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CONSERVATION AND AMENITY ADVISORY SERVICE

A PRELIMINARY REPORT ON AREAS OF SCIENTIFIC INTEREST IN COUNTY LOUTH

Edward Fahy,
Research Assistant.

August, 1972.

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Note: The maps presented in this report are based on the Ordnance Survey by permission of the Government, (licence number 121/72).

The help of Donal Synnot of the National Herbarium, Glasnevin, is gratefully acknowledged.

This report is based on data abstracted from the files of the Conservation Unit, An Foras Forbartha, from the published literature and from several periods of field observations. It is a provisional document, subject to future research.

PREFACE

This report concerns country-planning. It should enable the county council to pick out those areas that are important on a national or local level and whose conservation can be based on strong scientific or educational grounds. The Conservation and Amenity Advisory Service is attempting to identify a representative range of natural or semi-natural habitats throughout Ireland and also to list sites of special significance, usually containing a rare species or a rare natural phenomenon. Around these areas, development can proceed with relative impunity, once waste-disposal problems have been surmounted. It may be stressed that the amount of land available is such that development will very seldom mean the impoverishment of the national heritage, if it is properly planned.

However, it is true that scenically attractive areas which appeal because of the combination of hills, woodland and water, may introduce conflicts. They are naturally sought after by housing or recreation interests but, at the same time, they often contain communities of plants and animals, interesting because of their isolation from rural or urban development. To compromise between the opposing forces is always difficult, but it may be pointed out that large trees and especially the woodland community is an irreplaceable feature of the landscape on a timescale of 10-20 years.

Conservation of natural communities may be important for amenity, scientific or educational reasons, or any combination of the three. Frequently the natural vegetation of an area gives to it a characteristic atmosphere, an indefinable value, but very real to those that walk or drive through it. Diversity is the key quality of the environment that attracts people to an area or that makes them find relaxation there; the contrast between cultivation and wilderness, between water and land or between trees and grass. Fortunately, diversity is also the sine qua non of rich biological communities.

Examples of all habitats must be preserved for scientific research. Uncultivated areas are essential as reservoirs for organisms that may be useful for soil conditioning or pest control in the future. Quite apart from their

inherent interest and complexity they are needed also as control areas. Without them it would be impossible to judge the effectiveness of, or to improve man's attempts at land management. For example, how can pollution be controlled if no unpolluted watercourse or lake remains in which to decipher the natural breakdown processes? Or how can the great productivity of marshes and seasonally flooded land be harnessed, other than by rice growing, if no natural swamps are left? Finally, how can cutover bog be best used for tree growing if no natural self-sustaining bog community or no wooded peaty areas exist? These questions are of growing importance in a competitive world that demands efficiency and an optimum level of food production compatible with little damage to the ecosystem.

In education, field studies of all sorts are of immense value, and biological field studies are a stimulus that many other disciplines envy. Natural communities provide some of the clearest expositions of the ecological principles that operate through all growing and harvesting methods. In addition, there is the challenge of identifying and getting acquainted with numerous and very different species. Field work attracts practically all children at some stage and enables everyone to better appreciate being in rural surroundings. Already, since the introduction of biology teaching, there is greater awareness of the environment and interest in wildlife. Such constructive recreation should be encouraged by the maintenance of variety in the countryside.

It is the intention of this survey to encourage the use of the countryside by drawing attention to scientifically interesting places. All of those mentioned can support much greater numbers of people - less so in certain cases of marshes and bogs, or at certain times of the year. But the carrying-capacity of each site will eventually have to be analysed. How much recreational use can co-exist with a nesting wildfowl population? How many people can walk a woodland floor without damaging the plant cover? Or what number of trees can be felled each year while preserving the attractive features of the wood? The idea of preserving any but the smallest areas intact and without change is unrealistic and multiple use should be encouraged. Many of the areas would respond to sound management and become much more productive.

The majority of the sites listed are now productive in the crude sense of producing fish, game birds or timber. All are productive if they encourage people to visit the area and make use of services nearby, and we believe that all contribute to the relaxation, mental health and happiness of the community, especially the generation of town-dwellers that now form most of our nation.

SECTION B

VULNERABILITY OF THE VARIOUS 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 arterial drainage, or they can suffer insidiously through pollution, fertilization, grazing or overuse for recreation.

Of these various instances the first poses the greatest threat because of the rapidity with which it can occur. In the absence of a fine large enough to be a sure deterrent, co-operation to maintain the county's deciduous woodlands at all levels of landowner, forester and the general public must be actively sought. It will seldom be sufficient to put a prevention order on an area which would lose its value immediately the trees are felled. The voluntary organisations have a role to play in this acting as observers throughout the county.

Turf cutting on a small, private scale is not occurring at either of the peatland sites included but Bord na Mona have plans to exploit one of them. It is suggested that the county council might take up this matter, if not to try to prevent such exploitation then at least to postpone it until the last possible moment. The demand for machine turf may fall as central heating becomes the standard form and thus save at least one eastern raised bog in the county. The marginal areas that are scheduled to remain uncut are of much less value than a deep bog and the most satisfactory agreement would be to cut them out completely and leave the latter untouched.

Burning of the vegetation related to turf-cutting causes undesirable modifications in the plant cover, so it should be discouraged if possible.

Drainage schemes of all sorts have serious consequences for the scientific interest of aquatic sites but the threat may not be as serious in Louth as elsewhere. Thus in some instances the areas are large lakes or the

marshes around them and when the water level is lowered the plant communities develop again at a lower level. No large marshy area exists that supports large numbers of wildfowl, but in the case of smaller lakes there is a danger that conditions suitable for the same plant community will not recur and important species will be lost. The particular example of the Scraw Bog, however, may be mentioned as it would never recover its present form after drainage.

Dredging of river beds with the resulting steepening of their banks has a damaging effect on fish life and also sometimes on wildfowl.

As is well-known pollution of lakes changes their character to begin with, and if it is continued has bad effects on water quality and fish life. Aquatic communities of all sorts are the most vulnerable since the incoming matter cannot be localised but is transported everywhere in the water: they also require less nutrients than the land. For these reasons, development upstream of important areas must be carefully controlled, and alternative sites for domestic or agricultural developments, or drainage routes from them, must always be considered if such an area is involved. Where a greater distance of river or stream bed is available, it can be used within reason to deal with larger quantities of effluent. The lack of turbulence, and, therefore, oxygenation, does add considerably to waste disposal problems throughout the county, however.

Several farming operations are potentially destructive, apart from straigh-forward pollution by silage effluent or intensive livestock units. Excessive fertilization produces run-off of nutrients, especially nitrates and these are particularly bad for nutrient-poor ecosystems such as acid lakes and bogs. Introducing such run-off into any natural community will change the species composition.

Grazing has a similar effect. It selects out of the vegetation those species that are most resistant to constant cutting and allows them to multiply at the expense of others. This reduces the diversity of the flora and also often its interest.

Light grazing is seldom detrimental except that it prevents the natural colonisation of grassland by shrubs and trees, but as it is intensified such changes as those mentioned above occur and in extreme cases the vegetation may not be able to persist at all.

The last influence to be mentioned is that of recreation which probably deserves a place here at the moment only for its destructive aspect of flower or plant collecting. Opening up of areas with a rare noticeable plant may damage that species but in general enough individuals escape notice so that it persists from year to year. In future fragile ecosystems such as marshes, or unforested eskers may suffer excessive use such as sand dunes are at present receiving, but no problems of this exist in the county today.

SECTION C

METHODOLOGY AND PROCEDURE; LIMITATIONS OF THE REPORT

The information presented here has been obtained from the files on the county kept by An Foras Forbartha. A field survey and examination of the relevant literature were supplemented by information from people with practical knowledge of the county. Resulting from this work a number of habitats were investigated. Coverage of the county is shown in Figure 1.

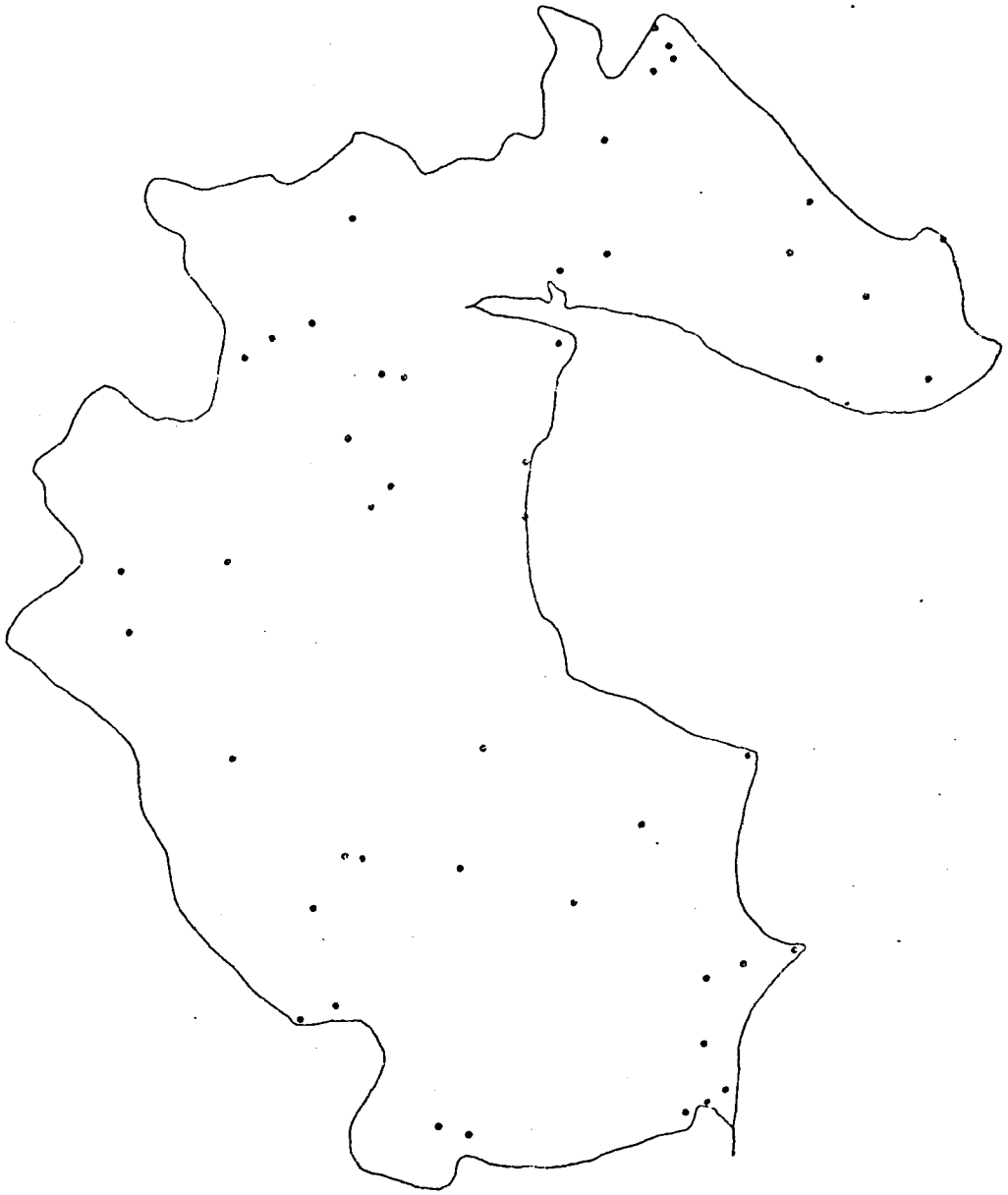

Fig. 1: A map of Co. Louth showing the areas which were investigated in the course of making an inventory of sites of scientific importance.

The information on the county is not considered complete. Large areas in the north west and on the Carlingford peninsula remain to be investigated. Large sites like Carlingford Lough, whose potential as a marine duck site is known to be great (Scaup and Merganser occur there in large numbers), require more detailed study before recommendations are made.

Ratings and priorities must be regarded as provisional. Ideally, as ratings are relative, a complete national inventory should be assembled before they are given and, were this to occur, ratings could be expected to change as sites were were destroyed or others became available. Examples of the latter are to be found where coniferous forests develop to an interesting size or new quarries are opened revealing stratigraphic phenomena.

Priorities are judged on the most obvious information available. It is unlikely, however, that the available information is complete and factors outside those considered could be significant.

Procedural Note:

Rare plant species for which sites are listed are referred to as "a rare species" only, this information being regarded as a form of protection. Plant species which are treated in this way are listed in Section H of the report.

SECTION D

INTRODUCTION TO AREAS OF SCIENTIFIC INTEREST IN CO. LOUTH

Co. Louth is divisible on structural grounds into four areas (Fig. 2) and the scientific interest of each corresponds to its basic geology. The Carlingford Peninsula (1) is a high mountain area composed of intrusive igneous and metamorphosed sedimentary rocks. Being a part of the Slieve Gullion Ring Dyke complex extending southwards from Co. Down, some features of exceptional structural geological interest are displayed. The coastal zone (2) which is demarcated on the west by the Dundalk - Dublin railway line, consists of low tidal ground, much of which has been colonised by salt marsh species.

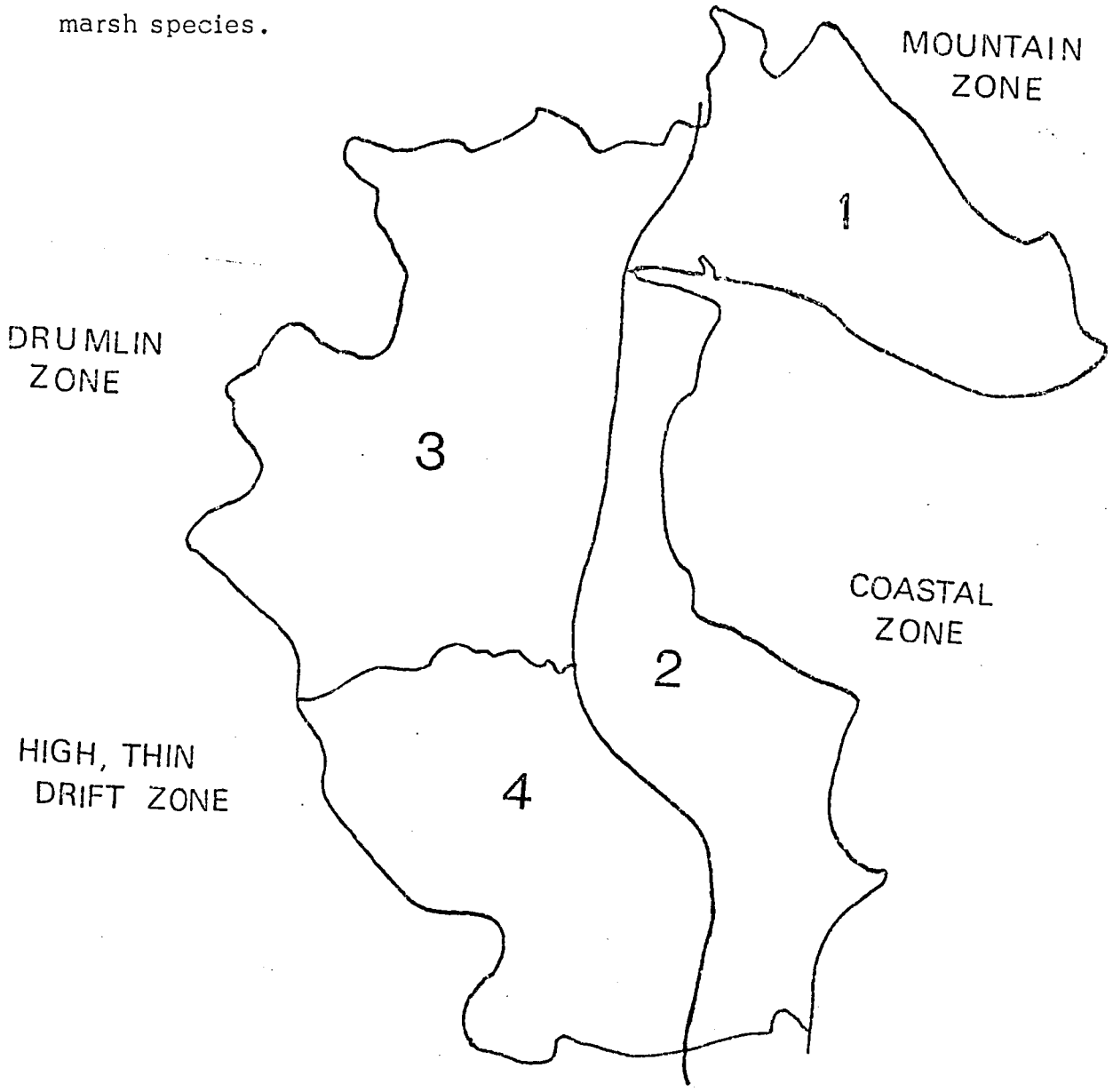

Fig. 2: A division of Co. Louth into four homogeneous regions.

Its geological interest is its Quaternary raised beaches. The north-west landscape of the county (3) is dominated by drumlin hills which are rich in calcium carbonate and which enclose small water bodies and raised bogs. To the south of the River Dee the terrain changes and deep drift is replaced by a shallow drift cover on high ground. The woodlands of this area are typical of those found elsewhere in the county but otherwise it is without distinctive features. Ratcliffe* (1968) discussed climatic and other abiotic conditions for Bryophyte growth in Ireland. He concluded that Co. Louth was the least atlantic of the Irish counties. Biologically, it remains to discover a representative range of ecotypes in the county. Geologically, the objective of this work is to list sites which display aspects of the Tertiary and Quaternary geology of the region.

Tertiary Geology:

The Carlingford area has one of the two best exposed ring dyke systems in Ireland. The Slieve Gullion ring dyke complex is widespread and extends south of Barnaveve on the peninsula.

Dykes originate by the welling up of magna into fissures formed by tension. Ring dykes are formed by cauldron subsidence, i.e. a plug (or cone) in the earth's crust collapses and is replaced by molten material which hardens around it in a circular or elliptical shape. The Carlingford, Slieve Gullion complex has been formed by a number of plug collapses.

The original stratigraphic rocks in this area were, as elsewhere, Silurian overlain by Carboniferous limestones. The first material to be injected in a molten state was gabbro and this was followed by granophyres which surrounded the subsiding gabbro plug, thus forming circular dyke structures.

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*Ratcliffe, D.A. (1968) An ecological account of Atlantic Bryophytes in the in the British Isles.
New Phytol. 67 : 365 - 439

Exposures of the ring dyke complex are listed under one site heading.

Quaternary Geology:

Glacial features are frequent in Co. Louth. The drumlins of Region 3 and west-east moraine are examples. The scheduled features are particularly valuable as educational aids and for their value to research.

Biology:

Typical habitat types and sites of rare species. Examples were sought in the survey of the county and the following remarks will serve to explain the choice of sites:-

Woodlands:

The selection of woodlands for conservation is considered on several grounds. The most valuable stands are "primeval" forests of certain hardwood species, such as oak. Primeval stands, because they have been untouched, or largely so, since man's arrival in Ireland, contain reservoirs of native plant and animal life. Oak and birch form primeval stands in hilly areas of the country where their harvest has proved uneconomic. Planted oak and birch also occur in various parts of Ireland - steep slopes in Co. Wicklow for example have large areas of oak and they have conservation values as sites to which surviving native fauna and flora have imigrated and become established. They are not,however,untouched since primeval times so their values are lower than purely natural woodland.

Another woodland type of equal conservation value to that just mentioned is secondary forest which forms on uncultivated land and sometimes invades and overtakes existing deciduous woodland.

In the western counties a common secondary tree species is birch, but on the limestone drift in Co. Louth, ash (Fraxinus excelsior) is the most common tree. Secondary woodlands are self-established and when composed of native hardwoods are likely to contain a native fauna and flora.

Beech (Fagus sylvatica) is not a native Irish tree but was widely grown as an estate and parkwood species because of its satisfactory yield. The nutrient products of beech leaf breakdown and the fact that light penetration through its branches is similar to that in other deciduous woods permit a profuse and varied ground flora to develop and this in turn supports invertebrate populations more generally found in native deciduous woods. Coniferous woodlands are not generally of any conservation value. Yew (Taxus baccata) and Juniper (Juniperus communis) are native species and their distribution is limited. Larch (Larix spp.) is important as the only deciduous conifer which allows some light penetration to the herb layer in a forest which thus supports a varied ground flora. Most conifers however, as they near maturity, permit some light to get as far as the forest floor. Ravensdale forest is a good example. Sites of this kind have a local importance but careful management is required if they are to maintain their scientific values.

Particular mention should be made of groups of deciduous trees occurring on limestone outcrops in the northwest of the county. Because these are inaccessible to farm machinery, they have remained untouched. As a rule the trees are ash (Fraxinus excelsior), elder (Sainbucus Nigra) and various planted species. Often the central dome of a hill is not forested and is covered in bracken (Pteridium aquilinum). The ground flora of the outcrops examined varied but was in places very poor (Rumex spp only.) A detailed survey of these sites will be carried out in the future. Their only apparent threat at this time is clearance for house building.

The enforcement of a blanket control by the Local Authority is considered to be the best way of ensuring the survival of isolated stands and roadside trees of obvious value to amenity but of less scientific worth.

Wetlands:

Wetlands, and particularly lakes, have a particular scientific interest to researchers and educationalists. Because a lake forms a closed and discreet biological system, its value is immense. But marshlands, whether coastal or freshwater are of noteworthy significance in Ireland which is an overwintering and feeding area for northern wildfowl. The destruction of habitat that has occurred in recent years has resulted in a number of formerly common species becoming rare. To conserve what remains, it will be necessary to retain suitable existing wetlands and possibly to create others. Virtually all of the extant marshlands in County Louth can be shown to be of ornithological importance.

The cut-over bog at Ardee is the only remaining example of a raised bog in the county. Rejuvenation is taking place where deep channels have been cut and botanical rarities still exist at the site.

Sand Dunes:

The sand dunes system at Baltray is one of the least eroded on the east coast of Ireland. In addition to containing a typical fauna and flora, the dune system has a number of rarities. In the future, this area will certainly come under greater pressures from recreational use and constant vigilance will be required to keep its scientific values at their present level.

In Fig. 3, The priorities for the county are summarised. It will be obvious that a large proportion of the areas considered have a high priority and will require constant vigilance and management to ensure that they retain their scientific interest. Two weeds are particularly dertrimental to existing biological sites, some of which have deteriorated as a result of invasion and have lost almost all their features of scientific interest. Rhododendron ponticum is widespread and well established in Co. Louth and most woods examined had some plants. The same is true of Spartina townsendii which has colonised all the coastal marshes and replaced the natural flora of the sea frontage at Lurgan Green.

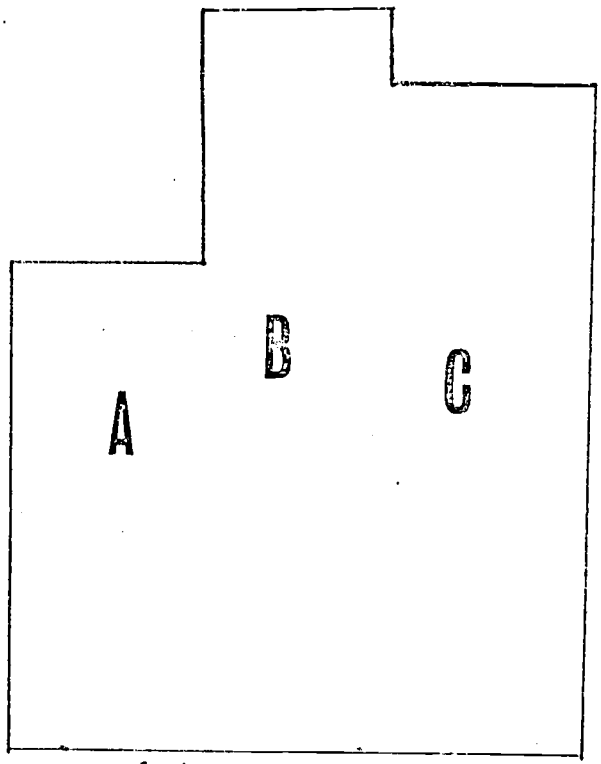


Fig. 3: A summary of site priorities for Co. Louth. The vertical scale is arbitary.

SECTION E

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 a 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.

TABLE SUMMARISING DETAILS OF AREAS OF SCIENTIFIC INTEREST

Area	Page No.	Map No.	Grid Reference	Rating	Priority	Interest
Raised Beach at Greenore	22	1	J.225,105	National	C	Geological: the site is an important raised beach containing archaeological remains.
Dundalk Marshes	24	2	J.086,070	Regional	A	Ecological, botanical, zoological and ornithological: a salt marsh system.
Clogher Head	28	3	O.175,845	Regional	B	Botanical, ecological: A combination of rare plant species occurs on a rocky promentory.
Melifont Abbey	31	4	O.012,835	Regional	B	Ecological, botanical and zoological: a typical fauna and flora occurs with a rare plant species.
Woodlands at Darver Castle	34	5	O.010,988	Regional	B	Ecological, botanical and zoological: woodland having a typical fauna and flora.
Carlingford Mountain	37	6	J.110,185 & J.165,125	Regional	B	Ecological, botanical and zoological: acid grassland, blanket bog and alpine communities occur at these areas.

Area	Page No	Map No.	Grid Reference	Rating	Priority	Interest
Baltray Dune System	41	7	O.157,772	Regional	C	Ecological, botanical and zoological: an intact dune system with typical plant and animal species and some rarities.
Ardee Bog	44	8	N.930,914	Regional	C	Botanical, ecological and zoological: cutaway bog with a typical plant and animal community.
Exposures of the Slieve Gullion Ring Dyke Complex	47	9	J.183,102	Regional	C	Geological: exposures show the structure of the ring dyke. Various minerals occur.
Mapastown Glacial Site	51	10	N.989,949	Regional	?	Geological and botanical: a deposit of glacial species of plants and animals.
Woodlands at Stevenstown House	53	11	J.005,025	Local	A	Ecological, botanical and zoological: woodlands having typical herb layer and invertebrates.
Woodlands at Narrow Water Ferry Hill	55	12	J.123,193	Local	A	Botanical, ecological and zoological: good ground flora and typical invertebrates present.
Shore North of Castlebellingham	58	13	O.070,977	Local	A	Ecological, botanical, zoological, ornithological and geological: a raised beach having a profuse flora; the mudflats are a wintering area for birds.

Area	Page No.	Map No.	Grid Reference	Rating	Priority	Interest
Reaghstown Marsh	61	14	N.907,982	Local	A	Ecological: marsh having typical fauna and flora.
Braganstown Bog	63	15	O.034,935	Local	A	Ecological, botanical, zoological and ornithological: the remnant of a large marsh; an important botanical site.
Derelict Woodlands	67	16 & 17	N.950,967 & N.960,917	Local	A	Botanical: could be interesting woodlands.
Headwater Lakes on the River Fane	70	18	H.969,065	Local	B	Ecological, botanical, zoological and ornithological: The lakes are the largest areas of open water in County Louth.
Flurrey River Site	73	19	J.077,096	Local	B	Ecological and botanical: a meander belt wetland and estuary with some unusual plant species.
Castle Coo Hill	76	20	O.145,830	Local	B	Botanical and ecological: a rocky outcrop with a heath vegetation and a rare plant species.
Salt Marsh at Baldoyle	79	21	O.145,775	Local	B	Ecological: an example of a salt marsh.
Boyne Estuary	82	21[b]	O.140,775	Local	B	Ornithological and ecological: A river estuary of importance to wildfowl and waders.

Area	Map No.	Grid Reference	Rating	Priority	Interest
Blackhall Woodlands 84	22	O.125,825	Local	B	Ecological and botanical: a good ground flora occurs in this planted wood.
Woodlands at Barmeath Castle 86	23	O.095,875	Local	B	Ecological and botanical: the wood has a varied ground flora.
Killincoole Marsh 92		O.006,997	Local	B	Ecological: the site is a Phragmites (reed) marsh.
Pond and Trees Opposite Stevenstown House 89	24	J.012,026	Local	B	Ecological, botanical and zoological: typical example of a static waterbody.
King William's Glen 93	25	O.045,765	Local	C	Ecological, botanical and zoological: The site contains typical plant and animal communities.
Liscarragh Marsh 95	26	J.185,062	Local	C	Ecological: a good example of a marshland.
Ravensdale Woods 97	27	J.089,133	Local	C	Ecological, botanical and zoological: a mixed forest containing a typical flora and fauna.
Trumpet Hill and Surrounding Area 100	28	J.100,100	Local	C	Ecological, botanical and zoological: a basalt volcanic cone covered in woodland and including a marsh nearby.

Area	Page No.	Map No.	Grid Reference	Rating	Priority	Interest
The Park Wood Omeath	103	29	J.125,175	Local	C	Botanical, ecological and zoological: a wood composed of secondary birch.
Dunany End Moraine	105	30	O.160,918	Local	C	Geological and botanical: the site is a glacial moraine; an uncommc plant species occurs there.
Kildemock Marsh	108	31	N.973,885	Local	C	Ecological, botanical and zoological: a Phragmites (reed) marsh with typical flora and fauna.
Cooley Peneplain	110	32	J.230,070	Local	C	Geological; the site is a peneplain.

SECTION G

Name of area	RAISED BEACH AT GREENORE
Acreage	7 - but see recommendations
Grid reference	J. 225, 105
Scientific interest	Geological
Rating	National importance
Priority	C

Description of the area — See Map 1

The site is a raised beach, similar to the existing beach in composition but approximately 10-15 feet higher.

Evaluation

The beach dates from the post-mesolithic period in Ireland. In addition to showing the elastic recovery of the land after the ice retreat, the feature is dated by its possession of rolled flint implements to C 3,000 B.C.

Threats to the area

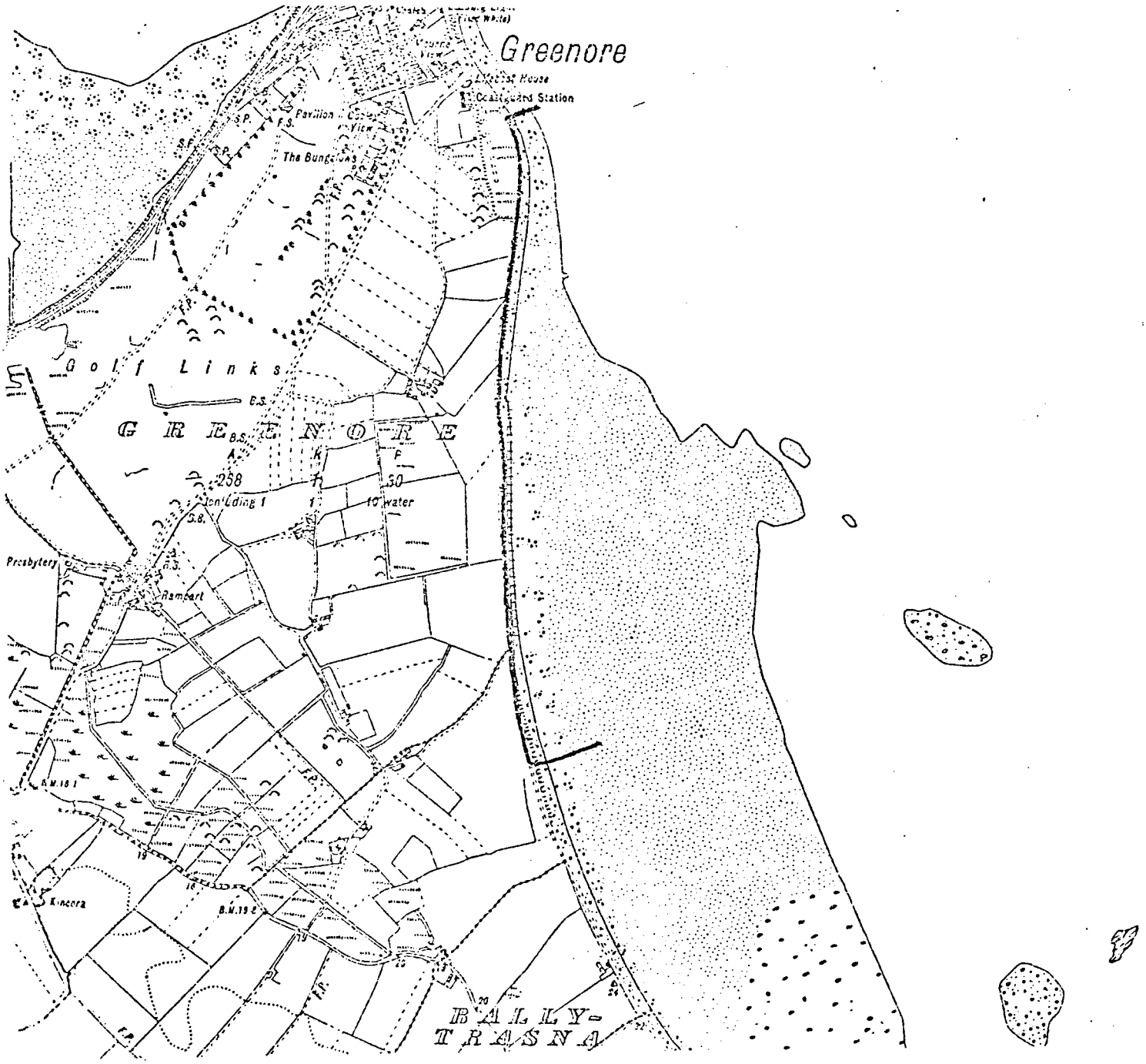
Natural marine erosion is occurring but at a slow pace. In one part of the site rubbish tipping has taken place and this may be obscuring the cliff line.

Recommendations

At this time the precise inland limits of the site are not known although research on them is proceeding. It would be desirable to remap the area as soon as possible. Protection of the site can be secured by prevention of building or rubbish tipping on it.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 1

Scale: 6 Inches to 1 Mile



NOTE: This is a raised beach section. The inland extent of the feature is not yet known.

Name of area	DUNDALK MARSHES See also shore north of Castlebellingham
Acreage	425
Grid reference	J. 086, 070
Scientific interest	Ecological, botanical, zoological and ornithological
Rating	Regional importance
Priority	A

Description of the area — See Map 2.

The seaward side of the site is occupied by the upper zone of a salt marsh and this contains the following plant species:

	Halimione portulacoides	sea purslane
	Juncus gerardii	salt mud rush
	Festuca rubra	red fesque
	Agrostis stolonifera	common bent grass
	Cochlaeria officinalis	common scurvy grass
	Spergularia marina	sea spurrey
	Glaux maritima	saltwort
	Puccinellia maritima	common salt marsh grass
	Plantago maritima	sea plantain
	Aster tripolium	sea aster
and	Armeria maritima	sea pink

The area has traces of pans and channels and these contain various species of Crustacea, particularly Isopoda. Frequent inundation is therefore likely.

To the east the salt marsh goes into a thin Salicornia zone and thereafter into shallow mudflats which contain a typical fauna of Crustacea, particularly Corophium volutator.

The inland margin of the marsh is formed of a high ditch along which

grow	Agropyron junciforme	sand twitch
	Beta maritima	sea beet

Inland there are a number of fields, some cultivated, of significance as winter feeding areas and as a buffer zone.

Evaluation

The site is of interest as an example of an upper salt marsh, with typical flora and fauna. The area has an added significance as a wildfowl feeding ground during the winter months. Figures on its potential as a feeding ground are incomplete, there being no resident monitor during the winter months. The following maximum recorded figures give an indication of its value :

Duck

Mallard	200
Teal	400
Wigeon	500
Pintail	10
Shoveler	5
Goldeneye	50
Common Scoter	50
Merganser	20
Shelduck	30

Swans and geese

Mute swans	40
Brent geese	40

These figures indicate considerable scientific value although the holding capacity of the site is likely to be higher.

Threats to the area

The grass Spartina, which has obliterated much of the shore site north

of Castlebellingham, is well established in parts of this marsh, and forms tufts in the important Salicornia zone. Its removal is a matter of urgency.

Other threats to the site are likely to come in the future from water borne effluents, particularly oil,and the increase in human pressures. The latter will take at least two forms, building and recreation. A third possibility is casual, or official, refuse disposal on the marsh.

Recommendations

The immediate problem is the protection, and, if possible, enhancement of the site which should proceed as follows :

1. Demarcation of the area and provision of a buffer zone of no housing or industrial development around it
2. The eradication of Spartina
3. Careful observation of recreational pressures on the marsh. This should include summer time recreation and shooting in winter. Although there was no evidence of wildfowling when the site was visited, neither is there any indication that the area is protected in any way.
4. In the future consideration should be given to the use of a conservation order to protect the scientific values of the site.

Name of Area	CLOGHER HEAD
Acreage	96
Grid reference	0. 175, 845
Scientific interest	Botanical, ecological
Rating	Regional importance
Priority	B

Description of the Area — See map 3

Clogher Head is a promentory of Silurian quartzite which is faulted upwards on its eastern side. The rocks are covered with a thin layer of soil and the vegetation occurring on the headland is typical of communities on shallow soils, grazed by sheep elsewhere. The stonecrop (Sedum anglicum) daisy (Bellis perennis) and birds foot trefoil (Lotus corniculatus) are common. The grasses, crested dog's tail (Cynosurus cristatus) and sweet vernal grass (Anthoxanthum odoratum) are abundant. Sea pink (Armeria maritima), lonsewort (Pedicularis sylvatica) and heathers (Erica tetralix and Calluna vulgaris) also occur.

Evaluation

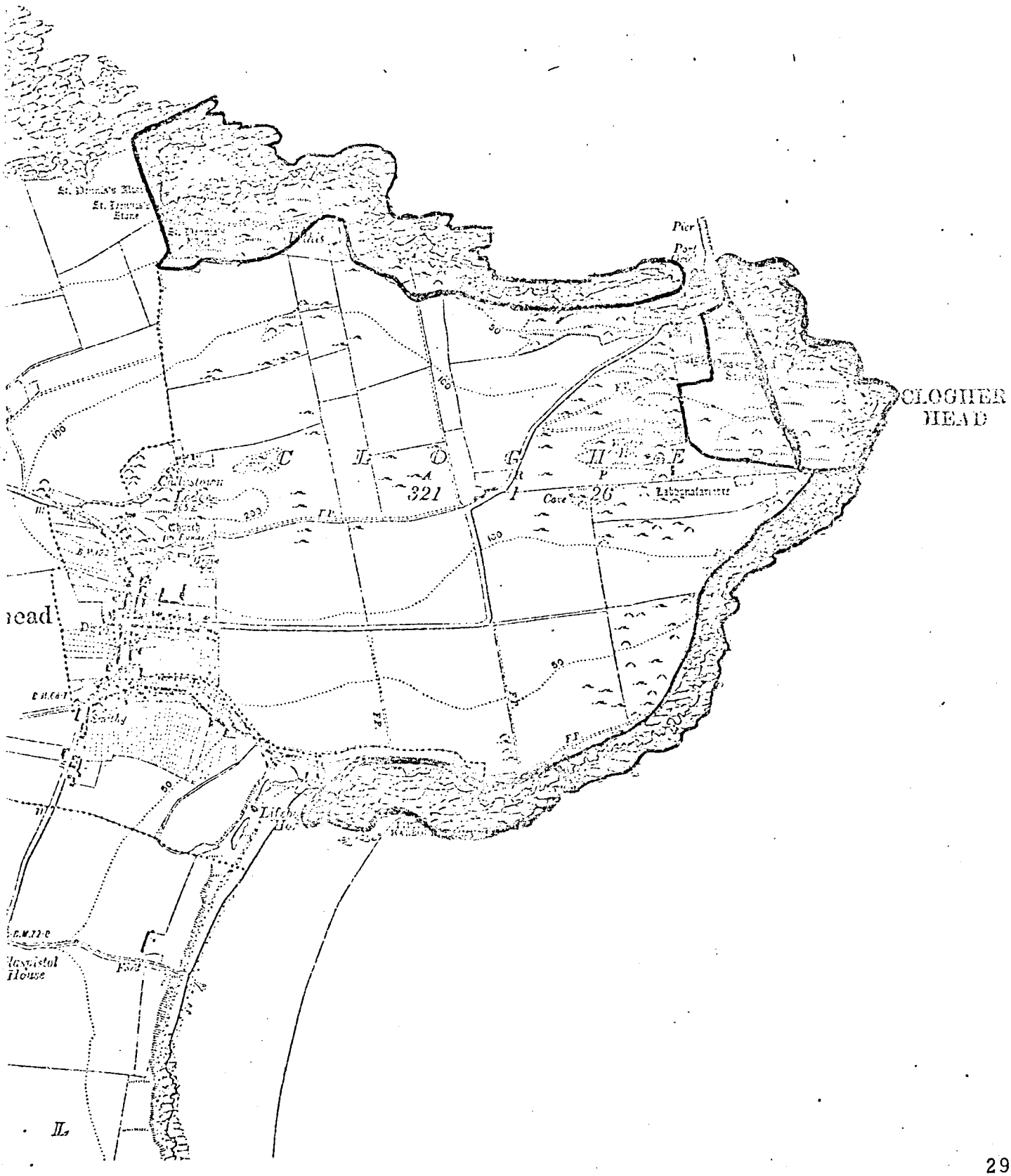
Four rare plant species occur on the headland. Although all are widely dispersed in the coastal area, two parts of the headland are better colonised than the rest. These are surrounded by a heavy line in the accompanying map.

Threats to the Area

Land adjoining the head will come under increasing pressure in the future. Recreational forces are the most likely and use of the land for building second homes will be an inevitable pressure.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 3

Scale: 6 Inches to 1 Mile



A second despoiling influence will arise from the movement of people along the coast. This is likely to be critical in the vicinity of the most valuable parts of this site. Port Oriel was, when the site was visited, in a poor state because of domestic and picnic rubbish scattered about. This factor, if it extends to the surrounding coast, could be a despoiling influence, but it would be unlikely to alter the status of the rare plant species unless tipping occurred.

Recommendations.

It is desirable that the scientific values of this site be maintained. As in other cases, the management of the headland in the best amenity interests will go a long way towards maintaining its scientific values. Firstly, the headland should be maintained without alteration and no change in the land use policy should occur, eg. there should be no building. In the future the manipulation of large number of people may provide a partial answer to the conservation of the site. Such procedures would involve the closing of certain pathways to the areas of greatest importance.

In the meantime, the site should be kept under observation and a policy evolved as the occasion demands.

Name of area	MELIFONT ABBEY
Acreage	350
Grid reference	0.01 2, 835
Scientific interest	Ecological, botanical and zoological
Rating	Regional importance
Priority	B

Description of the area — See Map 4

The site is wet secondary woodland. The trees consist mainly of ash (Fraxinus excelsior) which appears to have been coppiced at one time, alder (Alnus glutinosa), birch (Betula sp.) and an exotic sycamore (Acer sp.) also occur. The shrub layer is dominated by Rhododendron and there is some guelder rose (Viburnum opulus). The area of greatest interest is surrounded by a double line in Map 4.

The herbs are profuse and varied and the following dominate the ground layer :

Rubus fruticosus agg.	bramble
Circaea lutetiana	enchanter's nightshade
Lysimachia nemorum	yellow pimpernel
Listera ovata	twayblade
Ajuga reptans	bugle

The fern Dryopteris dilitata is common.

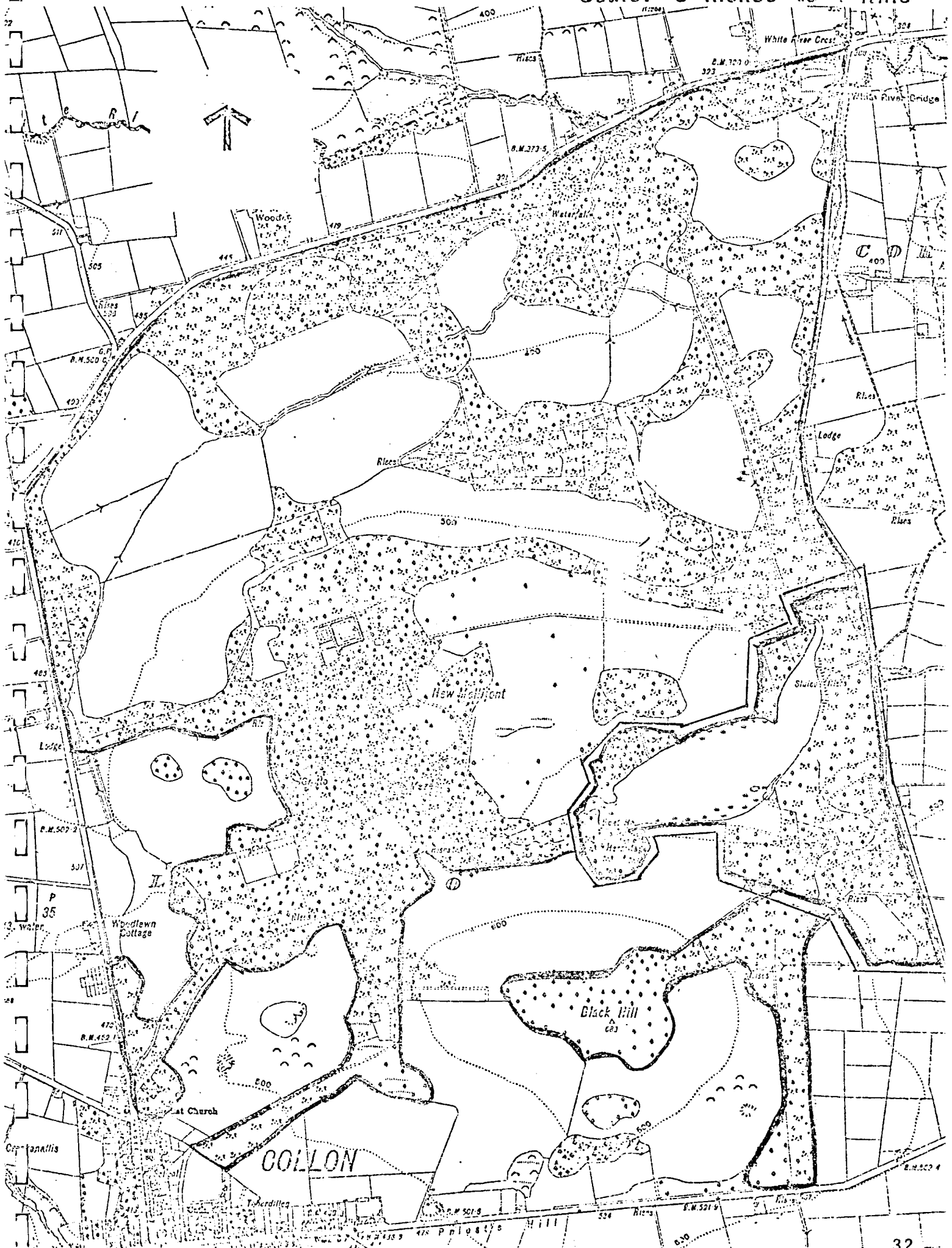
A lake is included in the area of scientific interest. It is shallow and is gradually filling with sediment. The lake margins are an alder swamp and a Typha sp. is common, together with Menyanthes trifoliata (bogbean).

Evaluation

The woodland has a varied invertebrate fauna and red squirrels are common. A rare plant species occurs there.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 4

Scale: 6 Inches to 1 Mile



Threats to the area

Land reclamation is possible and some of the woodland has the appearance of being cleared at present. Rhododendron spread will destroy the scientific and amenity values of the wood if not checked.

Recommendations

The area of woodland included in this site is large and partial clearance may occur. The area surrounded by a double line on Map 4 is most valuable and should be retained along with trees surrounding the lake. Consideration should be given to managing part of this estate as a nature reserve. If necessary, preservation should be secured by use of a tree preservation order.

Name of area	WOODLANDS AT DARVER CASTLE
Acreage	11
Grid reference	0. 010, 988
Scientific interest	Ecological, botanical and zoological
Rating	Regional importance
Priority	B

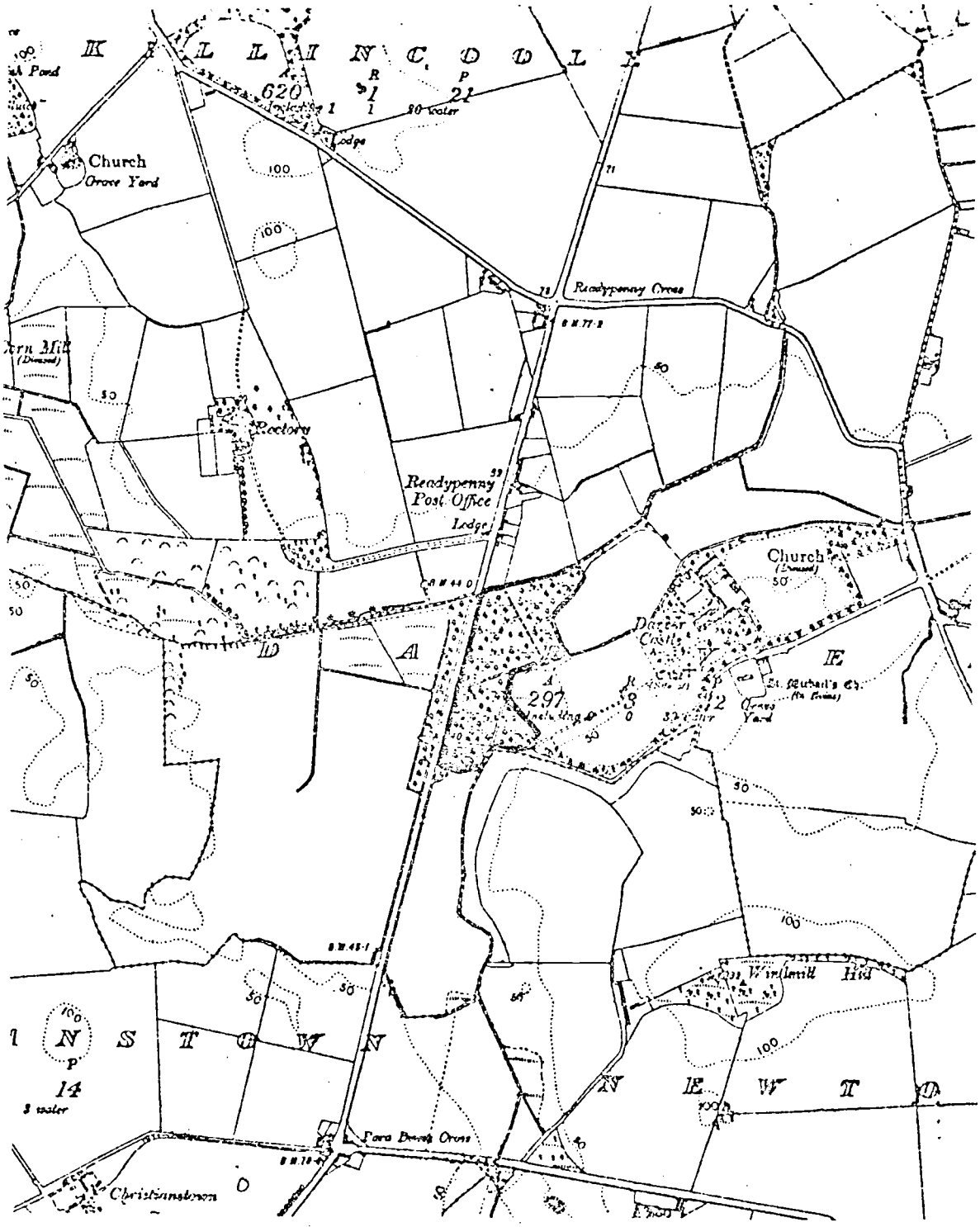
Description of the area See Map 5

The site is a small, mixed deciduous woodland consisting of beech (Fagus sylvatica), alder (Alnus glutinosa) hawthorn (Crataegus monogyna) and ash (Fraxinus excelsior), the last species being the best established in terms of regenerative ability. There is some rhododendron (Rhododendron ponticum). The ground flora is diverse and noteworthy :

Listera ovata	twayblade (orchid)
Phyllitis scolopendrium	hart's tongue fern
Iris pseudacorus	yellow flag
Typha latifolia	bulrush
Equisetum sylvaticum	horsetail
E. palustre	"
Dactylorchis fuchsii	orchid
Dryopteris felix-mas	male fern
Arum maculatum	arum lily
Viola reichenbachiana	dog violet
Geranium robertianum	herb robert
Festuca gigantia	giant fescue grass
Rumex sanguineus	dock
Circea lutetiana	enchanter's nightshade
Hedera helix	ivy
Epilobium sp.	willow herb
Geum urbanum	wood aven
Fragaria vesca	wild strawberry
Ranunculus ficaria	lesser celandine

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 5

Scale: 6 Inches to 1 Mile



Threats to the area

Being small, the site will be difficult to conserve. In common with the other Louth woodlands rhododendron spread will occur if the plant is not checked.

Recommendations

The persistence of this site as a wet deciduous woodland would be desirable. To this end management is required to eradicate rhododendron and replant deciduous trees. In time ash will become dominant, if permitted to do so and this would be satisfactory from an ecological point of view.

Name of area	CARLINGFORD MOUNTAIN
Acreage	1800 and 800
Grid reference	J. 110, 185 and J. 165, 125
Scientific interest	Ecological, botanical and zoological
Rating	Regional importance
Priority	B

Description of the area — See Map 6

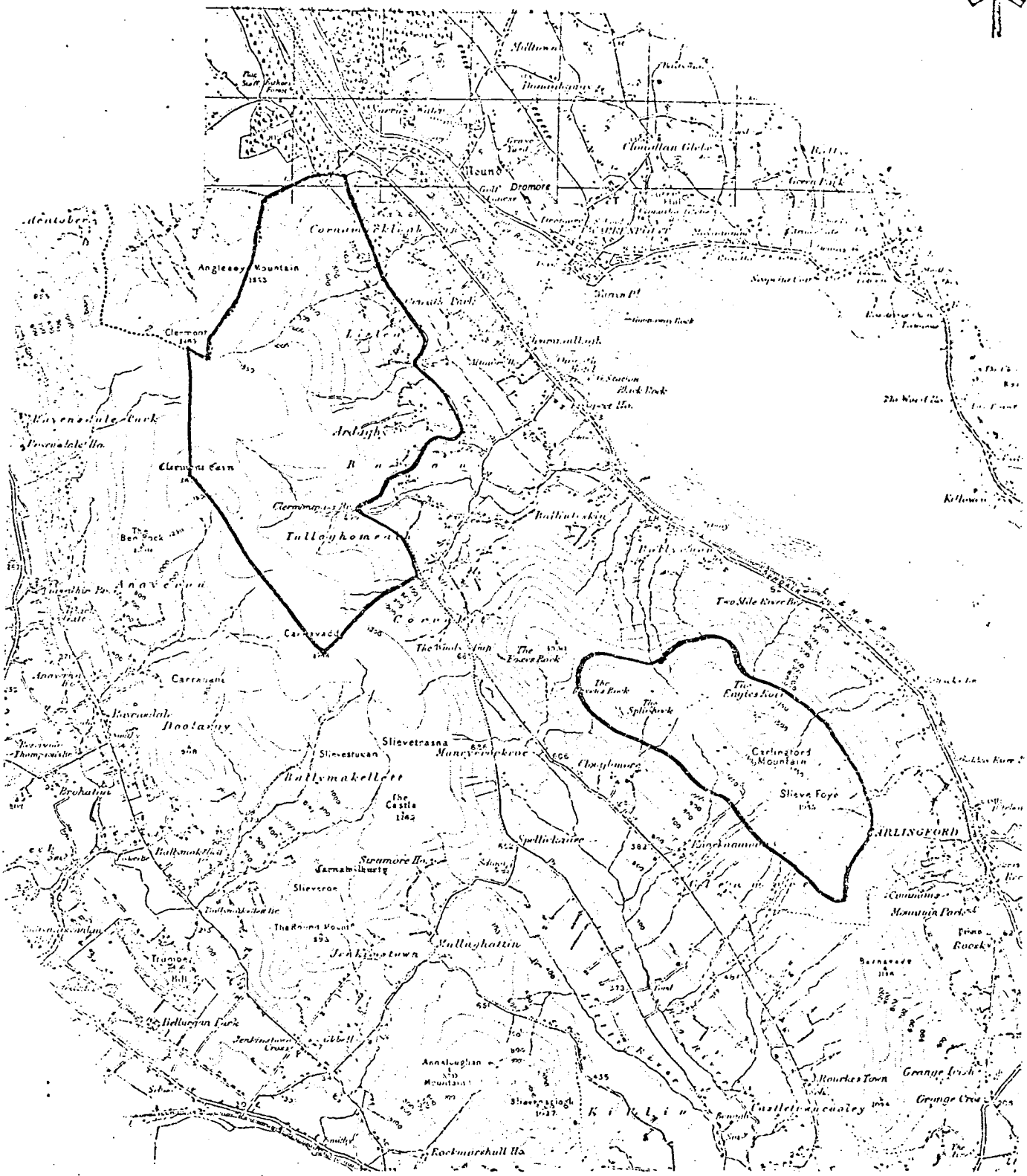
The Carlingford mountain range is composed of acidic and basic igneous rocks and metamorphic and sedimentary rocks surround the hill-range which has a rugged appearance.

The Northern slopes are composed of silurian slates, dolerite, gabbro and granite at the summit. The basic gabbro supports a rich flora which may be described as acid grassland. Presumably if other conditions, notably rainfall, were suitable, blanket peats would develop. The most important plant species in the vegetation are:

Festuca rubra	red fesque
Listera ovata	twayblade
Schoenus nigricans	black bog rush
Erica tetralix	cross leaved heath
Calluna vulgaris	ling
Lotus corniculatus	bird's foot trefoil
Nardus stricta	mat grass
Thymus drucei	thyme
Galium saxatile	heath bed-straw
Polygola sp.	milkwort
Eriophorum spp.	bog cotton
Platanthera bifolia	lesser butterfly orchid
Ulex europaeus	gorse

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 6

Scale: 1 Inch to 1 Mile



Note: The precise limits of this site remain to be described; work on these is proceeding.

The presence of the mosses Sphagnum palustre and Polytrichum juniperinum indicates a wet habitat which, in places, becomes bog. The frequent rocky outcrops in the area support a distinct flora and the granite summit of Carlingford Mountain (above 1000 ft.) has a number of alpine species. In places along the northern side of the mountain the site which stretches in an irregular manner along a north - south axis is dominated by alder (Alnus glutinosa) and some ash (Fraxinus excelsior). The ground flora consists in the wetter areas of:-

Juncus effusus	soft rush
Filipendula ulmaria	meadowsweet
Lapsana communis	nipple wort
Mentha aquatica	water mint
Hypericum perforatum	perforate St. John's wort
Ranunculus ficaria	lesser celandine
and the grass	
Agrostis stolonifera	common bent

Publication

R.L. Praeger, (1934), The Botanist in Ireland, Hodges Figgis, Dublin.

Evaluation

The site is notable for the diversity of its flora, four hundred species being found in a small area. A number of rarities also occur.

Threats to the Area

A large part of the potential ecotype has already been lost to coniferous afforestation. A similar fate for the remainder of the site is likely. Building is a remote possibility.

Recommendations

In the near future a revision of the existing site boundaries to include the most valuable piece of hillside should be carried out. It is understood that a more detailed survey of the area is in progress.

This area should be managed as a grazing area as at present. Coniferous afforestation should be discouraged and any destruction of the area by, for example, house building prevented.

Name of Area	BALTRAY DUNE SYSTEM
Acreage	375
Grid Reference	O. 151, 772
Scientific Interest	Ecological, botanical and zoological
Rating	Regional Importance
Priority	C

Description of the area — See Map 7

The site consists of highly calcareous, stable sand dunes. A complete succession of sand dunes in good condition occurs:

The foredunes are a narrow band. The plant species occurring include

Agrapyron junceiforme	sand couch grass
Elymus arenarius	sea lyme grass
Ammophila arenaria	marram grass

Stabilisation of the dunes begins very close to the shore and a species list, similar to that drawn up at the shore site north of Castlebellingham occurs.

Further inland there is a dune grassland and some dune slacks also occur. These contain a plant community typical of wet places.

Evaluation

The site is of importance because it has a number of sand dune habitats. In addition several rare plant species and a rare snail occur there.

Threats to the area

The dunes are at present in good condition and are not apparently in any immediate danger as a result of recreation pressures but these are likely to increase in the future. Some of the stabilised dune area has been given over to a golf course and some building has taken place in another part. Both are unlikely to prove a threat to the dune system.

Recommendations

Various pressures on the dunes are likely to materialise or intensify in the future. An overall policy for the system should be devised, stressing the limits of development such as building. Allowance should also be made for increased recreational pressures and countermeasures planned well in advance. Correct management of the dune system should be an adequate safeguard of its scientific values.

Name of area	ARDEE BOG
Acreage	670
Grid reference	N. 930, 914
Scientific interest	Botanical, ecological and zoological
Rating	Regional importance
Priority	C

Description of the area — See Map 8

The site is a cutaway raised bog on which remnants of the original flora persist. The following species were observed :

Calluna vulgaris	ling
Luzula multiflora	woodrush
Epilobium angustifolium	willow herb
Drosera rotundifolia	sundew
Pteridium aquilinum	bracken
Potentilla erecta	tormentil
Succisa pratensis	devil's bit scabious
Polygola sp.	milkwort
Carex rostrata	bottle sedge
Osmunda regalis	royal fern
Molinia caerulea	purple moor grass

Where channels have been cut Menyanthes trifoliata (bogbean) is common. The most notable feature of the area is the large expanse of Eriorphorum spp. Their presence indicates a regenerating bog and suggests that other species, like Sphagnum, are regenerating at the same time.

Evaluation

A number of rare plant species are recorded from this area. During the cursory examination associated with this survey their status was not assessed but some are likely to persist. Apart from these the area is of ecological

value as a regenerating bog and as an invertebrate habitat.

Threats to the area

Further land reclamation by trench cutting would be the most likely.

Recommendations

If reclamation is to occur here then a part of the bog should be left intact. A more detailed re-survey and reassessment would be required to determine a conservable area for preservation.

Name of area	EXPOSURES OF THE SLIEVE GULLION RING DYKE COMPLEX
Acreage	14
Grid Reference	J. 183, 102 (but see 6" map).
Scientific interest	Geological
Rating	Regional importance
Priority	C

Description of the area — See Map 9

The sites consist of two quarries and a number of surface exposures.

In Fig. 4 the relationship between a central cone sheet (plug) and the surrounding dyke material is shown. The Figure also shows the position of the quarries and other observation points in relation to the solid geology of the area. In Map 9 the position of the sites on a 6" O.S. Map is shown. The ring dyke phenomenon has been discussed in Section C.

Publications

Bailey, E.B. 1959 Mobilization of granophyre in Eire and sinking of olivine in Greenland L.pool. Manchr. Geol. J. 2 : 143-154

Nockolds, S.R. & R.L. Mitchell 1944 Contributions to the petrology of Barnavave, Carlingford. I.F.S. 4
Some limestone xenoliths enclosed in the junction hybrids Geol. Mag. 81: 88-94

Nockolds, S.R. 1947 On tilleyite and its associated minerals from Carlingford, Ireland Miner. Mag. 28: 151-158

Nockolds, S.R. 1950 On the occurrence of nepunite and endialyte in quartz bearing syenites from Barnavave, Carlingford, Ireland Miner. Mag. 29: 27-33

Nockolds, S.R. 1938 Contributions to the Petrology of Barnavave, Carlingford. I.F.S. 3 On some hybrids from the E. and S.E. slopes of Barnavave Mountain Geol. Mag. 75 : 469-479

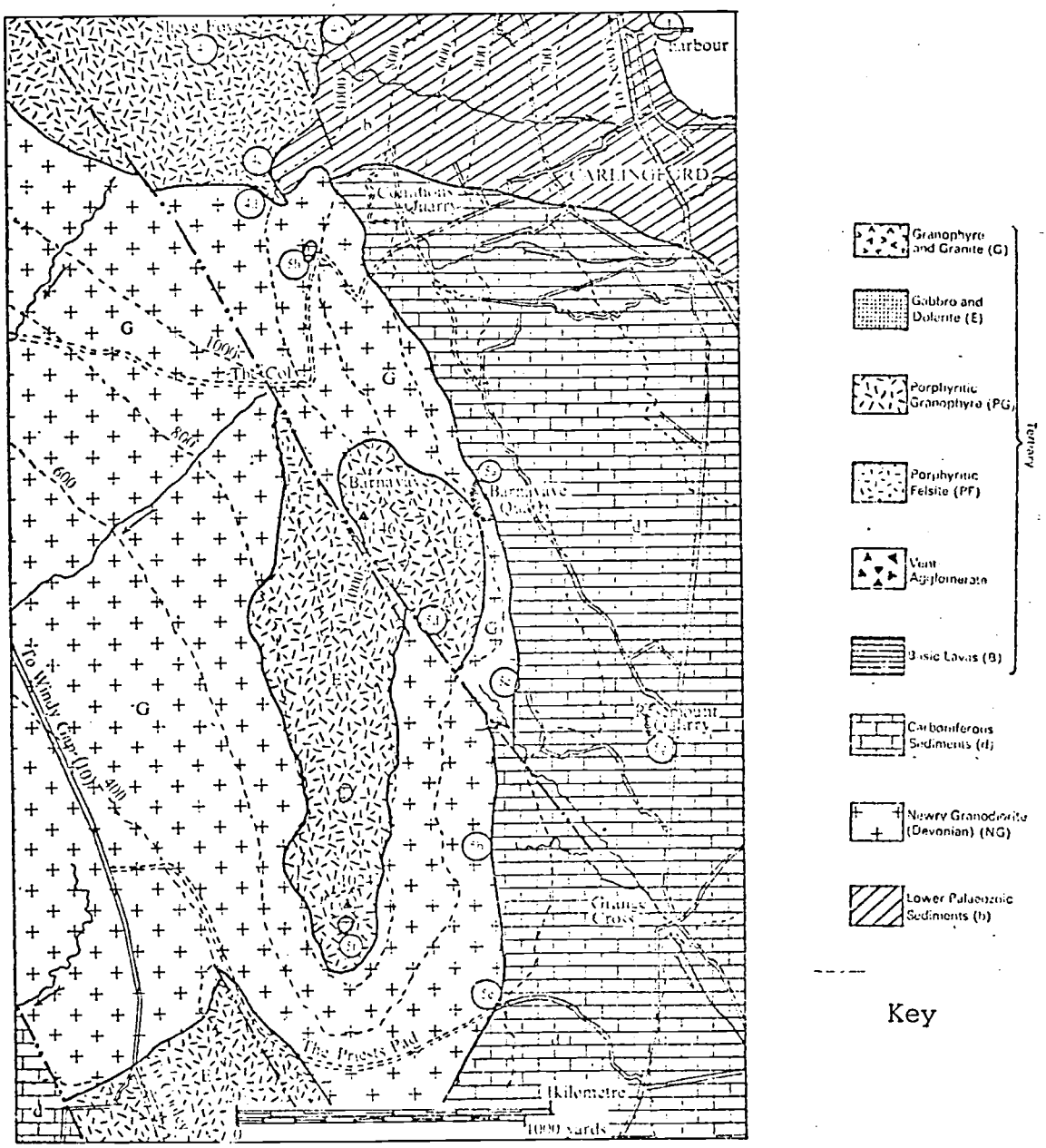


Fig. 4 A map of the stratigraphy of the Carlingford area in the vicinity of the Barnavave and Rosemount Quarries.

From C. H. Emeleus and J. Preston, Field Excursion Guide to the Tertiary Volcanic Rocks of Ireland, Oxford, 1969.

Evaluation

The area contains examples of the reaction between gabbro and granophyre, both of which are important components in the ring dyke complex. The reaction between both igneous rock types and the limestone is also obvious in places.

Barnavave Quarry: basic hybrids are exposed and basic rock is veined and enclosed by granite which is contaminated by the basic material.

Rosemount Quarry: Consists of relatively unmetamorphosed fossiliferous carboniferous limestone which has been quarried leaving dykes and cone sheets isolated.

Other, circular areas on Map 9

show various aspects of contact between the igneous and metamorphosed rocks.

The sites are of widely known significance and are visited regularly by geology students.

Threats to the area

House building is a threat likely to apply to some of the sites shown on Map 9. Some rubbish tipping is occurring in the quarries and this, if continued, could obliterate structural details.

Recommendations

Basic protection will serve to maintain the scientific values of these sites. Building and rubbish tipping however should be prevented, especially in the vicinity of the two quarries.

Future quarrying in this area would be welcome, from the scientific point of view. It would however be undesirable to remove the structural features in the Rosemount quarry.

Possible Site

Name of area	MAPASTOWN GLACIAL SITE
Acreage	less than 1
Grid reference	N. 989, 949
Scientific interest	Geological, botanical and ecological
Rating	Regional importance
Priority	Unknown

Description of the area — See Map 10

The site, close to the River Glyde, consists of outwash gravels containing fragments of igneous rock derived from the north. The area of scientific interest is in the subterranean sediments which are highly fossiliferous and have yielded giant Irish deer and plant species having alpine and general distributions in Central Europe.

Publication G.F. Mitchell, 1953 Further identifications of macroscopic plant fossils from Irish Quaternary deposits especially from a late glacial deposit at Mapastown, Co. Louth.
Proc. R. Ir. Acad. (B) 55; 255-281

Evaluation

Several of the plant species which were discovered at the site were recorded for the first time in Ireland. The floral composition is indicative of a rare plant community.

Threats to the area

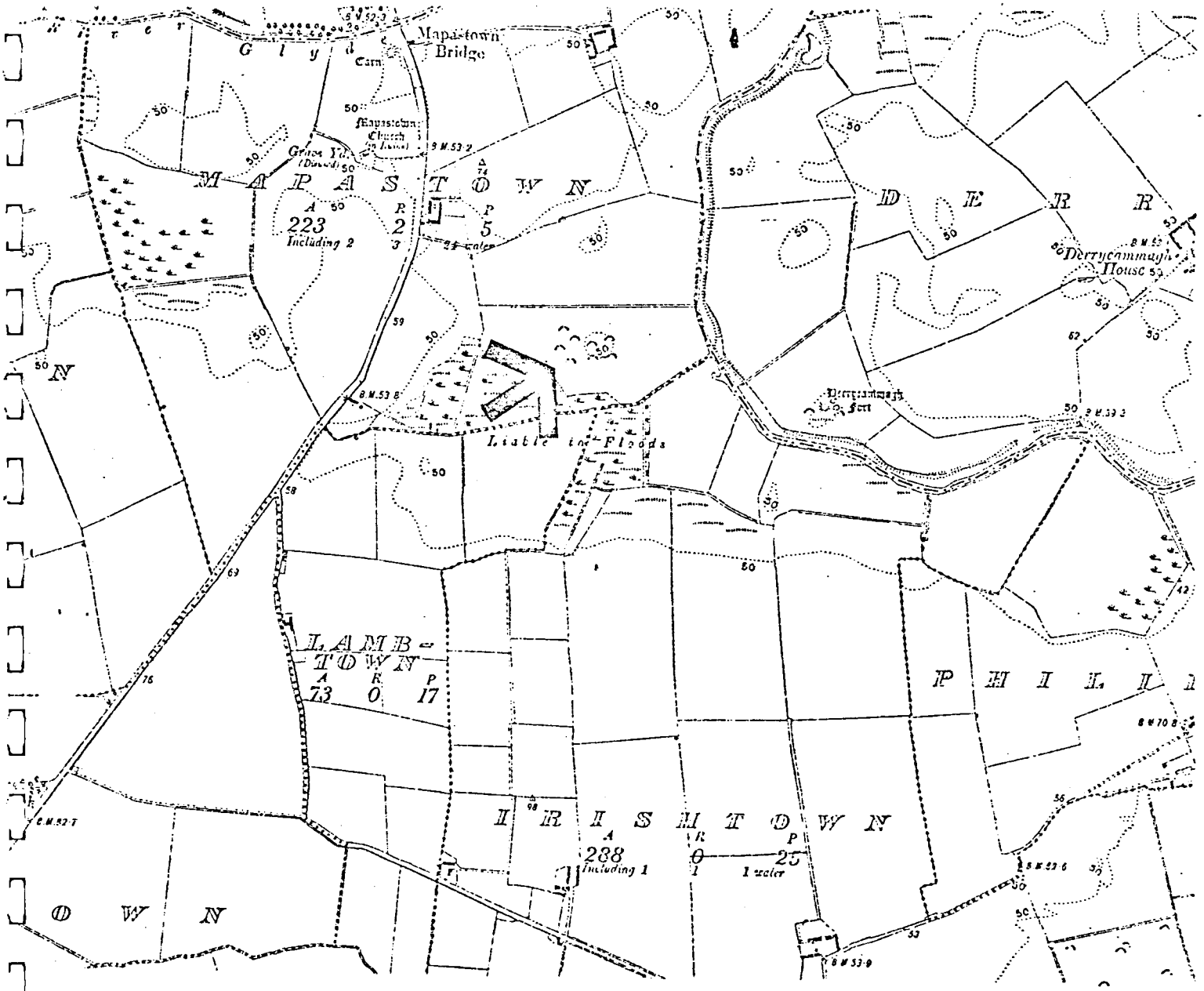
Removal or widespread destruction of the sediments might occur as a result of drainage. Building could obscure the site for further research.

Recommendations

The value of the area for future research is at present unknown. It should be ascertained as soon as possible. In the meantime efforts should be made to prevent unsuitable development on the site.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 10

Scale: 6 Inches to 1 Mile



Name of area	WOODLANDS AT STEVENSTOWN HOUSE
Acreage	50
Grif reference	J. 005, 025
Scientific interest	Ecological, botanical and zoological
Rating	Local importance
Priority	A

Description of the area — See Map 11.

The site is a mixed deciduous - coniferous planted woodland. The shrub layer is composed of elder (Sambucus niger) and rhododendron (Rhododendron ponticum). The ground flora includes a wide range of species, having a scattered distribution. Nettles (Urtica dioica) and brambles (Rubus fruticosus agg.) are common as are semi-aquatic species in parts of the area.

Evaluation

The site supports a typical flora and is likely to contain a typical invertebrate fauna.

Threats to the area

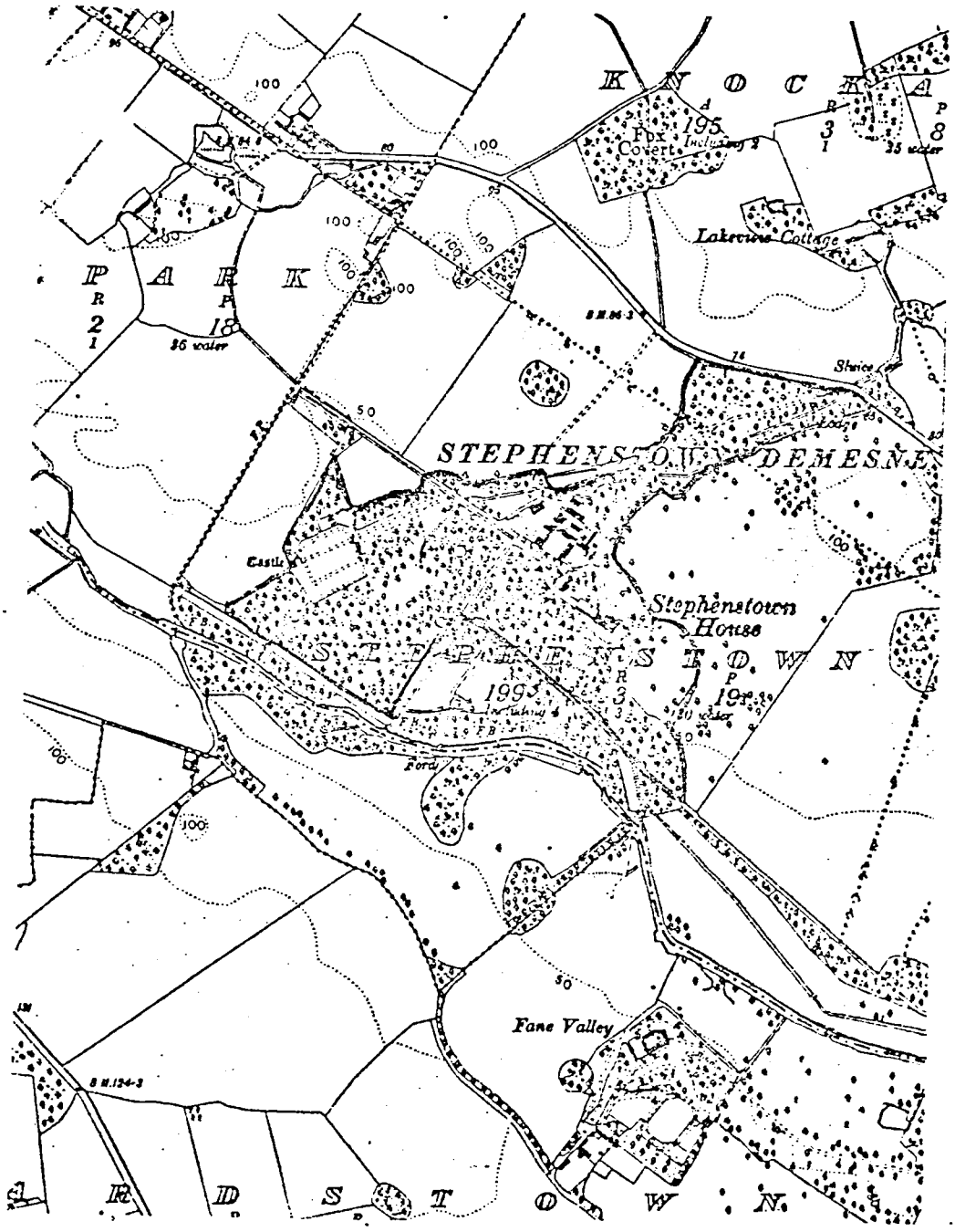
The woodlands require management; rhododendron, by obstructing light penetration, has impoverished the ground flora. The land might be cleared for agricultural or building purposes or the deciduous trees replaced by conifers.

Recommendations

The area should be managed as a woodland, and gradually replanted as deciduous trees are felled. Its maintenance as a mixed forest, managed for timber yield will ensure the preservation of its scientific values provided consideration is given to ground flora conservation - as, for example, recommended for the woods at Ravensdale.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 11

Scale: 6 Inches to 1 Mile



Name of area	WOODLANDS AT NARROW WATER
Acreage	26
Grid reference	J. 123, 193
Scientific interest	Botanical, ecological and zoological
Rating	Local importance
Priority	A

Description of the area — See Map 12.

The woodland consists mainly of beech (Fagus sylvatica) and includes small numbers of oak (Quercus sp.) sycamore (Acer pseudoplatanus) and other deciduous trees, decreasing in that order. There is some holly (Ilex aquifolium) as an under-storey and the ground flora is dominated by woodsorrel (Oxalis acetosella) and includes violets (Viola riviniana), dock (Rumex spp.) and bluebells (Scilla non-scriptus).

Evaluation

The site is a good example of deciduous woodland containing a typical ground flora. The invertebrate fauna is likely to be typical.

Threats to the area

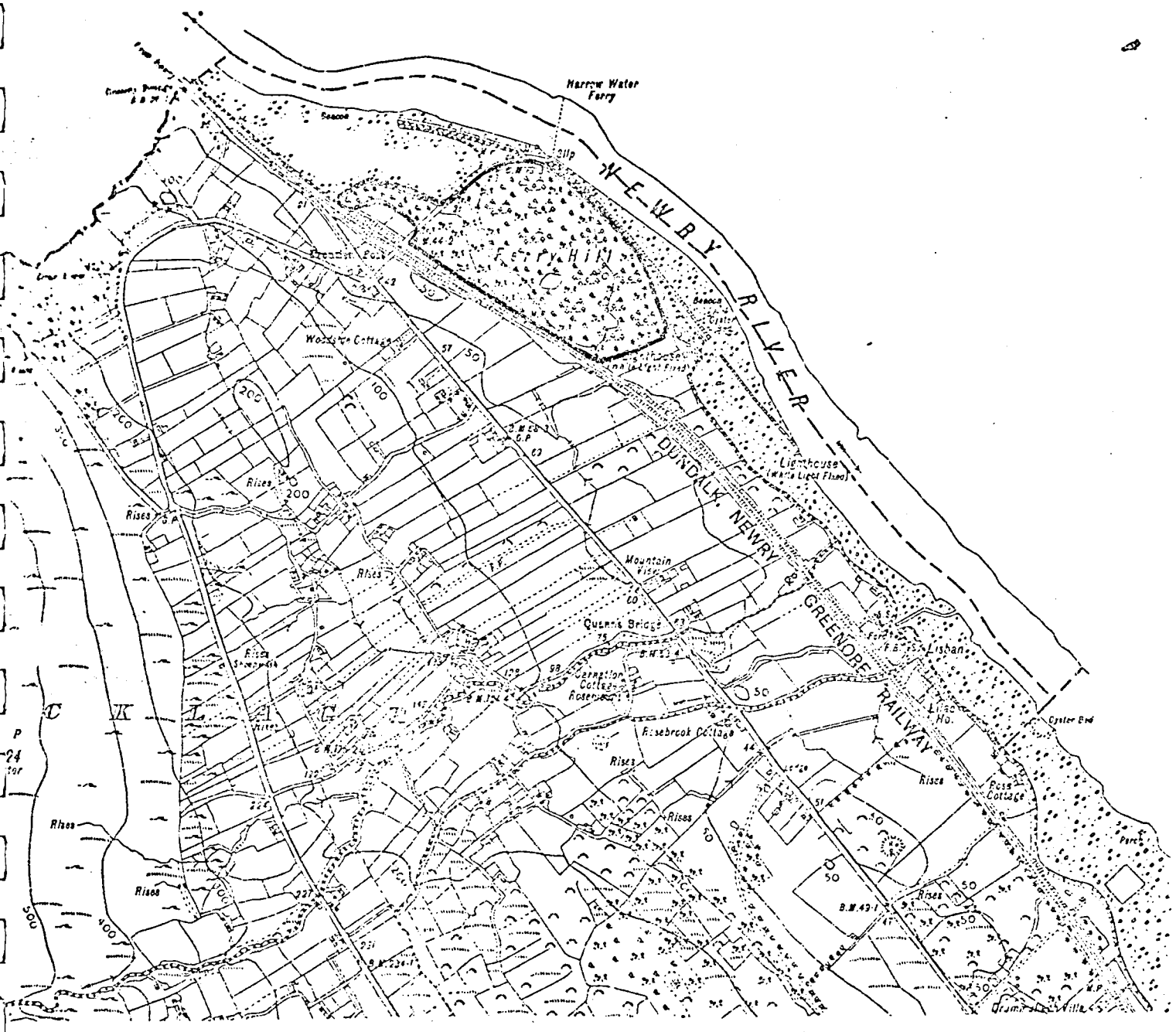
Rhododendron is profuse in places and could dominate the vegetation if not controlled.

Recommendations

Many of the trees in this woodland are nearing or have reached maturity. Management of the woodland in the future will involve felling and trees that are so removed should be replaced with deciduous saplings. An improvement to the site, in scientific terms, would be a replacement of mature beech with oak.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 12

Scale: 6 Inches to 1 Mile



A noteworthy point about the woodland is the range of tree sizes. Approximately one third of the trees are mature and the wood should not be clear-felled. Bole marks (numbers, lines, etc.) in the Narrow Water wood suggest a higher percentage are due for removal.

The clearance of rhododendron should be undertaken as a matter of urgency.

The maintenance of this woodland should be ensured by use of a tree preservation order, if necessary.

Name of area	SHORE NORTH OF CASTLEBELLINGHAM
Acreage	Not calculated
Grid reference	0. 070, 977
Scientific interest	Ecological, botanical, zoological, ornithological and geological
Rating	Local importance
Priority	A

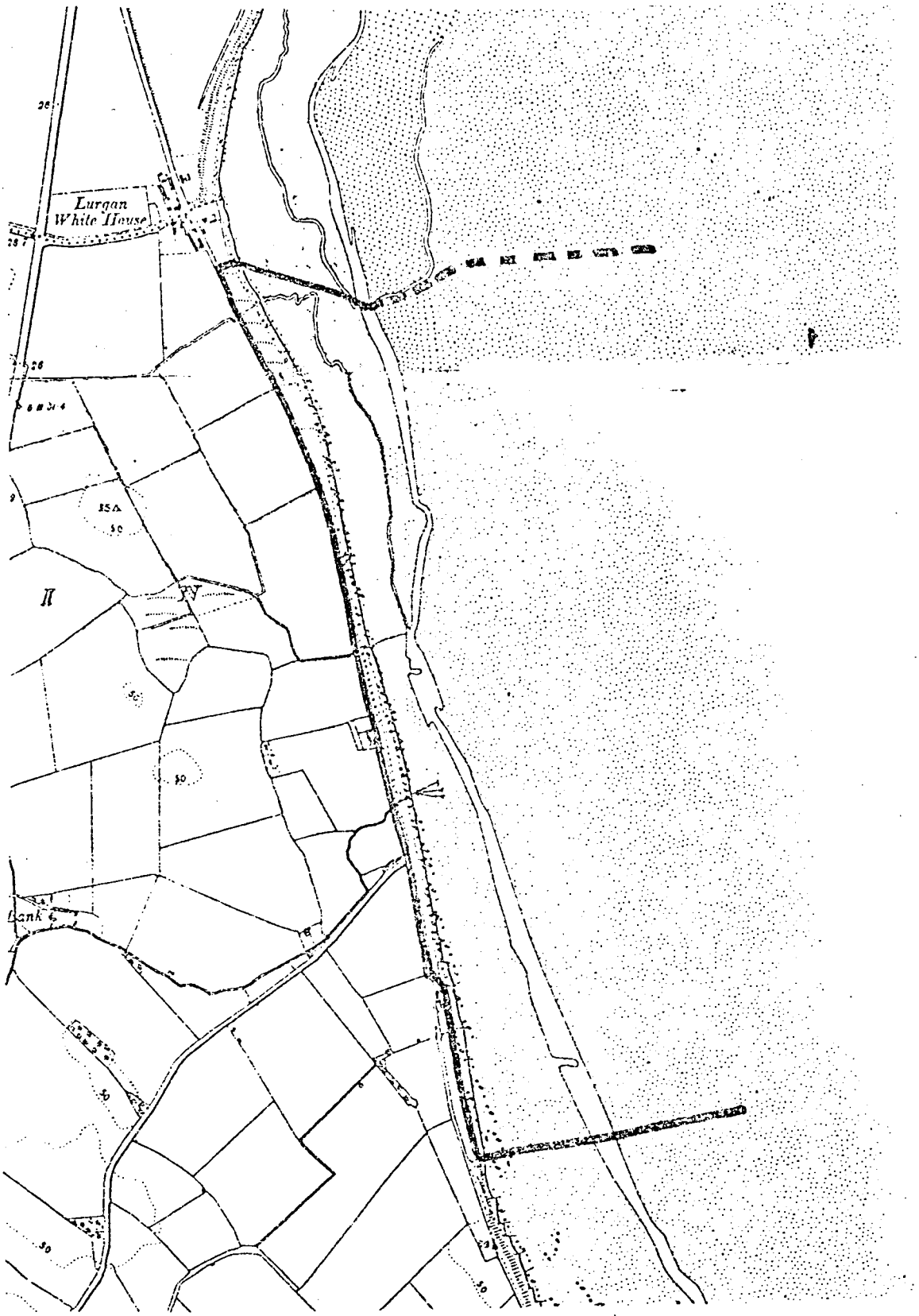
Description of the area — See Map 13.

This site consists of a number of habitats. The shore is a raised beach, covered in shingle and having a varied flora. Within an area of $5m^2$ the following species were listed :

Daucus carota	wild carrot
Rumex crispus	curled dock
Lapsana communis	nipple wort
Potentilla reptans	creeping cinquefoil
P. anserina	silverweed
Plantago lanceolata	ribwort plantain
Lolium perenne	Italian rye grass
Artemisia vulgaris	mugwort
Chenopodium album	fat hen
Myosotis arvensis	common forget-me-not
Poa trivialis	rough meadow grass
Rosa spinosissima	wild rose
Veronica chamaedrys	germander speedwell
Galium aparine	goose grass
Vicia angustifolia	narrow leaved vetch
Honkenya peploides	sea purslane
Festuca rubra	red fescue grass
Sinapis arvensis	charlock
Lotus corniculatus	bird's foot trefoil

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 13

Scale: 6 Inches to 1 Mile



Centaurea scabiosa	great knapweed
Galium verum	ladies bedstraw
Anthriscus sylvestris	cow parsley
Sonchus oleraceous	cow thistle
Trifolium pratense	clover
Veronica hederifolia	ivy leaved speedwell
Tripleurospermum maritimum	scentless chamomile

On the sand and mud-flats there is a Salicornia europaea (glasswort), marsh with some Limonium vulgare (sea lavender). This area has large populations of the sand shrimp (Crangon vulgaris) and the Crustacean (Corophium volutator).

Evaluation

The area contains several habitat types which have representative floral composition. The area also has a rare plant species. Various wader and duck species feed on the salt marsh.

Threats to the area

Rubbish dumping is occurring in such quantity as to obliterate areas of the shingle vegetation. The salt marsh north of the dashed line on Fig. 13 is obliterated by Spartina growth.

Recommendations

Clearance of domestic rubbish should be undertaken as a matter of urgency. Management of this site as an amenity area would ensure the survival of the plant species.

A desirable improvement would be the removal of Spartina before it spreads to create further damage. Removal of the grass would require an eradication policy, with which An Foras would give assistance.

Name of area	REAGHSTOWN MARSH
Acreage	75
Grid reference	N. 907, 982 N8993
Scientific interest	Ecological
Rating	Local importance
Priority	A

Description of the area — See Map 14.

The area is a wetland of similar floral composition to Branganstown Bog, (next site). Drainage channels have been cut at intervals and the intervening areas in places have well developed grassland. Salix aureta (willow) scrub is widespread.

Evaluation

The site is rated as a good example of a wetland habitat having a typical fauna and flora.

Threats to the area

Drainage has occurred and will, no doubt, be extended in time.

Recommendations

This wetland should be maintained in as intact a form as possible and any development of the site should be in accordance with its scientific values.

Name of Area	BRAGANSTOWN BOG
Grid Reference	O. 034, 935
Acreage	14
Scientific Interest	Ecological, botanical, zoological and ornithological
Rating	Local Interest
Priority	A

Description of Area — See Map 15.

The site was formerly more extensive but has been intensively drained and reclaimed for tillage. The remaining wetland is approximately as shown on Map 15. The westerly end of the area is dominated by a grassland flora with some wetland species:

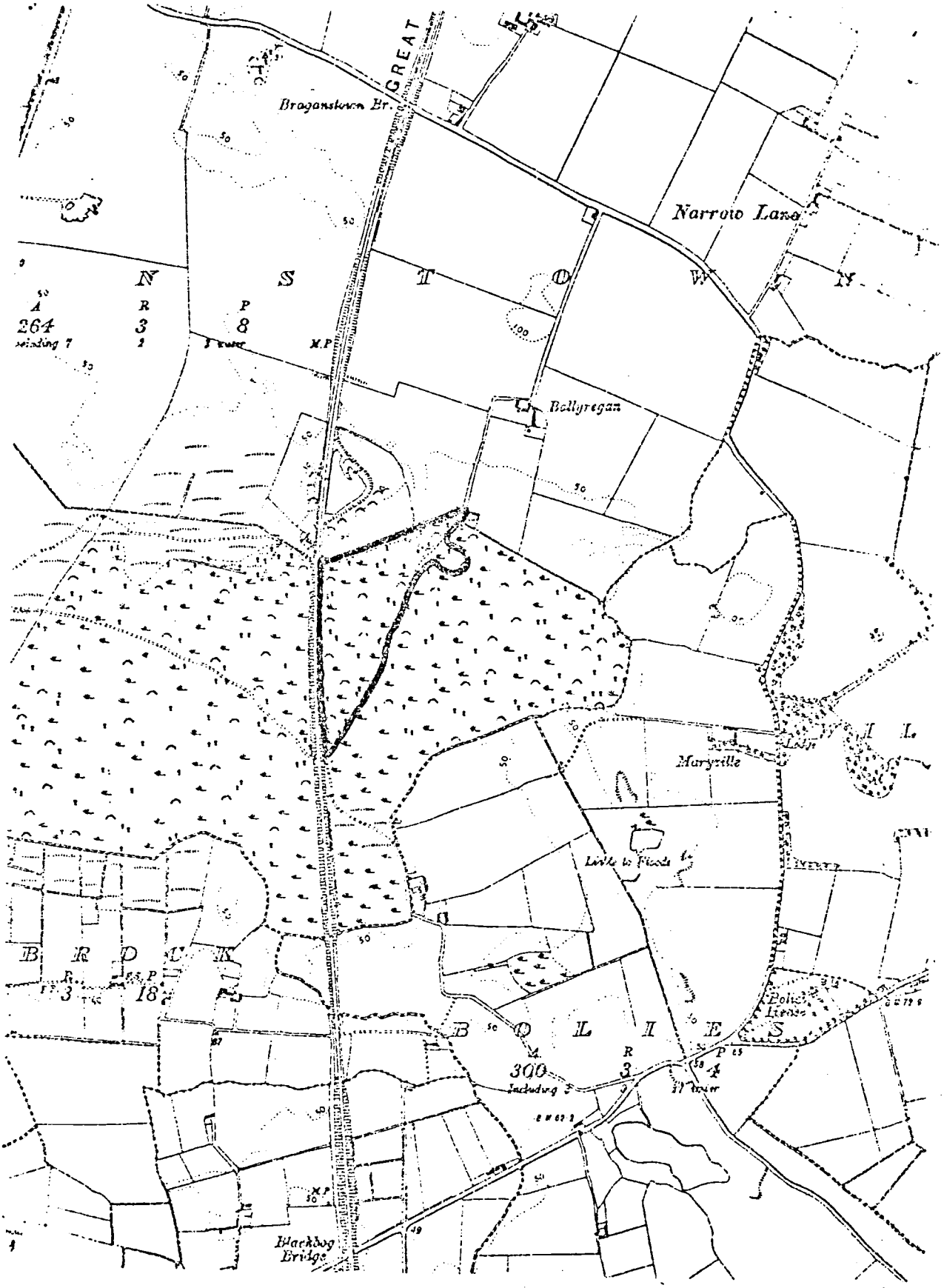
Potentilla anserina	silverweed
Ranunculus acris	buttercup
Filipendula ulmaria	meadowsweet
Rumex crispus	curled dock
R. acetosa	common sorrel
Pteridium aquilinum	bracken
Angelica sylvestris	wild angelica
Sonchus arvensis	corn sowthistle
Cardamine pratensis	lady's smock
Hypericum tetrapterum	square stemmed St. John's wort
Holcus lanatus	Yorkshire fog
Poa trivialis	rough meadow grass

Moving eastwards, more wetland species are encountered. At the eastern-most limit of the site the following species occur:

Cladium mariscus	fen sedge
Equisetum fluviatile	horsetail
E. palustre	"
Mentha aquatica	water mint
Dactylorchis fuchsii	orchid

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 15

Scale: 6 Inches to 1 Mile



	Ranunculus flammula	lesser spearwort
	Iris pseudacorus	yellow flag
	Typha latifolia	bulrush
	Osmunda regalis	royal fern
	Eriophorum angustifolium	bog cotton
	Rorippa sp.	water-cress
	Potamogeton sp.	
	Cirsium palustre	marsh thistle
	Galium palustre	marsh bedstraw
	Menyanthes trifoliata	bog bean
	Carex disticha	creeping brown sedge
and	Chara sp.	stonewort

The vegetation is dominated by the willow, Salix aureta.

In the wettest area, heron, lapwing, mallard and pheasant were seen.

Evaluation

The site contains two types of flora:

Calcifuge species, like Osmunda regalis (of which this site formerly had the largest east coast colony in Ireland).

and Calcicole species, like Cladium mariscus and a Chara sp.

The wetland is therefore in transition from bog to fen. This feature gives it value from the ecological point of view. Botanical composition also suggests that the invertebrate community may be typical of such wetlands, thus adding a zoological interest.

Threats to the Area

Drainage is the most catastrophic and, as can be seen from Map 15 the greater part of the wetland has already been destroyed. The remaining portion is very small and, although quaking at present, could be adversely affected by drought.

Recommendations

Efforts should be made to retain this site for its scientific values to education and research. Further drainage should be prevented and existing drains close to the site should be blocked to maintain the water table at a high level.

Possible Sites

Name of area	DERELICT WOODLANDS
Acreage	40 & 35
Grid references	N. 950, 967 - Louth Hall N. 960, 917 - Ardee Woods
Scientific interest	Botanical
Rating	No significance at present, but could be of local importance
Priority	A

Description of the areas — See Maps 16 and 17

Both sites have mixed, planted deciduous woodlands typical of those elsewhere in Co. Louth. The under storey of Rhododendron ponticum (rhododendron) is however so well developed as to obscure the herb layer which has survived at Louth Hall as an isolated damp woodland flora and has been virtually destroyed at the other site. Many of the trees at each site are ready for felling.

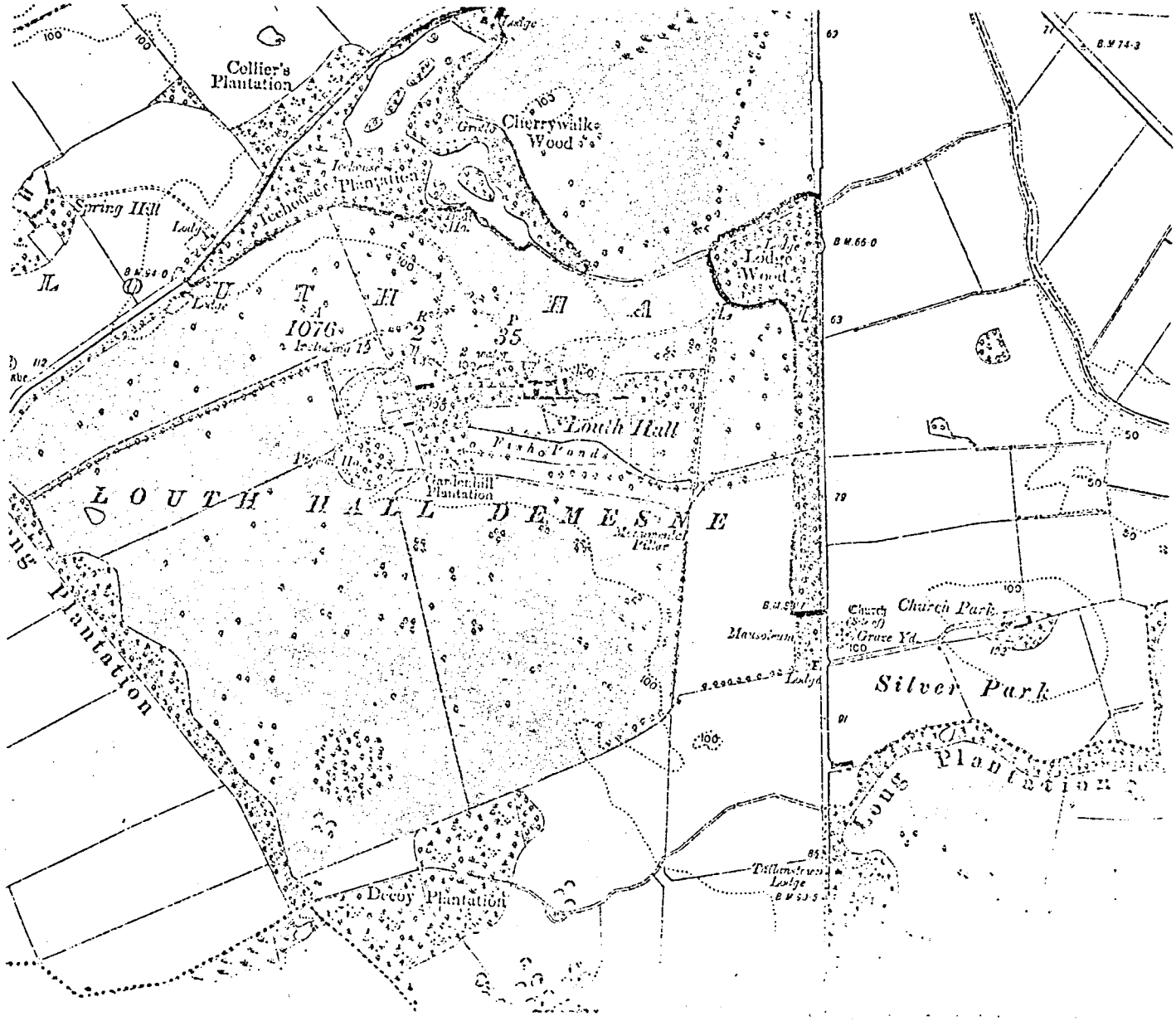
Recommendations

Both sites require the removal of rhododendron. Further management of the woodland involving the felling and replanting of certain trees is also necessary. Both sites are at present being used as dumps for casually tipped domestic refuse. They should be cleaned up as part of the management programme.

Both sites are close to centres of population and could be of significance as recreational and educational areas. Their correct management as either will ensure the survival of their scientific values.

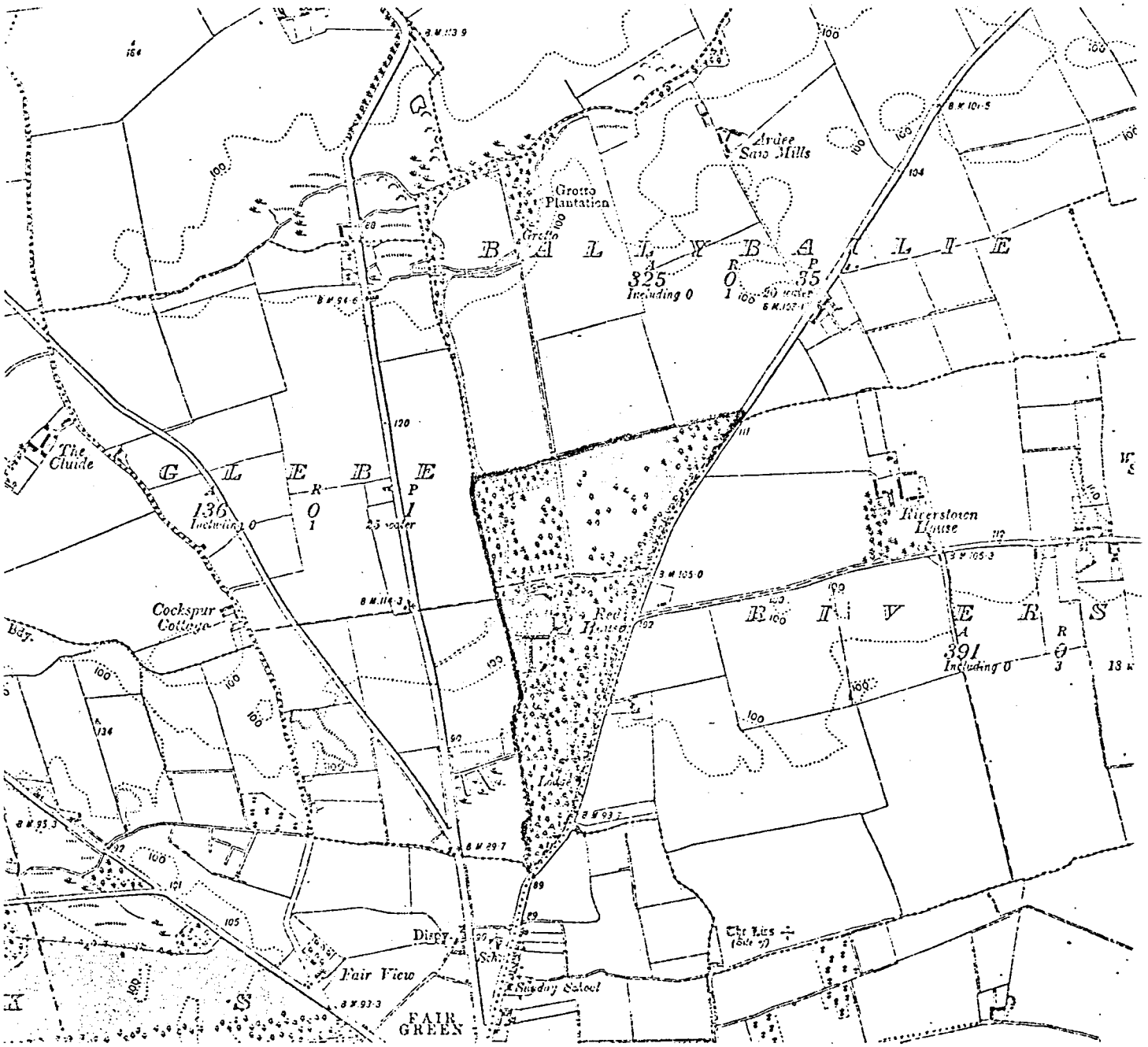
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 16

Scale: 6 Inches to 1 Mile



MAP SHOWING AREA OF SCIENTIFIC INTEREST — 17

Scale: 6 Inches to 1 Mile



Name of Area	HEADWATER LAKES ON THE RIVER FANE
Acreage	104; 21; 75 Total = 200
Grid Reference	H. 969, 065
Scientific interest	Ecological, botanical, zoological and Ornithological
Rating	Local importance
Priority	B

Description of the Area — See map. 18

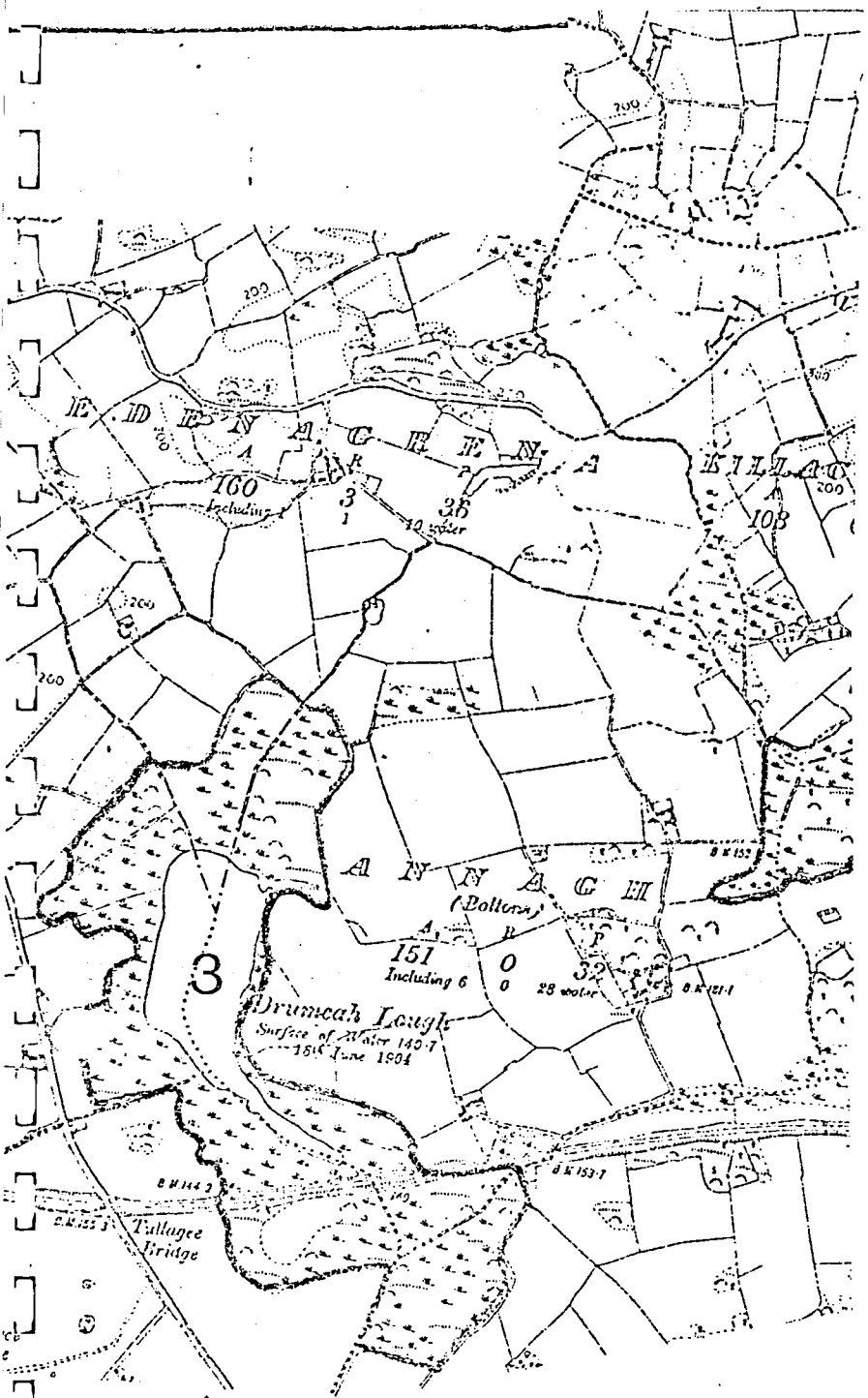
The area surrounding these three lakes is drumlin country. The hills enclose basins which in three places form shallow lakes. Comparison of the existing water surface area with earlier maps indicate that a reduction in lake size has occurred. Semi-aquatic vegetation is now extensive occupying, in places, half the lake surface. As sedimentary deposition is not apparent a reduction is lake size is attributed to an earlier drainage scheme on the lower parts of the River Fane. Distinctive portions of the lakes are as follows:-

1. There is an extensive marginal marshland dominated by:
   Iris psendacorus (yellow flag)
   Filipendula ulmaria (meadowsweet)
   Menyanthes trifoliata (bogbean) interspersed with grassland.

More aquatic species include Phragmites communis (common reed). Typha latifolia (bulrush) and Caltha palustris (marsh marigold) and the water lilies Nuphar lutea and Nymphaea alba.

The marshland has a few Salix sp. (willows) suggesting its drying out from open water has been relatively recent and in one part coniferous trees have been planted.

MAP SHOWING AREA OF SCIEN



2. This lake has become almost entirely a marshland. The dominant semi-aquatic plant species is Phalaris arundinacea (canary gross) and there is some Sparganium erectum (branched bur reed). Apium nodiflorum (fool's watercress) is also common. The occasional remaining pools contain Nuphar lutea (water lily).

3. This lake resembles the first of the three in its vegetation. As for Lake 1 the marginal marshland has some Salix sp. (willows) but tree cover is sparse.

Evaluation

The three lakes represent the largest areas of open water in Co. Louth. They are likely to contain populations of typical plant and animal species. The sites support typical bird populations and are likely to be important feeding grounds in winter.

Threats to the Area

Further drainage of the River Fane system could destroy the lakes completely. Surrounding agricultural and domestic development could lead to eutrophication while industrial development might result in pollution by toxic substances.

Recommendations

Further drainage of the Fane should include structural safeguards against further drainage of the wetlands. The siting of buildings and use of chemical agricultural methods within the catchment should be approached carefully, bearing in mind the consequences of eutrophication or toxicity.

In their existing condition, two of the lakes have considerable amenity as well as scientific values. Their preservation and improvement should be regarded as a matter of urgency.

Name of area	FLURREY RIVER SITE
Acreage	198
Grid reference	J. 077, 096
Scientific interest	Ecological
Rating	Local importance
Priority	B

Description of the area — See Map 19

Just before it enters Dundalk Bay the Flurrey River develops a meander belt. The river is confined to a single channel for part of its course by artificially raised banks but over a large area it flows in a diffuse stream network over flat ground. In this vicinity a marsh flora has developed.

The plants occurring there include:

Myosotis secunda	marsh forget-me-not
Rorippa sp.	water cress
Iris pseudacorus	yellow flag
Mentha aquatica	water mint
Polygonum persicaria	common persicaria
Juncus effusus	soft rush
J. subnodulosus	blunt flowered rush
Senecio aquaticus	marsh ragwort
Alisma plantago-aquatica	water plantain

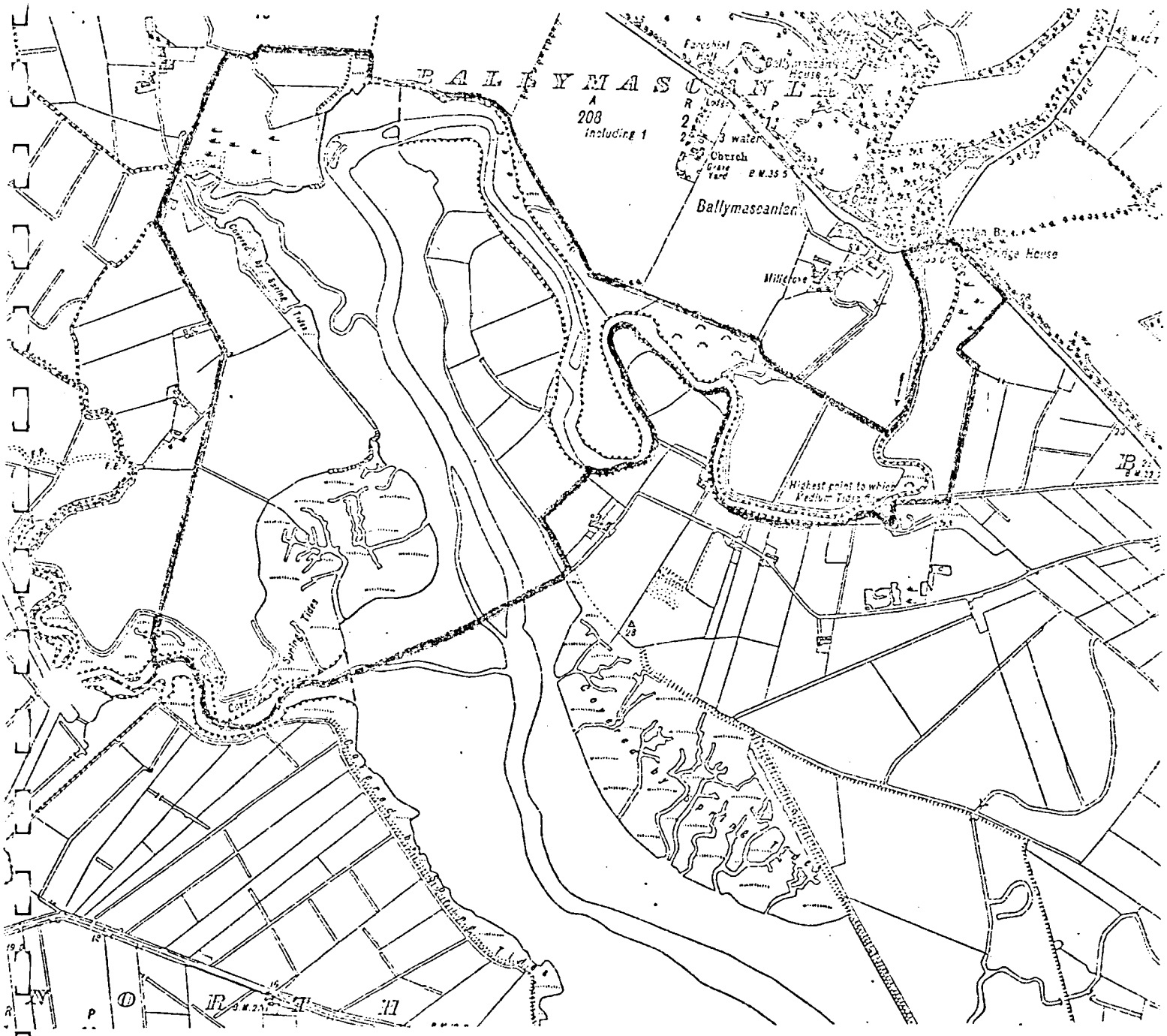
The marsh community is best represented at the south-east end of the site. To the north there is a Phragmites marsh.

Trees occurring in the vicinity of the river include a large proportion of alder (Alnus glutinosa).

Woodlands to the west of the site contain varied deciduous tree species and there is a profuse ground flora of herbs occurring elsewhere in Co. Louth. The river estuary consists of mud flats which have some vegetation.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 19

Scale: 6 Inches to 1 Mile



Evaluation

The significance of the site is the variety of diverse habitats containing a typical flora, occurring together in a small area. The mud flats have several rare plant species.

Threats to the area

Alteration of the habitats might occur as a result of water borne effluent in the Flurrey River.

Some casual rubbish dumping has occurred at the site and reclamation involving drainage is possible.

Recommendations

Water borne pollution must be guarded against in the Flurrey, and indeed, other Co. Louth Rivers. Otherwise the areas should be maintained in their present form, drainage being prevented and the trees on the site being replaced after felling with deciduous saplings.

Name of area	CASTLECOO HILL
Acreage	15
Grid reference	O. 145, 830
Scientific interest	Botanical and ecological
Rating	Local importance
Priority	B

Description of the area See Map 20

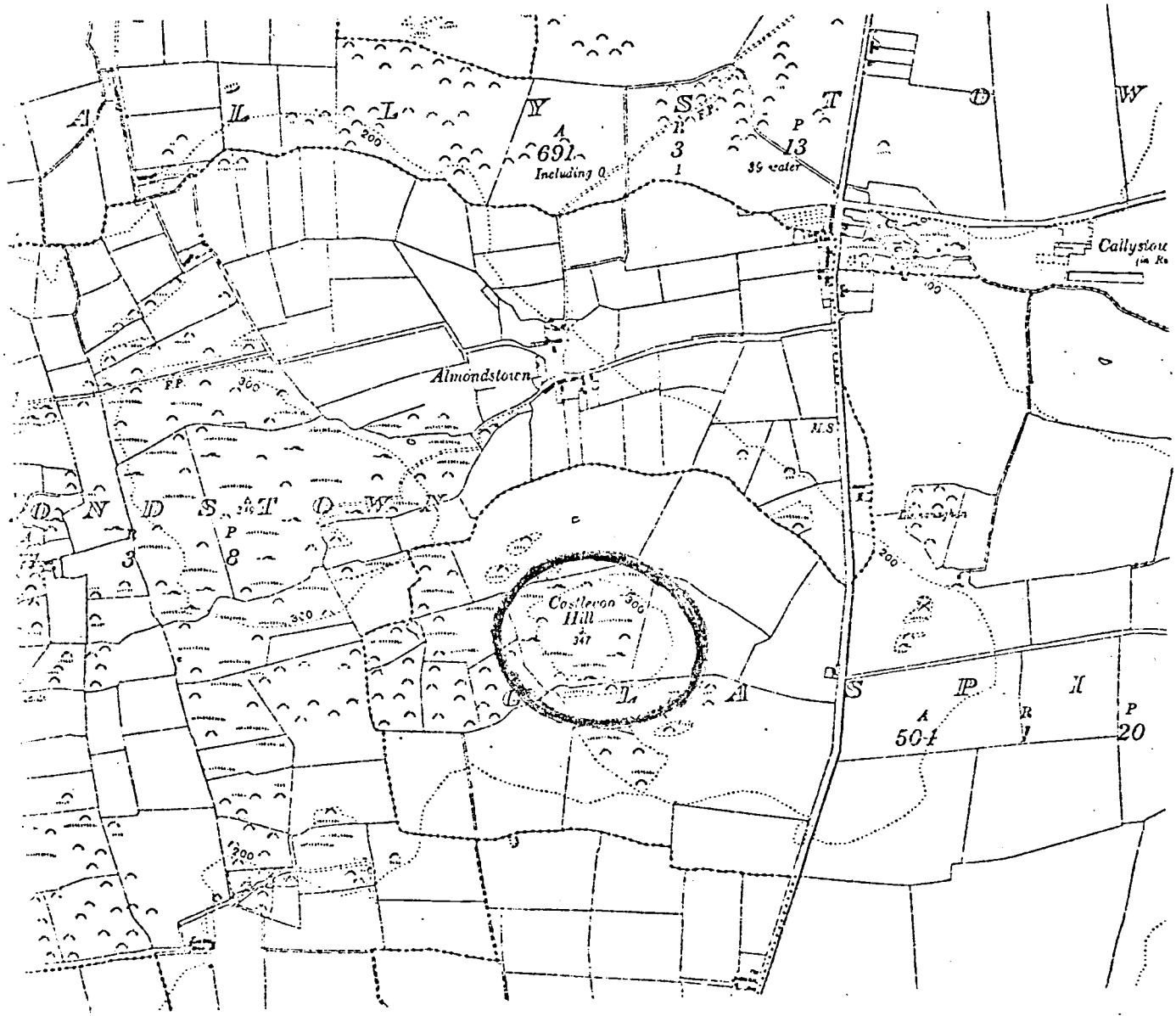
The site is a rocky outcrop covered in heath vegetation, dominated by Rubus fruticosus agg. (bramble) and Ulex europaeus (gorse).

The plants present included:

Anthoxanthum odoratum	sweet vernal grass
Vulpia bromoides	squirrel tail fescue grass
Dactylis glomerata	cock's foot grass
Cynosurus cristatus	crested dog's tail grass
Poa pratensis	meadow grass
Aira praecox	early hair grass
Galium saxatile)	bedstraws
G. verum)	
Plantago lanceolata	ribwort plantain
Vicia angustifolia	narrow leaved vetch
Potentilla erecta	tormentil
Prunus spinosa	blackthorn
Endymion non-scriptus	bluebell
Viola sp.	
Achillea millefolium	yarrow
Polygala serpillifolia	heath milkwort
Geranium molle	soft cranesbill
Rumex acetosella	sheep's sorrel
Conopodium majus	pignut
Trifolium dubium	clover

MAP SHOWING AREA OF SCIENTIFIC INTEREST —20

Scale: 6 Inches to 1 Mile



Sedum anglicum	stonewort
Aphanes arvensis	parsley piert
Ranunculus repens	creeping buttercup
Sagina procumbens	common pearlwort
Umbilicus rupestris	penny wort

Evaluation

The site has a rare plant species

Threats to the area

Building would appear to be the most likely

Recommendations

Any development of this site should be in accordance with its scientific value

Name of Area	SALT MARSH AT BALDOYLE
Acreage	37
Grid Reference	O. 145, 775
Scientific Interest	Ecological
Rating	Local Importance
Priority	B

Description of Area See Map 21

The site is low-lying ground at the Boyne estuary. The following plants occur there:-

Halimione portulacoides	sea purslane
Limonium humile	sea lavender
Puccinellia maritima	common salt marsh grass
Armeria maritima	sea pink
Triglochin maritima	sea arrow grass
Plantago maritima	sea plantain
Spergularia marina	sea spurrey
Salicornia europaea	glasswort

The plants fall into two groupings, the outermost of which is dominated by Salicornia. The inner zone corresponds to a Puccinelletum but the dominant species is Halimione portulacoides. Close to the roadway Armeria becomes frequent.

Evaluation

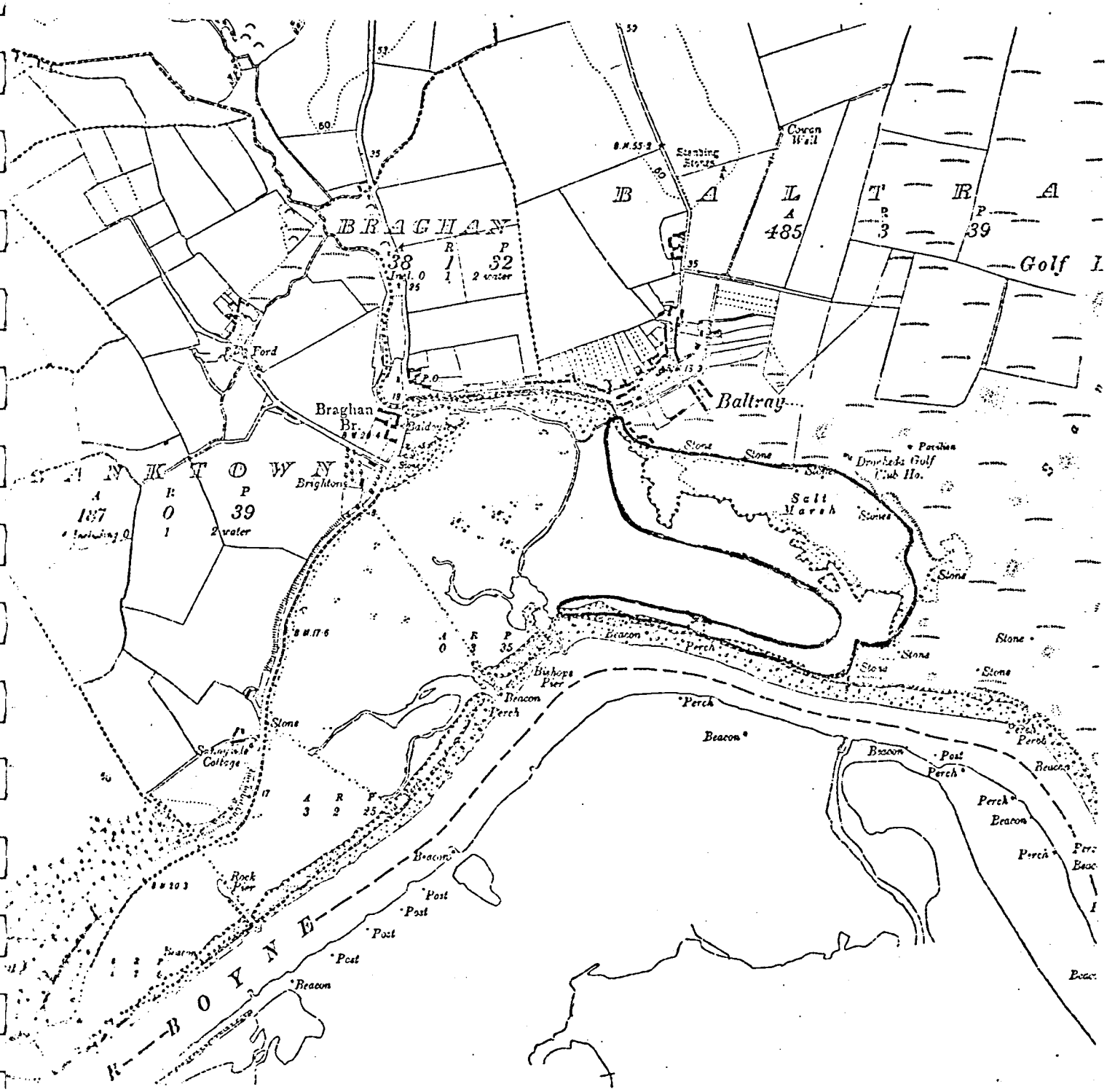
The site contains a good example of a salt marsh habitat.

Threats to the Area

The most catastrophic would be reclamation of the wetland, as has occurred to part of the upper zone which is now a roadway. Coastal marshes are doubly vulnerable because they may be polluted from land and sea. Noxious effluents from the Boyne estuary could have a disastrous effect on the lower

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 21

Scale: 6 Inches to 1 Mile



marsh zone. Dumping of domestic and some industrial rubbish is occurring on the landward side at present. Spartina growth could destroy a sizeable part of the marsh.

Recommendations

General planning control should be exerted to maintain the scientific values of this site and further development should be in accordance with its scientific values.

Name of area	BOYNE ESTUARY
Acreage	250
Grid reference	O. 140, 775
Scientific interest	Ornithological and ecological
Rating	Local importance
Priority	B

Description of the area — See Map 21b

The site is a river estuary fringed, in places, by salt marshes and, in others, by sand dunes. The river has been dredged and the water is generally deep.

Evaluation

The site has a number of wildfowl during the winter months. Merganser, Red throated diver, Goldeneye, Scaup, Mallard, Wigeon, teal and swans occur there. The presence of diving duck as a large proportion of the species present is an indication that the water is generally deep. Detailed figures for winter populations are not available. All known east coast wader species are found in the estuary including rarities like the Avocet.

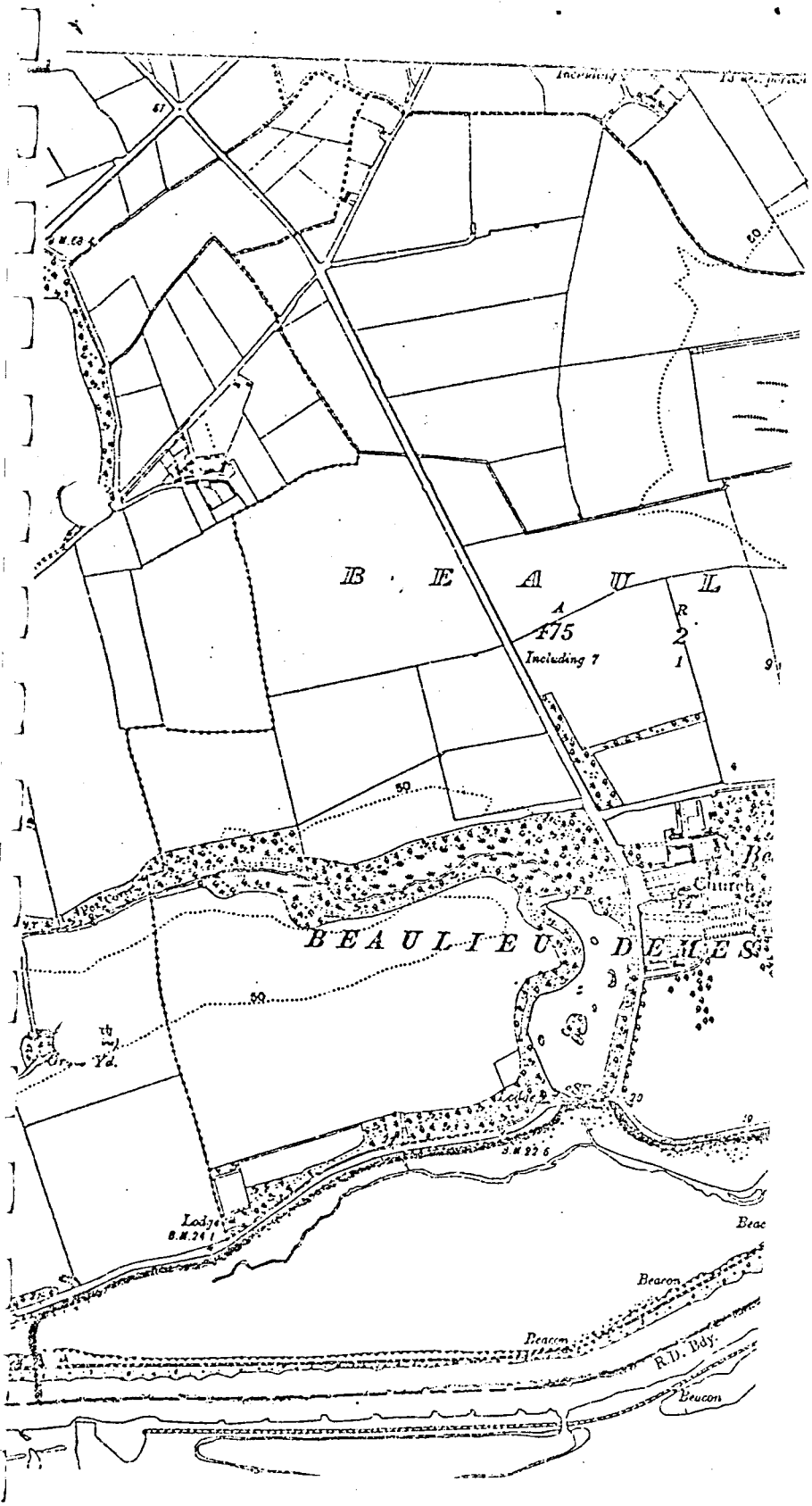
Threats to the area

Any major disturbance of the habitat, as by dredging, would alter its significance, possibly in a detrimental way. Pollution by toxic substances or oil could prove very serious. The status of Spartina at the site is not known but should be kept under control, if it occurs.

Recommendations

Because of its closeness to a centre of population this site has considerable amenity and educational potential. Every effort to maintain its scientific values should be made, specifically by countering the threats listed above.

MAP SHOWING AREA OF SC



Name of Area	BLACKHALL WOODLANDS
Acreage	123
Grid Reference	O.125,825
Scientific Interest	Ecological and Botanical
Rating	Local Importance
Priority	B

Description of Area — See Map 22

The site is a planted woodland of ash (Fraxinus excelsior), chestnut (Aesculus hippocastanum) and beech (Fagus sylvatica). The ground flora is dominated by snowberry (Symphoricarpus rivularis), wood sedge (Carex sylvatica), broad-leaved dock (Rumex obtusifolius), enchanter's nightshade (Circea lutetiana) and Saxifraga hirsuta (a saxifrage).

Evaluation

The interest of this area lies in the Bryophytes which are a typical Atlantic community which grow on fallen timber, etc.

Threats to the Area

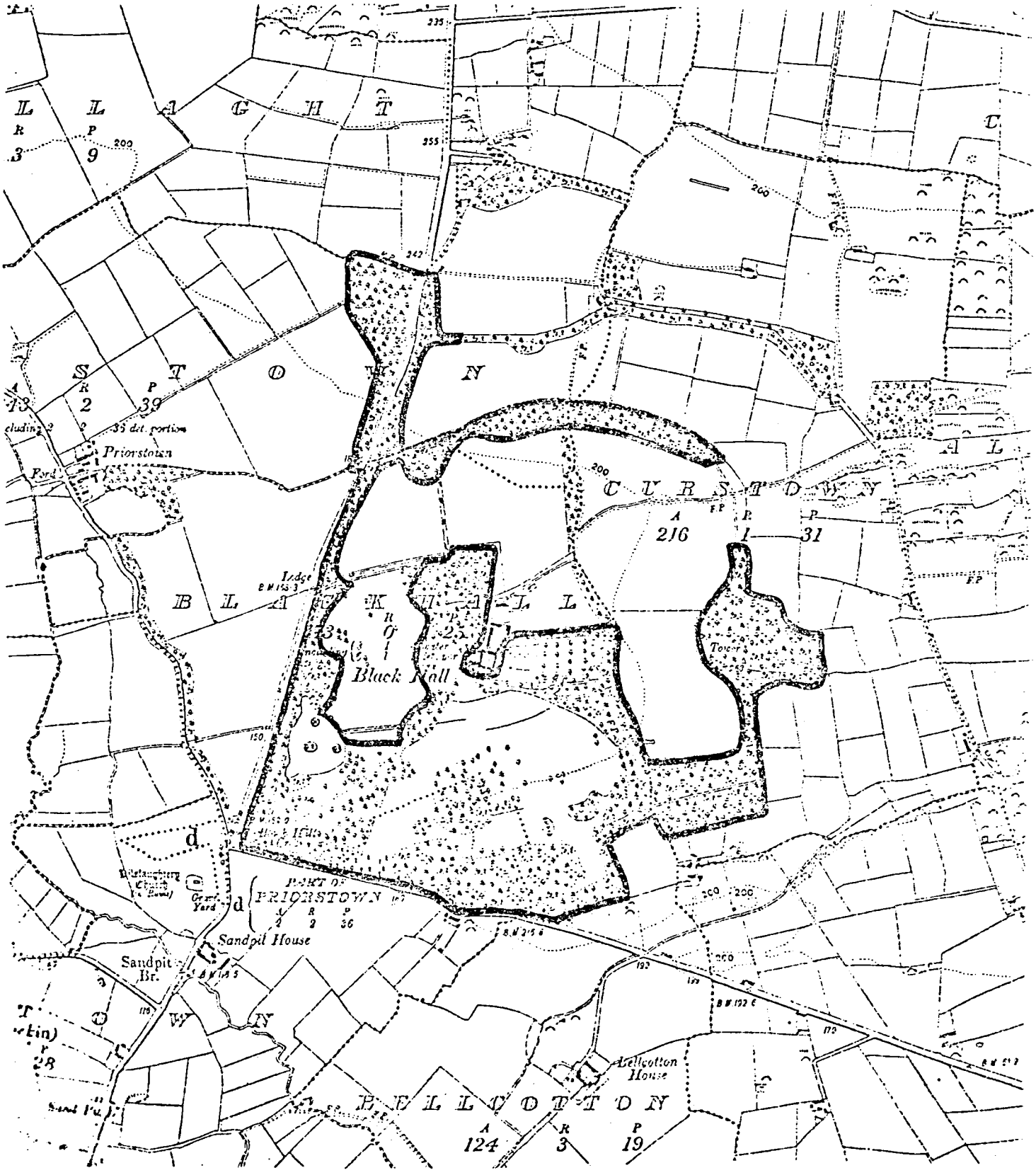
Clear felling would destroy the micor habitats occupied by the Bryophytes.

Recommendations

At least part of this area should be conserved for its scientific value. This could be ensured by use of a tree preservation order or a management agreement. Some of the trees are now reaching maturity and will have to be felled in the near future; they should be replanted. An additional improvement would be to introduce a larger number of native hardwood trees - like oak. Alternatively, ash, which is a natural tree in South County Louth and which regenerates well, could be allowed to form a large proportion of the woodland.

MAP SHOWING AREA OF SCIENTIFIC INTEREST—22

Scale: 6 Inches to 1 Mile



Name of area	WOODLANDS AT BARMEATH CASTLE
Acreage	100
Grid reference	0. 095, 875
Scientific interest	Ecological and botanical
Rating	Local importance
Priority	B

Description of the area See Map 23

The woodlands are a planted fringe surrounding an estate. The trees consist mainly of beech (Fagus sylvatica) and yew (Taxus baccata). The herb layer on the floor of the wood is composed of the species :

Sanicula europaea	wood sanicle
Geranium robertianum	herb robert
Stellaria media	stichwort
Hedera helix	ivy
Silene dioica	red campion
Geum urbanum	wood aven
Endymion non-scriptus	bluebell
Carex sylvatica	wood sedge

Evaluation

The woodlands are, like others in Co. Louth, noteworthy for their microflora. In this case yew, which is a native tree, occurs.

Threats to the area

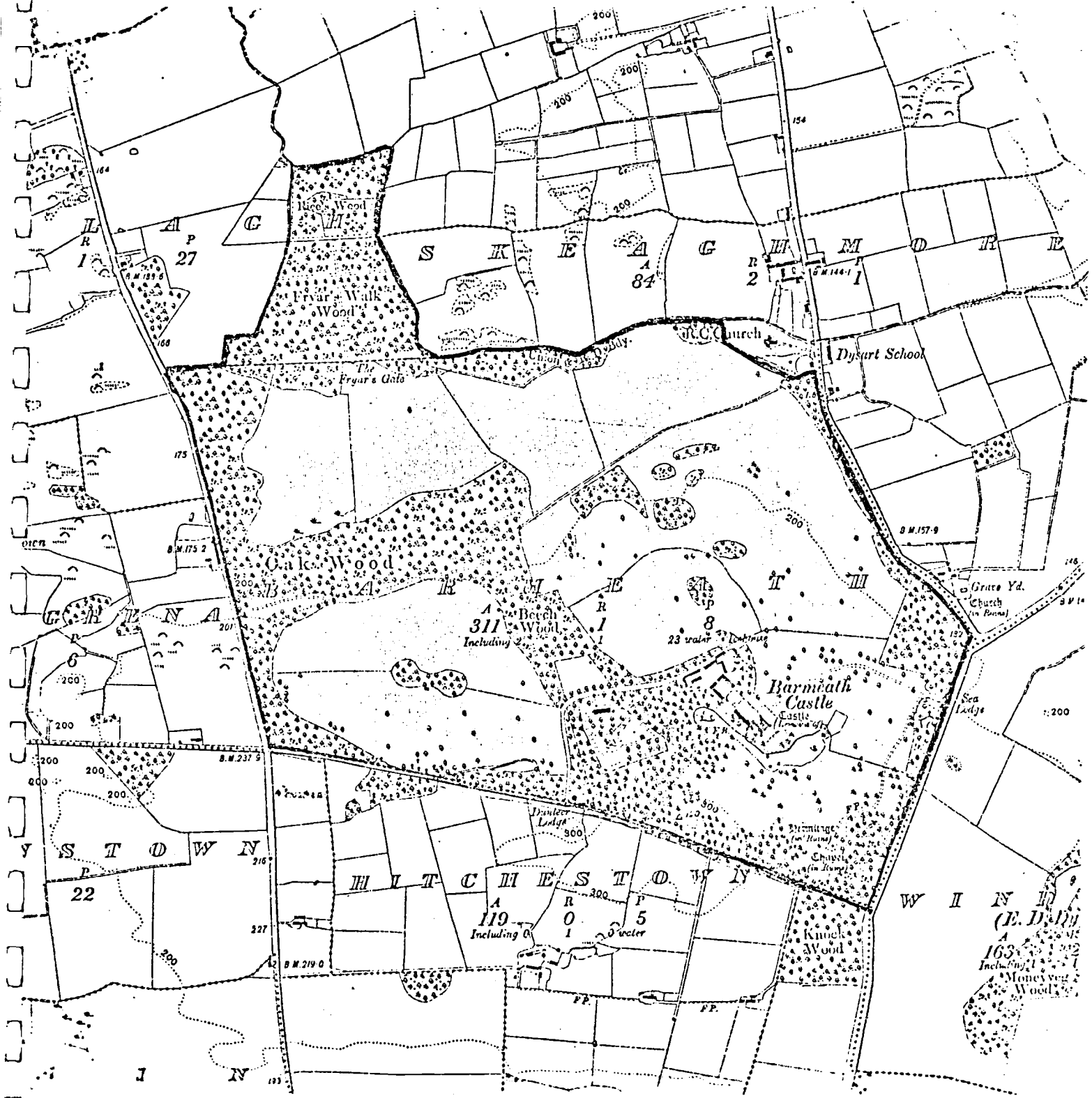
The beech which make up the majority of the trees, require felling and replanting. Management of this area is required to maintain it in good condition.

Recommendations

Gradual felling of mature trees should be carried out - along with their

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 23

Scale: 6 Inches to 1 Mile



replacement by saplings. Native hardwoods might be considered as replacements but deciduous tree cover should be maintained in order to preserve the interest of the ground flora.

Name of area	POND AND TREES OPPOSITE STEVENSTOWN HOUSE
Acreage	5
Grid reference	J. 012, 026
Scientific interest	Ecological, botanical and zoological
Rating	Local importance
Priority	B

Description of the area — See Map 24

The main feature of this site is a central man-made lake. The water level has fallen and reed beds are extensive. The most obvious marginal plants are :

	Typha latifolia	bulrush, reedmace
and	Phalaris arundinacea	canary grass

The water surface is profusely covered with the water lilies

	Nymphaea alba
and	Nuphar lutea

The area surrounding the pond supports willows of the species, Salix alba and several oak trees (Quercus sp.) are also present.

Evaluation

The pond supports a varied invertebrate community. The fish tench, roach and perch are present and coot, moorhen and duck also occur. The site is likely to be important as a winter feeding ground for birds.

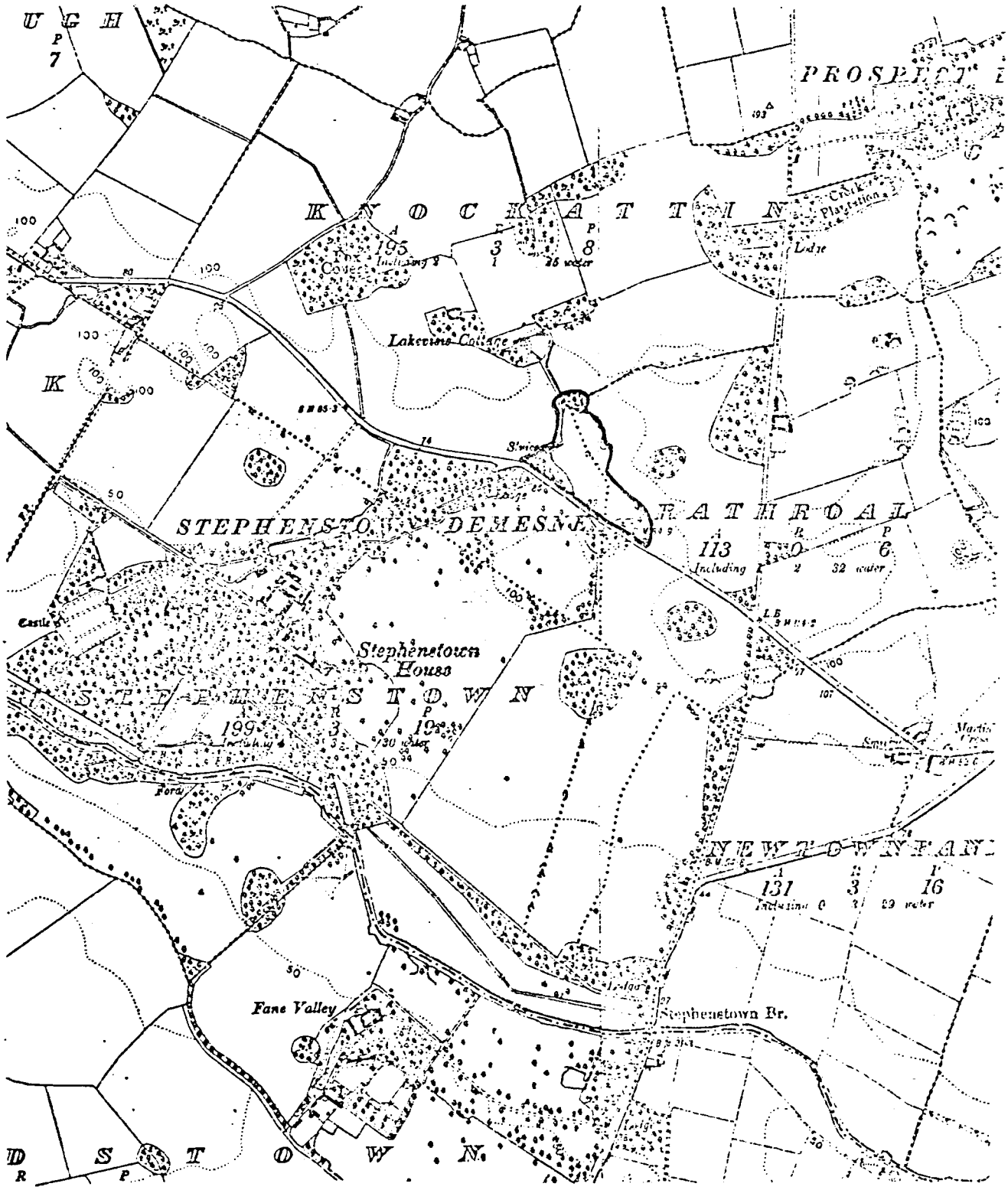
Threats to the area

The lake is at present filling, as indicated by the spread of semi-aquatic vegetation and some casual rubbish tipping is occurring.

Farm or domestic effluent disposal could prove a danger in the future.

MAP SHOWING AREA OF SCIENTIFIC INTEREST – 24

Scale: 6 Inches to 1 Mile



Recommendations

Efforts should be made to dredge the lake and deepen it. The deciduous trees should, when ready for felling, be replaced by deciduous saplings. Otherwise, every effort should be made to maintain the scientific values of the site which is of amenity as well as scientific and educational value.

Name of Area	KILLINCOOLE MARSH
Acreage	Not calculated
Grid Reference	O. 006, 997
Scientific Interest	Ecological
Rating	Local importance
Priority	B

Description of the Area

The site is a Phragmites (common reed) dominated marsh containing plants and animals typically associated with such a wetland.

Evaluation

This site is a typical example of a Phragmites marsh but some doubt exists about its viability in view of an apparent fall in the regional water table. The marsh occurs on flat terrain and is not an obvious "basin".

Recommendations

Further exploratory work should be carried out in the near future on the advisability of conserving this site.

Name of area	KING WILLIAM'S GLEN
Acreage	80
Grid reference	O. 045, 765
Scientific interest	Ecological, botanical and zoological
Rating	Local importance
Priority	C

Description of the area — See Map 25

The site is a steep valley whose sides are covered with deciduous trees. Like the majority of the Co. Louth woods these are planted. The ground flora is varied, profuse and typical of woodlands elsewhere in the county.

Evaluation

This site is selected for its possession of a typical flora and probably invertebrate fauna.

Threats to the area

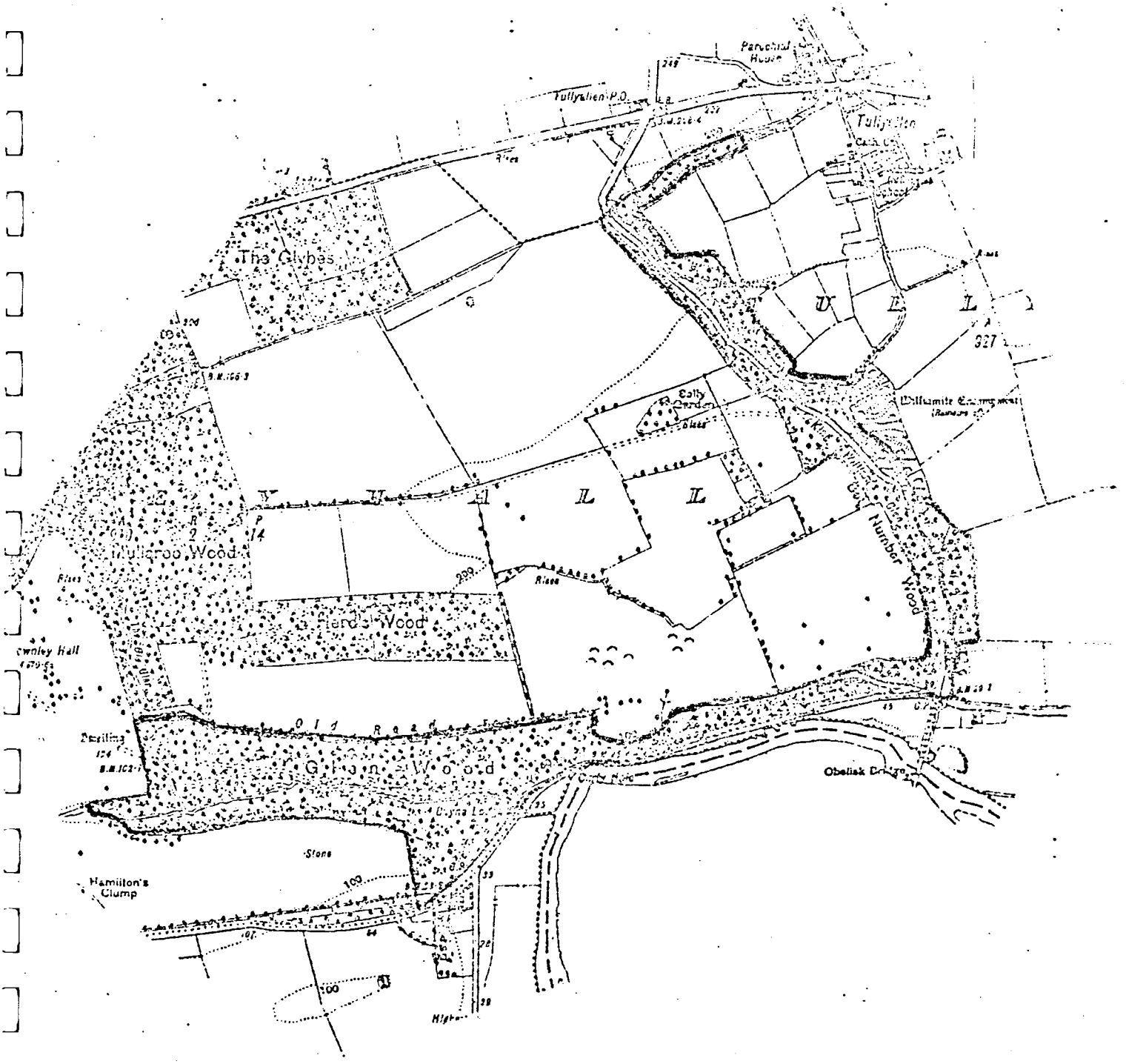
The woodland is considered to be of value to amenity and it is therefore unlikely that it will be used for any purpose other than forestry. The slope is too steep to be used as a building site.

Recommendations

Any development at this site should be in accordance with its scientific values.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 25

Scale: 6 Inches to 1 Mile



Name of area	LISCARRAGH MARSH
Acreage	30
Grid reference	J. 185, 062
Scientific interest	Ecological
Rating	Local interest
Priority	C

Description of the area — See Map 26

The site is a wetland which ranges from open water to Phragmites marsh. Plant species occurring there include :

Typha latifolia	bulrush reedmace
Filipendula ulmaria	meadowsweet
Iris pseudacorus	yellow flag
Lychnis flos-cuculi	ragged robin
and the grass Holcus lanatus	yorkshire fog

Evaluation

The site is a good example of a marsh-land, with a typical flora and probably a typical fauna also.

Threats to the area

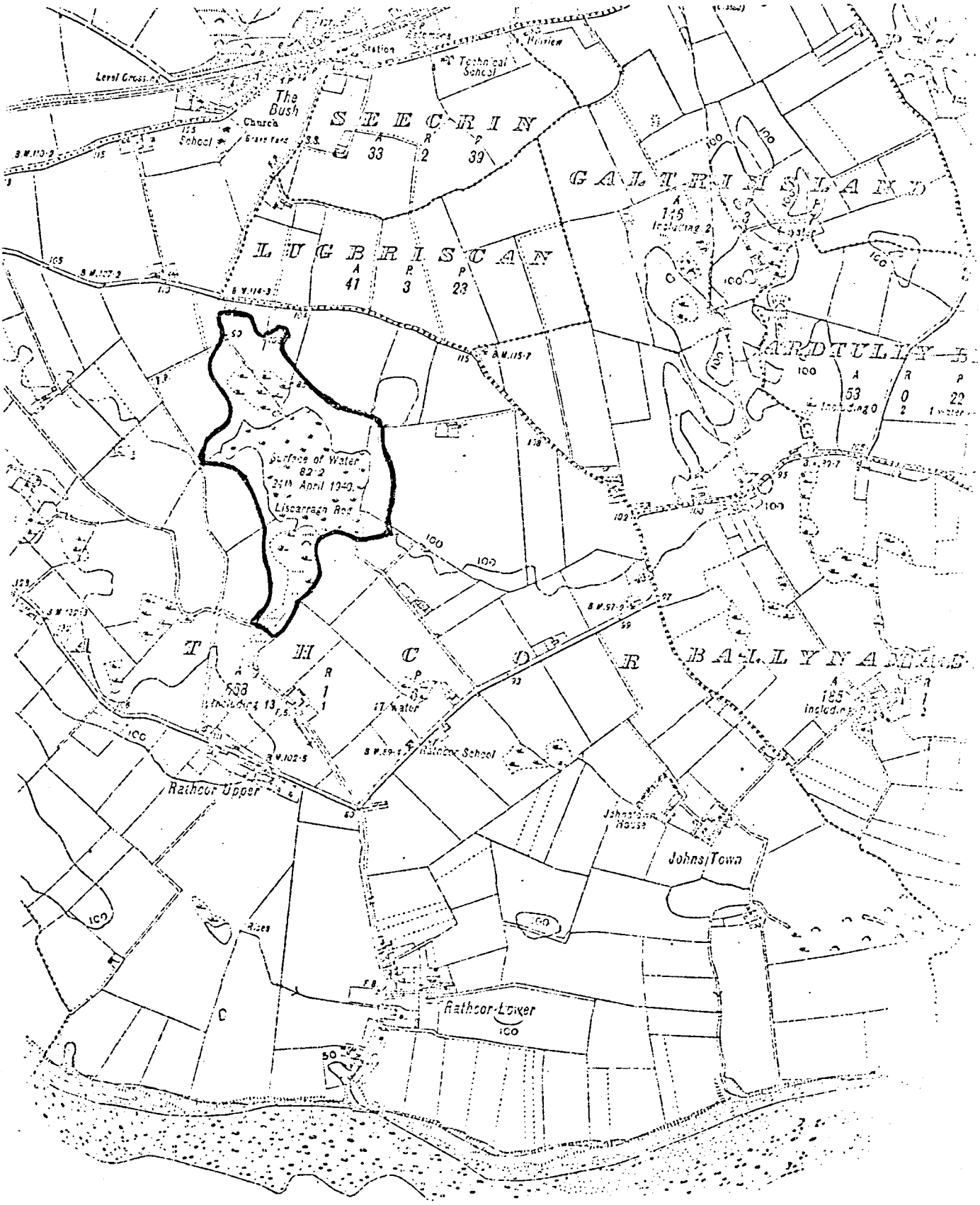
None is obvious. Drainage, though a possibility, is unlikely because of the terrain which forms a natural basin containing the marsh.

Recommendations

Any development at this site should take into account its scientific value.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 26

Scale: 6 Inches to 1 Mile



Name of area	RAVENSDALE WOODS
Acreage	440
Grid reference	J. 089, 133
Scientific interest	Ecological, botanical and zoological
Rating	Local importance
Priority	C

Description of the area See Map 27

The site is a forest in part of which a nature trail has been established. The trees are largely coniferous but the following deciduous trees also occur: sycamore (Acer pseudoplatanus), beech (Fagus sylvatica) and ash (Fraxinus excelsior).

The ground flora is particularly rich, for a coniferous woodland. The following herbs occur:

Ajuga reptans	bugle
Scilla non-scriptus	bluebell
Lysimachia nemorum	yellow pimpernel
Geum urbanum	wood aven
Silene dioica	red campion
Arum maculatum	arum lily
Allium ursinum	wild garlic
Oxalis acetosella	wood sorrel
Primula vulgaris	primrose
Glechoma hederacea	ground ivy
Digitalis purpurea	foxglove
Viola riviniana	dog violet
Cirsea loutetiana	enchanters' nightshade
Geranium robertianum	herb robert
Pteridium aquilinum	bracken
Blechnum spicant	hard fern

The shrub understorey is composed of

	Rhododendron ponticum	rhododendron
	Sambucus niger	elder
and	Rubus fruticosus	bramble

Ash also occurs as an understorey.

Evaluation

The flora is typical fo deciduous woods in Co. Louth and, though not so profuse as where light penetration to the herb layer is impeded (for exampie, at Melifont where a fairly complete floral cover exists. The insect fauna of the wood is typical and badgers, squirrels, jays and a varied passerine bird fauna occur.

Threats to the area

Because the site is a nature-trail, it is probably safe from alteration or destruction. Rhododendron is manageable in the vicinity of maturing trees and there is evidence that it has been cut back.

Recommendations

It would be most desirable if the management methods applied to Ravensdale nature-trail were implemented in the woodlands surrounding this region. A particularly commendable practice is the selective felling of small blocks of woodland, at the same time leaving other areas nearby to support a varied ground flora. In this way a reservoir of herb species is maintained in the woodland. Another useful practice is the admixture of some deciduous trees with the coniferous crop. By careful management, other areas of woodland in the neighbourhood of Ravensdale could produce an economic timber yield and, at the same time, maintain their scientific value.

Name of area	TRUMPET HILL AND SURROUNDING AREA
Acreage	160
Grid reference	J. 100, 100
Scientific interest	Ecological, botanical and zoological
Rating	
Priority	C

Description of the area — See Map 28

This site contains several habitats : the central basalt hill has rocky outcrops and, where it slopes abruptly to the north, various ferns are growing. This slope is covered in Bryophytes and the plants

	Teucrium scorodonium	wood sage
	Vaccinum myrtillus	bilberry
	Erica tetralix	cross leaved heath
	Potentilla erecta	common tormentil
	Blechnum spicant	hard fern
	Luzula sylvatica	wood rush
and	Succisa pratensis	devil's bit scabious

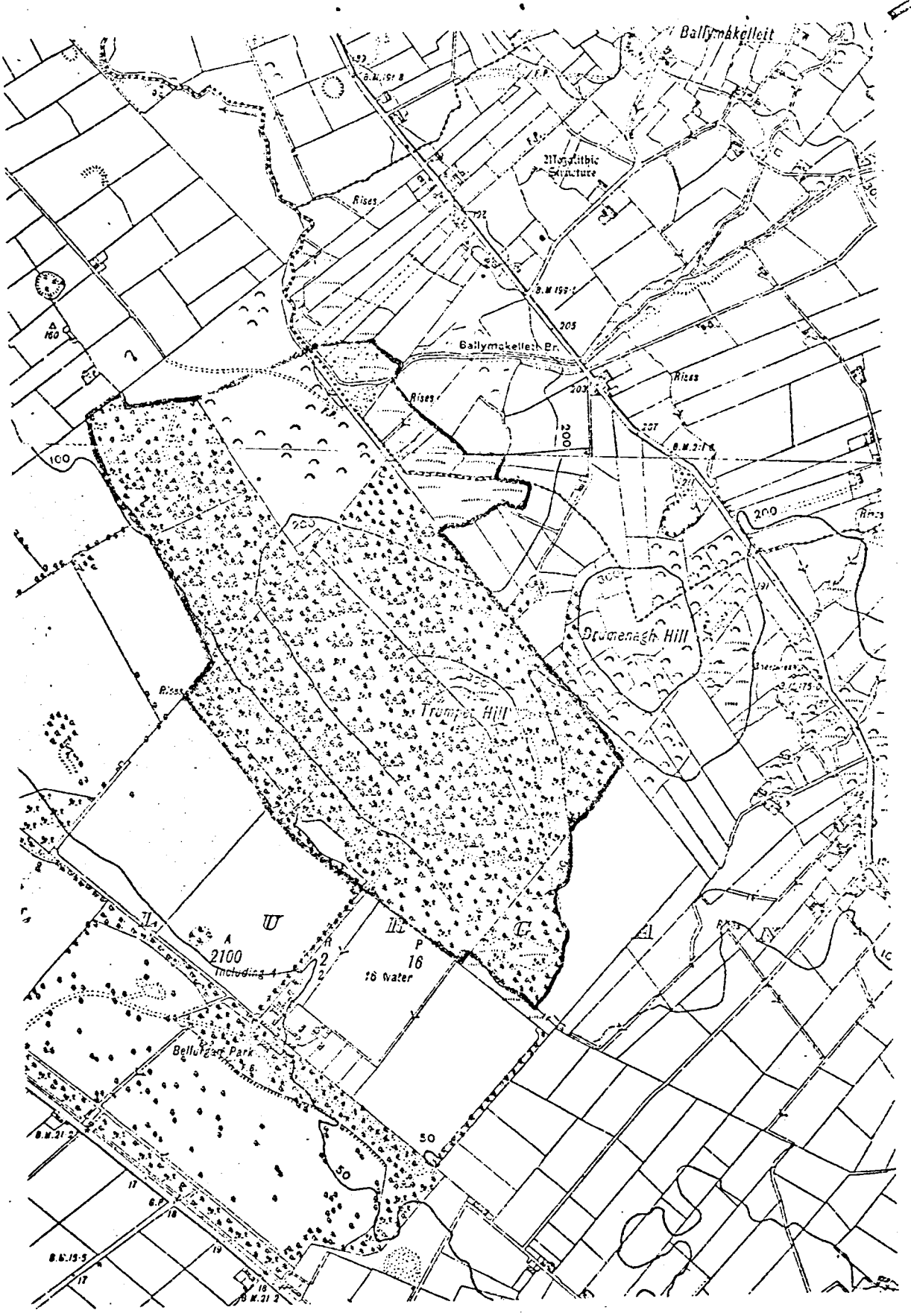
Surrounding the hill at its base is a fringe of scrub trees whose ground flora is dominated by

	Oxalis acetosella	wood sorrel
and	Lonicera periclymen	honeysuckle

The hill slopes gradually in a westerly direction and the trees are large, the majority being beech (Fagus sylvatica). Other tree species occurring in the vicinity are ash (Fraxinus excelsior), sycamore (Acer pseudoplatanus), elder (Sambucus niger), alder (Alnus glutinosa), hazel (Corylus avellana) and oak (Quercus sp.). Many of the specimens are small and beech regeneration is profuse in places.

MAP SHOWING AREA OF SCIENTIFIC INTEREST --28

Scale: 6 Inches to 1 Mile



The wetland area of the site is dominated by

	Phragmites communis	common reed
and	Alnus glutinosa	alder

The following are also important here:

	Myrica gale	bog myrtle
	Filipendula ulmaria	meadowsweet
	Pteridium aquilinum	bracken
and	Equisetum fluviatile	horsetail

Evaluation

The aspect, steep slope and varied macrophyte cover of the hill form several habitat types and permit a wide range of microflora to grow there. The association of a wetland and beech wood with the basalt outcrop add diversity of habitat to a small area.

Threats to the area

Some tree clearance is taking place at present and drainage of the wetland is possible.

Recommendations

The deciduous woodland should be managed as such in the future. Any development in the vicinity of the site should leave the outcrop as at present. The wetland should be left intact, if possible.

Name of area	THE PARK WOODLANDS, OMEATH
Acreage	47
Grid reference	J. 125, 175
Scientific interest	Botanical, ecological and zoological
Rating	Local importance
Priority	C

Description of the area — See Map 29

This site is a deciduous woodland consisting of birch trees (Betula sp.) and alder (Alnus glutinosa). The undergrowth is dominated by bracken (Pteridium aquilinum).

Evaluation

This site is one of the very few stands of birch in Co. Louth.

Threats to the area

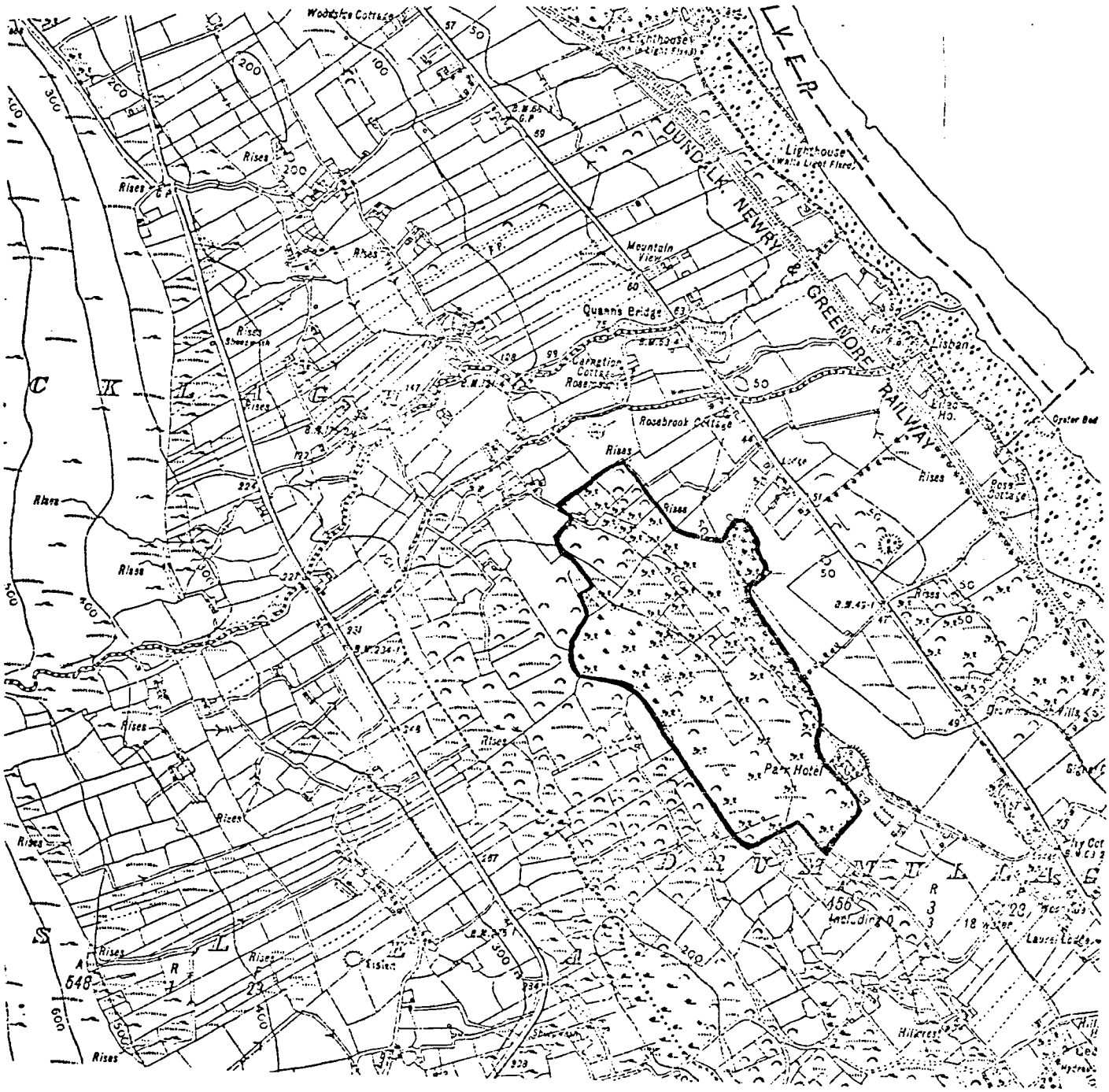
None obvious, apart from clearance for land reclamation.

Recommendations

Any development at this site should allow for the preservation of the trees occurring there.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 29

Scale: 6 Inches to 1 Mile



Name of area	DUNANY END MORAINE
Acreage	Not calculated: See recommendations
Grid reference	0. 160, 918
Scientific interest	Geological and botanical
Rating	Local importance
Priority	C

Description of the area — See Map 30

The site is a rocky marine headland composed of boulder clay and large rock fragments. The sea has eroded part of the structure and, in the shingle which remains, some plants are growing.

Publication

Charlesworth, J.K. 1939 Some observations on the glaciation of north east Ireland, Proc. R. Ir. Acad. 45 B: 255-295.

Evaluation

The headland is part of a moraine, deposited by ice during the Pleistocene period. It represents a re-advance stage similar to those at Solway and Bride Hills, on the Isle of Man. The re-advance occurred after the glacial uncovering of the Carlingford and Mourne mountains.

A rare plant species occurs at the site.

Threats to the area

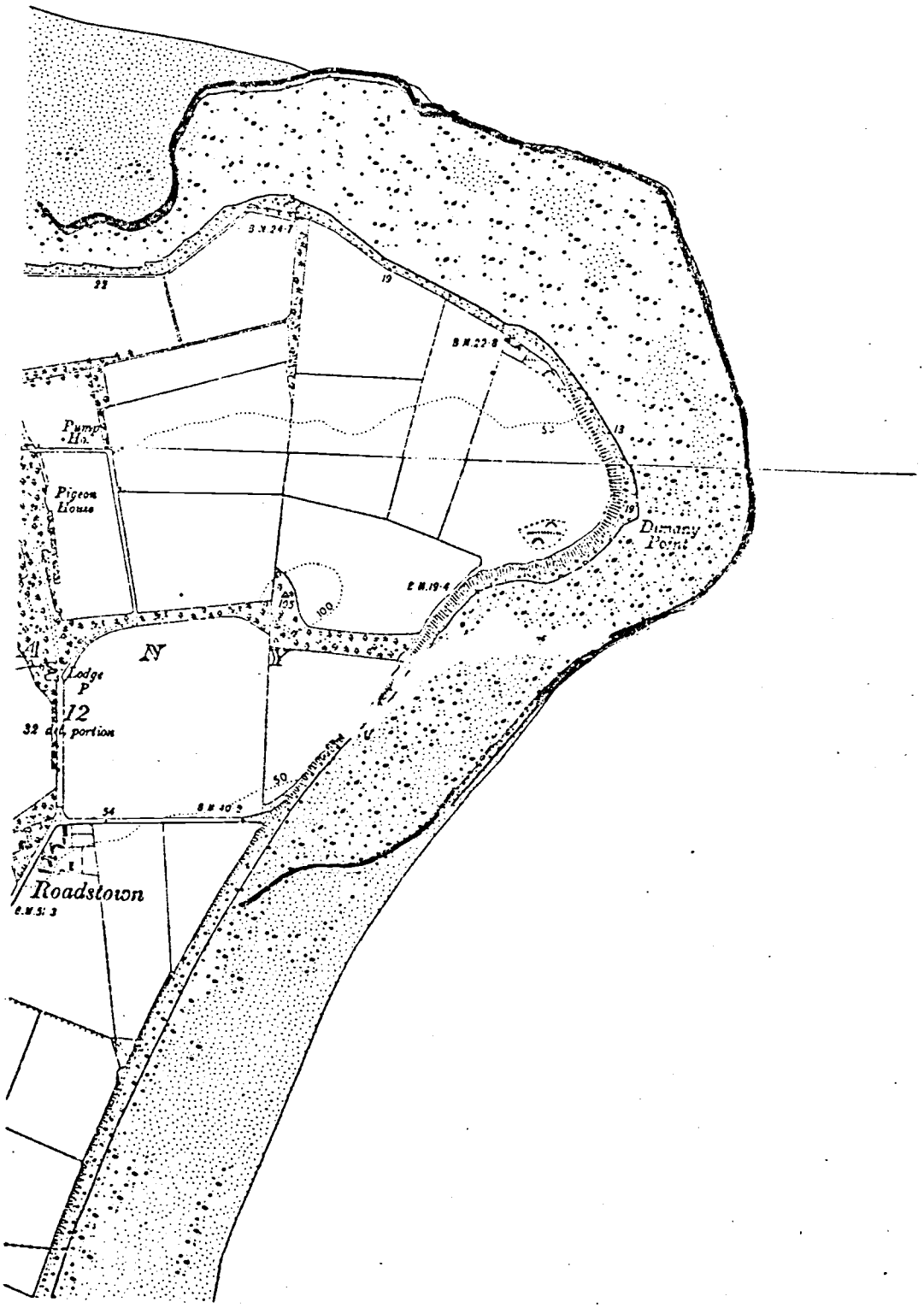
Marine erosion is taking place at present but is a gradual process which will not alter the scientific values of the site.

Recommendations

As for other glacial sites treated in this report the precise boundaries of this site are not known; they should be mapped as soon as possible.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —30

Scale: 6 Inches to 1 Mile



Protection of this site should be secured by ensuring that building control be restricted within its boundaries.

Name of Area	KILDEMOCK MARSH
Acreage	6
Grid Reference	N. 973, 885
Scientific interest	Ecological, botanical and zoological
Rating	Local importance
Priority	C

Description of the Area See Map 31

The site is a Phragmites (common reed) dominated marsh. The marsh is surrounded by hills the existence of which are responsible for its survival. Drainage of the site would be difficult.

Evaluation

The site is a typical example of a Phragmites marsh containing a representative range of plant and animal species.

Threats to the Area

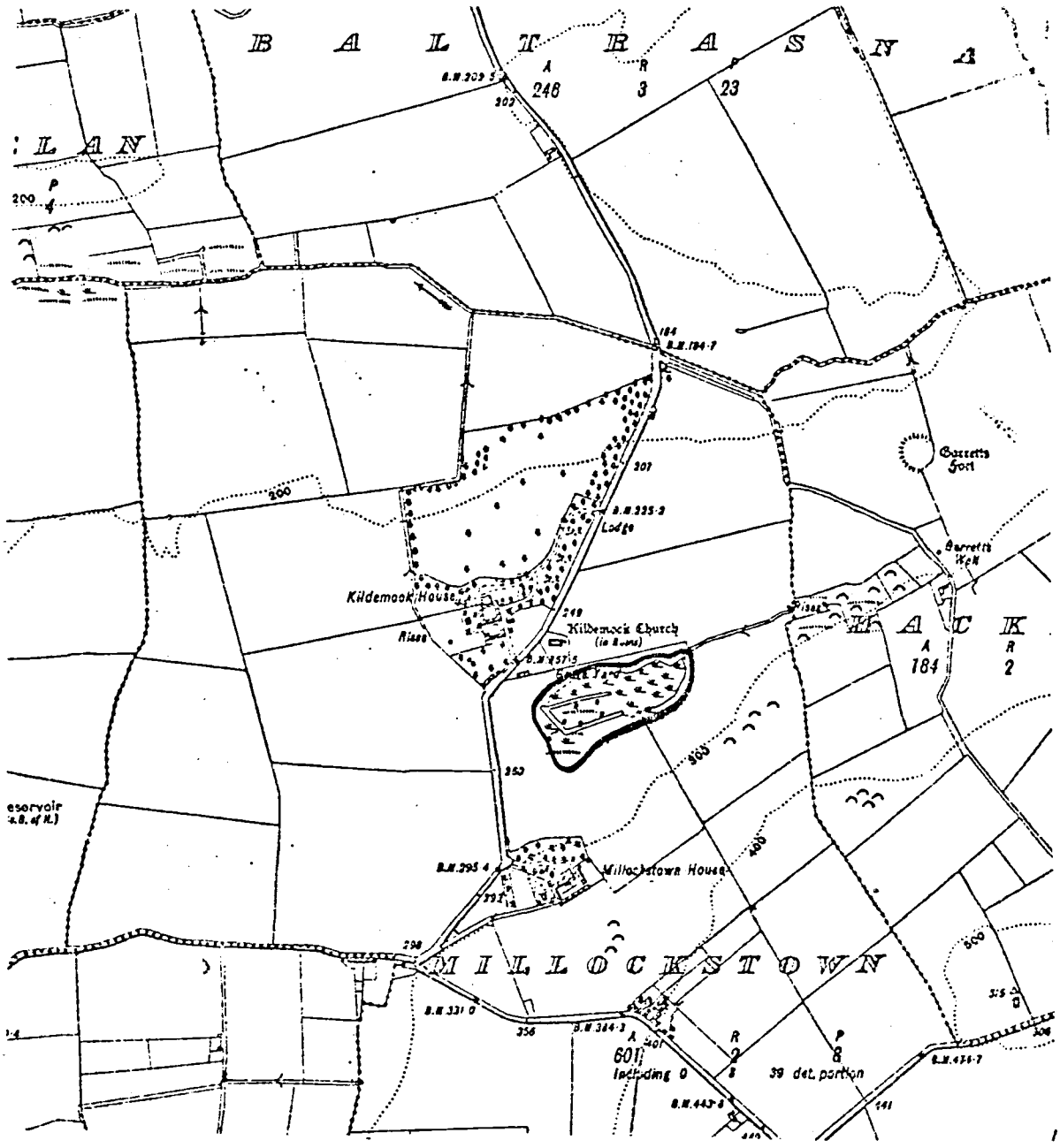
None is obvious at present.

Recommendations

Future development of this area should be in accordance with its scientific values.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 31

Scale: 6 Inches to 1 Mile



Name of Area	THE COOLEY PENEPLAIN
Acreage	See recommendations
Grid Reference	J. 230, 070.
Scientific interest	Geological
Rating	Regional importance
Priority	C

Description of the Area — See Map 32.

The site is a large flat land area.

Evaluation

Formation of the main river systems in Ireland occurred during the Cretaceous period. Thereafter a progressive levelling of the land by running water erosion occurred. The eventual consequence of this process was the production of flat land, with a gentle slope to sea level. Variation in this kind of landscape consists of low hills or "monadnocks". The Cooley Peneplain is a good example of this kind of feature.

Threats to the Area

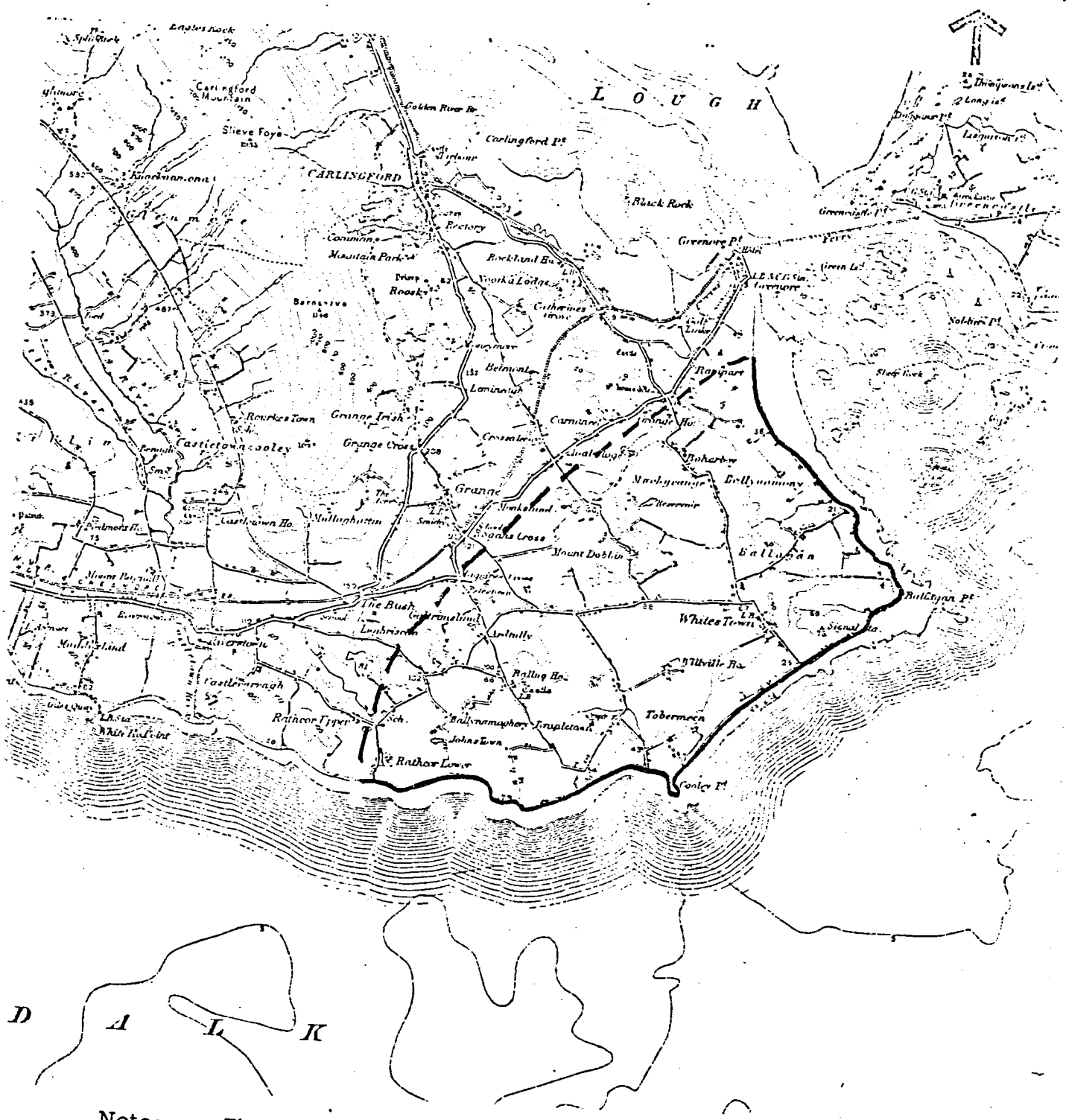
Unsightly building or development is the only possibility.

Recommendations

The precise limits of this site should be delimited, and work on this is proceeding at present. Following this a landscaping plan should be devised so that future development will not endanger the scientific values of the area.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 32

Scale: 1 Inch to 1 Mile



Note: The area marked with an asterisk may be reduced in size after a survey which is in progress

TABLE SUMMARISING RECOMMENDATIONS FOR THE CONSERVATION OF AREAS OF SCIENTIFIC INTEREST

Area	No protection necessary	Gen. planning control possibly with management	Special amenity area order	Conservation order	Tree Preservation order
Raised beach at Greenore	*				
Dundalk Marshes		*	or	*	
Clougher Head		*			
Melifont Abbey		*		or	*
Woodlands at Darver Castle		*			
Carlingford Mountain		*			
Baltray Dune System			*		
Ardee Bog		*	or	*	
Exposures of the Slieve Gullion Ring Dyke Complex		*	or *		
Mapastown Glacial Site		*			
Woodlands at Stevenstown House		*			
Woodlands at Narrow Water		*		or	*
Shore North of Castlebellingham		*			

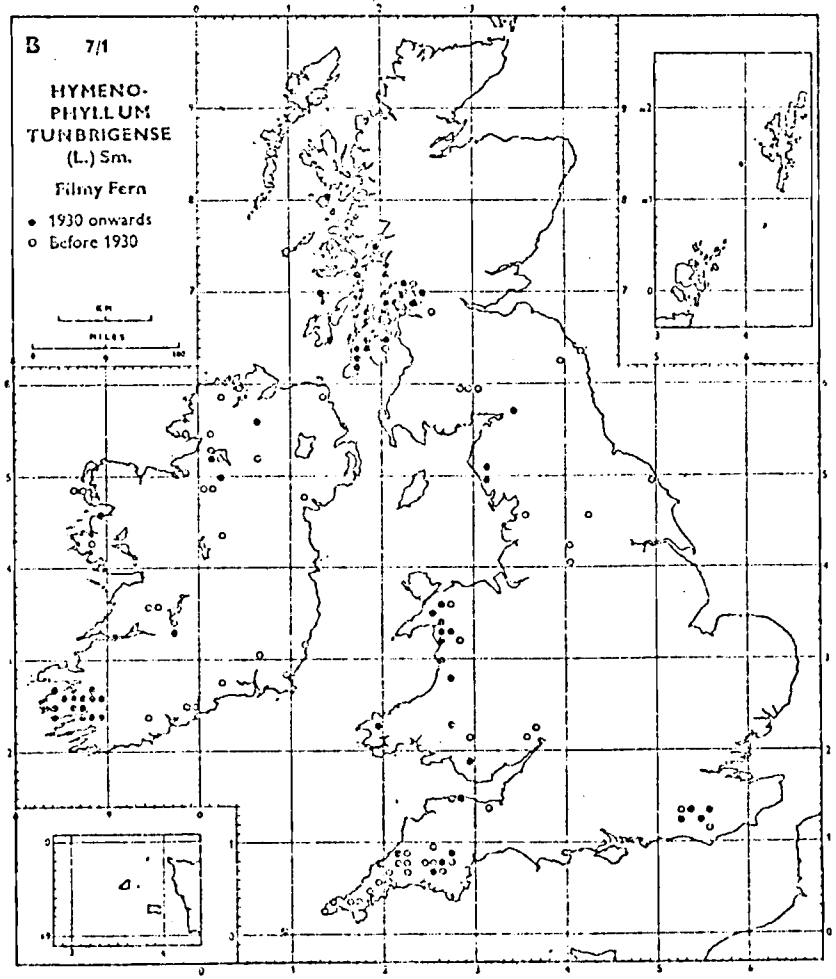
Area	No protection necessary	Gen. planning control possibly with management	Special amenity area order	Conservation order	Tree Preservation order
Reaghstown Marsh		*			
Braganstown Bog		*			
Derelict Woodlands		*			
Headwater Lakes on the River Fane		*			
Flurrey River Site		*			
Castle Coo Hill		*			
Salt Marsh at Baldoyle		*			
Boyne Estuary		*			
Blackhall Woodlands		*		or	*
Woodlands at Barmeath Castle		*			
Killincoole Marsh		*			
Pond and Trees Opposite Stevenstown House		*			
King William's Glen		*		or	*

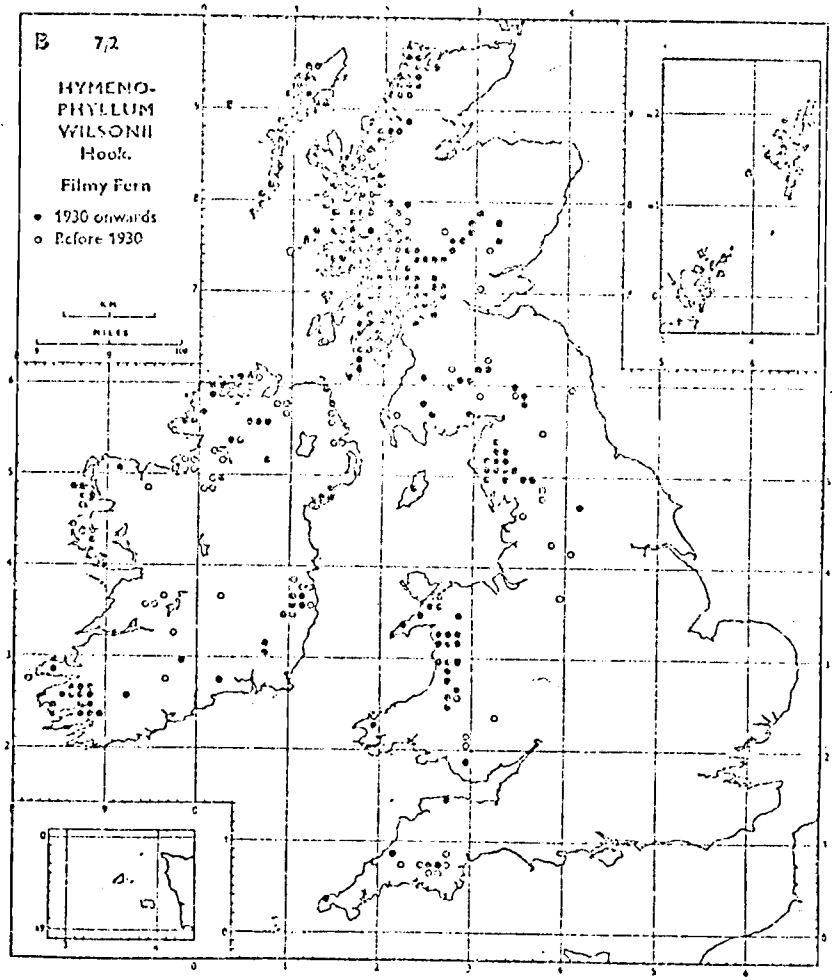
Area	No protection necessary	Gen. planning control possibly with management	Special amenity area order	Conservation order	Tree Preservation order
Liscarragh Marsh		*			
Ravensdale Woods		*			
Trumpet Hill and Surrounding Area		*		or	*
The Park Wood Omeath		*			
Dunany End Moraine		*			
Kildemock Marsh		*			
Cooley Peneplain		*			

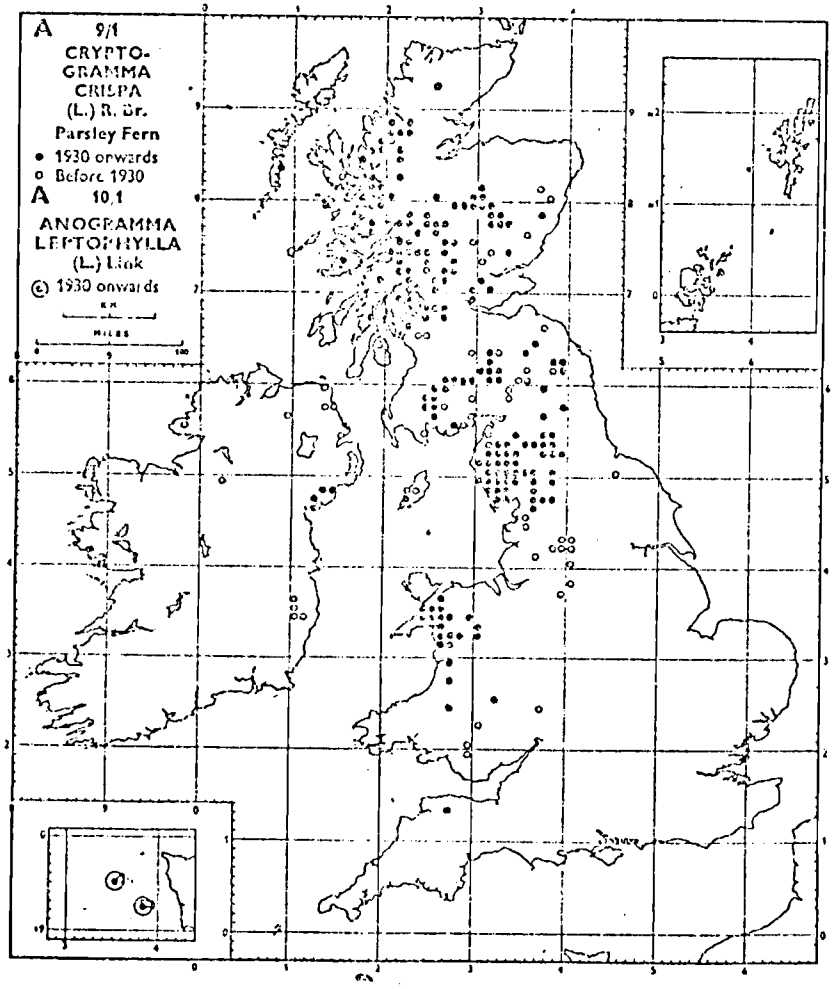
SECTION I

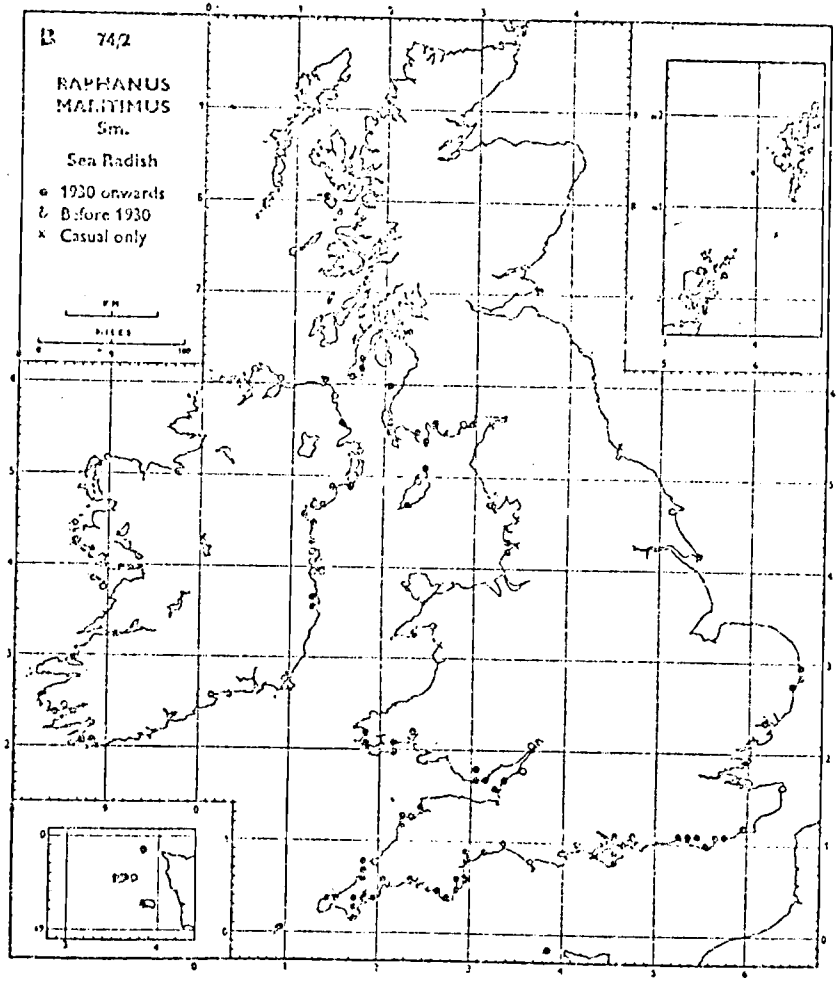
APPENDIX 1

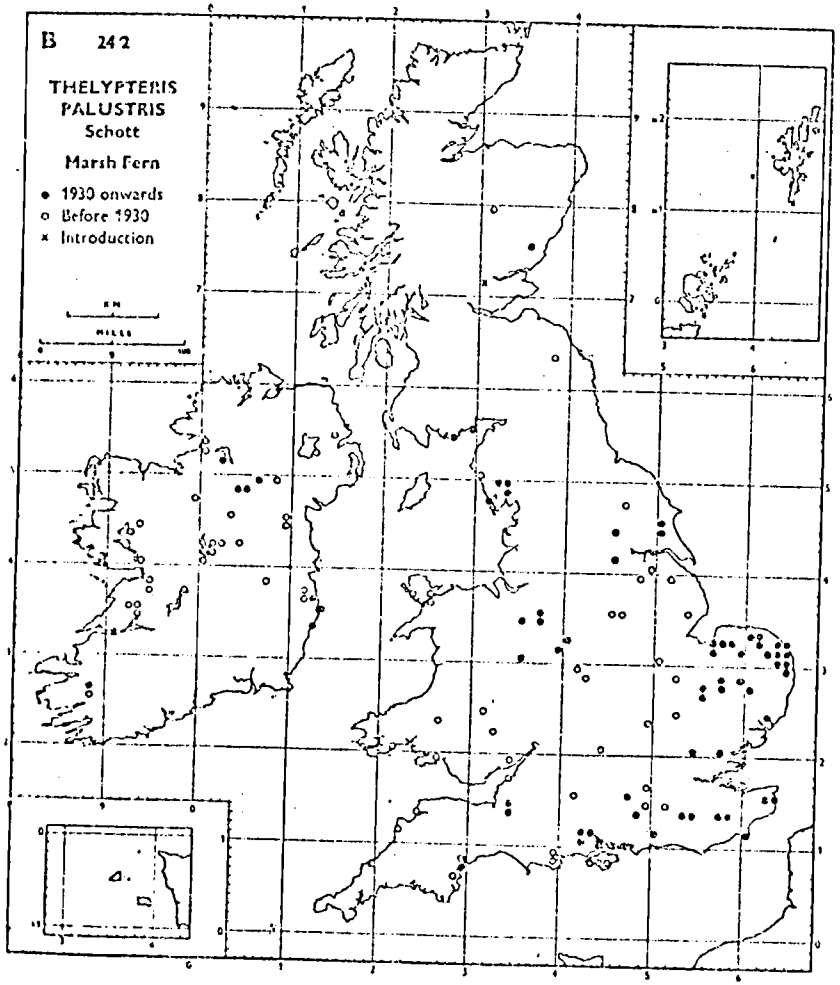
Distribution Maps for some plant species of known occurrence in County Louth showing their occurrence in the geographical unit of Ireland and Britain. From Atlas of the British Flora by Perring and Walters (1962).

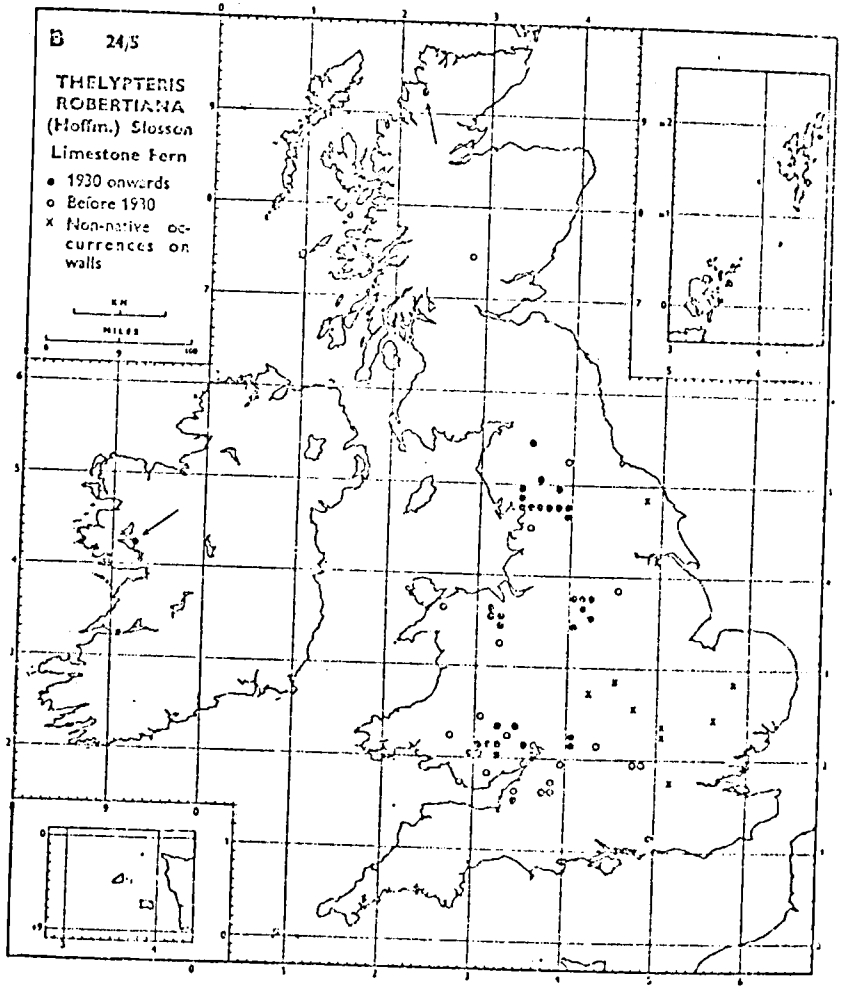

B 7/1
HYMENO-
PHYLLUM
TUNBRIGENSE
(L.) Sm.
Filmy Fern
• 1930 onwards
o Before 1930
KM
MILES

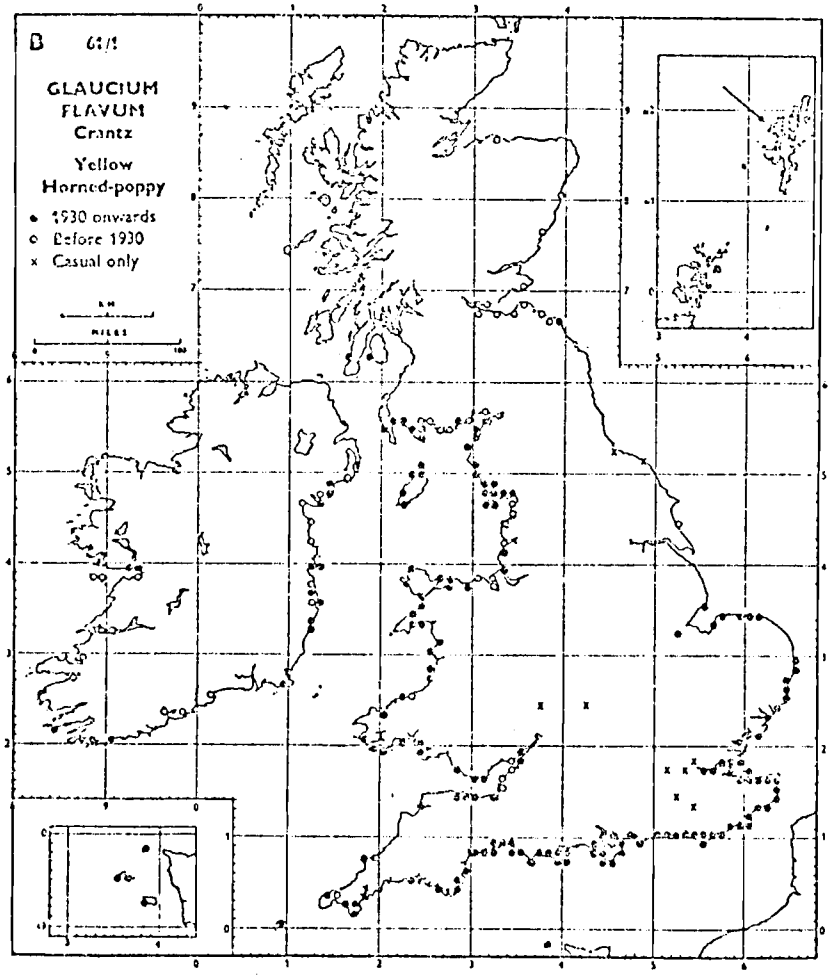

B 7/2
HYMENO-
PHYLLUM
WILSONII
Hook.
Filmy Fern
• 1930 onwards
o Before 1930
KM
MILES

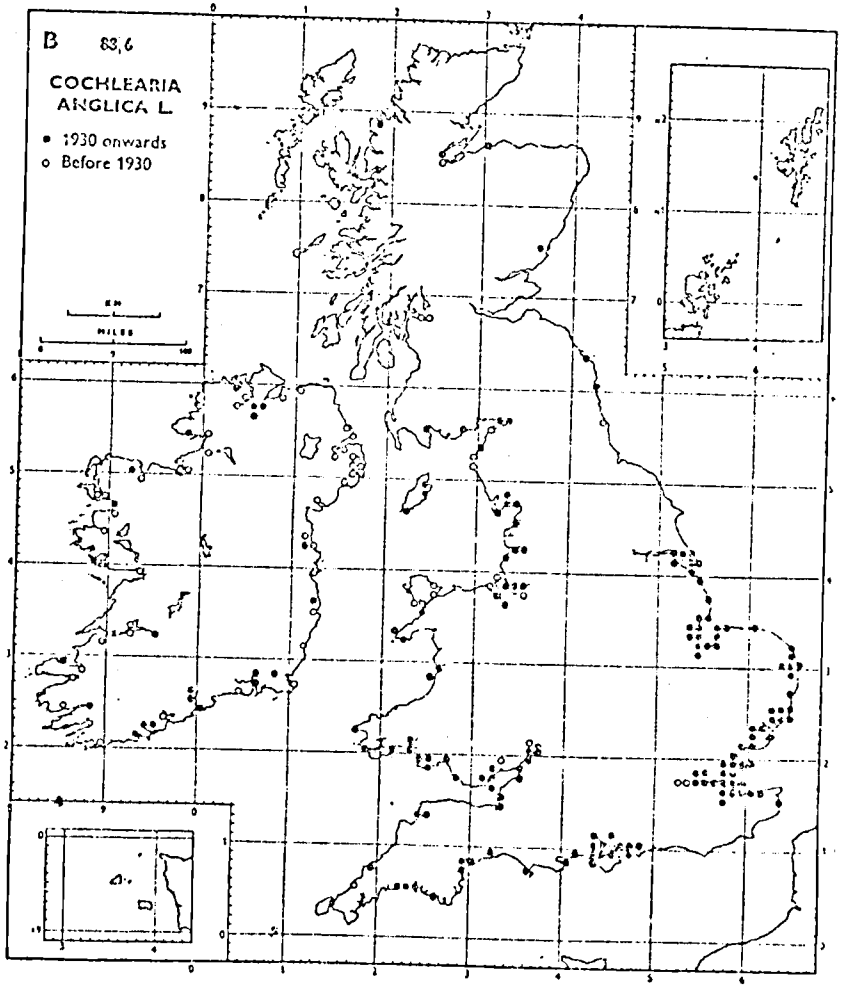

A 9/1
CRYPTO-
GRAMMA
CRISPA
(L.) R. Br.
Parsley Fern
• 1930 onwards
o Before 1930
A 10.1
ANOGRAMMA
LEPTOPHYLLA
(L.) Link
© 1930 onwards
KM
MILES

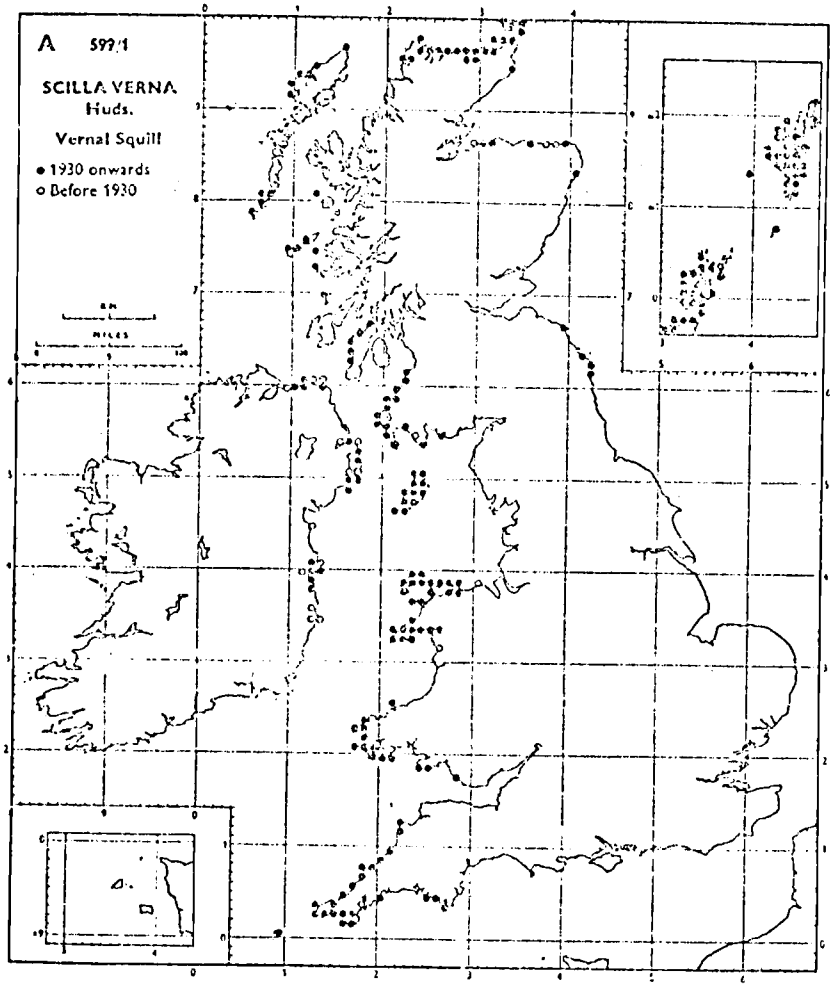

B 74/2
RAPHANUS
MARITIMUS
Sm.
Sea Radish
• 1930 onwards
o Before 1930
× Casual only
KM
MILES

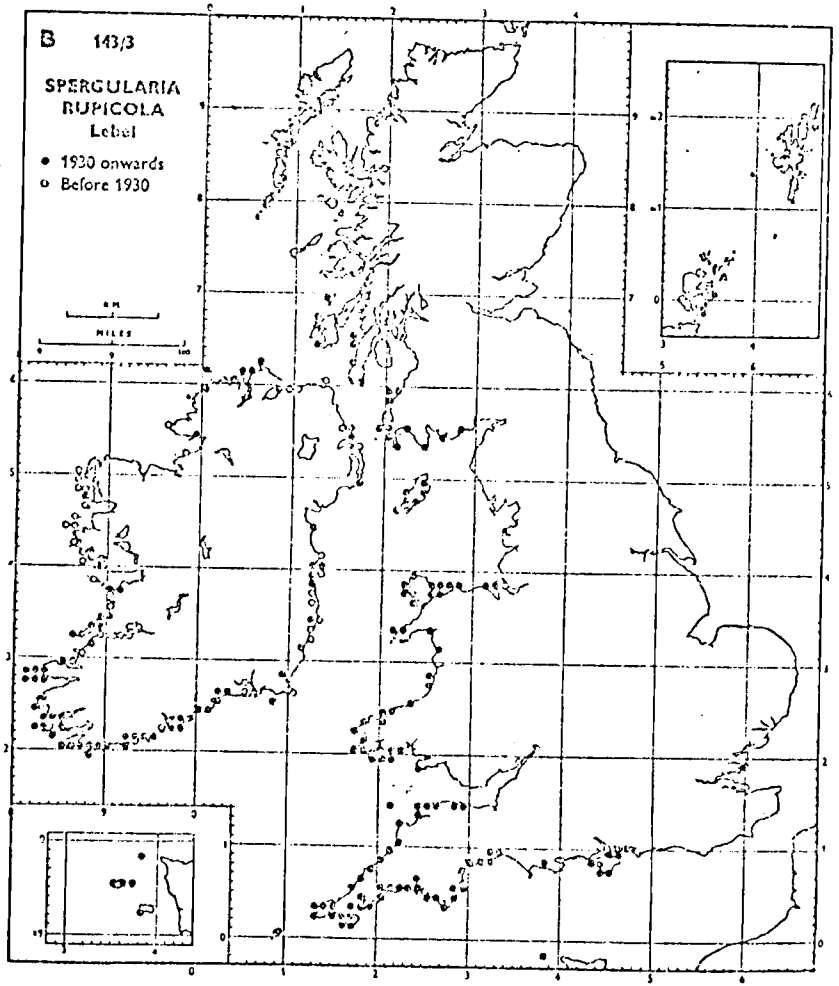

B 24.2
THELYPTERIS PALUSTRIS Schott
Marsh Fern
• 1930 onwards
o Before 1930
× Introduction
KM
MILES

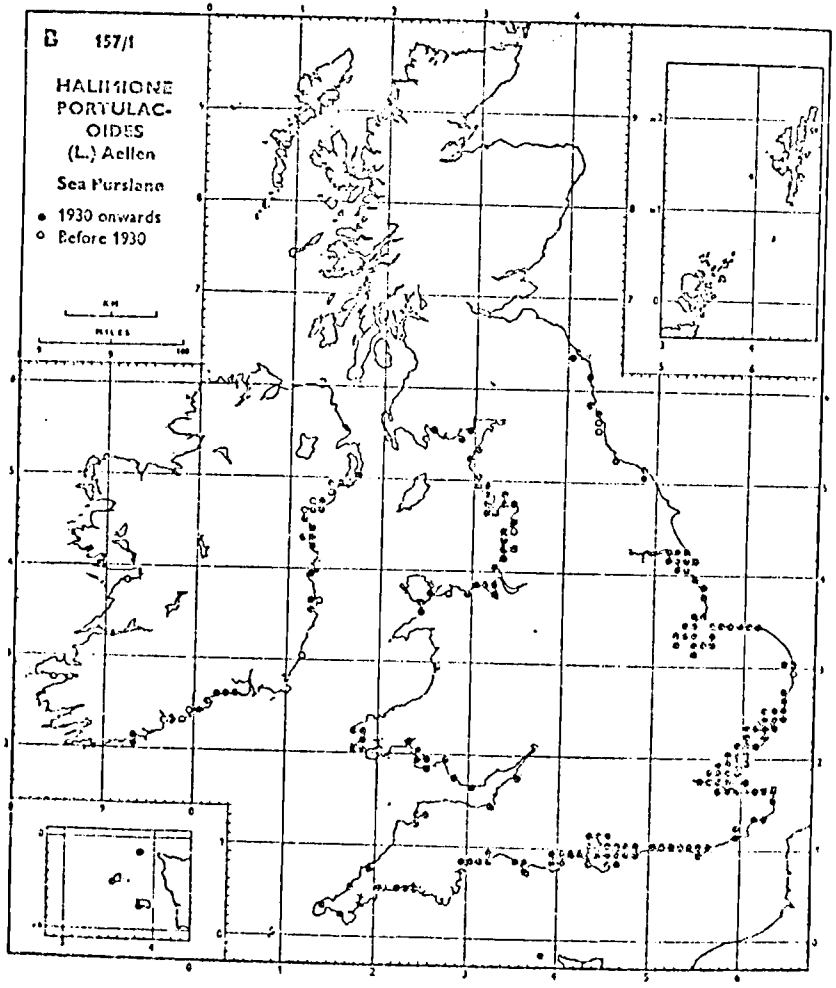

B 24.5
THELYPTERIS ROBERTIANA (Hoffm.) Slosson
Limestone Fern
• 1930 onwards
o Before 1930
× Non-native occurrences on walls
KM
MILES

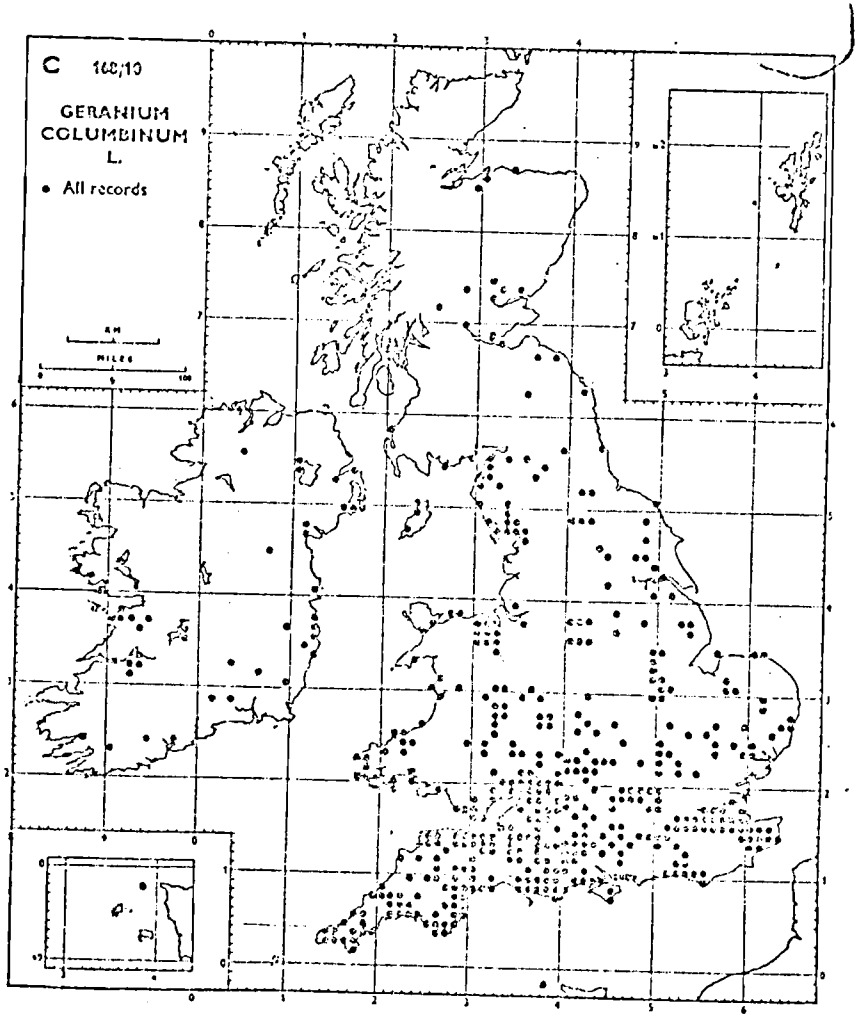

B 61/1
GLAUCIUM FLAVUM Crantz
Yellow Horned-poppy
• 1930 onwards
o Before 1930
× Casual only

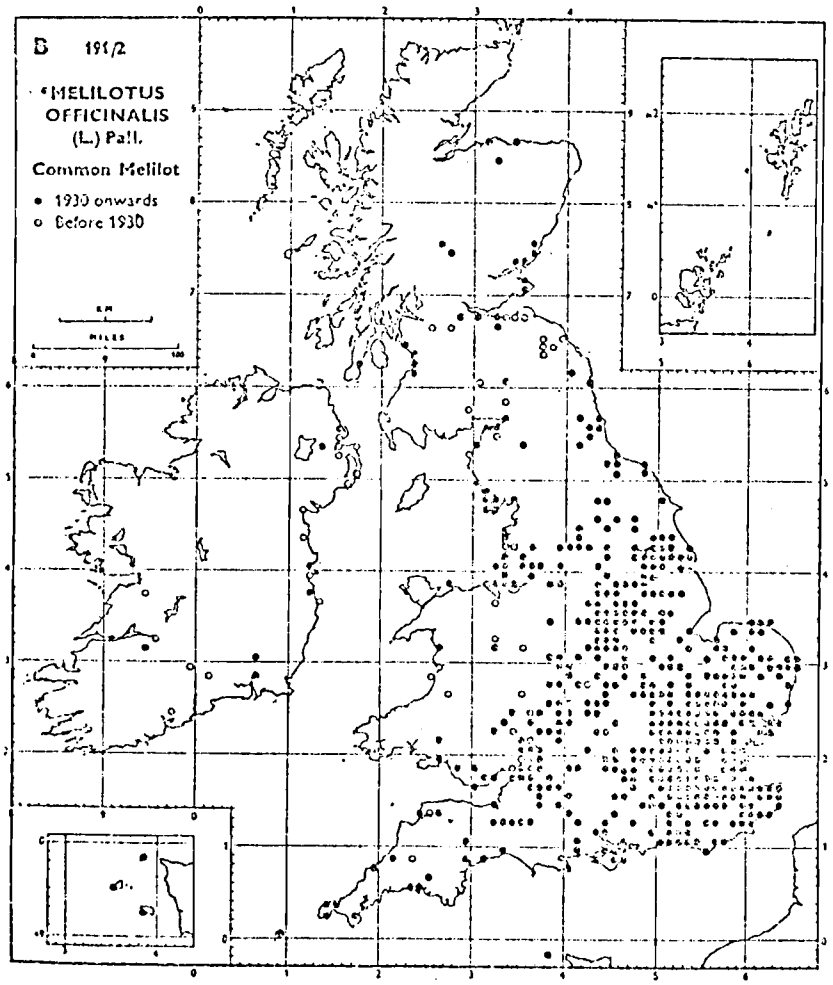

B 83,6
COCHLEARIA ANGLICA L.
• 1930 onwards
o Before 1930

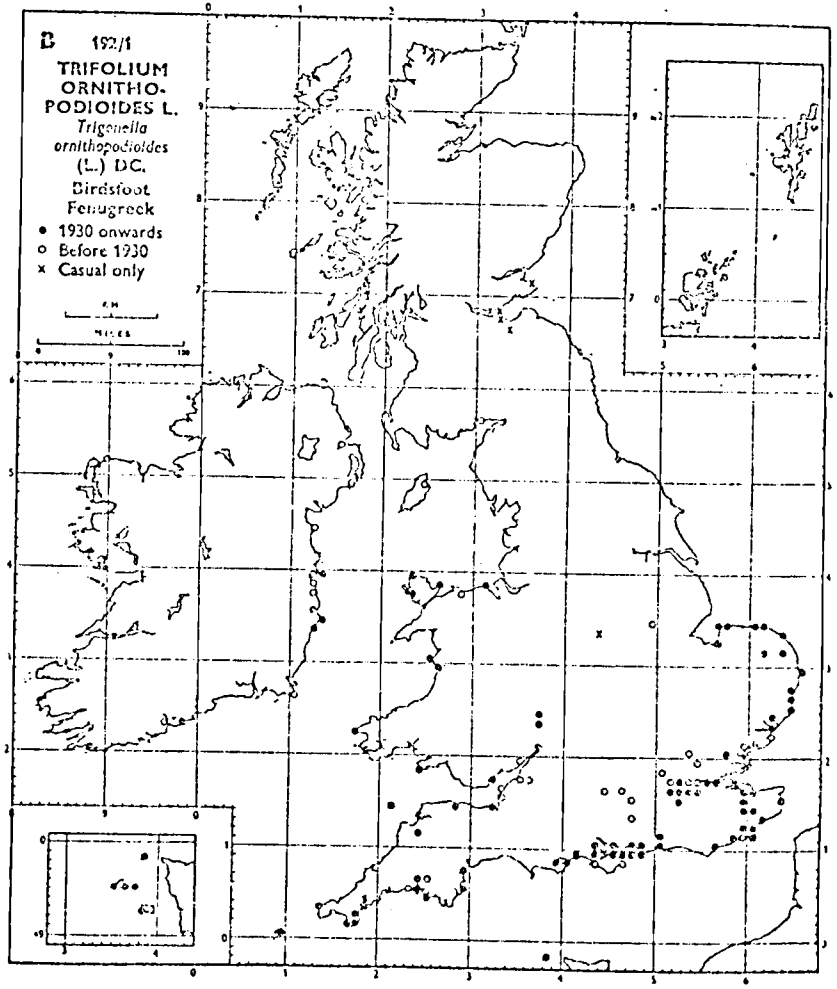

A 592/1
SCILLA VERNA
Huds.
Vernal Squill
• 1930 onwards
o Before 1930

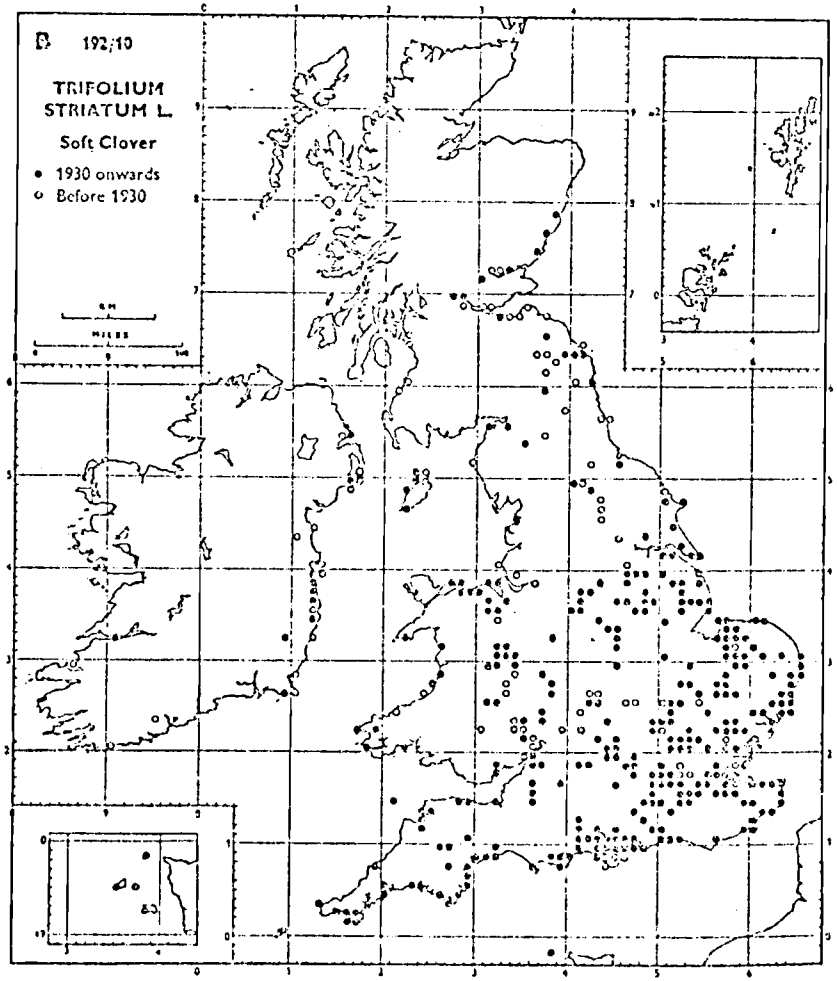

B 143/3
SPERGULARIA
RUPICOLA
Lebel
• 1930 onwards
o Before 1930

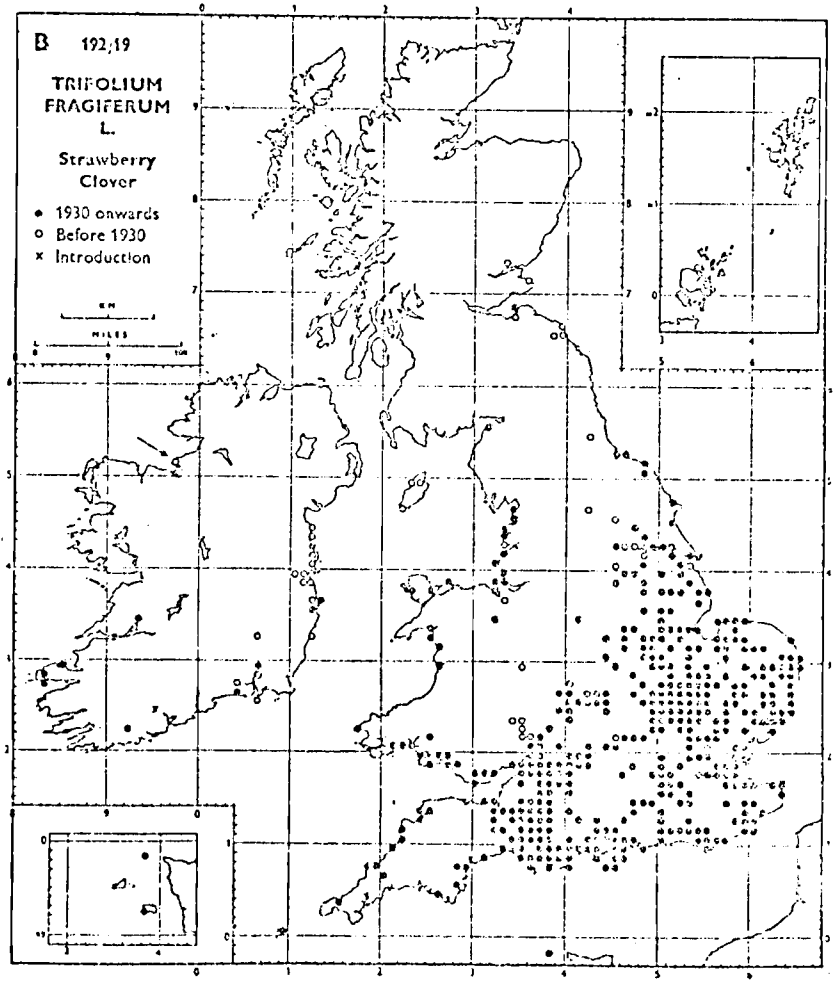

B 157/1
HALIMIONE PORTULACOIDES (L.) Aellen
Sea Purslane
• 1930 onwards
○ Before 1930
KM
MILES

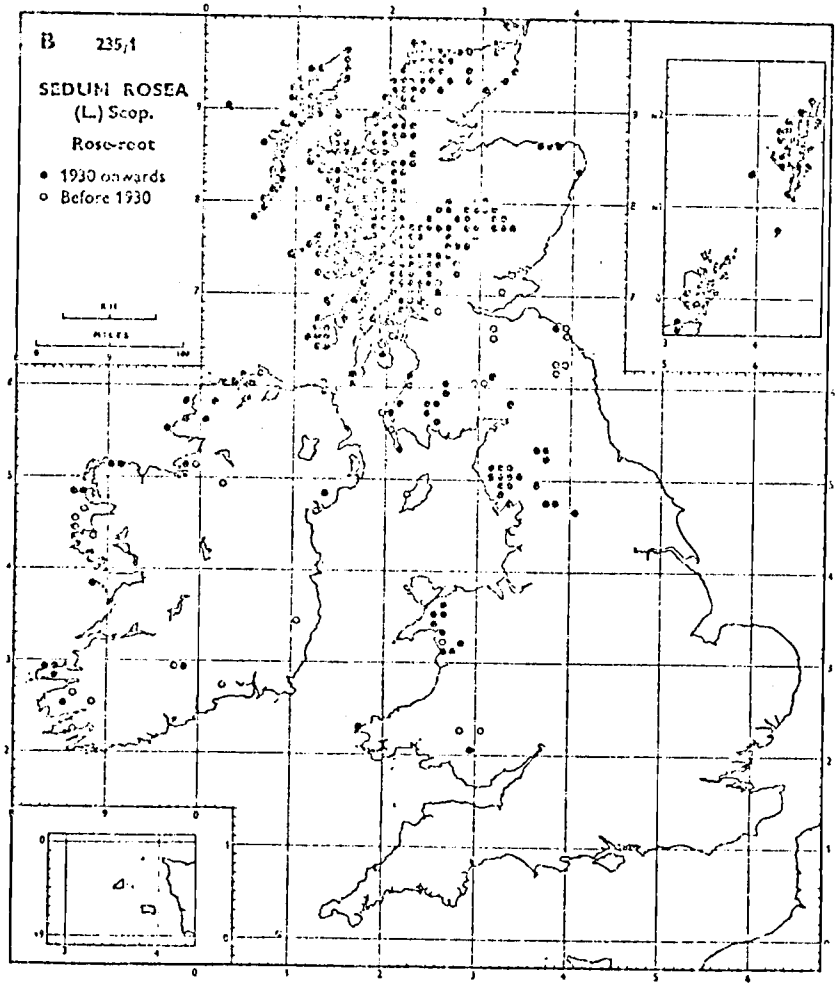

C 168/10
GERANIUM COLUMBINUM L.
• All records
KM
MILES

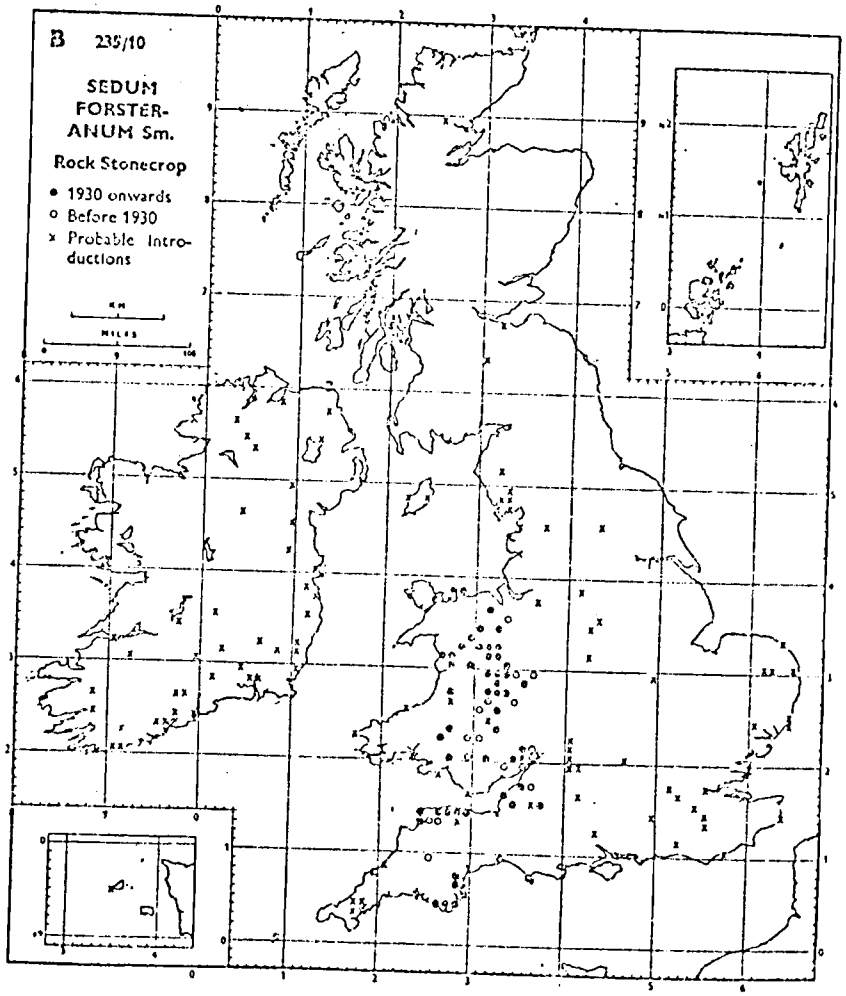

B 191/2
MELILOTUS OFFICINALIS (L.) Pall.
Common Melilot
• 1930 onwards
o Before 1930
KM
MILES

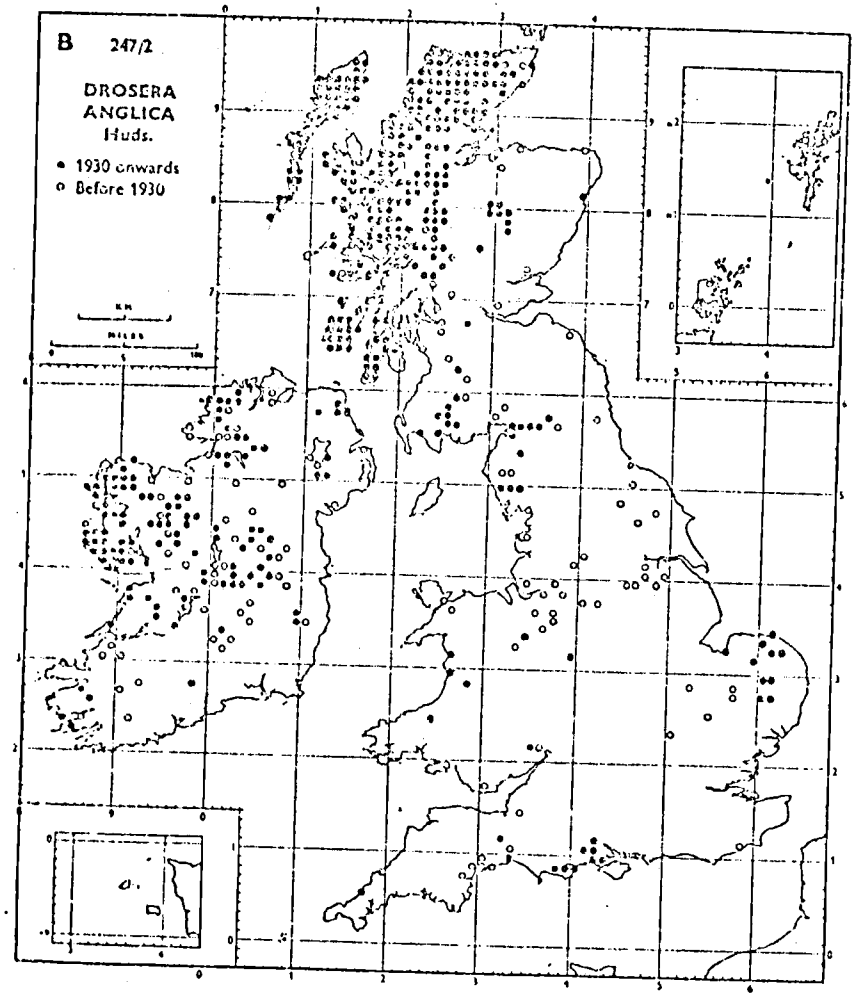

B 192/1
TRIFOLIUM ORNITHOPODIOIDES L.
Trigonella ornithopodioides (L.) DC.
Birdsfoot Fenugreek
• 1930 onwards
o Before 1930
× Casual only
KM
MILES

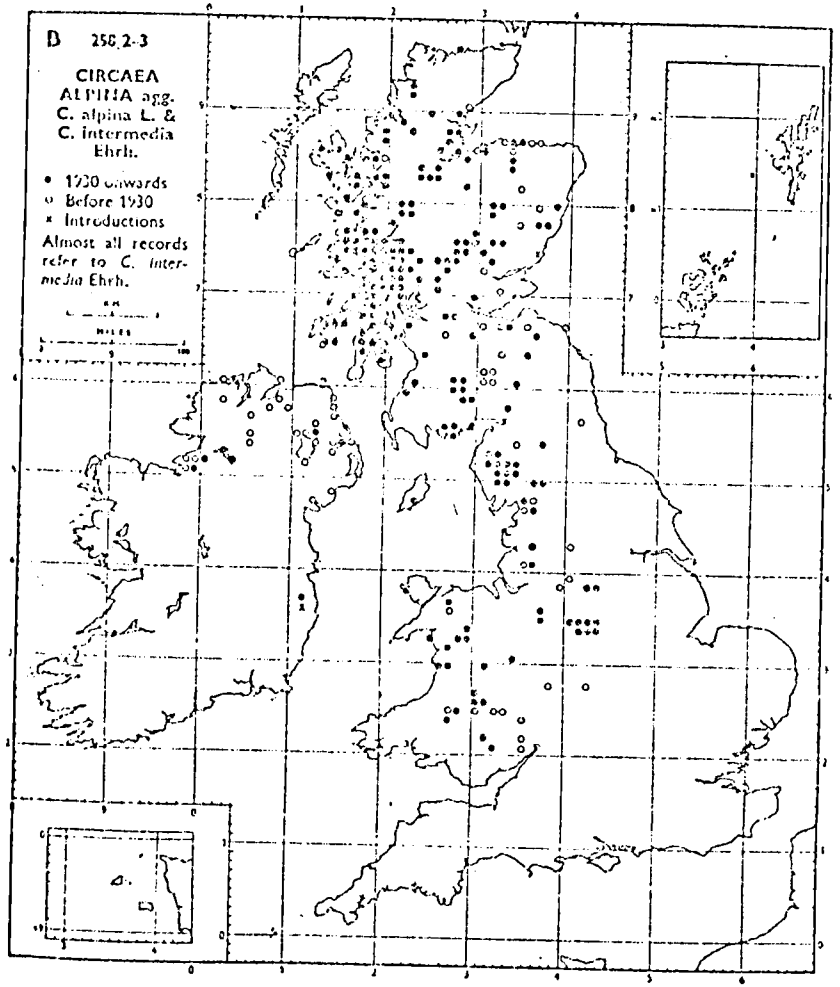

B 192;19
TRIFOLIUM STRIATUM L.
Soft Clover
• 1930 onwards
o Before 1930

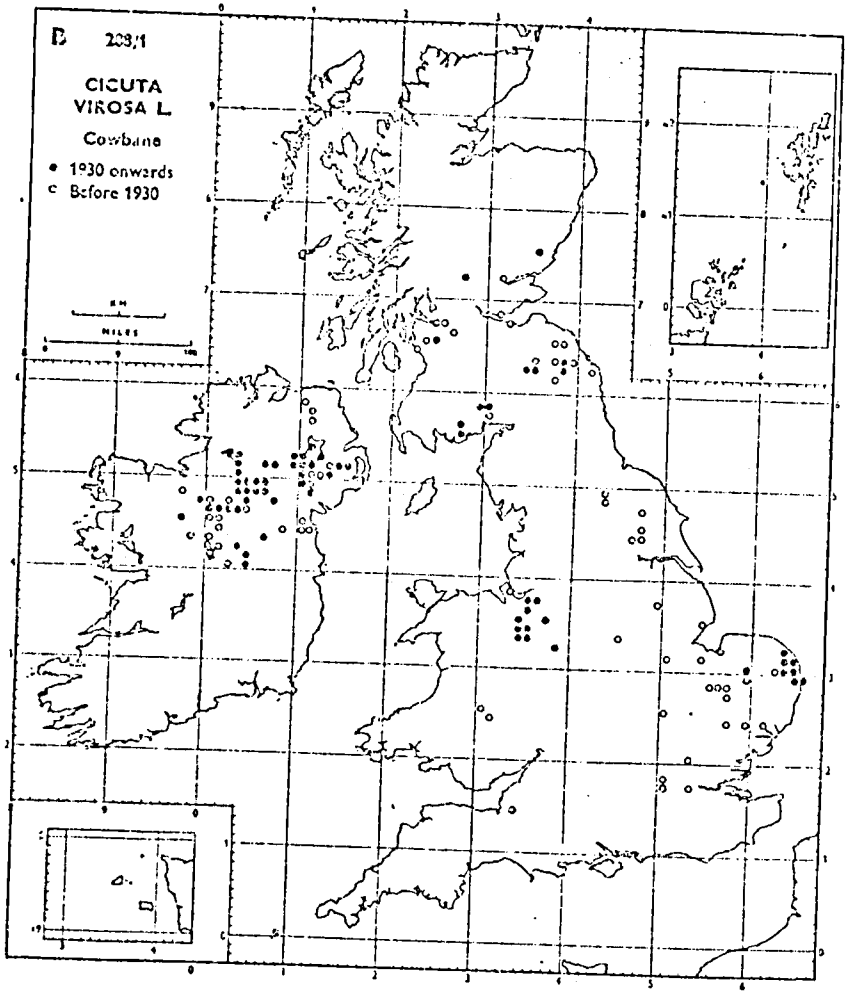

B 192;19
TRIFOLIUM FRAGIFERUM L.
Strawberry Clover
• 1930 onwards
o Before 1930
× Introduction

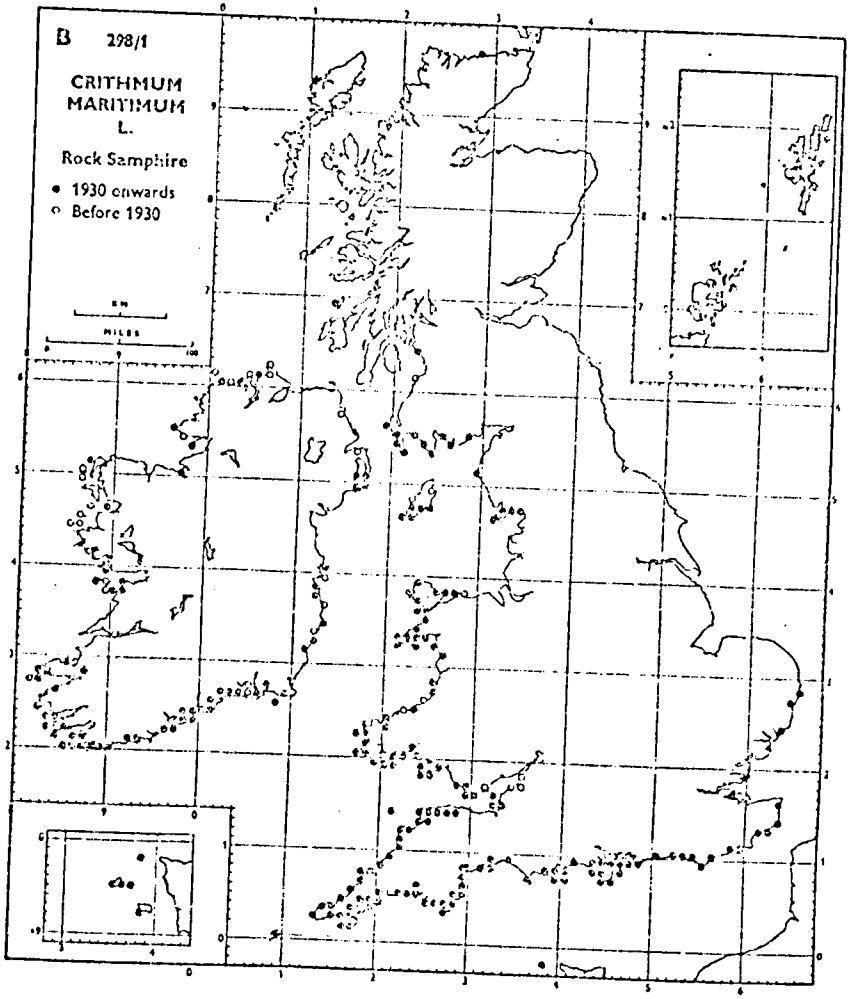

B 235/1
SEDUM ROSEA
(L.) Scop.
Rose-root
• 1930 onwards
○ Before 1930

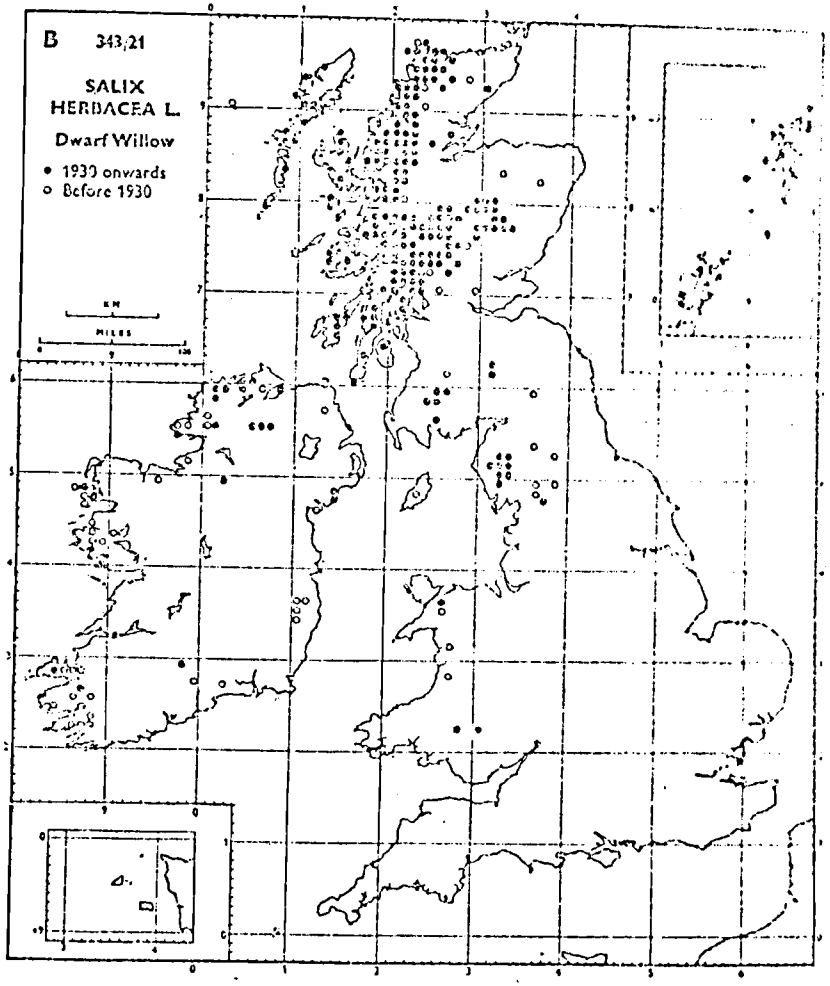

B 235/10
SEDUM
FORSTER-
ANUM Sm.
Rock Stonecrop
• 1930 onwards
○ Before 1930
× Probable Intro-
ductions

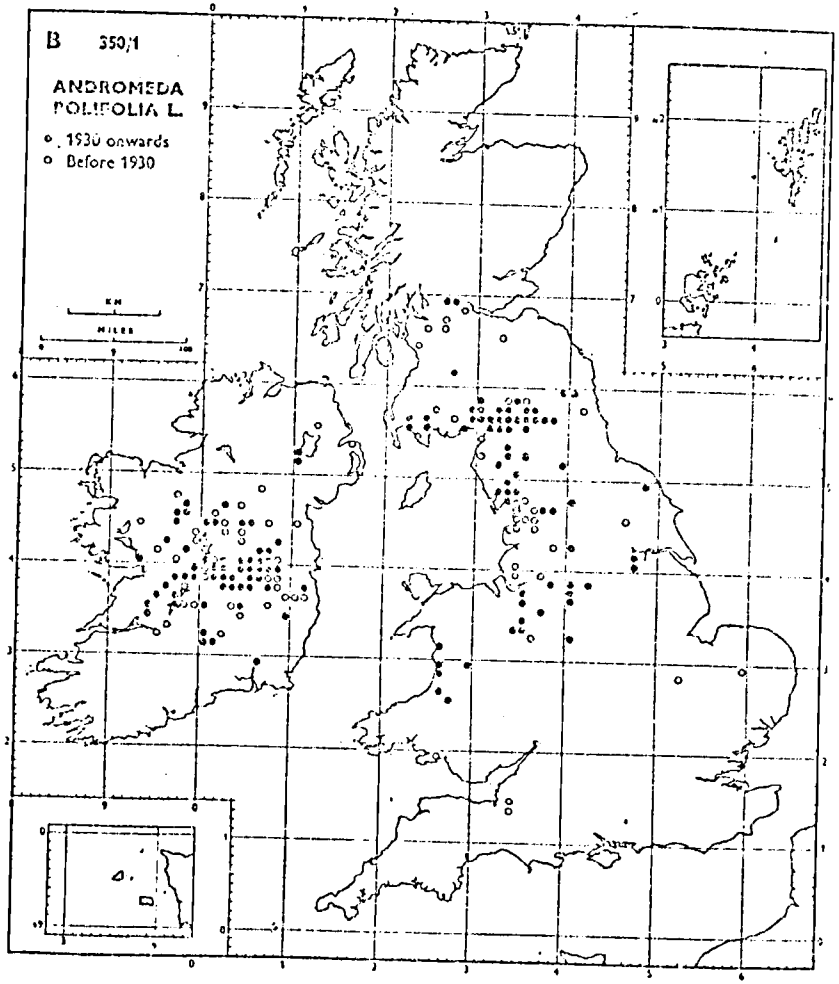

B 247/2
DROSERA ANGLICA Huds.
• 1930 onwards
o Before 1930
KM
MILES

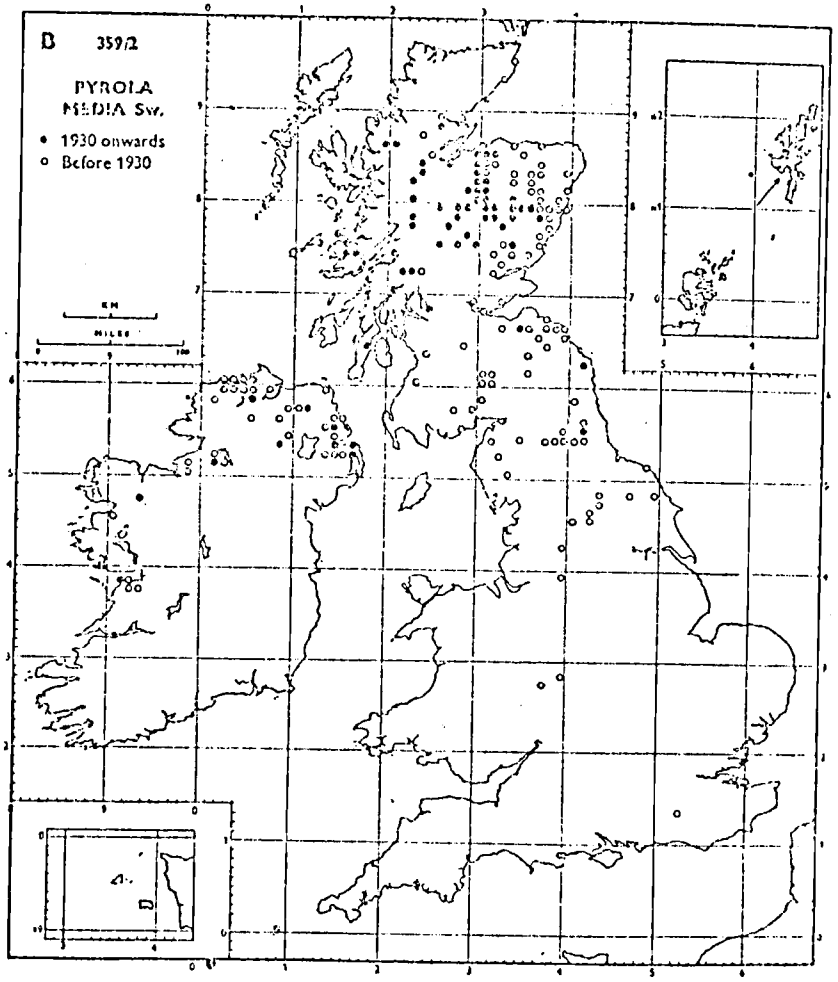

B 250.2-3
CIRCAEA ALPINA agg.
C. alpina L. &
C. intermedia Ehrh.
• 1930 onwards
o Before 1930
x Introductions
Almost all records refer to C. intermedia Ehrh.
KM
MILES

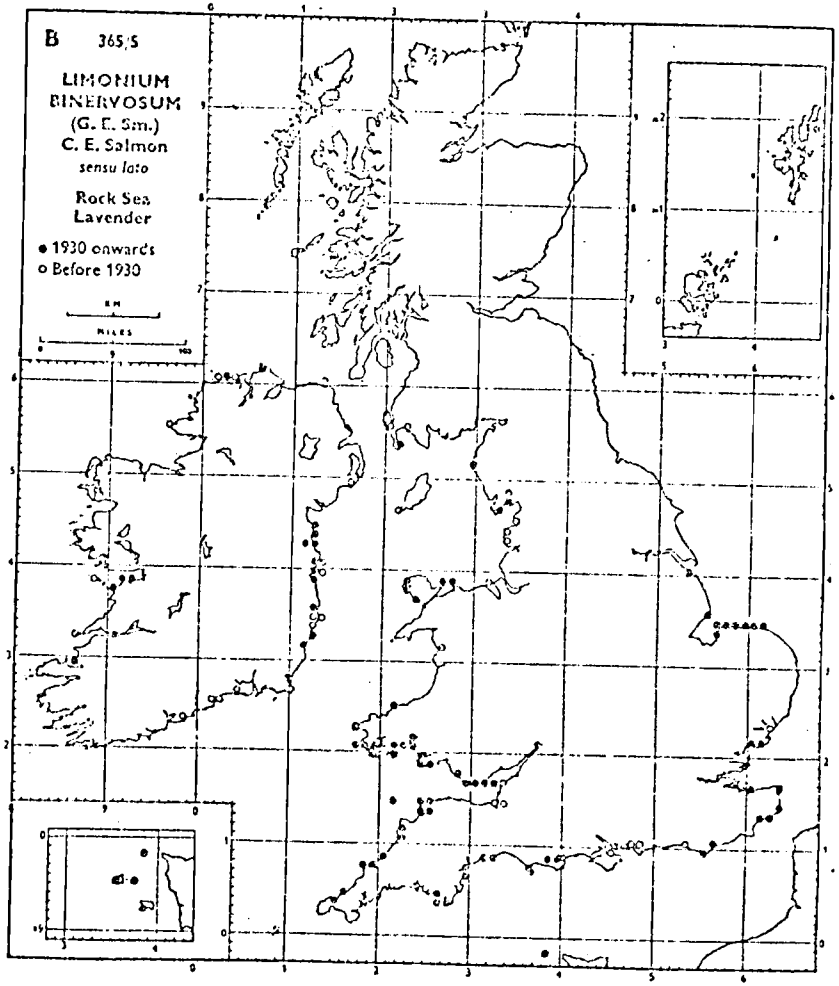

B 208/1
CICUTA VIROSA L.
Cowbane
• 1930 onwards
○ Before 1930
KM
MILES

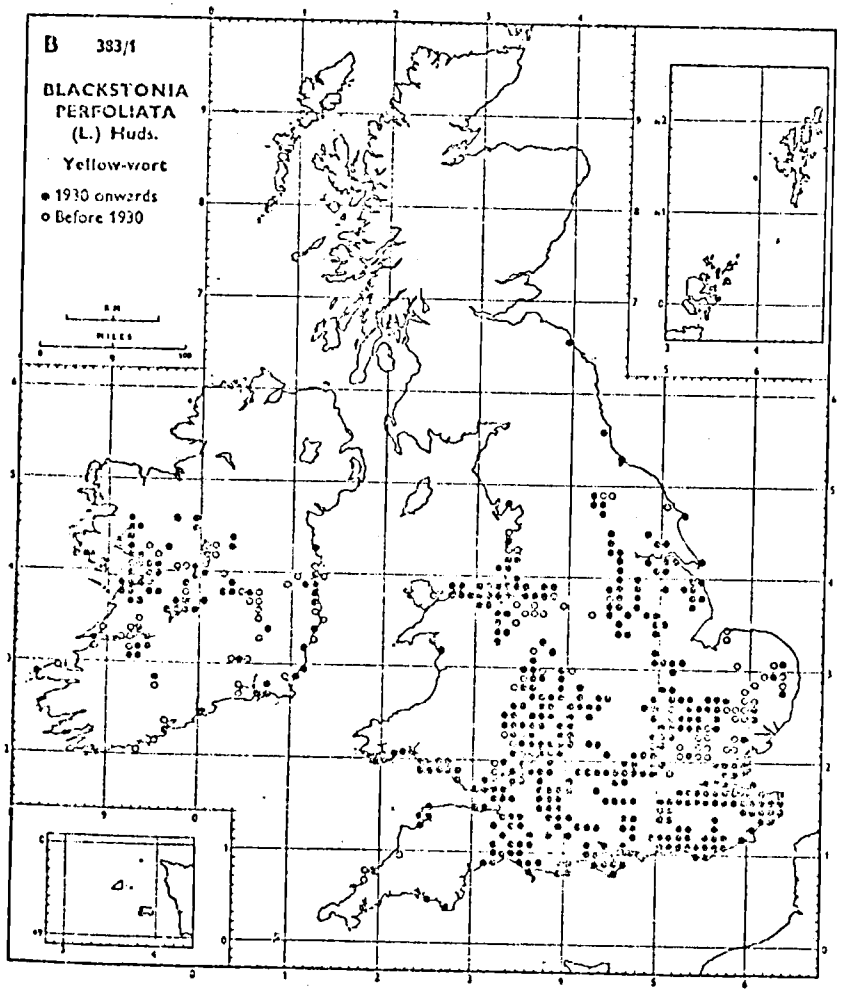

B 298/1
CRITHMUM MARITIMUM L.
Rock Samphire
• 1930 onwards
○ Before 1930
KM
MILES

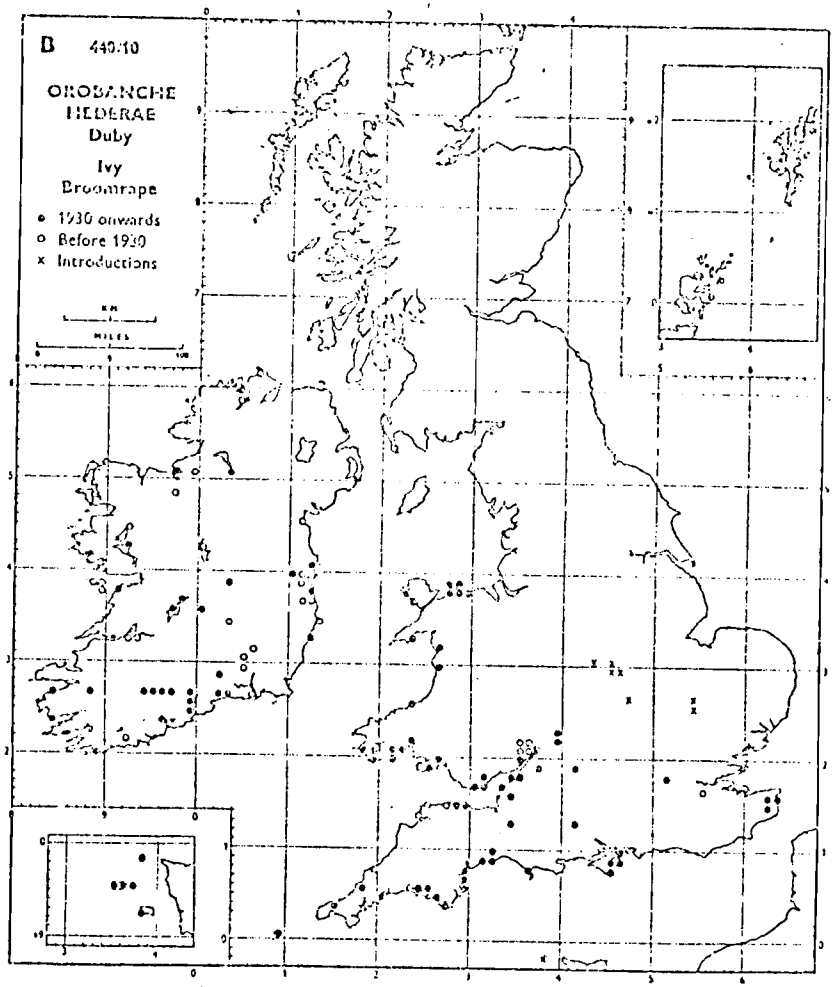

B 343/21
SALIX HERBACEA L.
Dwarf Willow
• 1930 onwards
○ Before 1930
KM
MILES

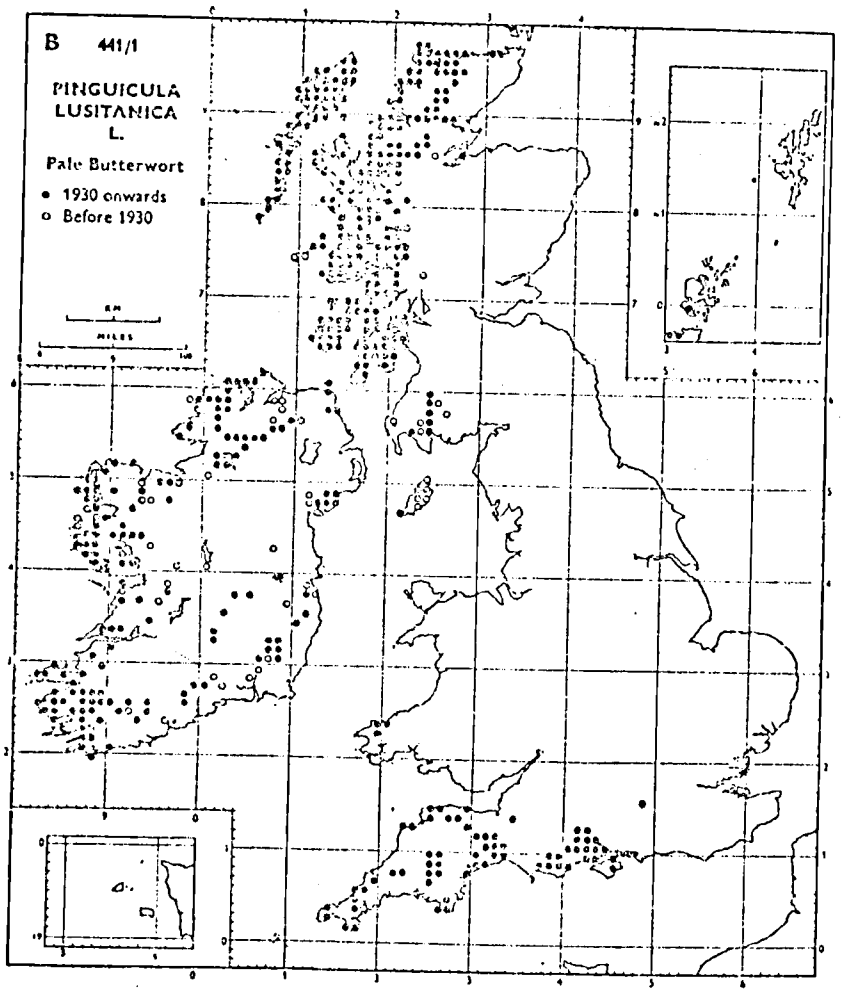

B 350/1
ANDROMEDA POLIFOLIA L.
• 1930 onwards
○ Before 1930
KM
MILES

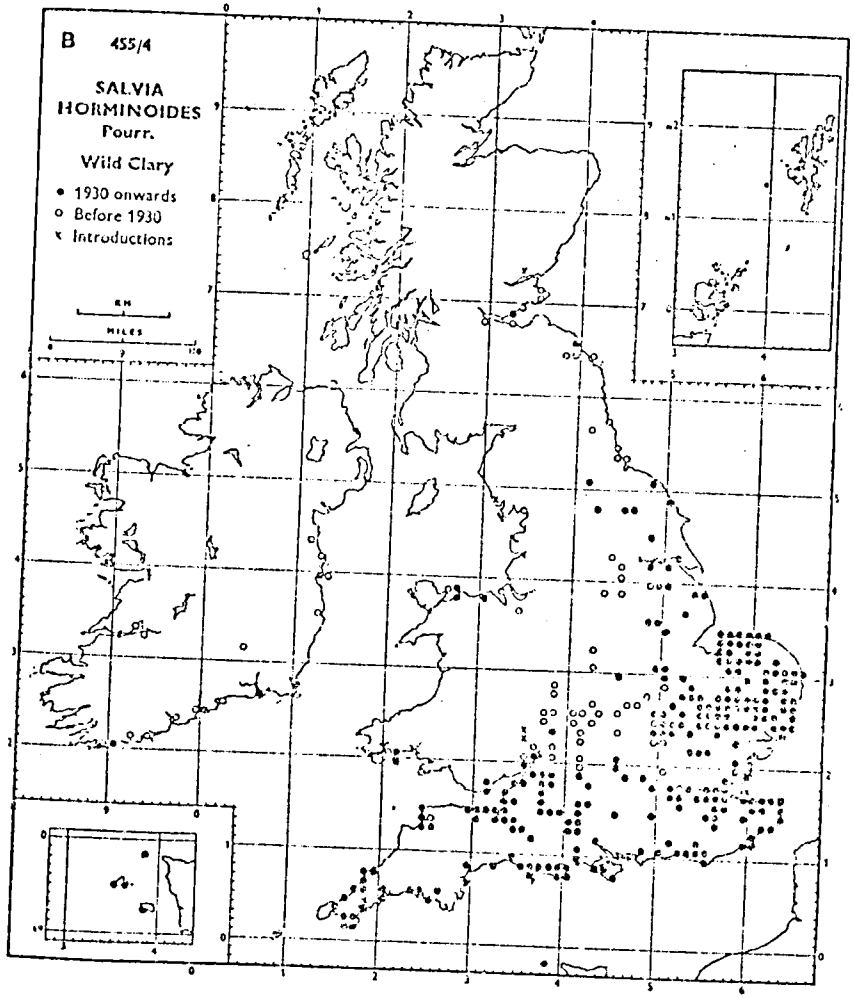

B 359/2
PYROLA
MEDIA Sw.
• 1930 onwards
○ Before 1930
KM
MILES

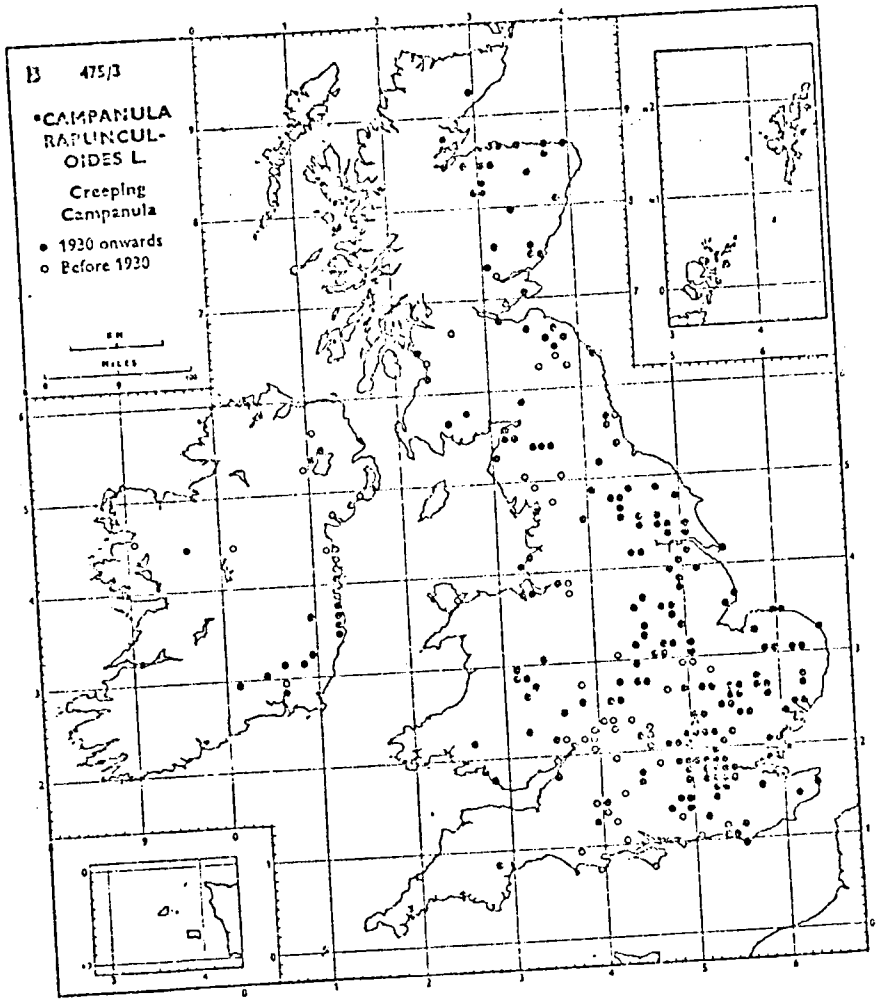

B 365/5
LIMONIUM
BINERVOSUM
(G. E. Sm.)
C. E. Salmon
sensu lato
Rock Sea
Lavender
• 1930 onwards
○ Before 1930
KM
MILES

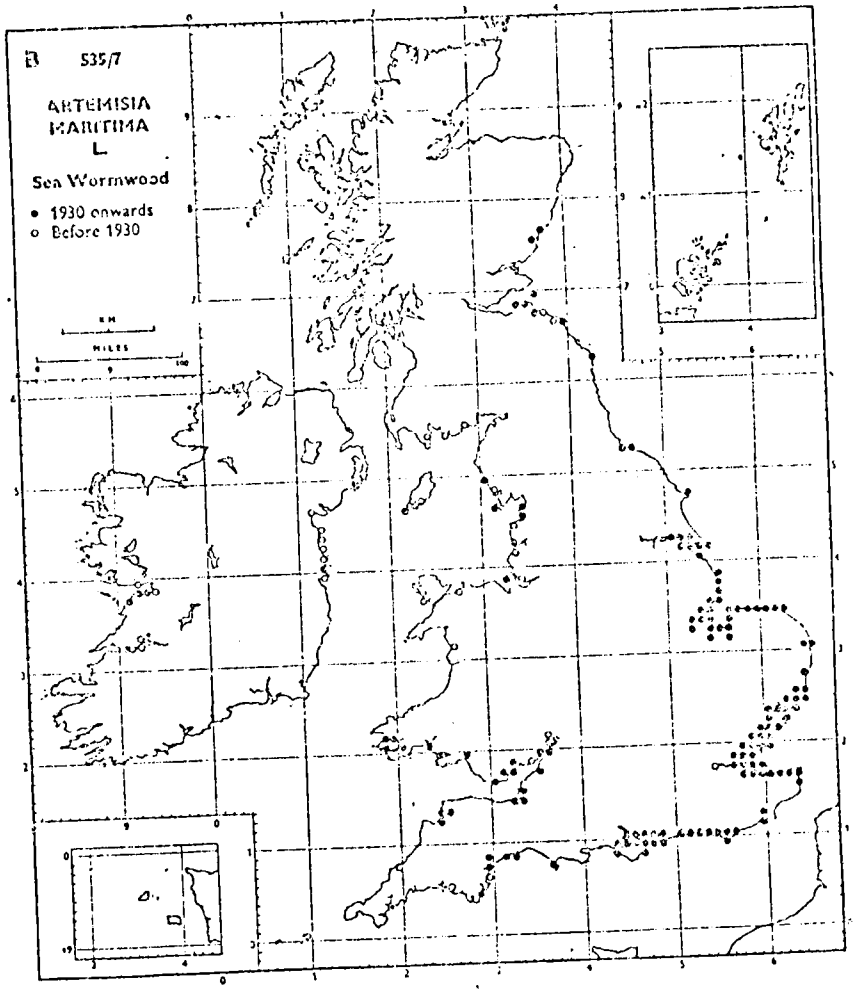

B 383/1
BLACKSTONIA PERFOLIATA (L.) Huds.
Yellow-wort
• 1930 onwards
o Before 1930
KM
MILES

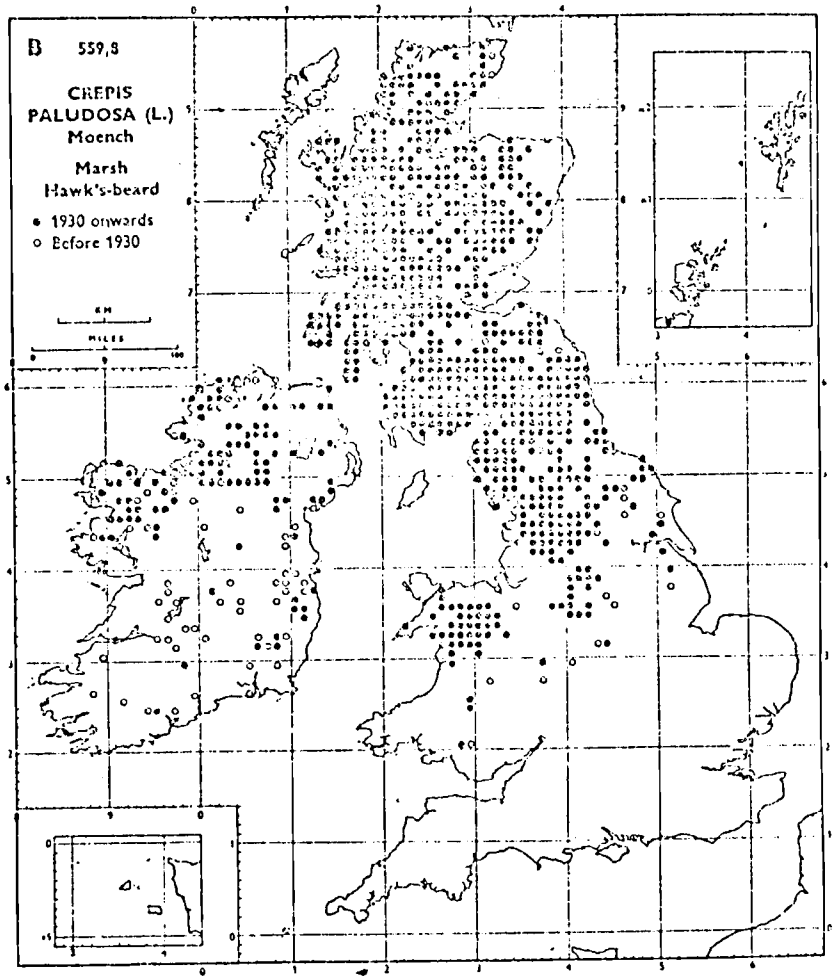

B 440/10
OROBANCHE HEDERAE Duby
Ivy Broomrape
• 1930 onwards
o Before 1930
× Introductions
KM
MILES

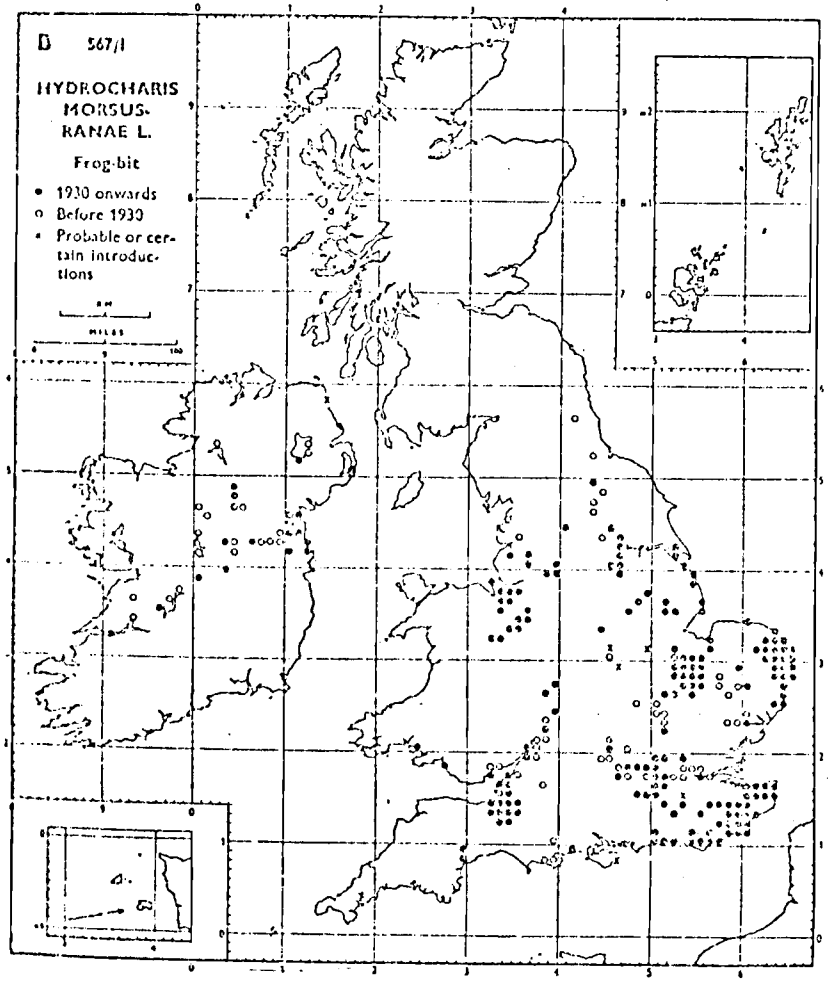

B 441/1
PINGUICULA LUSITANICA L.
Pale Butterwort
• 1930 onwards
o Before 1930
KM
MILES

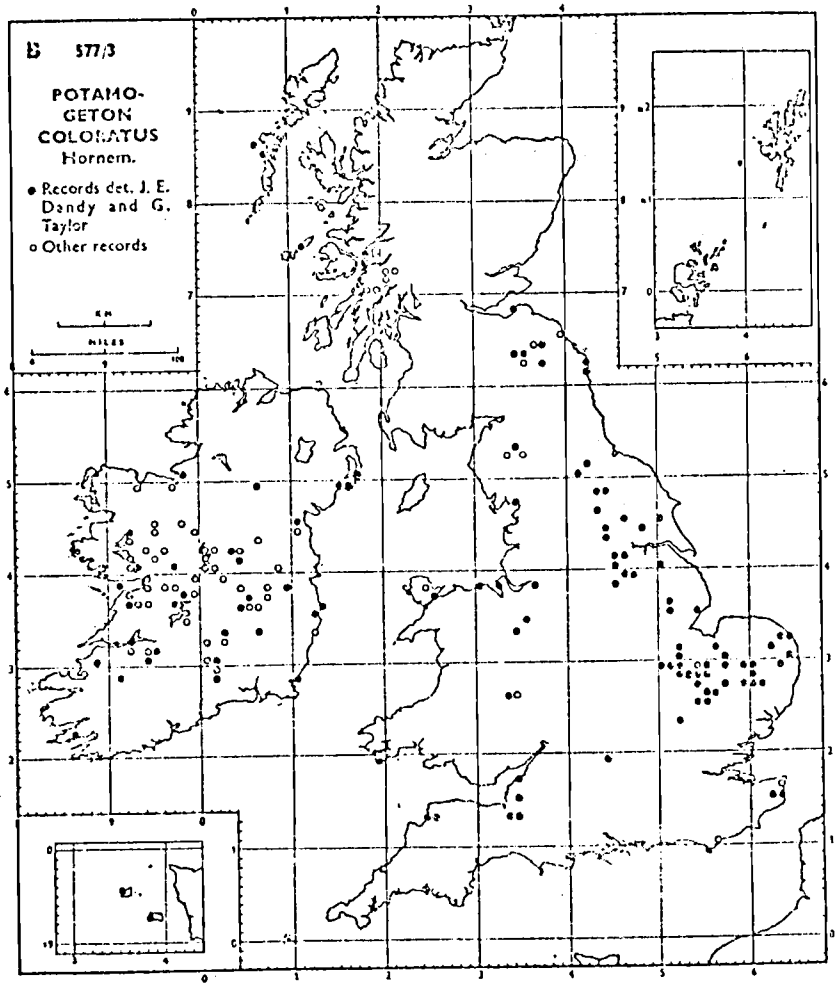

B 455/4
SALVIA HORMINOIDES Pourr.
Wild Clary
• 1930 onwards
o Before 1930
× Introductions
KM
MILES

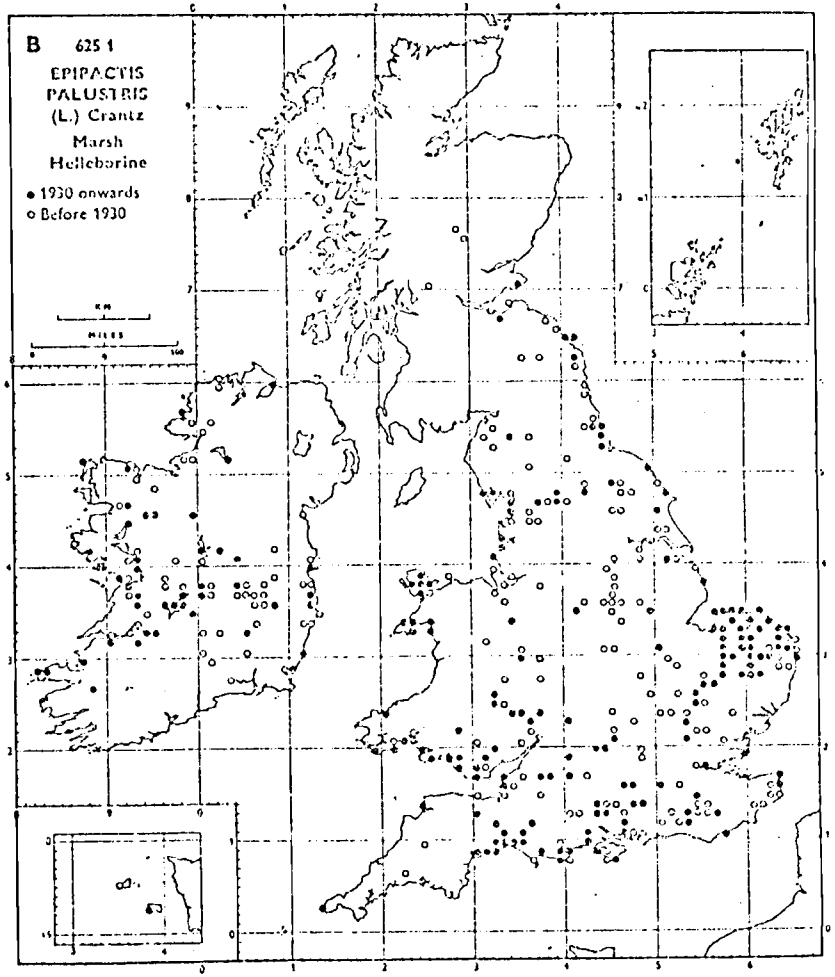

B 475/3
•CAMPANULA RAPUNCULOIDES L.
Creeping Campanula
• 1930 onwards
o Before 1930
KM
MILES

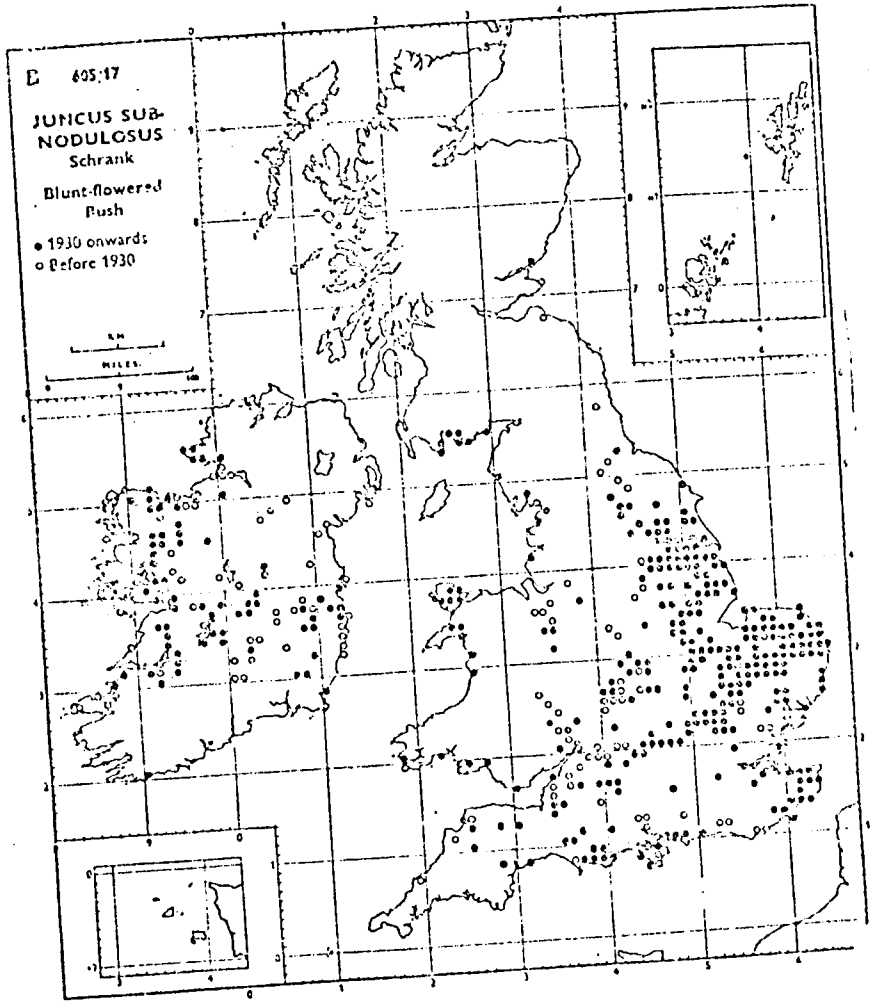

B 535/7
ARTEMISIA MARITIMA L.
Sea Wormwood
• 1930 onwards
o Before 1930
KM
MILES

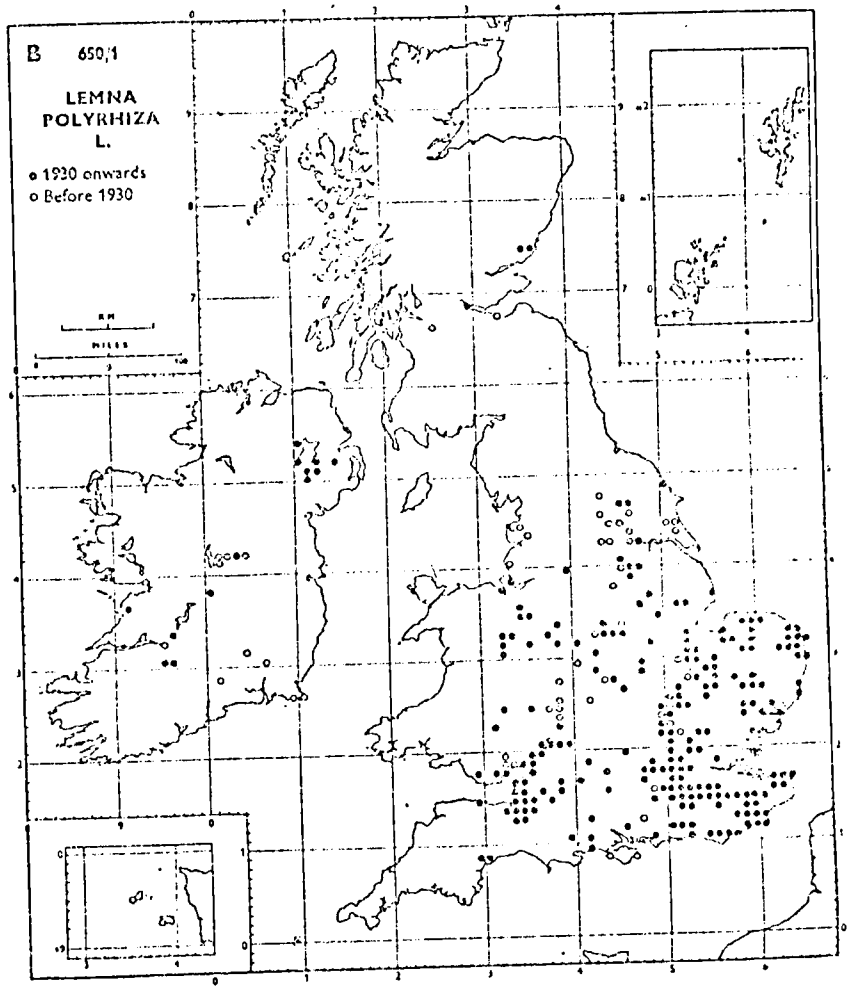

B 559,8
CREPIS PALUDOSA (L.) Moench
Marsh Hawk's-beard
• 1930 onwards
o Before 1930
KM
MILES

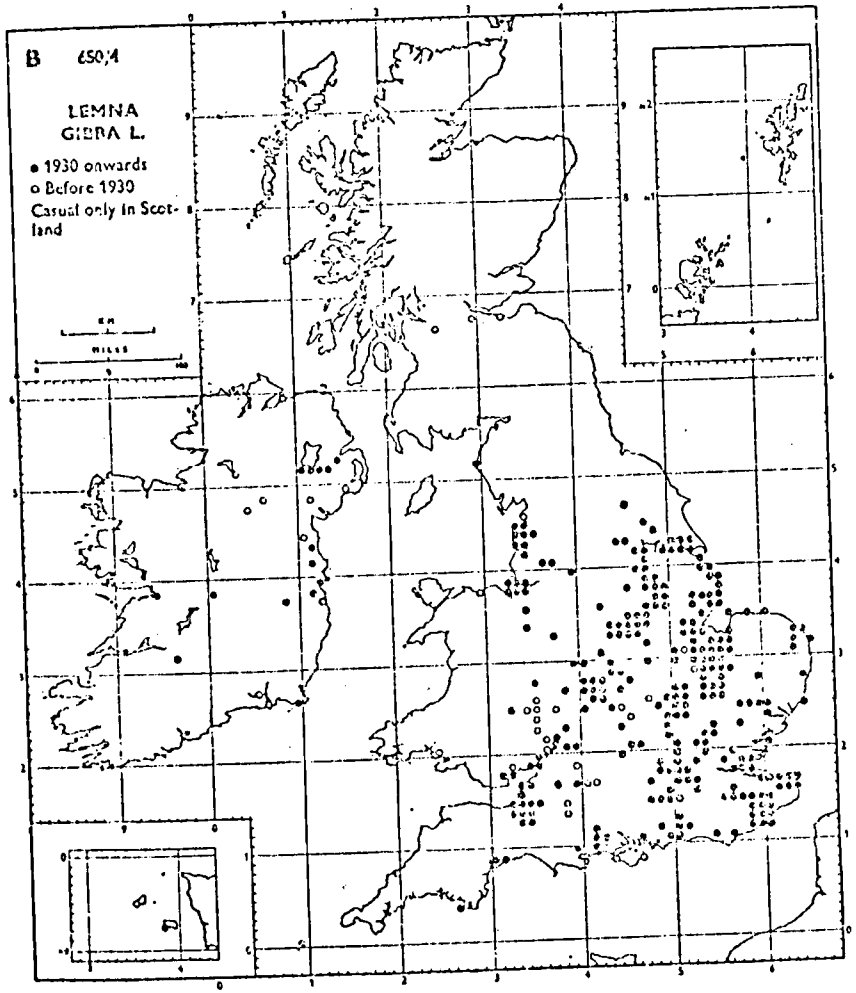

B 567/1
HYDROCHARIS MORSUS-RANAE L.
Frog-bit
• 1930 onwards
o Before 1930
• Probable or certain introductions
KM
MILES

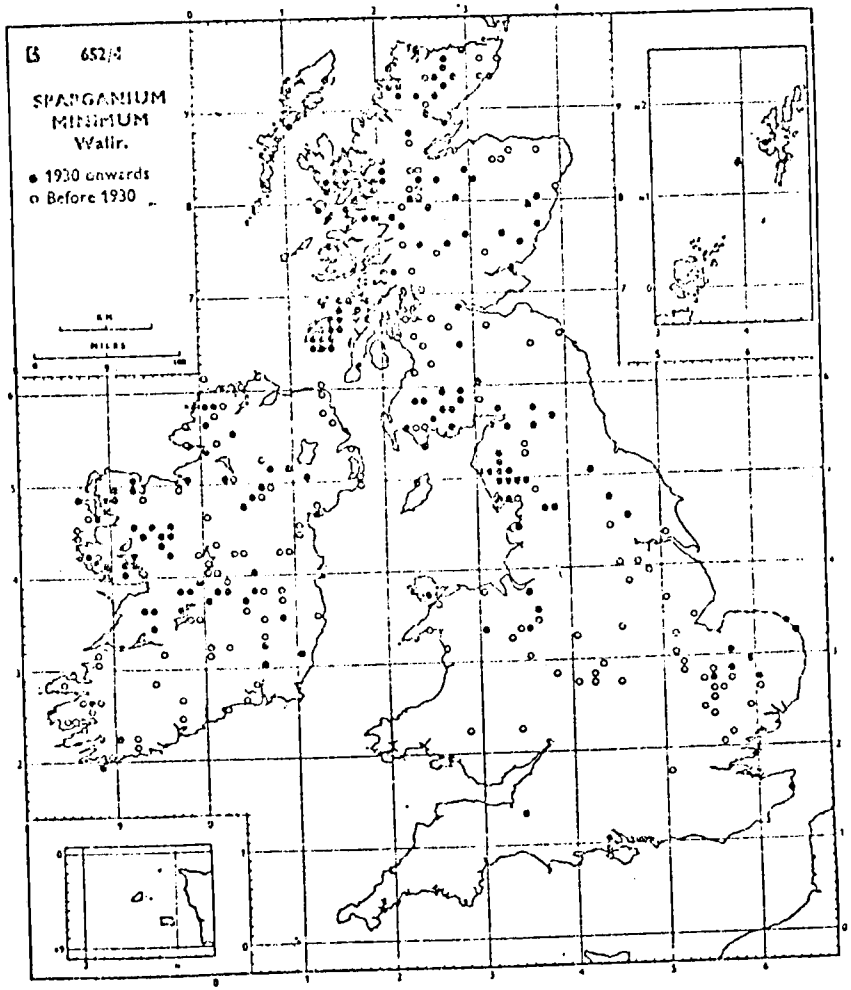

B 577/3
POTAMO-
GETON
COLORATUS
Hornem.
• Records det. J. E. Dandy and G. Taylor
o Other records
KM
MILES


B 625 1
EPIPACTIS
PALUSTRIS
(L.) Crantz
Marsh
Helleborine
• 1930 onwards
o Before 1930
KM
MILES


B 605;17
JUNCUS SUB-NODULOSUS
Schrank
Blunt-flowered Rush
• 1930 onwards
o Before 1930
KM
MILES


B 650;1
LEMNA POLYRHIZA
L.
• 1930 onwards
o Before 1930
KM
MILES

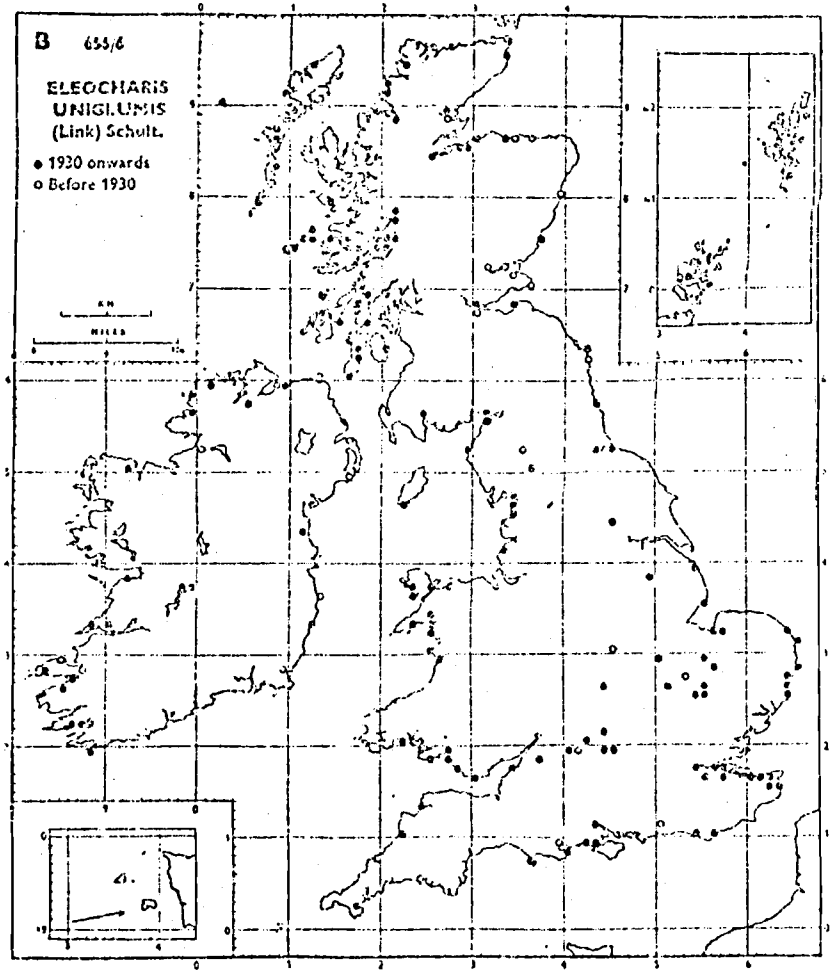

B 650/4
LEMNA GIBBA L.
• 1930 onwards
o Before 1930
Casual only in Scotland
KM
MILES


B 652/3
SPARGANIUM MINIMUM Walir.
• 1930 onwards
o Before 1930
KM
MILES

B 655/6

ELEOCHARIS UNIGLUMIS (Link) Schult.

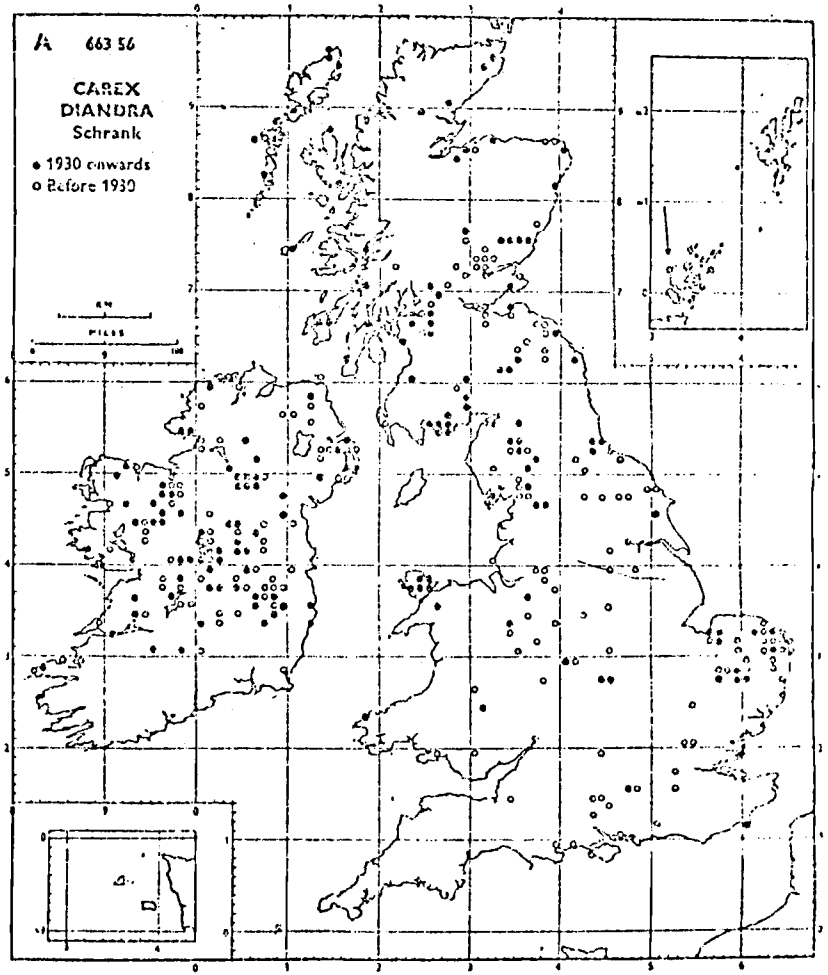
• 1930 onwards
o Before 1930



A 663 56

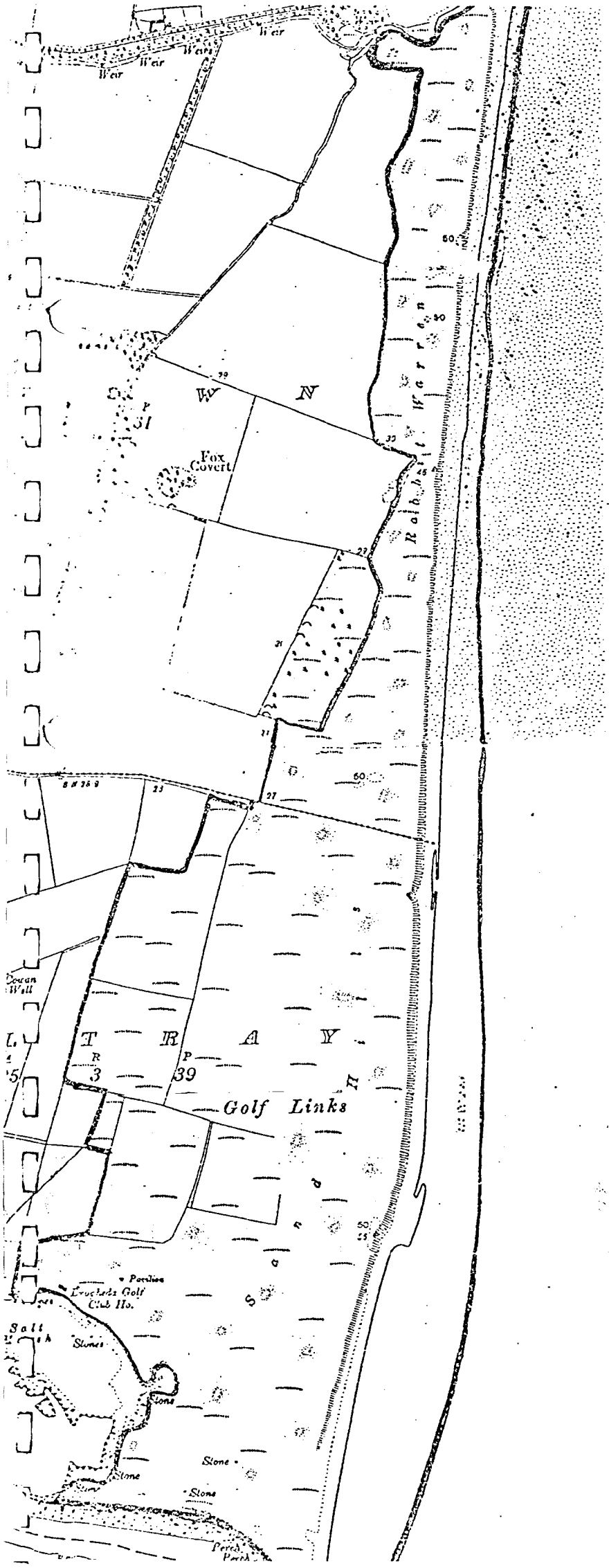
CAREX DIANDRA Schrank

• 1930 onwards
o Before 1930



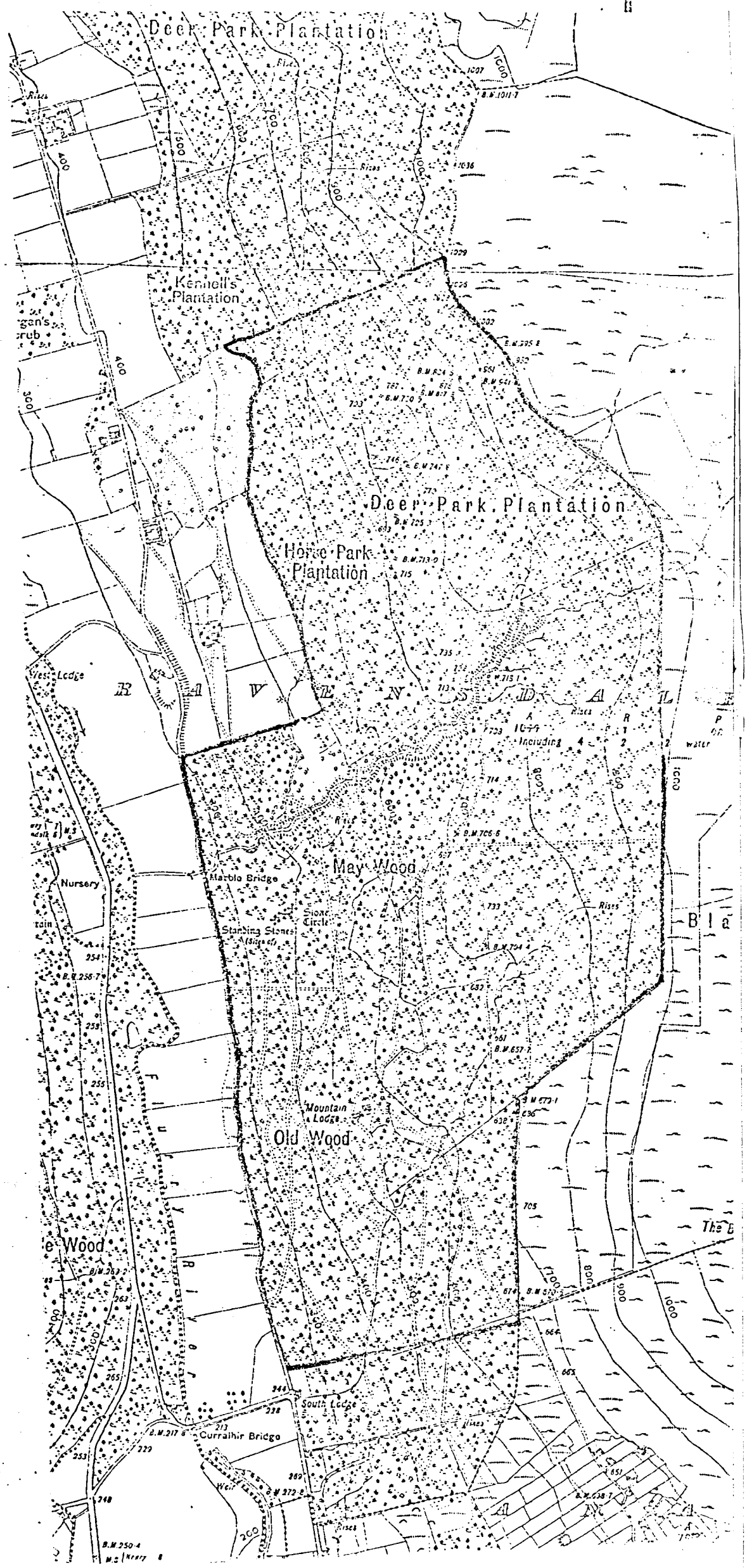
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 7

Scale: 6 Inches to 1 Mile



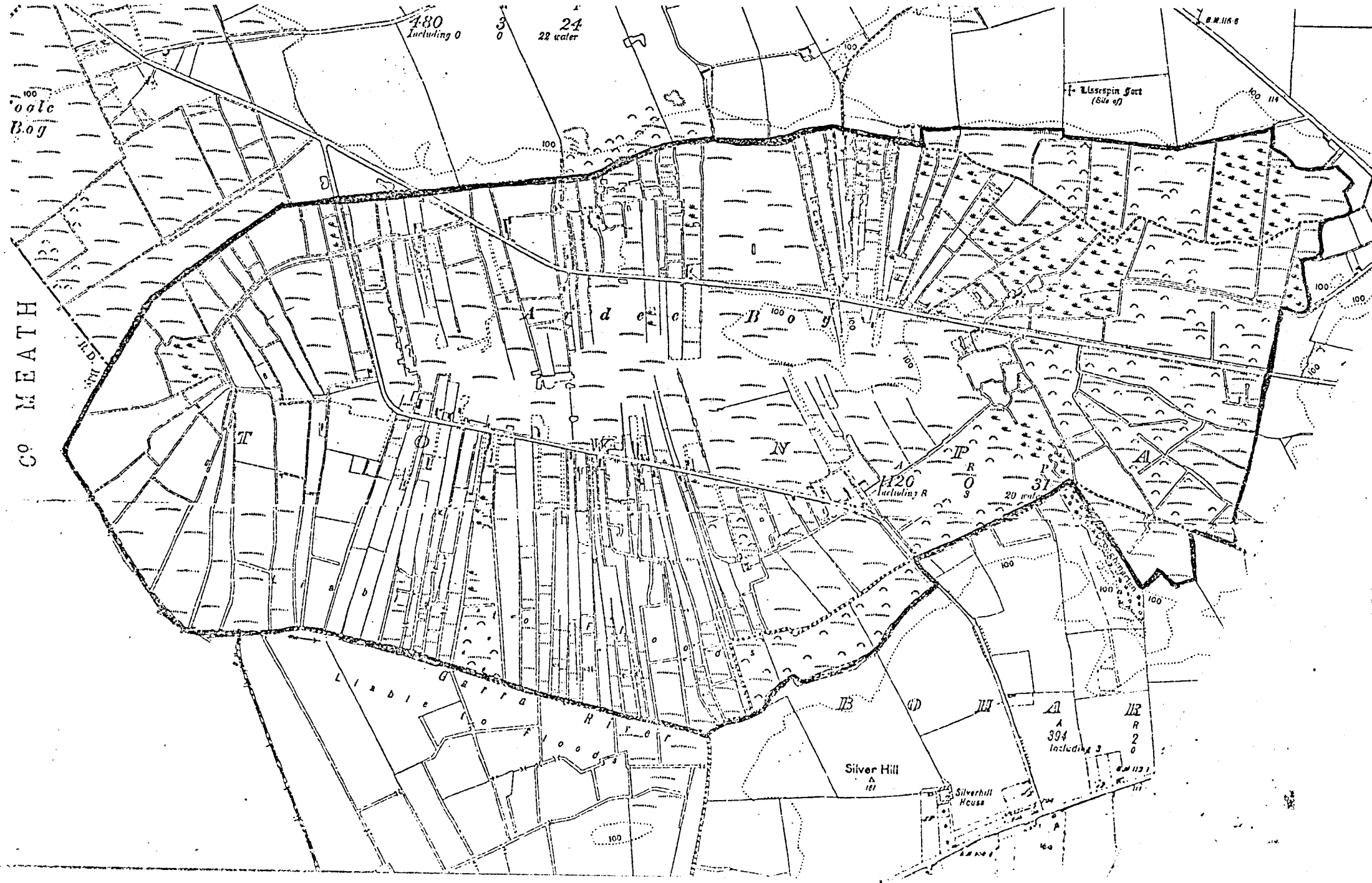
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 27

Scale: 6 Inches to 1 Mile



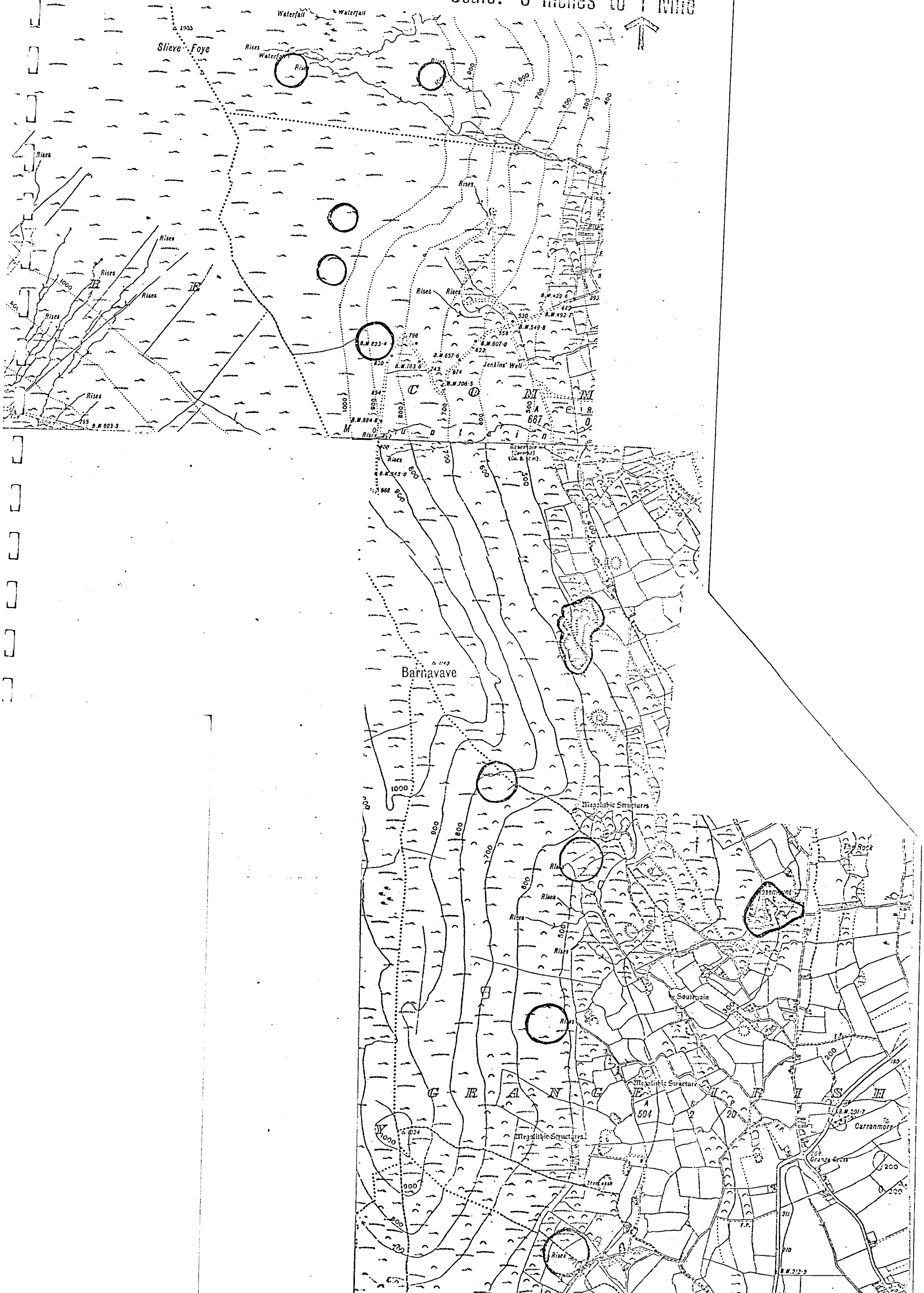
MAP SHOWING AREA OF SCIENTIFIC INTEREST —8

Scale: 6 Inches to 1 Mile



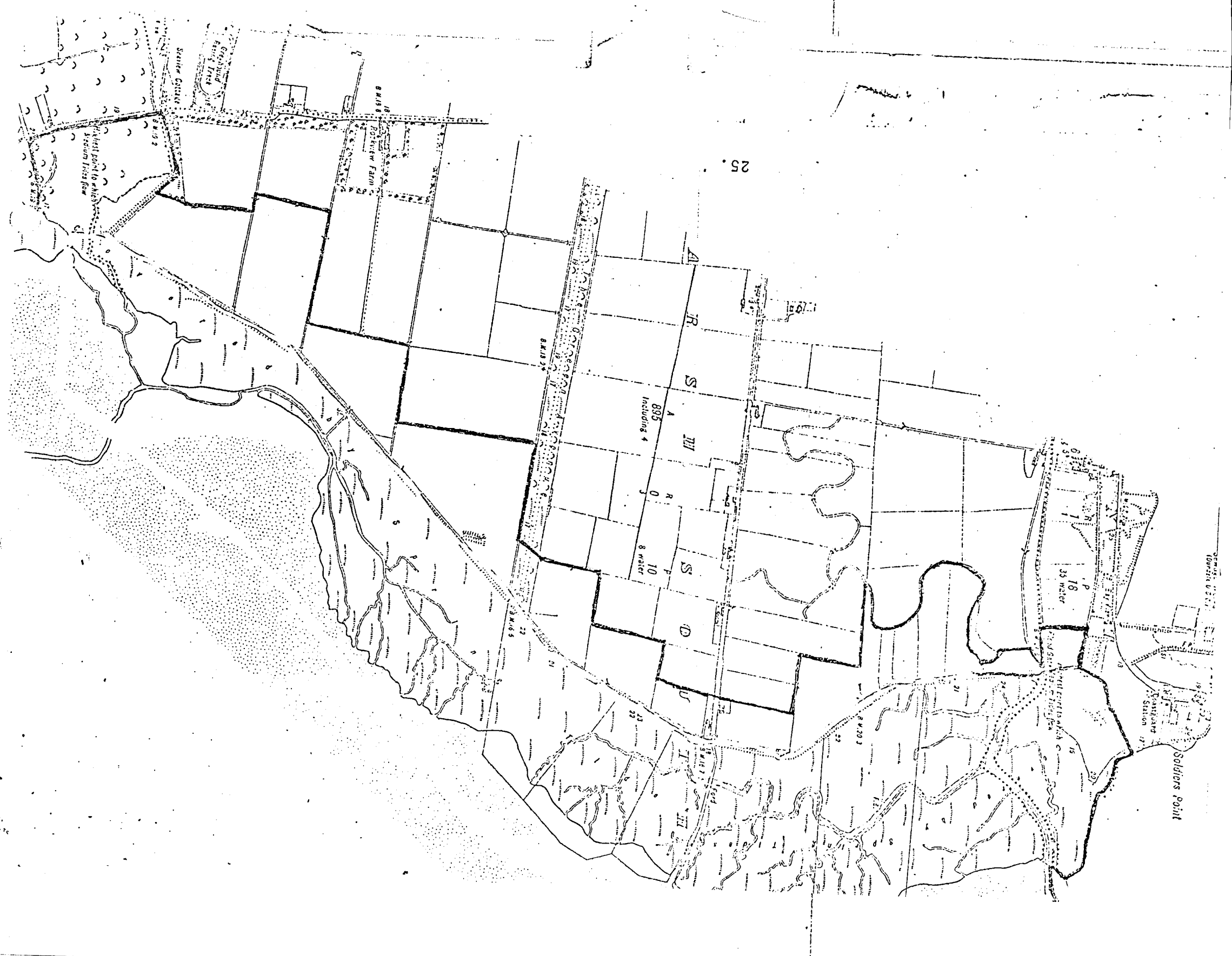
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 9

Scale: 6 Inches to 1 Mile



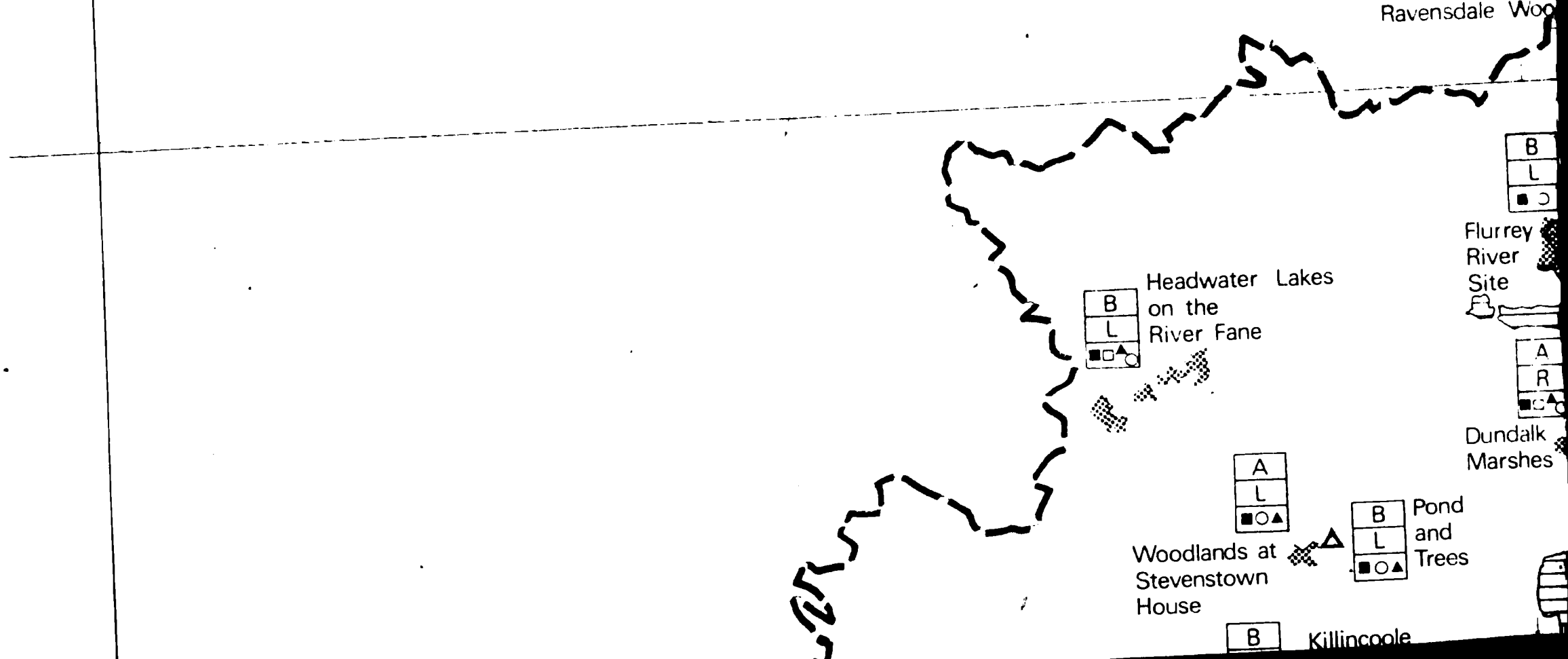
MAP SHOWING AREA OF SCIENTIFIC INTEREST — 2

Scale: 6 Inches to 1 Mile



CO. LOUTH

Areas of Ecological and Geological Interest



N

A
L
■○▲ Woodlands at Narrow Water

The Park Wood Omeath
C
L
■○▲

Carlingford Mountain
C
L
■○▲
B
R
■○▲

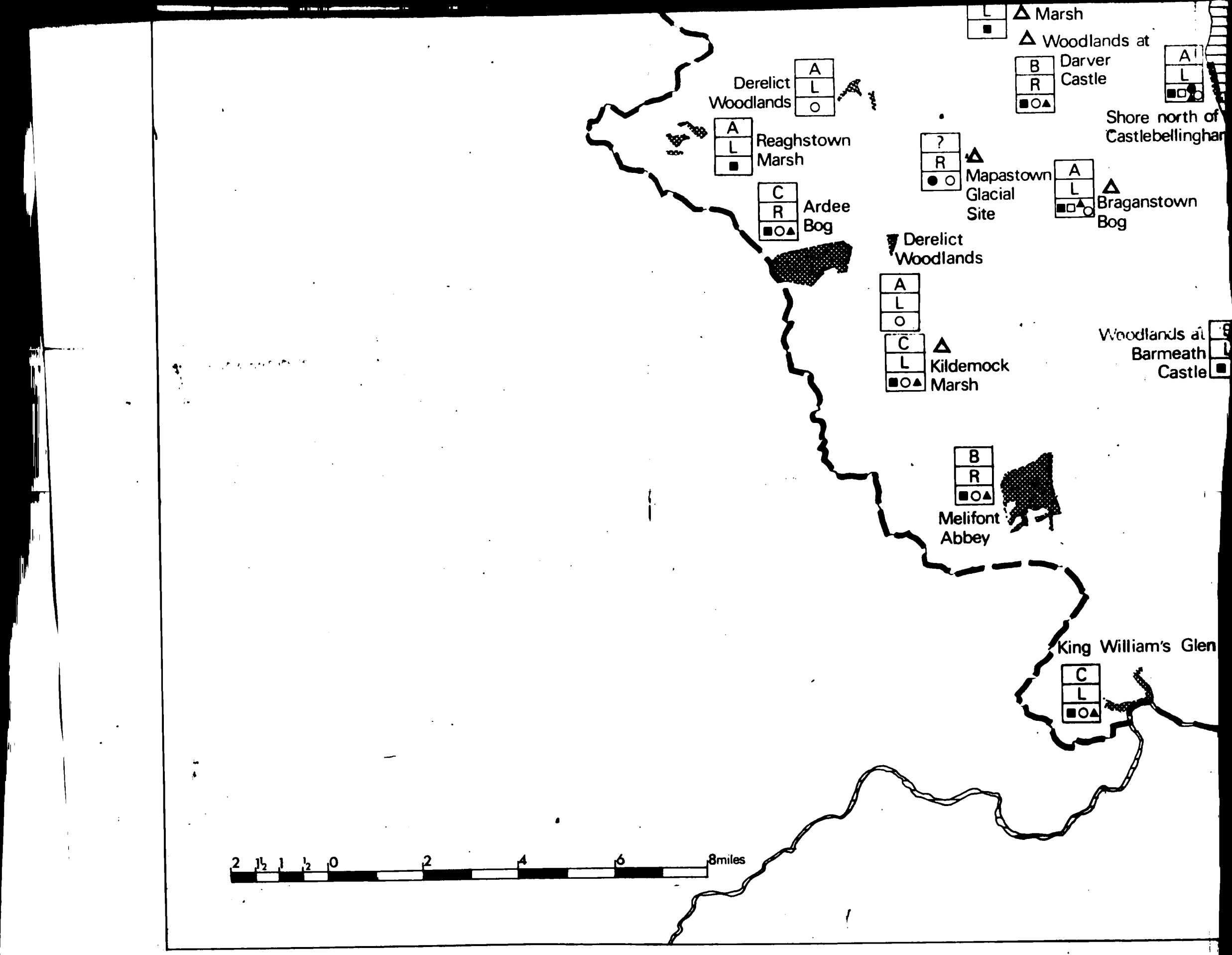
Raised Beach at Greenore
C
N
●

C
R
●
Exposures of the Slieve Gullion Ring Dyke Complex

C
L
■○▲
Trumpet Hill

Liscarragh Marsh
C
L
■

C
L
●
Cooley Peneplain


Marsh
Woodlands at
Darver
Castle
Derelict
Woodlands
Reaghstown
Marsh
Shore north of
Castlebellingham
Mapastown
Glacial
Site
Braganstown
Bog
Ardee
Bog
Derelict
Woodlands
Kildemock
Marsh
Woodlands at
Barmeath
Castle
Melifont
Abbey
King William's Glen
2 1½ 1 ½ 0 2 4 6 8miles

Dunany End Moraine

C
L
● ○

B
L
■ ○

Blackhall Woodlands

B
L
■ ○

Castle Coo Hill

B
R
■ ○

Clogher Head

C
R
■ ○ ▲

Baltray Dune System

B
L
■

Salt Marsh

B
L
■ □

Boyne Estuary

PRIORITY

RATING

ABC	
International	INT
National	N
Regional	R
Local	L

INTEREST

Ecological	■
Ornithological	□
Geological	●
Botanical	○
Zoological	▲
Geomorphological	△
Small or indeterminate area	△

SEPTEMBER 1972

CONSERVATION AND AMENITY ADVISORY SERVICE