An Foras
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**The National
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CONSERVATION AND AMENITY
ADVISORY SERVICE

A PRELIMINARY REPORT ON AREAS OF ECOLOGICAL AND GEOLOGICAL INTEREST IN COUNTY KILKENNY

R. Young
An Foras Forbartha

September, 1972

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This Report is based on information in the files of the Conservation and Amenity Section, An Foras Forbartha; on published literature and on observations made in the field during the period May-July, 1972.

Dr. A. Flegg, Geological Survey of Ireland, supplied details of geological sites included in this report and his help is gratefully acknowledged.

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SECTION A

PREFACE

In the present day, Ireland can still justifiably be called 'The Green Isle'. In comparison with most countries in the western world, a very high percentage of the country is still 'natural', unspoilt countryside, untouched by industry, urbanization and often, even by modern farming techniques.

It is unrealistic to think that this situation will continue indefinitely. If the national economy is to improve, many areas of our countryside must be taken over by industrial and urban development and traditional farming methods must be 'modernised'.. These trends have already become manifest and can be expected to continue over the coming years.

Fortunately, it is now realised that unspoilt countryside is itself a valuable asset to the community. It is generally appreciated that in the peace and quiet and scenic beauty of such countryside, many people find relaxation and recreation - this is surely the basis of the Irish tourist industry. In addition to such amenity values however, many parts of the countryside are of scientific importance, either because of their research potential or their educational value.

The essence of conservation is planning, in which these intrinsic values of the countryside are weighed against the needs of agricultural improvement and industrial and urban expansion. Its aims are, firstly to ensure that as far as possible the areas of countryside that will be 'lost' to development are those of least value from the points of view of amenity and scientific interest, and secondly, to ensure that development does not pollute or in any way clash with the intrinsic values of the surrounding countryside beyond a degree that is absolutely essential. Thus development can proceed without unnecessary impoverishment of our rich heritage of beautiful and scientifically important areas.

The responsibility for conservation in Ireland lies largely with the County Councils in the preparation and implementation of County Development Plans

However, if County Development Plans are to be based on the principles of conservation outlined above, it is clearly essential that adequate data on areas of scientific interest should be supplied to the County Councils because, whilst such a characteristic of an area as scenic beauty is readily apparent to the discerning eye, the scientific values of a site are often hidden from all but the specialist.

It is the aim of the Conservation and Amenity Advisory Service, An Foras Forbartha, to provide this information in a series of reports, each of which will deal with the areas of scientific interest within a single county.

SECTION B

VULNERABILITY OF AREAS OF SCIENTIFIC INTEREST

Areas of scientific interest can be damaged in many ways. They can, for example, be completely and rapidly destroyed by scrub or tree clearance, by turf cutting or by arterial drainage, or they can suffer insidiously through pollution, fertilisation, grazing or overuse for recreations.

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 may not be sufficient merely to put a Tree Preservation 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 presents little threat to the countries' boglands in comparison with the activities of Bord na Mona. A representative series of Irish bogs should certainly be left untouched by commercial exploitation.

Drainage schemes of all kinds can have serious effects on wetland sites. Marshes, fens and bogs may dry out, lake levels may fall and the dredging of rivers results in the steepening of their banks and an increased rate of water flow. All these changes can result in the disappearance of particular communities or species.

The effects of pollution are most often encountered in aquatic sites, which are particularly vulnerable because the incoming material cannot be localised. but is transported throughout the water body. Toxic chemicals can obviously

have disasterous effects on aquatic communities but equally serious effects can be produced by sewage if sufficient quantities pass into the water. Such influx of sewage causes the nutrient levels of lakes to rise with consequent effects on the aquatic communities and water quality. A sign of this rise in nutrient levels, known as eutrophication, is the production of algal scums or 'blooms' on the water surface in warm weather.

Several farming operations are potentially destructive, apart from straight-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 can select out of the vegetation those species that are most resistant to constant cutting and/or those that are unpalatable, and therefore not grazed, and allow them to multiply at the expense of others. This reduces the diversity of the flora and often also 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. Eskers and sand dunes are particularly vulnerable as their dry soils do not allow a fast recovery growth by grazed plants.

The last influence to be mentioned is recreation, the effects of which are most obvious today on sand dune systems. Heavy recreational use of dunes results in destruction of the vegetation which stabilises the dunes and serious erosion can result. The destructive effects of flower or plant collecting should perhaps also be mentioned. 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.

SECTION C

INTRODUCTION TO AREAS OF SCIENTIFIC INTEREST IN COUNTY KILKENNY

A study of the County Development Plan, September, 1967, indicates that Kilkenny County Council are well aware of the need to protect sites of amenity and scientific interest in County Kilkenny. Few sites of scientific interest are actually scheduled for protection however, because of the paucity of information about such areas that was available when the Development Plan was drawn up.

This report contains details of seventeen areas of scientific interest, along with assessments of their relative importance, and it is hoped that it will enable the County Council to take any action necessary to preserve the scientific interest of these sites. Where areas are already known to be threatened and their preservation is considered to be justifiable, specific recommendations are made for their protection. An indication is also given as to the degree of urgency necessary if protective action is to be effective. As will be seen, none of the areas are in imminent danger of destruction, though immediate consideration should still be given to means of protecting the areas with 'B' priority.

A definite statement of intent is really required with regard to areas of scientific interest. They should certainly be listed as such in the Development Plan: areas within which the first priority is to maintain or improve the scientific values. Many of the disagreements that have arisen in the past stemmed basically from a lack of knowledge. The developer did not know that his chosen site had any scientific interest and his imagination and self-assurance did not allow any graceful retreat from his stand. This could be largely avoided if the areas of scientific interest were widely publicised. Such firm action by the Council might elicit a response from the public in greater awareness of the environment. A developer would be inclined to work more closely with the planning authorities rather than against them. Where permission has to be refused for a certain development, it should be qualified by suggestion of an alternative course of action.

As a first step, the landowners should, in almost all instances, be told of the importance of their land. They should be advised that their present form of land use is that most suited to the maintenance of such interest, if this is so; if not, recommendations of slightly varying stocking densities, etc. should be passed on.

As developments occur and as scientific knowledge increases, the importance and priority of the areas will change. Continual reassessment is required to monitor such changes. If a particular site loses its value through pollution or physical disturbance, the others of its type will immediately become more important in the regional context. Likewise, if a new and particularly interesting organism is found in an unlisted site, one of the existing ones may be deleted after comparison. Priority for a site's protection may also vary as developments in its vicinity are proposed or begun. As the countryside becomes more intensively used for agriculture, housing, industry and recreation however, action will probably be needed to preserve all sites in their present condition.

SECTION D

RATING OF AREAS OF SCIENTIFIC IMPORTANCE

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

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

International Importance

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

National Importance

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

Regional Importance

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

Local Importance

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

PRIORITY OF AREAS OF SCIENTIFIC INTEREST

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

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

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

a) the importance of the area

b) the vulnerability of the area

c) the nature and imminence of any threats to the area.

Area	Grid Ref.	Rating	Priority	Interest
Kiltorken old quarries	S.559,343	International Importance	C	Geological. Exposures of one of the most important fossil plant bearing horizons in the Upper Devonian of the world.
Dunmore Cave	S.509,650	National Importance	C	Geomorphological; historical. A series of large caves with some drip-stone formations, etc. but whose main interest is historical.
Riverside at Thomastown	S.580,409	National Importance	B	Botanical; ecological; zoological. A riverside meadow in which grow large numbers of plants of the very rare autumn crocus, (Colchicum autumnale) bordered by an area of swamp and a river channel, both of which hold rich and interesting invertebrate populations.
Kylecorragh wood	S.682,303	Regional Importance	B	Ecological. An area of damp, oak woodland with an understory of hazel and holly.
Brownstown Wood	S.656,297	Regional Importance	B	Ecological. An area of oak woodland, with a pure oak high canopy and a mixed understorey. This wood provides a marked contrast to Kylecorragh Wood, as it is regenerating freely and the ground flora is completely different.

Area	Grid Ref.	Rating	Priority	Interest
Ballyvogue Wood	S.676,325	Regional Importance	B	Ecological. A small area of riverside woodland with some ash and birch and a hazel and holly understorey.
Lough Cullin and the surrounding area	S. 61, 18	Regional Importance	C	Ecological; botanical; zoological. A small lough, with a very well developed hydrosere, surrounded by extensive areas of marsh, fen, bog and swamp.
Tibberaghny marshes	S. 44, 21	Regional Importance	C	Ornithological; ecological An important wintering area for duck and geese.
Quarries near Whitehall	S. 64, 62	Local Importance	C	Ecological. Two areas of disused quarries harbouring interesting plant communities.
Castlecomer Estate	S.542,753 - 536,718	Local Importance	C	Ecological; botanical; zoological. Areas of neglected estate woodlands and ornamental lakes. A local refuge for woodland plants and animals.
Scrub near Urlingford	S. 33, 64	Local Importance	C	Ecological. A fine, representative patch of the areas of hazel scrub typical of the hillsides in the northwest of the county.

Area	Grid Ref.	Rating	Priority	Interest
The Loughans	S. 31, 63	Local Importance	C	Ecological, botanical. An area of small, shallow ponds and winter wet meadows with a rich flora containing several uncommon species.
Fiddown Island	S.465,195	Local Importance	C	Ecological; botanical. A low-lying river island covered with willow carr. There is an interesting variety of willow (Salix) species and their various hybrids and the associated flora and fauna is also of interest.
Tullanvooly Bog	S.291,685	Local Importance	C	Botanical. Ecological. An area of fen containing the rare fly orchid, Ophrys insectifera.
Ardaloo Fen	S. 46, 62	Local Importance	C	Ecological. A large area of Phragmites reedswamp surrounded by marshy fields.
Fen near Monroe	S. 52, 30	Local Importance	C	Ecological, botanical. An area of swamp and fen with a variety of plant communities and several uncommon plants
Field near Bennettsbridge	S.553,478	Local Importance	C	Ecological, botanical. A small damp pasture with a rich and interesting flor.

SECTION F

DETAILED REPORTS AND MAPS OF EACH OF THE AREAS OF SCIENTIFIC INTEREST

Each report is written under the following sub-headings:-

- Name of Area
- Acreage
- Grid Reference
- Scientific Interest
- Rating
- Priority
- Description of Area
- Evaluation
- Threats to the area
- Recommendations

In the descriptions the abundance of the species may be indicated according to the following scale:-

a	-	abundant
c	-	common
f	-	frequent
o	-	occasional
r	-	rare
l	-	locally (as a prefix)

Botanical nomenclature follows that of "Flora of the British Isles" Clapham, Tutin and Warburg. Second Edition, 1962.

Name of Area	KILTORCAN OLD QUARRIES
Acreage	c. 2 acres
Grid Reference	S. 559, 343
Scientific Interest	Geological
Rating	International Importance
Priority	C

Description of Area

The area of interest, which is shown on Map 1, is an important fossil site. The two small, shallow quarries within the area yielded large numbers of magnificient fossils and many of the species found were previously unknown to science, e.g. Cyclostigma kiltorkense, Archaeopteris hibernica, Kiltorkensia kiltorkensis (all plants) and the fossil freshwater mussel, Archanodon jukesi. The quarries are now disused and their floors overgrown with vegetation, but there are still some rock exposures around the vertical sides of the quarries.

Further details of the fossil flora and fauna of the quarries can be found in:-

Chaloner, W. G., 1968. 'The cone of Cyclostigma kiltorkense'. Journal of the Linnaean Society (Botany), 61 (384), p. 25-36.

Forbes, E. 1853. 'On the fossils of the yellow sandstone of the S. of Ireland'. Report of the British Association for the Advancement of Science. Belfast 1852: 43.

Further references are cited by Chaloner, 1968. (see above).

Evaluation

This area includes exposures of one of the most important plant-bearing horizon in the Upper Devonian of the world and is thus of international importance.

The Kiltorken new quarry is working a slightly higher horizon in the Kiltorken beds which has poor scraps of plant material, but nothing to compare with the specimens yielded by the old quarry when it was being worked in the first 20 years of this century.

The area has immense research potential and probably also amenity value.

Threats to the Area

This site was scheduled for protection in the County Development Plan, September, 1967. It appears to be in no danger at the moment, but dumping or any other development that would prevent further exposure of the beds, would seriously impede further scientific research in the area.

Further quarrying would probably increase the value of the site.

Recommendations

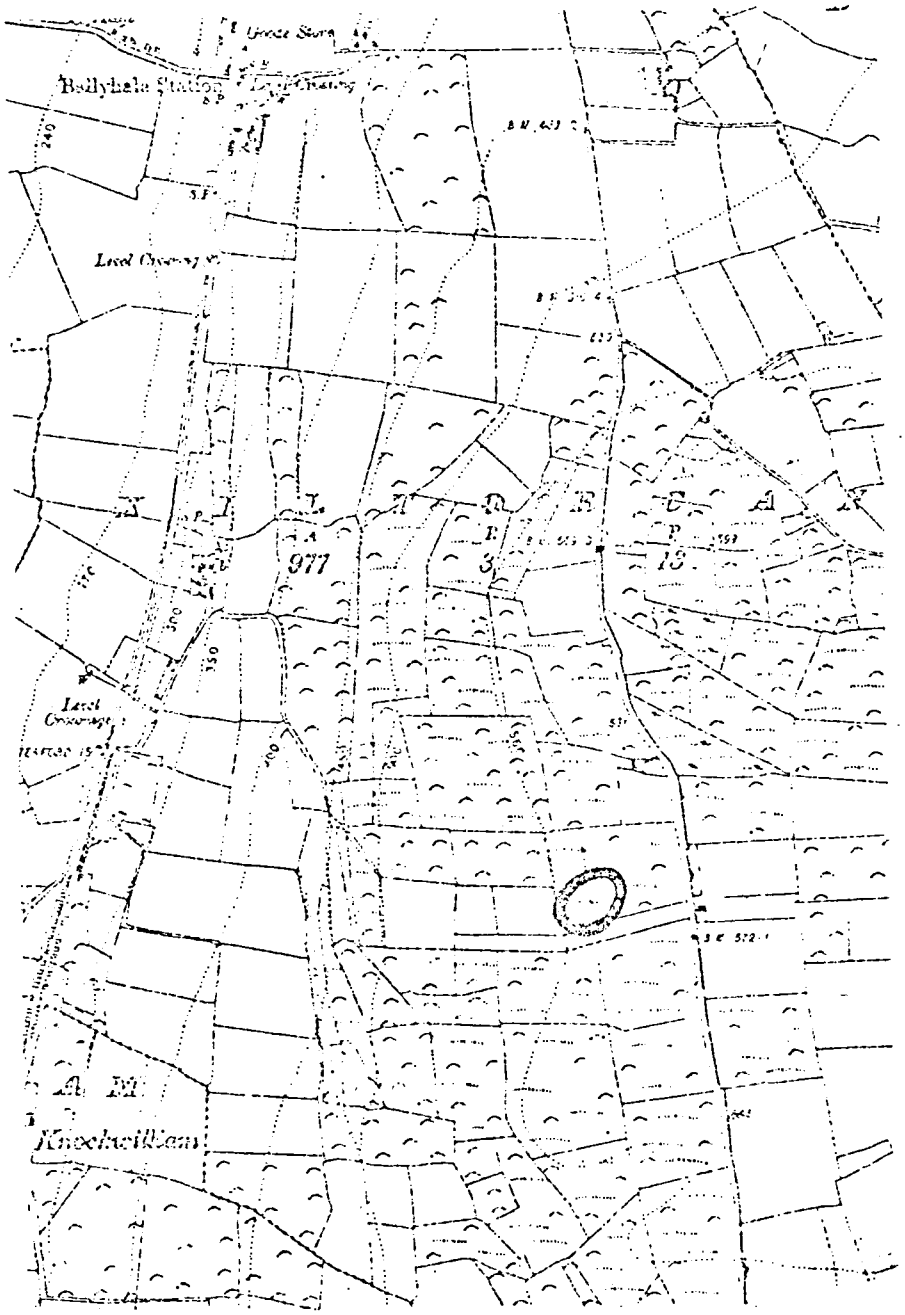
Any development that would prevent or hinder further exposure of these fossiliferous beds should be prevented.

A geological examination of the site is needed. This could be followed by careful excavations in search of further fossil material.

An on-site display of fossil plants could possibly be developed as a tourist amenity.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 1

Scale: 6 Inches to 1 Mile



Name of Area	DUNMORE CAVE
Acreage	c. 8 acres
Grid Reference	S. 509, 650
Scientific Interest	Geomorphological (Historical)
Rating	National Importance
Priority	C

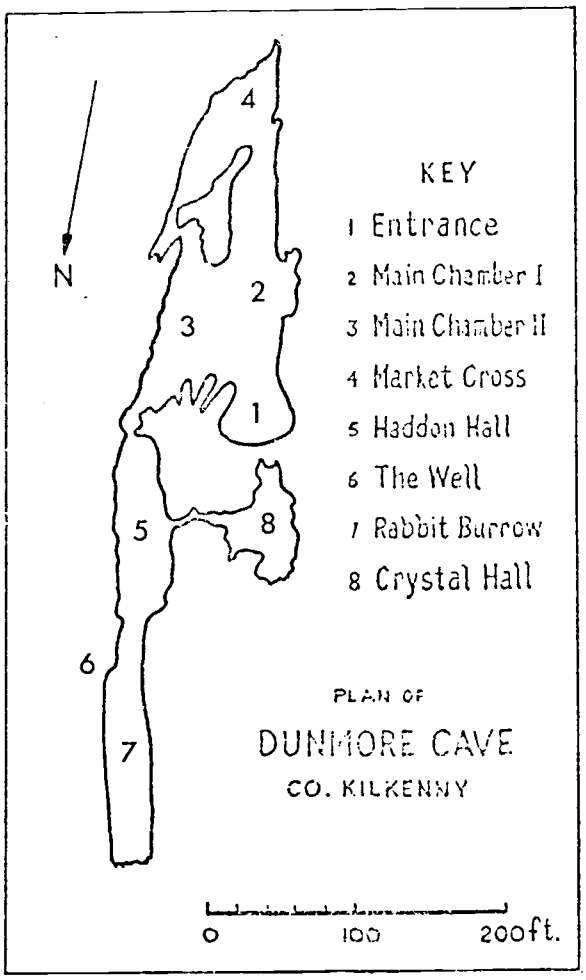
Description of Area

Within the area of interest, shown on Map 2, are the entrance and the underground chambers of Dunmore Cave.

The cave entrance is situated near the summit of a small hill, at the head of a tongue of Upper Carboniferous Limestone exposed by the removal of shales and flagstones. The entrance is in the face of a limestone cliff some 60 ft. high exposed by the collapse of a large subterranean chamber. The huge shaft resulting from this collapse is vertically walled to the west, south and east, while the north side is a steep slope composed of the debris which has fallen into the chamber below. This rubble slope is overgrown with hawthorn, hazel and blackberry bushes, and leads directly to the cave mouth. The entrance is 38 ft. wide and 20 ft. high, being roughly semi-circular, and leads into a series of large tunnels and chambers, as shown in the following diagram, (redrawn from Coleman, J. C. 1965. 'Caves of Ireland').

A detailed account of the history and topography of the cave can be found in Coleman, J. C. 1965, 'Caves of Ireland' p 14-16, which also cites various other references.

Because of its historic importance the cave was taken over as a National Monument by the Commissioners of Public Works in 1944. It is presently in the course of development as a tourist amenity and as an educational site. Concrete stairways and paths and electric lights are being provided.



Evaluation

The historical importance of the cave and its geomorphological interest result in this area being of national importance.

Threats to the Area

'Unscientific' development and vandalism owing to poor supervision may both be dangers, as removal of dripstone formations etc. could seriously diminish the geomorphological interest of the cave.

When the cave was visited it was noted that the bulbs were broken in several of the arc-lights which will eventually illuminate the cave. This may well be an early sign of possible vandalism.

Recommendations

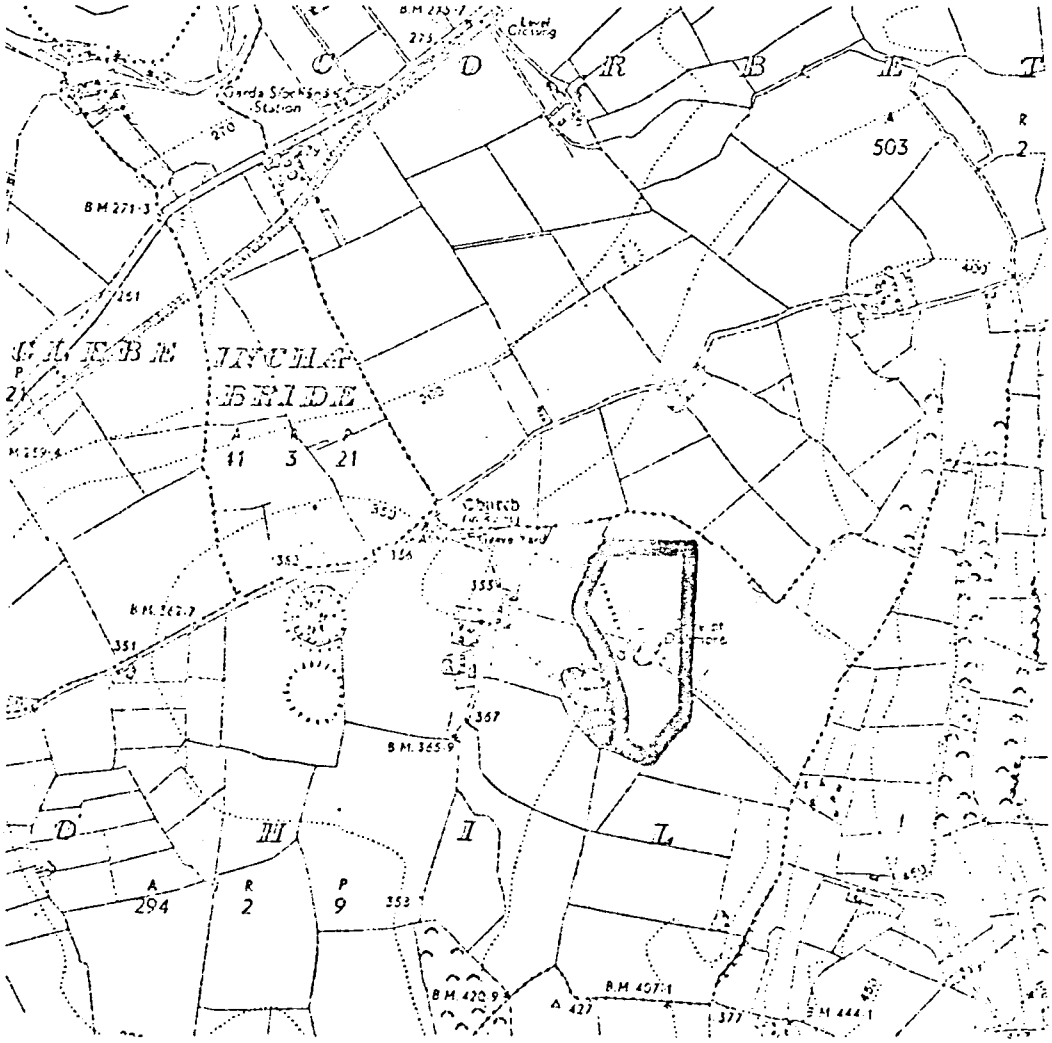
The development of the cave should be compatible with its geomorphological interest.

There should be strict supervision over parties and individuals touring the cave and particularly vulnerable dripstone formations should be protected by guard-rails.

It might well be necessary to prevent access to the cave, or parts of it, at times when a guide is not available to conduct parties on a tour. This is done in many similar caves in Britain and Europe.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —2

Scale: 6 Inches to 1 Mile



Name of Area	RIVERSIDE AT THOMASTOWN
Acreage	c 16 acres
Grid Reference	S.580,409
Scientific Interest	Botanical, ecological
Rating	National importance
Priority	B

Description of Area

The area of interest is shown on Map 3. The majority of the area consists of a damp, species-rich, riverside meadow. Dactylis glomerata (cock's foot) and Cynosurus cristatus (crested dog's-tail) are the commonest grasses, but the following were also noted:

Anthoxanthum odoratum	(sweet vernal grass)
Arrhenatherum elatius	(oat-grass)
Bromus mollis	(lop-grass)
Festuca pratensis	(meadow fescue)
Holcus lanatus	(Yorkshire fog)
Lolium perenne	(rye-grass)
Phleum pratense	(timothy grass)
Poa pratensis	(meadow-grass)
Trisetum flavescens	(yellow oat)

With the grasses grow an abundance of grassland herbs, notable amongst which are the autumn crocus, Colchicum autumnale and the rough hawk's-beard, Crepis biennis, the former being common in several parts of the meadow, the latter much rarer (See Figs 1 and 2).

Bordering the meadow on its south side is a wide strip of reedgrass, Phalaris arundinacea, backed by a long, narrow swamp containing

Iris pseudacorus	(yellow flag)	la
Equisetum fluviatile	(water horsetail)	c
Mentha aquatica	(water mint)	f
Solanum dulcamara	(woody nightshade)	f
Rumex hydrolapathum	(great water dock)	o (See Fig 3)

The remainder of the area consists of the old mill race, which contains a rich variety of aquatic plants and animals, and the adjacent bank dominated by a dense, tall herb community of meadow-sweet, Filipendula ulmaria, and nettle, Urtica dioica, with scattered plants of nettle-leaved bell flower, Campanula trachelium (See Fig.4).

Evaluation

This small area is rated as being of national importance because of the occurrence within it of the autumn crocus, Colchicum autumnale, and the nettle-leaved bell flower, Campanula trachelium. Both these plants are rare in Ireland with their headquarters here in Kilkenny (See Figs 1 and 4) and evidence indicates that both are now less abundant than was previously the case.

The general richness of the flora and fauna adds to its interest of the area.

Threats to the Area

Any change in land use affecting the area might result in erradication of the Colchicium and/or the Campanula

Recommendations

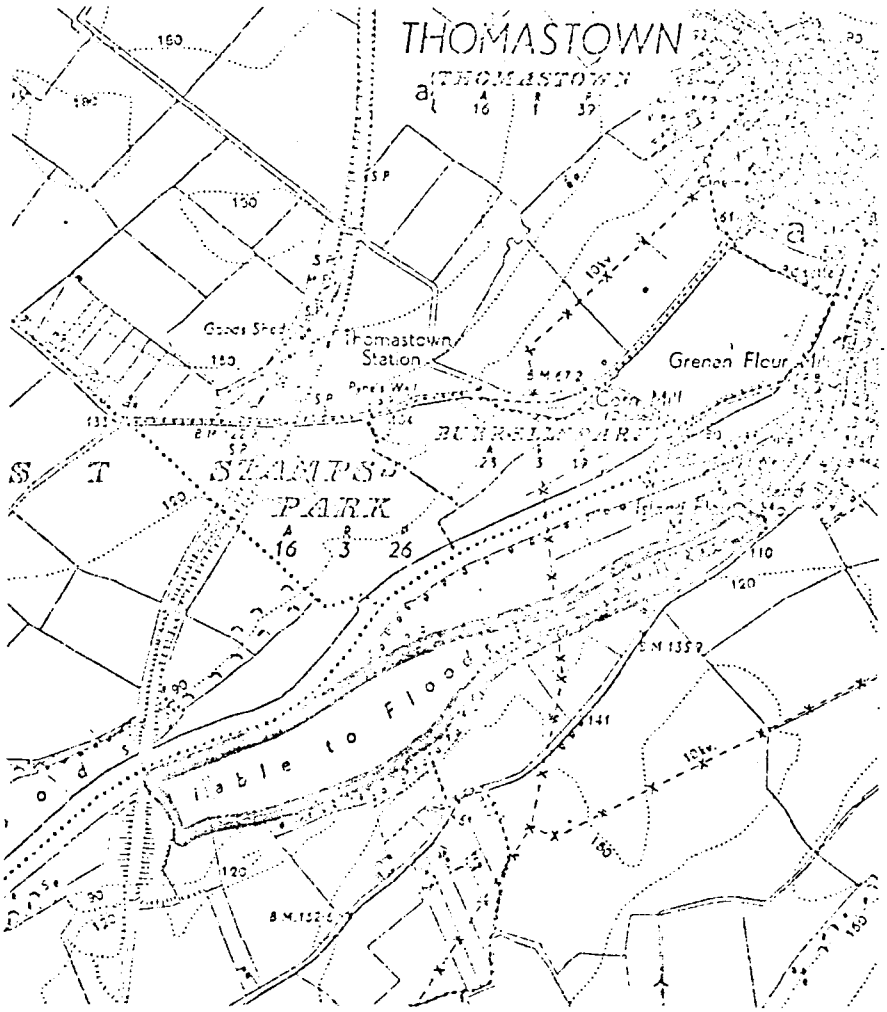
Every effort should be made to maintain this area in its present condition.

As a first step, the landowner should be informed of the scientific importance of the area and of the necessity of maintaining the present system of land use.

If the landowner is not agreeable to maintaining the area in its present condition, the area could be protected by a Conservation Order, under Section 46, Local Government (Planning and Development) Act, 1963. This could be drawn up in draft form by the Conservation and Amenity Advisory Service, An Foras Forbartha.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 3

Scale: 6 Inches to 1 Mile



Name of Area	KYLECORRAGH WOODS
Acreage	C 100 acres
Grid Reference	S. 682, 303
Scientific Interest	Ecological
Rating	Regional importance
Priority	B

Description of Area

The area of interest, damp oakwoods on fairly steep slopes running down to the River Nore, is shown on Map 4.

In the area examined (shown on Map 4), which appeared to be representative of the wood as a whole, the high canopy is almost pure oak, Quercus sp, but includes a few sycamores, Acer pseudoplatanus. In contrast the understorey contains several species and it's composition varies from place to place. Where the high canopy is thickest the understorey is of holly, Ilex aquifolium, whilst greater light penetration results in the growth of a mixed understorey of holly, hazel (Corylus avellana), blackthorn (Prunus spinosa) and occasionally gorse (Ulex europaeus). In very wet patches near the river willows (Salix spp.) are dominant.

The ground flora of the area is rich, though no particularly rare species were noted, and there is interesting variation in its composition in relation to such environmental variables as slope, soil moisture content and particularly the density of the canopy which controls light intensity in the woodland.

Large numbers of woodpigeons were heard calling within the wood.

Evaluation

This is a fine area of untouched, relict oakwood with considerable variation in the composition of the understorey and ground flora. The woods are of regional importance in view of the fact that few such areas remain in this region, many of the original deciduous woodlands of the river valleys having been cleared, often to be replaced by ecologically less interesting conifer plantations.

The woods are also of amenity value, being an important component of the scenery in this part of the river valley.

Threats to the Area

No imminent threats are known of.

Clearance, or underplanting with conifers, could threaten the woods in the future.

Recommendation

The woods should be protected by a Tree Preservation Order, under Section 45, Local Government (Planning and Development) Act, 1963. This could be drawn up in draft form by the Conservation and Amenity Advisory Service, An Foras Forbartha.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 4

Scale: 6 Inches to 1 Mile

Name of Area	BROWNSTOWN WOOD
Acreage	c 42 acres
Grid Reference	S 656,297
Scientific Interest	Ecological
Rating	Regional importance
Priority	B

Description of Area

This area of fine oakwood is shown on Map 5.

Although developed on the same major soil type as Kylecorragh woods, i.e. acid brown earths Brownstown wood is completely different from these woods previously described (page 23) in terms of the species composition of its various vegetation layers. The high canopy is exclusively oak (Quercus spp) with an understorey of birch (Betula spp) oak saplings, rowan (Sorbus aucuparia) and some holly (Ilex aquifolium),whilst the ground zone is largely dominated by a thick carpet of bilberry (Vaccinium myrtilus) and cow-wheat (Melampyrum sylvaticum). Heather(Calluna vulgaris) hardfern (Blechnum spicant) and bracken (Pteridium aquilinum) are all locally common. This contrasts markedly with the ground flora of Kylecorragh woods in which the above ground zone species are only occasionally encountered and which, though less dense, has a much greater variety of species present.

Another important difference between the two woodlands is that whilst no evidence of regeneration was noted in Kylecorragh woods, there is ample evidence of its occurring in Brownstown wood, large numbers of seedlings and saplings of birch, rowan and oak being present in the wood and the oak also producing shoots from old stumps.

Evaluation

The wood is rated of regional importance in view of the dearth of deciduous woodlands in this area and the fact that it provides such an interesting contrast to Kylecorragh woods.

Threats to the Area

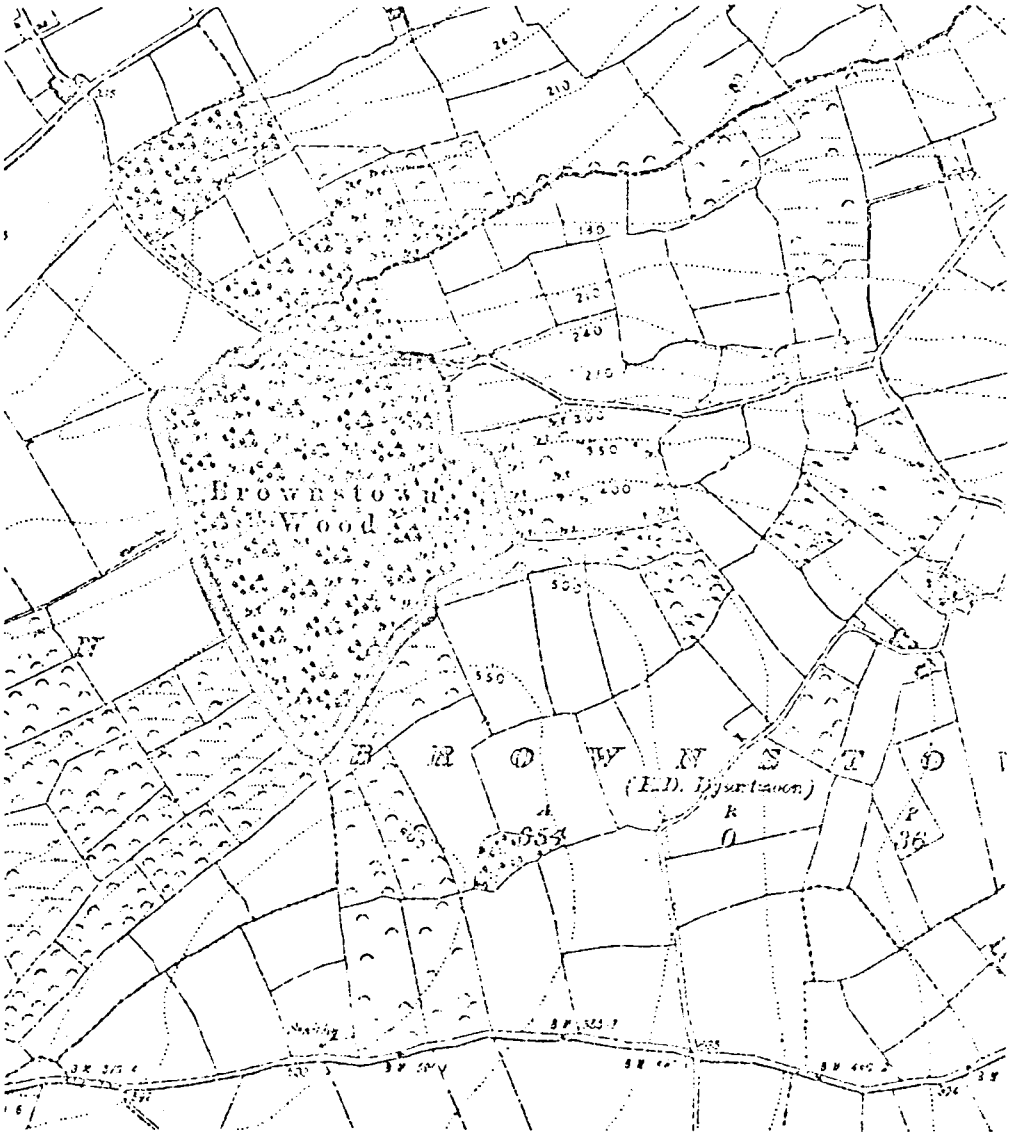
No imminent threats are known of. Clearance, or underplanting with conifers, could threaten the wood in the future.

Recommendation

The wood should be protected by a Tree Preservation Order, under Section 45, Local Government (Planning and Development) Act, 1963. This could be drawn up in draft form by the Conservation and Amenity Advisory Service, An Foras Forbartha.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 5

Scale: 6 Inches to 1 Mile



Name of Area	BALLYLOGUE WOOD
Acreage	c. 18 acres
Grid Reference	S.676,325
Scientific Interest	Ecological
Rating	Regional Importance
Priority	B

Description of Area

The area of interest is shown on Map 6.

The wood is dominated by oak (*Quercus spp*), but has some ash (*Fraxinus excelsior*) and birch (*Betula spp*) in the high canopy. The understorey is of holly (*Ilex aquifolium*) and hazel (*Corylus avellana*) and there is a typical damp oakwood ground flora, similar to that of Kylecorragh woods.

Unauthorised access to the wood is currently prohibited by the owner.

Evaluation

Of regional importance as another example of oakwood in the Nore Valley.

Threats to the Area

No imminent threats are known of.

Clearance, or underplanting with conifers may threaten the wood in the future.

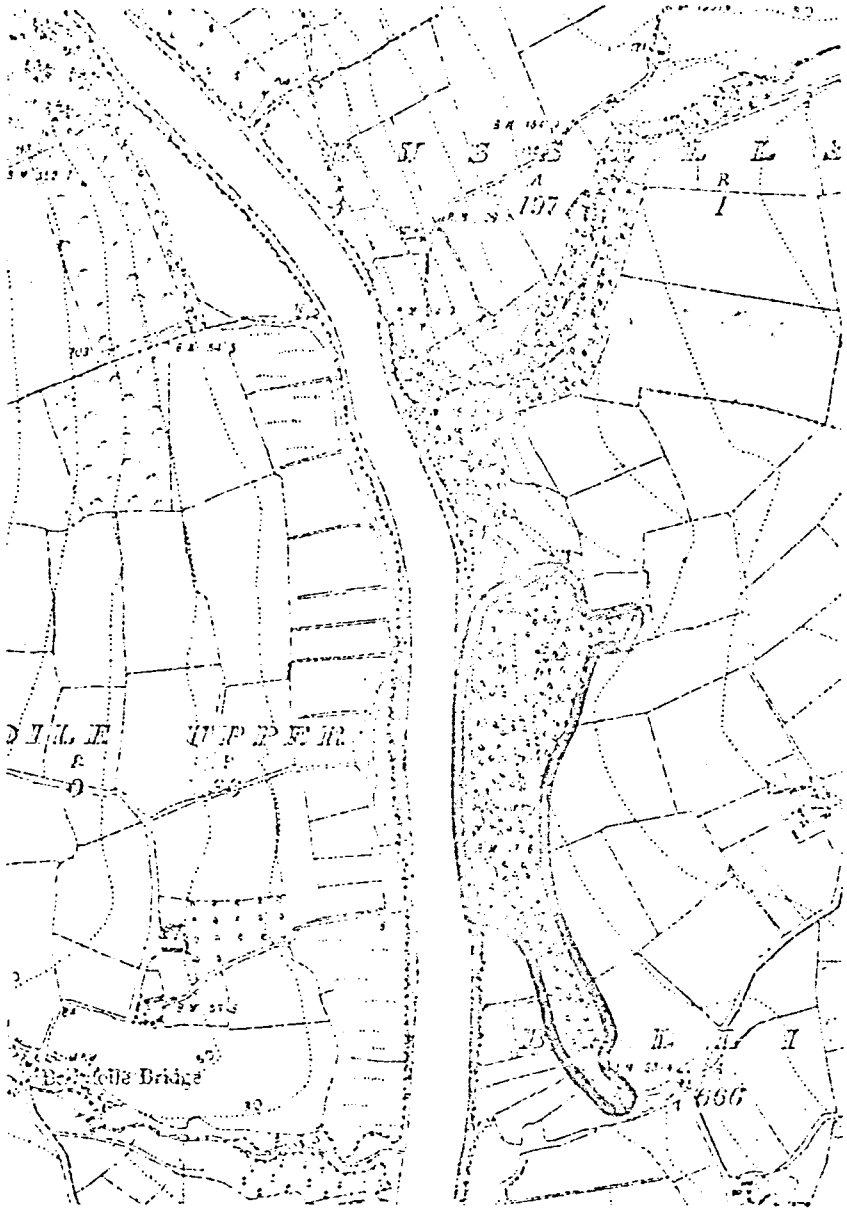
Recommendations

The wood should be protected by a Tree Preservation Order, under Section 45, Local Government (Planning and Development) Act, 1963. This could be drawn up in draft form by the Conservation and Amenity Advisory Service, An Foras Forbartha.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 6

Scale: 6 Inches to 1 Mile

N



Name of Area	LOUGH CULLIN AND SURROUNDING AREA
Acreage	c. 580 acres
Grid Reference	S.61,18
Scientific Interest	Ecological; botanical
Rating	Regional Importance
Priority	C

Description of Area

The area of interest is shown on Map 7. It contains the lough itself and surrounding areas of swamp, fen, bog, marshes and damp fields.

Because of the extensive surrounding wetlands it is extremely difficult to walk to the lough, though, in fact, when the area was visited, penetration as far as the marginal reedswamp proved possible. The hydrosere around the whole lough is exceptionally well developed with successive zones of waterlilies (? Nuphar lutea), bulrush (Schoenoplectus lacustris) and water horsetail (Equisetum fluviatile), and reed (Phragmites communis). Around the edges of the reedswamp is the beginnings of carr development, a fringe of willows being present.

In the lough and the surrounding wetlands and fields, whose flora is rich and varied, were noted several species which are local in Ireland and rare in the south west:-

Carex hostiana	(tawny sedge)
Carex lepidocarpa	(yellow sedge)
Cirsium dissectum	(marsh thistle)
Osmunda regalis	(royal fern)
Platanthera bifolia	(lesser butterfly orchid)

Other species recorded here are:-

Bidens cernua	(nodding bur-marigold)
Bidens tripartita	(tripartite bur-marigold)

Carex elata	(tufted sedge)
Sparganium angustifolium	(floating bur-reed)
Utricularia minor	(lesser bladderwort)

See Figs. 5 - 14.

Evaluation

With the exception of three very small lakes near Johnstown, and the Castlecomer lakes (see p. 38) Lough Cullin is the only area of permanent stillwater in County Kilkenny. In view of this and the ecological diversity and floristic richness of the surrounding wetlands and fields, the area must be considered as being of regional importance.

Threats to the Area

No imminent threats are known of.

A number of diverse threats could arise in the future however. The most likely of these are drainage and eutrophication by fertiliser run-off or sewage.

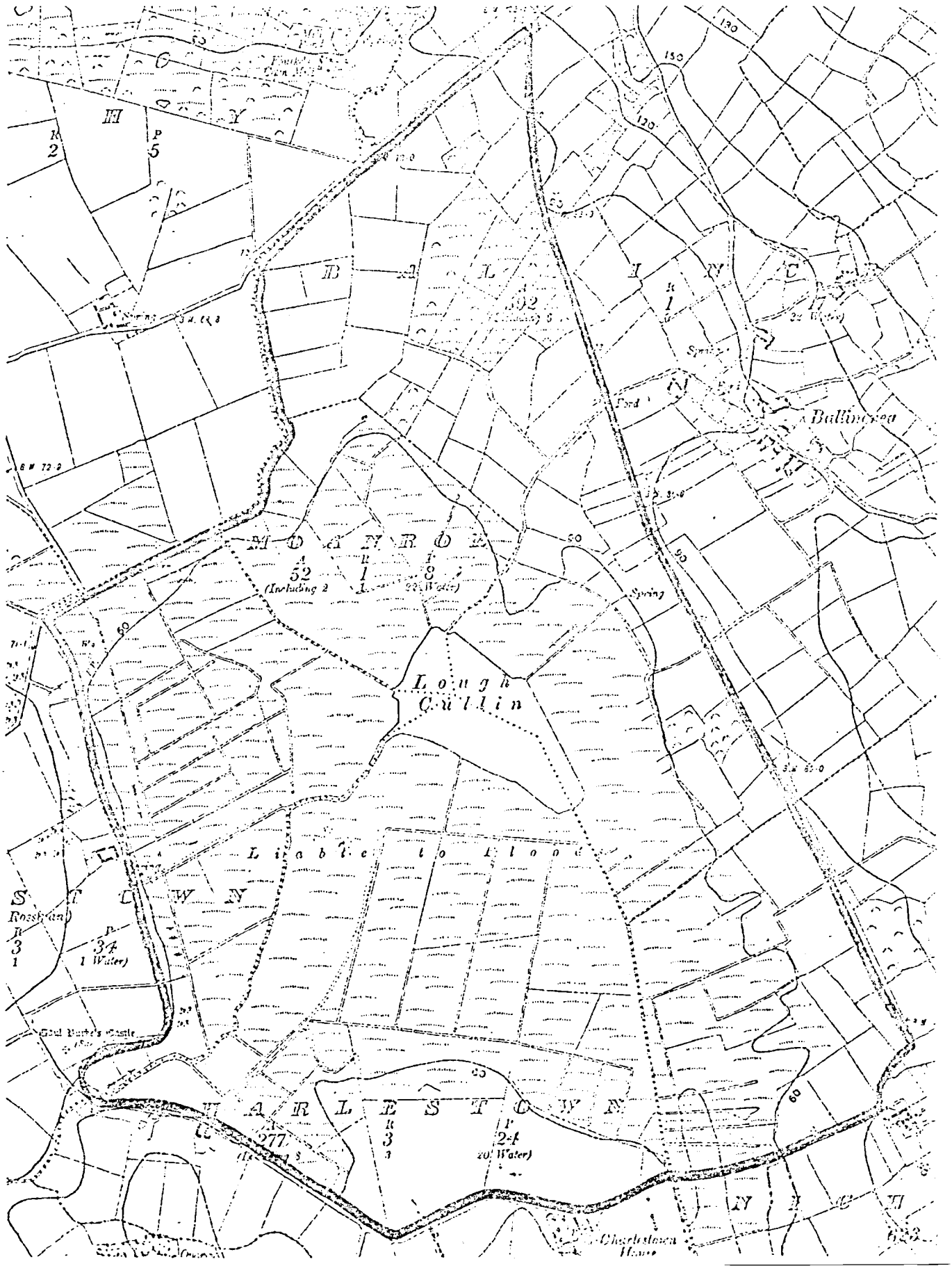
Recommendations

Every effort should be made to preserve this area in its present condition.

It would appear likely that the ownership of the area is divided. If this is so, the co-operation of all the owners in maintaining the present condition and land use pattern of the area will be difficult to obtain. It is, therefore, recommended that the area be protected by a Conservation Order, under Section 46, Local Government (Planning and Development) Act, 1963. This could be drawn up in draft form by the Conservation and Amenity Advisory Service, An Foras Forbartha.

MAP SHOWING AREA OF SCIENTIFIC INTEREST – 7

Scale: 6 Inches to 1 Mile



Name of Area	TIBBERAGHNY MARSHES
Acreage	c. 370 acres
Grid Reference	S.44,21
Scientific Interest	Omithological
Rating	Regional Importance
Priority	C

Description of Area

The area of interest is shown on Map 8. This is an area of swamp, marshes and wet fields important as a wintering area for duck, notably mallard, widgeon and teal.

Evaluation

The richness of this area, in a part of the country not noted for ornithological sites, results in it being of regional importance.

Threats to the Area

The area could be adversely affected in either of two ways, by physical disturbance of the bird populations or by altering the nature of the marshes by drainage or eutrophication etc.

No imminent threats are known of however, and the area is, in fact, scheduled for protection in the County Development Plan. September 1967.

Recommendation

Any development that would have undesirable effects on the area should be prevented.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —8

Scale: 6 Inches to 1 Mile

Name of Area	QUARRIES NEAR WHITEHALL
Acreage	c. 30 acres
Grid Reference	S.64,62
Scientific Interest	Ecological
Rating	Local Importance
Priority	C

Description of Area

The areas of interest are shown on Map 9.

These are old, disused quarries in Yoredale shales. The quarry tips and the floors of the old working areas now provide a rich variety of dry acidic inhabita the substrate varying in stability and particle size etc. These have been colonised to a greater or lesser extent by a variety of plants typical of such dry habitats.

Evaluation

The flora of this area presents a sharp contrast to the flora of the surrounding region and as such is of local ecological interest.

Threats to the Area

None likely to arise.

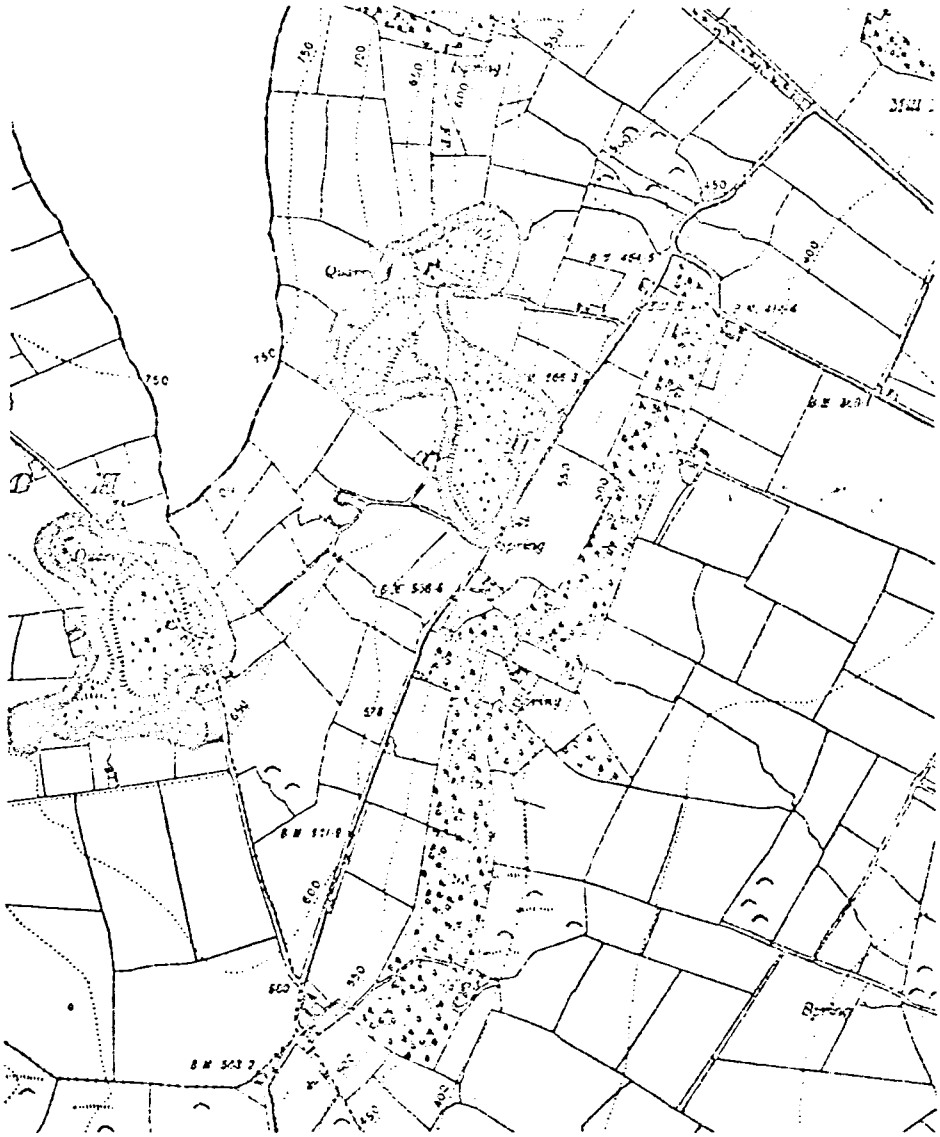
Recommendation

Any development plans affecting this area should take into account its scientific interest.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 9

Scale: 6 inches to 1 mile

N



Name of Area	CASTLECOMER ESTATE
Acreage	c. 615 acres
Grid Reference	S.542,753 - 536,718
Scientific Interest	Ecological; botanical; zoological
Rating	Local Importance
Priority	C

Description of Area

The area of interest is shown on Map 10.

The most interesting parts of the area are the old deciduous woodlands. Clearly originally planted and maintained for ornamental and amenity purposes, the woods contain many exotic conifers and ornamental shrubs, as well as the dominant native deciduous species, i.e. oak (Quercus spp.), ash (Fraxinus excelsior), hazel (Corylus avellana) etc. They are now neglected and have become overgrown and degenerate.

Also included in the area are some conifer plantations, many acres of grassland, a large quarry in the north-east (✻on Map 10) and two partly overgrown, ornamental lakes. The reservoir shown on Map 10 appears no longer to exist, presumably as a result of the quarrying.

Evaluation

The area is of scientific importance as a local refuge for woodland, tall grassland and aquatic plants and animals.

Threats to the Area

No threats to the woodlands are likely to arise as the trees in this area were protected by a Tree Preservation Order in 1968, under Section 45, Local Govemment (Planning and Development) Act, 1963.

The grasslands may be planted with conifers in the future.

Recommendations

The co-operation of the landowner should be sought in maintaining the present methods of land use.

If the landowner does wish to plant the grasslands with conifers at some date in the future, it is not recommended that the County Council should try to prevent this.

Name of Area	SCRUB NEAR URLINGFORD
Acreage	c. 175 acres
Grid Reference	S.33,64
Scientific Interest	Ecological
Rating	Local Importance
Priority	C

Description of Area

The area of interest is shown on Map 11.

The area is completely dominated by hazel scrub with a typical ground flora. Amongst the dense hazel (Corylus avellana) are a few isolated birch trees and some hawthorn bushes (Crataegus monogyna). Occasional seedlings of hawthorn, ash (Fraxinus excelsior), holly (Ilex aquifolium) and blackthorn, (Prunus spinosa) were also noted.

Evaluation

There are several areas of hazel scrub on the hillsides in the north-west of County Kilkenny and this area has been chosen as a fine, representative patch of this type of formation with its associated plant and animal communities.

Threats to the Area

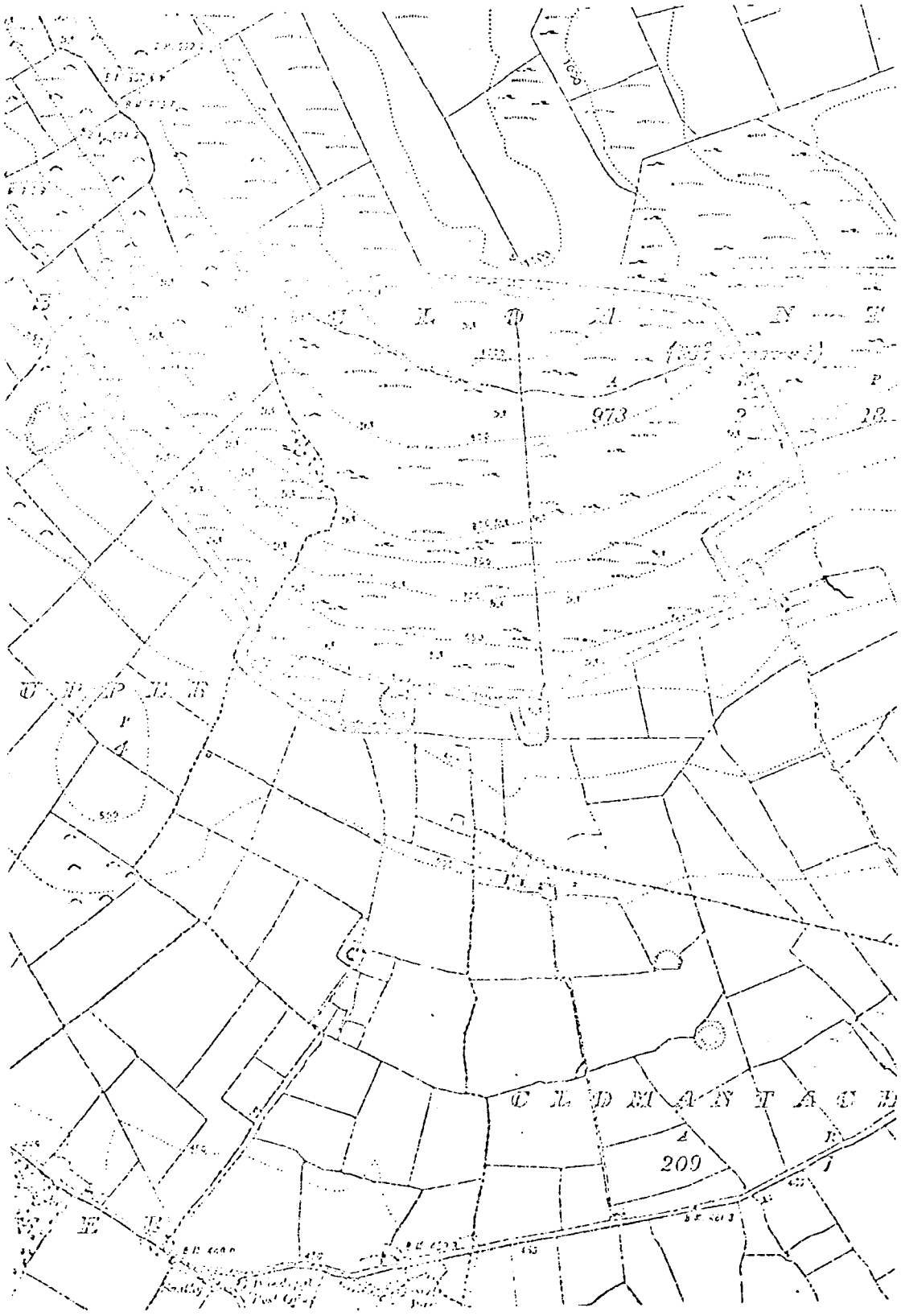
No imminent threat is known of, though clearance may be proposed in the future.

Recommendation

Any development plans affecting this area should take into account its scientific interest.

The fate of the various patches of hazel scrub in this region should be carefully documented and, if all the patches appear likely to be destroyed by clearance, a Tree Preservation Order should be drawn up to preserve a representative area of the scrub. The area shown on Map 11 would be ideal for this purpose.

Scale: 6 Inches to 1 Mile



Name of Area	THE LOUGHANS
Acreage	c. 62 acres
Grid Reference	S.31,63
Scientific Interest	Ecological; botanical
Rating	Local Importance
Priority	C

Description of Area

The area of interest is shown on Map 12.

The area consists of calcareous meadows and winter-wet pastures, which contain several shallow ponds connected by drainage ditches. The flora is very rich and several uncommon species occur:-

Antennaria dioica	(cat's-foot)
Carex hostiana	(tawny sedge)
Carex lepidocarpa	(yellow sedge)
Cirsium dissectum	(meadow thistle)
Dactylorchis incarnata	(meadow orchid)
Epipactis palustris	(marsh helleborine)
Ophioglossum vulgatum	(adder's-tongue fern)
Orchis morio	(green-winged orchid)
Parnassia palustris	(grass of Parnassus)
Ranunculus trichophyllus	("water buttercup")
Thalictrum flavum	(meadow-rue)

See Figs 5, 6, 7 and 15 - 22.

An area of particular interest is marked ✻ on Map 12. Here in an uncut meadow the meadow thistle, the meadow-rue and the marsh helleborine were all flowering profusion.

Evaluation

Areas of rich, calcareous grassland subject to temporary flooding are rare in this region and the Loughans is thus of local ecological and botanical interest.

Threats to the Area

More efficient drainage or changes in the land use pattern of the area would be deleterious to the scientific values of the area.

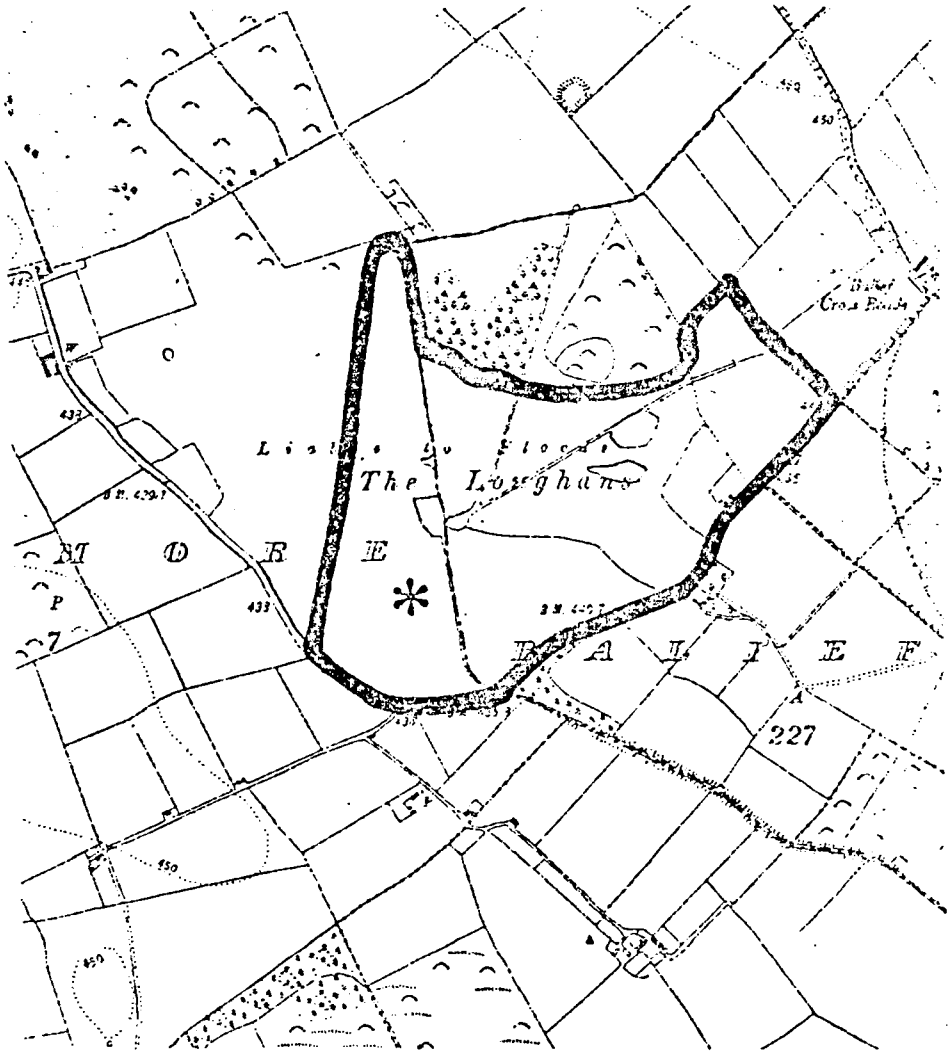
No imminent threats are known of however.

Recommendation

Any development plans affecting this area should take into account its scientific interest.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —12

Scale: 6 Inches to 1 Mile



Name of Area	FIDDOWN ISLAND
Acreage	c. 52 acres
Grid Reference	S. 465,195
Scientific Interest	Ecological; botanical
Rating	Local Importance
Priority	C

Description of Area

The area of interest is shown on Map 13.

The island is completely covered by willow woodland and scrub (Salix spp.) and bordered by reedswamp (Phragmites communis) on the south side. Beneath the willows is a rich tall herb vegetation indicative of very wet conditions:-

Carex pendula	(pendulous sedge)
Epilobium hirsutum	(great hairy willowherb)
Eupatorium cannabinum	(hemp agrimony)
Filipendula ulmaria	(meadow-sweet)
Iris pseudacorus	(yellow flag)
Phalaris arundinacea	(reedgrass)
Oenanthe crocata	(water dropwort)
Valeriana officinalis	(valerian)

The main botanical interest of the island lies in the willows. At least four different species were recorded in a quick walk across the bridge and it was noted that the species are hybridizing freely.

The island almost certainly supports on interesting invertebrate fauna.

Evaluation

The island is of general ecological interest as an unusual habitat for plants and animals and its willow populations are of interest to the pure botanist.

Threats to the Area

In view of its position and low height above river level, the island is unlikely to be threatened by development.

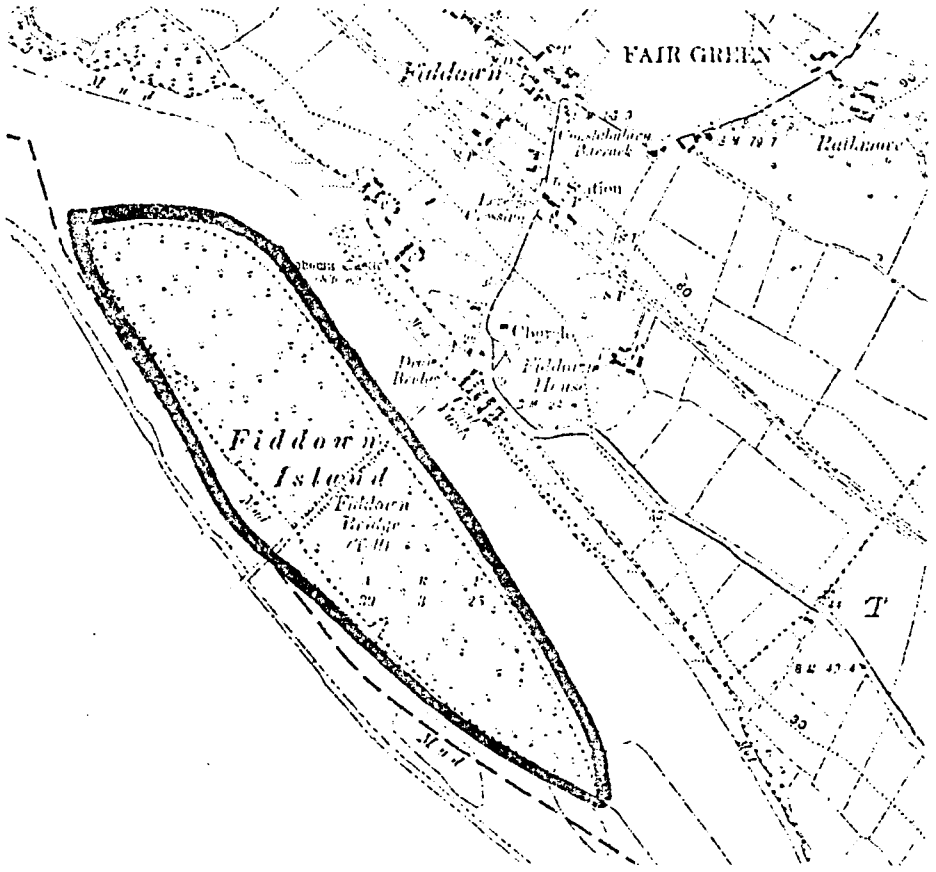
Some small-scale dumping of domestic refuse on to the island was noted.

Recommendation

Dumping on the island should be prohibited.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 13

Scale: 6 Inches to 1 Mile



Name of Area	TULLANVOOLY BOG
Acreage	c 28 acres
Grid Reference	S.291,685
Scientific Interest	Botanical; ecological
Rating	Local Importance
Priority	C

Description of Area

The area of interest is shown on Map 14.

This is an area of bog and fen containing several uncommon plants, the most notable of which is the rare fly orchid, Ophrys insectifera (See Fig. 23). This species was refound at this site in 1971 having last been recorded in 1837. Other species of interest found here are:-

Equisetum variegatum	(variegated horsetail)
Schoenus nigricans	(bog-rush)
Selaginella selaginoides	(lesser clubmoss)

See Figs 24-26

Evaluation

The plants found here result in the area being of local botanical interest.

Threats to the Area

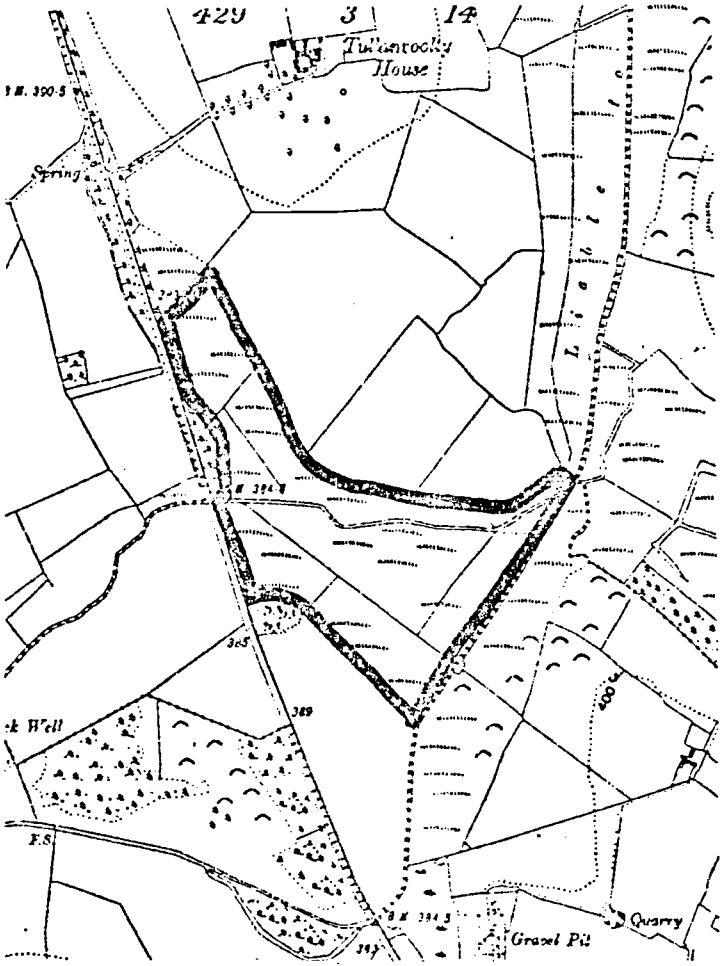
No imminent threats are known of. Drainage might be a threat in the future.

Recommendation

Any development plans affecting this site should take into account its scientific interest.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —14

Scale: 6 Inches to 1 Mile



Name of Area	ARDALOC FEN
Acreage	c 92 Acres
Grid Reference	S.4662
Scientific Interest	Ecological
Rating	Local Importance
Priority	C

Description of Area

The area of interest is shown on Map 15.

This is a large area of swamp, dominated by the reed, Phragmites communis, surrounded by marshy field with an interesting flora.

Evaluation

The site is of local, ecological interest as an area of Phragmites reedswamp, a habitat not well represented in the county.

Threats to the Area

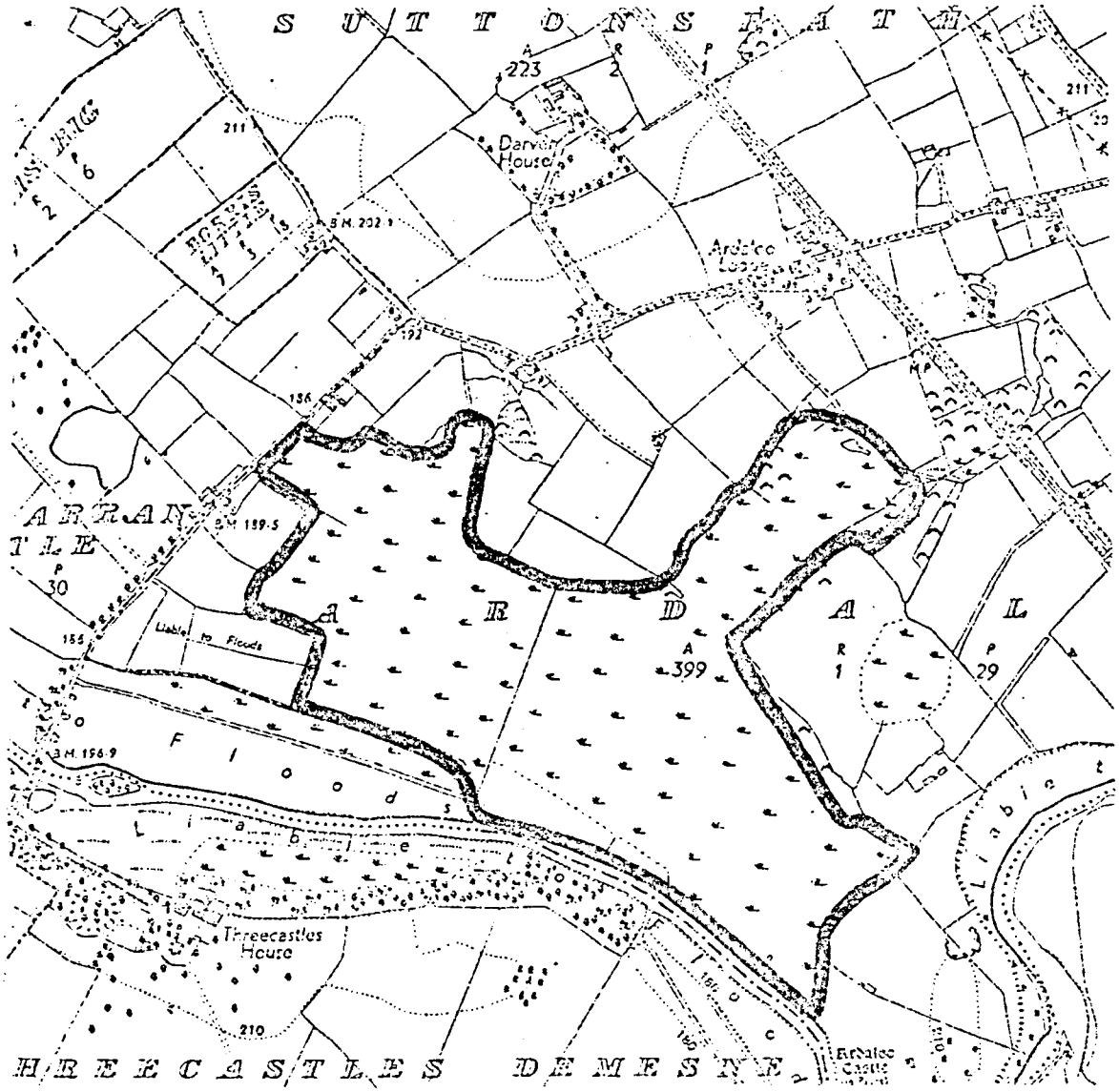
The most likely threat to this area is drainage.

Recommendation

The scientific value of this site is not sufficient to justify opposition to any drainage scheme.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —15

Scale: 6 Inches to 1 Mile



Name of Area	FEN NEAR MONROE
Acreage	c 114 acres
Grid Reference	S.52,30
Scientific Interest	Ecological; botanical
Rating	Local Importance
Priority	C

Description of Area

The area of interest is shown on Map 16.

The northern third of the area is a dense swamp, dominated by reed, Phragmites communis, but further south there is rich fen dominated by a tall herb community in which meadowsweed Filipendula ulmaria, wild angelica, Angelica sylvestris, water horsetail, Equisetum fluviatile, reed mace, Typha latifolia, water mint, Mentha aquatica, and the sedge Carex diandra are all conspicuous and common.

The sedge, Carex diandra, is of particular interest as, though abundant here, it has not previously been recorded in Co. Kilkenny (See Fig.29). Other uncommon species noted in the fen (September, 1972) were:-

Bidens cernua	(nodding bur-marigold)
Hypericum elodes	(bog St. John's wort)
Oenanthe fistulosa	(water dropwort)

See Fits 10, 30 and 31.

Evaluation

A large, isolated area of swamp and fen, with considerable variation in its plant communities and containing several uncommon plants, this site is certainly of local ecological and botanical interest and it is likely that a rating of "regional importance" could be justified.

The importance of this area would certainly increase if the areas around Lough Cullin were to be drained or polluted, as these are the only comparable areas of significant size within the county.

A more detailed study of this fen is necessary. This may also lead to a reassessment of its importance.

Threats to the Area

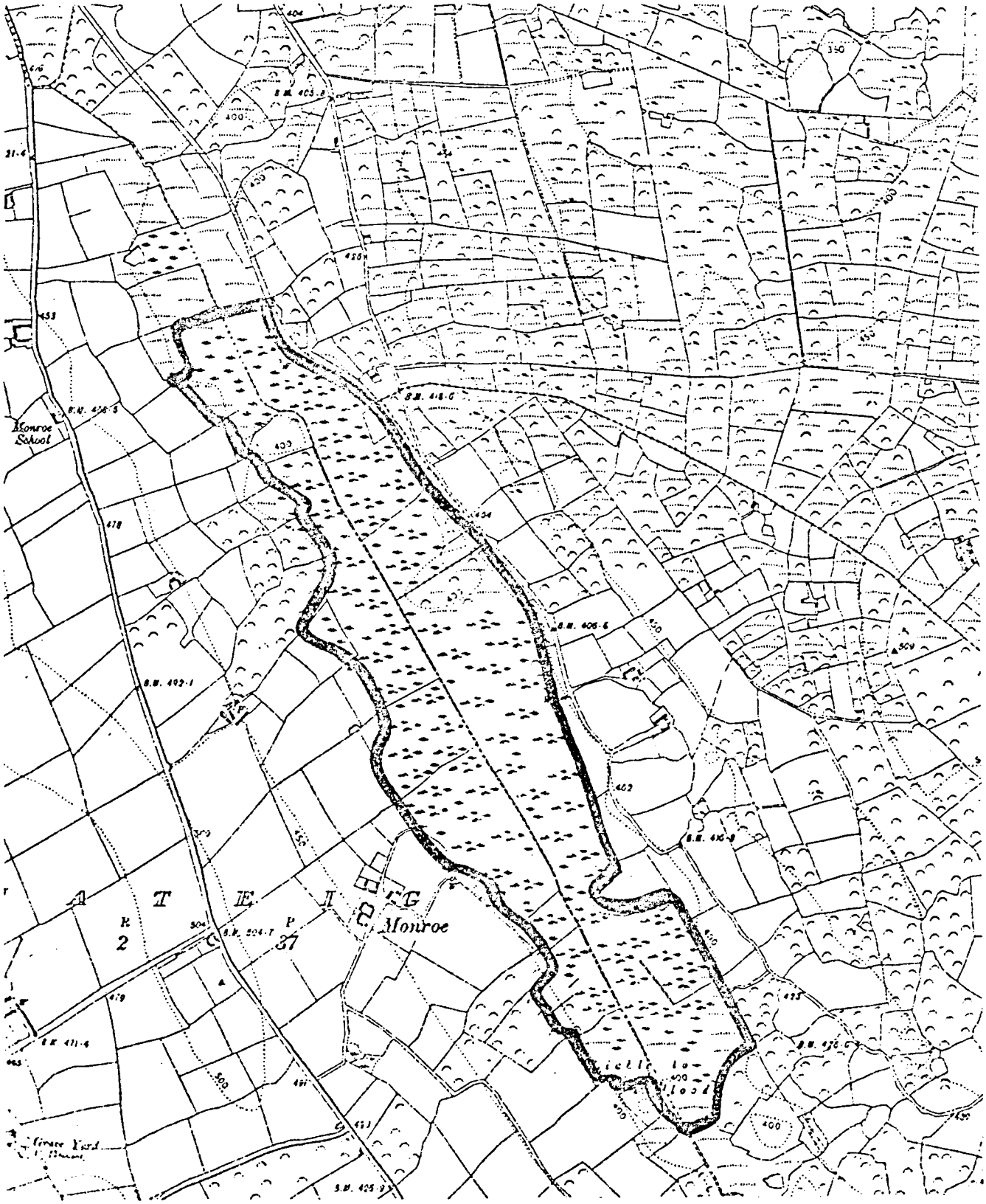
No imminent threats are known of, though drainage might well be proposed in the future.

Recommendation

Any development plans affecting this area should take its scientific interest into consideration.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —16

Scale: 6 Inches to 1 Mile



Name of Area	FIELD NEAR BENNETSBRIDGE
Acreage	c 3 acres
Grid Reference	S.553,477
Scientific Interest	Botanical; ecological
Rating	Local Importance
Priority	C

Description of Area

The area of interest is shown on Map 17.

A small field with a rich flora. Within the field there is considerable variation in conditions; a dry calcareous slope runs down from the road to marsh and fen on the east side. The field is mainly of note as a site into which the Kerry butterwort, Pinguicula grandiflora, is reported to have been introduced (see Fig. 27). When the area was visited, however, this species was not recorded; though several sterile leaf rosettes might well have been Pinguicula grandiflora, identification was made difficult by the presence of the common butterwort, Pinguicula vulgaris.

Amongst the rich calcicole flora, the rare bee orchid, Ophrys apifera was noted (See Fig.28).

Evaluation

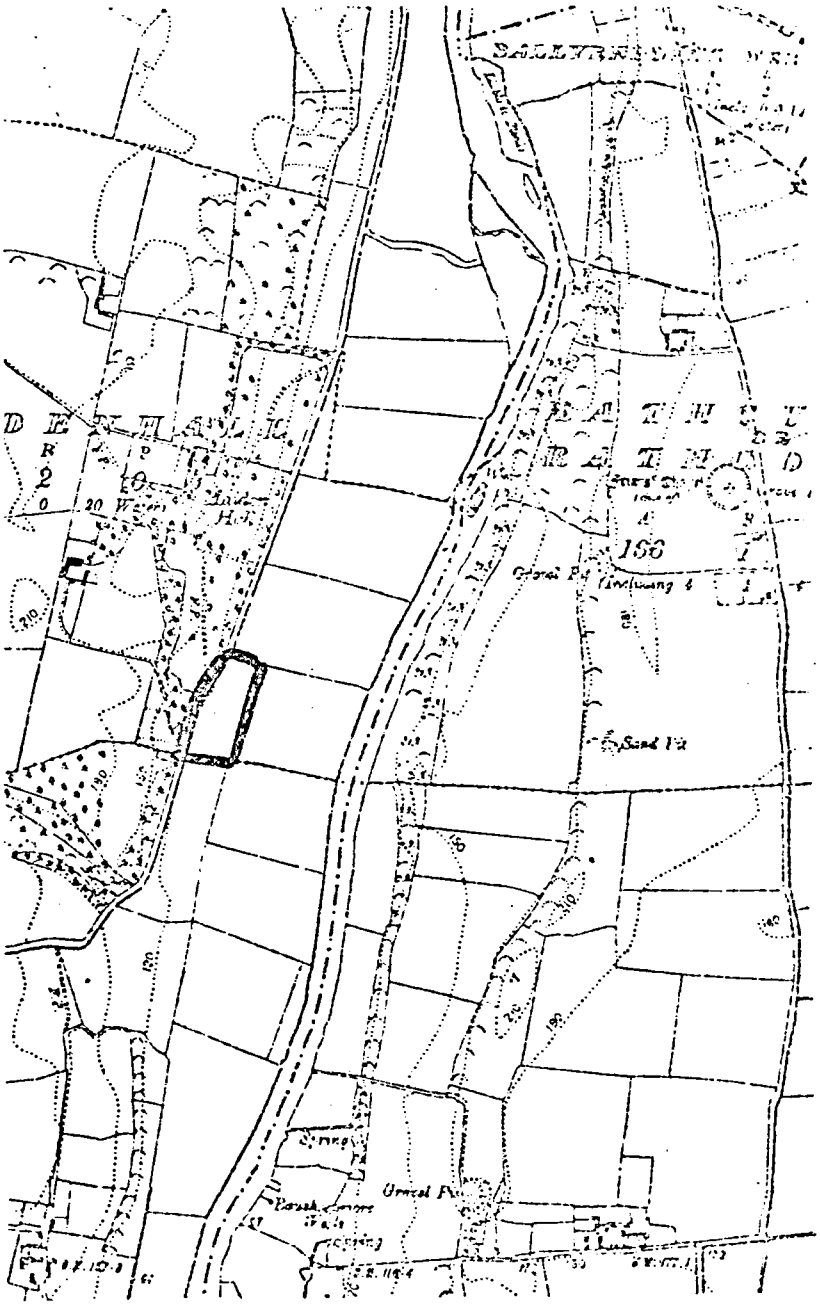
The rich and varied flora of this field results in it being of local, botanical interest.

Threats to the Area

No threats to this area are likely to arise in view of the landowner's interest in the flora of the field.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 17

Scale: 6 Inches to 1 Mile.



RECOMMENDED ACTION FOR EACH AREA OF SCIENTIFIC INTEREST

	General Planning Control	Conservation Order	Tree Preservation Order	Other Recommendations	Priority
Kiltorken old quarry	*			Further quarrying should be carried out, but under expert supervision	C
Dunmore Cave	*				C
Riverside at Thomastown		May be necessary		Co-operation with landowner	B
Kylecorragh woods			*		B
Brownstown wood			*		B
Ballylogue wood			*		B
Lough Cullin and the surrounding area		*			C
Tibberaghny marshes	*				C
Quarries near Whitehall	*				C
Castlecomer Estate	*		Already applied		C

	General Planning Control	Conservation Order	Tree Preservation Order	Other Recommendations	Priority
Scrub near Urlingford	*		May be necessary		C
The Loughans	*				C
Fiddown Island	*				C
Tullanvooly bog	*				C
Ardaloo Fen	*				C
Fen near Monroe	*				
Field near Bennetsbridge	*				C

APPENDIX 1

FIGURES 1 - 31

Each symbol on the map records the presence of the species in a 10-kilometre square of the Ordnance Survey National Grid, which was extended to cover Ireland for the purpose of this survey.

Fig. 1 Distribution of Colchicum autumnale in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

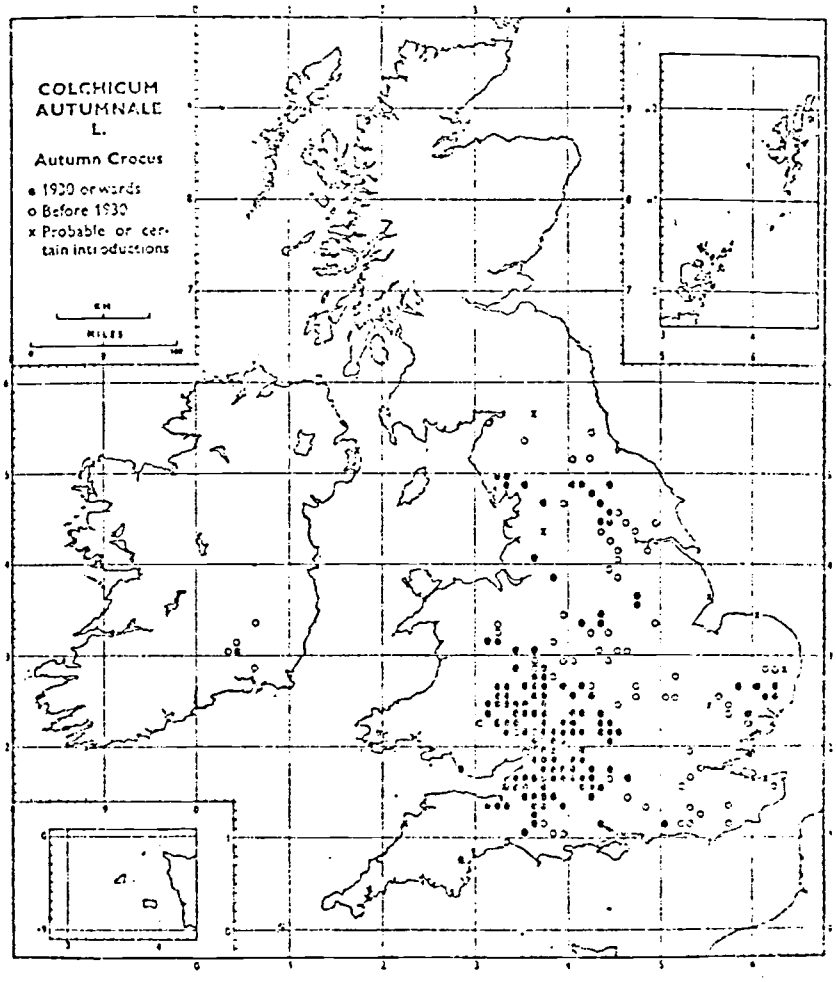


Fig. 2 Distribution of Crepis biennis in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

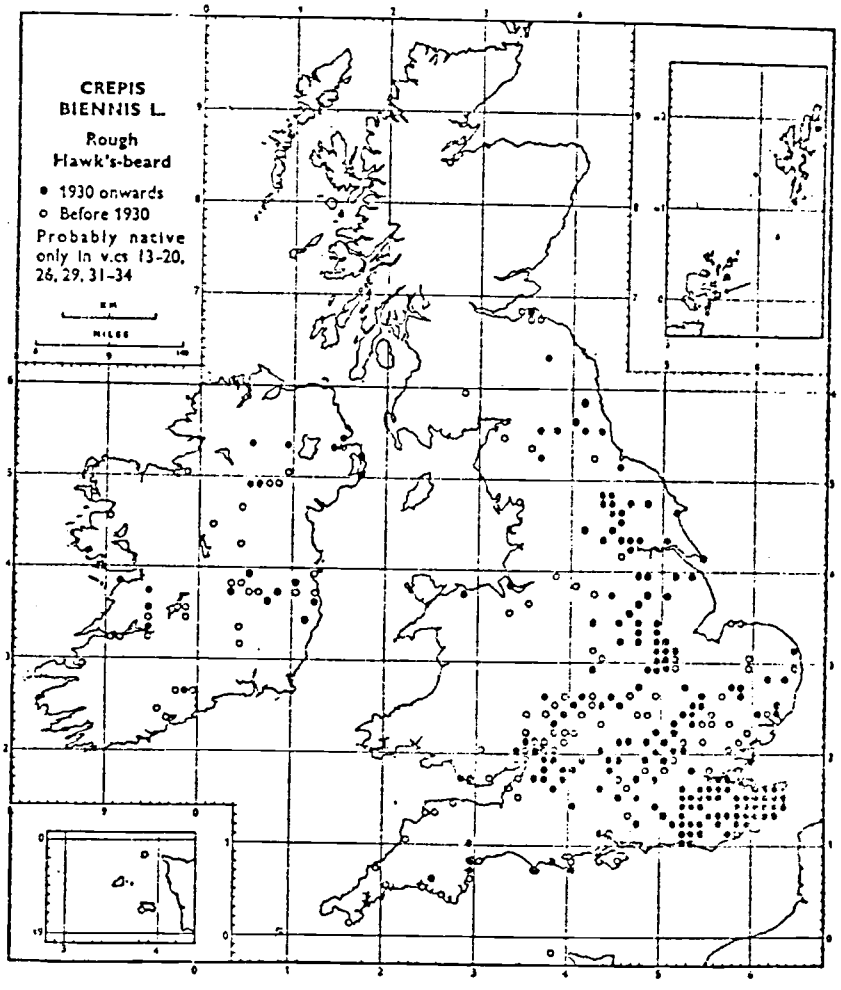


Fig. 3 Distribution of Rumex hydrolapathum in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

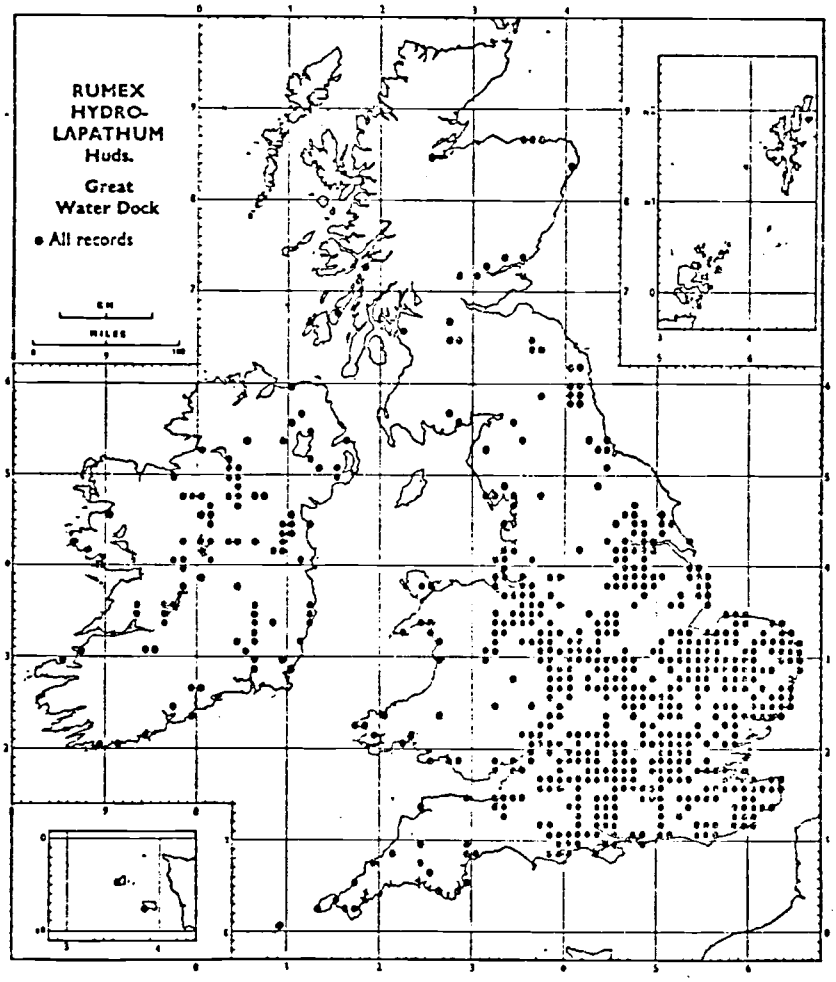


Fig. 4 Distribution of Campanula trachelium in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

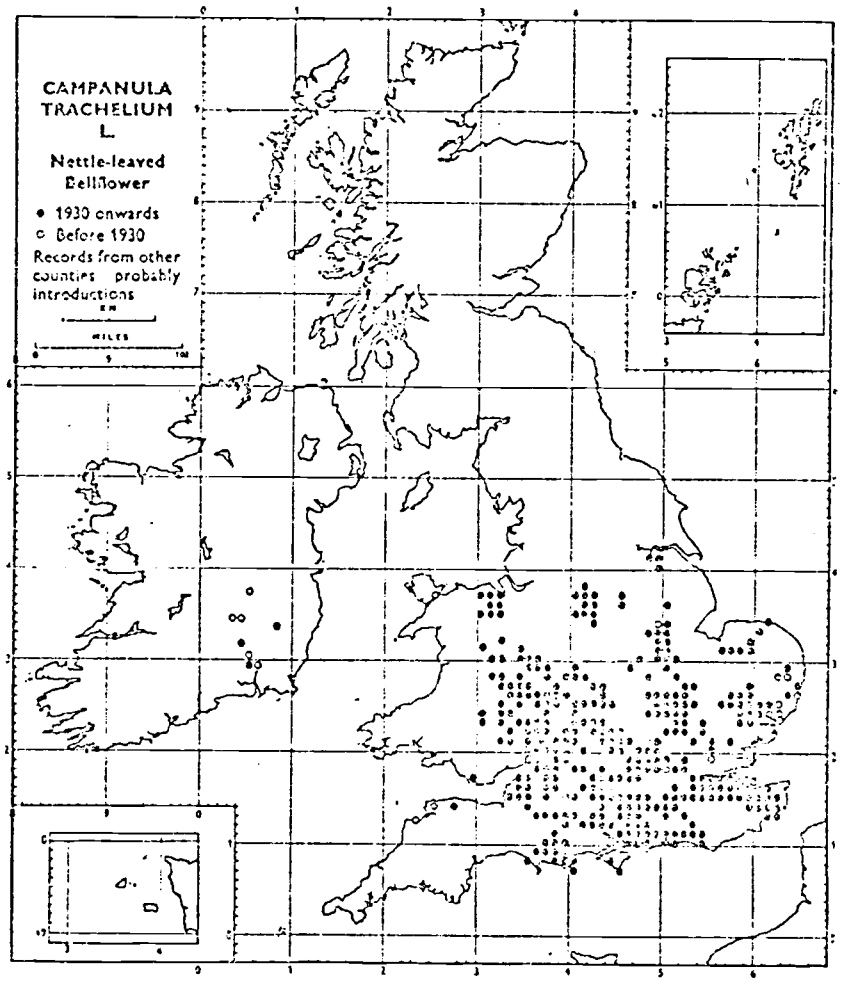


Fig. 5 Distribution of Carex hostiana in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

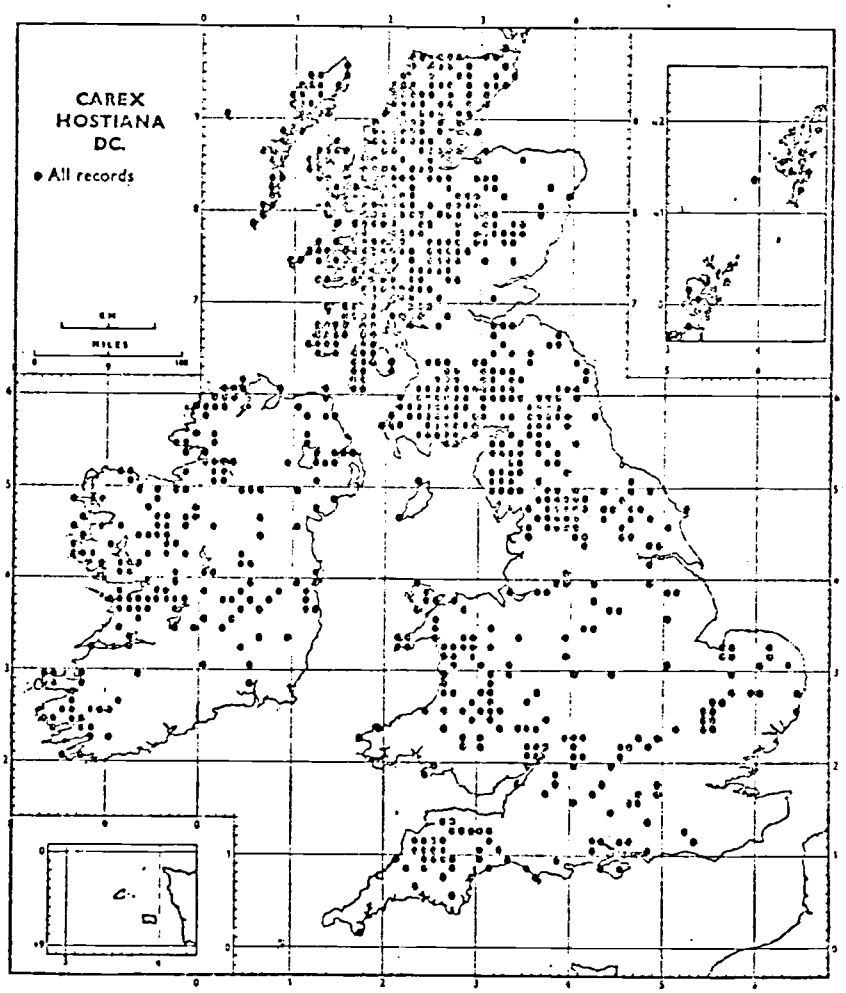


Fig. 6 Distribution of Carex lepidocarpa in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

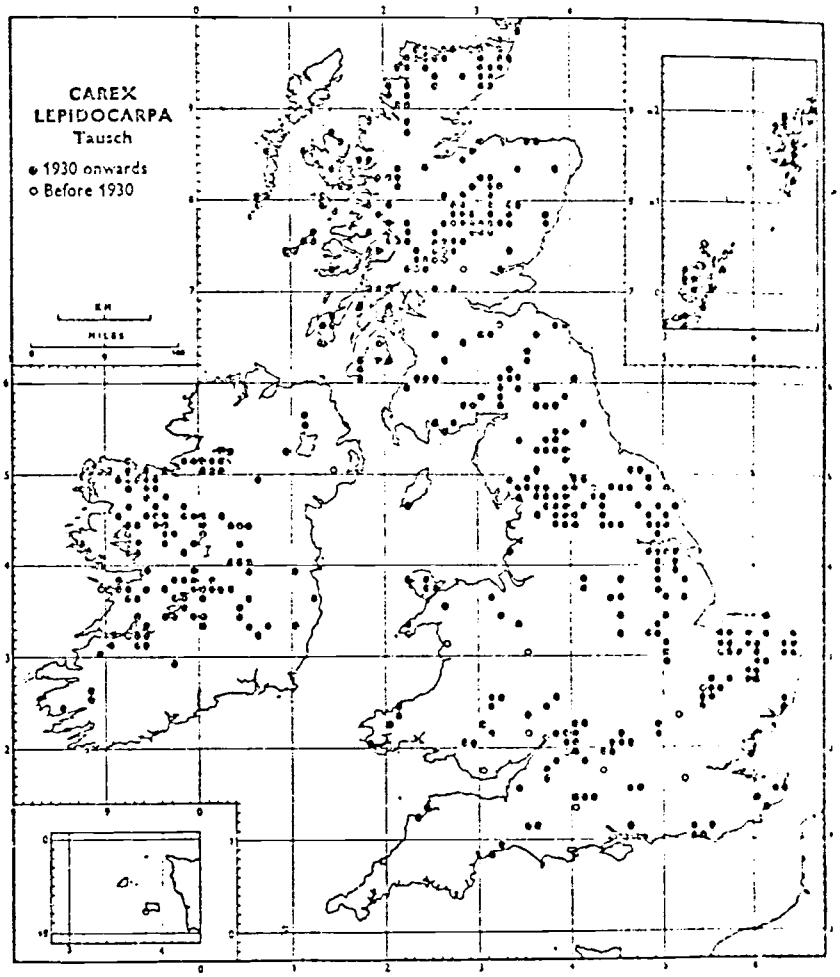


Fig. 7 Distribution of Cirsium dissectum in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

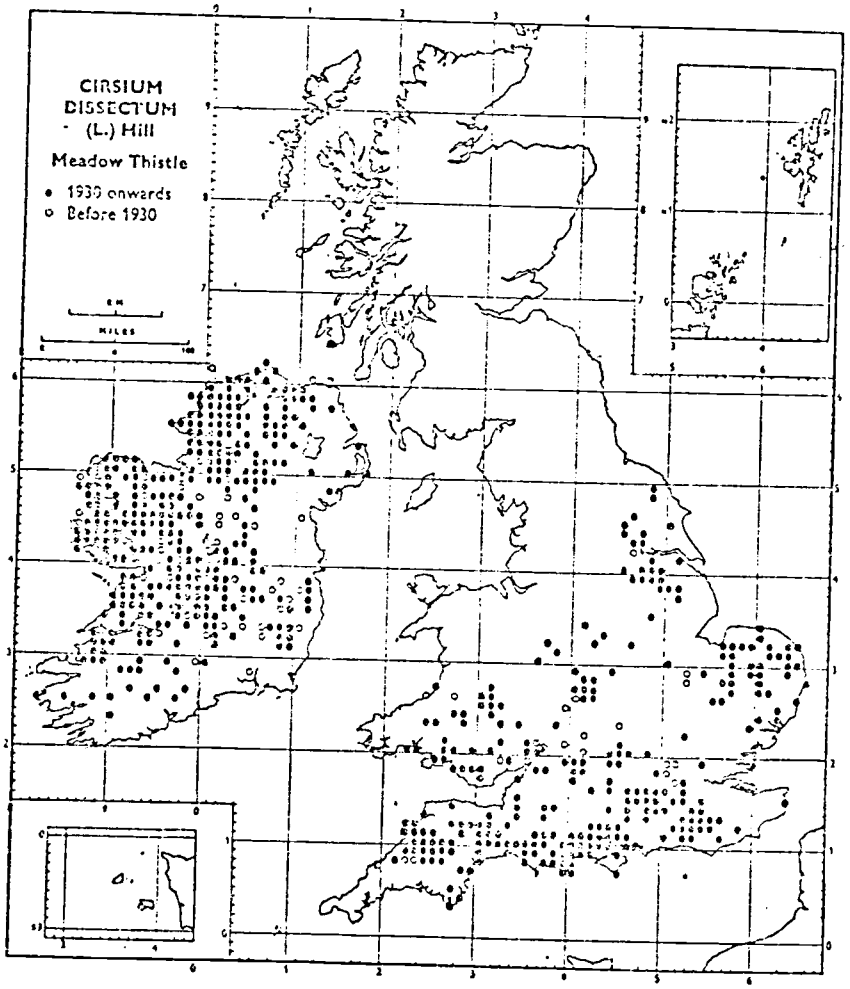


Fig. 8 Distribution of Osmunda regalis L. in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

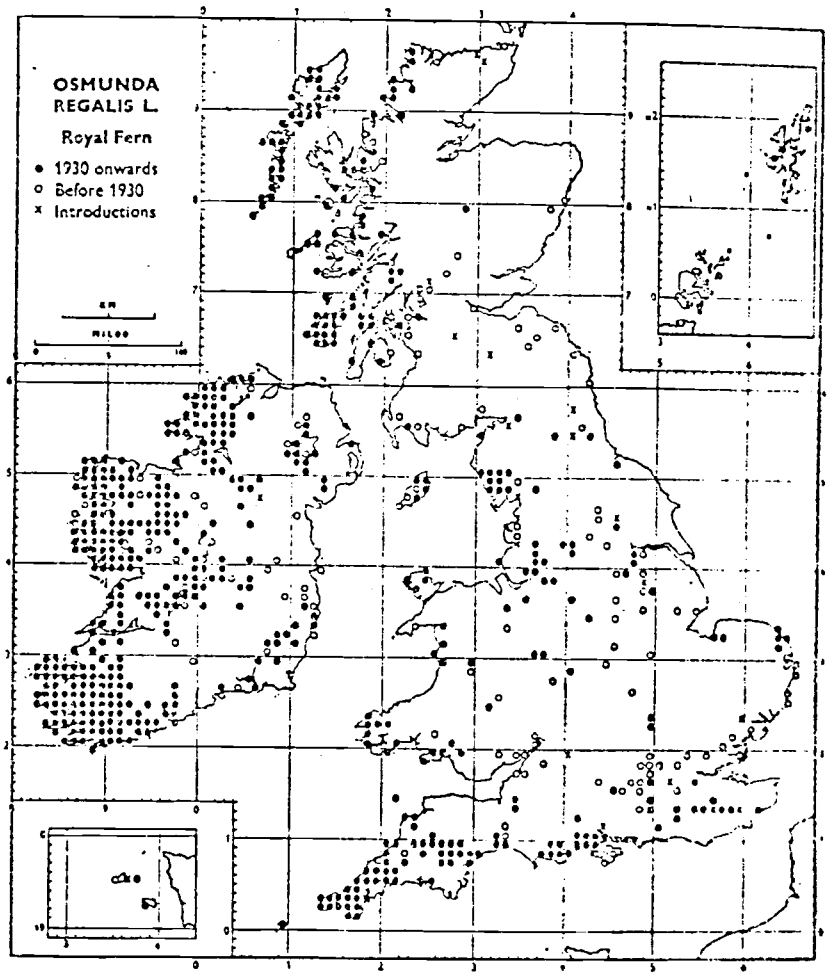


Fig. 9 Distribution of Platanthera bifolia L in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

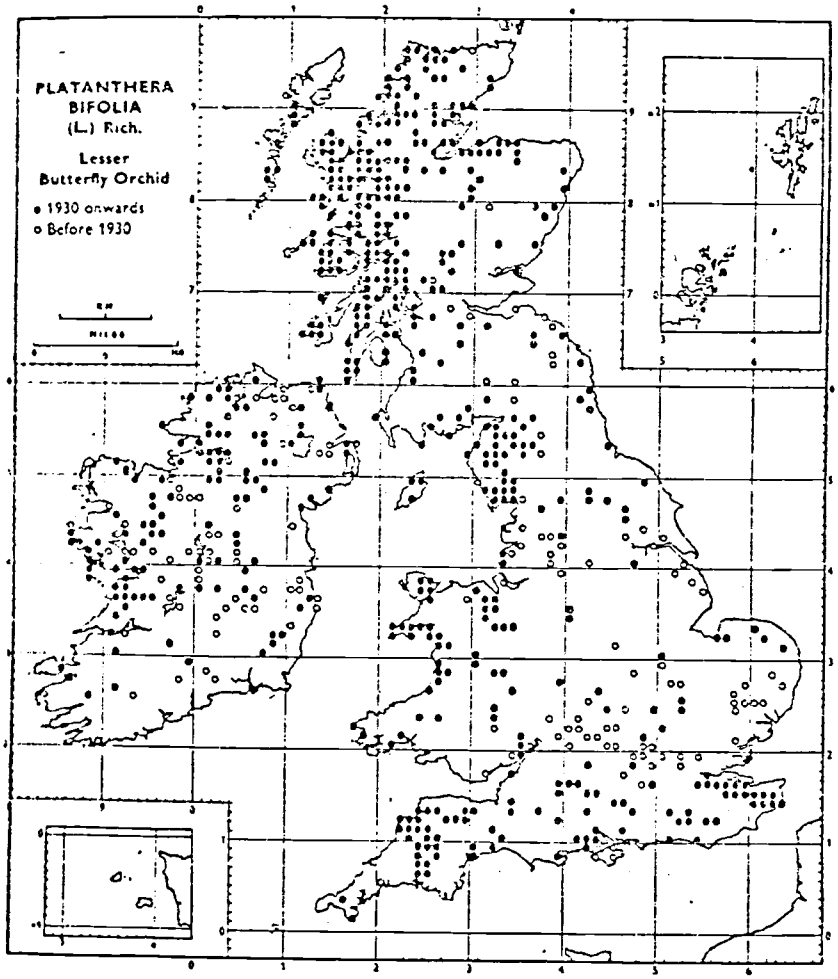


Fig. 10 Distribution of Bidens cernua in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

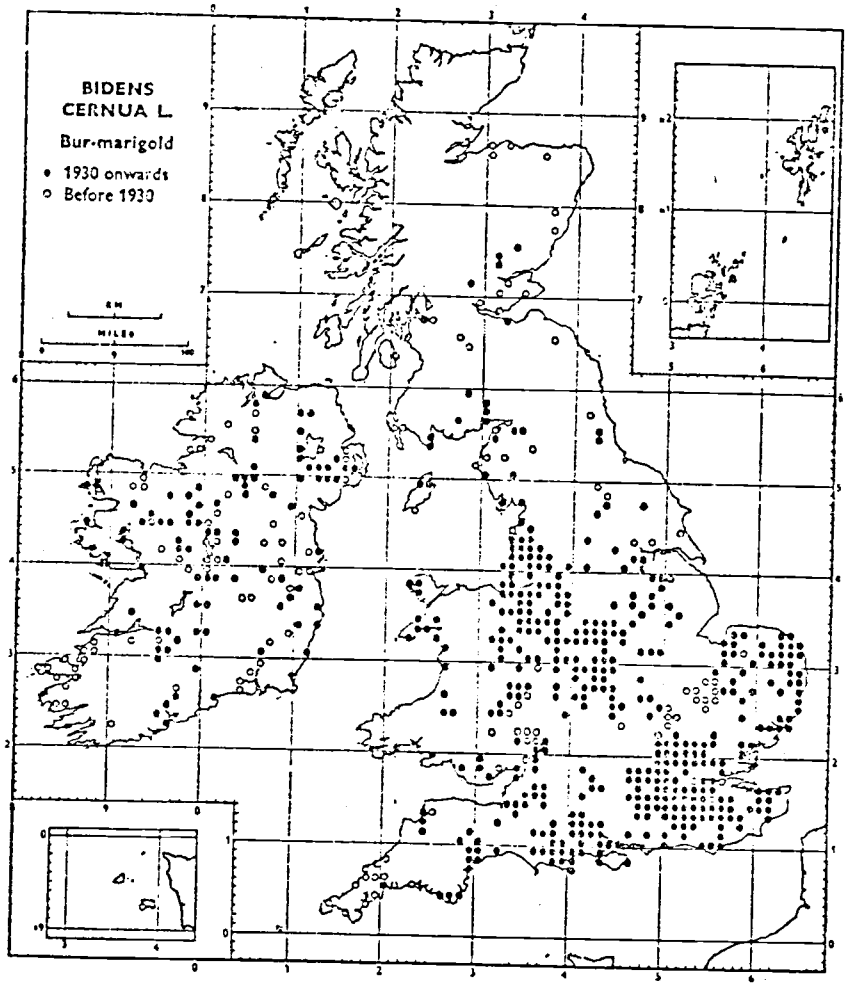


Fig. 11 Distribution of Bidens tripartita in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

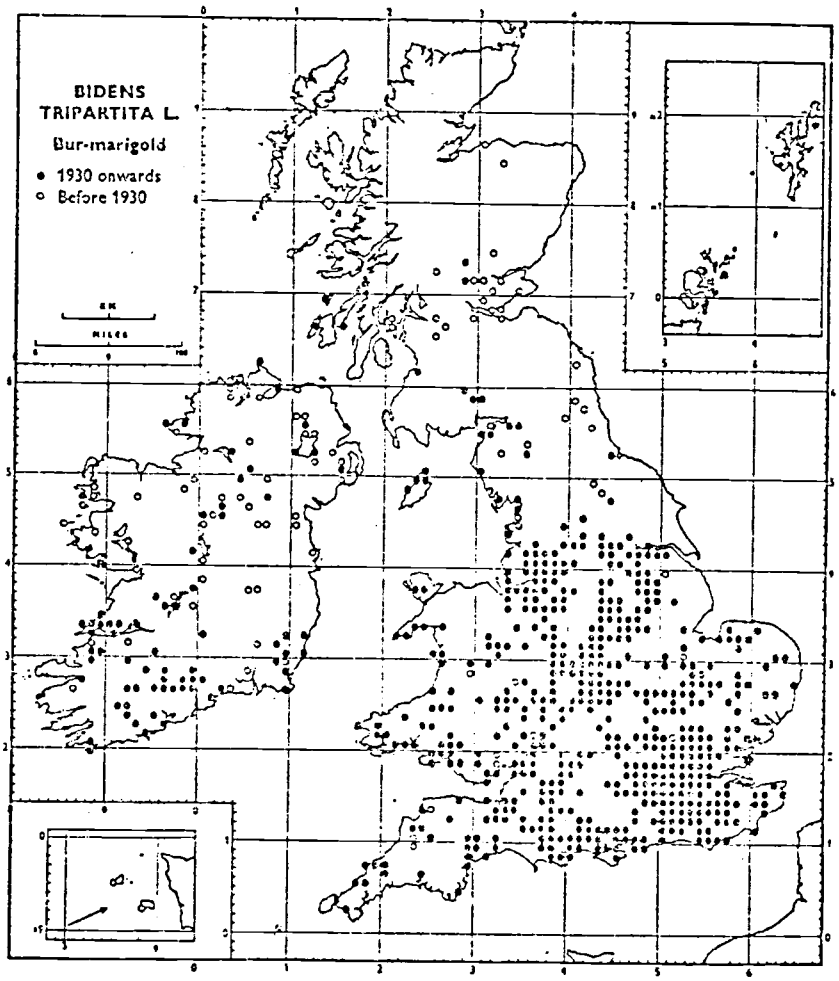


Fig. 12 Distribution of Carex elata in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

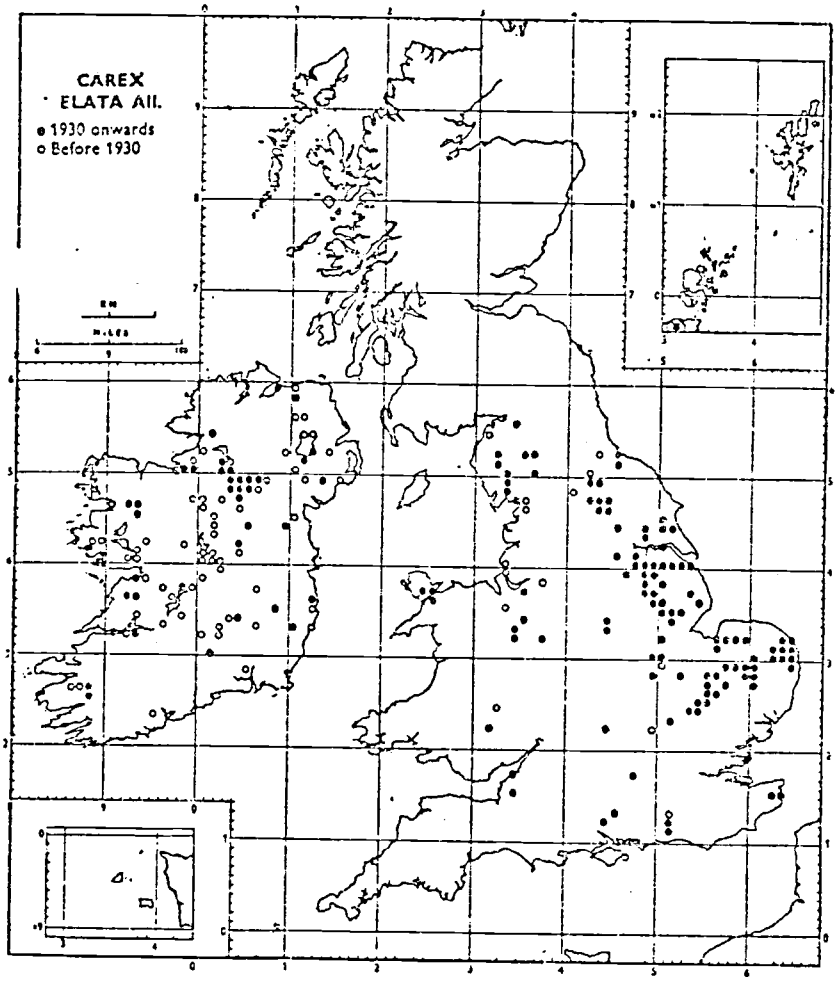


Fig. 13 Distribution of Sparganium angustifolium in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

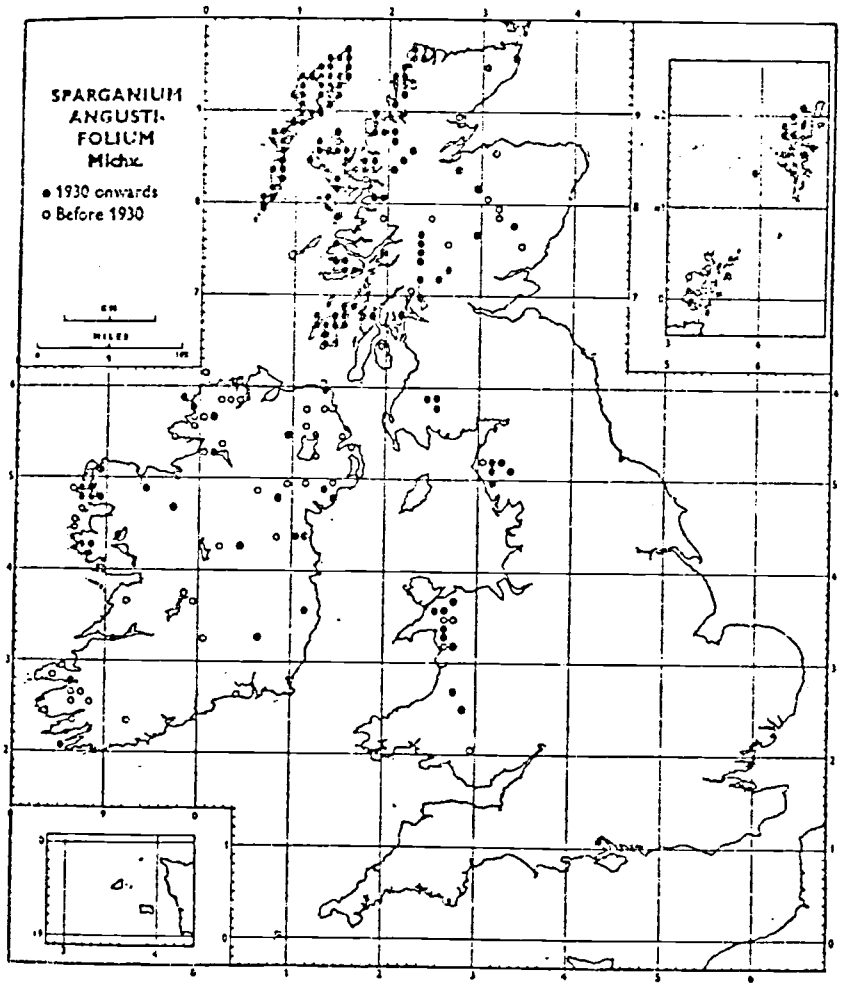


Fig. 14 Distribution of Utricularia minor in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

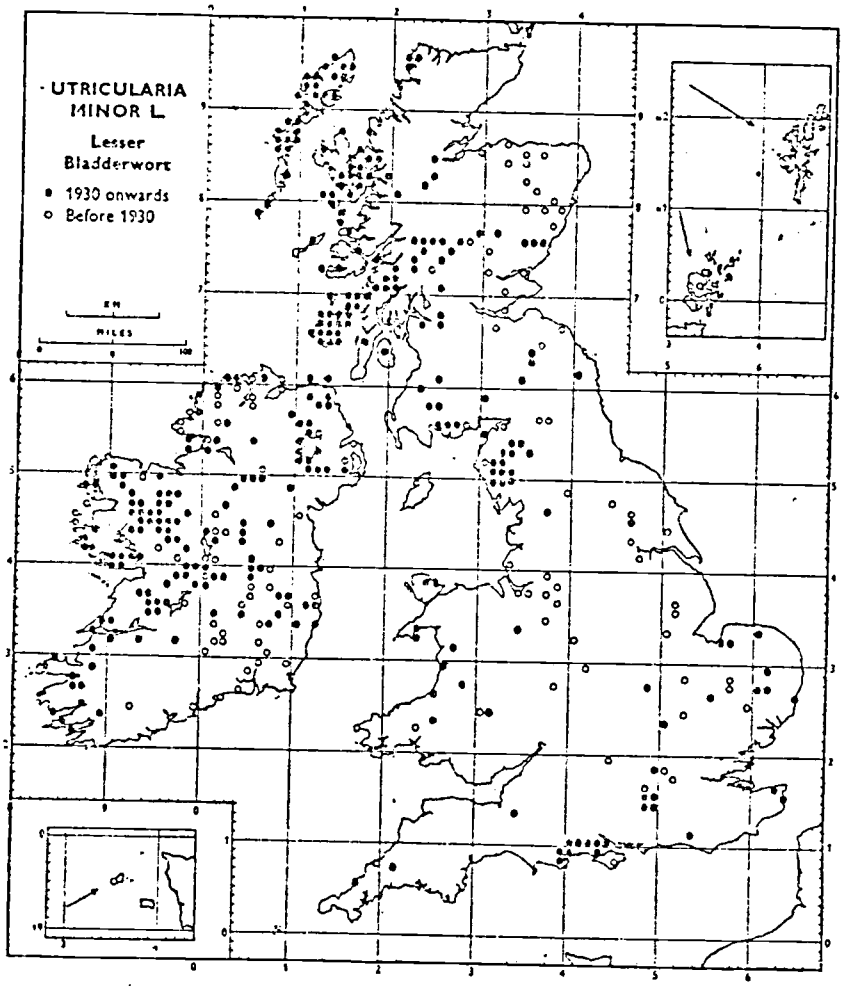


Fig. 15 Distribution of Antennaria dioica in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

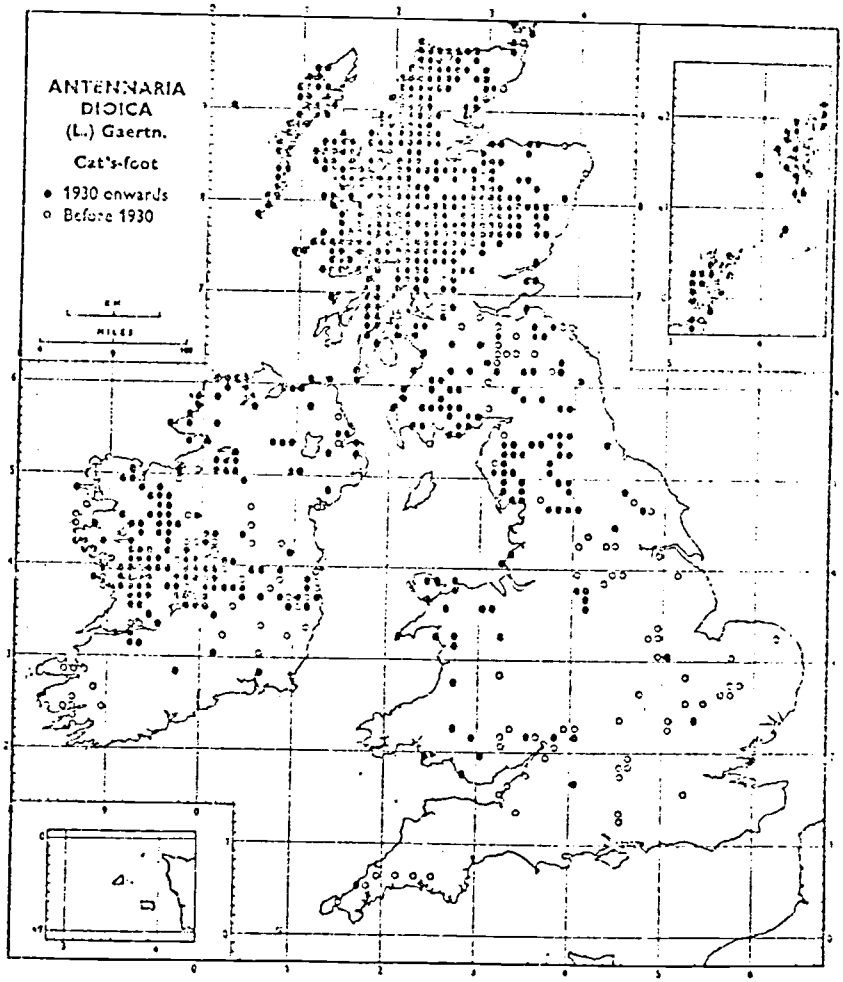


Fig. 16 Distribution of Dactylorchis incarnata in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

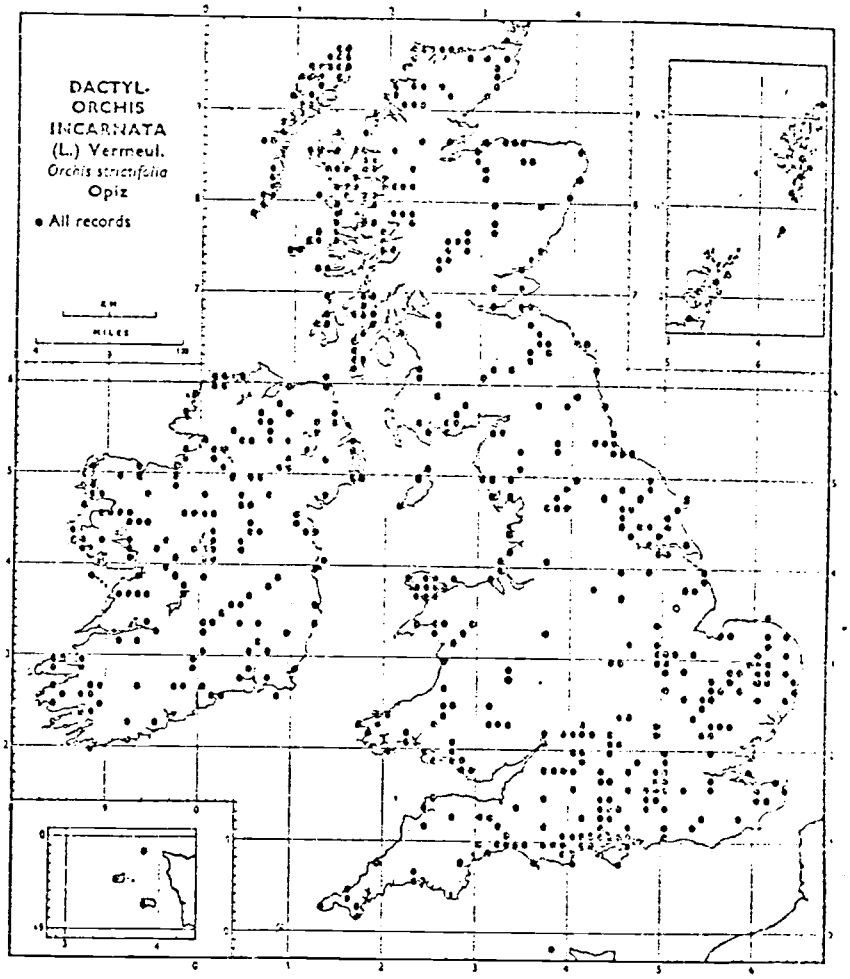


Fig. 17 Distribution of Epipactis palustris in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

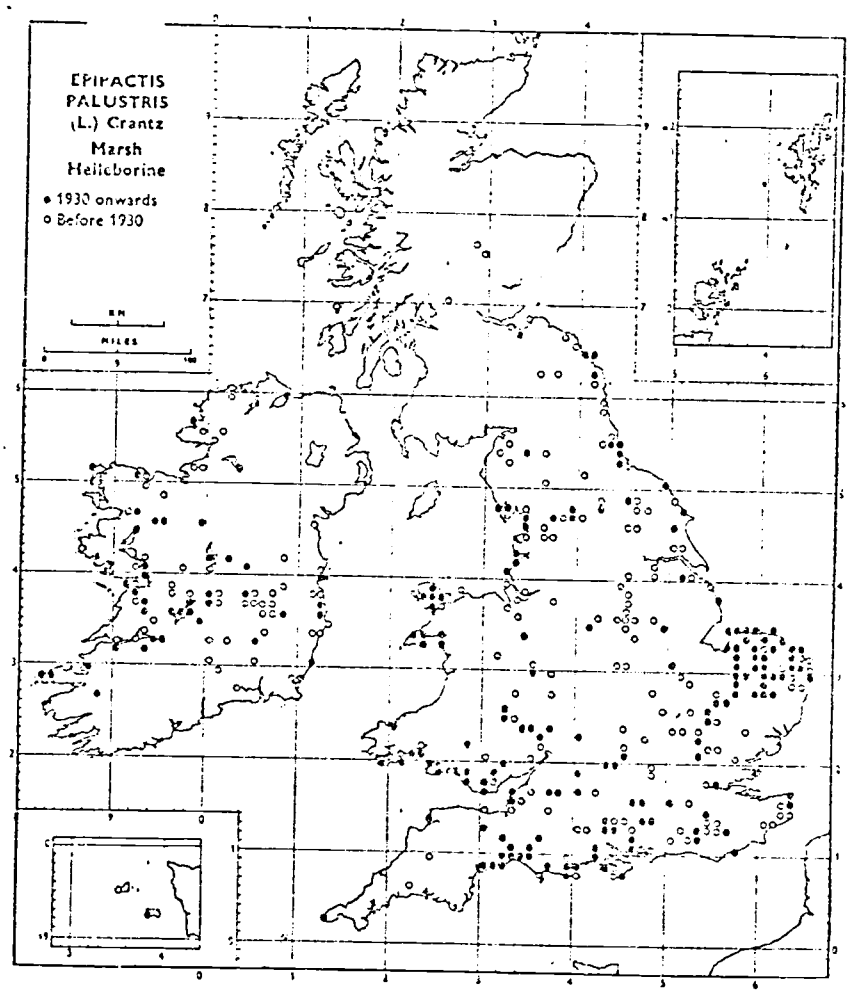


Fig. 18 Distribution of Ophioglossum vulgatum in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

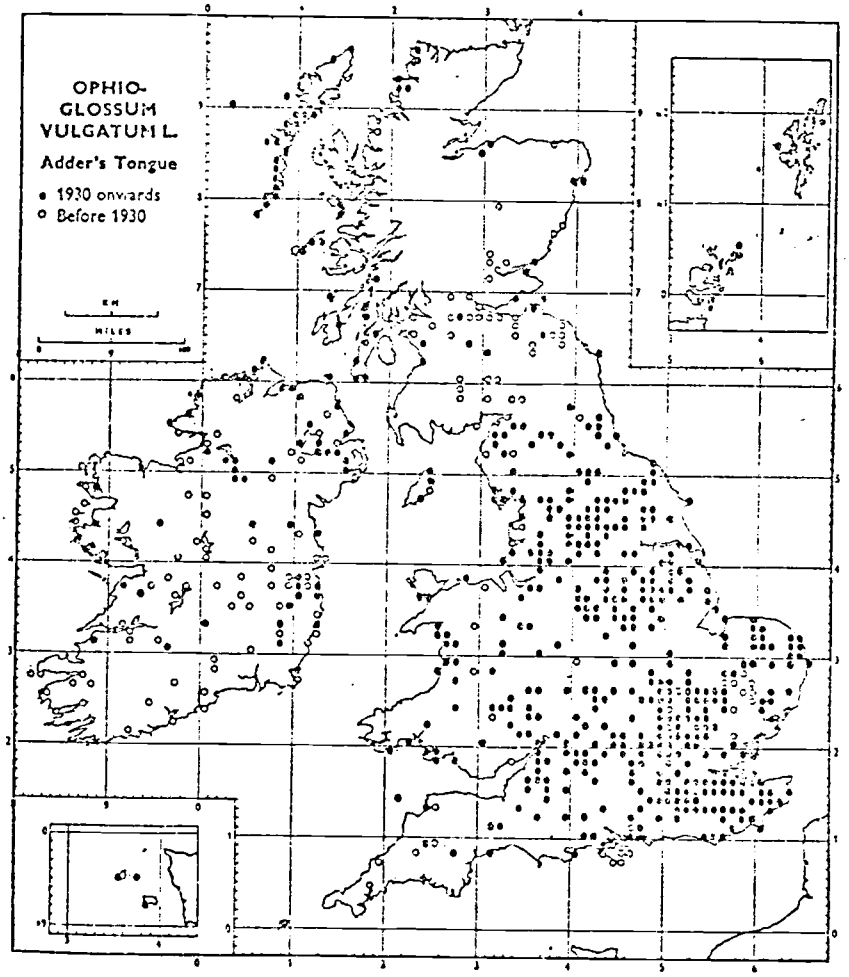


Fig. 19 Distribution of Orchis morio in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

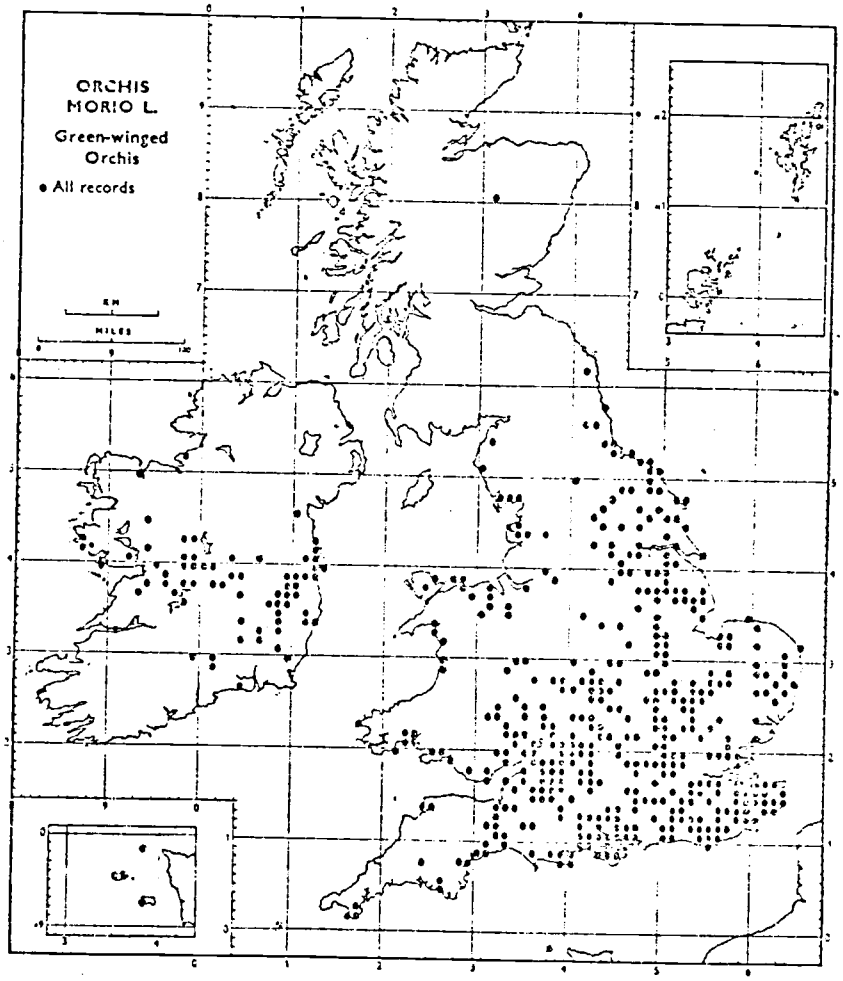


Fig. 20 Distribution of Parnassia palustris in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

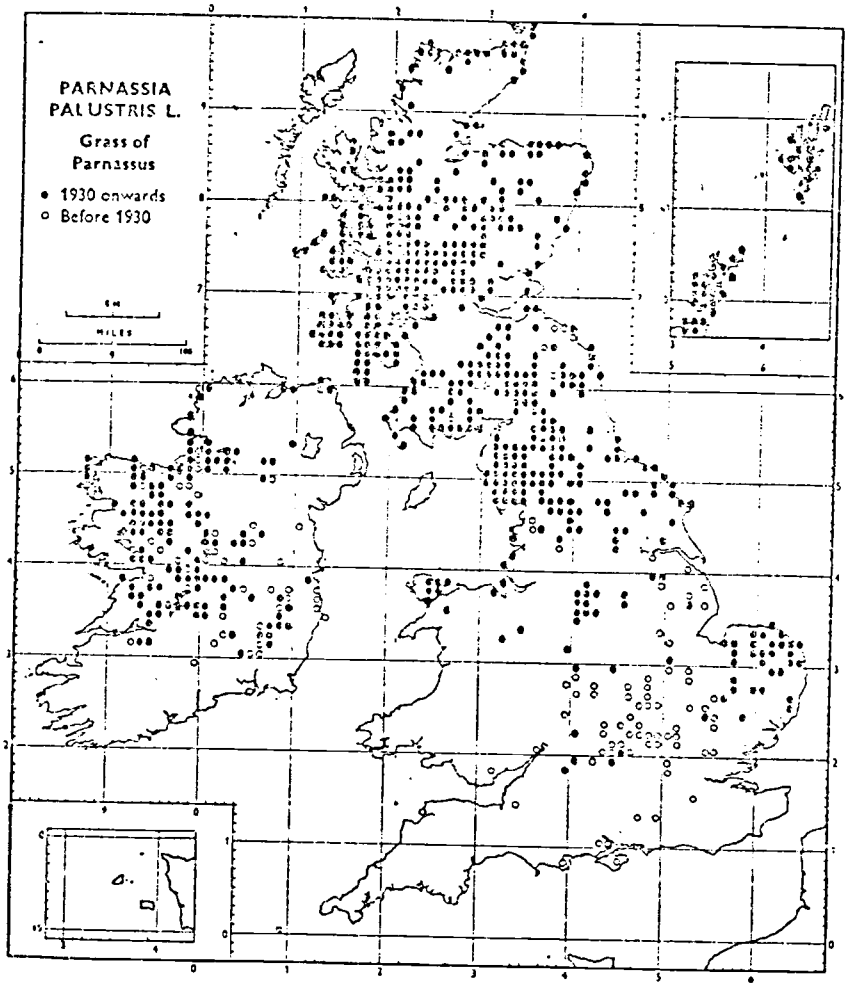


Fig. 21 Distribution of Ranunculus trichophyllus in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

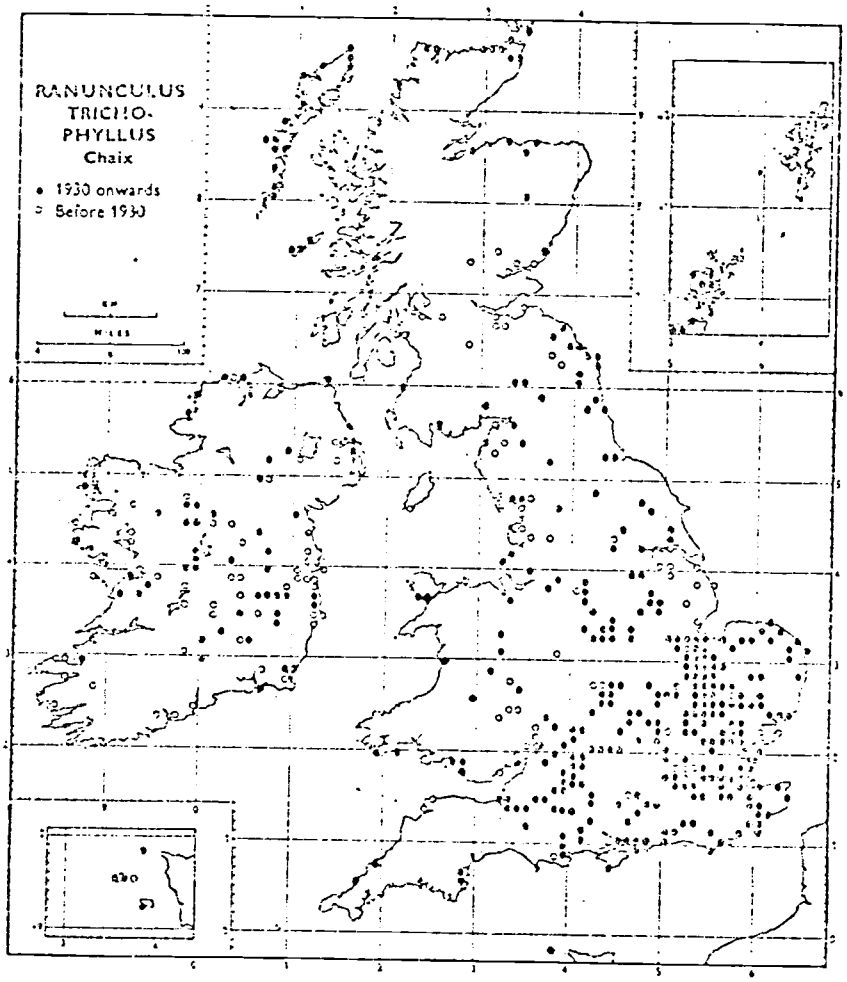


Fig. 22 Distribution of Thalictrum flavum in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

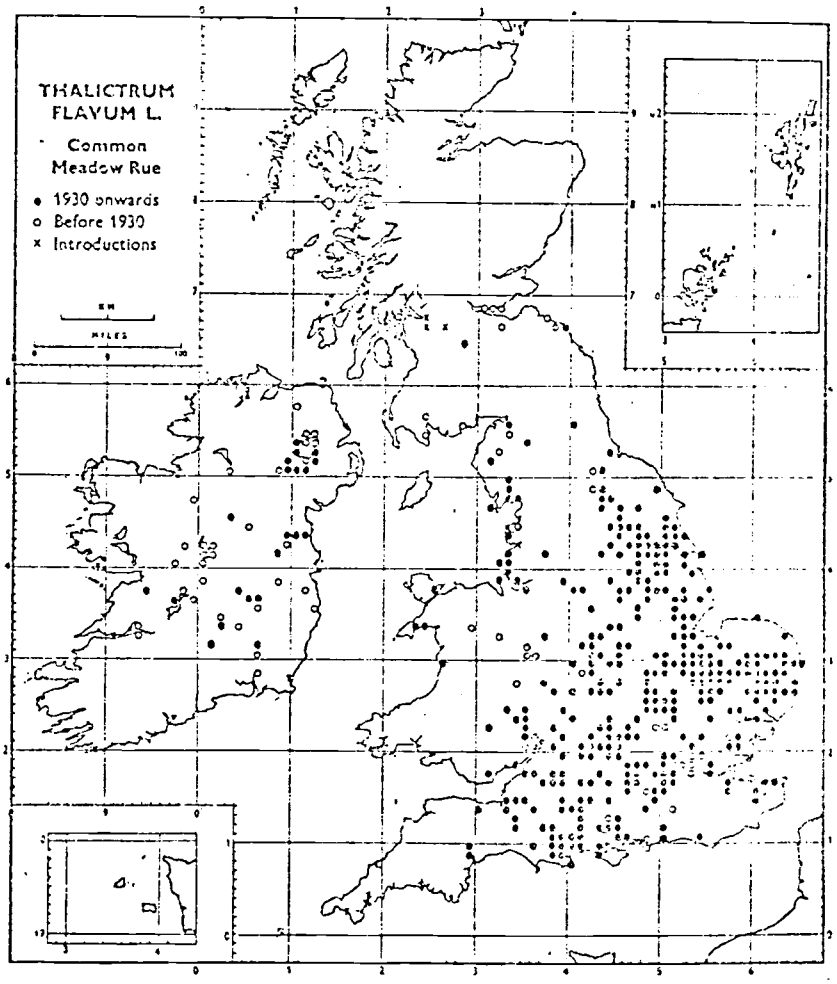


Fig. 23 Distribution of Ophrys insectifera in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

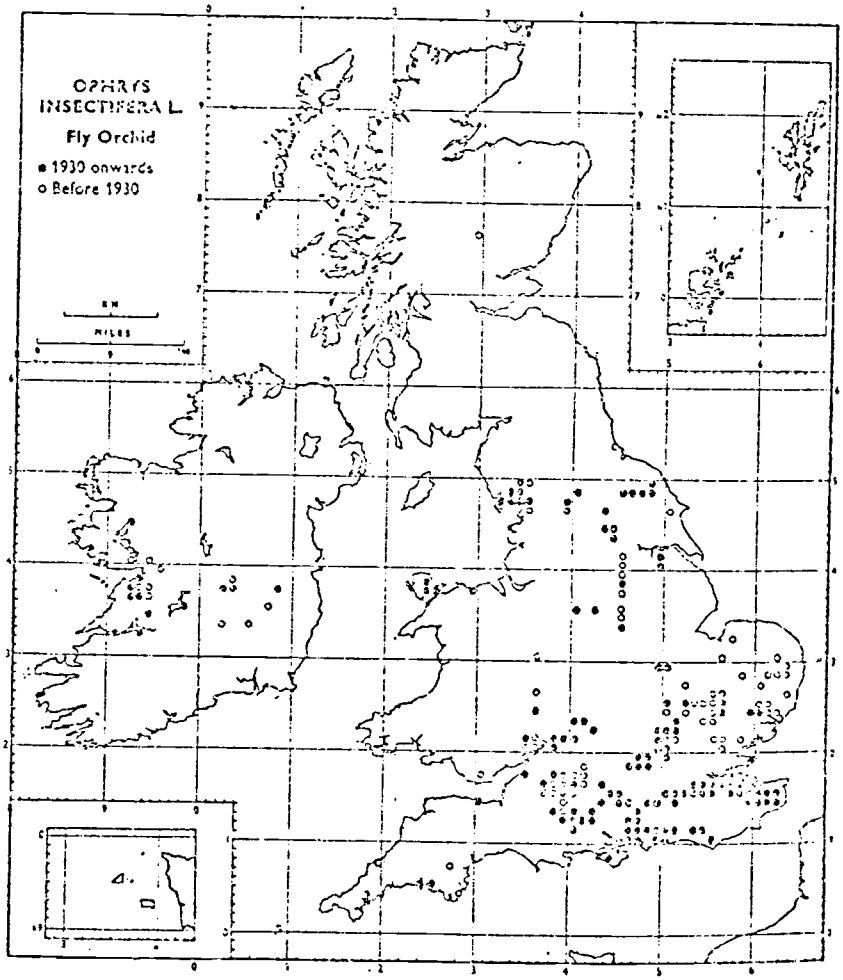


Fig. 24 Distribution of Equisetum variegatum in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

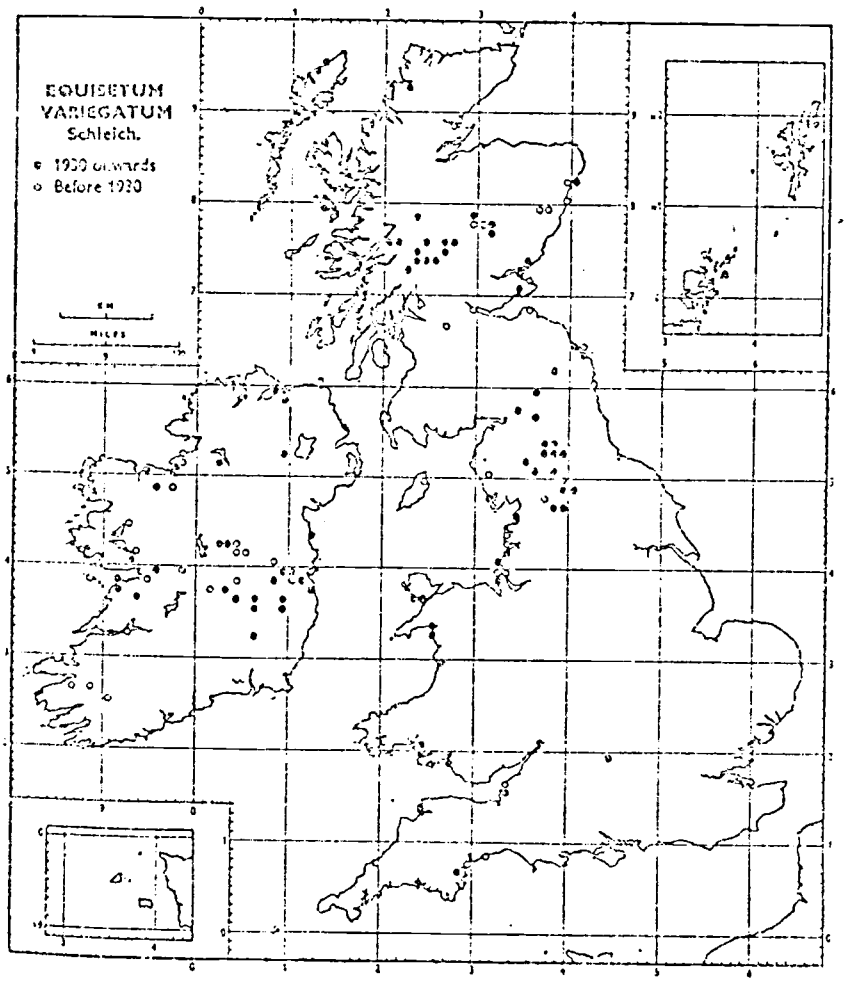


Fig. 25 Distribution of Schoenus nigricans in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

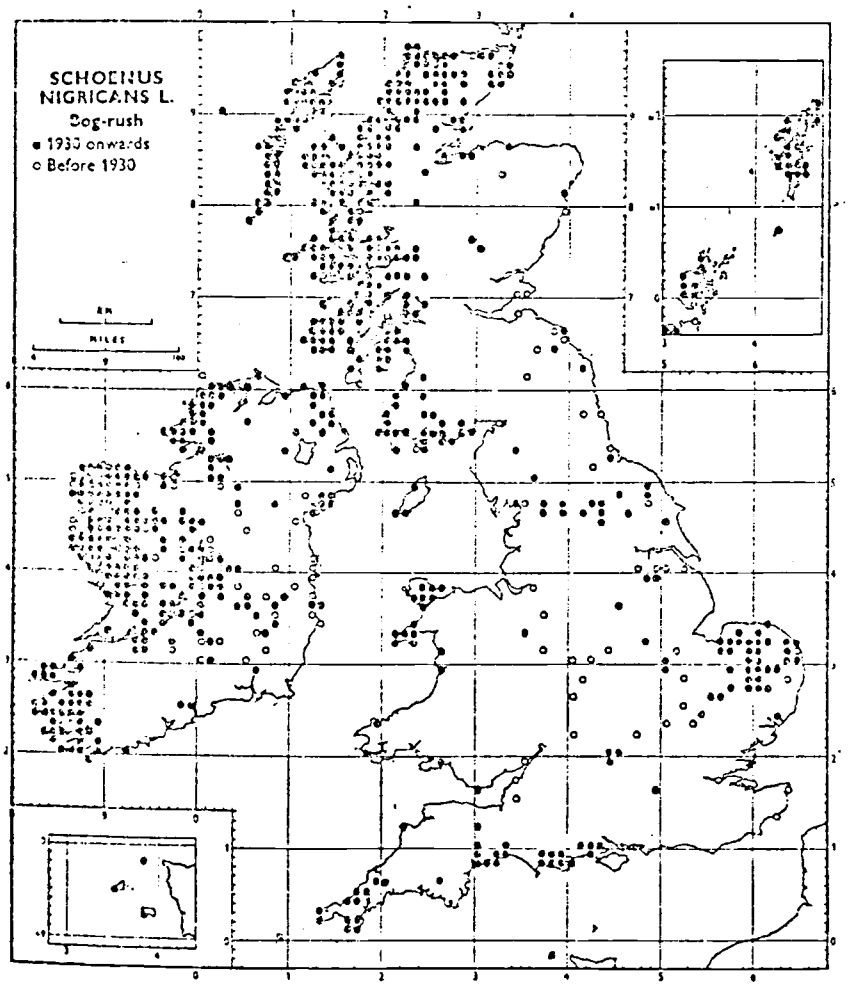


Fig. 26 Distribution of Selaginella selaginoides in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

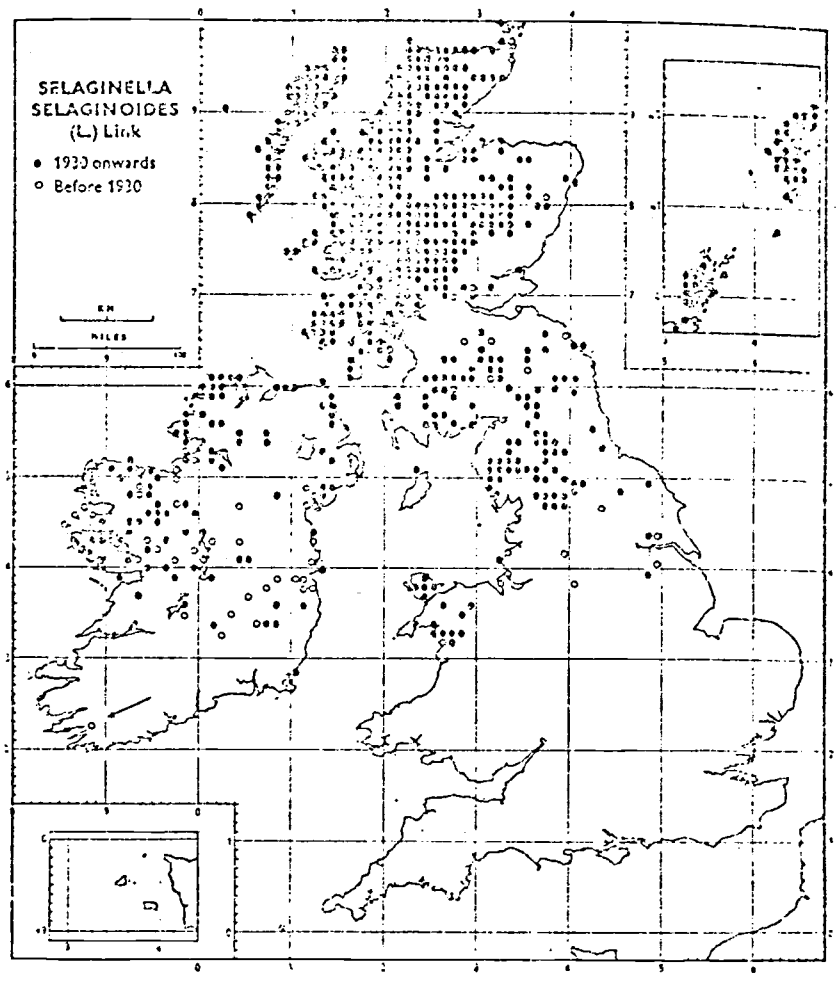


Fig. 27 Distribution of Pinguicula grandiflora in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

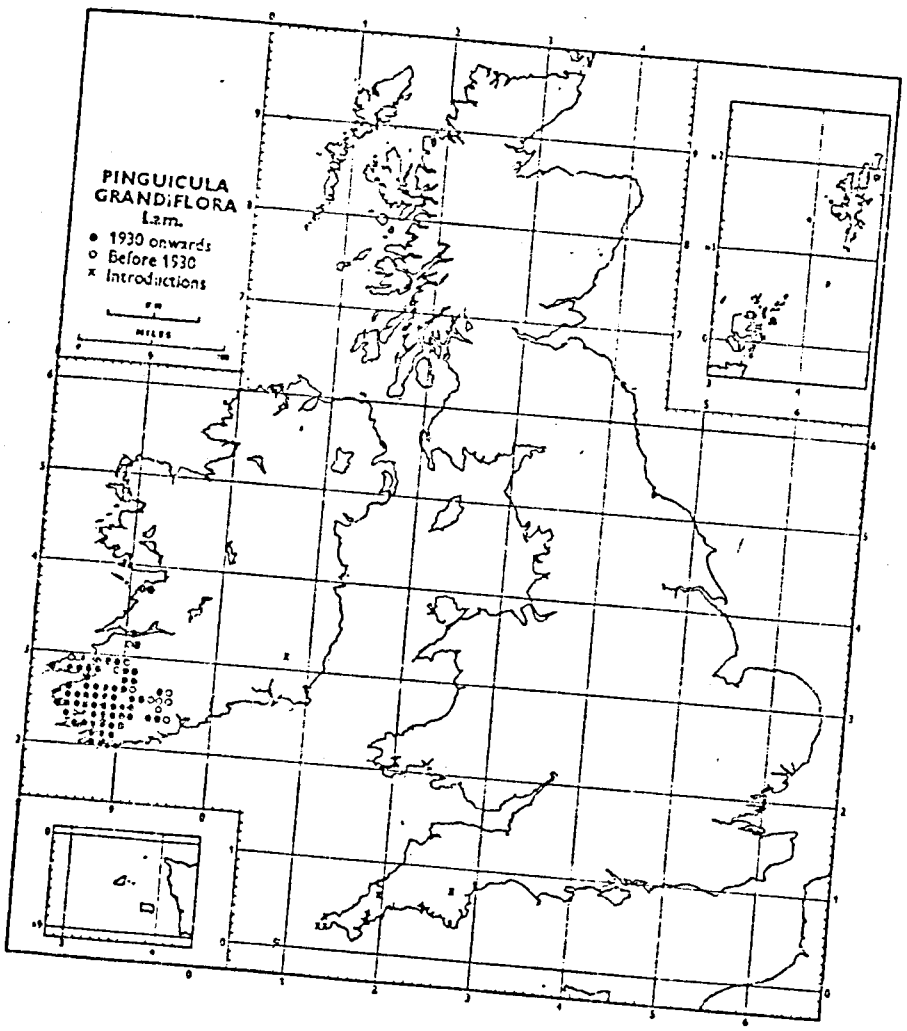


Fig. 29 Distribution of Carex diandra in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

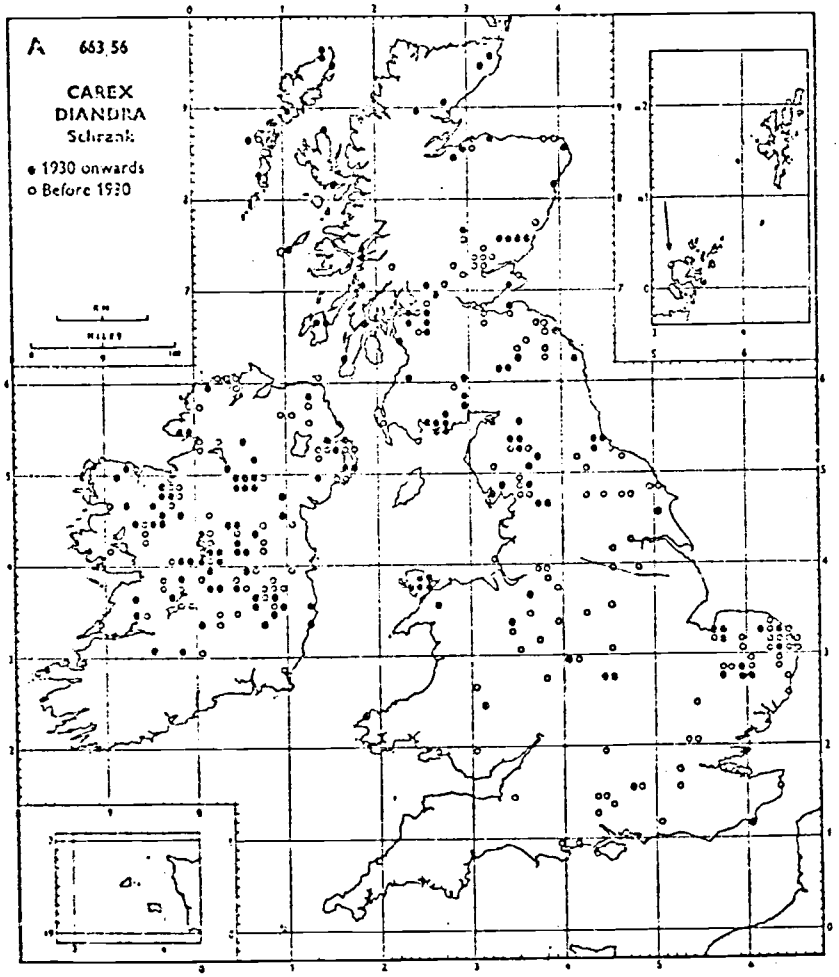


Fig. 30 Distribution of Hypericum elodes in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.

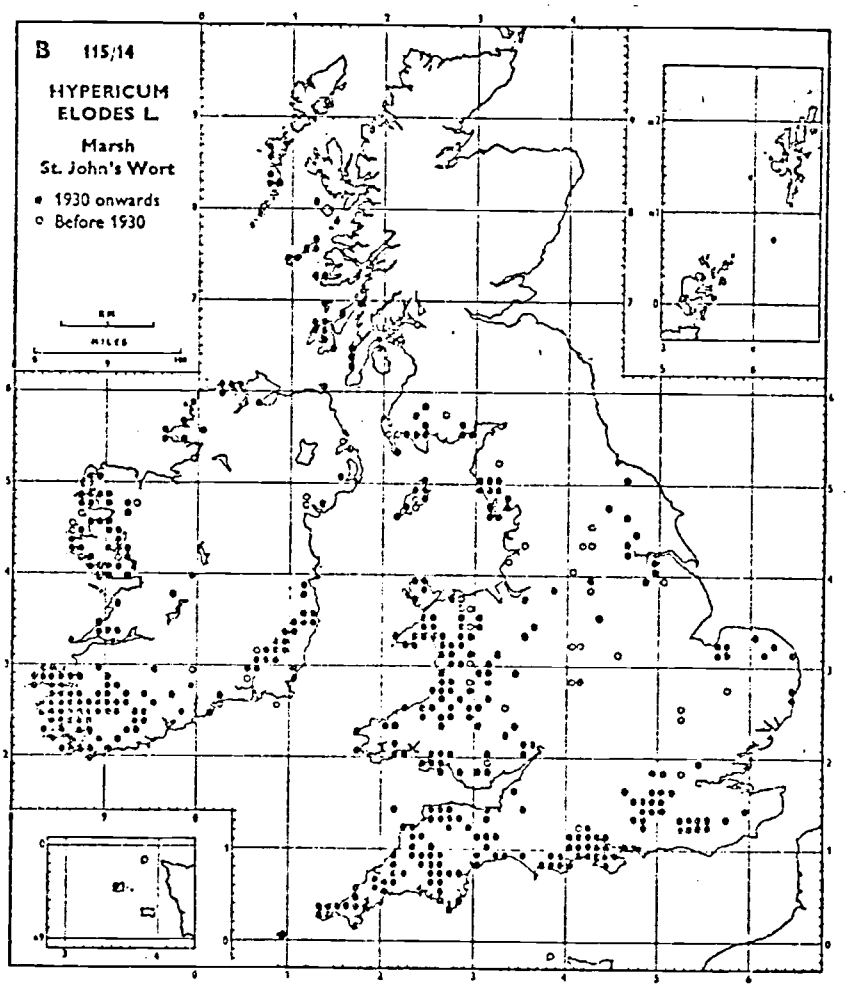
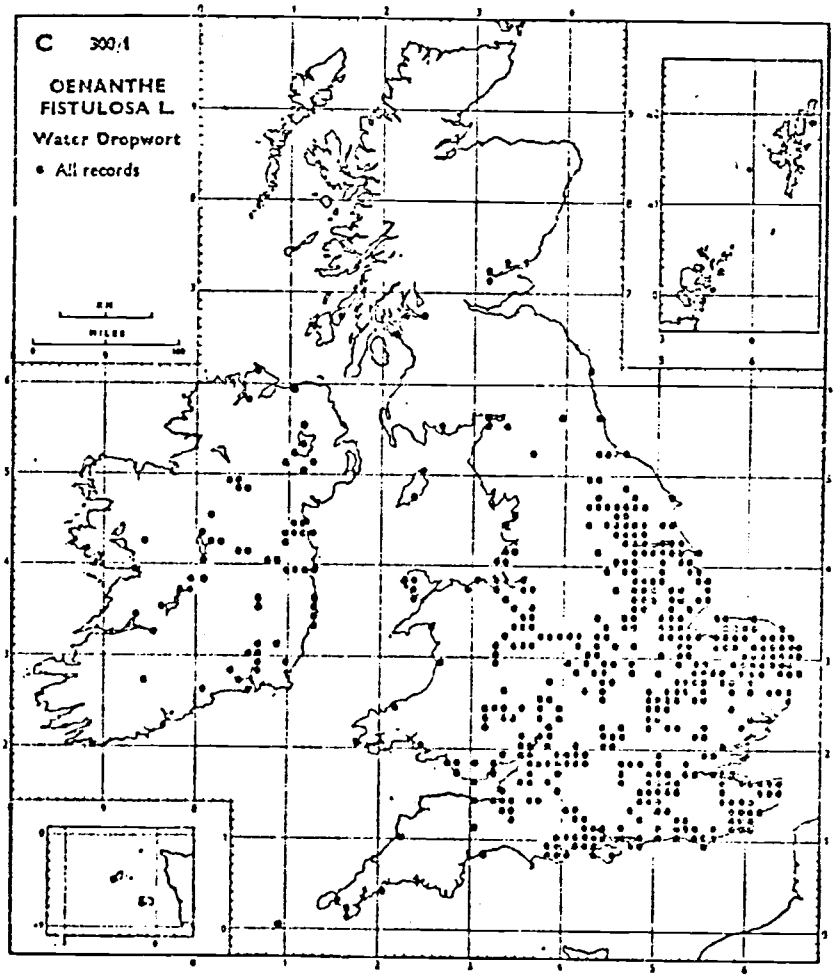


Fig. 31 Distribution of Oenanthe fistulosa in Ireland and Britain

Taken from "Atlas of the British Flora", prepared by the Botanical Society of the British Isles.



SUMMARY FOR DEV. PLAN 1985

NATIONAL HERITAGE INVENTORY

AREAS OF SCIENTIFIC INTEREST IN CO. KILKENNY

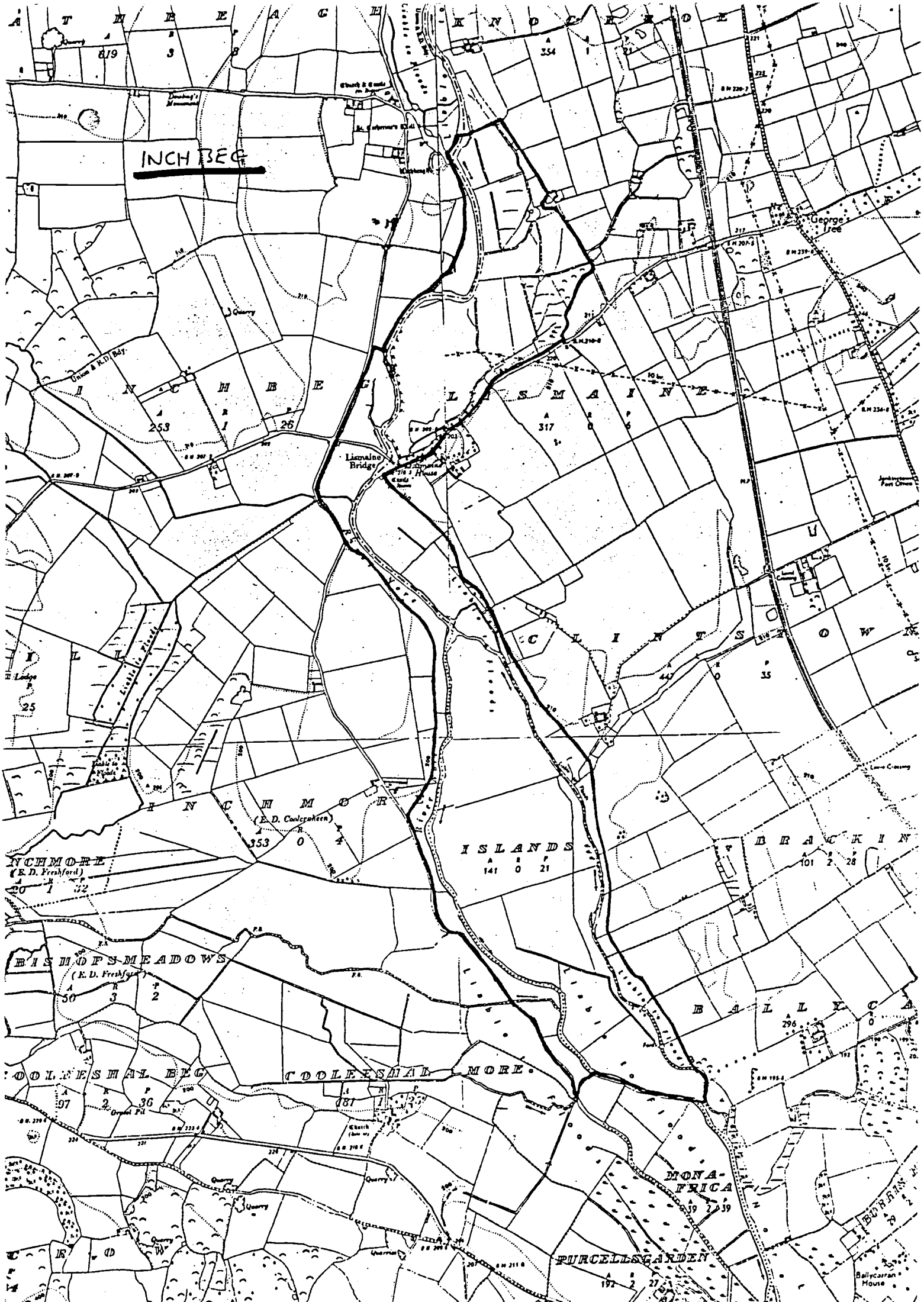
Name of Area	Interest	Description	Threats
INTERNATIONAL IMPORTANCE			
1. Kiltorcan old quarries S 559 343	Geological	Two small and shallow quarries containing fossiliferous rocks of Upper Devonian age. It is the type of locality for at least three plants and one animal and is one of the most important plant-bearing horizons of this period in the world.	The quarries have been partially filled with farming debris which spoils their appearance and accessibility but not their inherent value.
NATIONAL IMPORTANCE			
2. Dunmore Cave S 509 650	Geomorphological	A series of Upper Carboniferous limestone caves with well-developed dripstone formations. The passages are broad and mostly dry.	The site is state-owned and managed and is under no threat.
3. Hugginstown Fen S 5230	Ecological*(B,O)	A large and relatively uniform area of fen and reedswamp with extensive stands of sedges (Carex diandra, C. rostrata) and reeds (Phragmites). It is important also for other plant life and its breeding birds. Very few other areas of this size or quality exist in the country, particularly in the south-east.	Drainage is an ever-present threat but at the moment the central ditch does not have too much impact.
REGIONAL IMPORTANCE			
4. Ballykeefe Wood S 4151	Ecological	A small oakwood on the slopes of the Slieve Ardagh Hills. It has been managed in the past and contains many laid out paths, now somewhat overgrown. Some colonisation of open ground is apparent.	None. The area is a statutory Nature Reserve owned by the Forest and Wildlife Service.
5. Brownstown Wood S 6630	Ecological (B)	An oakwood which was partly felled in the past, producing young coppicing stems as well as a few much older trees. Birch, rowan and holly occur in places and there is some interest in the ground flora.	Largescale felling would endanger the site but selective timber extraction would be of less concern. Refuse dumping is occurring near the road.

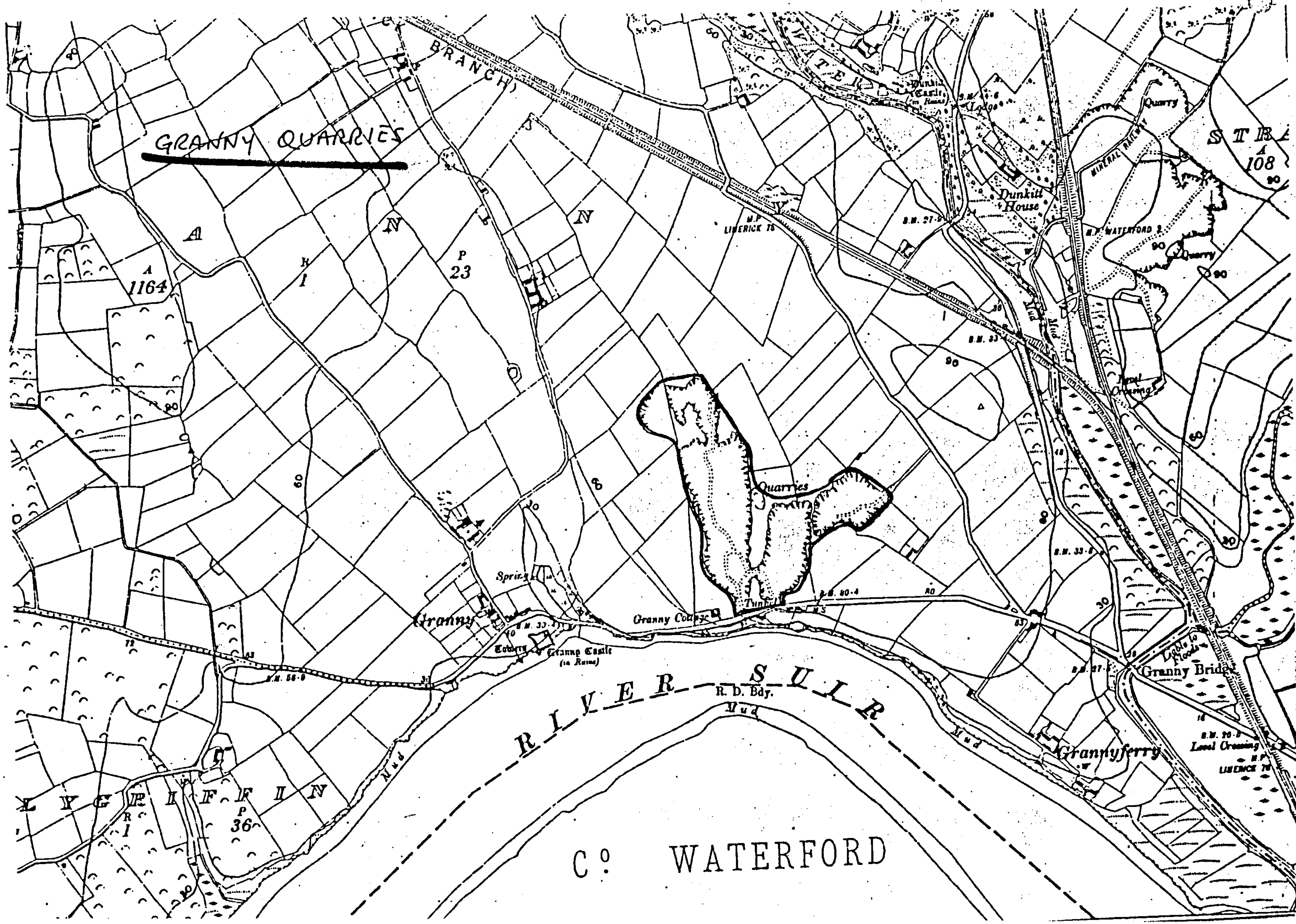
* Subdivisions of ecological interest are B botanical, O orithological, Z other animal life.

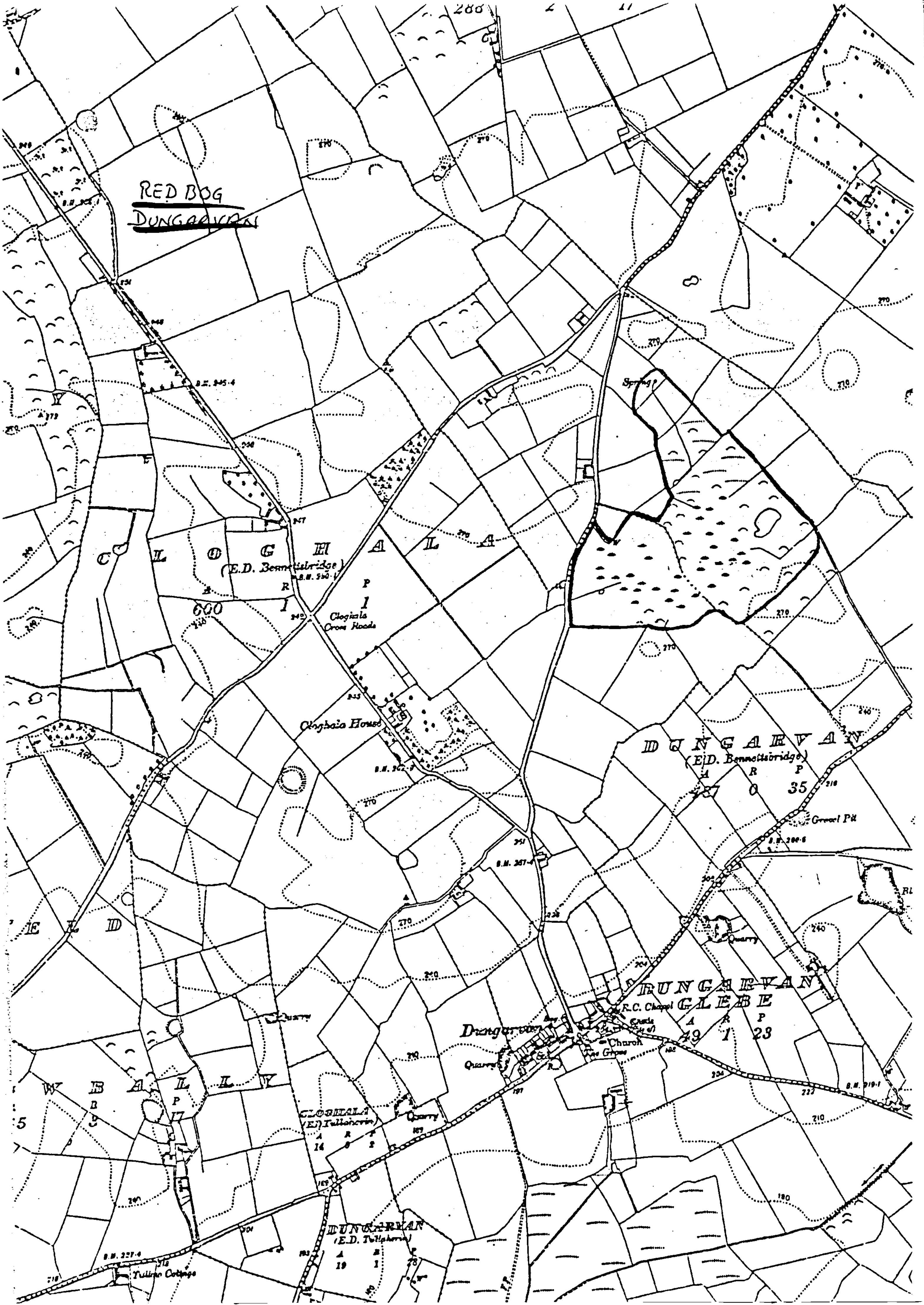
Name of Area	Interest	Description	Threats
6. Garryrickin Wood S 4038	Ecological	Two small areas of deciduous trees occur within a large conifer plantation on the north-west facing slope below Windgap. Oak, hazel and birch are the main species present.	None. The sites are included in the Garryrickin Nature Reserve and are owned by the Forest and Wildlife Service.
7. Kilkeasy Bog S 5430	Ecological (B,Z)	A varied wetland area with open water, floating fen, cut over bog and heath. It contains rich animal and plant communities with species not widely found elsewhere in the county.	Drainage or other intensification of farming is possible though the area would not be highly productive with substantial inputs.
8. Kylecorragh Wood S 3742	Ecological	A damp oakwood on the western side of the Nore valley, Kylecorragh is unusual for the large size and evenness of trees. There is little regeneration except for sycamore. Diverse ground flora.	Clear-felling and replacement with conifers is an obvious danger on this site.
9. Kyleadohir Wood S 3742	Ecological	Old estate woodland growing on a damp clay soil near the King's river. The canopy includes much oak and the ground flora is of interest.	None. A Nature Reserve owned by the Forest and Wildlife Service.
10. Lough Cullin S 6118	Ecological (B,O)	A small lake, one of very few in the county, L. Cullin is surrounded by a large area of rushy fields. The lake itself contains interesting fen vegetation including some species very rare in the county. Moderate numbers of wildfowl and waders occur.	Intensification of farming on the surrounding land could lead to pollution in the lake. Drainage seems less likely.
11. Thomastown Inches S 4421	Ecological (B)	Riverside grassland and its wooded margins has an interesting flora including species characteristic of the Nore valley.	Cultivation or tree felling would destroy most of the interest of the site.
12. Tibberaghny Marshes	Ecological (O)	An area of swamp, marsh and wet pasture beside the Suir river. Used by a good number of wildfowl in winter, including, on occasion, greylag geese.	Disturbance through overshooting may be significant.
LOCAL IMPORTANCE 13. Ardaloo Fen S 4662	Ecological (B)	A large area of swamp at the confluence of the Dinin and	Arterial drainage would do major damage; field drainage probably much less.

Name of Area	Interest	Description	Threats
		Nore rivers. Reeds and sedges are joined by a good variety of marsh plants. Bird numbers are sometimes high in winter.	
14. Ballylogue Wood S 6732	Ecological	The wood is mainly of oak with some ash and birch. It is surrounded by substantial conifer plantations and is difficult of access.	Continued felling will destroy the interest of the wood unless the regeneration of oak is allowed in clearings.
15. Bennettsbridge Field S 553 477	Ecological (B)	Old unmanaged pasture on a spring line at the edge of the valley. A rich lime-loving vegetation occurs with many sedge and orchid species. Colonisation by blackthorn is continuing.	Drainage, which has occurred and other physical modification are the major threats. Building development is nearby.
16. Black Quarry S 5154	Geological	The main quarry for the Kilkenny black marble this is now half filled by road spoil, concealing most of the important (basal) rock. It retains some historical interest, however.	Further dumping could conceal the remaining rock face.
17. Castlecomer Estate S 5475	Ecological (B)	Neglected estate woodland now being converted to forestry. There remains an interesting selection of plant species on rocky outcrops and near to former artificial lakes.	Insensitive planting of conifers or further clearance could destroy the ecological interest.
18. Fiddown Island S 4720	Ecological (B)	A low-lying river island covered by willow growth and reedswamp. A good variety of species is present.	Felling of trees has occurred for timber and roadworks. This reduces the area's value but is unlikely to totally destroy it.
19. Granny Quarries S 5714	Geological	Good sections of the lower Hook Head (Carboniferous) rocks are exposed in the two quarries.	Dumping is the only likely threat.
20. Inchbeg S 4365	Ecological (O)	Part of the Nore valley of special value to birdlife when it floods in winter. Golden plover and lapwing occur in large numbers.	Disturbance. Arterial drainage.
21. The Loughans S 3163	Ecological (B)	Low-lying calcarcous pasture which behaves somewhat like a turlough in winter. The flora is particularly rich, containing many species typical of the Central Plain.	Drainage would be of major significance.

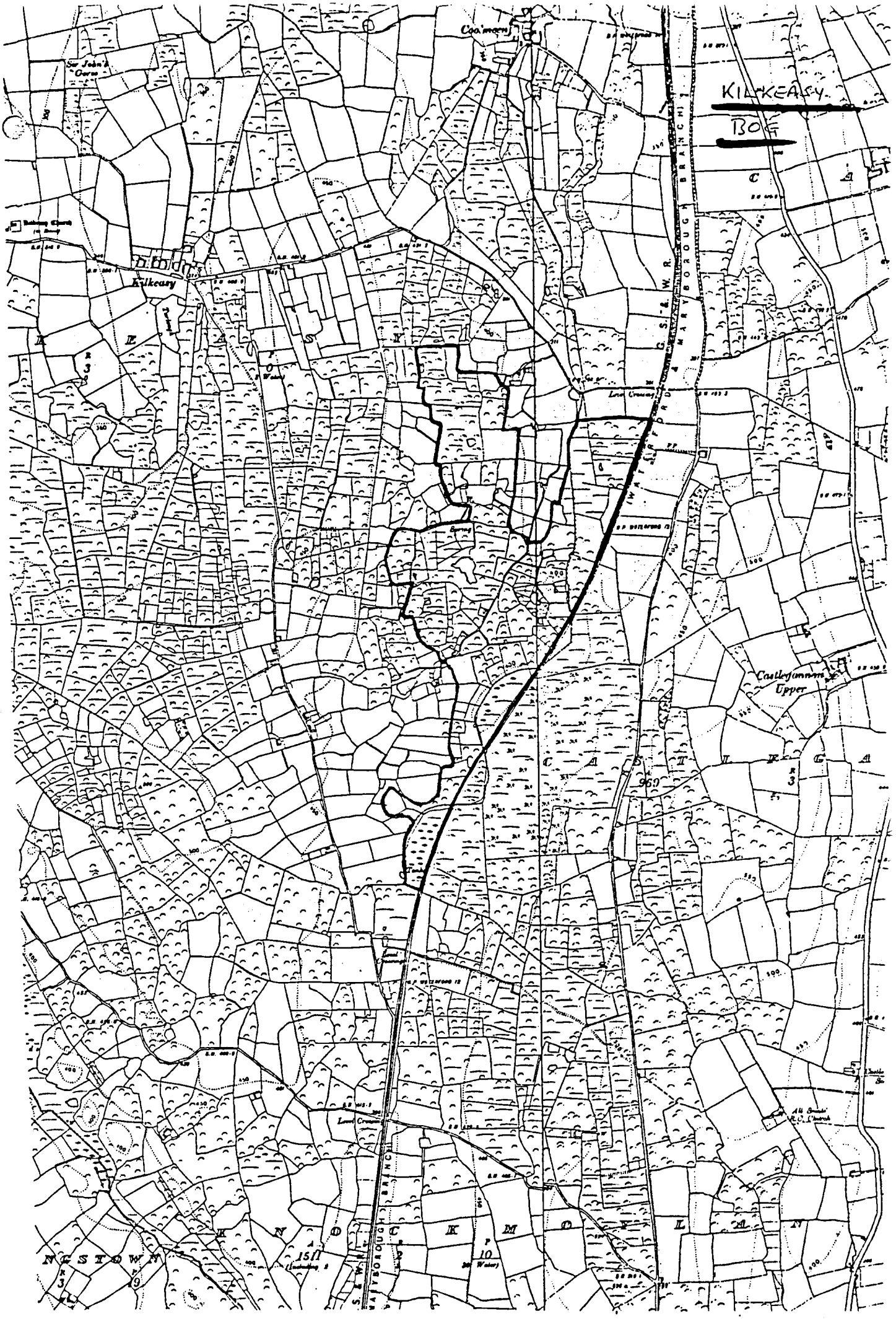
Name of Area	Interest	Description	Threats
22. Newpark Marsh	Ecological (B,O)	A wet, sedge fen (Carex elata), providing a habitat for many plants and animals despite its urban location. The site extends northwards to a wooded pond and to another surrounded by pasture.	Drainage would be detrimental but part of the site is owned (and appreciated) by the Corporation.
23. Red Bog, Dungarvan S 6149	Ecological (B)	A floating fen with much bulrush (Typha) and saw sedge (Cladium) and surrounded by some peaty ground. The flora is of interest and the area supports aquatic birds in winter, especially snipe	Drainage
24. Tullanvooly Bog S 2969	Ecological (B)	An area of cut over bog and fen with several plants species uncommon in the county. The calcareous springs are important to the vegetation.	Drainage for agricultural use.
25. Urlingford Scrub S 3364	Ecological	Hazel scrub is developing naturally on several hillsides in this part of the Slieve Ardagh hills and has a well-developed community associated with it.	Scrub clearance for grazing land.
26. Whitehall Quarries S 6462	Ecological	The floors and surrounding ledges of these disused quarries harbour an interesting plant community.	The use for cattle winterage and dumping is devaluing this site.

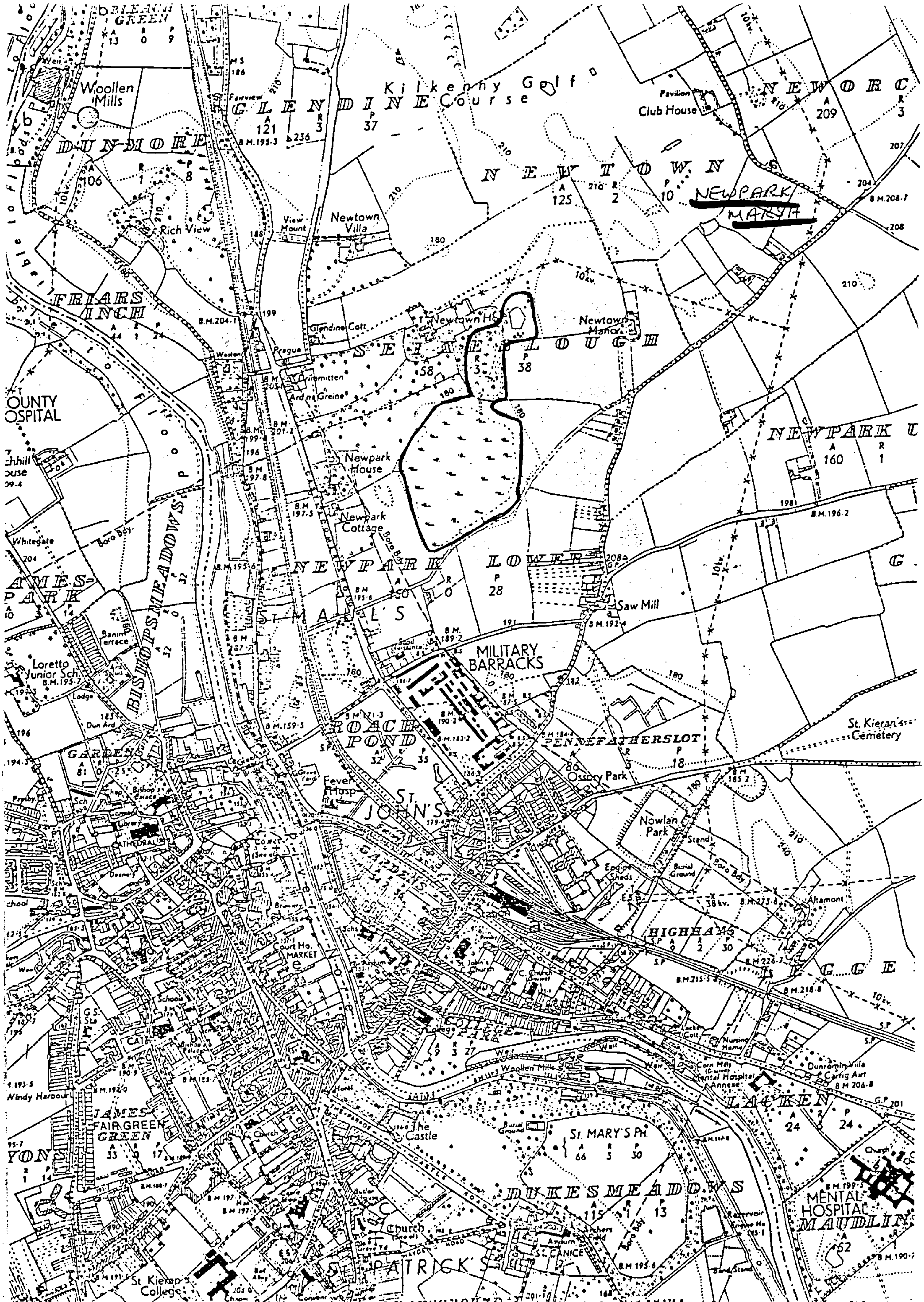

INCHBEG
Lismaine Bridge
ISLANDS
COOLEESHAL BEG
COOLEESHAL MORE
BISHOPSMEADOWS
(E.D. Freshford)
MONA-FRICA
PURCELLSGARDEN


GRANNY QUARRIES
BRANCH
Quarries
Granny Cottage
Granny Castle (in Ruins)
Spring
Granny
Dunkitt House
Dunkitt Castle (in Ruins)
Lodge
Quarry
Mineral Railway
Level Crossing
Granny Bridge
Liable to Floods
Grannyferry
RIVER SUIR
R. D. Bdy.
Mud
Co WATERFORD
M.P. LIMERICK 75
M.P. WATERFORD 3
A 1164
P 23
A 108
P 36



RED BOG
DUNGARVAN
C L O G H A L A
(E.D. Bennettsbridge)
A 600
R 1
P 1
Cloghala Cross Roads
Cloghala House
Spring
DUNGARVAN
(E.D. Bennettsbridge)
Gravel Pit
Quarry
DUNGARVAN GLEBE
R.C. Chapel
A 49
R 1
P 23
Dungarvan
Church
Quarry
CLOGHALA
(E.D. Tullaherin)
Quarry
DUNGARVAN
(E.D. Tullaherin)
A 19
R 1
Tullow Cottage

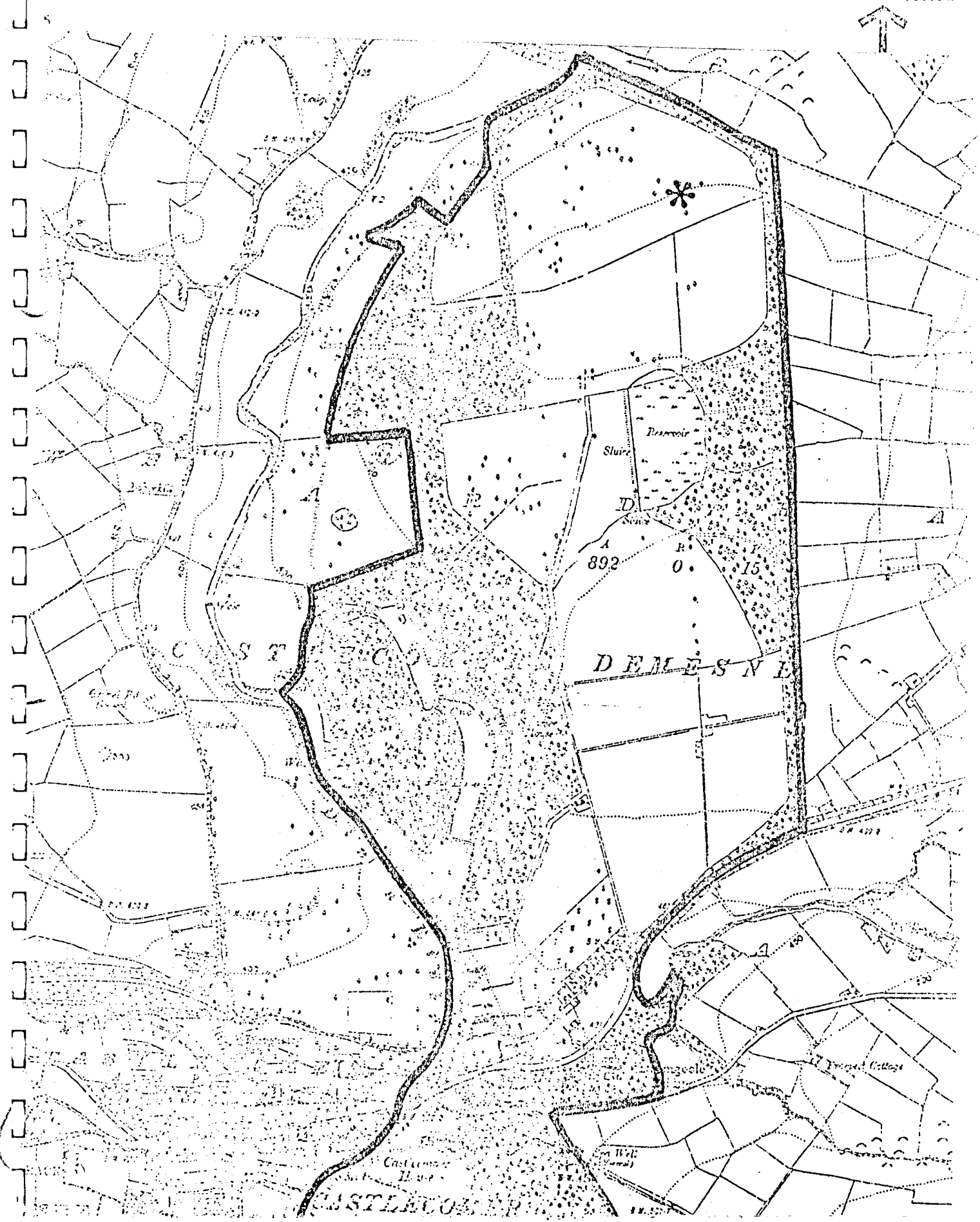

KILKEASY
BOG
Kilkeasy
Castlejumma
Upper
MARYBOROUGH BRANCH
MARYBOROUGH BRANCH
NEWTOWN

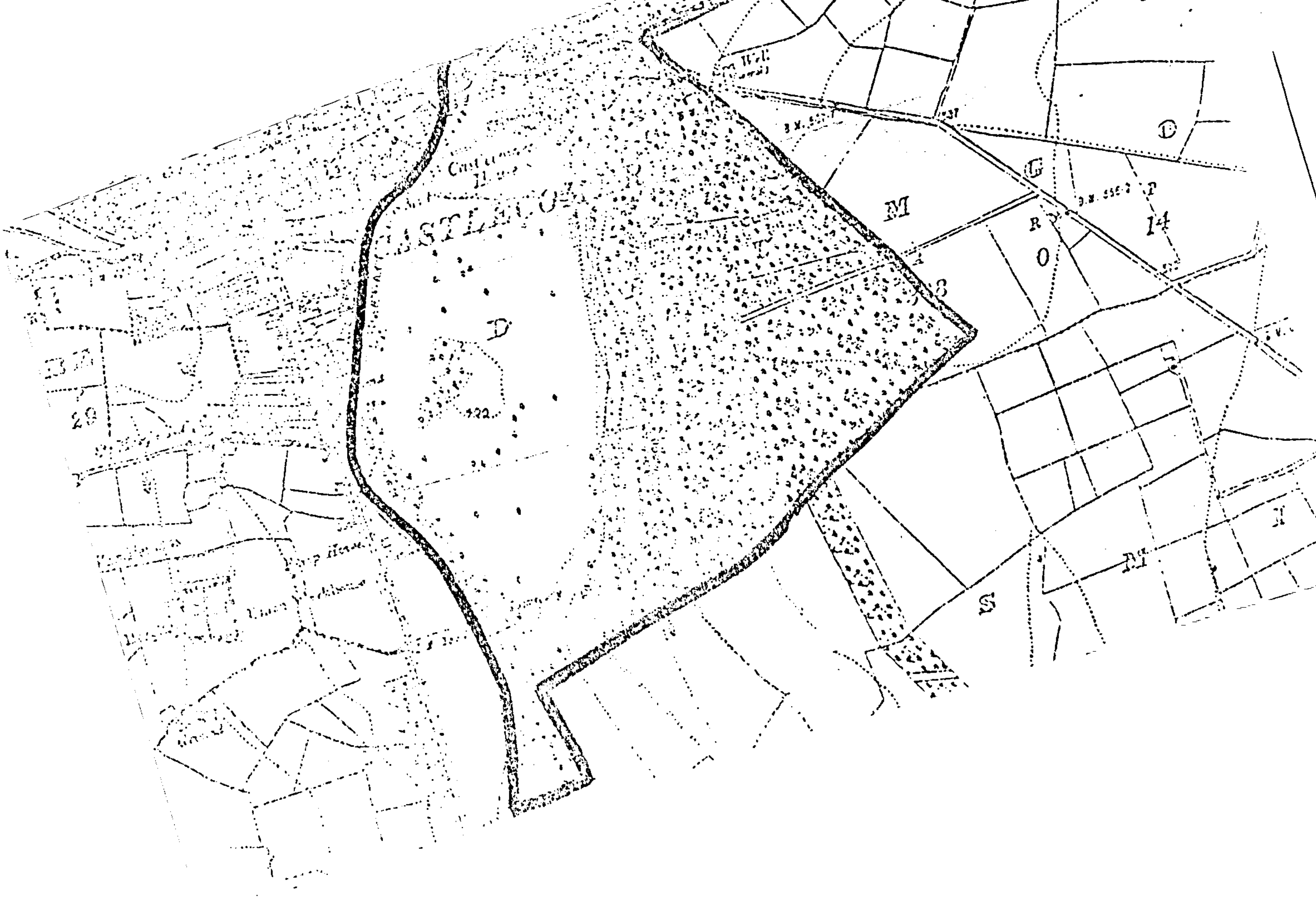


Kilkenny Golf Course
GLENDINE
Woollen Mills
DUNMORE
NEWTOWN
NEWPARK MARSH
Club House
Pavilion
Rich View
View Mount
Newtown Villa
FRIARS INCH
Newtown Ho.
Newtown Manor
SHEASTLOUGH
Glendine Cott
Prague
Ard na Greine
COUNTY HOSPITAL
Newpark House
Newpark Cottage
NEWPARK UPPER
NEWPARK LOWER
BISHOPSMEADOWS
Whitegate
ST. MAUL'S
Saw Mill
MILITARY BARRACKS
Banim Terrace
Loretto Junior Sch.
ROACH POND
PENNEFATHERSLOT
Ossory Park
St. Kieran's Cemetery
Fever Hosp.
ST. JOHN'S
Nowlan Park
Stands
Burial Ground
Engine Sheds
Altamont
Cathedral
Library
Deanery
HIGHHAYS
Court Ho.
MARKET
St. John's Church
COLLEGE PARK
Woollen Mills
Corn Mill
Mental Hospital Annexe
Dunromin Villa
Cartig Airt
LACKEN
Windy Harbour
JAMES' GREEN
The Castle
ST. MARY'S PH.
DUKESMEADOWS
MENTAL HOSPITAL
MAUDLIN
ST. CANICE
ST. PATRICK'S
St. Kieran's College
Church
Boro Bdy.

MAP SHOWING AREA OF SCIENTIFIC INTEREST — 10

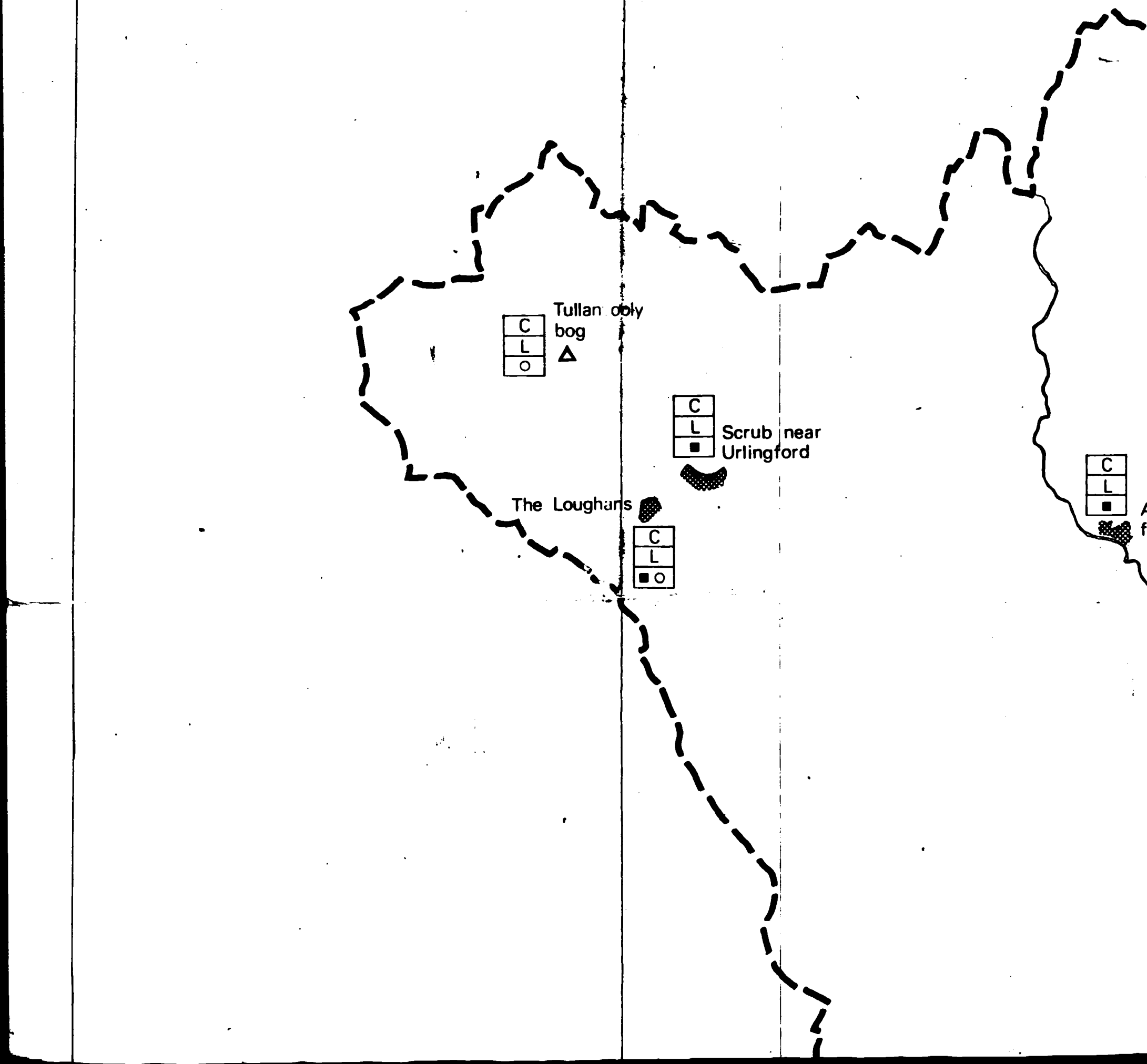
Scale: 6 Inches to 1 Mile

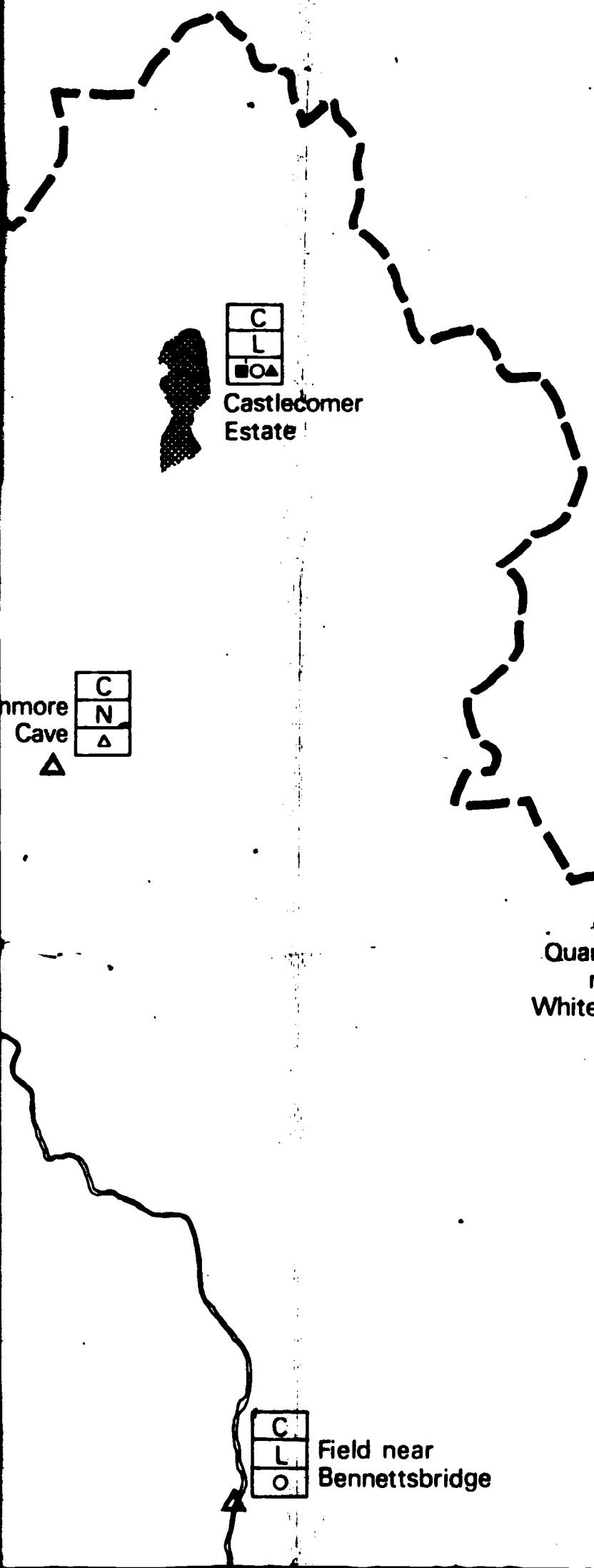




CO. KILKENNY

Areas of Ecological and Geological Interest

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C
L
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near
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Field near
Bennettsbridge

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Tibberag
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Kiltorken old quarries

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Ballylogue Wood

Fen near Monroe

B
R
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Brownstown Wood

B
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Wood

C
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■O▲

Lough Cullen area

ddown
land

PRIORITY

RATING
- International
- National
- Regional
- Local

INTEREST
- Ecological
- Ornithological
- Geological
- Botanical
- Zoological
- Geomorphological

·Small or indeterminate area

JULY 1972

CONSERVATION AND AMENITY ADVISORY SERVICE