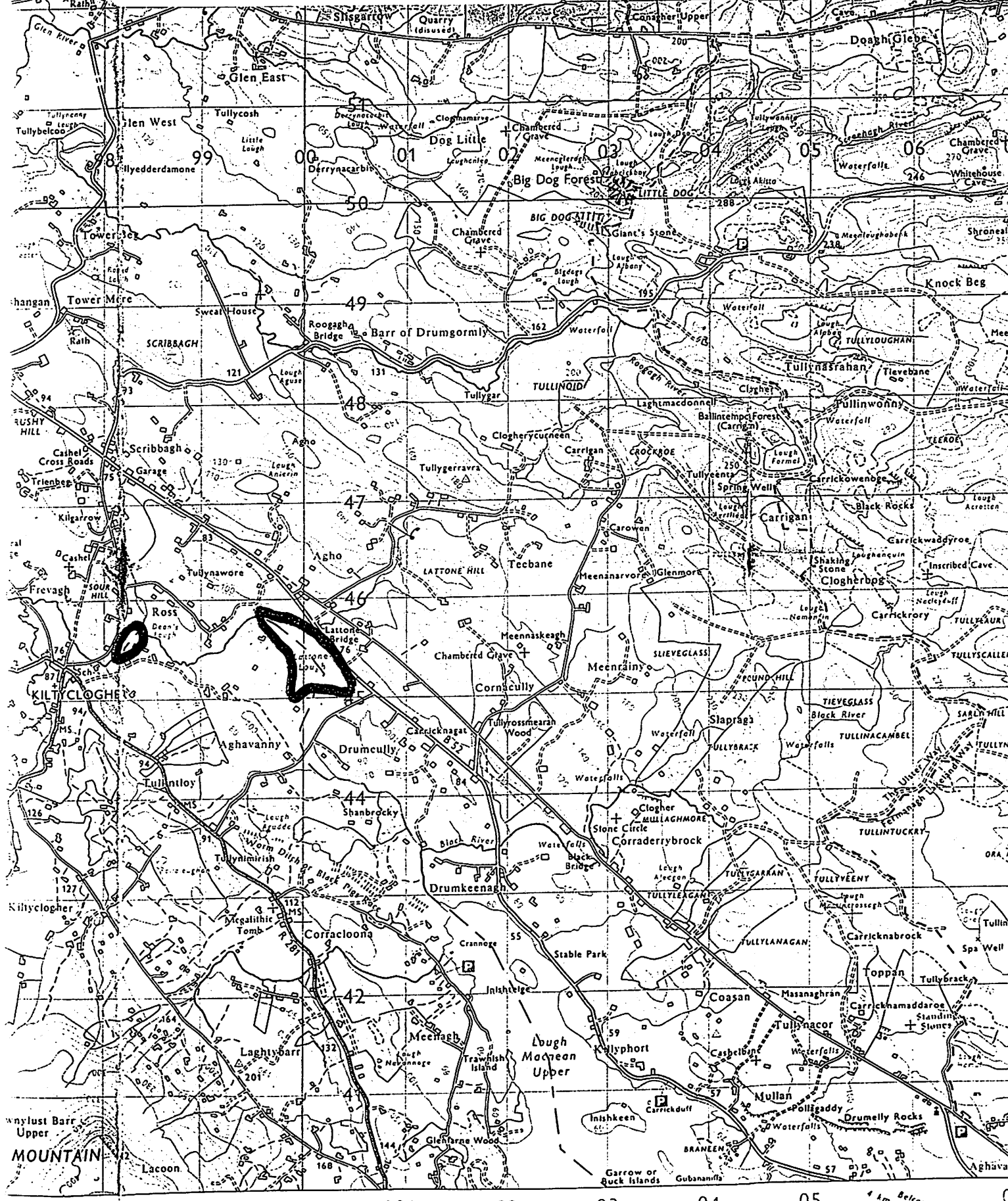
LOWER LOUGH MACNEAN

Map 4

Sites searched for evidence of roosting

- 1. Lattone Lough
- 2. Dean's Lough

1: 50 000 Sheet 26



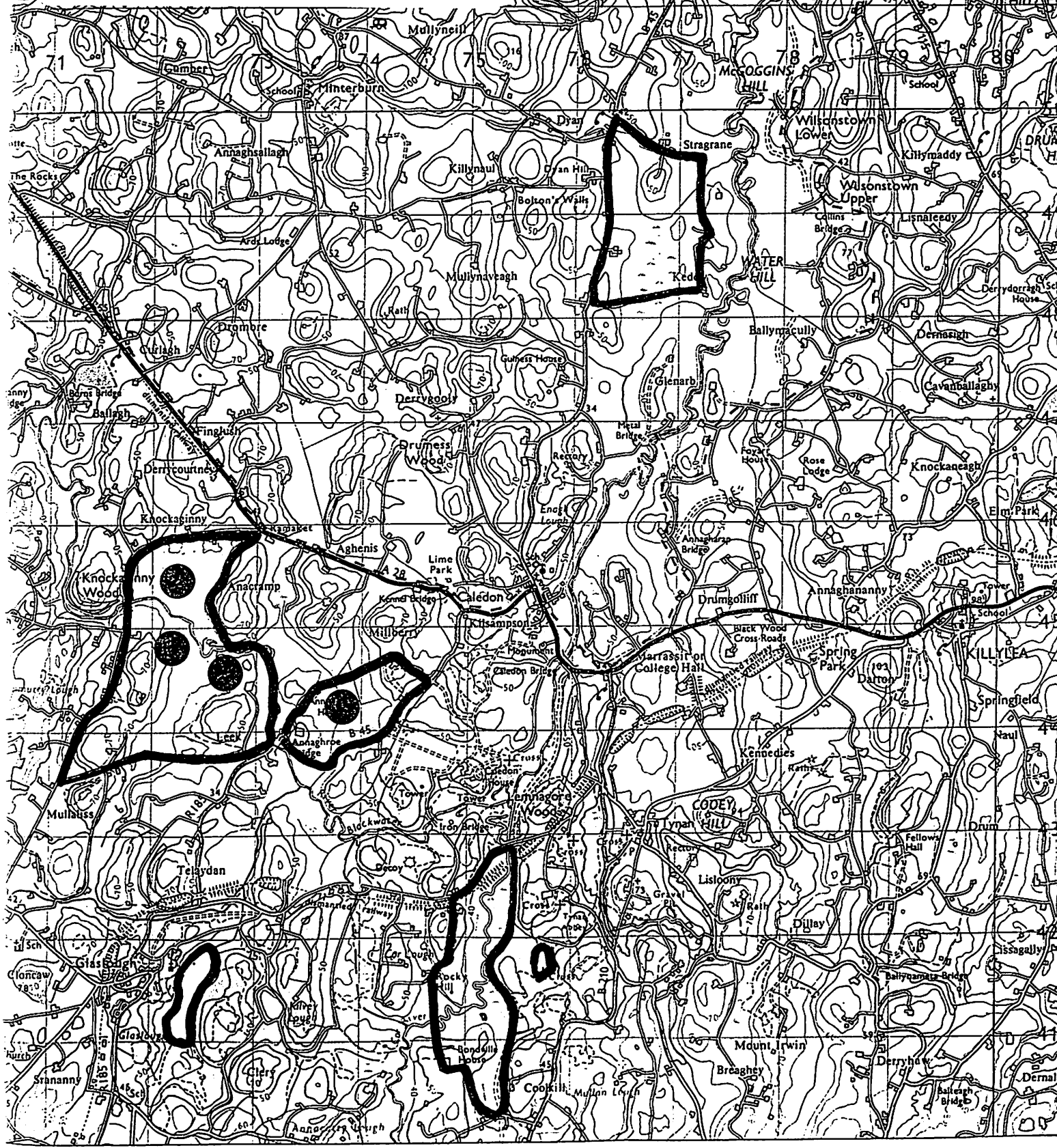
4 km or 2 1/2 miles

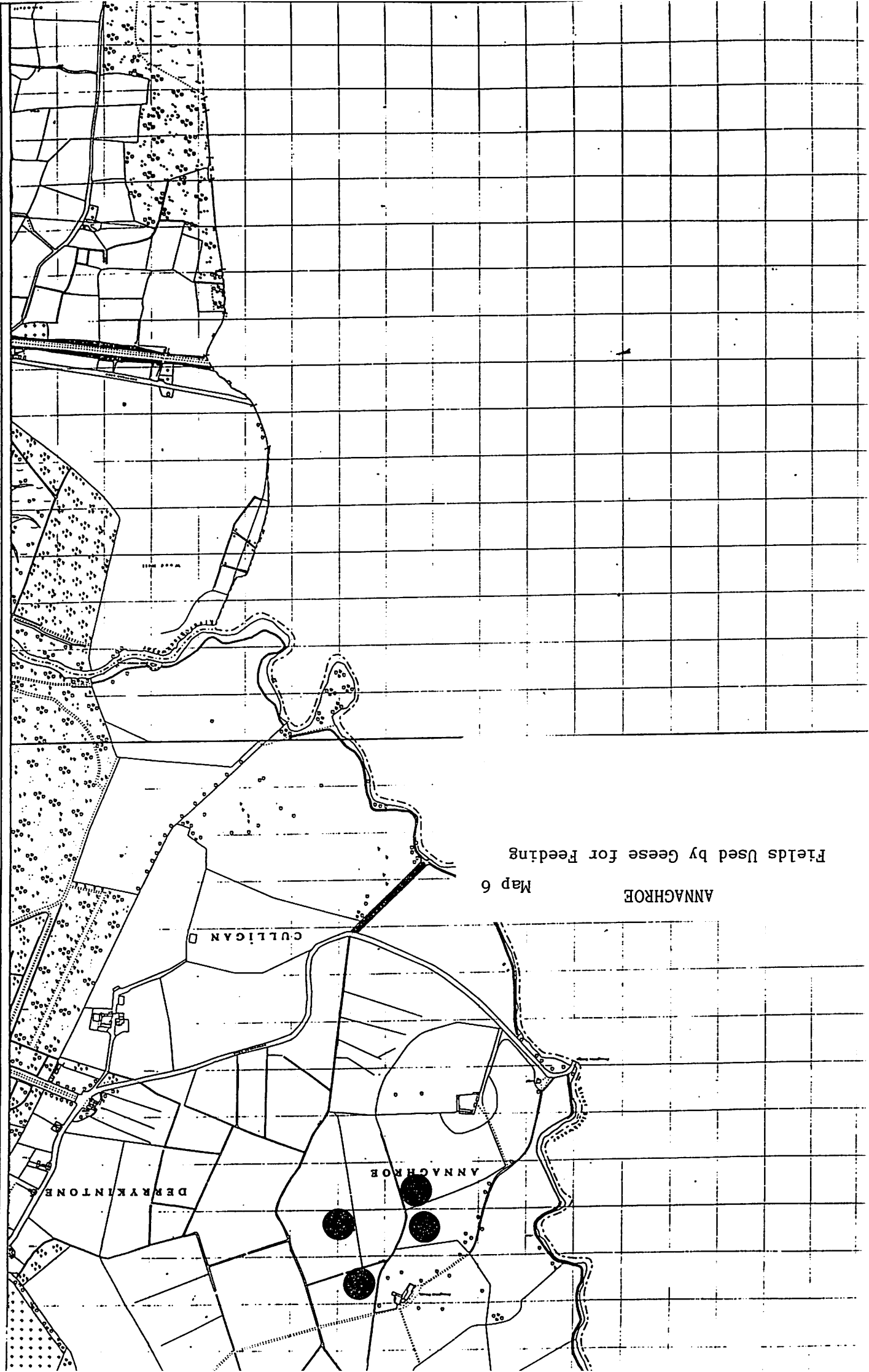
ANNAGHROE
GWF Feeding Sites and
Search Areas

Map 5

- 1 - Annaghroe (Caledon Estate)
- 2 - Annacramp
- 3 - Leek

1: 50 000 Sheet 19





Map 6
Fields Used by Geese for Feeding

ANNACHROE

CULLIGAN

ANNACHROE

DERRYKINTONE

LLAGH

FINGLUSH

DERRYCOURTNEY

RAMAKET

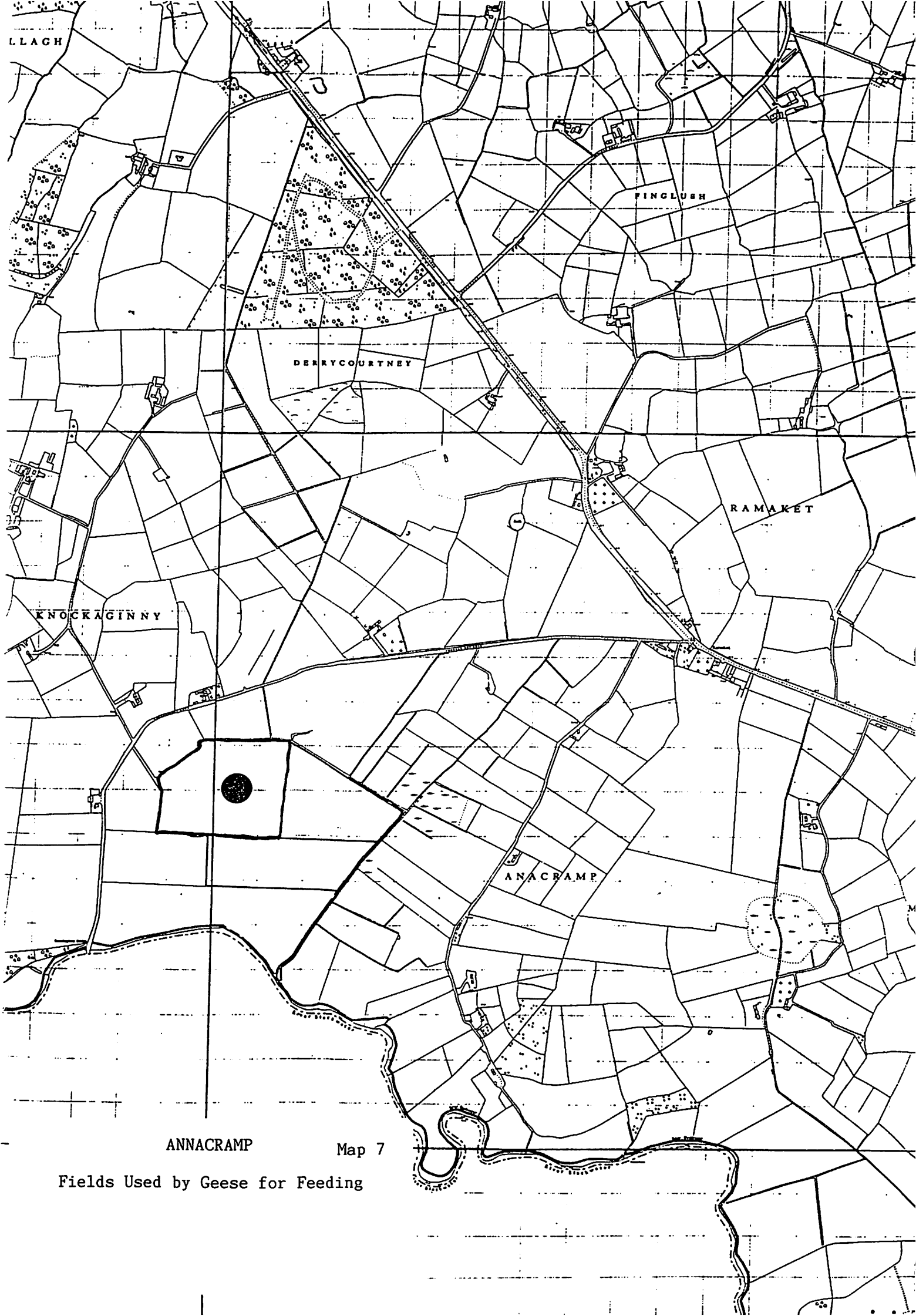
KNOCKAGINNY

ANACRAMP

ANNACRAMP

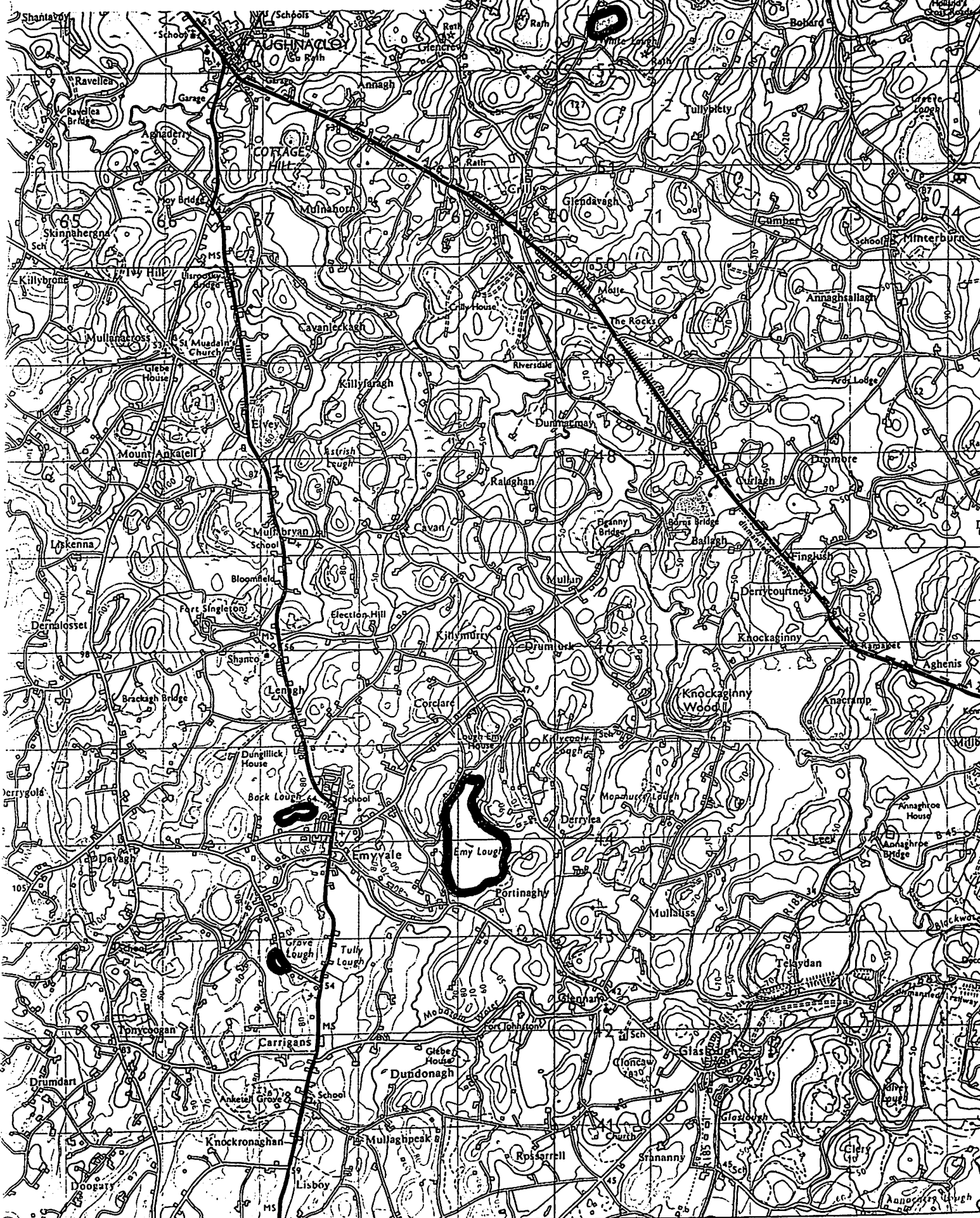
Map 7

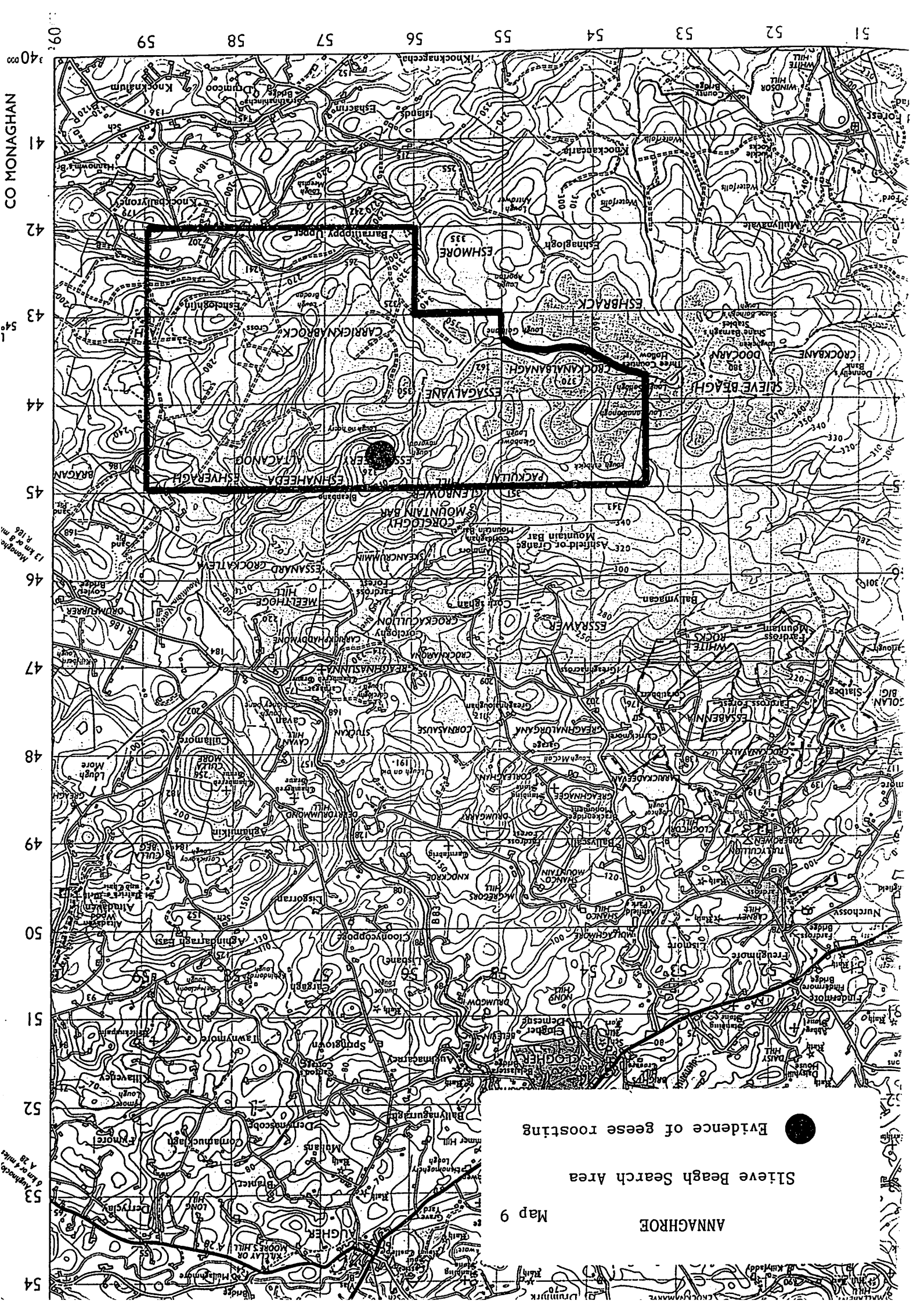
Fields Used by Geese for Feeding



Lakes Searched for Evidence of Roosting

1: 50 000 Sheet 19





Evidence of geese roosting

Slieve Beagh Search Area

Map 9

ANNAGHROE

CO MONAGHAN

51
52
53
54
50
49
48
47
46
45
44
43
42
41
40

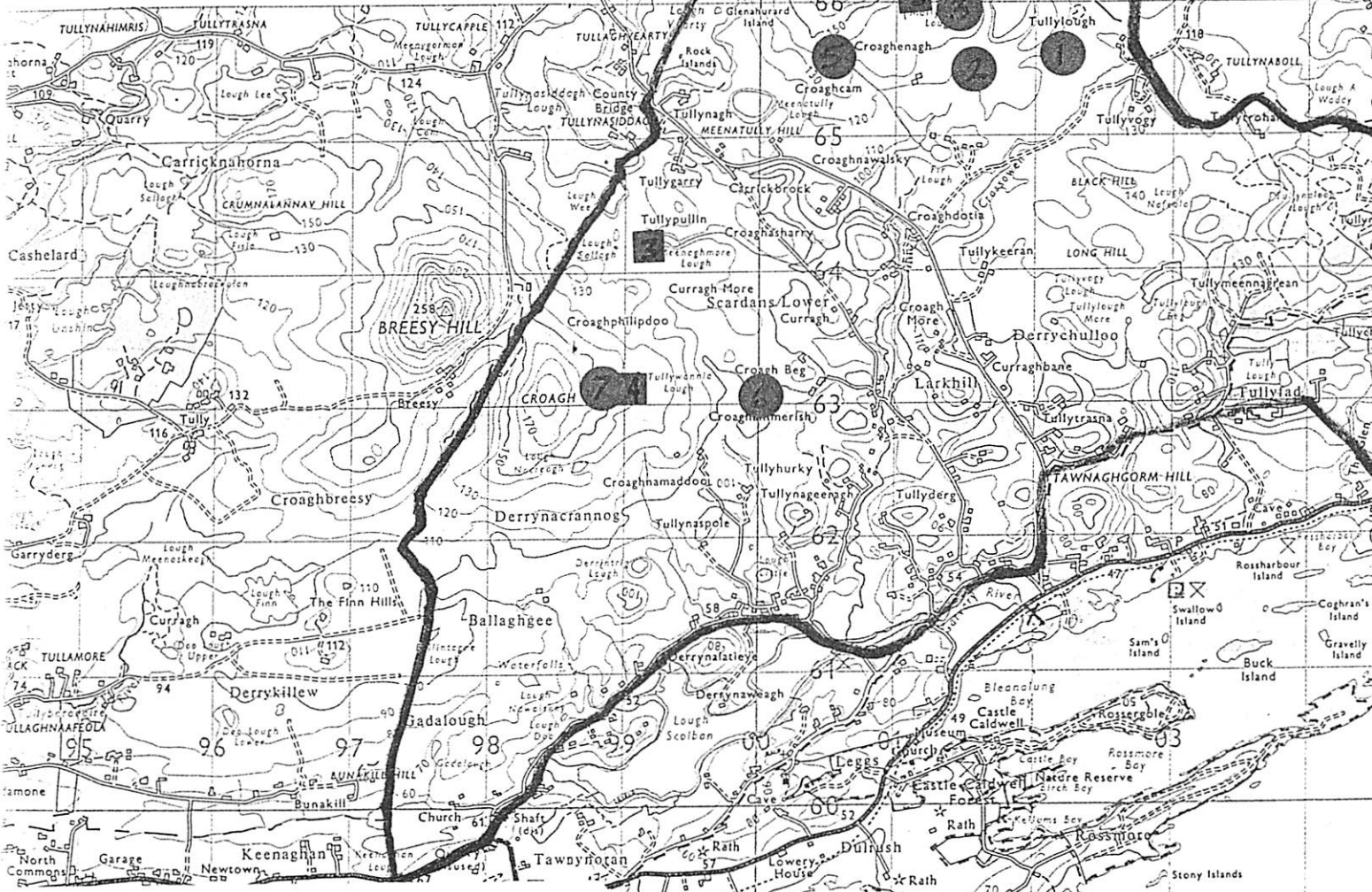
51
52
53
54
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56
57
58
59

PETTIGOE PLATEAU
(Co Fermanagh)

Map 10

● GWF Feeding Sites

1. Tullylough
2. Lough Rushen
3. Mallybreen East
4. Mallybreen West
5. Croaghenagh
6. Croagh Beg
7. Tullywannia
8. Tamur



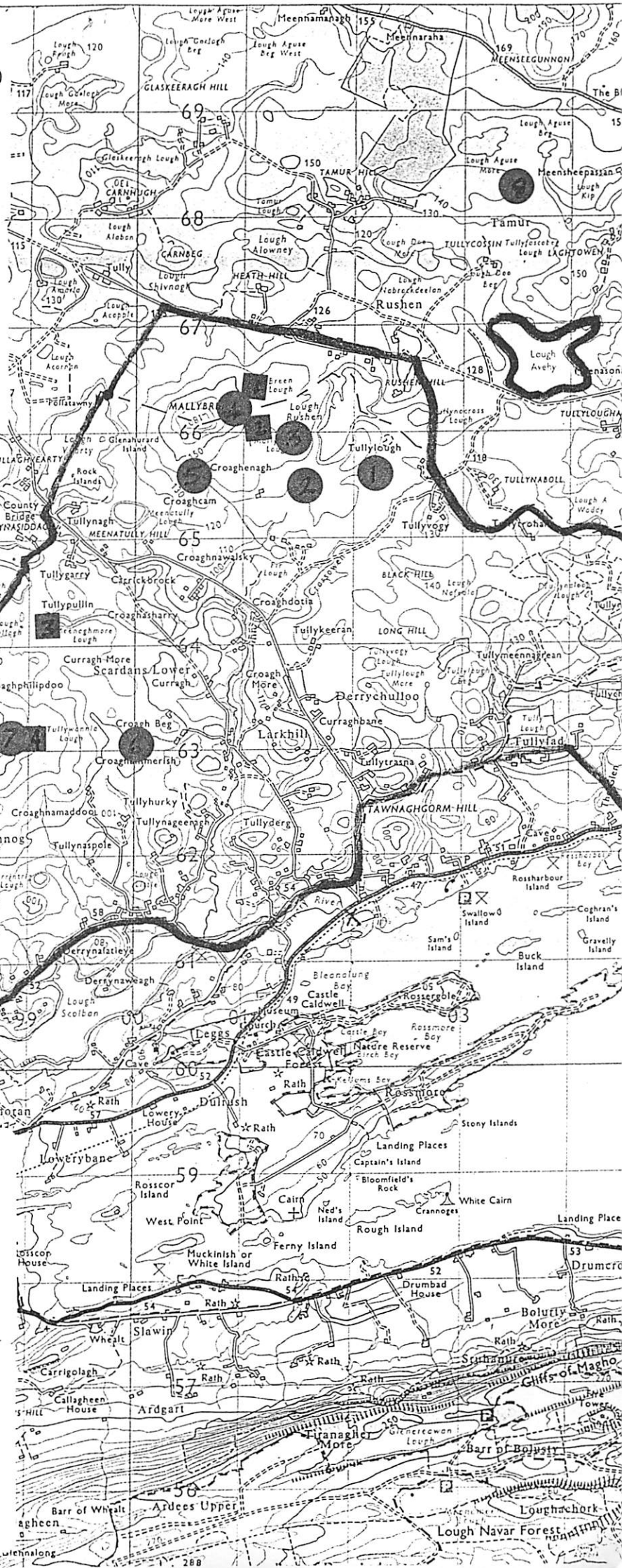
PETTIGOE PLATEAU
(Co Fermanagh)

■ Roosting Sites

1. Breen Lough
2. Mallybreen Lough
3. Meenaghmore Lough
4. Tullywannia Lough

Areas Searched

1: 50 000 Sheet 17



Donegal
14.5 km or 9 miles
N 232

PETTIGOE PLATEAU

Brownhall, Donegal

GWF Feeding Sites

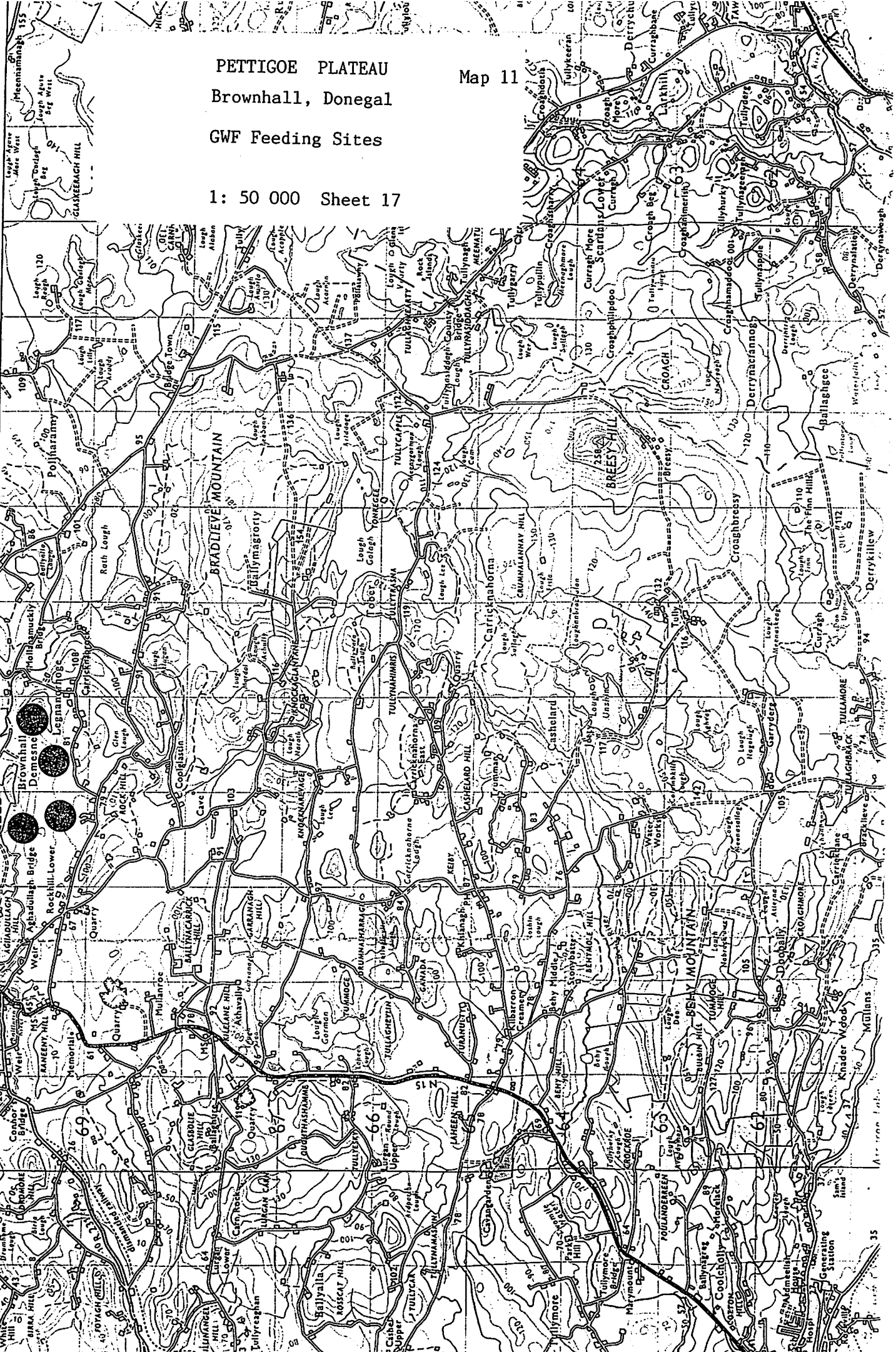
1: 50 000 Sheet 17

Long 8°W

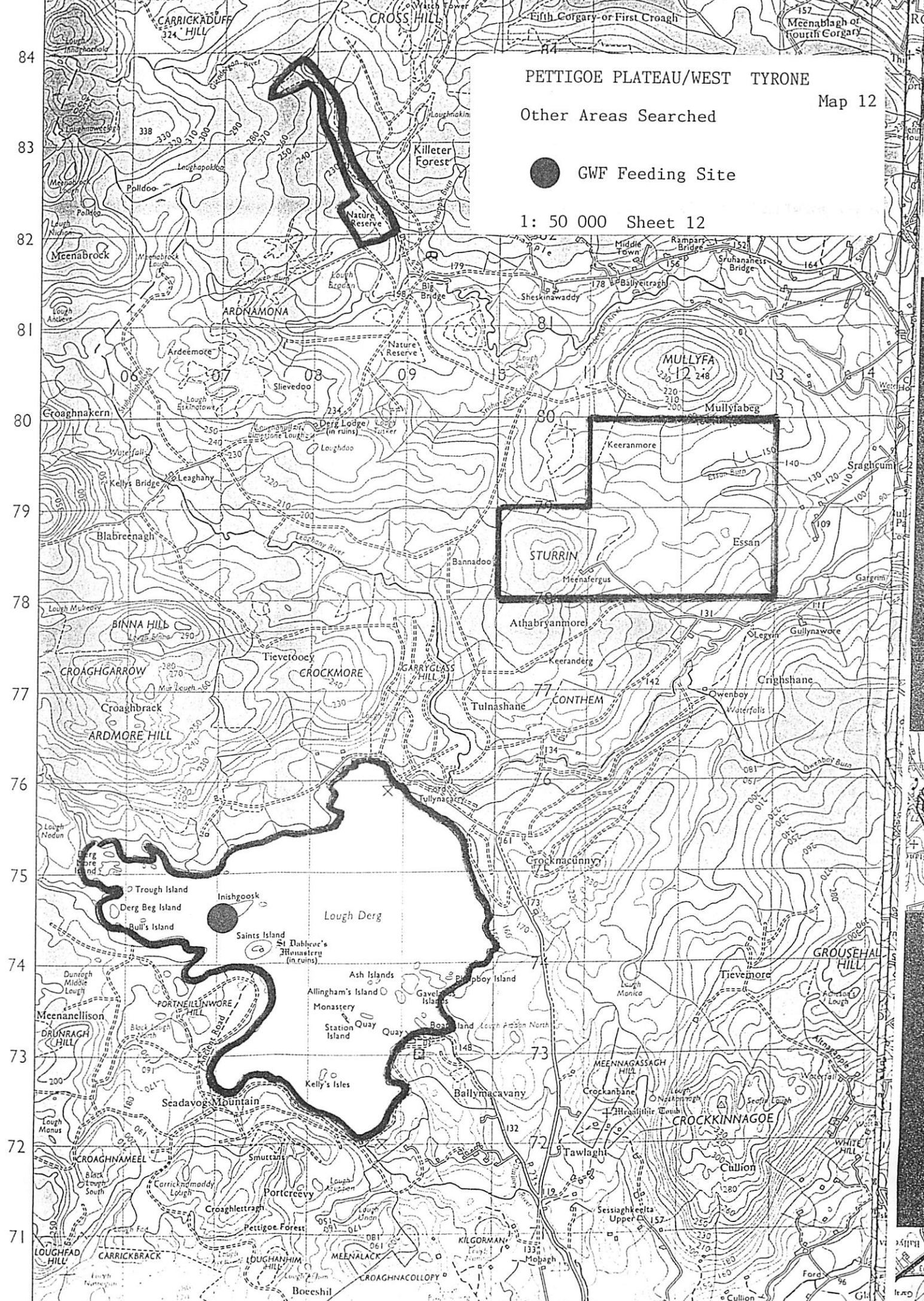
CO DONEGAL

Donegal
11 km or 6.8 m
N 15

00088
69
68
67
66
65
64
63



BALLYSHANNON



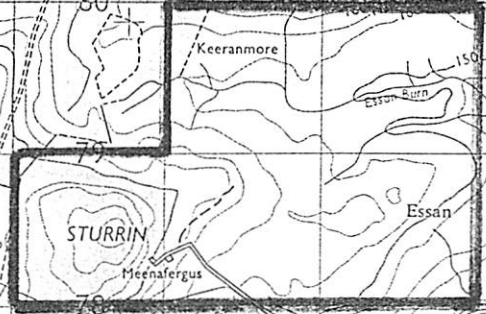
PETTIGOE PLATEAU/WEST TYRONE

Other Areas Searched

Map 12

● GWF Feeding Site

1: 50 000 Sheet 12



LOUGH FOYLE

LOUGH FOYLE Map 13

Myroe Search Area

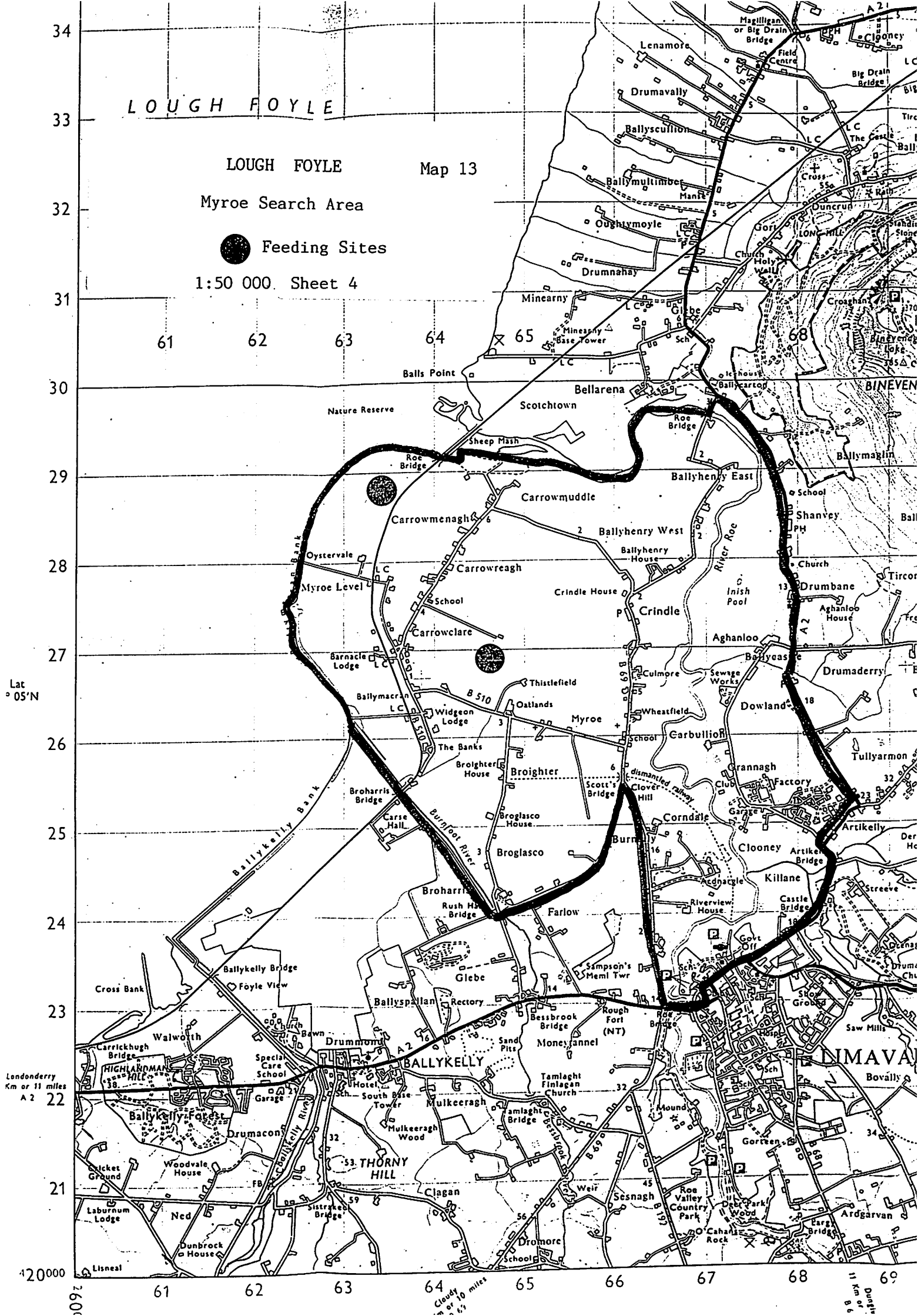
● Feeding Sites

1:50 000 Sheet 4

Lat 05'N

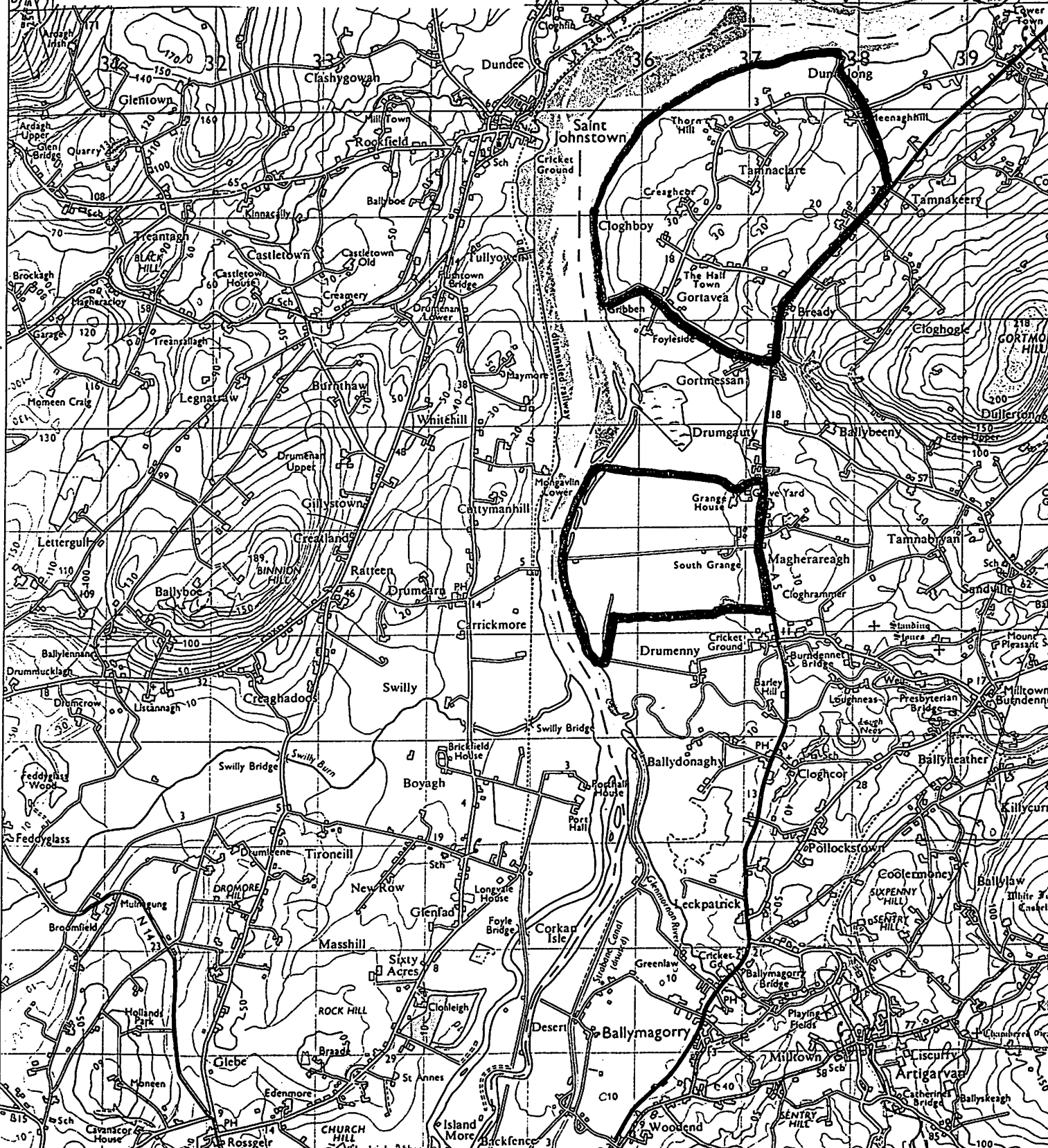
Londonderry
Km or 11 miles
A 2

120000
11 Km or 11 miles
Dunlin
Km or 11 miles
A 2



LOUGH FOYLE Map 14
Grange and Saint Johnstown
Search Areas

1:50 000 Sheet 7



31 32 33 34 35 36 37 38 39 40

230

Scale
1 in or 1 mile
1:50,000

15'

10'

48

49

50

51

52

53

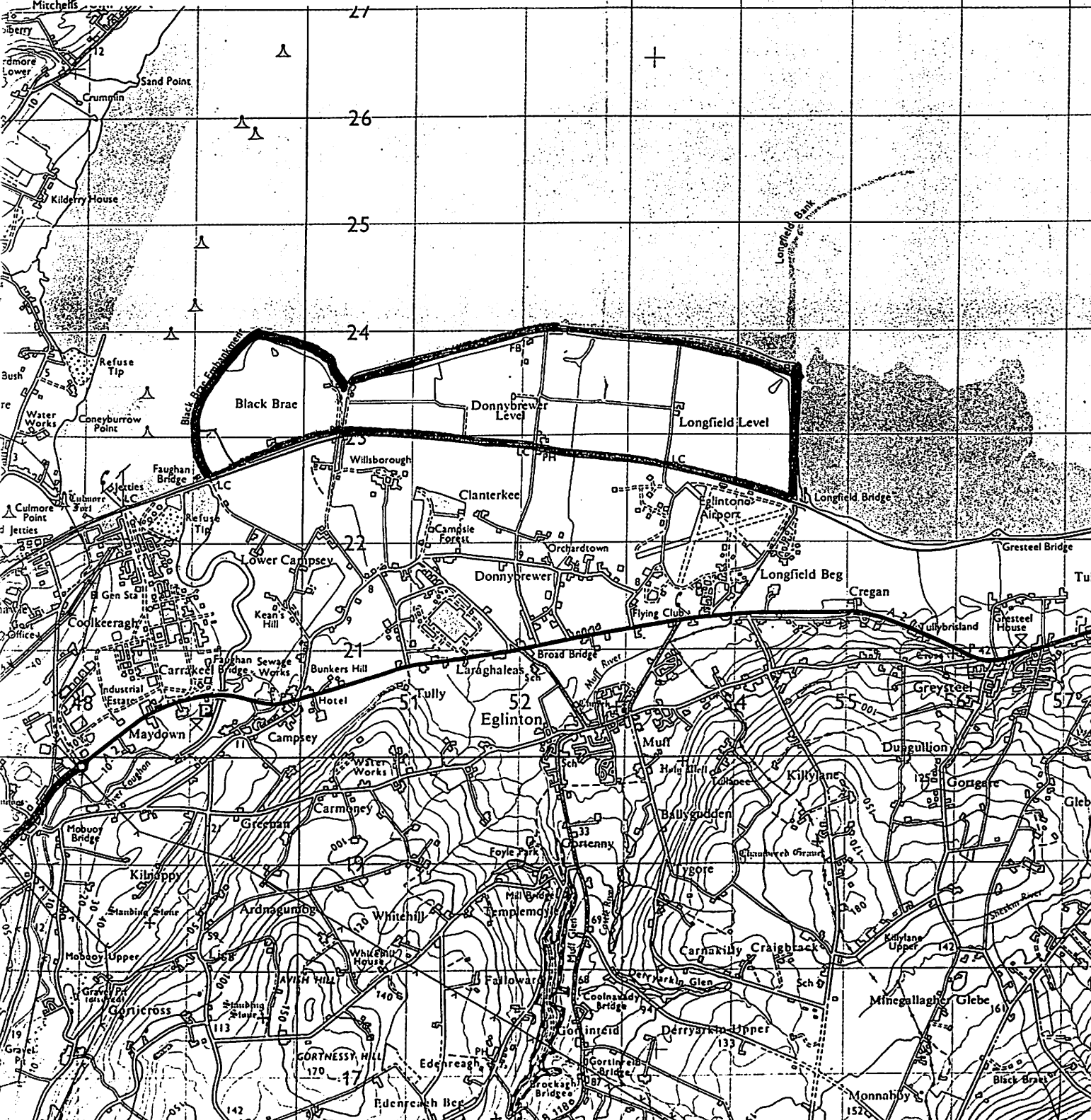
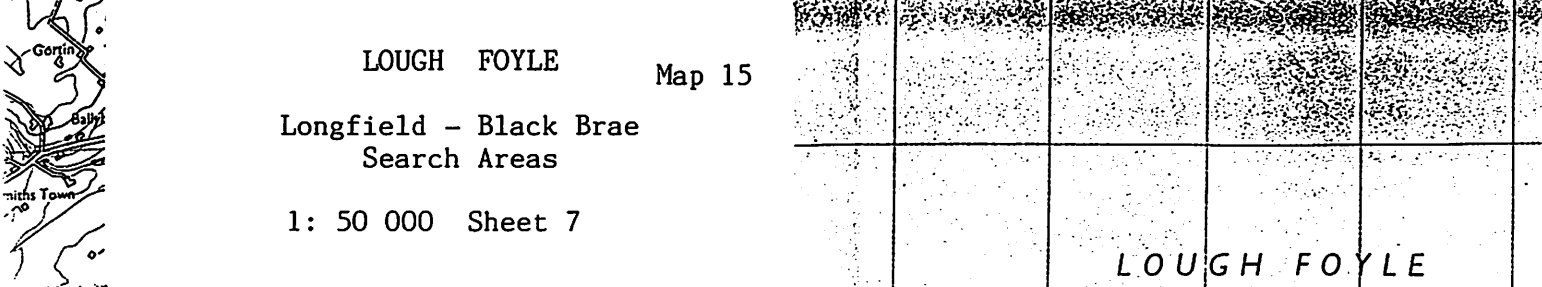
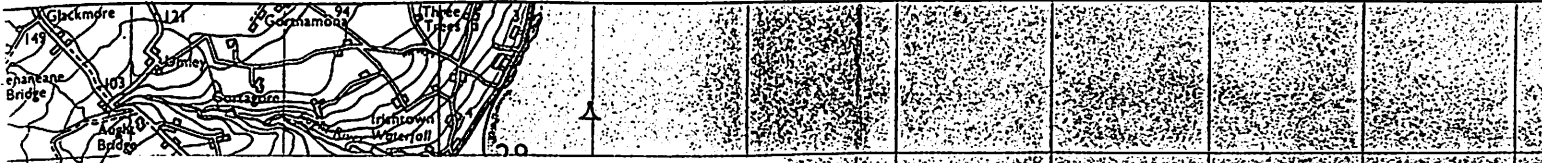
54

55

56

57

Mosville
15 km or 9 miles
R. 230



UPPER LOUGH ERNE

Map 16



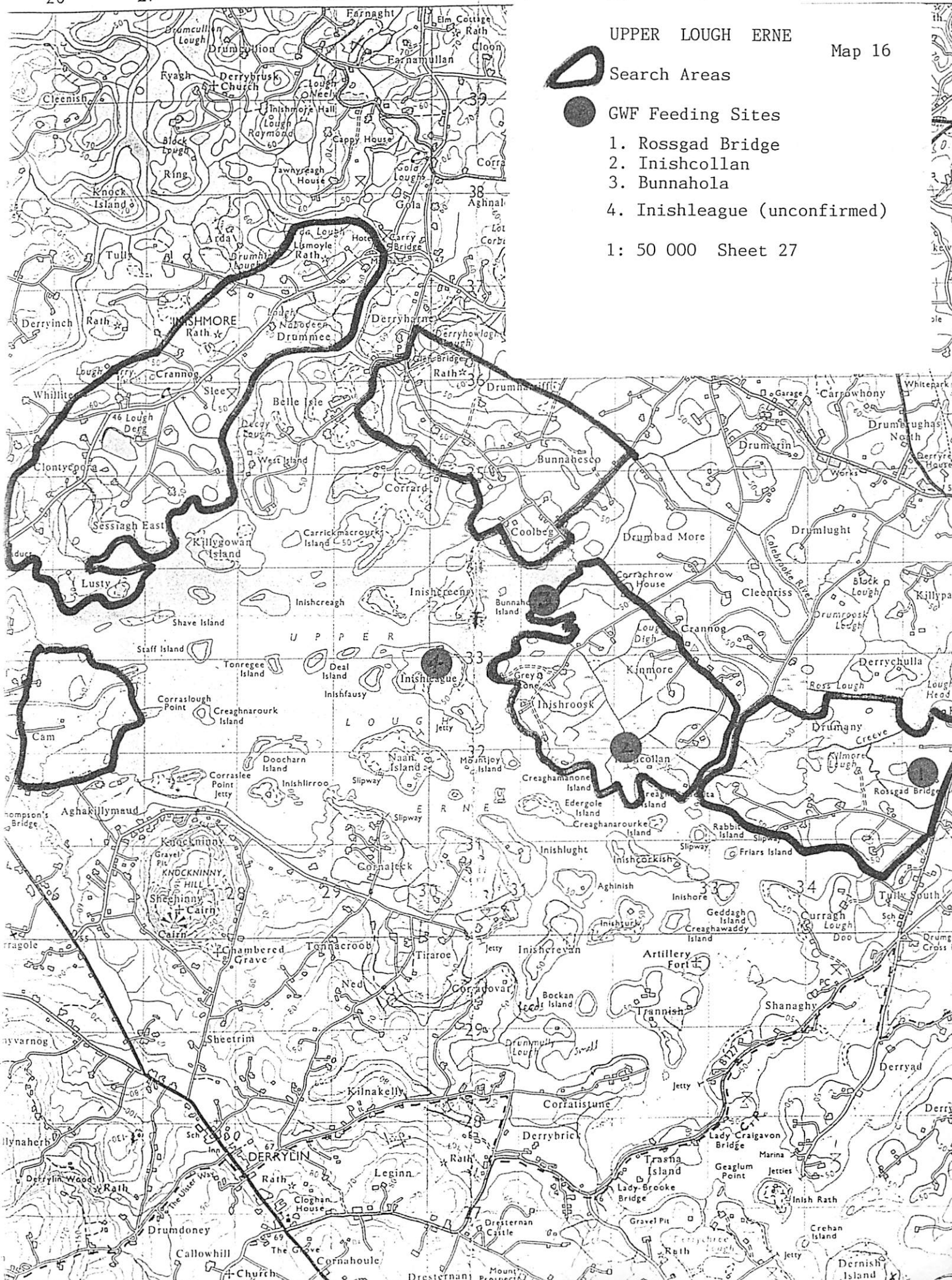
Search Areas




GWF Feeding Sites

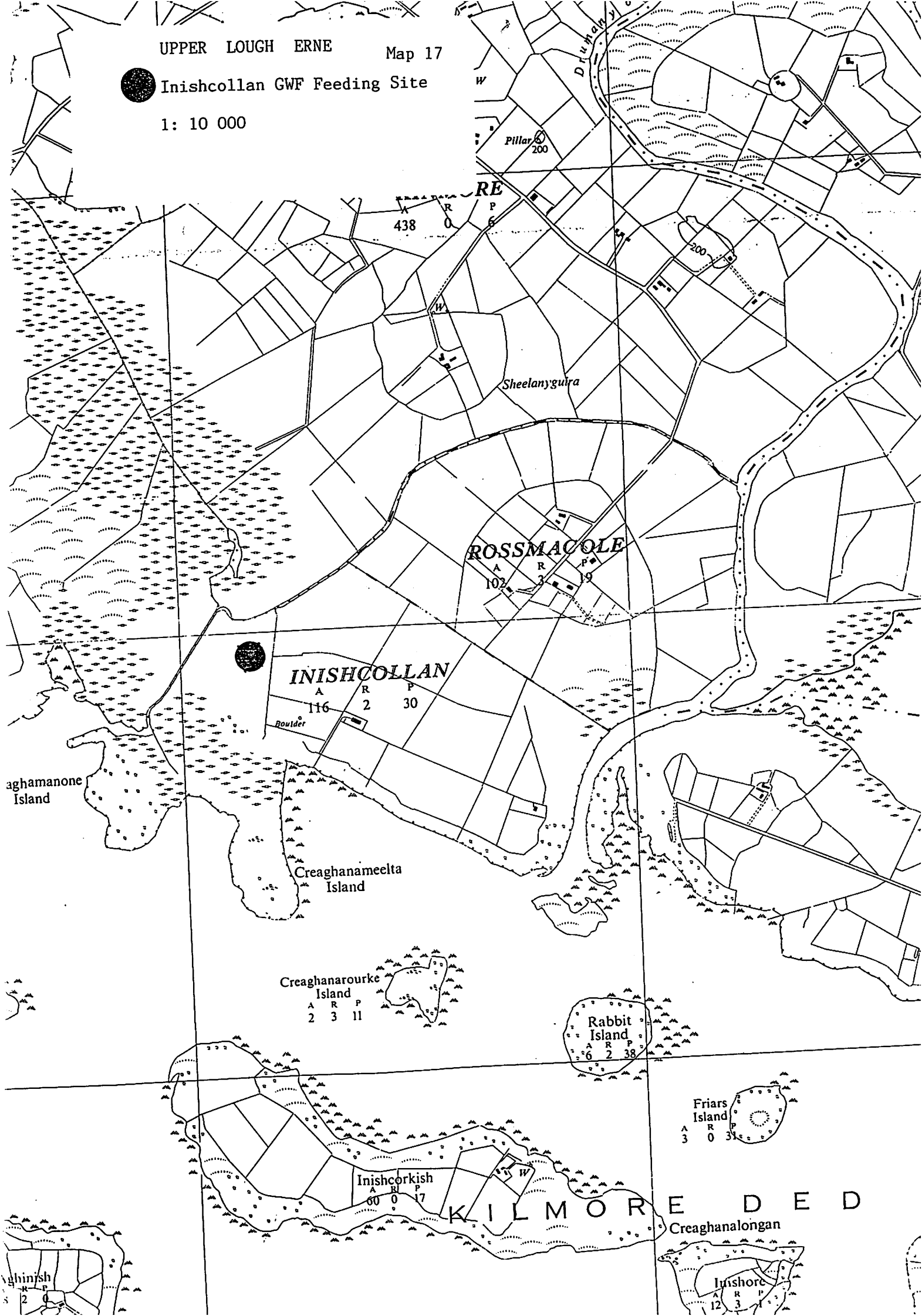
- 1. Rossgad Bridge
- 2. Inishcollan
- 3. Bunnahola
- 4. Inishleague (unconfirmed)

1: 50 000 Sheet 27





 Inishcollan GWF Feeding Site

1: 10 000





-  Bunnahola GWF Feeding Sites
-  Unconfirmed GWF Feeding Area

1 : 10 000

AGHAMORE NORTH

85
A
R
P
0

12
A
R
P
12

162
A
R
P
162

81
A
R
P
81

15
A
R
P
15

313
A
R
P
313

314
A
R
P
314

Bunnahola
A
R
P
0 2 36

Mountjoy
Isl.
A
R
P
5 2 27

Naan Island
East
A
R
P
0 1 20

Creaghmanone
Island
A
R
P

116
A
R
P
116

INISH
A
R
P

Creaghmanone
Island
A
R
P

Lo

Corrachrow
House

Spr

W ford

W

W

Inishrooske
Island
Pt Sch

Grey
Stone

Boat House

DERRYASNA

INISHROOSK

Creaghmanone
Island

Hill
Castle
(site of)

East

Mountjoy
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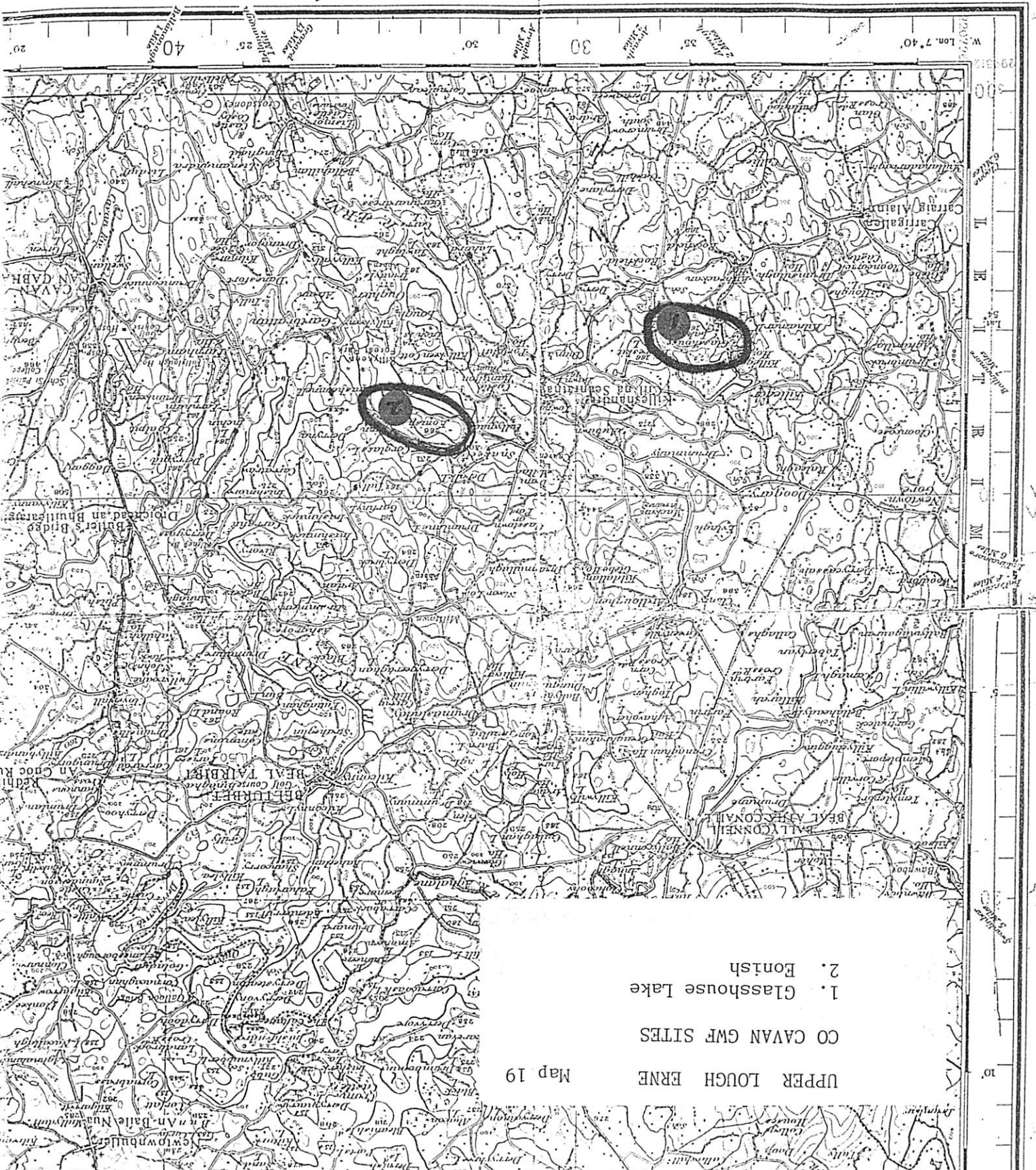
Mountjoy
Isl.

Mountjoy
Isl.

Mountjoy
Isl.

UPPER LOUGH ERNE
CO CAVAN GWF SITES
1. Glasshouse Lake
2. Foinish

Map 19



45	46	47
57	58	59
68	69	70

Index to the One Inch Maps in this Sheet.

The inclusion of part of Northern Ireland is by permission of the Comptroller of H. M. Stationery Office, London.

- N 2 National Primary Roads
- N 54 National Secondary Roads
- A 3 Trunk Roads
- B 31 Link Roads
- B 31 3rd Class Roads
- Other Roads
- Footpaths
- Railways
- Bridges
- Level Crossing
- Station
- over 1
- under
- Antiquities
- County Boundaries
- Church or Chapel
- Lighthouse
- Lighthship
- Contours
- Submarine Contours
- Woods and State Forests
- Power Station
- Hydro
- Triangulation Station
- Caravan Park
- Youth Hostel

In Northern Ireland Roads are designated by the letters A B and M

12

W. Lon. 7° 40' 30" 35' 40' 45' 50'

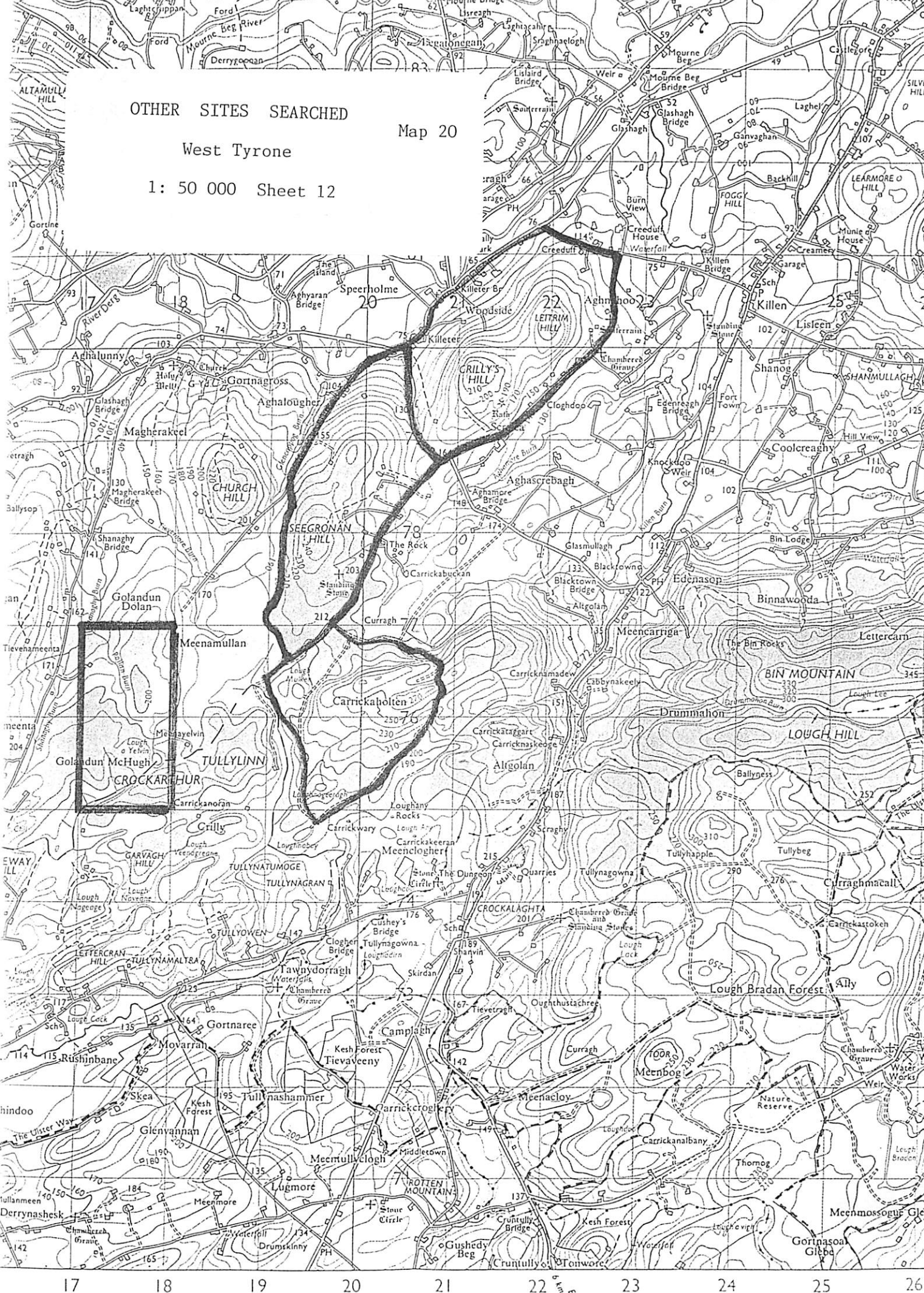
Lat. 54° 55' 00" 55' 30" 56' 00" 56' 30" 57' 00"

OTHER SITES SEARCHED

Map 20

West Tyrone

1: 50 000 Sheet 12



17 18 19 20 21 22 23 24 25 26

CO FERMANAGH

FERMANAGH L G D

Edinburgh
1: 50 000
Sheet 12

OTHER SITES SEARCHED

Map 21

Downpatrick Marshes Co Down

1: 50 000 Sheet 21

