

**An Foras
Forbartha
Teoranta
The National
Institute
for Physical
Planning and
Construction
Research**

**CONSERVATION AND AMENITY
ADVISORY SERVICE**



**PRELIMINARY REPORT ON AREAS OF
SCIENTIFIC INTEREST IN
COUNTY OFFALY**

**Lynne Farrell
December, 1972**

**Teach Mháirtín
Bóthar Waterloo
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St. Martin's House
Waterloo Road
Dublin 4**

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FOREWORD

This report is based on data abstracted from the files of the Conservation and Amenity Advisory Section, Planning Division, An Foras Forbartha; from published and unpublished sources; and from several periods of field work undertaken during August 1971 and September - November 1972. It is a preliminary survey upon which, it is hoped, further research will be based.

The help of Miss Scannell of the National Herbarium, Father Moore of U.C.D. Botany Department, Dr. Flegg, of the Geological Survey Office, and particularly that of Dr. Lamb, of An Foras Taluntais, is gratefully acknowledged.

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SECTION A.

Preface

The abundance of open countryside in Ireland is immediately apparent to anyone visiting the island. Although much of the land is artificially fertilized, a large percentage is used as pasture, and even though the natural composition of the grassland has been modified, it has not been ploughed and destroyed. Vast areas of upland blanket bog and the red raised bogs of the Midlands still exist and many miles of hedgerows border the small fields.

One habitat which has been decimated over the centuries is woodland. Many of the original deciduous woods have been felled and not replaced. Planting of coniferous species on marginal land has compensated for the loss in numbers, but not in ecological interest.

Ireland is rich in archaeological and geological sites also, and it is this environmental and aesthetic diversity which is our national heritage - a heritage which requires and demands the full attention of our intellect if we are to continue to exist in harmony with it and to ensure its survival.

This particular report is concerned with county planning in relation to sites of scientific interest. Often these areas are of educational importance and of recreational value. What we are concerned with at the present time is the integration of these various interests with the actual physical nature of the countryside.

At the moment the Conservation and Amenity Advisory Service is attempting to visit, describe and record areas of natural and semi-natural habitats throughout the country. Localities of specific importance i.e. noted for the occurrence of a rare species or rare natural phenomenon, are also listed. Once representative examples have been delimited, the development of the area of interest and that of the surroundings has to be considered as a whole unit. For example, if an area of marshland is considered to be of particular

scientific interest, then a drainage scheme in the neighbourhood could destroy the habitat.

Having previously stated that Ireland has a wealth of natural phenomena, is it possible to define the value in concrete terms? The key to the situation is that of diversity. The intricate network of grassland, mountains, lakes and woods provides an ever-changing vista for us to enjoy. Because of the diversity too, of human nature, there are many different ways in which we enjoy the countryside. In order to rationalize the situation, four categories may be distinguished - one particular area may be important for amenity, recreational, scientific or educational reasons, or a combination of all four. The present problem is how to combine all these interests in that area, and it is at this stage that the work of the local authorities becomes important. Robert Boote summarizes this importance in a statement issued at the 7th session of the European Conference of Local Authorities -

'Local authorities hold the key to the success of conservation in Europe. They carry out a wide range of functions which have a direct impact upon the physical environment. Planning and education - two of the most formative aspects of modern society - are of prime importance here. Local authorities can also develop and manage considerable areas of land and water and most have powers to create new amenities and landscapes. In these and numerous other ways, they are well equipped to conserve and enhance those qualities of the environment that contribute so much to the life and heritage of European man'.

(Reference : Conservation - The Human Environment

Published by An Foras Forbartha, December 1971)

SECTION-B

VULNERABILITY OF HABITATS

Areas of scientific interest can be damaged in many ways. They can be completely destroyed by scrub or tree clearance, by turf cutting or by scrub drainage, or they can suffer insidiously through pollution, fertilization, grazing or overuse for recreation.

Co. Offaly today has few extensive woodlands. Remnants of original oak forest are left standing on several of the esker ridges whilst the only large naturally wooded areas are to be found in Charleville demesne and at Woodville near Birr. Because of the quarrying away of the sand and gravel ridges, often only small pockets of trees remain, in which the surviving plant and animal communities are severely restricted.

Several of the original deciduous woods, which have a diverse flora and fauna, have recently been underplanted or completely replaced with conifers, which produce a monotonous habitat, devoid of diversity.

Areas of mature and developing scrubland are to be found on the sides of the esker ridges, around the edges of the raised bogs, and on the few outcrops of limestone pavement. Much of the scrubland remains intact at present simply because it is developing and has not yet reached the stage when clearance becomes a possibility. Hedgerows similarly survive until they spread into the roadway or grow too tall. In areas of developing scrubland there is the problem of maintaining areas of open grassland and examples of scrub. Some areas need to be managed in order to conserve the grassland species and to allow other areas to evolve naturally. Research into forms of management is in progress, but in order to study the problem it is necessary to have experimental areas and control plots which are left to evolve naturally. If sufficient areas cease to exist then it is impossible to find a solution to

managing the few relict patches.

Another habitat which has been drastically reduced is that of the peatland. Offaly is covered by acres of raised red bogs or 'hoch moor' as they are technically known. Much of the bogland has recently been excavated by Bord na Mona. A map indicating the extent of their workings both past and present, is included in this report. Although there are many small areas remaining, it is important also to preserve large areas because of the 'fringe effects' and representativeness. Fringe effects are found around the edges of a particular ecological habitat where one habitat is affected by its juxtaposition to another habitat and so is not a true representation of one habitat, but rather a mixture of the two. The Nature Conservancy in England has a minimum size of 50 acres for a nature reserve so that a reasonable sample of the habitat can be observed and studied.

Drainage of bogland also detracts from its value. Raheenmore and Woodfield Bog are two areas of raised bog in the country which are of particular interest because of their wetness. Species which are extremely rare in Ireland thrive in these particular conditions.

Much of the county is low-lying and the scientific interest of wet meadows and marshes would be lost through drainage. The Shannon marshes, which attract wildfowl, are an example of this type of area.

Many of the rivers in Offaly are free from pollution as there is relatively little farming land which has artificial fertilizers added, and hence there is little 'run off' into the streams. There are very few lakes, none of which suffer from organic enrichment and, the subsequent production of algal blooms and depletion of oxygen content, leading to the death of aquatic fauna and flora. But rivers do not stop at county boundaries. Further upstream a pollutant may enter the river, thus adversely affecting the water course downstream, which may be in the next county. This is one case where the country must be considered as a whole unit if remedial action is to be taken.

Continual pressure from trampling or grazing can result in soil erosion,

particularly on the shallow limestone soils. Over-grazing has the effect of selecting out the less robust plant species, so that a few coarse, resistant species remain, resulting in a 'species-poor' turf which is of little value as grazing land or as an example of botanical interest. The only areas which are likely to be affected this way in Offaly are the esker ridges, where a very rich old grassland community exists on a shallow soil, and is often heavily grazed by sheep and cattle.

The ridges are also the areas which may be affected by recreational activities. Often the ridges are used as vantage points and picnic sites. Even though they are usually no higher than 50 feet from the surrounding land, the Midland plain is so flat that a rise of 50 feet provides a panoramic view.

Outstanding views are obtained from the summit of Croghan Hill in the north and from Glenletter crossroads in the Slieve Bloom Mountain range in the south of the county. As well as their amenity value these two areas are of scientific interest and all points of view must be taken into consideration when planning changes and development in these regions.

SECTION C

GENERAL INTRODUCTION

County Offaly is comprised of 492,800 acres. The majority of this area is located on the lower limestone. Outcrops of upper and middle Carboniferous limestone are found around the Shannonbridge district in the extreme west of the county, and east of Tullamore in a 12-mile wide belt. At the northern end of this belt is the interesting outcrop of Croghan Hill which is an extinct volcano where patches of greenstone diorite are surrounded by volcanic ash. Scattered about the eastern part of the county are small dolomite mounds. The remaining geological series are those of the Old Red Sandstone and Upper Silurian forming the Slieve Bloom Mountain range on the south-western boundary.

Much of the lower limestone plain is covered by raised peat bog, approximately half of which is being excavated by Bord na Mona. Several of the boglands are extremely wet, dome-shaped 'hoch moors' and are classic ecological examples of this particular type of habitat.

Scattered throughout the plain are the sand and gravel deposits, left by the melting glaciers after the Ice Age, known as esker ridges. These areas have, until recently, been left undisturbed apart from occasional grazing for many centuries and provide much of the ecological interest within the county. Often the ridges are covered by a short turf which is very rich in species composition. Along the length of the esker are examples of scrubland and woodland, the latter often being comprised of original oak woodland.

Other areas of old deciduous woodland are to be found in the estates, Charleville demesne being the largest extent of oak wood in Offaly. Nearby is Clonad Wood, cited in the 1967 County Development Plan as being of scientific interest. There are other scattered pockets of hazel, sycamore, birch and ash woodland and these are mentioned in the detailed site reports.

Conifer plantations are relatively small apart from in the Slieve Bloom Mountains where much of the land between 700 and 1,200 feet is afforested with pine and spruce.

There are very few lakes in the county, Annaghmore Lough, Pallas Lough, Raheen Lough, Charleville Lake, Fin Lough, Lough Nanag and the lakes in Birr Castle demesne provide what interest there is. Areas of dried-up lakes are common and Lough Coura is worthy of mention in this respect. Most of these water bodies are of ornithological importance, as are the numerous rivers which flow through the county. The River Shannon, forming part of the western county boundary, is one of the major overwintering grounds for geese and swans. The mountain streams of the Slieve Blooms are haunts for dippers and ring ousels, and hen harriers have been recorded in the young forestry plantations. The rivers also support a population of otters.

Land above 800 feet is restricted to the mountains in the south of Offaly. Acres of blanket bog stretch over the summits harbouring grouse and fallow deer, and providing an extensive wild area for many other species of fauna and flora. The undisturbed nature of this peatland is one of its major attributes.

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SECTION D

RATING OF AREAS OF SCIENTIFIC IMPORTANCE

This is a measure of the relative importance of areas of scientific importance.

The importance of each area is indicated in terms of the following categories:

International Importance

1. Only area of its type in Europe.
2. One of the few such localities in Europe.
3. One of a natural series in Europe.
4. Recognised international importance.
5. Specialised educational importance.

National Importance

1. Only area of its type in Ireland.
2. One of a few such localities in Ireland.
3. One of a natural series in Ireland.
4. Recognised national importance.
5. General or specialised educational importance.

Regional Importance

1. Only area of its type in province.
2. One of a few localities in Ireland.
3. One of a natural series in region.
4. Fine example of its kind.
5. General or specialised educational importance.

Local Importance

1. Only area of its type in county.
2. One of a few localities in province.
3. Fine example of its kind.
4. General educational importance.

PRIORITY OF AREAS OF SCIENTIFIC INTEREST

This is a measure of the relative urgency necessary for protection of the areas of scientific importance.

Each site is given a priority rating of A, B or C.

The rating of any area is based on a combination of the following criteria:-

- a) the importance of the area
- b) the vulnerability of the area
- c) the nature and imminence of any threats to the area.

SITE	PAGE NO.	GRID REFERENCE	RATING	PRIORITY	SCIENTIFIC INTEREST
1. Raheenmore	16	N. 435, 320	International	A	Ecological, botanical. Outstanding example of raised bog (Hoch moor)
2. Croghan Hill	16	N. 482, 332	National	A	Geomorphological. Extinct volcano in Midland plain
3. Woodfield Bog	21	N. 258, 360	National	B	Ecological, botanical. Raised bog with several rare species and different habitats.
4. Charleville Woods	26	N. 321, 234	National	C	Ecological, botanical. Extensive oak woodland.
5. Roscrea Meadow	29	S. 162, 903	National	B	Ecological, zoological. Site for a rare snail. Calcifuge/calcirole habitats.
6. Trumpet Hill	32	N. 280, 272	Regional	B	Geomorphological, botanical, ecological. Esker ridge supporting hazel woodland and grassland.
7. Kilcormac Esker	35	N. 260, 208	Regional	B	Geomorphological, botanical, ecological. Long esker ridge with different plant communities.

SITE	PAGE NO.	GRID REFERENCE	RATING	PRIORITY	SCIENTIFIC INTEREST
8. Woodville	28	N. 065, 075	Regional	B	Ecological, botanical. Mixed deciduous woodland.
9. Cloghan Castle	40	M. 973, 124	Regional	B	Ecological, botanical. Mixed deciduous woodland.
10. Clorhane Hazel Wood	43	M. 987, 278	Regional	B	Ecological, botanical, geomorphological. Limestone pavement with rich grassland and hazel woodland.
11. Lough Nanag and nearby eskers	46	N. 002, 283	Regional	B	Ecological, botanical, ornithological. Small lough between esker ridge, which is of botanical note also, and raised bog.
12. Fin Lough	50	N. 035, 295	Regional	B	Ecological, botanical, ornithological. Reeded lough with calcicole/calclifuge communities and of wildfowl importance.
X 13. Lough Coura	53	N. 092, 131	Regional	B	Ecological, botanical. Dried up lake where ecological changes can be traced.
14. Clonad Wood and Meadows	56	N. 322, 192	Regional	B	Ecological, botanical. Oak woodland with rich mycological flora. Meadows contain several interesting plant species.

SITE	PAGE NO.	GRID REFERENCE	RATING	PRIORITY	SCIENTIFIC INTEREST
✓ 15. Charleville Lake	59	N. 341, 225	Regional	C	Ornithological, botanical, ecological. Reeded lough, surround by woodland, excellent wildfowl refuge.
✓ 16. Pallas Lough	62	N. 270, 193	Regional	C	Ornithological, zoological, botanical, ecological. Inland Fisheries stocked lake with reeded areas and open water for wildfowl. Shoreline marsh vegetation of interest.
17. Woods near Mount St. Joseph Abbey	66	S. 085, 904	Regional	C	Botanical, ecological, zoological. Oak woodland on esker ridge. Population of otters.
18. Incherky Island and the Shannon River	68	M. 985, 146	Regional	C	Ornithological. Important overwintering ground for wildfowl.
19. Slieve Bloom Mountains	71	N. 252, 045	Regional	C	Ecological, botanical. Extensive blanket bog.
20. Ballycumber Bog	74	N. 160, 298	Local	B	Ecological, botanical. Example of raised bog.
21. Meadows near Derrykeel	76	N. 155, 045	Local	B	Ecological, botanical. Calcareous peat meadows.

SITE	PAGE NO.	GRID REFERENCE	RATING	PRIORITY	SCIENTIFIC INTEREST
22. Eskers near Rapemills	78	N. 050, 900 N. 057, 901	Local	B	Geomorphological, botanical, ecological. Rich esker grassland areas.
23. The Derries	82	N. 095, 060	Local	B	Ecological, botanical. Wet, raised bog with birch scrub and Scots Pine.
24. Knockbarron Wood	84	N. 182, 069	Local	B	Botanical, ecological. Mixed, deciduous woodland.
25. Grand Canal	86 88	N. 296, 251 N. 525, 312 to N. 579, 326	Local	C	Ecological, botanical. Aquatic vegetation and 'refuge area'.
26. Ballyduff Wood	90	N. 320, 275	Local	C	Ecological, botanical. Beech woodland.
27. Clonfinlough Esker	92	N. 060, 299	Local	C	Geomorphological, botanical, ecological. Esker grassland.
28. Leap Castle	94	S. 129, 973	Local	C	Botanical. Rare species.
29. Golden Grove	97	S. 117, 924	Local	C	Ecological, botanical. Beech wood (planted).

SITE	PAGE NO.	GRID REFERENCE	RATING	PRIORITY	SCIENTIFIC INTEREST
30. Meadows north of Moneygall	99	S. 008, 838	Local	C	Ecological, botanical. Wet meadows and peat bog.
31. Shannonbridge Bog	101	M. 980, 265	Local	C	Ecological, botanical. Raised bog with <u>Cladium mariscus</u> .
32. Knockydown Wood	104	N. 072, 068	Local	C	Botanical, ecological. Mixed deciduous wood.
33. Esker Bridge	106	N. 552, 273	Local	C	Geomorphological, botanical, ecological. Esker ridges, grassland and verges.
34. Raheen Lough	109	N. 465, 184	Local	C	Ornithological. Wildfowl area.
35. Lough Roe Bog	111	N. 255, 300	Local	C	Ecological, botanical. Wet raised bog.
36. Quarry near Cloneen	113	N. 427, 328	Local	C	Ecological, geological, botanical.; Limestone quarry with developing plant communities.
37. Annaghmore Lough	115	N. 305, 147	Regional	B	Ecological, botanical, geological, calicicole/calicifuge habitats.

<u>Name of Area</u>	RAHEENMORE
<u>Grid Reference</u>	N. 435. 320.
<u>Acreage</u>	445
<u>Scientific Interest</u>	Ecological, botanical
<u>Rating</u>	International
<u>Priority</u>	A

Description of Area

Raheenmore is listed by Project Thelma and the National Heritage Inventory as being a raised bog (Hoch moor) par excellence in a classical basin situation. There are over 250 acres of high or virgin bog and some cutaway bog; also approximately 125 acres of undamaged active regeneration complex pools and hummocks. In the centre of the bog it has a pronounced dome shape. Whilst at the western end is crevassing from an incipient bog flow.

In 1959 the rare plant Scheuzeria palustris, found in its only Irish station in a nearby bog, was transplanted to Raheenmore, owing to the forthcoming excavation of the previous site by Bord na Mona.

Evaluation

An excellent example of wet raised bog with different plant associations and the added interest of an extremely rare species.

Threats to the Area

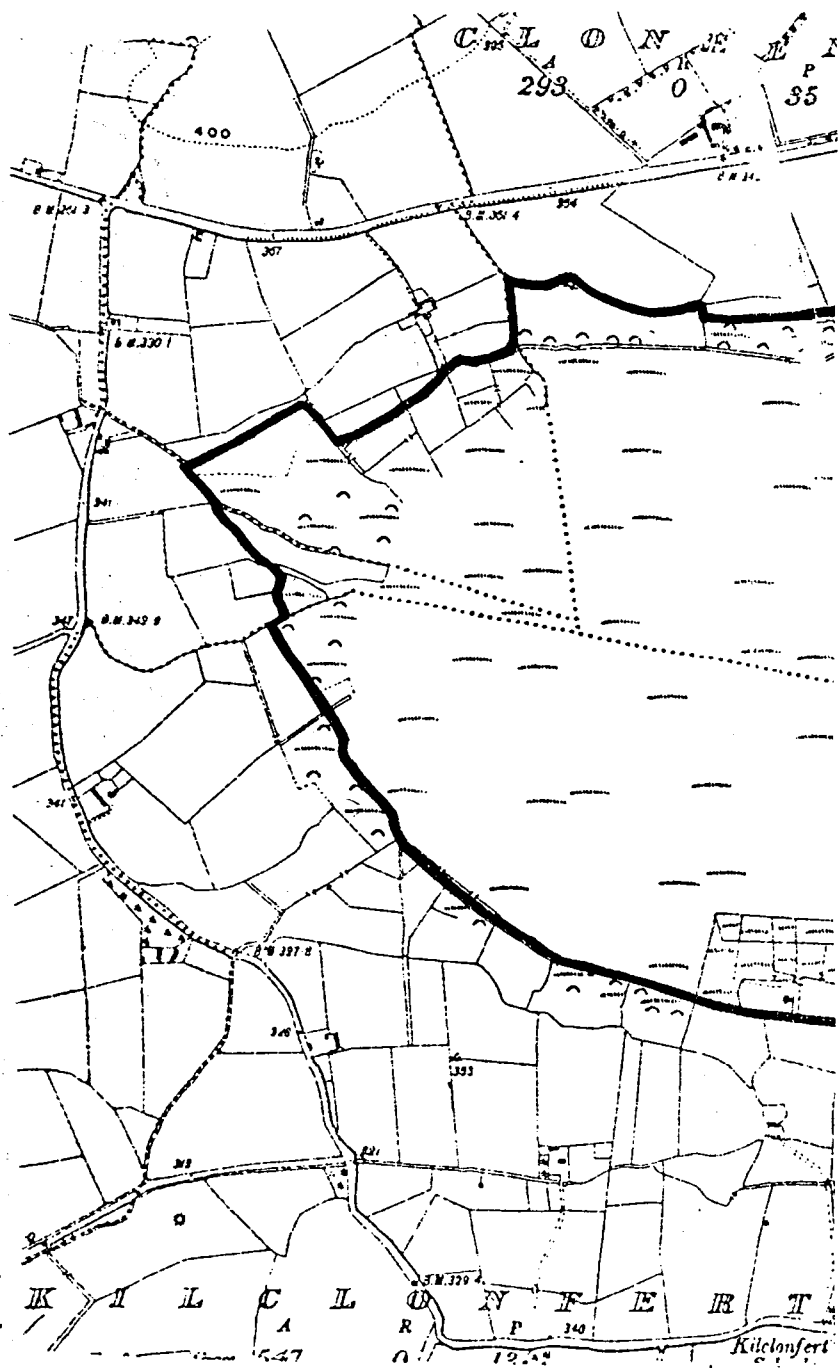
A little peat-cutting is carried out by the local people, but this does not present a serious problem.

Recommendations

These have already been listed and include the preservation of the of the area intact as a nature reserve and study centre for biologists. A Conservation Order should be drawn up as soon as possible.

MAP SHOWING AREA OF SCIENT

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<u>Name of Area</u>	CROGHAN HILL
<u>Grid Reference</u>	N. 482.332.
<u>Acreage</u>	445
<u>Scientific Interest</u>	Geomorphological
<u>Rating</u>	National
<u>Priority</u>	A

Description of Area

Croghan Hill rising to a height of 769 ft., is an extinct volcano surrounded by flat pastureland and bogs. It is composed of tuffs and lava flows intruded by basaltic rocks. The extrusive rocks are interbedded with the surrounding limestone and are therefore of Carboniferous age. The main vent near St. Patrick's well is now plugged with basalt and is partly surrounded by hills composed of ash and tuff which stand up much as they did about 300 million years ago. Shortly after the volcano erupted it was covered over by Carboniferous limestone. Geologically speaking this limestone has only recently been removed, leaving the hard volcanic rocks standing up little the worse for their long burial.

The grassland is grazed by cattle and rabbits and is composed mainly of Agrostis stolonifera (creeping bent) and Cynosurus cristatus (crested dog's-tail) with very few herbs; Senecio jacobaea (common ragwort) is abundant.

Evaluation

Because of its isolated position this hill gives possibly the finest manifestation of a volcano in Ireland.

Threats to the Area

Buckley Bros., a Cork firm have acquired part of the hill and have applied for permission to quarry the volcanic ash material. The County Council have refused permission and an appeal is being made by the firm.

Recommendations

Because of its geomorphological interest and also its amenity and scenic values, it is recommended that the hill be allowed to stand intact.

<u>Name of area</u>	WOODFIELD BOG
<u>Grid reference</u>	N. 258, 360
<u>Acreage</u>	486
<u>Scientific interest</u>	Botanical, ecological
<u>Rating</u>	National
<u>Priority</u>	B

Description of site

Relatively few areas of raised bog are left untouched by Bord na Mona in Co. Offaly, so that any remaining areas are of ecological importance.

Although this is not an extensive bogland, it contains different plant communities and several rare species.

Most of the 486 acres support a typical association of bog species including:-

<u>Calluna vulgaris</u>	Ling
<u>Molinia caerulea</u>	Purple moor-grass
<u>Erica tetralix</u>	Cross-leaved heath
<u>Narthecium ossifragum</u>	Bog asphodel
<u>Trichophorum caespitosum</u>	Deer grass
<u>Eriophorum angustifolium</u>	Bog cotton
<u>Sphagnum spp.</u>	Moss

Patches of developing birch scrub are located at the north-eastern and south-eastern margins. Near the N.E. scrub the rare marsh clubmoss, Lycopodium inundatum is to be found in its only midland station in Ireland. Whilst at the southern end the uncommon pale butterwort, Pinguicula lusitanica, grows in damp, muddy hollows. Around this region are areas of sedge-dominated communities grading into damp meadowland where such species as meadow thistle, Cirsium dissectum, marsh cinquefoil, Potentilla palustris, and cranberry, Vaccinium oxycoccus, are to be found.

To the west of the roadway a colony of the pitcher plant, Sarracenia purpurea, is flourishing, 3 plants being originally introduced about 30 years ago.

Evaluation

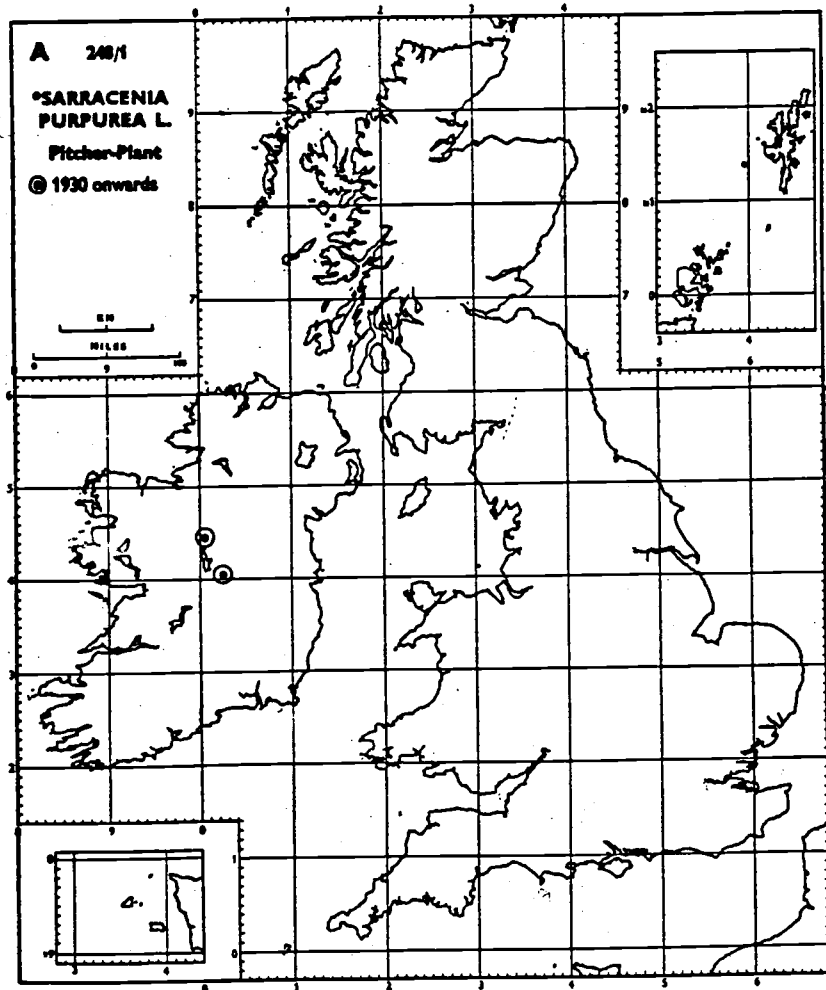
Good examples of raised bog, marsh and wet meadow communities are found within the area delimited on the accompanying map. In addition 3 rare species flourish in the region.

Threats to the area

Bord na Mona are excavating nearby peat bogs, but there are no existing plans to exploit this area.

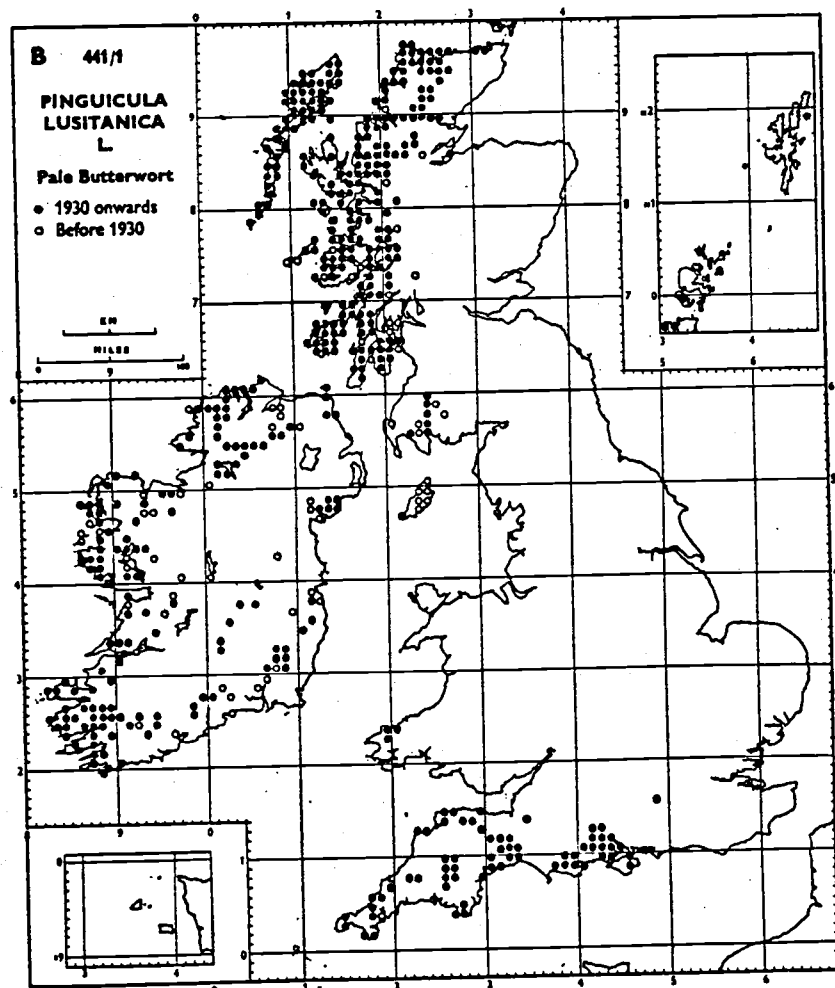
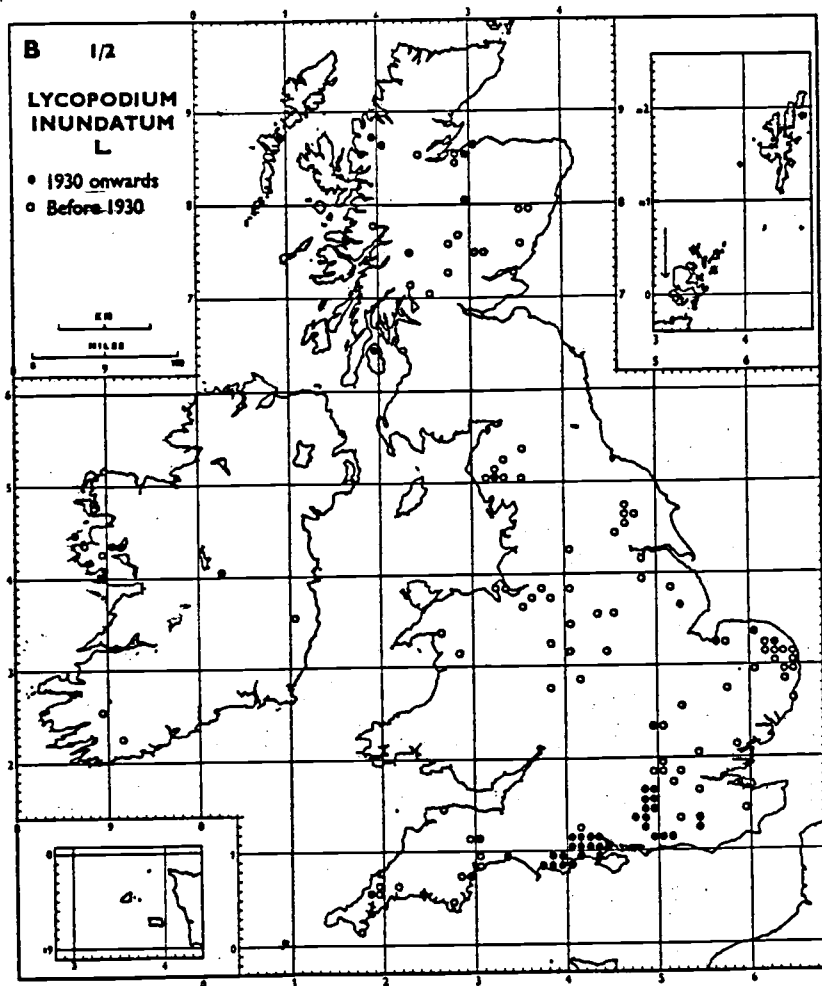
Recommendations

General planning control is needed to protect the area and a Conservation Order is recommended on ecological grounds.



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Maps showing the distribution of plant species in Great Britain and Ireland.
 (Extracted from "The Atlas of the British Flora")



<u>Name of Area</u>	CHARLEVILLE WOOD
<u>Acreage</u>	376
<u>Grid Reference</u>	N.321. 234.
<u>Scientific Interest</u>	Ecological, Botanical
<u>Rating</u>	National
<u>Priority</u>	

Description of Area

The Charleville woodlands extend over approximately 1,000 acres and re-forestation by conifers and other planted trees is restricted to less than a 100 acres. The woods are dominated by oak, Quercus robur and throughout most of the woodland the only other tree is ash, Fraxinus excelsior. Elms Ulmus glabra have grown over much of the woodland but they are extremely scattered. Birches also occur mainly Betula verrucosa in woods and Betula pubescens on the bogier margins.

The understorey, where it remains - many areas having been cleared - consists of hazel, Corylus avellana, with some hawthorn Crataegus monogyna, and blackthorn, Prunus spinosa.

The ground flora varies. Much of the woodland is overrun by blackberry, Rubus fruticosus. Where there is oak and ash mixed, the floor is covered by a sward of the moss Rhytiadiadelphus triquetrus.

On the island in the middle of Charleville Lake is a good example of oak woodland. No timber has been extracted from here in the last 150 years, so that the stand is an excellent study area for ecologists.

Evaluation

Excellent stands of Quercus robur, some areas not interfered with for the past 150 years, provide an area suitable for ecological study and research.

Threats to the Area

The estate is privately owned, but unless there is a change in management policy, there does not appear to be any threat to the woodland.

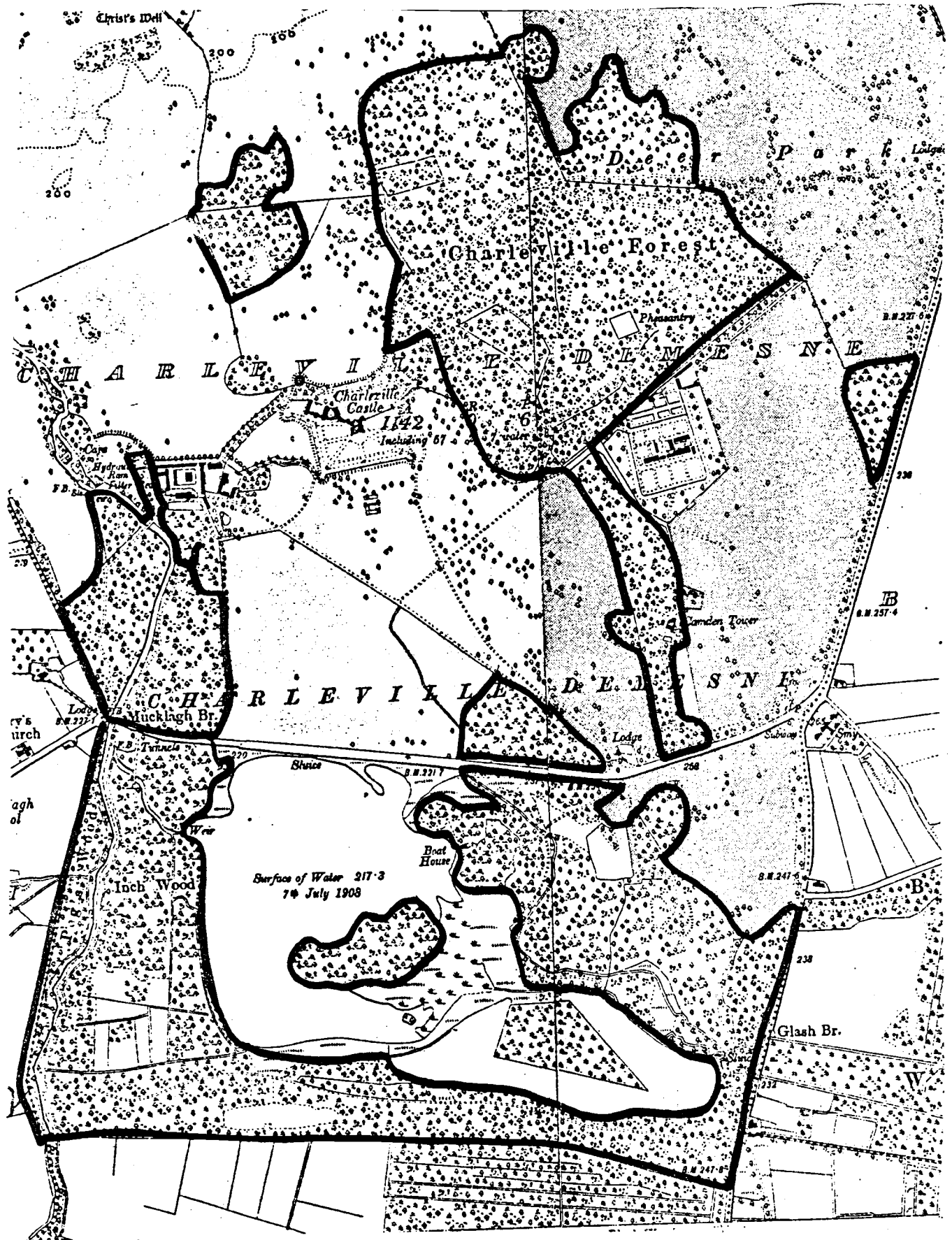
Recommendations

The area of woodland on the island merits a Conservation Order.

Management of the rest of the woodland is needed. The present from is not known, but it is unlikely to produce a serious threat to the woods.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 4

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	ROSCREA BOG
<u>Acerage</u>	66
<u>Grid Reference</u>	S. 162. 903.
<u>Scientific Interest</u>	Ecological, Zoological, Botanical
<u>Rating</u>	National
<u>Priority</u>	B

Description of area

To the north of the Roscrea/Dublin railway line is a calcareous marsh surrounded by raised meadowland. There are several different plant communities reflecting the changes in the substratum nature.

Small pools have deposits of lime through which grow few plant species, such as Potamogeton natans (common pondweed) and Carex rostrata (Bottle Sedge). Around the pools tussocks of Schoenus nigricans (Black bog rush) and Carex paniculata (Tussock Sedge) grow. These areas are in turn surrounded by a transition zone into a meadow community. Molinia caerulea (Purple Moor Grass) invades the Schoenus tufts and herbaceous species are more frequent. The meadowland itself is a mixture of Molinia, Dactylis glomerata (Cock's foot grass) and Briza media (Quaking Grass). Herbs such as Succisa pratensis (Field Scabious), Centaurea nigra (Black knapweed), Potentilla erecta (Common tormentil), and Pedicularis palustris (Red Rattle) are frequent. It is in the lime-encrusted pools that the rare round-mouthed whorl snail, Vertigo genesii, is found. Another species, local in Great Britain and Ireland is Caruana's snail, Agriolimax laevis. The marsh is an ideal habitat for Mollusca and 12 other species have been recorded including -

<u>Carychium minimum</u>	Short-toothed herald snail
<u>Lymnaea truncatula</u>	dwarf pond snail
<u>Succinea pfeifferi</u>	Pfeiffer's amber snail
<u>Cochlicopa lubrica</u>	slippery snail
<u>Vertigo antivertigo</u>	marsh whorl snail
<u>V. pygmaea</u>	common whorl snail
<u>V. genesii</u>	round-mouthed whorl snail
<u>Vallonia pulchella</u>	beautiful grass snail

<u>Punctum pygmaeum</u>	dwarf snail
<u>Euconulus fulvus</u>	tawny glass snail
<u>Vitrea crystallina</u>	crystal snail
<u>Retinella raditula</u>	rayed glass snail
<u>Zonitoides nitidus</u>	hollowed glass snail
<u>Agriolimax laevis</u>	Caruana's snail

Evaluation

The different habitats offered by the calcareous marsh and surrounding meadowland provide excellent examples of ecological diversity, and make the area of educational importance. The abundance of Mollusca, with the added interest of the two rare species make this site of particular zoological importance.

Threats to the area

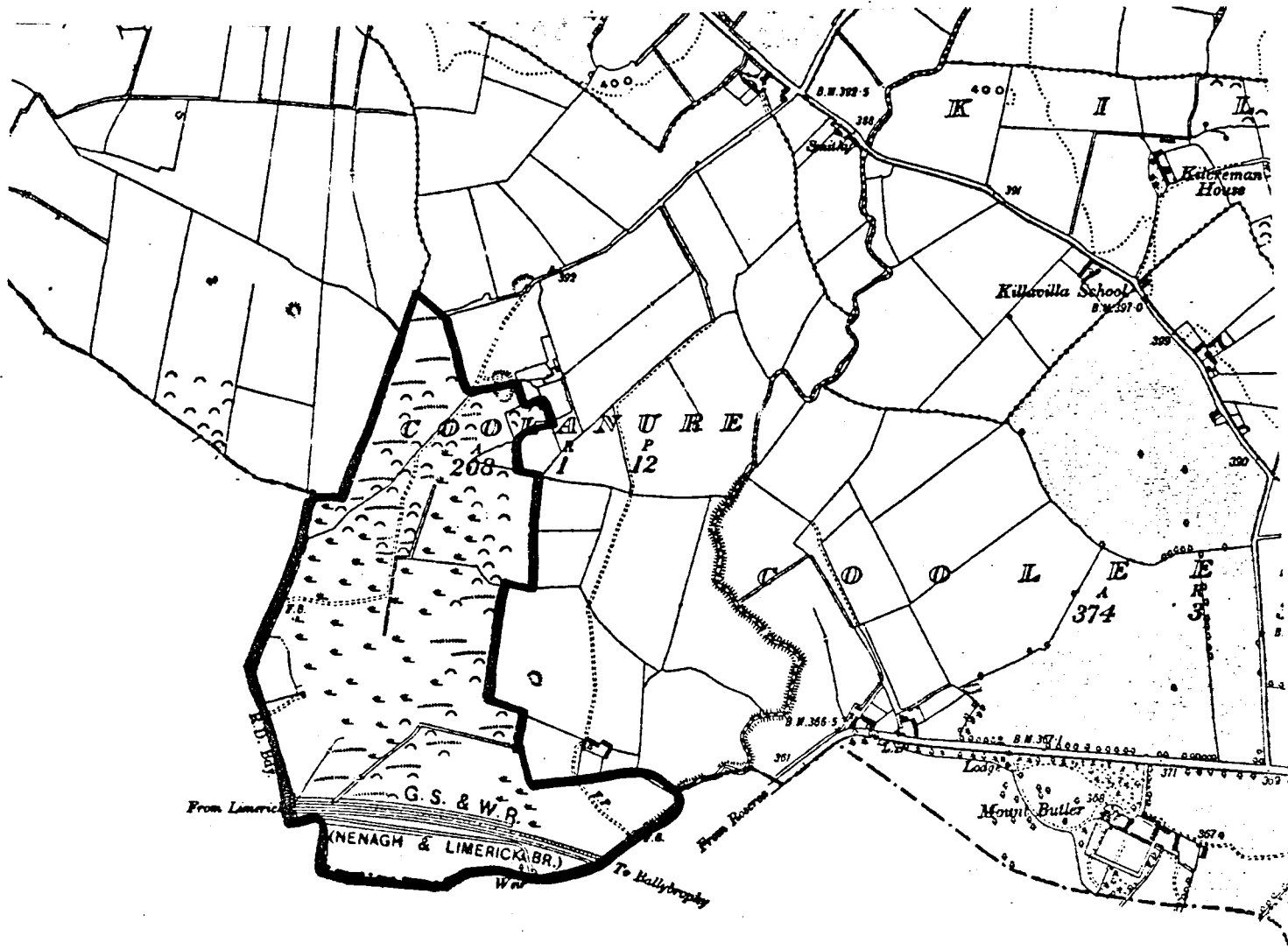
The enclosing land is pastureland and it is unlikely that there will be any change in management.

Recommendations

This site is ideal for the study of ecological habitats. Access is restricted - the easiest way of approach is made along the railway line itself, but there is a footpath leading from the farm to the north of the marsh. Further research into the Mollusca should be carried out and the area should be protected by a Conservation Order.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 5

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	TRUMPET HILL : BALLYDUFF ESKER
<u>Grid reference</u>	N. 280, 272
<u>Acreage</u>	82
<u>Scientific interest</u>	Geomorphological, Botanical, Ecological
<u>Rating</u>	Regional
<u>Priority</u>	B

Description of site

Trumpet Hill is part of the Ballyduff esker which runs from north of Rahan to south of Tyrellspass, 11 miles in length. Parts of it are wooded, and some areas are being invaded by scrub, but for most of its length, grassland is the main vegetation form.

The main detailed investigation was made to the north-west of Ballynasrah. To the west of the road crossing the ridge is an area of grassland which is being invaded by Pteridium aquilinum (Bracken) and Ulex europaeus (Gorse). Further west a band of hazel woodland colonizes the north slope. The south-facing slope is covered with developing Ulex scrub with grass patches in between and numerous erratic boulders. Along the top of the ridge grow numerous bushes of gorse and blackberries.

Patches of grassland and scrub alternate along the esker until a small trackway crosses the ridge. Mixed woodland with hawthorn, willow, hazel and blackthorn provides another type of habitat, as does a thicket of blackthorn close by.

Evaluation

The Ballyduff esker is a good example of a true esker ridge, particularly in view of its length. The different types of botanical associations found along the Trumpet Hill stretch make it an excellent area from an educational point of view.

Threats to the area

A quarry, 500 yards to the east of the road, is in operation.

Recommendations

Although esker ridges in Co. Offaly are a common feature of the landscape, some of the better examples should be preserved intact and quarrying should be prevented. Trumpet Hill is one such example.

Threats to Area

These are several old gravel workings along this stretch of the esker, but no new areas have been opened up. It is possible, however, that this source will be exploited in the future.

Recommendations

General planning control is required. If possible, the whole of the esker should be left intact.

<u>Name of Area</u>	KILCORMAC ESKER
<u>Acreage</u>	
<u>Grid Reference</u>	N. 260 208
<u>Scientific Interest</u>	Geomorphological, Botanical, Ecological
<u>Rating</u>	Regional
<u>Priority</u>	B

Description of Area

This gravel ridge extends from the Shannon, past Birr and Kilcormac to Screggan, which is 6 miles S.W. of Tullamore. The stretch from Idle Corner to Screggan is described here.

Alongside the Idle Corner to Ballyfarrell road are old gravel workings. The vegetation cover is sparse with clumps of Chrysanthemum leucanthemum (Ox-eye Daisy) and Carlina vulgaris (Carlina Thistle) being the two most obvious species on the ridges. The hollows are covered by a fine, short turf.

The pockets of woodland are comprised of mixed deciduous trees - hawthorn, hazel, birch, beech, privet, sycamore, elder, and also holly and larch, with the main species being beech and hazel.

Much of this stretch is grassland, however, and a very short turf grazed by rabbits and cattle, is to be found. The grassland is rich in that it is composed of many species, no one particular species dominating.

Evaluation

Because of the length of the esker and the different vegetation communities found along it, this area is of geomorphological, botanical and educational value.

<u>Name of area</u>	WOODVILLE
<u>Acreage</u>	243
<u>Grid reference</u>	N. 065, 075
<u>Scientific interest</u>	Ecological, botanical
<u>Rating</u>	Regional
<u>Priority</u>	B

Description of site

This is a large area of mixed woodland approximately 2 miles north of Birr. The eastern block consists mainly of dense hazel woodland (Corylus avellana) which has an understorey composed of ivy, Hedera helix, and blackberry, Rubus fruticosus. At the north-eastern edge is a dried up lake area, now colonized by reeds and semi-aquatic vegetation. The reed beds hold many wildfowl - about 50 snipe were counted during the visit.

The strip of woodland running north-west along an esker ridge has oak as its dominant species, although there are some conifers scattered throughout.

Much of the woodland in the western part is oak interspersed with conifer plantations. This area needs further investigation.

Evaluation

This extensive woodland has different tree communities, each providing some interest to the overall ecological diversity.

Threats to the area

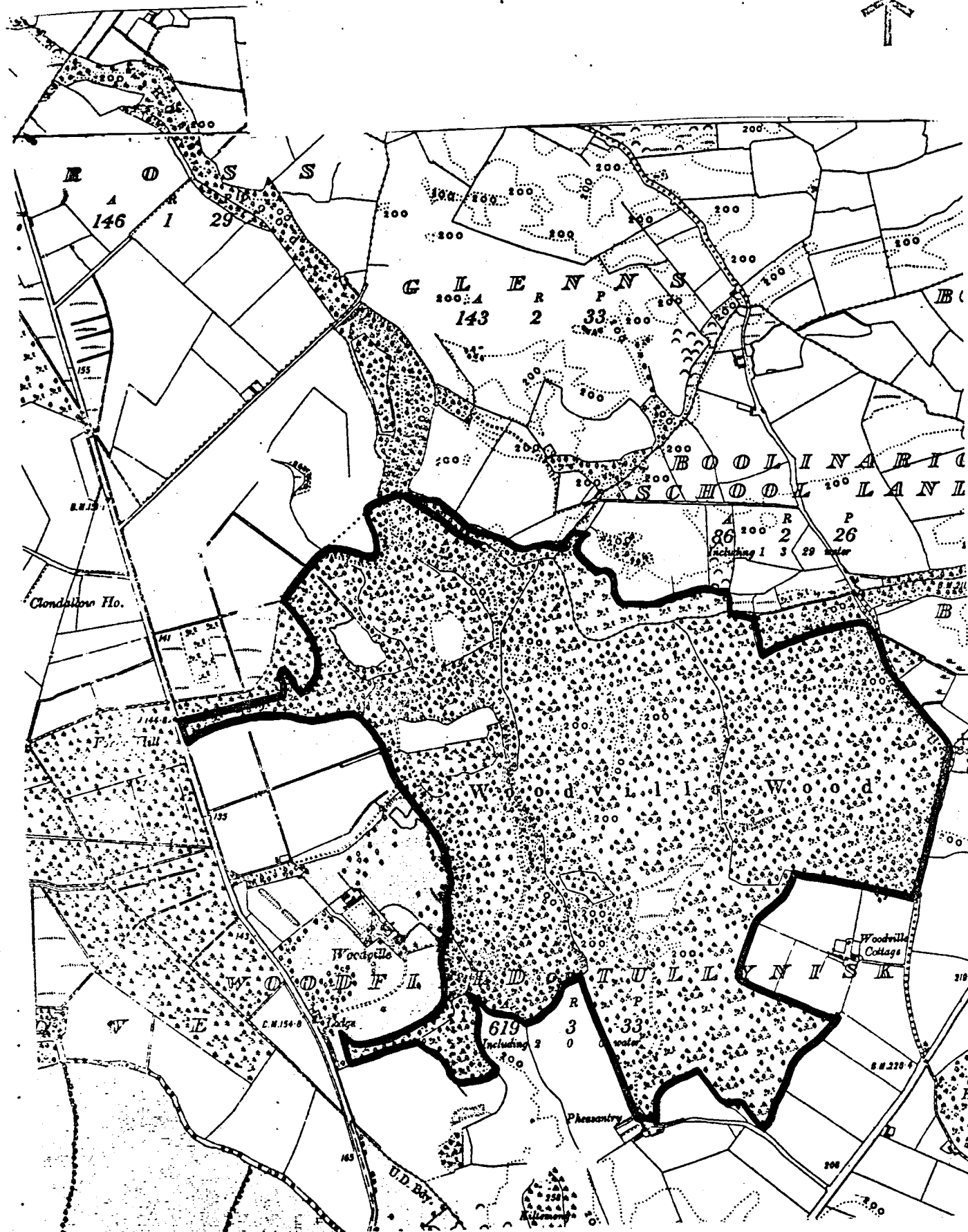
The owner is not known at present, but unless there is a change in management, there is no immediate threat to the area.

Recommendations

A detailed study of the woodland should be undertaken in order to assess accurately the value of this site. Until the assessment is made, general planning control for the area is needed.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 8

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	CLOGHAN CASTLE DEMESNE
<u>Acreage</u>	407
<u>Grid reference</u>	M. 973, 124
<u>Scientific interest</u>	Ecological, botanical
<u>Rating</u>	Regional
<u>Priority</u>	B

Description of site

Approximately 100 acres of mixed deciduous woodland are located to the north and west of the castle. Oak is the main species with some beech and birch. The woodland is mature and the majority of trees have reached a height of about 70 feet.

Between the castle and the Little Brosna River is a fairly extensive raised bog. The river itself is colonized by Potamogeton natans (floating pondweed), Elodea canadensis (Canadian pondweed), Hippuris vulgaris (mare's-tail), Nuphar sp. (waterlily), Equisetum fluviatile (water horse-tail) and Myriophyllum sp. (water milfoil). The water at this point is very clear and numerous fishing platforms cross the stream.

Evaluation

The mixed deciduous woodland is one of a few such areas in the county and as such is of ecological importance. The neighbouring bog adds to the interest.

Threats to the area

Cloghan Castle and part of the demesne amounting to 154 acres have recently been bought by a London businessman. He intends to restore the castle and open it to the public. Other plans include shooting parties and there is the possibility that some of the woodland may be felled.

Recommendations

If possible, the existing woodland should be maintained intact. This would

preserve its ecological value and also provide a habitat for the wild life of the area. Shooting should be restricted i.e. shooting once a month provides ample entertainment and enables a 'recovery' period for the fauna and flora. Suggestions for woodland management could be given by An Foras Forbartha.

<u>Name of area</u>	CLORHANE HAZEL WOOD
<u>Acreage</u>	110
<u>Grid reference</u>	M. 987, 278
<u>Scientific interest</u>	Ecological, botanical, geomorphological
<u>Rating</u>	Regional
<u>Priority</u>	B

Description of site

Along the eastern bank of the River Shannon, 3 miles north of Shannonbridge, is an area of limestone pavement. Much of this is colonized by mature hazel scrub. In between are patches of grassland and pavement itself with very few colonizing species.

The hazel woodland consists of spreading trees approximately 15 feet in height. The ground vegetation has the following species:-

<u>Rubus fruticosus</u>	(blackberry)
<u>Oxalis acetosella</u>	(wood sorrel)
<u>Ajuga reptans</u>	(bugle)
<u>Primula vulgaris</u>	(primrose)

and the limestone outcrops are covered by mosses.

The grassland is a short, species rich turf, grazed by cattle, hares and rabbits, in which orchid species are frequent. The pavement supports a bryophyte flora in which the hart's-tongue fern, Phyllitis scolopendrium, and two spleenworts, Asplenium ruta-muraria and A. trichomanes are common species found in the hollows or grikes.

Evaluation

This is the most extensive area of limestone pavement in Co. Offaly. The grassland is very rich floristically and the area has the added interest of a large hazel woodland.

Threats to the area

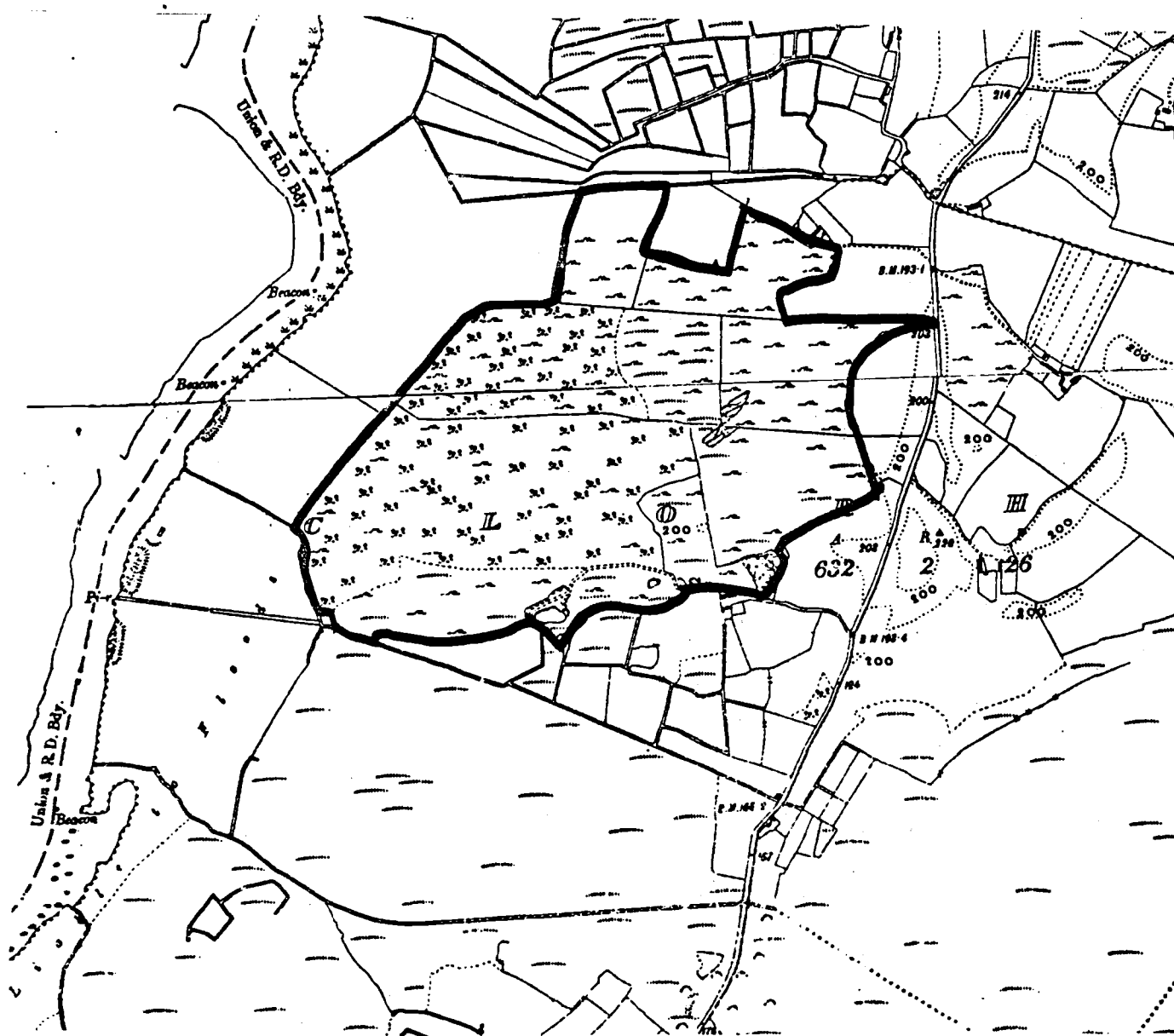
The land is grazed by cattle and rabbits which maintains the open areas of grassland. No threats are known.

Recommendations

No action is necessary at present. Any changes in land use could adversely affect the scientific value of the area, therefore general planning control is recommended.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 10

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	LOUGH NANAG AND NEARBY ESKER
<u>Acreage</u>	83
<u>Grid Reference</u>	N. 002,283
<u>Scientific Interest</u>	Ecological, botanical, ornithological
<u>Rating</u>	Regional
<u>Priority</u>	B

Description of Site

This lough is approximately 4 miles S.W. of Fin Lough. It is very similar in situation in that it is bordered by a raised bog on one side and by an esker ridge on the other. The lough itself is much smaller and is completely surrounded by calcifuge (lime-hating) communities.

Beds of Carex rostrata (Bottle Sedge) fringe the water and divide the lake up into pools. Menyanthes trifoliata (Bog Bean) colonizes several of these. Around the shore are typical peatland communities with Myrica gale (Bog Myrtle), Succisa pratensis (Field Scabious), Cirsium dissectum (Meadow Thistle) and Molinia caerulea (Purple Moor Grass). In the wetter areas the Mud Sedge, Carex limosa, a rare species in the county, is to be found. During the visit two Kestrel, one Moorhen, one Grey Heron, three Snipe and about sixty Mallard were seen. Wildfowl numbers in winter will probably be higher and like Fin Lough, the area acts as a roosting area for winter visitors.

The esker grassland to the west has a particularly rich vegetation which includes several orchid species, one of these being extremely rare.

Evaluation

The richness of the esker grassland and the additional interest of the semi-aquatic vegetation around the lough recommend this as a site of ecological importance.

Threats to the Area

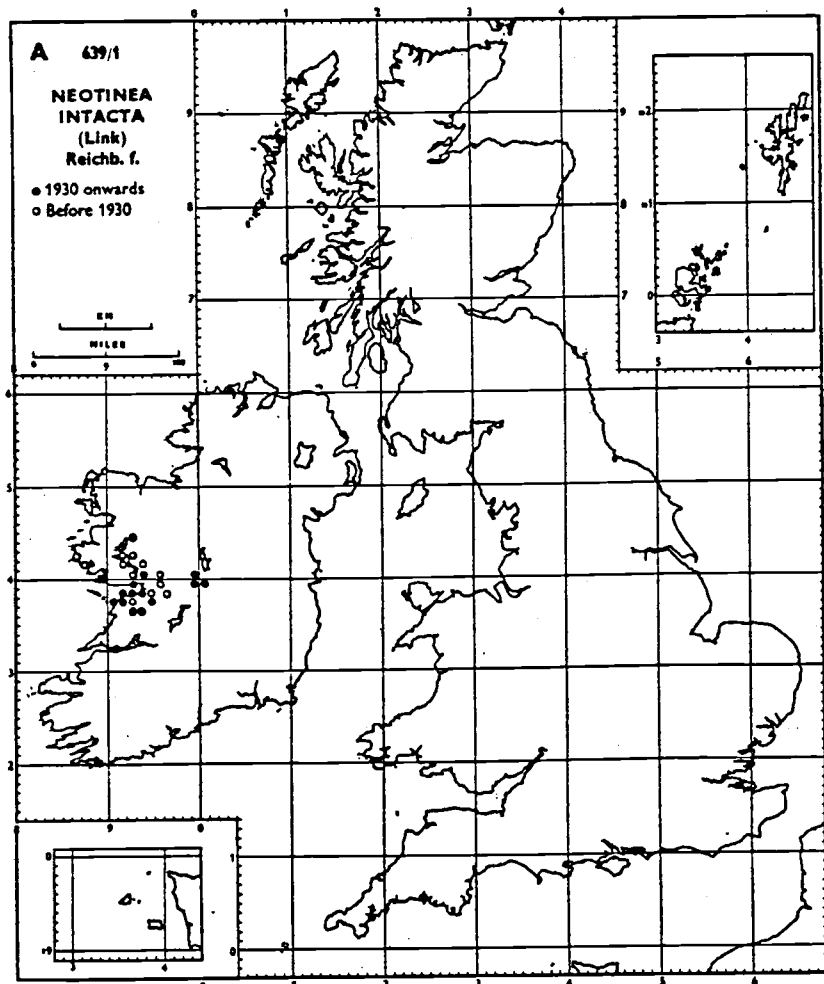
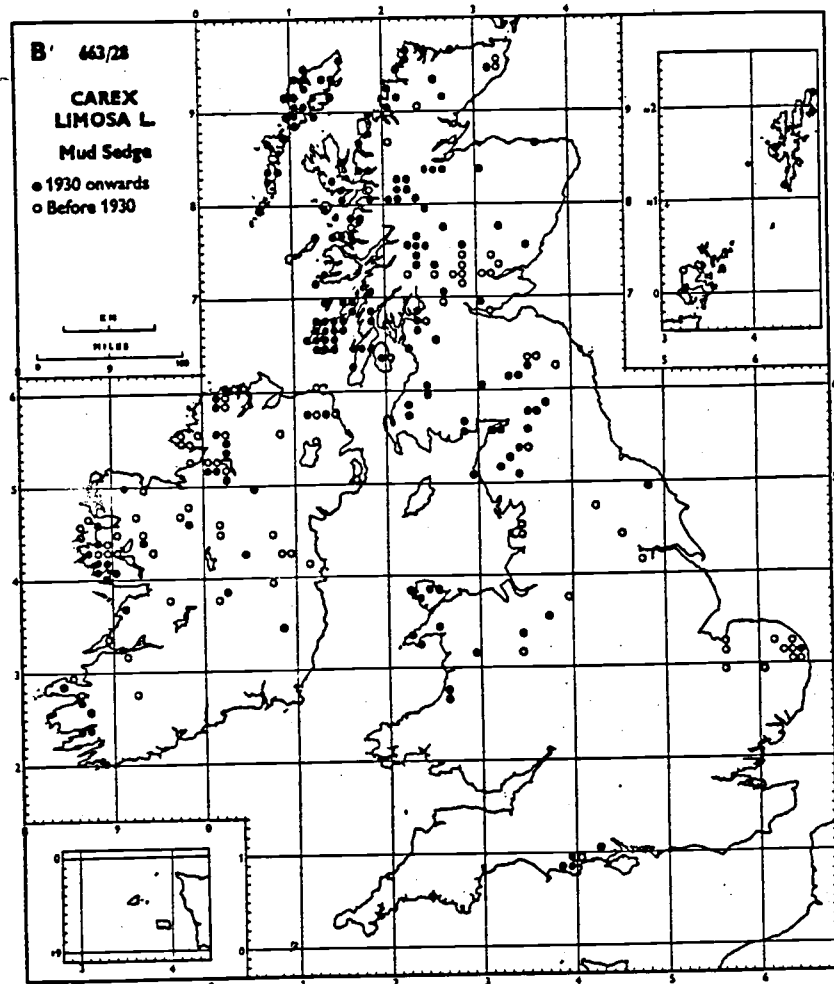
Part of the esker ridge is being quarried.

Recommendations

Further quarrying should be prevented as this series of esker ridges is of outstanding botanical importance.

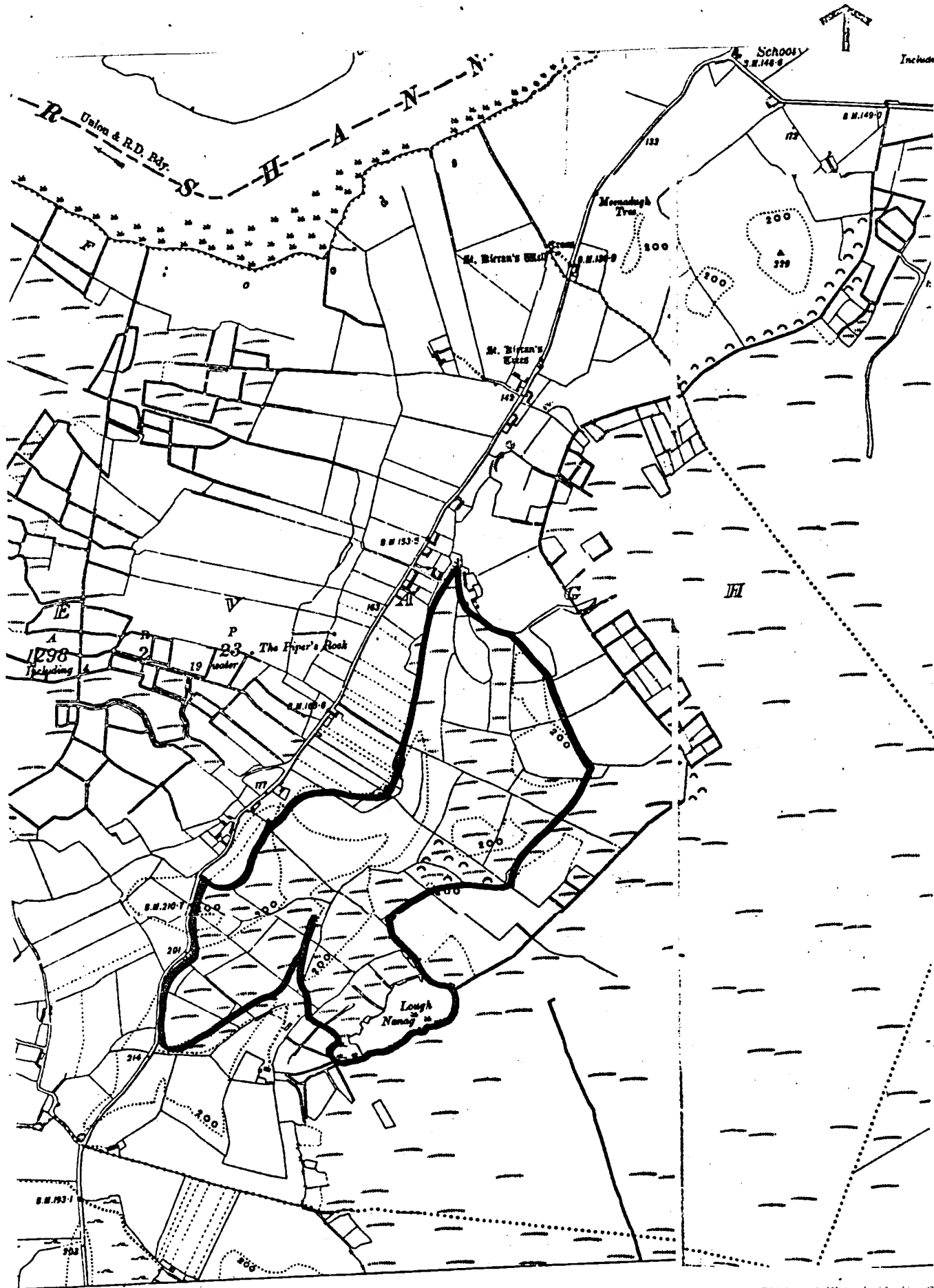
General planning is needed. A Conservation Order for the whole area should be drawn up.

The distribution of plant species in Great Britain and Ireland



MAP SHOWING AREA OF SCIENTIFIC INTEREST — 11

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	FIN LOUGH
<u>Acreage</u>	274
<u>Grid Reference</u>	N. 035,295
<u>Scientific Interest</u>	Ecological, botanical, ornithological
<u>Rating</u>	Regional
<u>Priority</u>	B

Description of Site

To the north runs an esker ridge, to the south a narrow band of raised bog is retained but most of the peat has been removed by Bord na Mona. This leads to an interesting ecological diversity with alkaline conditions on the northern shoreline and acidic conditions to the south.

The lough itself contains much reed growth with Phragmites communis, (Common reed), Scirpus lacustris (Clubrush), Carex rostrata (Bottle sedge) and Typha latifolia (Bulrush) in bands or circular patches. These reeded islands are ideal habitats for wildfowl. An indication of its importance is given by the following count made in January 1969:

Mallard	19
Teal	64
Wigeon	22
Shoveler	3
Tufted Duck	14
Mute Swan	2
Whooper Swan	11
Coot	40

Evaluation

The different types of drift material, i.e. peat, sand and gravel, support different plant communities within a fairly compact area. In addition, aquatic and semi-aquatic habitats are provided by the lake, which support the wildfowl as well as a variety of plant species. Because of its diversity, this would make an excellent educational area.

Threats to the Area

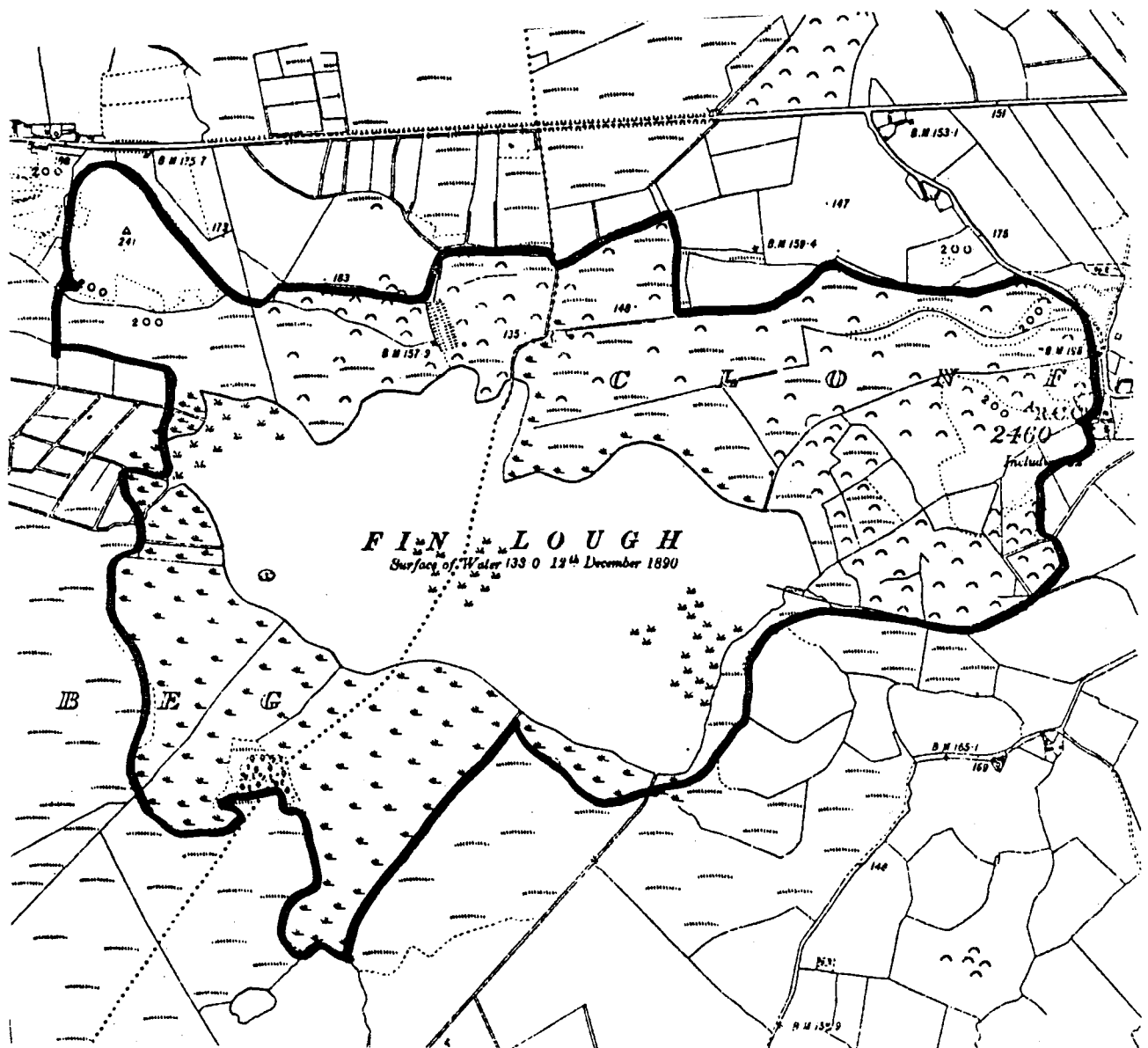
The esker ridge is grazed by cattle. This form of management will probably continue and unless it is intensified, is a good way of maintaining the grassland areas. Further excavation of the peatland to the south is unlikely. Continued reed growth in the lake would result in the loss of open water areas, but would provide more shelter for the wildfowl.

Recommendations

The management of the area is not likely to be altered, but consideration should be given to future maintenance of the lake. General planning control for the area is needed.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 12

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	LOUGH COURA
<u>Grid reference</u>	N. 092, 131
<u>Acreage</u>	350
<u>Scientific interest</u>	Ecological, botanical
<u>Priority</u>	Regional
<u>Rating</u>	B

Description of site

The first botanical description of this area is by Praeger in the Irish Naturalist of 1899, in which he refers to a Lough Goura 'an extensive and promising swamp, which I waded slowly across, adding many plants to my King's County list, such as Galium uliginosum, fen bedstraw, Epipactis palustris, marsh helleborine, Cladium mariscus, saw sedge, Utricularia intermedia, intermediate bladderwort, Carex limosa, mud sedge, Carex filiformis, downy-fruited sedge, and Carex stricta, tufted sedge.'

In 1934 Praeger in his Irish Topographical Botany refers to the Lough as being 'now an extensive limy marsh'. The next literature record is in the Irish Naturalists' Journal of 1969 when a comprehensive account of the past information is given by Miss Booth and Miss Scannell. During their visit in the warm summer the fen was very dry. Their account also traces the history of the lough by reference to the various editions of the O.S. maps.

On the original in 1840 the lake covers 100 acres and has 2 islands. This map shows a large portion of the lake silting up especially at the western end and covered with marshy vegetation. The revised edition in 1909 shows the marshy vegetation over the whole area covered by water. In 1934 it is recorded in the literature as being a limy marsh; in 1969 a dry fen, and at the time of a visit made in November 1972 very few damp areas were found, much of the area being covered by Molinia caerulea, purple moor grass, Phalaris arundinacea, reed canary grass, and Phragmites communis, common reed.

Interesting plant species which have been recorded include:-

<u>Carex diandra</u>	lesser tussock sedge
<u>Carex limosa</u>	mud sedge
<u>Carex dioica</u>	dioecious sedge
<u>Eriophorum latifolium</u>	broad-leaved cotton grass
<u>Ophrys muscifera</u>	fly orchid
<u>Dactylorchis traunsteineri</u>	orchid

Evaluation

Because of the fairly well documented history of this area, it is possible to trace the changing ecological conditions of Lough Coura. As relatively few areas have such information readily available, this immediately recommends the area as one of considerable ecological interest. Several uncommon plant species also add to the botanical rating.

Threats to the area

Drainage channels exist throughout the area and have undoubtedly led to the change in status of the lake to dry fen. The evolution of the dry fen can be traced and this in itself is of importance, although some of the botanical interest has been lost owing to the drainage.

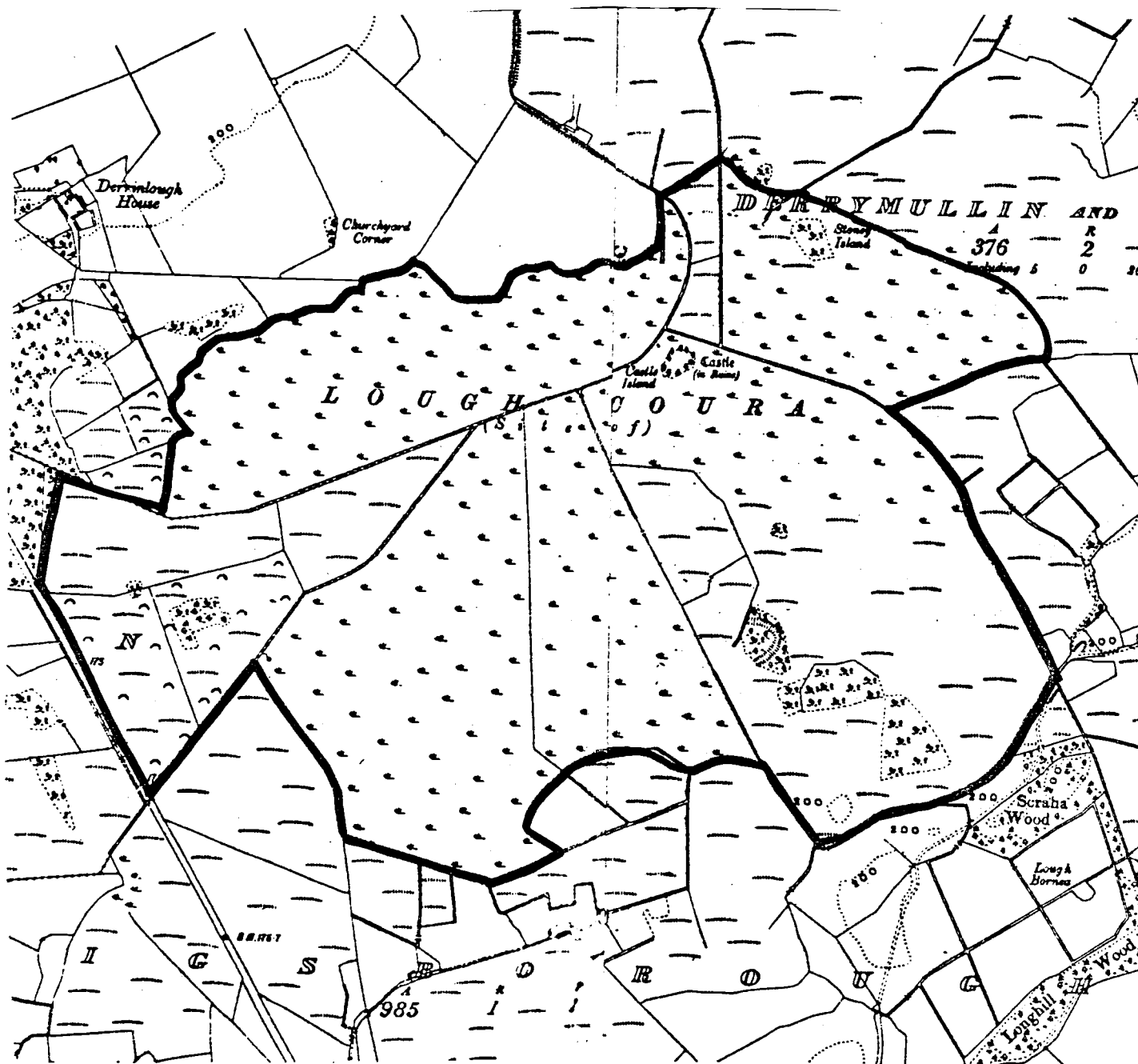
To the south of the area marked as Lough Coura on the O.S. 6" map, much of the land has been planted with conifers.

Recommendations

Further tree planting should be prevented. In fact, any interference with the existing ecology should be avoided as the real value of the area lies in being able to follow the natural successional changes and to record these. The area should be designated as a nature reserve and a detailed study undertaken. A Conservation Order should be drawn up as soon as possible.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 13.

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	CLONAD WOOD AND MEADOW
<u>Acreage</u>	357
<u>Grid Reference</u>	N. 322. 192.
<u>Scientific Interest</u>	Ecological, Botanical
<u>Rating</u>	Regional
<u>Priority</u>	B

Description of Area

Praeger in his 'Botanist in Ireland' states that Clonad Wood is a remnant of original forest. However, Grubb in his thesis on 'Esler Woodland Vegetation' states that investigations into old estate records revealed that the wood had been planted at the beginning of the nineteenth century. It is thought that the planting may have been carried out over an older natural woodland which would account for its present 'natural' appearance.

Today the main species is oak, Quercus robur which has been underplanted with beech and conifers. Other tree species include holly, ash, sycamore, and hazel. The majority of tree trunks are covered with ivy up to a height of 20 feet.

Because of the mixed tree species, the mycological flora is rich and a number of basidiomycetes (cap fungi and rusts) have been recorded. The meadows nearby have the royal fern, Osmunda regalis, and a population of the green-winged orchid, Orchis morio.

Evaluation

Many different associations of tree species are to be found within the woodland form natural areas to those now underplanted with conifers. This provides a varied ground flora and is interesting from an educational point of view. The meadows provide another type of habitat in close proximity.

Threats to the Area

Control of planting is needed in order to preserve the different associations.

Recommendations

General planning control is needed and the form of management should be carefully considered.

<u>Name of area</u>	CHARLEVILLE LAKE
<u>Grid reference</u>	N. 341, 225
<u>Acreage</u>	210
<u>Scientific interest</u>	Ornithological, Botanical, Ecological
<u>Rating</u>	Regional
<u>Priority</u>	C

Description of site

Although the main Birr-Tullamore road passes within a few yards of the northern shore, the surrounding woodland shelters the lake and makes it an ideal habitat for wildfowl. The woodland is composed of mixed deciduous species - oak, ash, hazel, willow and birch.

The lake itself is almost completely reeded up with Carex rostrata (Bottle Sedge) and Scirpus lacustris (Common Bulrush). Aquatic species include Nymphaea alba (White Waterlily), Potamogeton sp. (Pondweed) and a Chara sp. (stonewort). The reed beds provide suitable nesting sites for the wildfowl.

At the time of the visit in September Moorhens and Mute Swans were the only two species seen, but it was impossible to obtain a complete count because of the dense reed growth. Counts made in the winter give a better indication of the importance of Charleville as a wildfowl habitat. Count made on 12th January, 1969.

Mallard	79
Teal	50
Widgeon	28
Shoveler	2
Tufted Duck	18
Pochard	12
Mute Swan	2
Whooper Swan	19
Coot	60

4 herons have also been recorded.

Evaluation

Because of its very sheltered nature, this lake is an important wildfowl area. It is also one of the few areas in Co. Offaly of open water. The woodlands are also of botanical and ecological interest.

Threats to the area

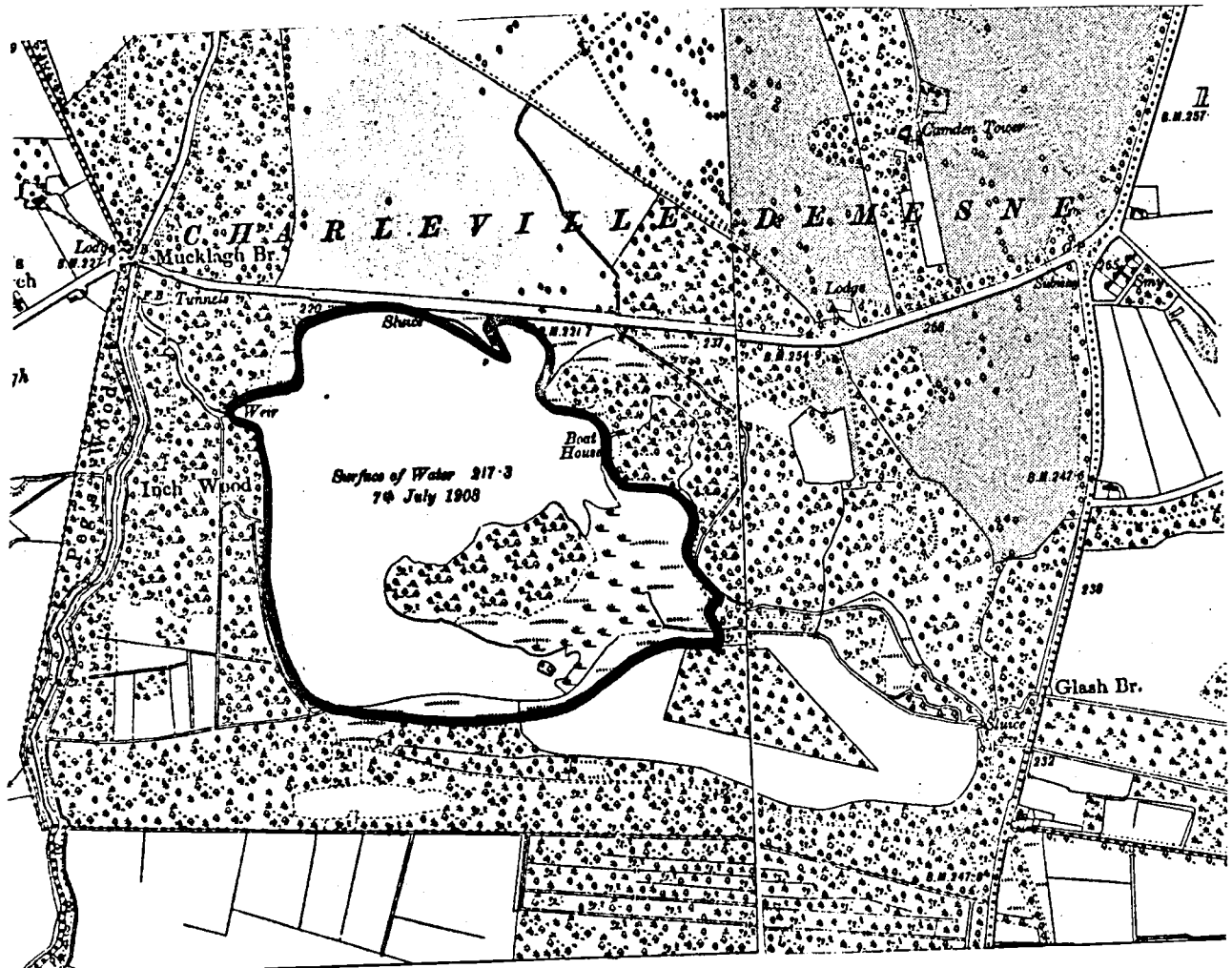
None apparent

Recommendations

General planning control should be considered. Disturbance of the woodland or reed beds should be prevented.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 15.

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	PALLAS LOUGH
<u>Grid reference</u>	N. 270, 193
<u>Acreage</u>	164
<u>Scientific interest</u>	Ornithological, Zoological, Botanical, Ecological
<u>Rating</u>	Regional
<u>Priority</u>	C

Description of site

Pallas Lough is owned by the Inland Fisheries Trust and is stocked by them. It is one of the few areas of open water in the county, and although it is only 1 mile x 1/4 mile approximately, wildfowl come in large numbers during the winter months.

Count made on 11th January 1969.

Mallard	45
Teal	70
Widgeon	45
Shoveler	3
Tufted Duck	12
Pochard	16
Mute Swan	2
Coot	60

The water level has been lowered over the past few years leaving patches of wet grassland and marsh around the periphery. These are botanically rich - one small area recorded had 79 species, 12 of which were sedges. There are also 2 small woods and an area of limestone grassland which yields such species as Gentianella campestris (Field Gentian) and Centaurea minus (Century).

The peripheral grassland is grazed by cattle and geese. The lough itself is well reeded at the eastern end and is very rich in calcium carbonate which forms crusts on the pondweeds and stoneworts.

Evaluation

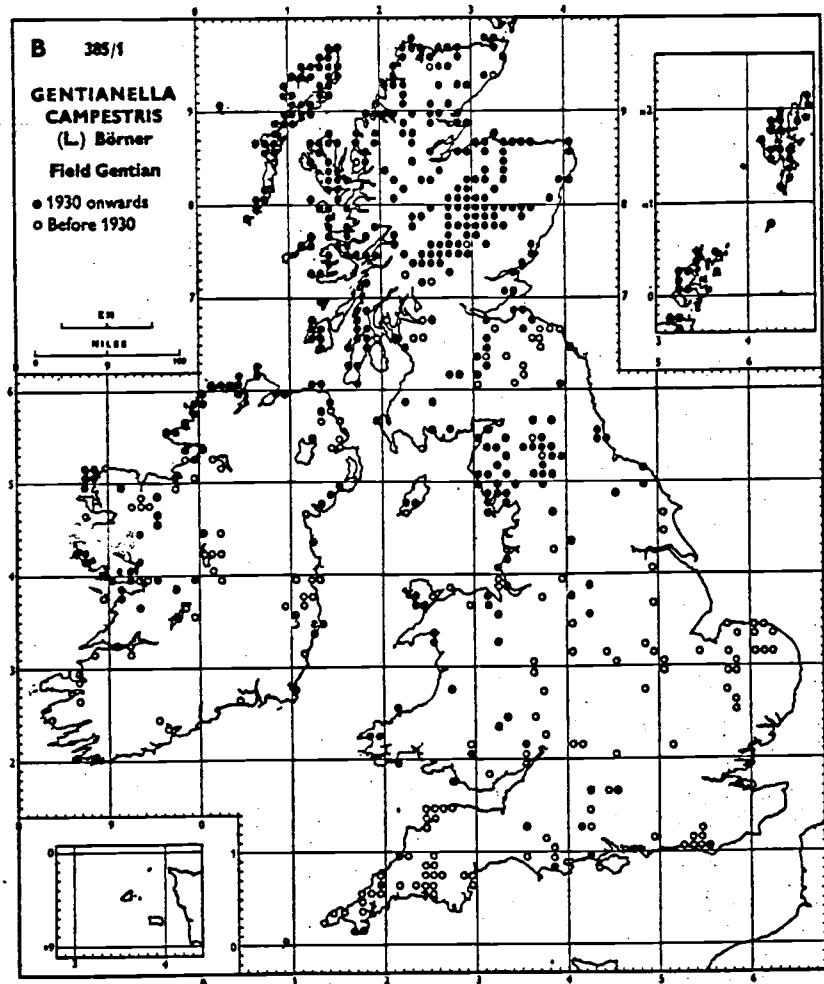
This is a good example of a limestone lake with many different botanical habitats surrounding it, and would make an ideal educational area.

Threats to the area

As the lake is owned and managed by the I.F.T. and most of the visitors are fishermen, there would seem to be no threats to the area.

Recommendations

No action needed.



The distribution of Gentianella campestris in Great Britain and Ireland

<u>Name of area</u>	WOODS NEAR MOUNT SAINT JOSEPH ABBEY
<u>Grid reference</u>	S. 085, 904
<u>Acreage</u>	91
<u>Scientific interest</u>	Botanical, ecological, zoological
<u>Rating</u>	Regional
<u>Priority</u>	C

Description of site

To the west of Mount Saint Joseph Abbey are two bands of woodland flanking the Little Brosna River. On the northern bank oak, Quercus robur, is the main species with some ash, (Fraxinus excelsior), and beech, (Fagus sylvatica). The trees stand on a narrow esker ridge, which extends for approximately three miles. To the south of the river is Coolock Wood, a mixed deciduous woodland with oak, ash, elm and beech.

The Brosna itself at this point is full of reeds with Yellow Flag (Iris pseudacorus), Bur-reed (Sparganium sp.) and Water-cress (Nasturtium officinalis) being the main species. Otters are known to frequent this stretch of water.

Evaluation

Areas of mature deciduous woodland, especially with oak as the dominant tree, are uncommon in the county. The two strips along the Brosna are of interest because of their species composition.

Threats to the area

None apparent.

Recommendations

The land is presumably owned by the Abbey and since it is unlikely to be felled, no action is required at present.

<u>Name of area</u>	INCHERKY ISLAND AND THE SHANNON RIVER (part of Shannon below)
<u>Acreage</u>	-
<u>Grid reference</u>	M. 958, 146
<u>Scientific interest</u>	Ornithological
<u>Rating</u>	Regional
<u>Priority</u>	C

Description of site

The Little Brosna and River Shannon, together with the flanking marshes and islands are important overwintering areas for wildfowl. Whitefronted Geese, widgeon and wild swans are the main species.

Incherky island is typical of the islands in the Shannon being rough pastureland grazed by cattle. Scattered bushes of hawthorn and sallow are found and blackthorn, Prunus spinosa, is abundant along the trackways.

The following figures from an aerial survey in 1967 give some indications as to the winter wildfowl populations.

1.	Little Brosna River	256	Whitefronted Geese
		plus 1	Grey Lag Goose
		200	Wild swans
		c. 3000	Duck - mainly widgeon
2.	River Brosna to Banagher	40	Wild swans
3.	Banagher to Shannon- bridge	65	Whitefronts
		c. 2000	Widgeon
		582	Wild swans
4.	Shannonbridge	7	Swans
		c. 100	duck - widgeon/mallard
5.	Clonmacnoise	c. 400	duck - mainly widgeon
6.	Fin Lough	50	lapwings
7.	Clonmacnoise to Oldtown	540	wild swans
		c. 700	duck - mainly widgeon.

Evaluation

The flat, open marshland and islands with scattered scrub provide ideal overwintering grounds for visiting and breeding wildfowl. Because of their relative inaccessibility the birds remain undisturbed.

Threats to the area

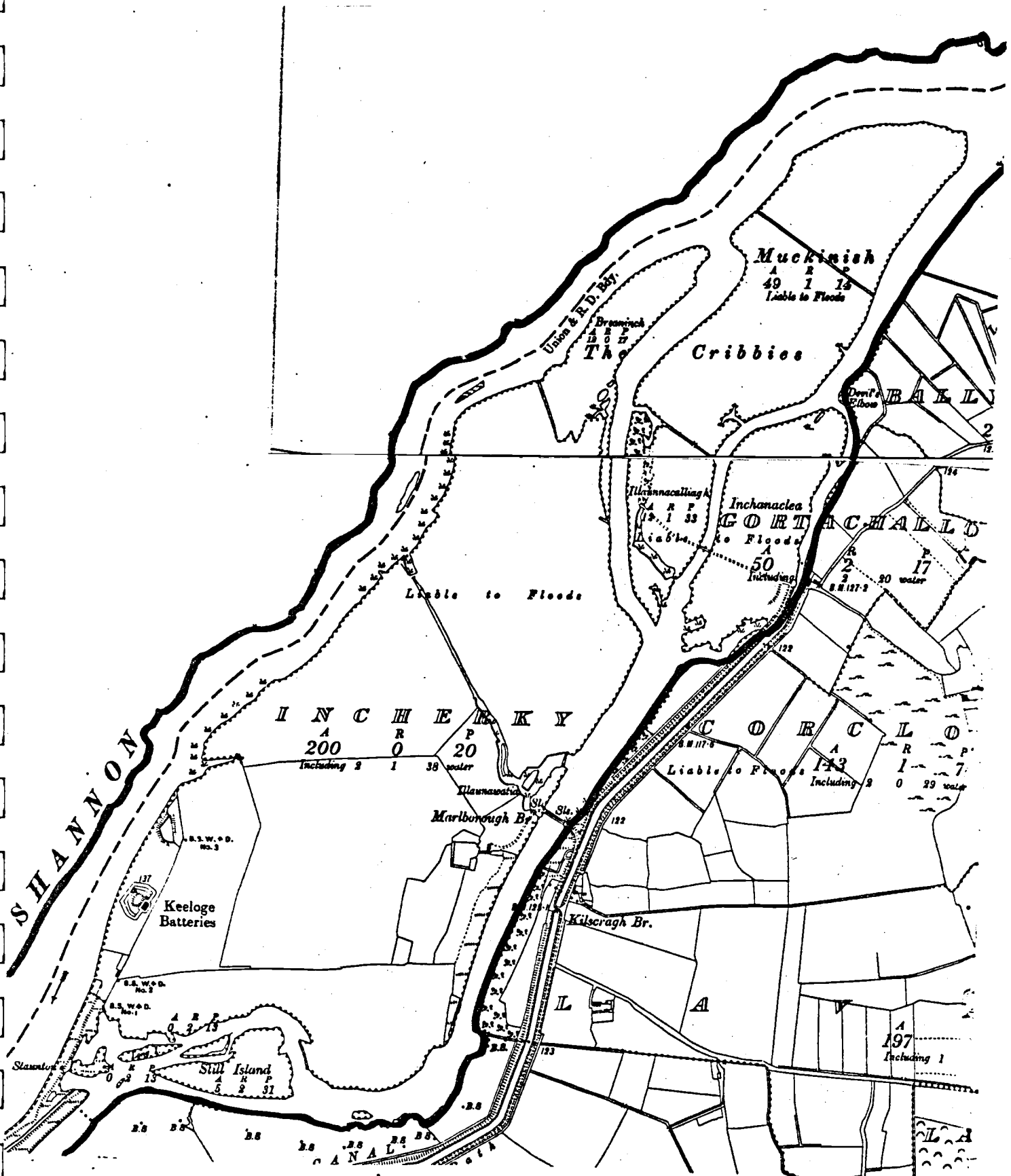
None apparent.

Recommendations

No action needed.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 18

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	SLIEVE BLOOM MOUNTAINS
<u>Grid Reference</u>	N.
<u>Acreage</u>	
<u>Scientific Interest</u>	Ecological, Botanical
<u>Rating</u>	Regional
<u>Priority</u>	C

Description of Site

Above the 1,300 ft. countour, much of the Slieve Bloom Mountain range is covered by blanket bog. A few areas have been afforested, but because of the exposure, the trees are stunted. The bogland is dominated by Calluna vulgaris (ling) and Trichophorum caespitosum (Deer grass). Other species growing in association with these are:-

<u>Deschampsia flexuosa</u>	Wavy hair grass
<u>Erica tetralix</u>	Cross-leaved heath
<u>Eriophorum angustifolium</u>	Common cotton-grass
<u>Juncus effusus</u>	Soft rush
<u>Juncus squarrosus</u>	Heath rush
<u>Narthecium ossifragum</u>	Bog asphodel
<u>Potentilla erecta</u>	Common tormentil
<u>Vaccinium myrtillus</u>	Bilberry
<u>Sphagnum</u> spp.	Moss

Many streams arise in the mountains and around these the flora is richer.

Evaluation

An extensive area of upland blanket peat which is not a common feature of the midland region. A few grouse are found and a herd of fallow deer range the hills.

Threats to the Area

Planting of conifers about the 1,300 ft. contour is unlikely because of the adverse ecological conditions.

Burning of the vegetation should be kept to a minimum as it destroys some of the botanical interest and many of the nesting sites of bird species.

Recommendations

General planning control should be considered for the whole mountain range.

<u>Name of area</u>	BALLYCUMBER BOG
<u>Grid reference</u>	N. 160, 298
<u>Acreage</u>	394
<u>Scientific interest</u>	Botanical, ecological
<u>Rating</u>	Local
<u>Priority</u>	B

Description of site

Three different plant communities can be easily distinguished when walking southwards from the Ballycumber - Cor Hill road. The first is dominated by Molinia caerulea (Purple Moor Grass) and Nartheclum ossifragum (Bog Asphodel). Very little Ling is found and numerous small bushes of a willow, (Salix sp.) are scattered throughout. This edge community is approximately 10 metres wide. The second is about 20 metres in extent and is dominated by Trichophorum caespitosum (Deer Grass). Further onto the bog a more typical flora is found, comprised of Calluna vulgaris (Ling), Erica tetralix (Cross-leaved Heath), Nartheclum ossifragum (Bog Asphodel), Carex panicea (Carnation Sedge) and some Trichophorum caespitosum (Deer grass).

Evaluation

This is a fairly large area of raised bog and is of interest as an example of this type of ecological habitat. However, no uncommon species were found during the visit.

Threats to the area

Bord na Mona have included this area in their future plans for excavation.

Recommendations

This area of bogland will be removed, but it serves to emphasise that remaining areas of bog within Offaly should be conserved as representative of this type of habitat.

<u>Name of area</u>	MEADOWS NEAR DERRYKEEL HOUSE
<u>Grid reference</u>	N. 155, 045
<u>Acreage</u>	47
<u>Scientific interest</u>	Botanical, ecological
<u>Rating</u>	Local
<u>Priority</u>	B

Description of site

Several very wet meadows are located beside the Clareen-Kinnitty road. The stream running through the area reveals the gravel base with a crust of calcium carbonate (lime) on the top. Tufts of Schoenus nigricans (Bog rush) dominate the meadow and individual plants of Phragmites communis (Common Reed) are scattered throughout. In the hollows between the tufts the Common Butterwort, (Pinguicula vulgaris) is abundant. The wandering snail, Lymnaea peregra, flourishes in this habitat. Juncus subnodulosus (Blunt-flowered rush) is also common in certain areas.

Evaluation

The unusual substratum of the meadows gives rise to an interesting ecological habitat. Very few areas of this nature exist in the county and although this is only a small acreage, it is of particular botanical note.

Threats to the area

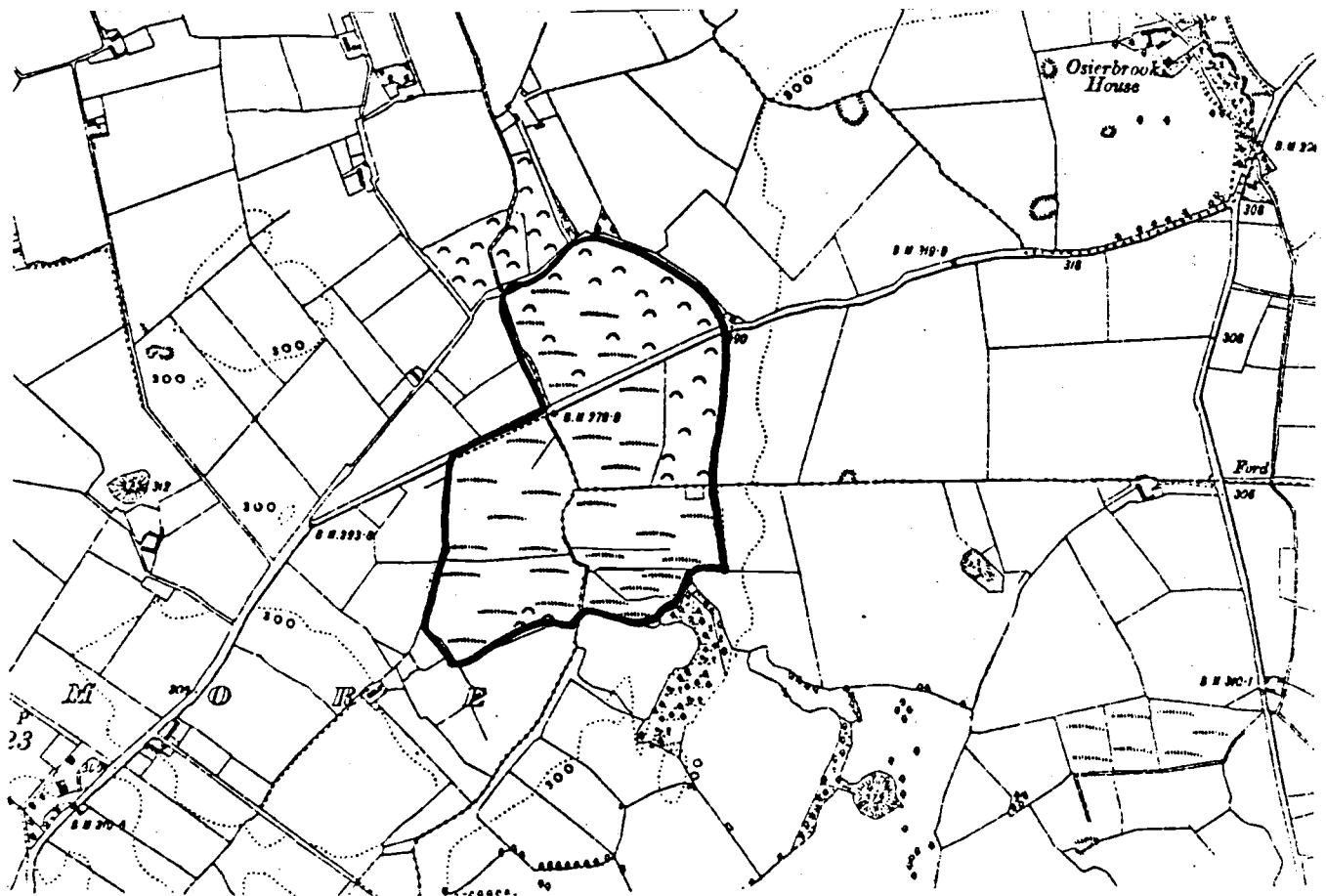
The surrounding land is grazed by cattle and may have been drained.

Recommendations

Further drainage of the area would destroy the wet meadows thus detracting from its ecological interest. This should be avoided.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 21

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	ESKERS SOUTH OF RAPEMILLS
<u>Acreage</u>	64
<u>Grid reference</u>	N. 050, 090 and N. 057, 901
<u>Scientific interest</u>	Geomorphological, botanical, ecological
<u>Rating</u>	Local
<u>Priority</u>	B

Description of site

Around the settlement of Rapemills are numerous sand and gravel ridges. Most of them are colonized by a short turf which has been undisturbed for many years. The only form of management has been sheep, cattle or rabbit grazing. As a result, the grassland contains many species with no one particular plant dominating the community.

To the S.E. of Rapemills are a series of ridges with small limestone outcrops. Wild thyme, Thymus drucei, is one of the more uncommon species to be found on the rock ledges. A ridge parallel to the west supports a narrow band of beech woodland, and the continuation of this ridge westwards has hazel scrub along the top. Golden rod, Solidago virgaurea; autumn felwort, Gentianella amarella; and burnet rose, Rosa spinosissima are plants worthy of note.

The roadway runs along the top of the narrow ridge to the Little Brosna River, about 3 miles further west. At Glaster are two large ridges parts of which have been quarried away. The lower slope has a very rich mixture of species including several orchid species, quaking grass, Briza media, which is the dominant grass, carline thistle, Carlina vulgaris, agrimony, Agrimonia eupatoria and yellow-wort, Blackstonia perfoliata. The brow of the ridge is covered with the dead flower heads of wild carrot, Daucus carota, and the main grass species are red fescue, Festuca rubra and yellow oat grass, Trisetum flavescens.

Evaluation

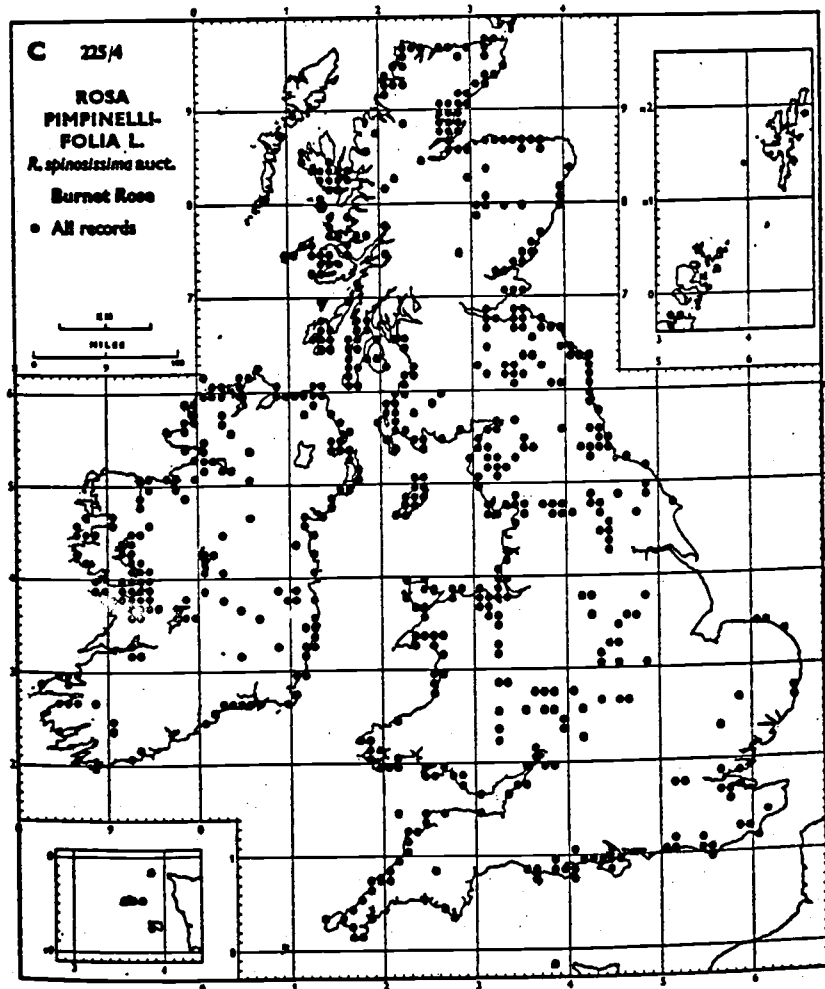
This whole series of esker ridges is of botanical and geomorphological importance.

Threats to the areas

The ridge running north-west from Glaster has been quarried in many places, but there does not appear to be any threat to the other eskers.

Recommendations

Esker ridges form important ecological examples of landscape formation and support grasslands of considerable age, which, because of their undisturbed nature, are very rich in species composition. These particular examples are excellent viewing points across the flat bog areas. If possible, the quarrying should be confined to the ridges of lesser scientific interest.



The distribution of Rosa pimpinellifolia in Great Britain and Ireland

<u>Name of Area</u>	THE DERRIES
<u>Acreage</u>	1728
<u>Grid Reference</u>	N. 095. 060
<u>Scientific Interest</u>	Ecological, botanical
<u>Priority</u>	Local
<u>Rating</u>	B

Description of Area

To the north-east of Birr is an area of forestry plantation known as the Derries. Originally the land was raised bog and much of the land between the Birr-Kinitty road and the Derries still remains bogland. To the north of the Birr-Kilcormac road are extensive local peat cuttings.

The bogland is very wet with numerous small pools and bare peat patches. Along the margins is what appears to be a natural scattered population of Scots Pine, Pinus sylvestris. There are also pockets of birch scrub, particularly along the southern edge.

Evaluation

A good, extensive area of wet raised bog with examples of birch woodland and a Scots Pine population.

Threats to the Area

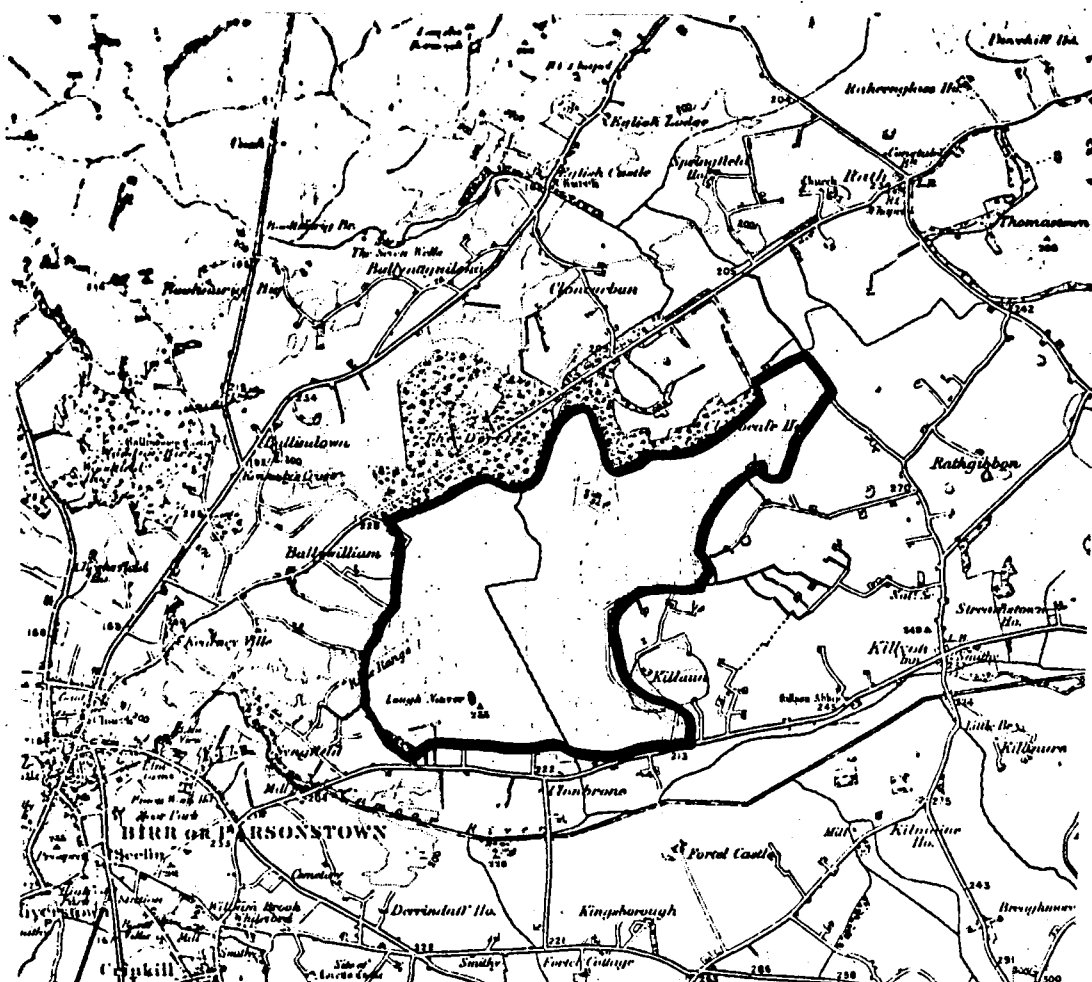
Local peat cutting is fairly extensive in the northern part, but this does not present an immediate problem and is unlikely to do so for several years.

Recommendations

General planning control is sufficient protection at the present time, but the position should be reviewed periodically and the appropriate action taken.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 23

Scale: 1 Inch to 1 Mile



<u>Name of Area</u>	KNOCKBARRON WOOD
<u>Acreage</u>	77
<u>Grid Reference</u>	N. 182. 069
<u>Scientific Interest</u>	Botanical, Ecological.
<u>Rating</u>	Local
<u>Priority</u>	B

Description of Area

The woodland to the west of Knockbarr has been planted with conifers, so that the mixed deciduous wood on the hill provides an interesting ecological contrast. Knockbarron itself consists mainly of sycamore, Acer pseudo-platanus, with patches of hazel, Corylus avellana, and scattered oak, ash and beech trees. Many of the older sycamore have been felled or have had their roots chopped off, prior to felling. Areas around the hill are being clear-felled.

Red squirrels are to be found in the nearby plantation.

Evaluation

A good example of mixed deciduous woodland containing sycamore which is not common in the woods in the county.

Threats to the Area

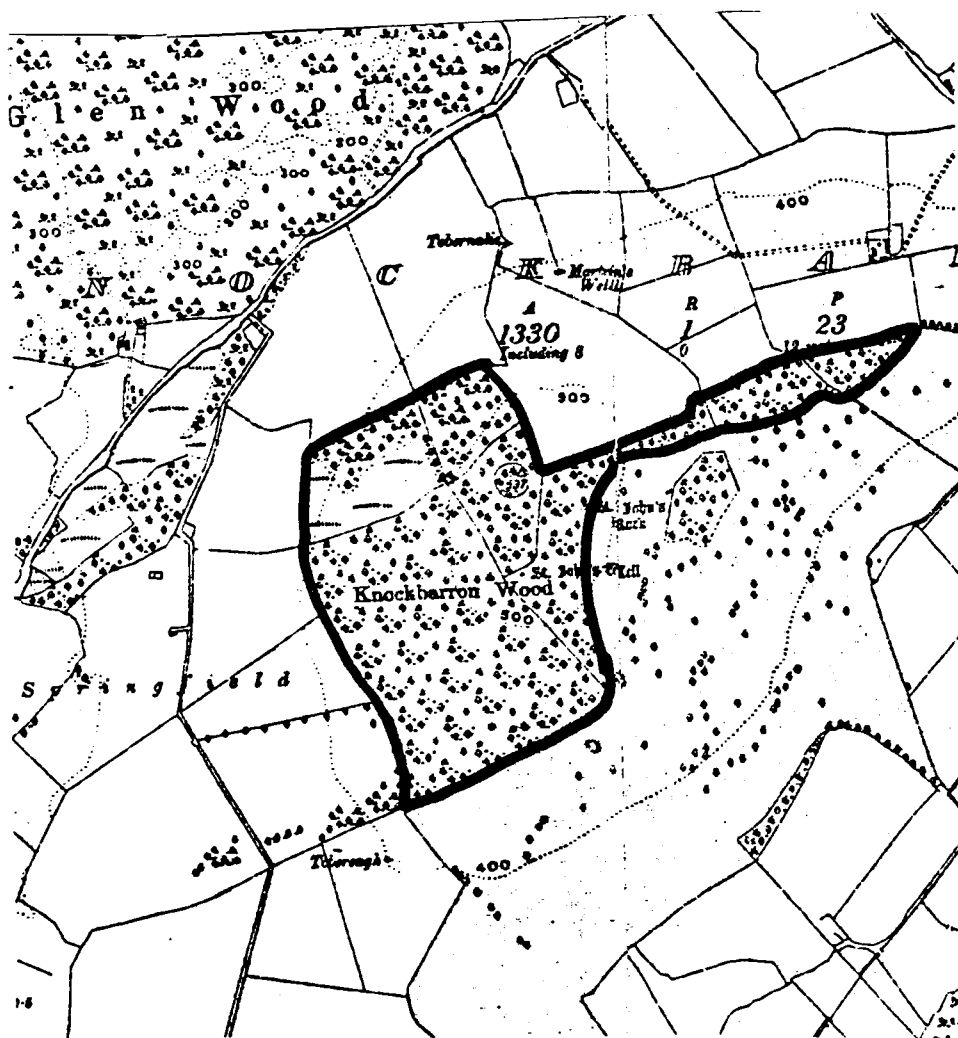
Pockets of trees are being felled at present. It appears that most of these are old sycamores and that a plan of management is already being carried out.

Recommendations

It is not known whether the cleared areas are to be replanted, either with conifers or with deciduous trees. Further enquiries need to be made regarding the intended management of the woodland before any detailed recommendations are made.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 24

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	GRAND CANAL Between Toberdaly and Trimblestown Bridge
<u>Acreage</u>	—
<u>Grid Reference</u>	N. 525 312 to N. 579 326
<u>Scientific Interest</u>	Ecological
<u>Rating</u>	Local
<u>Priority</u>	C

Description of Site

From Toberdaly Bridge to Trimblestown Bridge west of Edenderry the Grand Canal is clear of reeds and easily navigable. The depth of water is approximately 8 feet and Yellow Waterlily (Nuphar lutea), Mare's-tail (Hippuris vulgaris), Canadian Pondweed (Elodea canadensis), Whorled water milfoil (Myriophyllum verticillatum) and Shining Pondweed (Potamogeton lucens) are amongst the aquatic vegetation.

The canal is flanked by broad banks of short grassland usually backed by a line of trees.

Evaluation

Although no uncommon species are found in this stretch of canal, its chief value lies in the fact that the narrow band of banks and water acts as a refuge area, especially for aquatic flora and fauna. Often the canal passes through pastureland or raised bog, providing a very different type of habitat.

Threats to the Area

None apparent.

Recommendations

No action needed.

<u>Name of area</u>	GRAND CANAL AT TULLAMORE RIVER JUNCTION
<u>Grid reference</u>	N. 296, 251
<u>Acreage</u>	-
<u>Scientific interest</u>	Botanical, Ecological
<u>Rating</u>	Local
<u>Priority</u>	C

Description of site

Near Ballycowan the Grand Canal passes over the Tullamore River. The canal is navigable along this stretch, whereas the river is reduced to a width of 6 feet and is almost choked with vegetation.

Glyceria maxima (Reed Sweet Grass), Potamogeton lucens (Shining Pondweed) Nuphar lutea (Yellow Waterlily) and Lemna minor (Lesser Duckweed) are amongst the aquatic species in the canal. Potamogeton lucens also growing in the Tullamore River with Potamogeton pectinatus (Fennel-like Pondweed) and a Callitriche sp. (starwort).

The canal is very good for fishing.

Evaluation

The aquatic life of the canal and river at this junction is fairly rich. Canals in particular, are interesting 'refuge' areas as they often pass through urban parts and provide habitats for wildlife.

Threats to the area

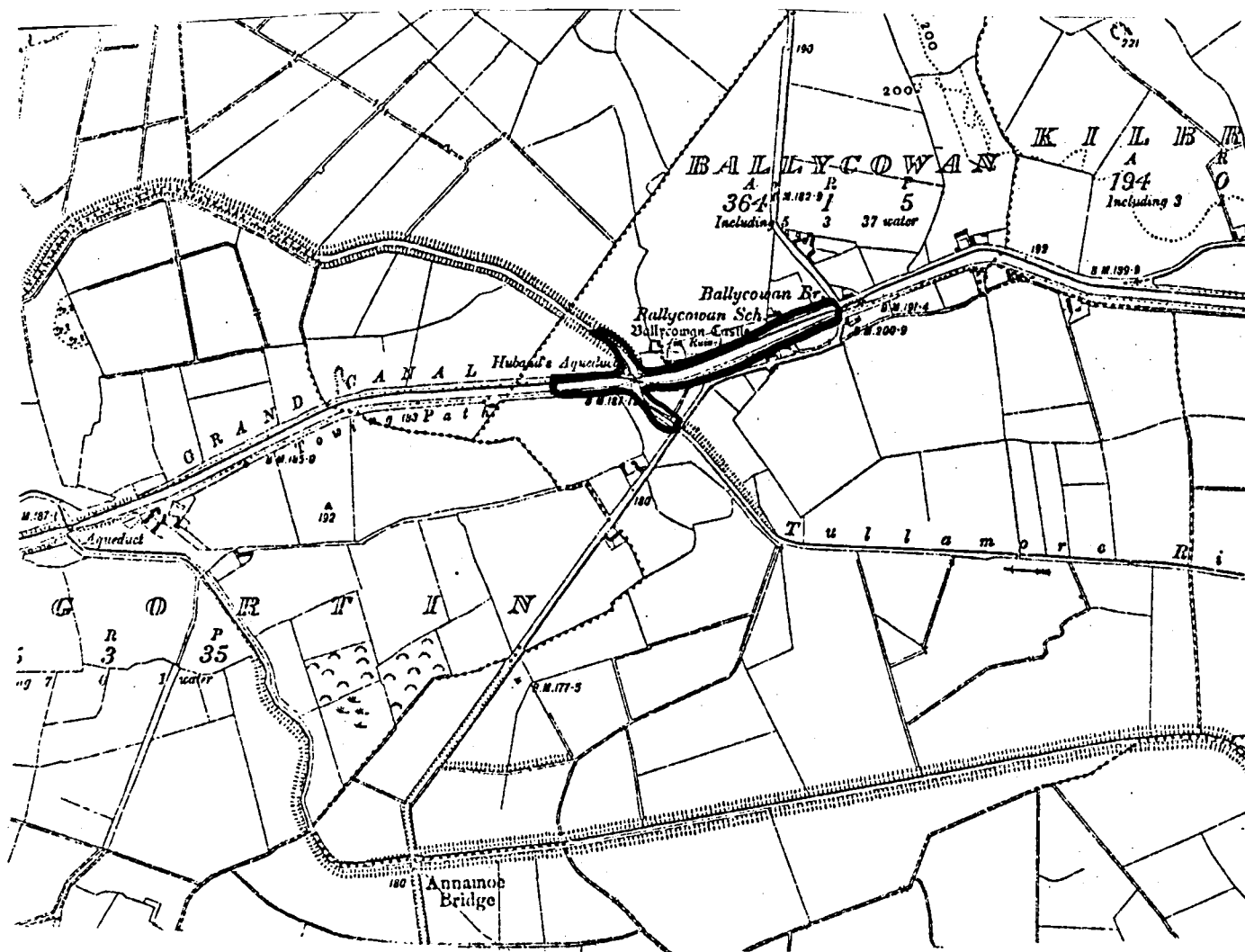
None apparent.

Pollution from cruisers could become a problem, but the amount of traffic at present is unlikely to cause much.

Recommendations

No action necessary.

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	BALLYDUFF WOOD
<u>Grid reference</u>	N. 320, 275
<u>Acreage</u>	23
<u>Scientific interest</u>	Botanical, ecological
<u>Rating</u>	Local
<u>Priority</u>	C

Description of site

This is a small area of beech woodland to the east of the Tullamore-Clara road 4 miles north of Tullamore. Younger beech trees, approximately 20 feet in height, are located around the south-western end together with some ash, hawthorn, blackthorn and hazel. Inside the marginal belt is the older woodland primarily composed of beech and hazel. Some hazel trees reach a height of 30 feet.

The undergrowth is fairly dense with such species as Urtica dioica (Nettle) and Rubus fruticosus (Blackberry) in the more open parts, and Hedera helix (Ivy) and a moss carpet under the tree canopy.

The woodland is situated on an esker ridge and patches of typical grassland communities can be seen alongside the road. The main grasses are Festuca rubra (Red Fescue), Briza media (Quaking Grass) and Helictotrichon pubescens (Hairy Oat Grass).

Evaluation

Although of limited extent this wood provides an example of mature beech woodland on a glacial drift area.

Threats to the area

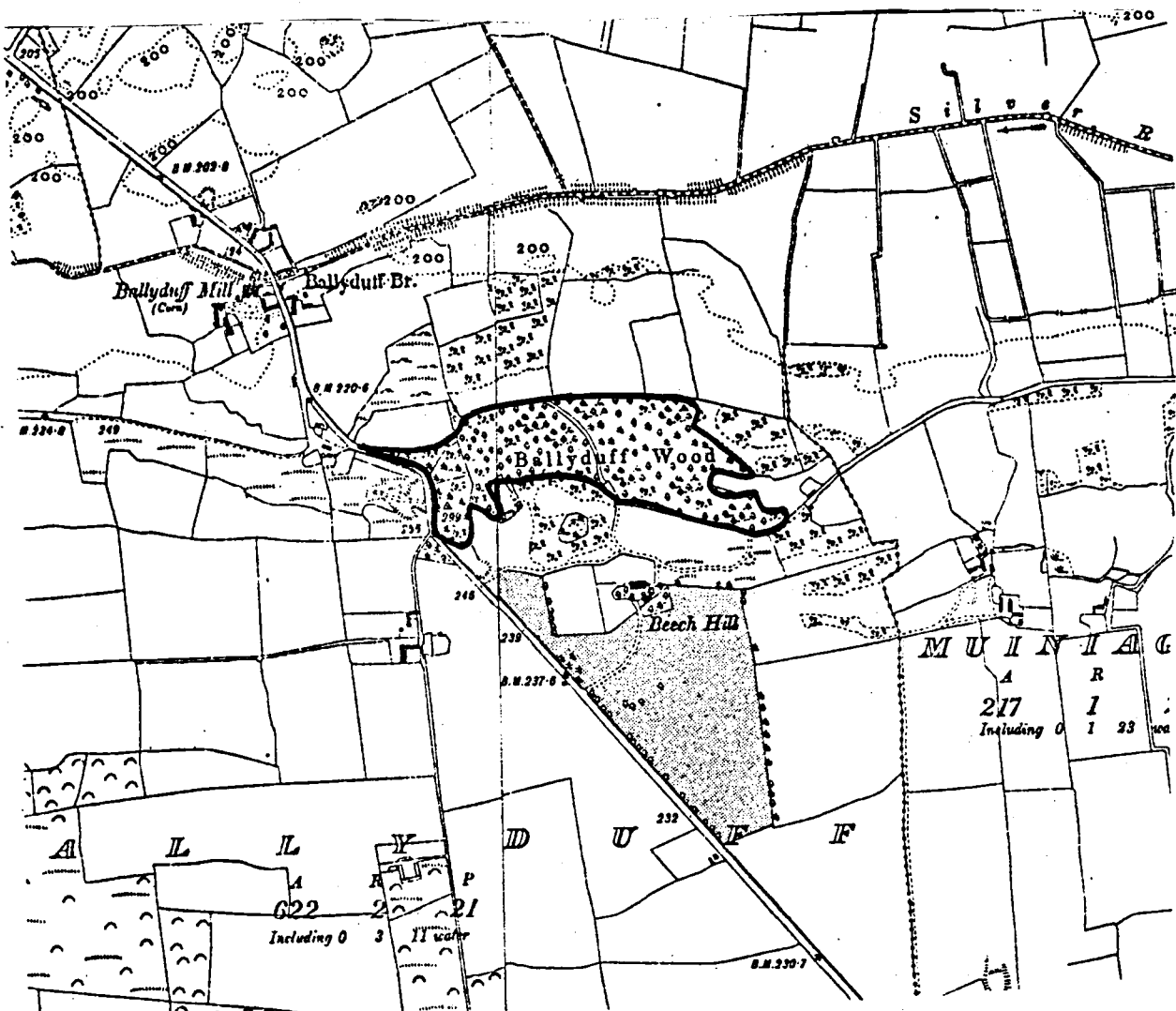
None apparent.

Recommendations

No action necessary.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 27

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	CLONFINLOUGH ESKER
<u>Grid reference</u>	N. 060, 299
<u>Acreage</u>	198
<u>Scientific interest</u>	Geomorphological, botanical, ecological
<u>Rating</u>	Local
<u>Priority</u>	C

Description of site

The esker is approximately 2 miles in length and $\frac{1}{2}$ mile in width. Some parts are ploughed and planted with crops, others are colonized by scrub, while the remaining areas are grassland, which are species-rich. The south facing slope above Clonfinlough School is a particularly good example of a species-rich turf, containing 33 species in a small area, in which no one species is dominant. Briza media (Quaking Grass) Cynosurus cristatus (Crested Dog's-tail) and Festuca rubra (Red Fescue) are the main grass species, whilst the more uncommon herbs include Blackstonia perfoliata (Yellow-wort) and Orobanche minor (Lesser Broomrape).

Evaluation

Although not of outstanding interest, the Clonfinlough esker has different botanical communities along its length and would make an excellent educational area.

Threats to the area

Much of the esker is already cultivated but it is unlikely that further destruction of the natural vegetation will take place.

Recommendations

General planning control for the esker is needed. The siting of buildings on the top should be prevented as should further ploughing up of the old grassland.

<u>Name of area</u>	LEAP CASTLE
<u>Grid reference</u>	S. 129, 973
<u>Acreage</u>	46
<u>Scientific interest</u>	Botanical
<u>Rating</u>	Local
<u>Priority</u>	C

Description of site

The castle itself was burned down in 1922 and is in ruins. Much of the surrounding land is grazed by sheep and cattle from the nearby farm.

The occurrence of two interesting plant species recommend the site. These are Clematis vitalba (Traveller's Joy) which is believed to be introduced in all its Irish stations, and Mycelis muralis (Wall Lettuce) which is very scattered in its distribution throughout Ireland.

Evaluation

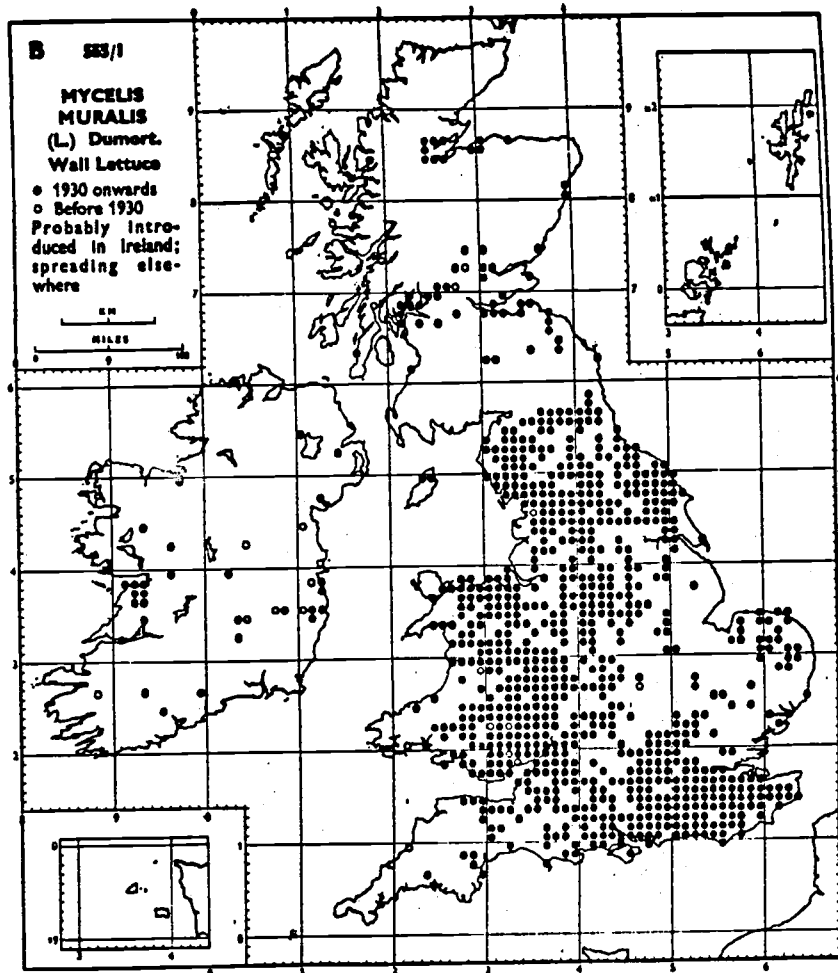
Of note only for the location of 2 rare species.

Threats to the area

None apparent.

Recommendations

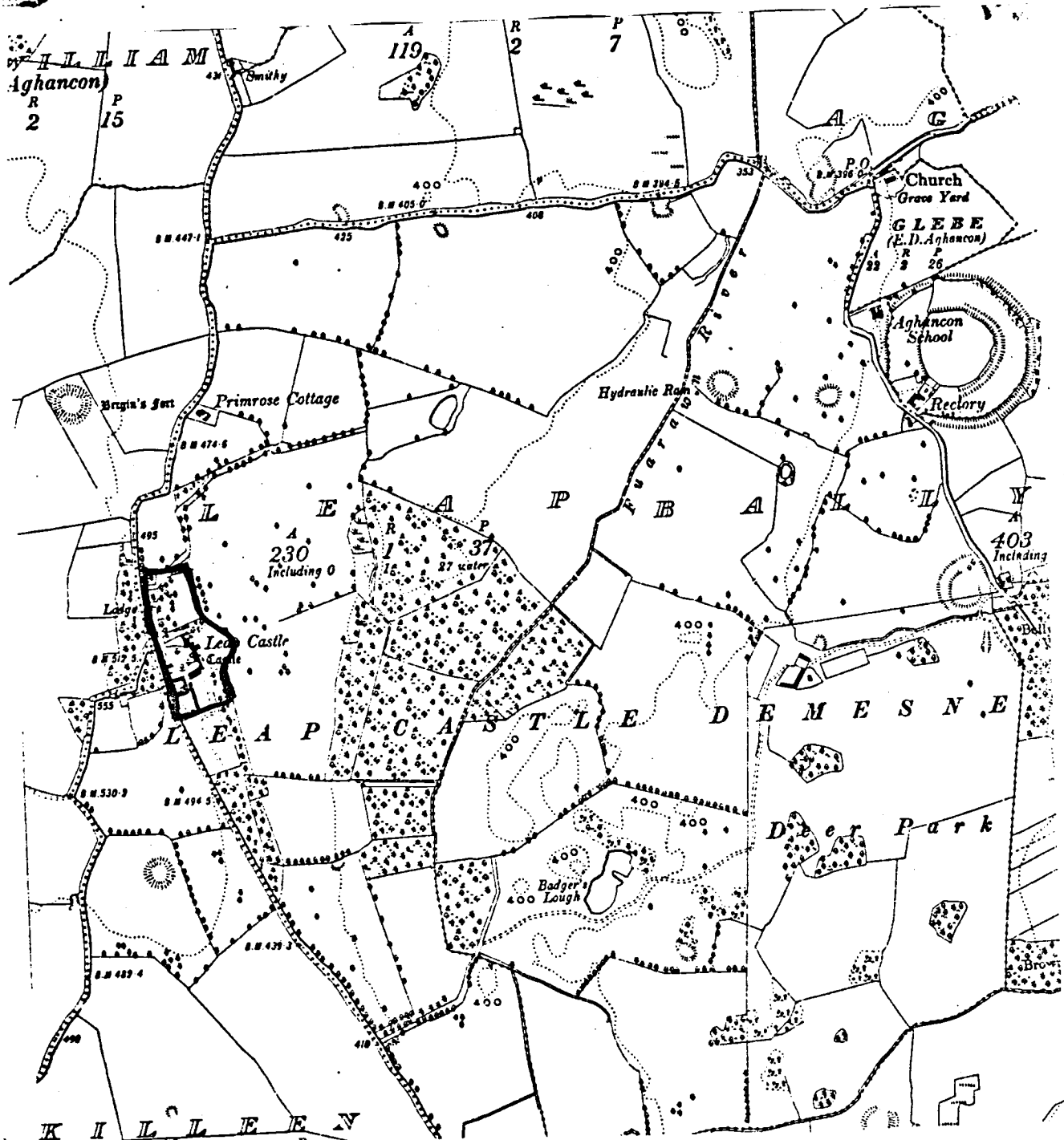
No action needed.



The distribution of Mycelis muralis in Great Britain and Ireland

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 29

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	GOLDEN GROVE
<u>Grid reference</u>	S. 117, 924
<u>Acreage</u>	67
<u>Scientific interest</u>	Botanical, ecological
<u>Rating</u>	Local
<u>Priority</u>	C

Description of site

A planted beechwood with belts of firs is edged by natural woodland consisting of older beech, oak and ash. The ground flora is impoverished under the planted beech owing to the dense leaf litter. In the more open areas Oxalis acetosella (Wood Sorrel), Endymion non-scriptus, (Bluebell), Rubus fruticosus (Blackberry) and Hedera helix (Ivy) are occasional. The two mosses Eurynchium sp. and Rhytidiadelphus loreus colonize the fallen trees and sloping banks.

Evaluation

An interesting example of beech woodland with several large old specimen trees of oak and ash.

Threats to the area

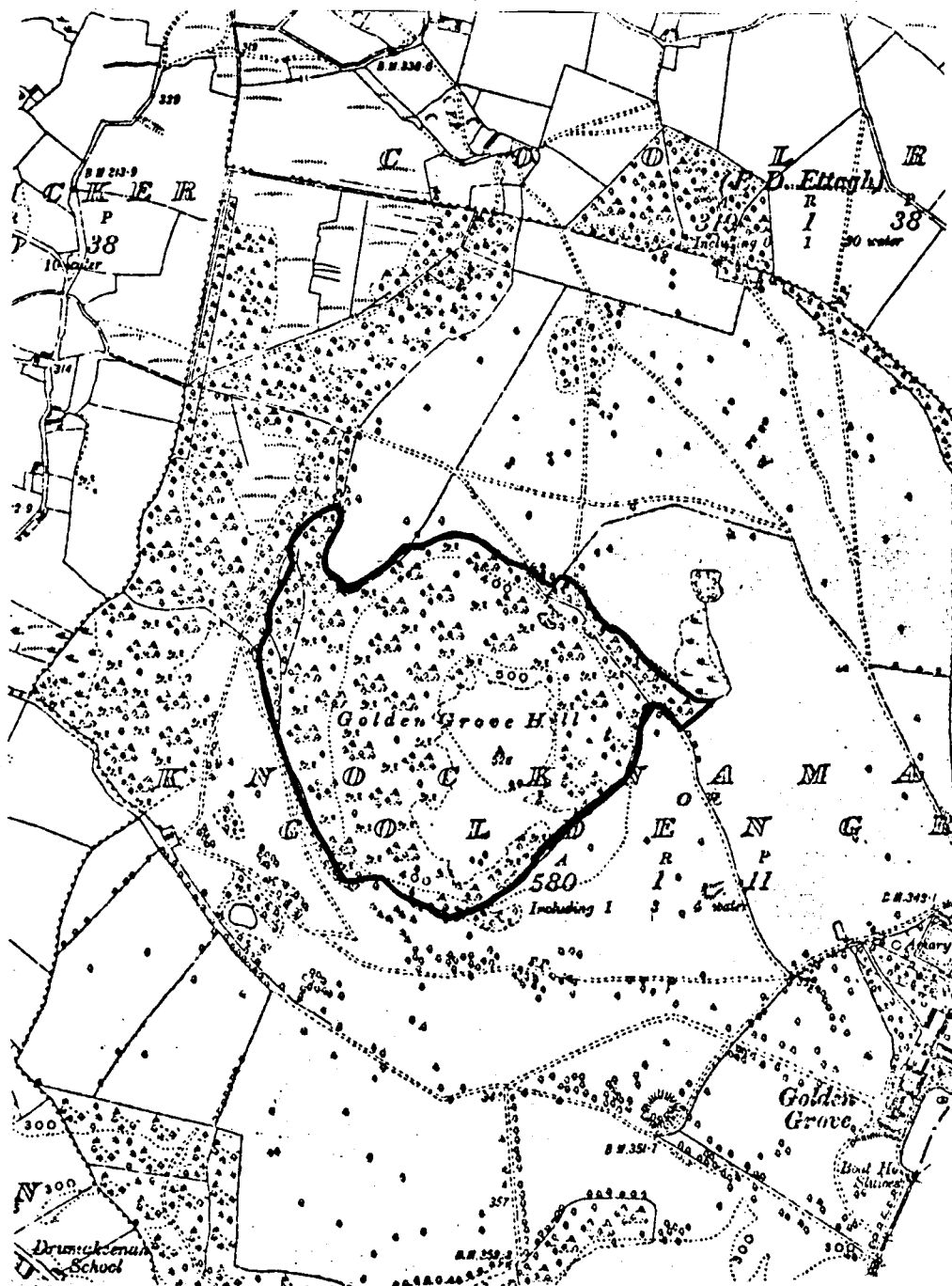
The woodland is owned by the Department of Lands and is unlikely to be felled.

Recommendations

Underplanting, especially with coniferous species should be avoided. Thinning of the smaller beech trees on the crown of the hill would produce a better tree growth and facilitate the development of a ground flora.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 30.

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	MEADOWS NORTH OF MONEYGALL = <i>Billintemple Bog</i>
<u>Acreage</u>	102
<u>Grid reference</u>	S. 008, 838
<u>Scientific interest</u>	Ecological, botanical
<u>Rating</u>	Local
<u>Priority</u>	C

Description of site

Several meadows normally very wet, but dry at the time of the visit owing to the lack of rain for some time, are located about 2 miles N.W. of Moneygall village. Most of the land in the south-west of Co. Offaly is arable or pastureland and areas of bog or marsh are restricted. Even though this is not a large bog, it is of locational interest. The vegetation is very short with bog cotton, Eriophorum vaginatum, cross-leaved heath, Erica tetralix, deer grass, Trichophorum caespitosum and white beak-sedge, Rhynchospora alba, the dominant species.

At the end of the first field are a group of shallow pools, some with little plant life, others filled with sedges and pondweed.

Behind this wetter area lies a small rise colonized by gorse, Ulex europaeus.

Evaluation

Although a small portion of bog, this is of ecological importance because of the different plant communities contained there and also because of the scarcity of bog in this region of the county.

Threats to the area

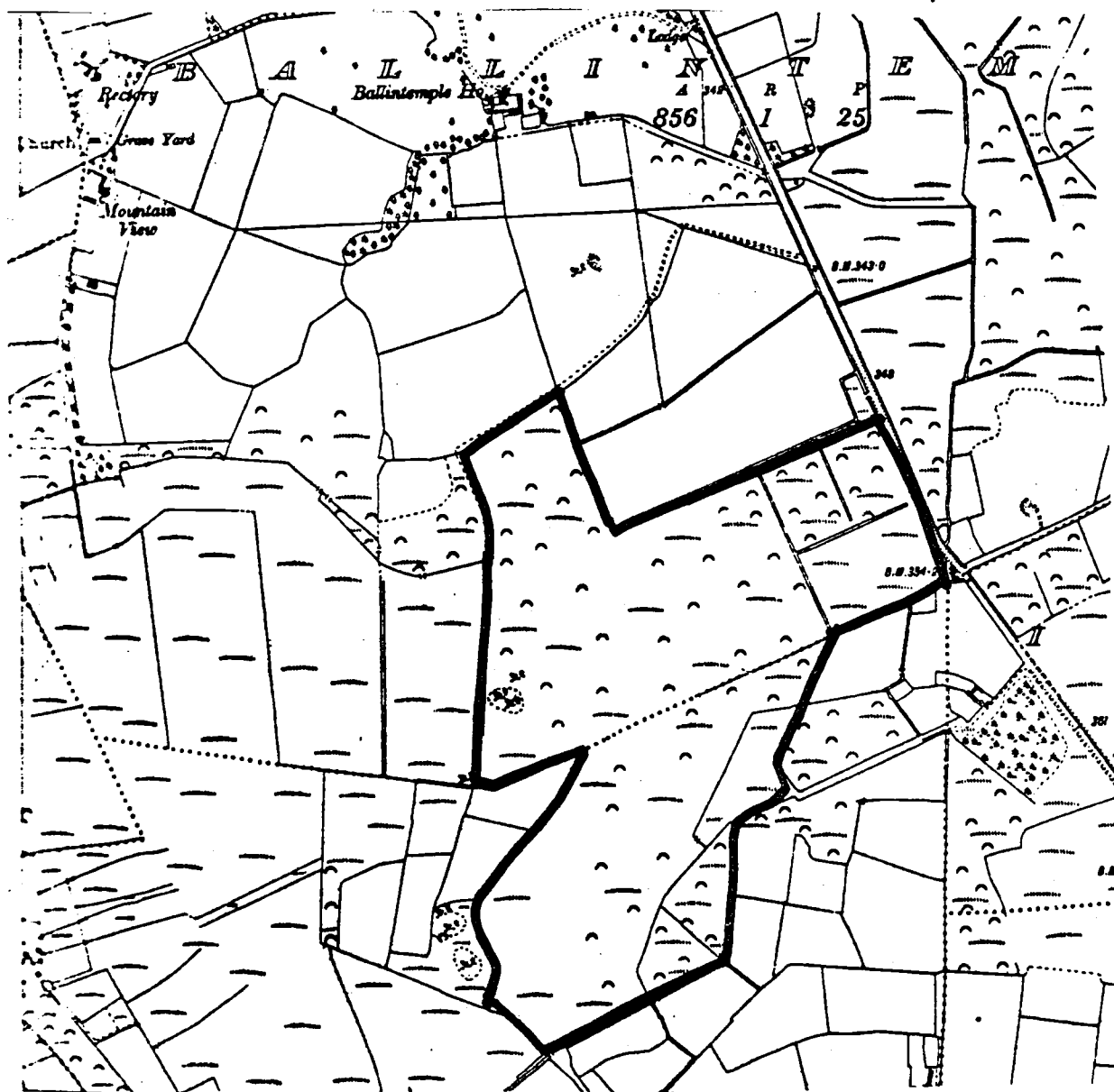
None apparent.

Recommendations

No action needed.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 31

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	BOG NORTH OF SHANNONBRIDGE
<u>Acreage</u>	252
<u>Grid reference</u>	M. 980, 265
<u>Scientific interest</u>	Ecological, botanical
<u>Rating</u>	Local
<u>Priority</u>	C

Description of site

Along the River Shannon are areas of marsh, wet pasture and raised bog. One example of peatland is to the north of Shannonbridge. Here different plant communities can easily be distinguished between the roadside and the river bank. The first community consists of a mixture of grasses - Agrostis stolonifera (creeping bent); Festuca rubra (red fescue); Molinia caerulea (purple moor grass) with the two broad-leaved herbs Cirsium dissectum (meadow thistle) and Succisa pratensis (field scabious).

The next community is a short turf about 22 cms. in height. No one species is dominant but a mixture of the following:-

<u>Calluna vulgaris</u>	(ling)
<u>Cladonia sp.</u>	(lichen)
<u>Carex panicea</u>	(carnation sedge)
<u>Erica tetralix</u>	(cross-leaved heath)
<u>Eriophorum vaginatum</u>	(cotton grass)
<u>Trichophorum caespitosum</u>	(deer grass)

In addition there are patches which are colonized by the shrub Myrica gale (bog myrtle) and the uncommon Cladium mariscus (saw sedge). The latter species is normally to be found in alkaline conditions and its presence here indicates that a calcareous layer underlies the peat covering.

Evaluation

This is a representative area of the type of bog to be found along the Shannon. The occurrence of areas of esker ridge and limestone pavement nearby add to the general ecological diversity of the region.

Threats to the area

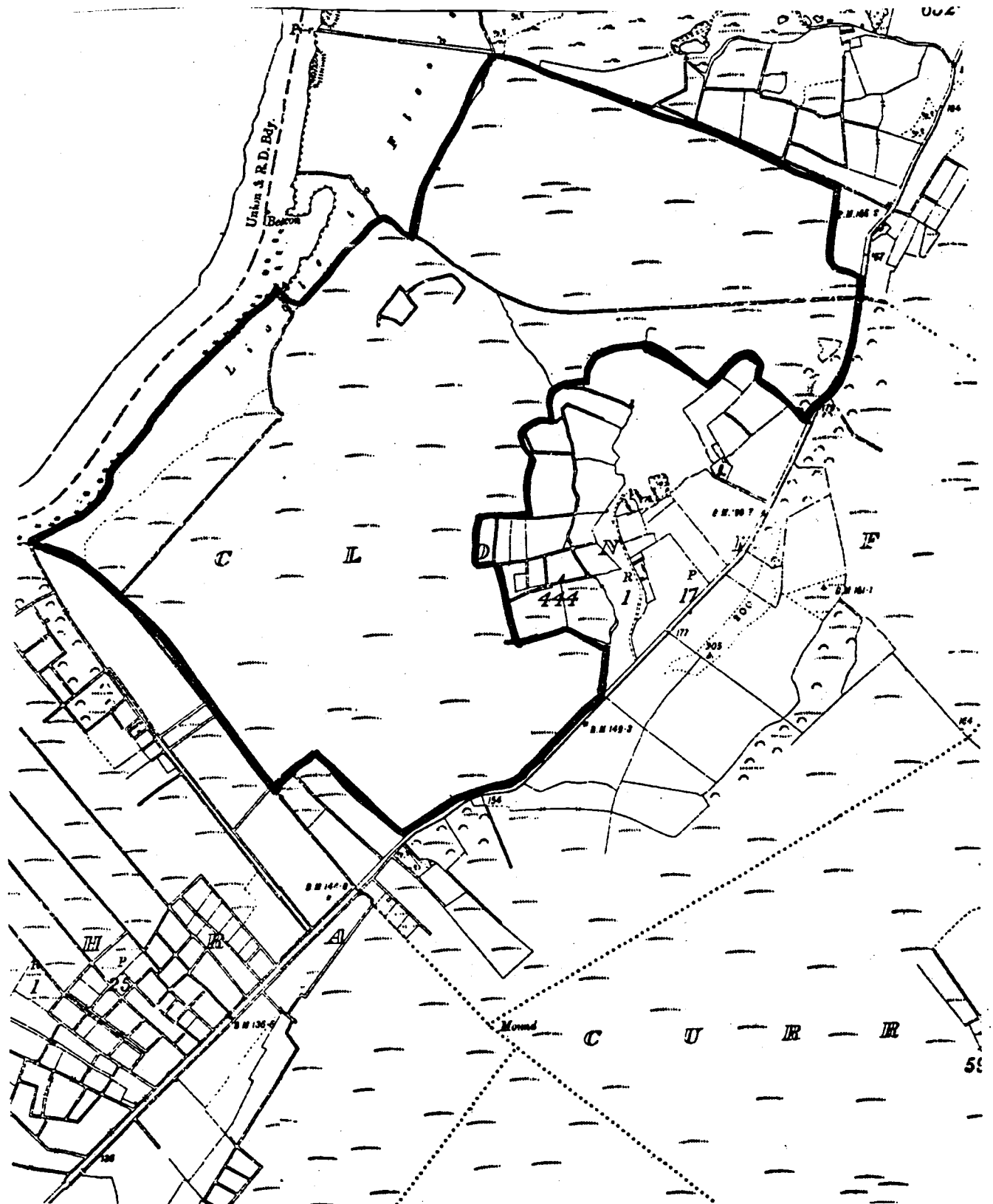
None apparent.

Recommendations

General planning control for this region is needed.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 32.

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	KNOCKYDOWN WOOD
<u>Acreage</u>	8
<u>Grid reference</u>	N. 072, 068
<u>Scientific interest</u>	Botanical
<u>Rating</u>	Local
<u>Priority</u>	C

Description of site

To the south of the secondary Birr-Kilcormac road is a small mound which supports a mature woodland. Oak, Quercus petraea, and beech, Fagus sylvatica, and the two main species, reaching heights of 100-120 feet. Ash, Fraxinus excelsior, is seeding in naturally and around the lower slopes hazel scrub, Corylus avellana, is developing. Scattered throughout are sycamore, Acer pseudoplatanus, and conifers. In the centre of the wood is a large box tree, Buxus sempervirens, about 20 feet wide and 10 feet high, surrounded by 7 Lawson's cypresses, Chamaecyparis lawsoniana, reaching heights of 70 feet. These have obviously been planted, but the oak woodland appears natural.

The ground flora is poor with the grass wood false-brome, Brachypodium sylvaticum, covering much of the area and ivy, Hedera helix, wood anemone, Anemone nemorosa, and blackberry, Rubus fruticosus, being the other occasional species.

Evaluation

This site is of interest because it is one of a few areas of remaining natural, mixed deciduous woods in the county. Although it is of limited extent, an interesting ecological contrast is offered with Woodville close by which is mainly hazel woodland.

Threats to the area

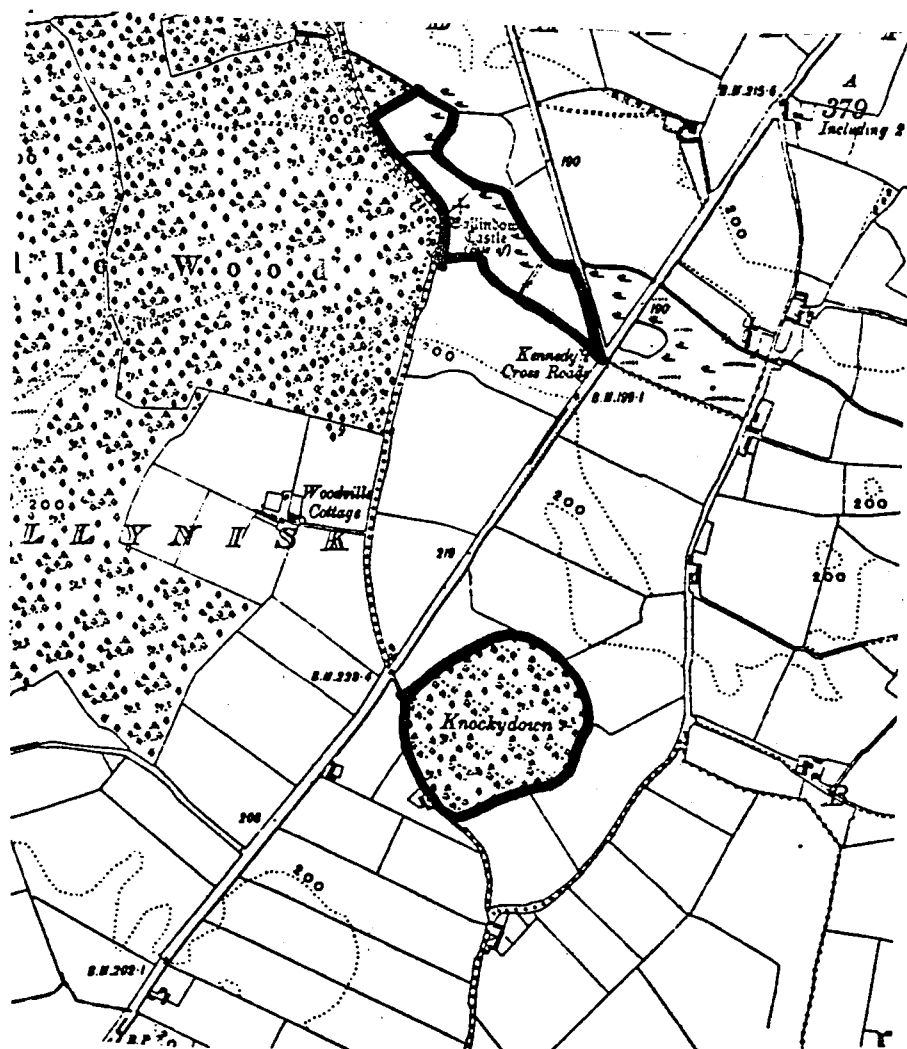
None apparent.

Recommendations

No action needed at present, but general planning control should be considered.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 33.

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	ESKERS NEAR ESKER BRIDGE
<u>Acreage</u>	36
<u>Grid Reference</u>	N. 552 273
<u>Scientific Interest</u>	Geomorphological, botanical, ecological
<u>Rating</u>	Local
<u>Priority</u>	C

Description of Site

Several ridges lie along either side of the Daingean-Edenderry road. Many of these have been quarried, chiefly for their gravel content. The remaining areas and the surrounding grassland are still of ecological interest.

A typical plant community on a pebble area is composed of the following species:-

<u>Catapodium rigidum</u>	Fern grass
<u>Blackstonia perfoliata</u>	Yellow-wort
<u>Linum catharticum</u>	Fairly flax
<u>Chrysanthemum leucanthemum</u>	Ox-eye daisy
<u>Festuca ovina</u>	Sheep's fescue
<u>Hypericum pulchrum</u>	Beautiful St. John's Wort
<u>Carex flacca</u>	Glaucous sedge
<u>Leontodon hispidus</u>	Rough hawkbit

Between the ridges are flat fields some of which are cultivated and have cabbages or wheat. Other areas are natural grassland with developing scrub of Prunus spinosa (Blackthorn) and Pteridium aquilinum (Bracken).

To the south of the road on the first ridge is a narrow band of Corylus avellana (hazel) scrub with some Ilex aquilifolium (holly), Crataegus monogyna (hawthorn), Euonymus europaeus (spindle) and Rubus fruticosus (bramble). The ground flora consists mainly of Hedera helix (Ivy),

with the grasses Brachypodium sylvaticum and Melica uniflora and the wood sedge Carex sylvatica.

Numerous burrows in the sand at the top of the esker ridge indicate the old nests of Sand Martins.

Along the fence by the roadside, many superb specimens of the Lesser Broomrape, Orobanche minor are to be found. This is an uncommon species, with a south-eastern distribution.

Saponaria officinalis (Soapwort) is abundant along the roadside. This plant, although not uncommon, is of limited distribution, being found mainly in the south-east.

Threats to the Area

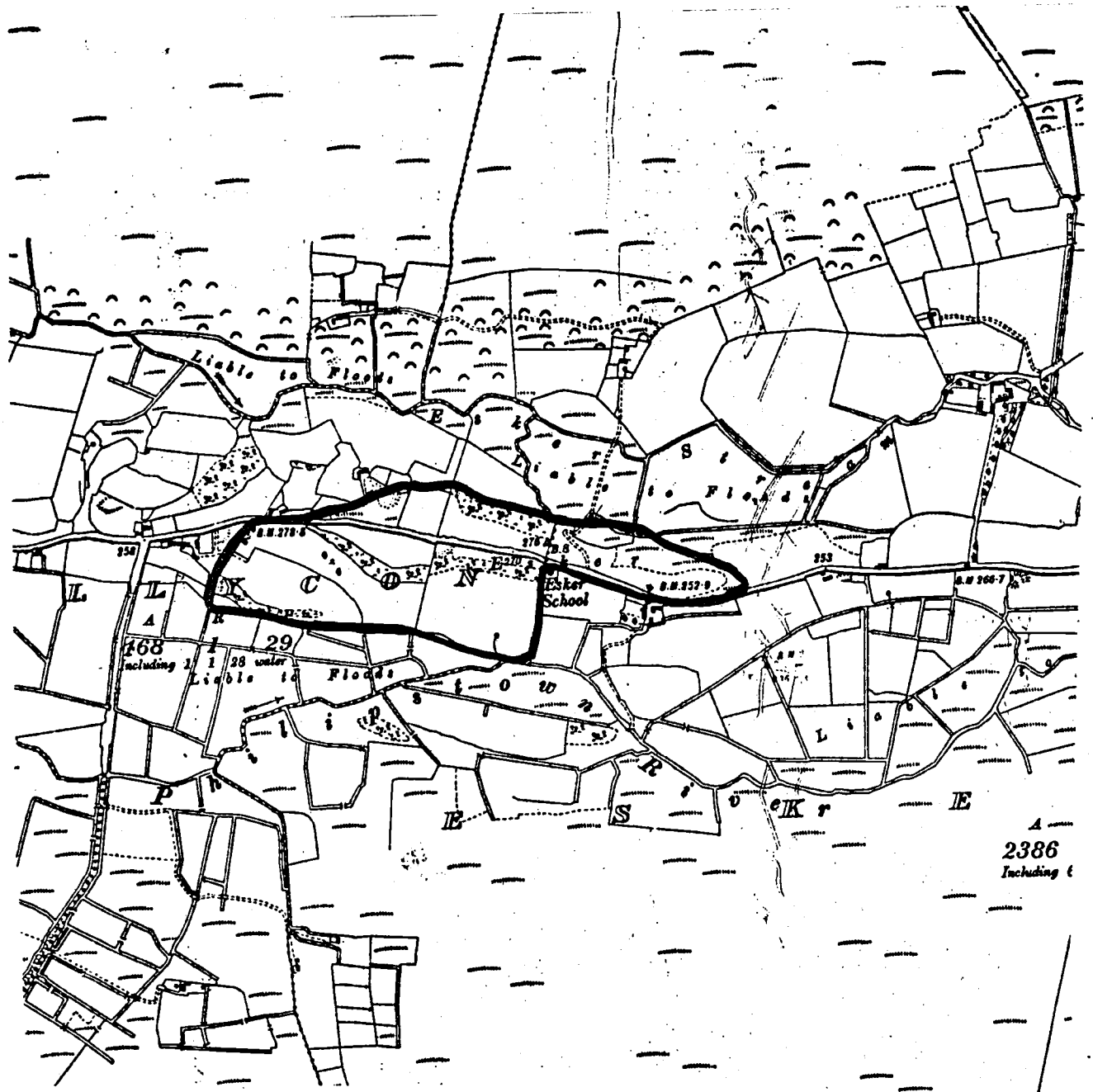
Much quarrying has already been carried out in this area and chippings are at present stored in the quarries. Further excavation may be proposed, but it is thought that the sand and gravel was probably used in the construction of the main road here and that future developments are unlikely.

Recommendations

Further quarrying should be prevented if possible.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 34

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	RAHEEN LOUGH
<u>Acreage</u>	64
<u>Grid Reference</u>	N. 465 .184
<u>Scientific Interest</u>	Ornithological
<u>Rating</u>	Local
<u>Priority</u>	C

Description of Area

The lough is in a basin surrounded by pastureland which is grazed by cattle and sheep. It has a stony bottom and appears to be fairly shallow. Beds of aquatic plants probably all of Myriophyllum alterniflorum, alternate-flowered water milfoil, break the water surface. Remnants of fishing stands can be seen in the middle of the lough.

During the visit 7 whooper swans and 69 wild duck, mostly mallard, were counted. Areas of standing water in the county are very restricted so that this lough is probably an important area for wildfowl. Further counts early in the year would give a better indication as to its importance.

Evaluations

Probably an important wildfowl area as areas of standing water are scarce in Co. Offaly.

Threats to Area

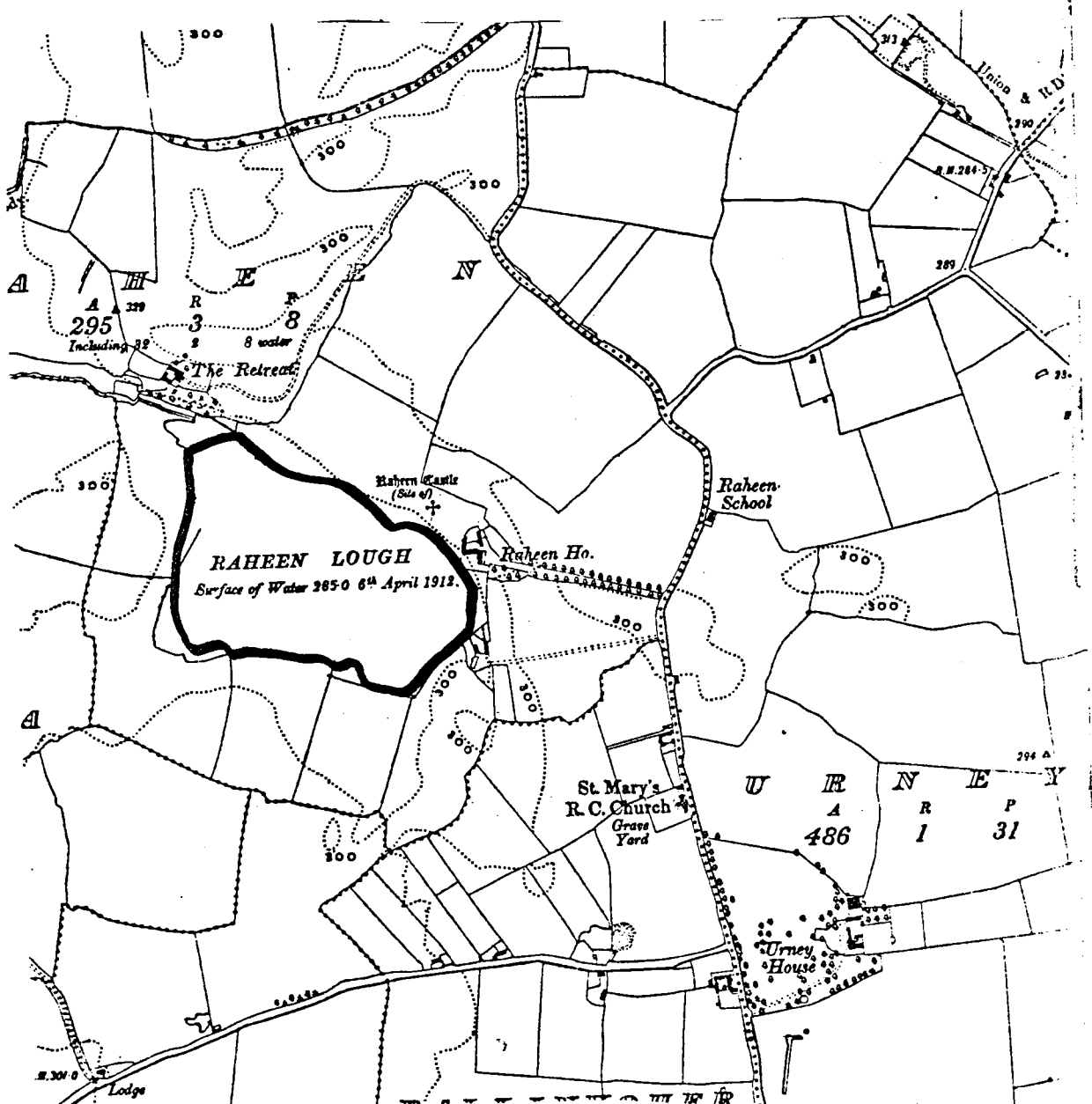
None apparent.

Recommendations

No action needed.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 35.

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	LOUGH ROE BOG = Clara Bog
<u>Grid reference</u>	N. 255, 300
<u>Acreage</u>	1664
<u>Scientific interest</u>	Ecological, botanical
<u>Priority</u>	Local
<u>Rating</u>	C

Description of site

Extensive wet peat bog south of Clara. Scheuzeria palustris, was transplanted from Pollagh Bog to here in 1959, but it is not thought to be successful as recent visitors have been unable to trace it.

Evaluation

Good example of wet peat bog.

Threats to the area

There is a system of drainage channels to the east of the Rahan/Clara road, but this does not extend over a large area. Bord na Mona has no immediate plans to excavate the bog.

Recommendations

No action required at present.

<u>Name of area</u>	LIMESTONE QUARRY NEAR CLONEEN
<u>Grid reference</u>	N. 427, 328
<u>Acreage</u>	c. 0.5
<u>Scientific interest</u>	Geological, botanical
<u>Rating</u>	Local
<u>Priority</u>	C

Description of site

5 miles west of Croghan Hill is a small limestone hill, part of which has been quarried away to reveal the horizontal parallel banding of the limestone. The banding is in step form and it is on the flat surface that patches of grass are becoming established. In the rock cracks several herbaceous species are growing. A fairly rich flora for such a limited area is found containing 3 grasses, 1 sedge, 25 herbs and 5 mosses.

Evaluation

This type of developing plant community is of ecological interest as the various stages in development can be traced. The exposed rock structure is also of geological interest.

Threats to the area

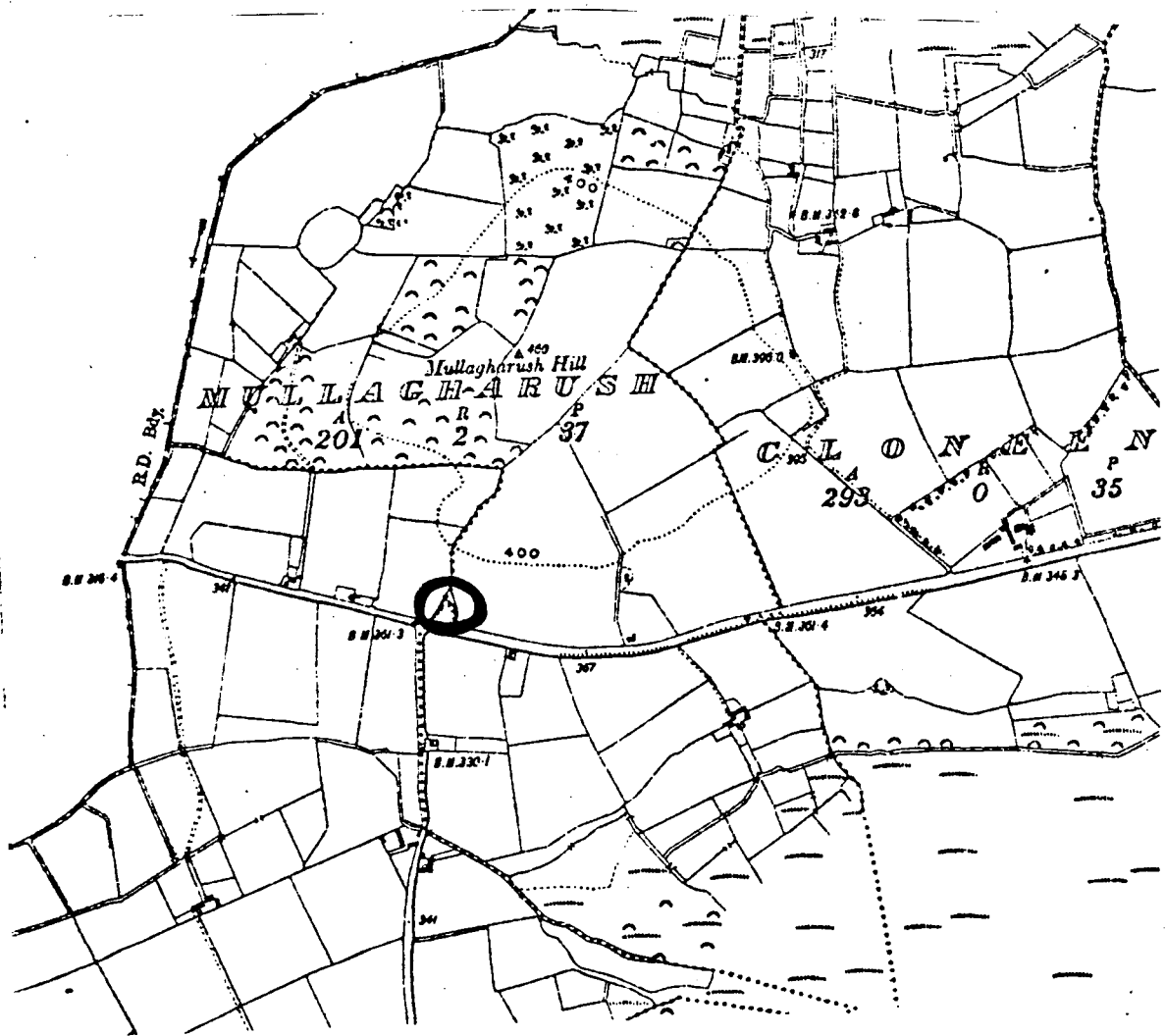
None apparent.

Recommendations

No action needed.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 37.

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	ANNAGHMORE LOUGH
<u>Acreage</u>	760
<u>Grid Reference</u>	N. 305. 147
<u>Scientific Interest</u>	Ecological, Botanical, Geological
<u>Rating</u>	Regional
<u>Priority</u>	B

Description of Site

In 1870 Annaghmore Lough covered an area of 207 acres and received the drainage of 4,000 acres of swamp and bogland. Within the last 12 years, however, the lake area has been drained by the Board of Works. This has led to a reduction in the amount of standing water, but has also led to the evolution of several interesting botanical habitats.

When the area was visited about 2 acres of standing water were visible. There is a record of a crannog on the island, now connected to the shore. On the northern side of the island over a hundred piles of timber were driven down in regular lines into the soft mud. Some of these found uprooted showed that the ends had been pointed by sharp instruments - probably small iron hatchets found near the spot.

Ecologically, the lake can be described as half calcicole, half calcifuge. A stream runs into the lake from the north west and flows out at the north-east corner down into the nearby Clodiagh River. The land to the north of the stream is gravel-based and the flora consists mainly of calcicole species. To the south a calcifuge swampy area exists. The whole lake basin is surrounded by bogland. It is the diversity of habitat and the different plant communities colonizing them, that is the most interesting aspect of this site.

The gravel floor of the basin is now colonized by a 'sedge carpet' about $\frac{1}{2}$ inch high, made up of Carex flacca and Carex panicea. The grasses Briza media, Agrostis stolonifera and Festuca rubra are also interwoven into the carpet. Low-growing, rosette species are found - such as Samolus valerandi, Selaginella selaginoides, Scirpus setaceus, Bellis perennis, Hieracium pilosella, Hypochoeris radicata.

This community then grades into areas characterized by small hummocks about 9" in height. These have Bellis perennis, Cerastium vulgatum, Drosera rotundifolia, Lotus comiculatus, Sagina nodosa and Selaginella selaginoides growing on them. Grazed-down tufts of Schoenus nigricans are scattered throughout.

A small region to the north of the hummocks has been fenced off and is therefore not grazed. This is dominated by a stand of Phragmites communis with some Cladium mariscus, growing to a height of 6 feet. There is a little standing water here which has calcium deposits in it. Potamogeton natans and a Chara sp. grow in the shallows and numerous, large, thick-shelled specimens of the snail Lymnaea stagnalis are to be found.

On the south side of the stream is a Carex/Eriophorum dominated area with a few stunted Salix and Betula trees. The sedge growth is quite high and few herbs are associated with the community, generally the taller growing species like Filipendula ulmaria, Cirsium palustre, Caltha palustris and Lythrum salicaria. Bushes of Ulex europaeus and Myrica gale occur.

A small birch woodland is found to the north of the basin with a fair amount of holly and conifers dispersed in it. Then to the east of this is an extensive raised bog region with Erica tetralix, Trichophorum caespitosum, and Narthecium ossifragum as co-dominants.

Yet other parts to the east have a 'fen carr' community with Myrica gale birch trees and scattered Calluna bushes.

A field dominated by lichens also contains Andromeda polifolia, Calluna vulgaris, Carex lepidocarpa, Digitalis purpurea, Erica tetralix, Sagina nodosa, and Polytrichum commune.

Several fungi were found under the Ulex bushes. These included the Giant Puffball, Lycoperdon giganteum, a yellow fleshy basidiomycete, Tremella mesenterica, and an unidentified bracket fungus.

The basin is probably a collection place for birds. About 200 Curlew were sent during the visit and one Mute Swan. Further information is needed.

Threats to the Area

None apparent.

Recommendations

The whole basin and enclosing bog is of sufficient diversity to recommend the site as a nature reserve. It would make an excellent education area. A conservation order is recommended.

Table Summarising the Sites and Recommendations For Their Protection

Site	No Protection Necessary	General Planning Control	Special Amenity Order	Conservation Order	Tree Preservation Order
1. Raheenmore				*	
2. Croghan Hill		*			
3. Woodfield Bog				*	
4. Charleville Woods		*		*	
5. Roscrea Meadow				*	
6. Trumpet Hill		*			
7. Kilcormac Esker		*			
8. Woodville		*			
9. Croghan Castle		*			
10. Clorhane Hazel Wood		*			
11. Lough Nanag and nearby eskers				*	
12. Fin Lough		*			

Site	No Protection Necessary	General Planning Control	Special Amenity Order	Conservation Order	Tree Preservation Order
13. Lough Coura				*	
14. Clonad Wood and meadows		*			
15. Charleville Lake		*			
16. Pallas Lough	*				
17. Woods near Mr. St. Joseph Abbey	*				
18. Incherky Island and the Shannon River	*				
19. Slieve Bloom Mountains		*			
20. Ballycumber Bog	*				
21. Meadows near Derrykeel		*			
22. Eskers near Rapemills		*			
23. The Derries		*			
24. Knockbarron Wood		*			

**An Foras
Forbartha
Teoranta**

**The National
Institute
for Physical
Planning and
Construction
Research**

CONSERVATION AND AMENITY
ADVISORY SERVICE



Revised List of
Areas of Scientific Interest
in County Offaly

Teach Mháirtín
Báthar Waterloo
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**St. Martins House
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Dublin 4**

Eanna Ni Lamhna
February 1983

OFFALY

Introduction

In the report Areas of Scientific Interest in Ireland published by An Foras Forbartha in 1981, thirty-five sites of Scientific Importance are described for County Offaly. This report was a revision of the County Reports on Areas of Scientific Interest which had been compiled by An Foras during the nineteen seventies. The 1979 Offaly County Development Plan shows thirty-four sites of Scientific Importance on Map 4 and these differ slightly from the list for County Offaly published by An Foras in 1981. Four sites which have been included on the map in the County Development Plan are no longer considered as sites of Scientific Importance. These are:

Bog north of Shannonbridge
Leap Castle
Limestone Quarry near Cloneen
Knockydown Wood

and they have been omitted because further work in the County has revealed other sites exhibiting their Scientific Features of Interest in a much better manner. Five extra sites are included in the Foras list which are not shown on the map in the County Development Plan. These are:

Mongan's Bog
Roscrea Bog
Kiltober Esker and Woodland
Camcor Woodland
Lough Boora

These are included in the site descriptions given overleaf and are marked with an asterisk.

The lists of sites of Scientific Importance are constantly being updated and revised by An Foras Forbartha. Since publication of Sites of Scientific Interest in Ireland in July 1981 five further sites of Scientific Importance have been identified for County Offaly. These are listed and described on page 7.

Name of Area	Habitat	Interest	Description
<u>OFFALY</u>			
<u>International Importance</u>			
1. Little Brosna River M 98 11 600 ha (also in Tipperary N., Galway)	Grassland Marsh	Ecological (O)	The river flood-plain and its associated marshes form an outstanding area for wintering wildfowl and waders. Numbers fluctuate with the degree of flooding on the callows and shooting pressures but include wigeon (14,000), teal (2,200), white-fronted goose (200) and black-tailed godwit (4,000), all numbers of international importance. Large flocks of pintail (250), shoveler (540), lapwing (15,000) and golden plover (3,000) also occur at times.
2. Raheenmore N 44 32 200 ha	Raised bog	Ecological	One of the best examples of a raised bog in a basin situation. Some of the marginal slope is still intact and the site has a well-developed flora and fauna. About 50 ha of the bog are actively growing with a hummock and hollow topography. The flora is relatively rich and has been augmented with the rush, <i>Scheuchzeria palustris</i> , which was transplanted from Pollagh Bog in 1959, before its exploitation. The plant has not been seen recently, however.
3. * Rahugh Ridge (Kiltober esker) N 38 32 20 ha (also in Westmeath)	Woodland (d)	Ecological	The esker supports probably the most natural woodland in the country on such a site. Though formerly cleared, hazel, ash and oak now form a complete and well-grown canopy. There is also an interesting ground flora.
<u>National Importance</u>			
4. Charleville Wood N 32 23 170 ha	Woodland (d)	Ecological	Large woods, predominantly of oak, with ash, elm, birch and an understorey of hazel and hawthorn. Some parts, particularly the island in the lake, have not been interfered with for 150 years, are therefore ecologically interesting. The lake itself (20 ha) is important locally for wintering wildfowl (200).
5. Croghan Hill N 46 33 200 ha	-	Geological	An extinct volcano composed of tuffs and basaltic lava flows, interbedded with Carboniferous limestone.
6. Shannon River Athlone - Banagher 800 ha N 98 23	Grassland	Ecological (O)	A wintering site and migration route of major importance to birds. The wildfowl population includes wigeon (1,000), mallard (600), teal (600), wild swan (300), and white-fronted goose (100). The geese regularly roost on Mongan's Bog, a well-developed raised bog near Clonmacnoise. The bog is a discrete unit bordered by an esker - the Pilgrim's Road - on the north side. It is very wet and regenerating well.
* a) Mongan's Bog N 03 30 100 ha (also in Galway, Roscommon, Westmeath)	Raised bog		

Name of Area	Habitat	Interest	Description
<u>OFFALY</u>			
<u>Regional Importance</u>			
7. Annaghmore Lough N 30 15 320 ha (also in Laois)	Lake Marsh	Ecological	Partially drained lake with a flora which is part calcicole and part calcifuge. The marginal areas show various stages of succession from open water to dry land. There is also a small birch wood and an extensive raised bog nearby. Important local feeding habitat for waders and other birds.
8. Ballyduff esker N 28 27 34 ha	Woodland (d)	Geomorphological Ecological	Good example of an esker ridge with educational potential. The plant associations on Trumpet Hill are of importance and include hazel scrub.
9. Cloghan Demesne M 97 12 200 ha	Woodland (d)	Ecological	The site consists of mixed deciduous woodland, raised bog and aquatic communities and is extremely diverse.
10. Clonad Wood N 32 19 152 ha	Woodland (d) Grassland	Ecological	A semi-natural oak woodland and with some planted beech and conifers. There is a rich fungus flora, and a varied ground flora. Nearby damp meadows contain some interesting plant species in another habitat type.
11. Clorhane M 99 28 146 ha	Exposed rock Grassland Fen	Geomorphological Ecological (B)	This is the most extensive area of limestone pavement in the county and one of relatively few east of the Shannon. It is colonised largely by hazel scrub but open areas of rock and grassland still exist. The grassland is very species-rich. The southern part of the area is a peatland with a variation from acid to alkaline peat of some ecological interest. The saw sedge, <u>Cladium</u> , is found growing in shallow peat.
12. Fin Lough N 03 29 100 ha	Lake	Ecological	A lake which lies between an esker ridge and raised bog and so has a diversity of aquatic and semi-aquatic habitats. Wintering wildfowl include teal (80) and whooper swans.
13. Kilcormac esker N 26 21 70 ha	Grassland	Geomorphological Ecological	Part of a well-developed esker ridge with a variety of habitats from calcareous grassland to woodland of hazel and sometimes beech.
14. Lough Coura N 09 13 156 ha	Fen	Ecological (B)	A dry fen, the development of which has been well-documented from the time it was a swamp. Characteristic plants include the sedges, <u>Carex dioica</u> and <u>C. limosa</u> and the orchid, <u>Dactylorhiza traunsteineri</u> .
15. Lough Nanag esker N 00 28 34 ha	Grassland	Ecological (B)	Calcareous grassland is particularly well-developed on the eskers west of the lake and is notable for the occurrence of the orchid, <u>Nectinea</u> . The lake itself is completely surrounded by peatland and there is an interesting transition from it to the glacial drift.
16. Mount Saint Joseph woods S 08 90 36 ha	Woodland (d)	Ecological	Mature deciduous woodlands mainly of oak, occur on esker ridges along the Little Brosna River. They have an interesting species composition, especially in the ground flora.

Name of Area	Habitat	Interest	Description
<u>OFFALY</u>			
<u>Regional Importance</u>			
17. Pallas Lough N 27 19 70 ha	Lake	Ecological (B)	Limestone lake stocked with brown and rainbow trout. Marginal marsh and grassland with a rich flora. One of few areas of open water in the county, used by up to 190 duck (mainly teal) in winter.
18. *Roscrea Bog S 16 90 27 ha	Fen	Ecological	Calcareous marsh surrounded by meadowland providing a diversity of habitats. Two rare molluscs, <u>Vertigo geyeri</u> and <u>Agriolimax laevis</u> , and many other species have been recorded.
19. Slieve Bloom N 25 02 1750 ha	Blanket bog	Ecological	Extensive blanket bog is found above 390 m and it has a characteristic flora and fauna. The best area is on the plateau above the Camcor River.
20. Woodville N 07 07 105 ha	Woodland (d)	Ecological	Dense hazel and oak woodland with some conifer plantations. A drying-up lake with reeds and semi-aquatic vegetation is included. It supports some wildfowl and large numbers of snipe. Diverse ecology in different tree communities. Mature mixed woodland of oak and beech occurs at Knockdown and offers a valuable contrast.
21. Woodfield Bog N 25 36 200 ha	Raised bog	Ecological	A small area of raised bog with several different plant communities. The flora includes the clubmoss, <u>Lepidotis</u> .
<u>Local Importance</u>			
22. Ballintemple S 01 84 40 ha	Raised bog	Ecological (B)	An area of cutover bog recolonised by some interesting plant communities.
23. Ballycumber Bog N 16 29 160 ha	Raised bog	Ecological	A large raised bog, extensively cut on the south-east side. Plant species include carnation sedge, <u>Carex panicea</u> , a species characteristic of more western regions.
24. *Camcor wood N 22 04 10 ha	Woodland (d)	Ecological	A well-developed alder wood occurs at this point in the Camcor valley above Kinnitty. Though small in extent, the community is characteristic and fairly rich in species.
25. Clonfinlough esker N 06 29 82 ha	Grassland	Ecological	Species-rich turf on an esker, with some uncommon plants. The variety of habitats along the whole esker is of value for education.
26. The Derries N 10 06 20 ha	Raised bog	Ecological	A wet raised bog to the north-east of Birr with some scattered Scot's pine and pockets of birch scrub. The area is surrounded by conifer plantations but retains much of educational value.

Name of Area	Habitat	Interest	Description
<u>OFFALY</u>			
<u>Local Importance</u>			
27. Derrykeel meadows N 16 04 20 ha	Fen	Ecological	Wet calcareous meadows on the site of a cut-over bog have an interesting flora with the rush, <u>Juncus subnodulosus</u> .
28. Esker Bridge N 55 27 15 ha	Grassland	Ecological Geomorphological	A well-developed flora occurs here on eskers that have been partly modified by excavation and agriculture.
29. Golden Grove S 12 92 21 ha	Woodland (d)	Ecological	A planted beechwood with belts of firs, bordered by more natural woodland of alder, oak and ash. Several large, old trees and some fallen timber add to the ecological value.
30. Grand Canal N 525 311 to N 579 326 5 km section	River	Ecological	Open water and banks of the canal provide a refuge for local aquatic flora and fauna. On this stretch the canal passes through pastureland and raised bog.
31. Knockbarron Wood N 18 07 32 ha	Woodland (d)	Ecological	A planted deciduous woodland of sycamore with patches of hazel, ash and other species. Sycamore is not often used in pure stand and the area has ecological interest for this reason. Associated fauna is relatively plentiful.
32. * Lough Boora N 16 18 6 ha	-	Geological	Site of an early Post-glacial lakeshore which has been exposed by the drainage and excavation associated with turf-cutting.
33. Lough Roe Bog N 25 30 665 ha	Raised bog	Ecological	A very good example of a wet raised bog, still in active growth.
34. Raheen Lough N 46 18 25 ha	Lake	Ecological (O)	A fairly shallow lake with a stony bottom. Important habitat for wintering wildfowl, mainly duck and whooper swans. Few other areas of open water occur in the county.
35. Ross & Glennis eskers N 06 08 25 ha	Grassland	Ecological Geomorphological	An interesting and rich mixture of calcicole plant species occurs on these eskers, including such plants as the burnet rose, <u>Rosa pimpinellifolia</u> , and golden rod, <u>Solidago</u> , in a turf of low growing grasses. Hazel scrub appears to the west as Ross Wood.

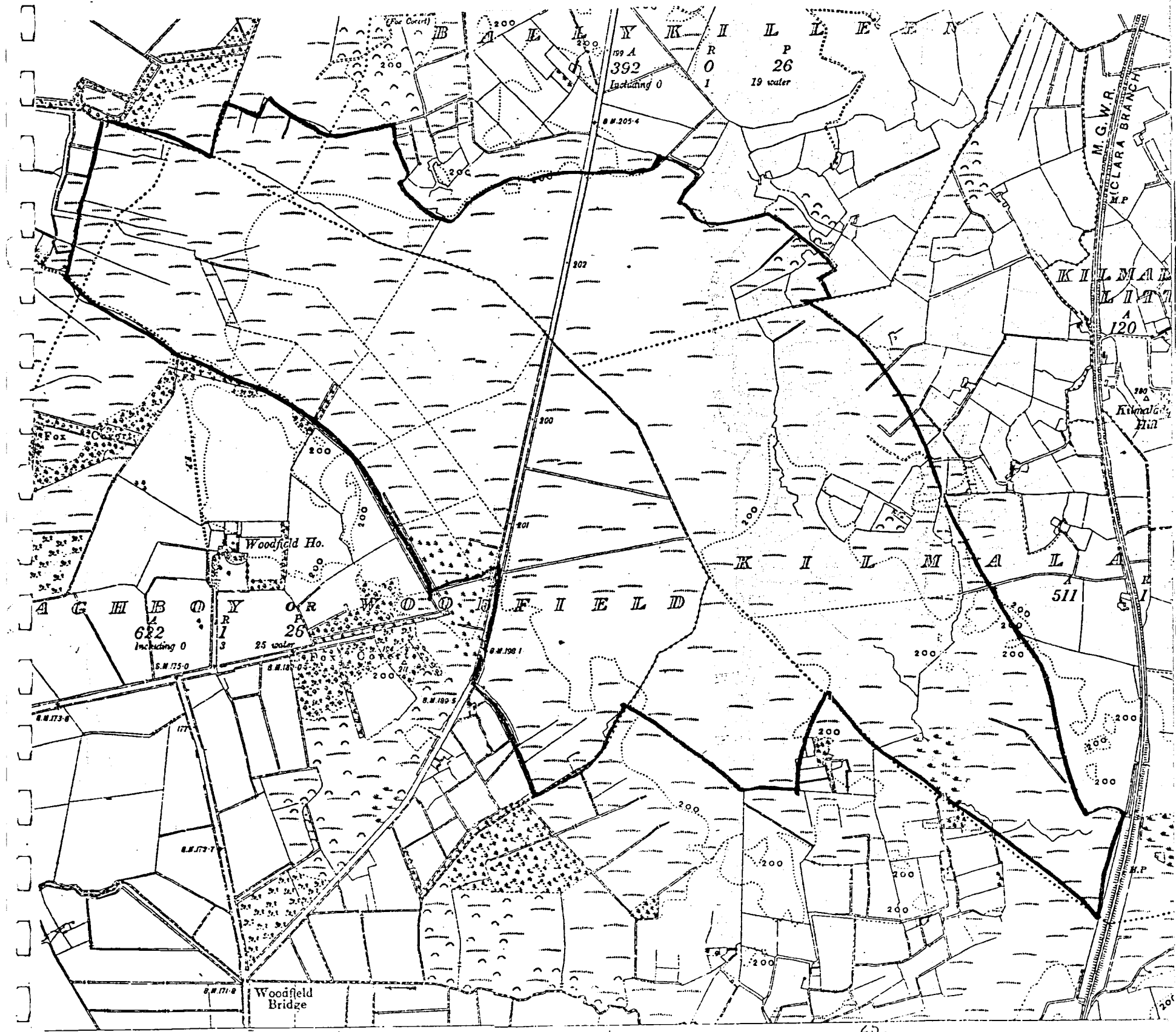
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Sites of Scientific Importance which have been identified since 1981

Name of Area	Habitat	Interest Local Importance	Description
Screggan N 287 195 54 hectares	Raised bog	Ecological	Pine bog with interesting bog vegetation
Canal at Tullamore N 34 26	Canal	Ecological	The Canal here contains a plant species which is preserved under the 1977 Wildlife Act
Canal below Kilbeggan N 33 36	Canal	Ecological	The Canal here contains a plant species which is preserved under the 1977 Wildlife Act
Shannonharbour N 03 18	Canal	Ecological	The Canal here contains a plant species which is preserved under the 1977 Wildlife Act
Monaincha Bog near Roscrea S 17 87	Raised bog	Ecological	The vegetation on this raised bog is of considerable botanical interest

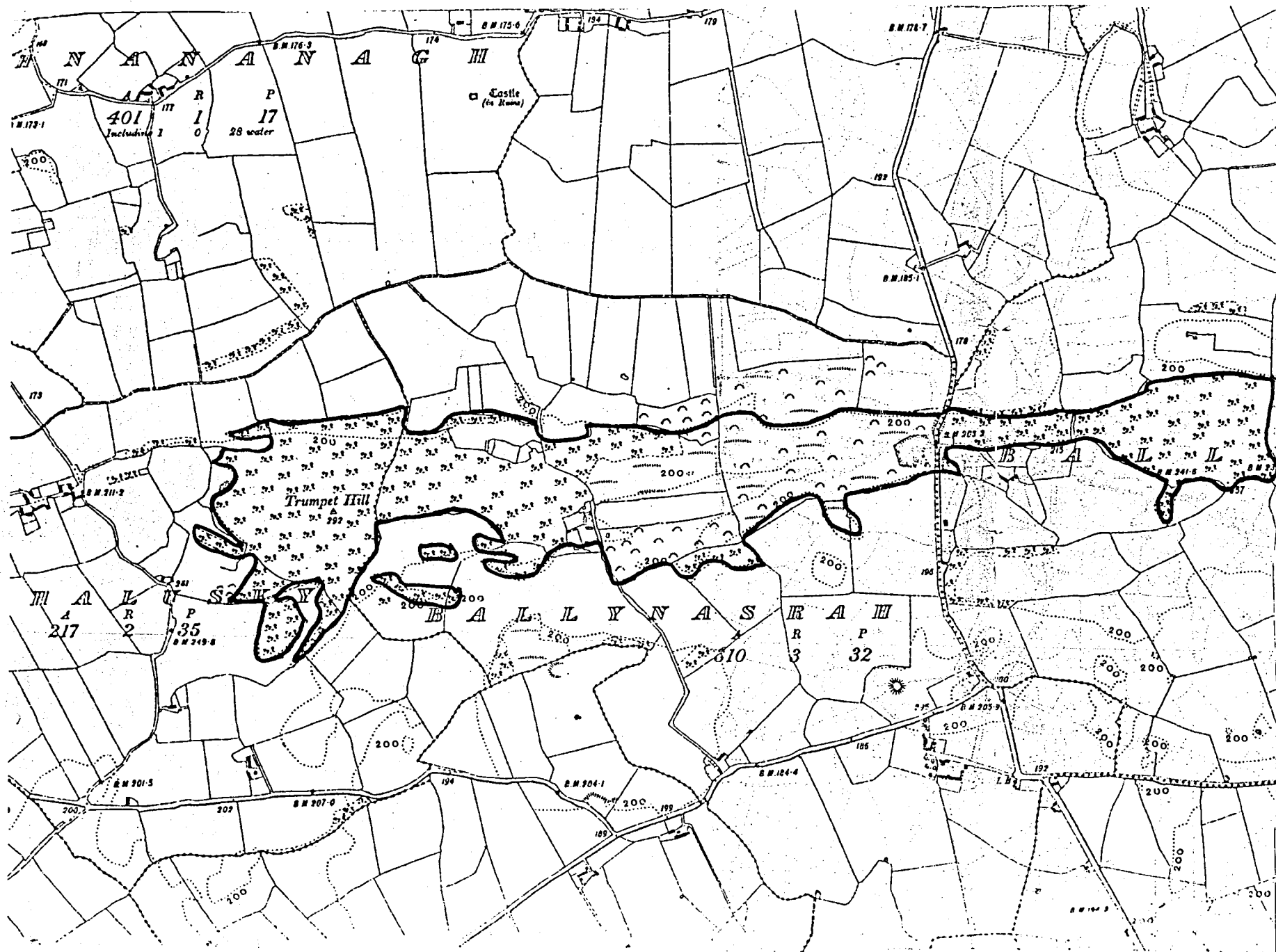
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 3

Scale: 5 Inches to 1 Mile



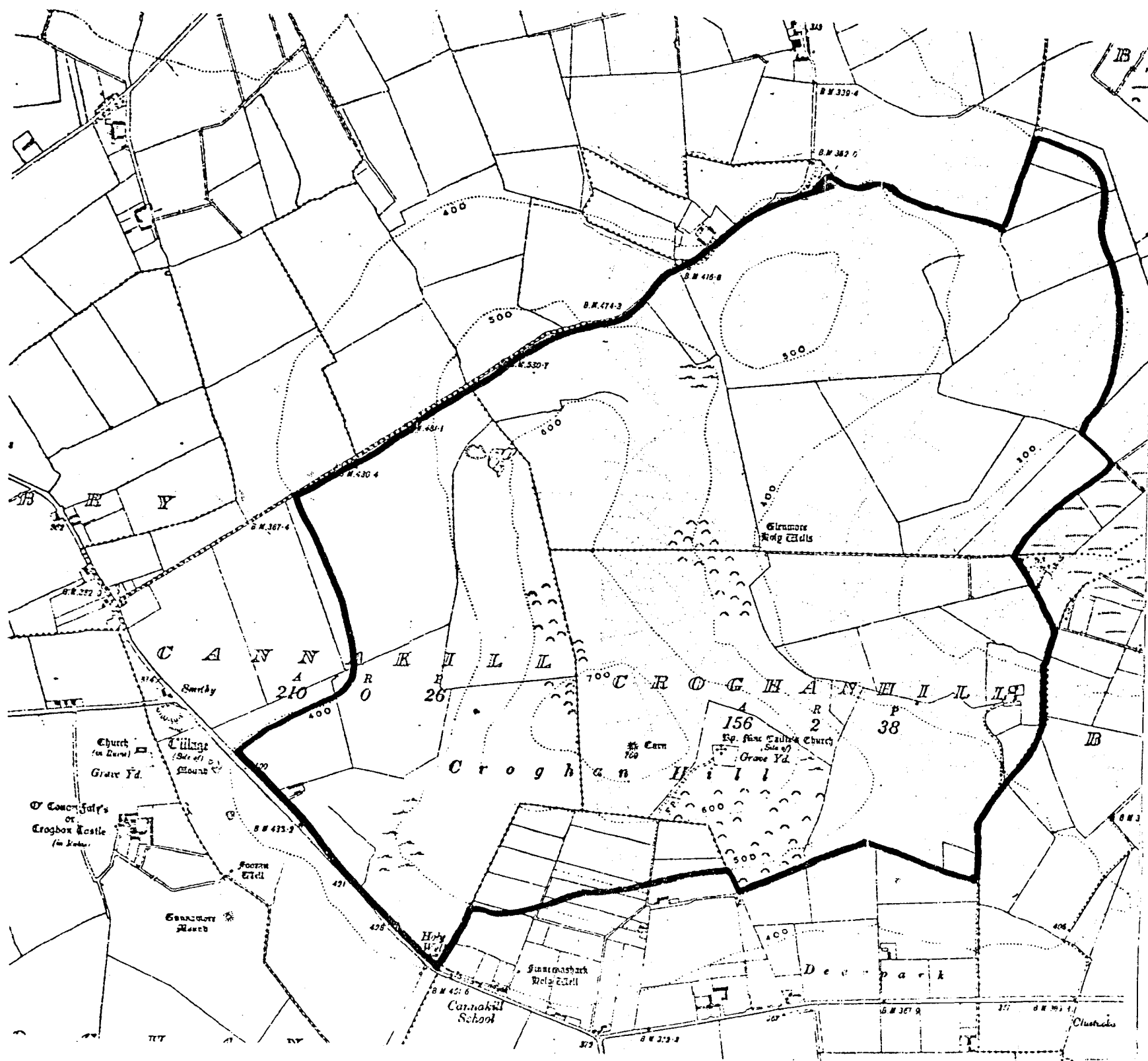
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 6

Scale: 6 Inches to 1 Mile



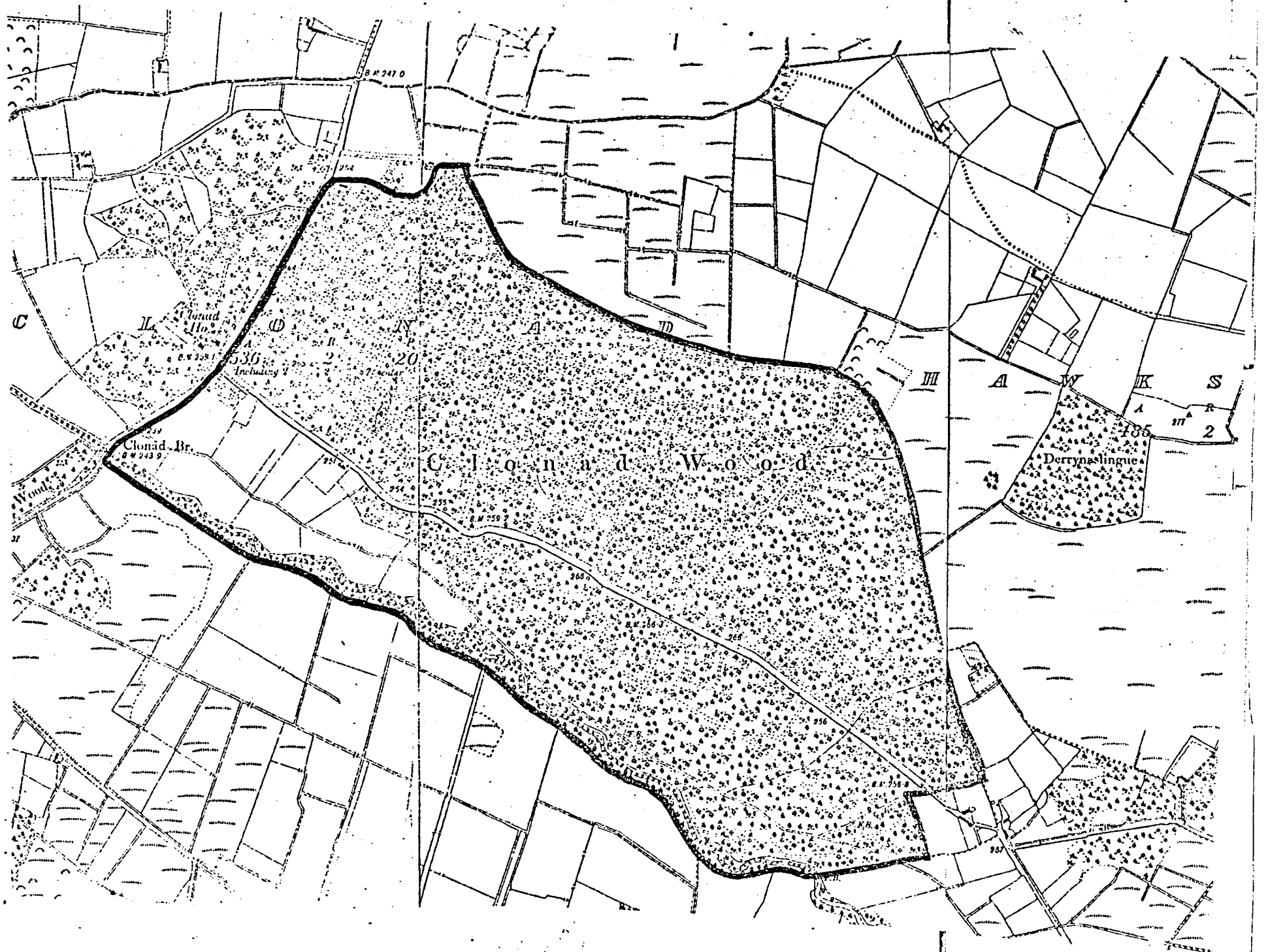
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 2

Scale: 6 Inches to 1 Mile



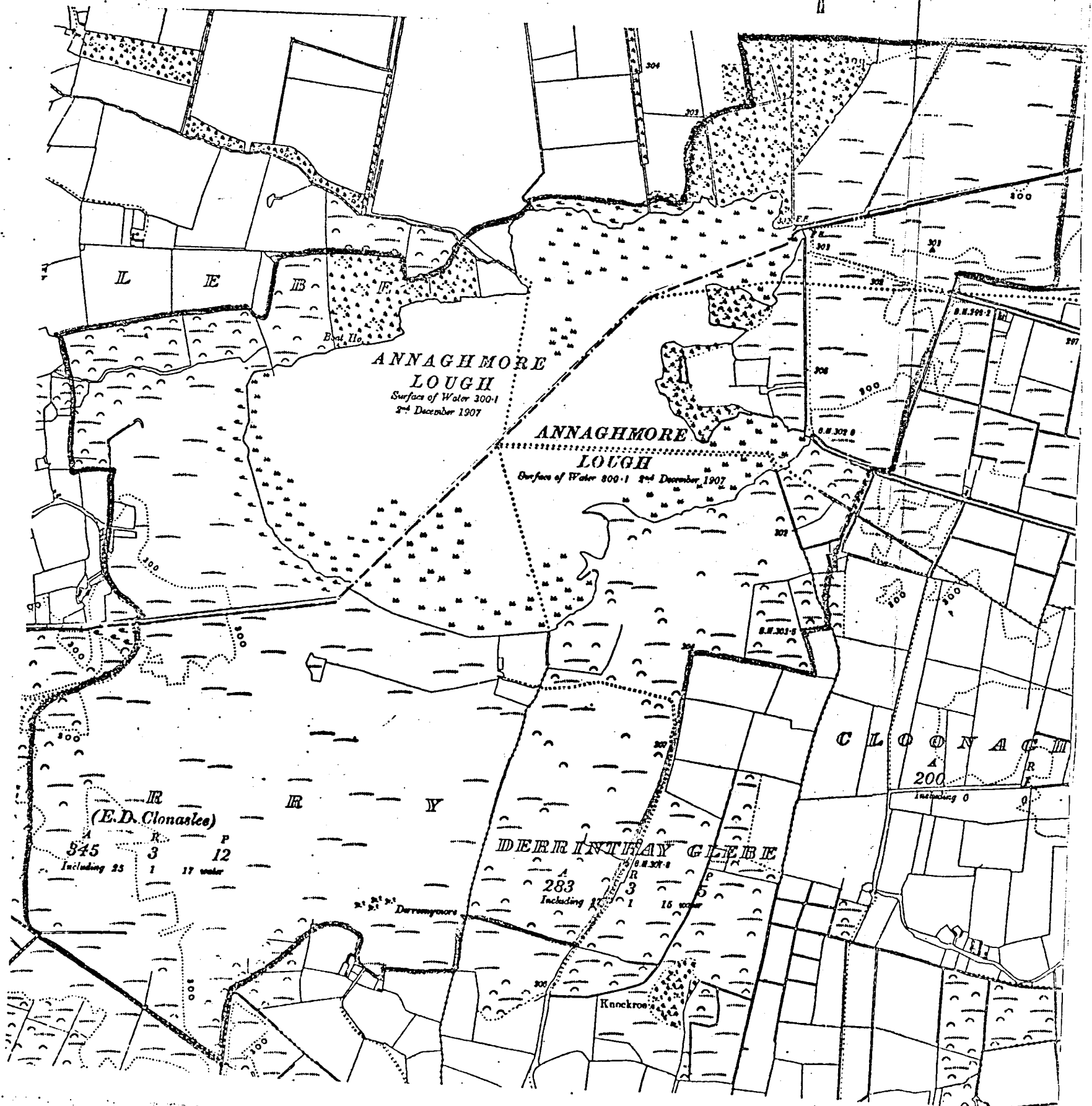
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 14.

Scale: 6 Inches to 1 Mile



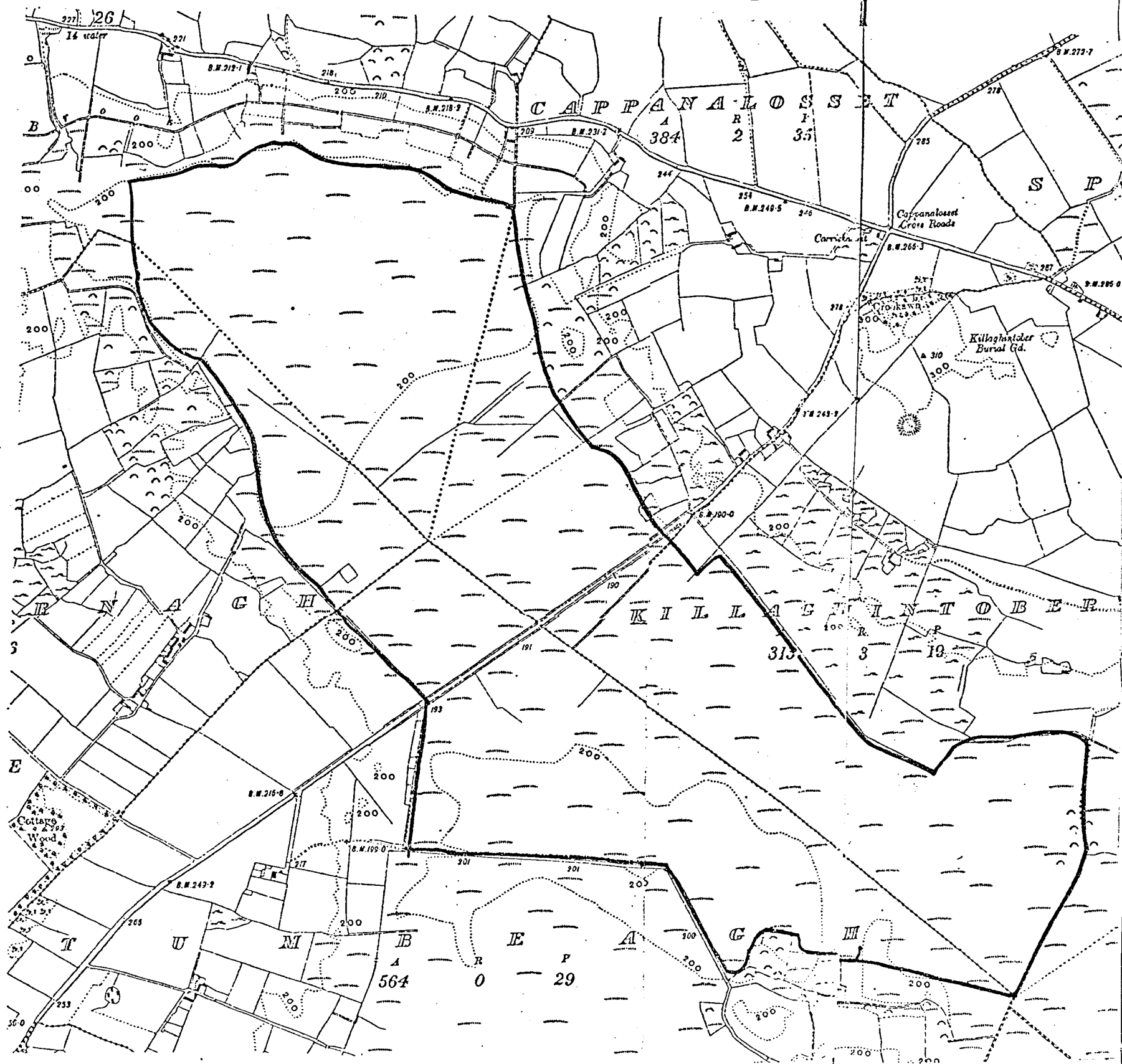
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 38.

Scale: 6 Inches to 1 Mile

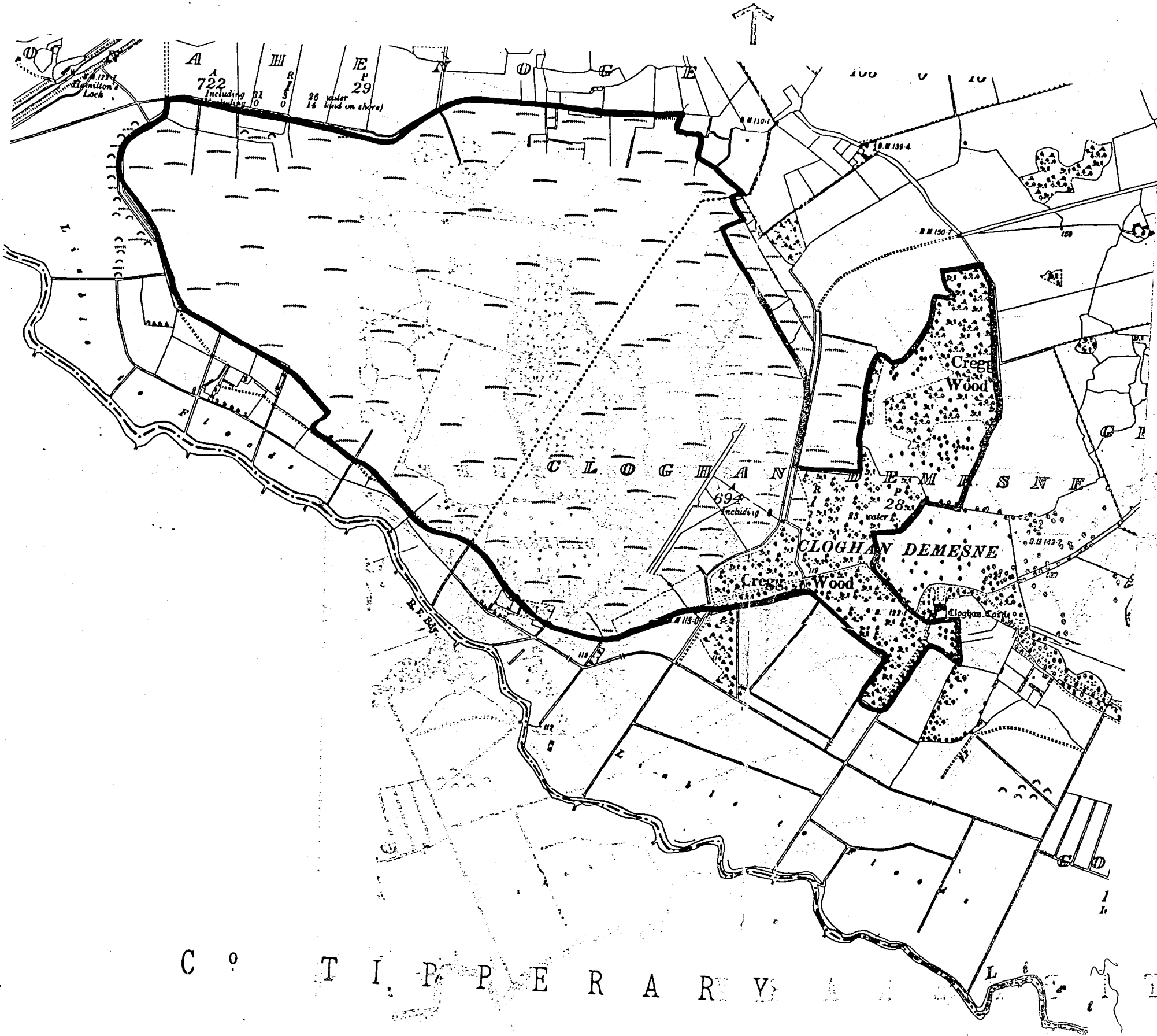


MAP SHOWING AREA OF SCIENTIFIC INTEREST — 20

Scale: 6 Inches to 1 Mile

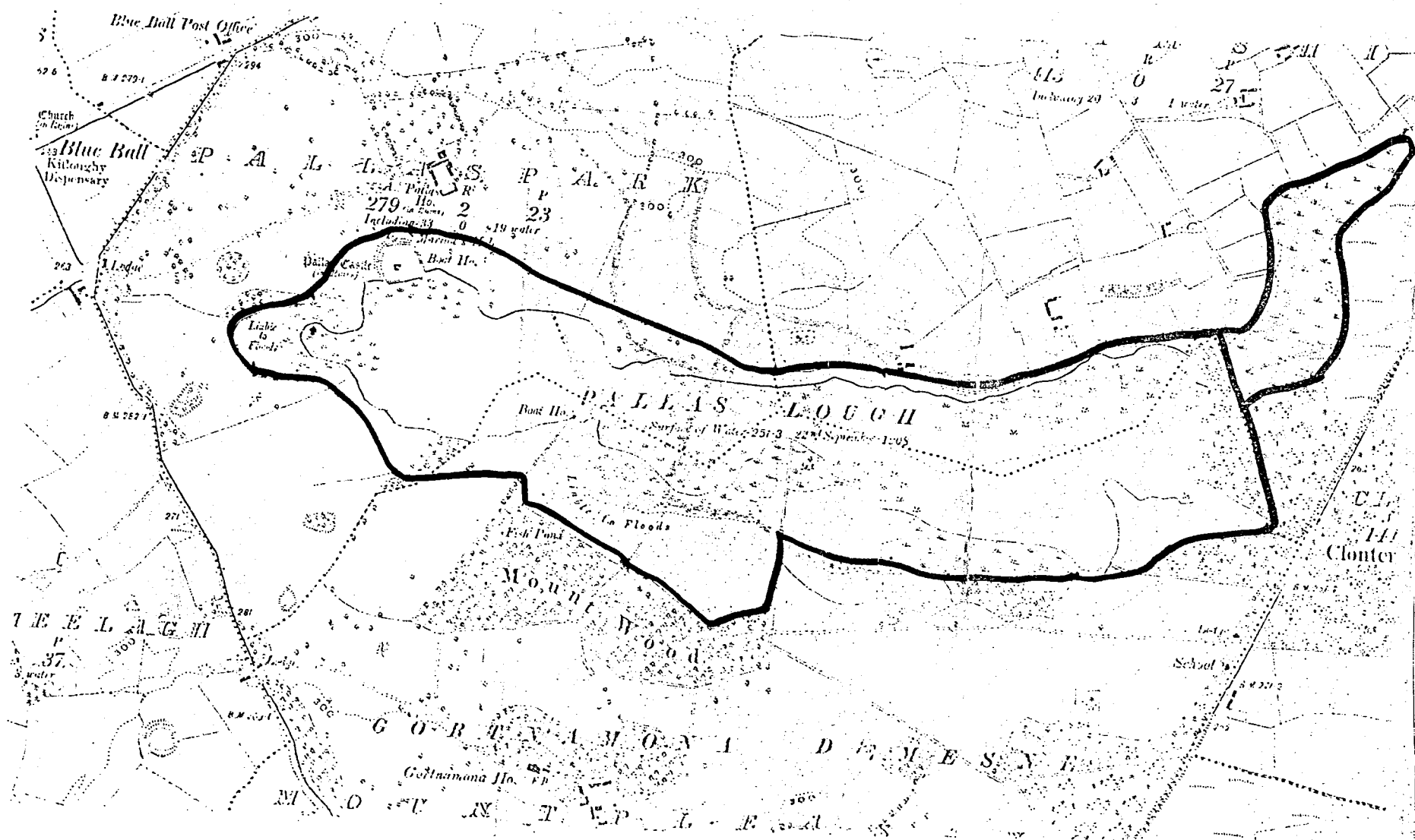


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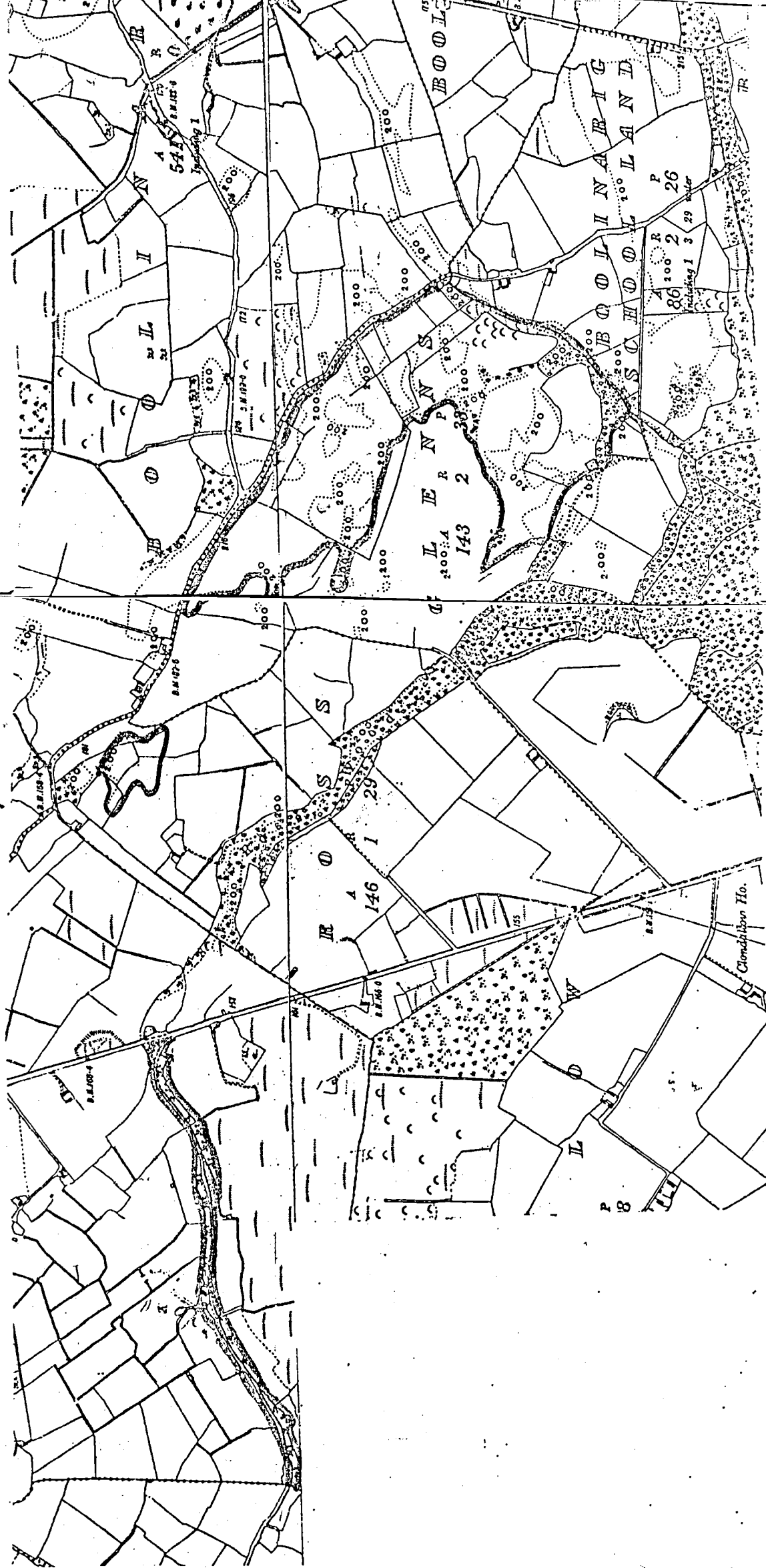
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 16

Scale: 6 Inches to 1 Mile



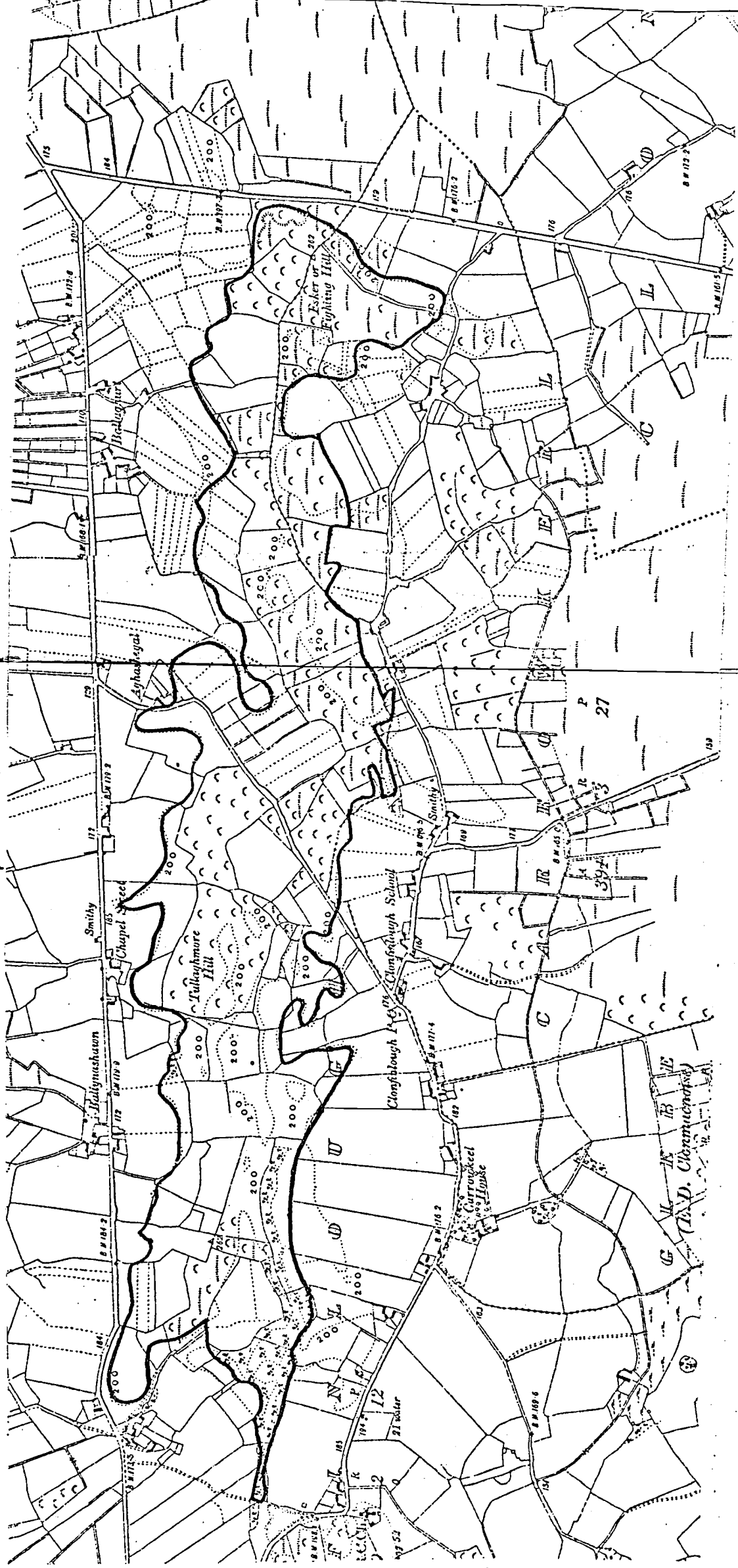
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 22

Scale: 6 inches to 1 Mile



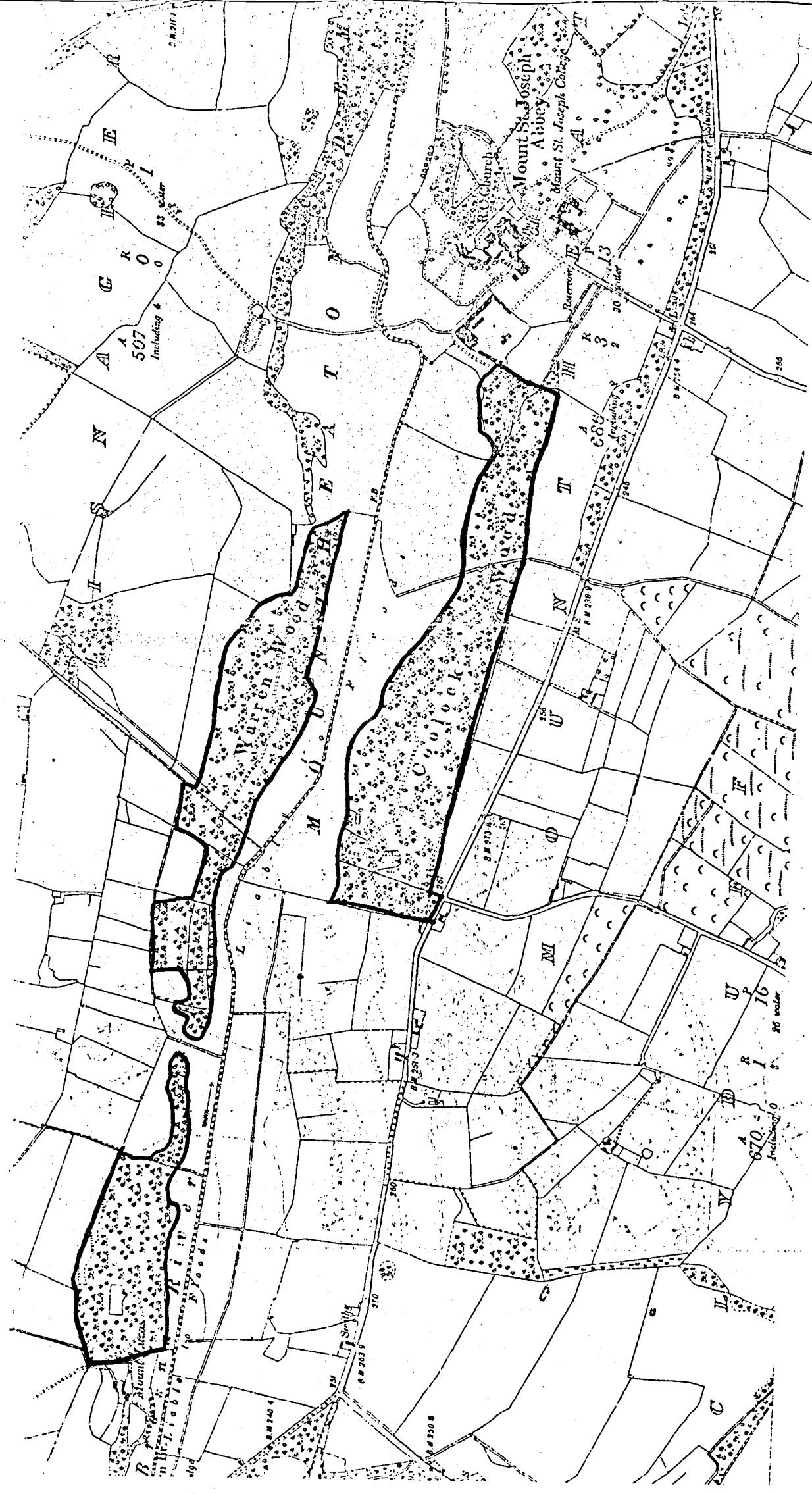
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 28.

Scale: 6 Inches to 1 Mile



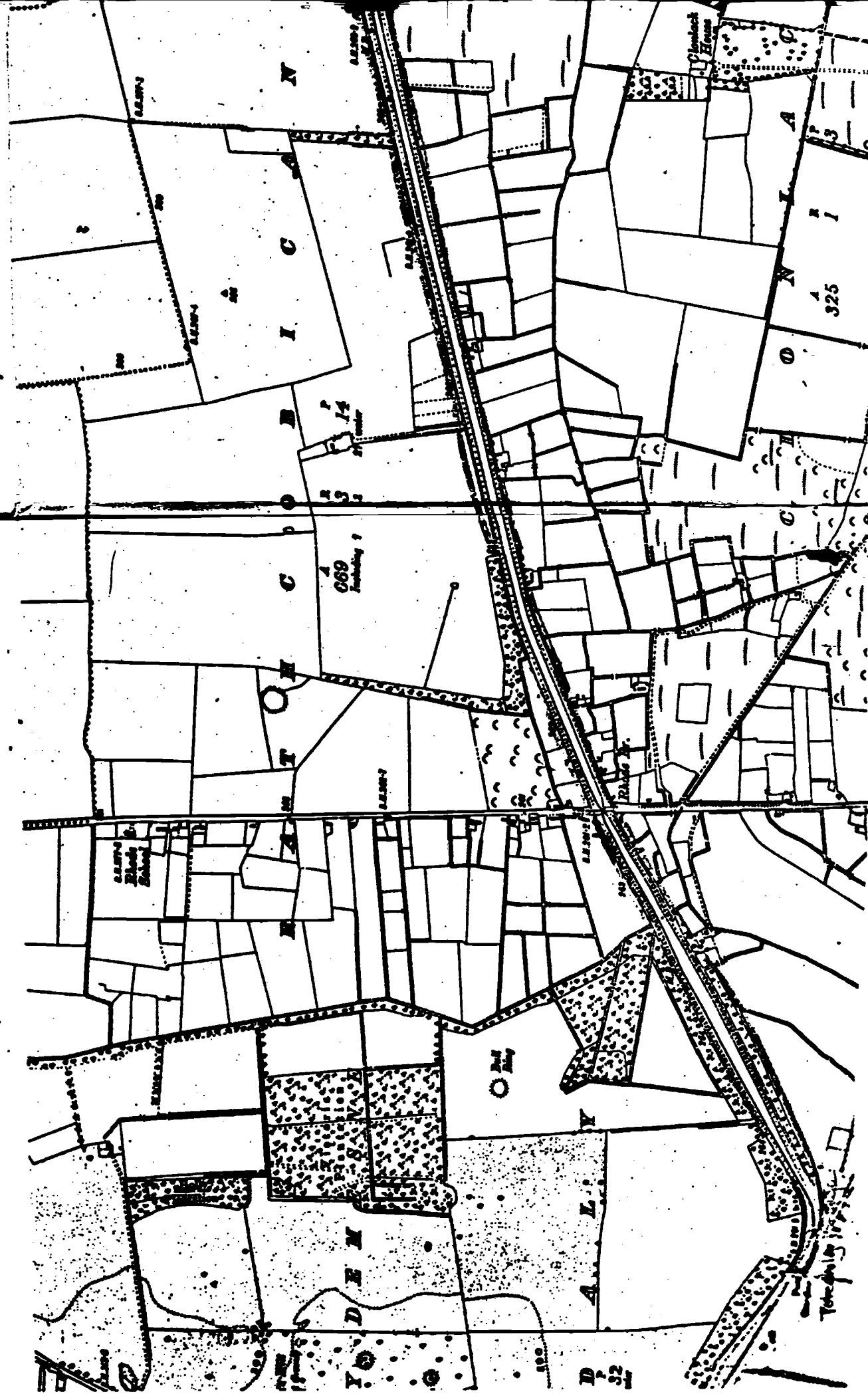
Map of the area from 1861 to 1862

Scale: 8 inches to 1 mile
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MAP SHOWING AREA OF SCIENTIFIC INTEREST — 25.

Scale: 6 Inches to 1 Mile





MAP SHOWING AREA OF SCIENTIFIC INTEREST

Scale: 6 Inches to 1 Mile

