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CONSERVATION AND AMENITY
ADVISORY SERVICE



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

A Preliminary Report on Areas of Scientific
Interest in
County Leitrim

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This report is based on data from the files of the Conservation and Amenity Section, An Foras Forbartha, from the published literature and from several periods of field observations in February - June, 1973. It is a provisional document subject to future research.

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The maps presented in this report are based on the Ordnance Survey, by permission of the Government (Licence No. 221/73)

SECTION A

PREFACE

This report concerns country planning. While at first sight Ireland appears to have a high proportion of natural unspoilt countryside, the reality is that the land is subjected to a high intensity of agricultural use, which we have come to regard as normal. It is interesting by way of comparison to note that in Britain, a greater percentage of the land surface is covered by deciduous woodland than in Ireland, and within this there are much larger areas that are ungrazed. In addition the rural population is lower and the wilderness areas without roads considerably larger.

Thus the Irish landscape is substantially more 'tamed' in character and the main difference between the countries is that Ireland has a low population density and consequently a lack of industrial development in rural areas. This situation has been turned to great advantage by our tourist industry. It must be preserved while at the same time living standards are raised by rational development on the urban and rural scene. Planning is essential in this development and it is the purpose of this report to single out the most valuable areas around which development can be guided by the planning authorities. In this way the areas of countryside that are taken over by development are those of least value in scientific or amenity terms. Hard decisions will have to be taken occasionally and for this reason only those sites where there are strong grounds for conservation are included in the following pages. The sites cover only a tiny fraction of the land, so in the great majority of cases development can proceed without damage to the natural heritage, provided certain obvious precautions are taken with regard to waste disposal, colour of structures etc.

The report attempts to identify a representative range of natural and semi-natural habitats in the county and also to list sites of special

significance, usually containing a rare species or a rare natural phenomenon. Conservation of these may be necessary for reasons of amenity, education or scientific research. The natural vegetation of an area gives to it a definite atmosphere with which its recreational value is intimately tied up. So much of Ireland is covered by the familiar pasture and hedgerow that any break in this of a marsh, a block of woodland or a rock exposure assumes greater importance than it otherwise might have. Variety is itself attractive as well as the full development of the unusual. Fortunately such variety gives rise to rich and interesting biological communities. The scientific importance of these stems from the parallel of the wild ecosystem with man's cultivated version of it. Often the principles that control crop growth are simpler to unravel and study in wild surroundings, while also, hitherto unknown processes or beneficial organisms may lie waiting to be discovered. The main asset of the wild community is that it is self-sufficient and does no environmental damage. This cannot be said for our present agricultural methods.

The educational value of field studies is well known and they are a stimulus to learning that many disciplines in the life sciences are now taking advantage of.

Conservation must be viewed against this background if it is to be given its real importance in a competitive and changing world. The responsibility for conservation in Ireland lies largely with the County Councils in the workings of the planning office in conjunction with a strong and rational development strategy.

The present report aims to assist in the preparation and implementation of the County Development Plan and additionally to suggest appropriate management methods from which sites would benefit. Development of a certain type can in fact improve the value of some natural areas whether it is through fencing against grazing animals, removing 'weed' species or altering water flows.

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 in recreation.

Of these various factors 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 to a developer, cooperation to maintain the county's deciduous woodlands must be actively sought at all levels of landowner, forester and the general public. 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 country.

Short of tree clearance, underplanting with conifers is the most damaging influence that can overtake a wood. It destroys the intricate communities of the forest floor and tree-trunks which are usually of greater interest than the trees themselves and it also prevents regeneration of the native species.

Drainage schemes of all sorts have serious consequences for the importance of aquatic sites, particularly the smaller lakes with marginal vegetation. These would include Rinn Lough and its two neighbouring lakes, Lough Errew and Lough Sallagh. In the case of the large lakes the damage would probably be temporary; provided the present shore communities could spread to lower levels.

As is well known, pollution of water bodies changes their character to begin with, and if it is continued has bad effects on water quality and fish-life. There are many local examples of this. Aquatic communities are much more vulnerable than terrestrial ones since the incoming matter cannot be localised. Also they 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.

Several agricultural influences may adversely affect areas apart from straight-forward pollution by silage effluent or intensive livestock units. Fertilization of a natural community, in the attempt to improve its grazing value, will cause great changes in species composition and may in fact, make it more susceptible to degradation. If a blanket bog or dune system is fertilized, grasses and weed species will become dominant and the natural species that are important stabilizers may be destroyed. If this treatment then lapses, the demanding species will not persist and erosion is possible before the native species return. The Council should be mindful of such processes even though they will seldom have power to prevent changes in land use.

Grazing has its most noticeable effect in woodland where it impairs tree regeneration and may completely prevent it. Grazing of grassland also changes the species composition and carried to extremes may not allow a complete cover to persist.

The last influence to be mentioned is that of public pressure on land which only deserves a place for its destructive aspects of plant or animal collecting. Opening up areas with a rare noticeable plant may damage that species but in general enough individuals escape attention so that it persists from year to year. In future, fragile ecosystems such as marshes, or unforested eskers may suffer the excessive use that some sand dunes already receive, but no problems of this sort exist in the county today.

SECTION C

INTRODUCTION: AREAS OF SCIENTIFIC INTEREST IN CO. LEITRIM AND THEIR CONSERVATION.

Leitrim is basically a limestone county but natural erosion has not had such free rein here as in most of the Central Plain so a substantial amount of the overlying sediments remain. Indeed the carboniferous sandstones and shales of the Lough Allen region are the second largest remnant of these deposits in the country after S. Clare - Kerry. The massive upper limestones of the Glenade plateau are similarly a remnant of strata that once covered the rest of Ireland but have been eroded back to Sligo-Leitrim, north Clare and Kilkenny-Tipperary. The only other rock type of wide extent is the gneiss of the Ox Mountains which extends to Benbo near Manorhamilton.

The lowland parts of the county are drift-covered and include many drumlins and low ridges. Between these, waterlogging gives rise to gleyed soils, peat bogs, or actual lakes. Around Drumod bog alternates with pasture in a quite regular sequence. The bogs are of 'raised' type though now partially dissected and altered by turf-cutting. The glacial deposits extend the influence of the sandstone uplands around L. Allen to the south and east, and since this is a poor and wet type of soil, it makes for little floristic interest. It has, however, a vegetation type peculiar to it and this is alder wood which is extensively developed, not only on lake shores (Lough Allen) but also on valley sides (Owengar R) and hill slopes (near Ballinamore).

The small lakes generally have sloping margins so the vegetation here is not well-developed. There are few enough areas of reedswamp outside the Shannon valley (including its tributary the Rinn R.) usually the land-water transition is marked simply by an increase in rushes and other plants of wet pasture. Actual aquatic sites number five in this report and of these Lough Melvin and Garadice Lough are the major ones. These two are listed for contrasting reasons although they used to resemble each other in having relict organisms from the glacial period. Lough Melvin still has char which require clear and relatively nutrient-poor water but Garadice Lough now is so grossly polluted that it has lost a rare

shrimp (Mysis relicta) and is studied for eutrophication.

The outstanding area of scientific interest in the county is the north and east-facing cliffs of Glenade. Here the richest mountain vegetation in Ireland exists with a galaxy of rare alpine and arctic-alpine species. It extends partially to Arroo Mt. overlooking Lough Melvin and more importantly into Sligo to the spur of Ben Bulbin. The Leitrim part of the system shows some important differences from that in Co. Sligo and is of such value that some measure of protection is essential. A Conservation Order which could be drafted by An Foras Forbartha, would somewhat remove the dangers of collection which is an influence that is likely to grow in the near future. Since the cliffs cannot be grazed or otherwise used, little opposition to such statutory action is probable. It would be an important example in showing the way to the protection of a vulnerable but neglected part of the natural heritage.

Another area which is shared with Co. Sligo and about which discussions should begin at an early stage is Lough Gill. This has a unique character for an Irish lake in being surrounded by a woodland fringe through which much of the road runs. The Co. Leitrim part is in fact of proportionately greater biological interest due to its exposures of rock and lack of cultivation. The jumbled limestone country of the area around O'Rourke's Table is a most unusual amenity as are the Doons to the north. It seems essential that the present character of this whole area is preserved and the best way of doing this under existing legislation is a Special Amenity Area Order (Section 42, Local Government (Planning & Development) Act, 1963). This action would show a firm commitment by the Council to maintaining the amenities of the area. Such an order should be made before it is forced upon the council by the pressure of planning applications and before land values have been inflated by demand. Most Irish people think of a holiday house as being beside the sea but in Europe the definition is much wider. Thus it is likely that in E.E.C. conditions there are going to be much greater demands for housing in the area.

Leitrim has several other woodlands of considerable value. The largest is that on the hill below O'Donnell's Rock and this area gives a good indication of the

type of woodland that would naturally be found on the limestone plateaux of Sligo - Leitrim. It is the largest area of wooded scree slope which elsewhere is grass-covered and closely grazed. The same forest type occurs in a deep gorge that leads into Lough Melvin near Buckode though in a wetter habitat while the drier variant is found on Sheemore mountain. This is a most interesting site since it is a fairly pure ashwood on limestone. It is a rare vegetation type and this may be the largest example in the country.

It should be accepted that firm action is necessary to maintain parts of the natural heritage of the county and that this entails more than a refusal of planning permission in selected areas. All sites of scientific interest should 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-confidence did not allow any graceful retreat from his stand. This could be largely avoided if the areas of scientific interest were widely publicised. Such definite action by the council would 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.

As a first step the landowners should be told of the importance of their land except in the case of woodlands which have valuable timber. They should be advised that their present form of land use is that most suited to the maintenance of such interest if this is the case. If not, the recommendations about over-grazing etc. should be passed on.

In general, the council should be alert to threats to any of the areas listed. These have been outlined in the previous section. Where development has to be curtailed an alternative course of action should be suggested if appropriate, eg. the possibility of a co-operative scheme on a different piece of land. In the case of recreational building clustered development, separated by natural areas, should be favoured.

As developments occur and as scientific knowledge increases, the importance and priority of various 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 interesting species 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. The description of 'no planning control' in Section G must be taken as meaning none for the present. As the countryside becomes more intensively used by agriculture, housing and industry and for recreation, 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 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.

SECTION E AREAS OF SCIENTIFIC INTEREST IN CO. LEITRIM

Name of area	(Page No.)	Grid reference	Rating	Priority	Scientific interest
Glenade cliffs and Arroo Mt.	15	G. 78, 47 G. 83, 52	International	B	Botanical, ecological. High level mountain communities on cliffs. Many rare species occur.
Lough Melvin	19	G. 88, 53	National	B	Zoological, botanical. Limestone lake with rare fish varieties and interesting shores.
Lough Gill woodland	22	G. 79, 34	National	B	Botanical. Semi-natural and planted woods on limestone. Rich in habitats and species. High amenity value.
Lough Scannal	25	N. 03, 90	Regional	B	Botanical, ecological, ornithological. Shannon flora and fauna well-developed, backed by deciduous woodland.
Sheemore wood	28	G. 99, 04	Regional	A	Botanical, ecological. Naturally developed ashwood on dry limestone.
Glencar waterfall and Lake	31	G. 75, 43	Regional	C	Botanical, zoological. Bryophyte and other moisture-loving organisms of interest.
O'Donnell's Rock	33	G. 88, 36	Regional	B	Ecological. Sloping hazel-ash wood with semi-natural character. Some oak colonisation.
Garadice Lough	37	H. 19, 11	Regional	B	Ecological, botanical. Eutrophic lake of interest. Marginal oak wood.
Lough Allen (parts)	41	G. 96, 17	Local	B - C	Ecological, botanical. Characteristic marginal vegetation of alder. Some unusual species in addition.
Lough Rinn	49	N. 10, 93	Local	B	Botanical, zoological. Outlier of Shannon communities. Swamp and aquatic plants of interest.

Name of area	(Page No.)	Grid reference	Rating	Priority	Scientific interest
Gorge of Aghavoghil R.	53	G. 86, 52	Local	C	Ecological. Hazel wood on very wet site.
Lakeshore near Drumod	55	N. 04, 90	Local	B	Ecological. Contrasting woodlands of interest. Many associated species.
Woodland at Cromlin Bridge	58	H. 10, 14	Local	C	Botanical, ecological. Pocket of natural vegetation (hazel) in farmland.
Annaghearly Lough	61	H. 00, 03	Local	B	Botanical. Interesting species occur.
Kinlough Wood	63	G. 82, 54	Local	B	Ecological. Planted deciduous wood. Educational and amenity value.
Uragh Lough	66	G. 776, 537	Local	B	Ecological. Relict blanket bog of interest.
Woodland at Owengar Bridge	68	G. 91, 23	Local	B	Ecological. Wet deciduous woodland. Some amenity value

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SECTION F

DETAILED REPORTS ON EACH AREA

These are written under the following sub-headings:

Name of Area
Acreage
Grid Reference
Scientific Interest
Rating
Priority
Description of Area
Evaluation
Vulnerability
Recommendations

In the descriptions the abundance of species may be indicated by the following symbols:

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

Botanical names follow those in 'Flora Europaea', the standard work of which the first three volumes are now available. English names, in general, are those in "The Concise British Flora in Colour" by W. Keble Martin.

<u>Name of Area</u>	GLENADE CLIFFS & ARROO MT.
<u>Acreage</u>	c. 555 Acres
<u>Grid Reference</u>	G. 78, 47 & G. 83, 52.
<u>Scientific Interest</u>	Botanical; ecological
<u>Rating</u>	International
<u>Priority</u>	B

Description and Evaluation of Site

The north-facing cliffs of Glenade have long been known for an abundance of alpine plant species which are common here but occur very rarely in the rest of the country. Indeed, this is one of the few sites where a true high-level community can be said to exist, rather than a collection of individual plants. On Arroo Mt. many of the same plants occur though not in such plenty.

The cliffs vary in height from 30 - 500 feet; they are practically vertical and are surrounded by a steep talus slope of rock debris, lying at an angle of about 45°. This landform (mesa-like) is interesting from a geomorphological viewpoint. The vegetation of the cliffs has the following rough form:-

<i>Festuca vivipara</i>	viviparous fescue	a
<i>Sesleria caerulea</i>	blue moor grass	a
<i>Hedera helix</i>	ivy	l.a.
<i>Koeleria cristata</i>	crested hairgrass	c
<i>Thymus drucei</i>	thyme	c
<i>Polystichum setiferum</i>	shield fern	c
<i>P. lonchitis</i>	holly fern	l.c.
<i>Chrysosplenium oppositifolium</i>	golden saxifrage	c
<i>Silene acaulis</i>	mossy campion	c
<i>S. maritima</i>	sea campion	c
<i>Plantago maritima</i>	sea plantain	c
<i>Cochlearia officinalis</i>	scurvy grass	c
<i>Euphrasia salisburgensis</i>	eyebright	c
<i>Asplenium trichomanis</i>	spleenwort	c
<i>A. viride</i>	"	l.c.
<i>Arabis hirsuta</i>	hairy rock-cress	c
<i>Solidago virgaurea</i>	golden rod	f
<i>Dryas octopetala</i>	mountain avens	f
<i>Cardaminopsis petraea</i>	mountain rock-cress	l.f.
<i>Epilobium angustifolium</i>	rosebay willowherb	f

<i>E. alsinifolium</i>	chickweed willowherb	l.c.
<i>Rubus saxatilis</i>	stone bramble	f
<i>Rosa spinosissima</i>	burnet rose	f
<i>Selaginella selaginoides</i>	clubmoss	f
<i>Rhodiola rosea</i>	rose-root	f
<i>Saxifraga aizoides</i>	yellow mountain saxifrage	f
<i>Campanula rotundifolia</i>	harebell	f
<i>Draba incana</i>	hoary whitlow-grass	f
<i>S. oppositifolium</i>	purple saxifrage	l.f.
<i>S. hypnoides</i>	mossy saxifrage	o
<i>Mecanopsis cambrica</i>	welsh poppy	o
<i>Cystopteris fragilis</i>	brittle bladder-fem	l.c.
<i>Crepis paludosa</i>	marsh hawksbeard	o
<i>Hieracium anglicum</i>	hawkweed	o
<i>Circaea intermedia</i>	enchanter's nightshade	o
<i>Moehringia trinervia</i>	sandwort	r
<i>Thalictrum minus</i>	meadow-rue	r
<i>Oxyria reniformis</i>	mountain sorrel	r
<i>Vicia sylvatica</i>	wood vetch	r

The block scree below provides a site for a mixed assemblage of plants with many fems, (nineteen species including Thelypteris oreopteris (mountain fem), Dryopteris aemula (crinkled buckler-fem) and others , peat-loving plants such as Vaccinium myrtillus (frochan), Pinguicula vulgaris (butterwort) and Empetrum nigrum (crowberry), woodland plants and some from the cliffs above.

The habitat features that allow these juxtapositions deserve study.

The bryophytes in all the area are no less interesting than the higher plants and the dripping rock faces , and general shade encourage a profusion of species.

Associated with these high-level communities , it may be expected that many interesting invertebrates occur including molluscs , spiders and insects. Very little work has as yet been done on them.

The plateau area has been called "botanically the richest in Ireland". Certainly it is the best upland example of a community containing strictly alpine or alpine species. For one of these it is the only station in the country and for another, one of two sites.

Vulnerability

The cliff communities have been restricted to these sites by grazing and competition and are thus secure from everything except unscrupulous collectors. The lower levels might be afforested however.

Recommendations

Land use should remain in its present form. The status of the area should be recognised by the passage of a Conservation Order on the cliffs at least. In the event of destructive collecting, some powers would then be available for its prevention.

In the context of amenity a clear aim should be to limit afforestation to the valley bottom and the lowest slopes of the mountains. Part of the scenic attractions of the area comes from the clear, angular lines of the mountains. Some are already concealed by forestry but this should spread no further.

<u>Name of Area</u>	Lough Melvin
<u>Acres</u>	c. 5700 acres
<u>Grid Reference</u>	G. 88 , 53.
<u>Scientific Interest</u>	Zoological, botanical, ecological
<u>Rating</u>	National
<u>Priority</u>	B

Description and Evaluation

Lough Melvin is a clear water limestone lake of large size with an interesting fauna. This includes three types of trout and also Gray's char (Salvelinus alpinus), a fish with a relict distribution from glacial times (when it was more widespread.) This is now the only lake in the country with the species.

The flora of certain parts is also interesting and aquatic species of note occur at the mouth of the Ballagh River and off Ross Point.

Marginal vegetation is fenney in character with some peat development giving rise to Calluna (heather), Myrica gale (bog myrtle) and Drosera spp. (sundew). On the lower parts of the shore, however, the calcareous influence usually reappears with Galium boreale (northern bedstraw), Littorella uniflora (shoreweed), etc.

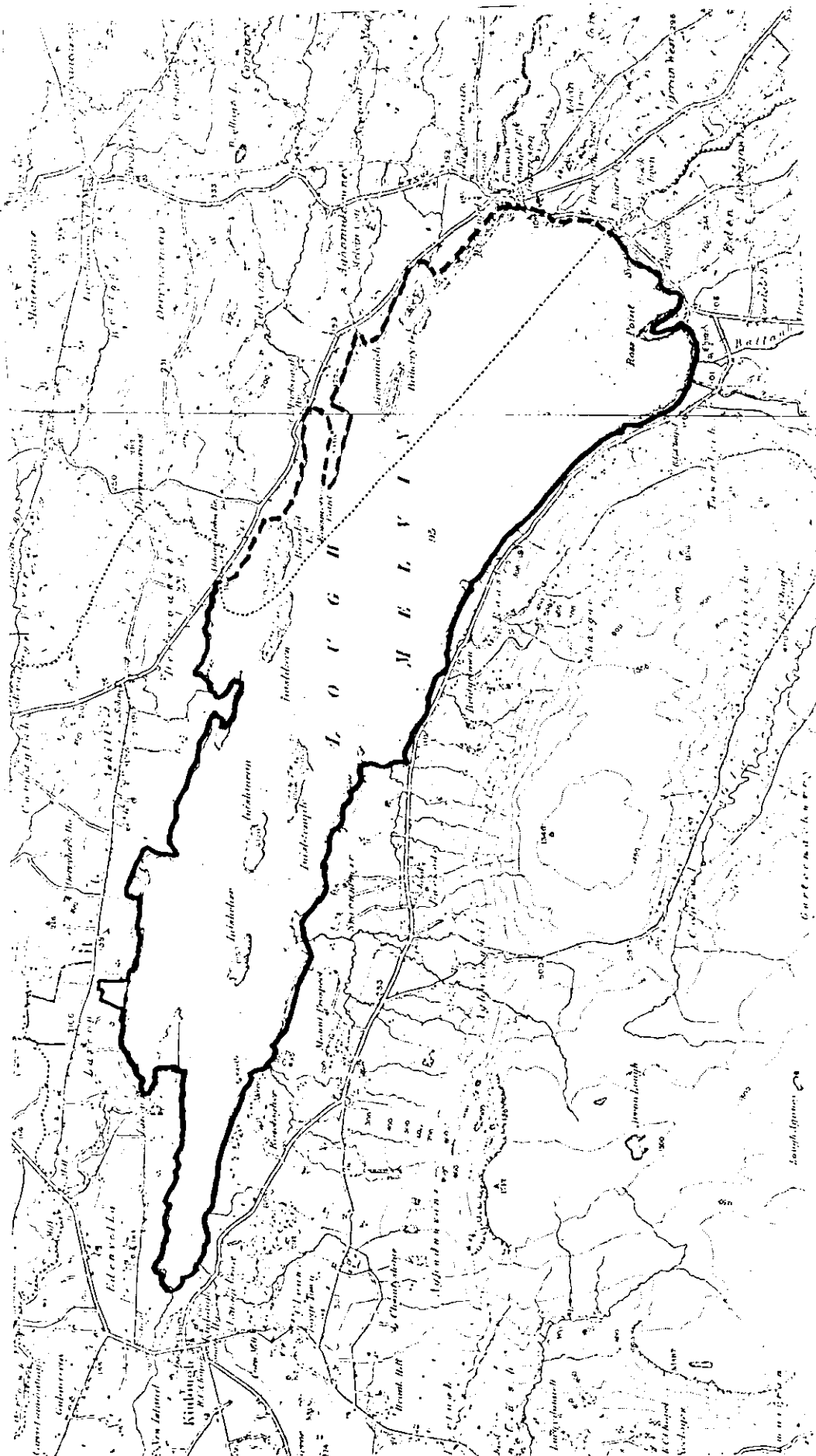
At one place on the northern shore the cutover bog has been colonised by willows (Salix cinerea) to give quite a dense tree cover. This was one of the major areas for this vegetation seen, though thinner willow colonisation is widespread and it is included as a representative sample for the county. It requires further investigation as does the east end of the lake and especially the islands.

Vulnerability and Recommendations

The lake fauna which is adapted to clear water basic conditions would be adversely affected by pollution. Thus large sources of effluent should not be sited in the locality unless they have tertiary treatment facilities.

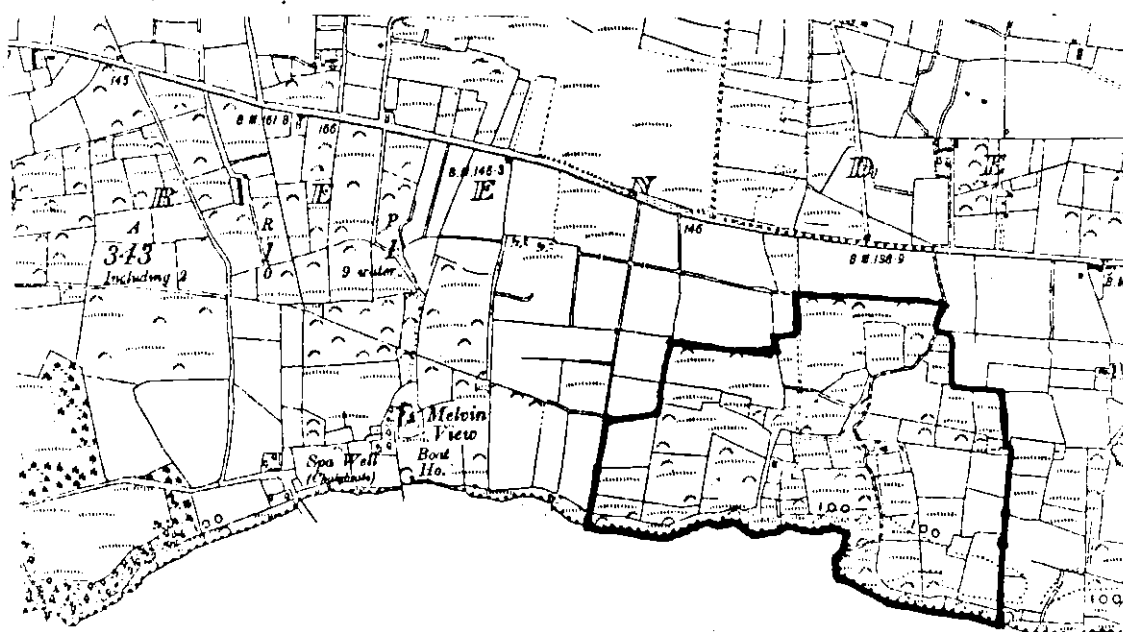
The other sites in this area are relatively secure from development.

MAP SHOWING AREA OF SCIENTIFIC INTEREST

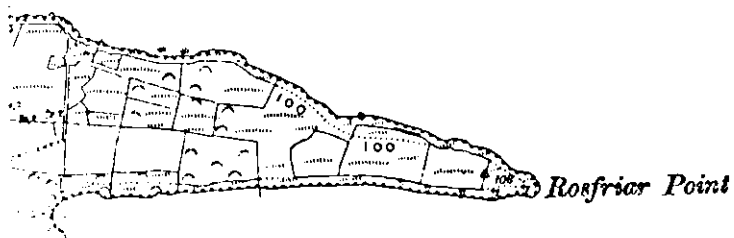


MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



L a r e e n B a y



<u>Name of Area</u>	LOUGH GILL WOODLAND
<u>Acres</u>	150 acres
<u>Grid Reference</u>	G. 79, 34.
<u>Scientific Interest</u>	Botanical
<u>Rating</u>	National
<u>Priority</u>	B

Description of Area

The interest in this area stems from the semi-natural vegetation that covers much of the thin limestone soils. The underlying rock breaks through in places especially as cliffs or along the lakeshore and these sites are particularly valuable.

Most of the area is wooded and the varied heights and ages of the trees are an important characteristic. The most natural wood is on the peninsula north of Striff Cottage where a hazel (Corylus avellana) canopy prevails with a good admixture of ash (Fraxinus excelsior) and hawthorn (Crataegus monogyna) and some Salix spp. (willows), especially S. cinerea and S. caprea, and Ulmus montana (wych elm). A shrub layer is present also, particularly at the edges where Euonymus europaeus (spindle tree), Viburnum opulus (guelder rose), Rosa canina (dog rose), R. arvensis (field rose) and Swida sanguinea (dogwood) are frequent. The ground flora is rich as would be expected on a limestone site: it includes Orchis mascula (early purple orchid), Moehringia trinervia (wood sandwort), Galium odoratum (woodruff), Veronica montana (wood speedwell) with Crepis paludosa (hawksbeard) and Circaea intermedia (enchanter's nightshade) on the lakeshore.

The landward side of the road at this point is also of interest especially for comparative purposes. It is primarily a planted beechwood with some Pinus sylvestris (Scot's pine) in addition. Recent thinning has allowed very dense regeneration of beech, holly (Ilex aquifolium) and ash (Fraxinus excelsior) in different places, and the resulting thickets of young growth will form a most unusual habitat for the county. The ground flora of this region is more acidic in character because of the tree stratum - Luzula sylvatica (greater woodrush), Oxalis acetosella (wood sorrel) and Blechnum spicant (hard fern) occur under

dense beech but elsewhere Carex flacca (a sedge), Viola reichenbachiana (violet) and Ranunculus auricomus (goldilocks) are found among other species. The dominant mosses include Hylocomium brevirostre and Rhytidiadelphus triquetrus.

The rest of the area is of mixed character with some planted trees and much Corylus scrub as well. West of Sriff Cottage ribs of limestone support Sorbus rupicola (whitebeam), Hieracium spp. (hawkweed), and Taxus baccata (yew) while three interesting non-green plants occur: Orobanche hederæ (ivy broomrape), Neottia nidus-avis (bird's nest orchid) and Monotropa hypopitys (yellow bird's nest).

Associated with this varied habitat which includes shaded depressions, exposed rock and many sorts of woodland, it may be presumed that the invertebrate fauna is similarly large and interesting. Several unusual organisms have been collected on the shores of Lough Gill.

Evaluation

The Lough Gill area is nationally important for its flora and fauna as well as its scenic beauty. The naturalness of the woods is a prime asset and they also have good educational potential.

Vulnerability and Recommendations

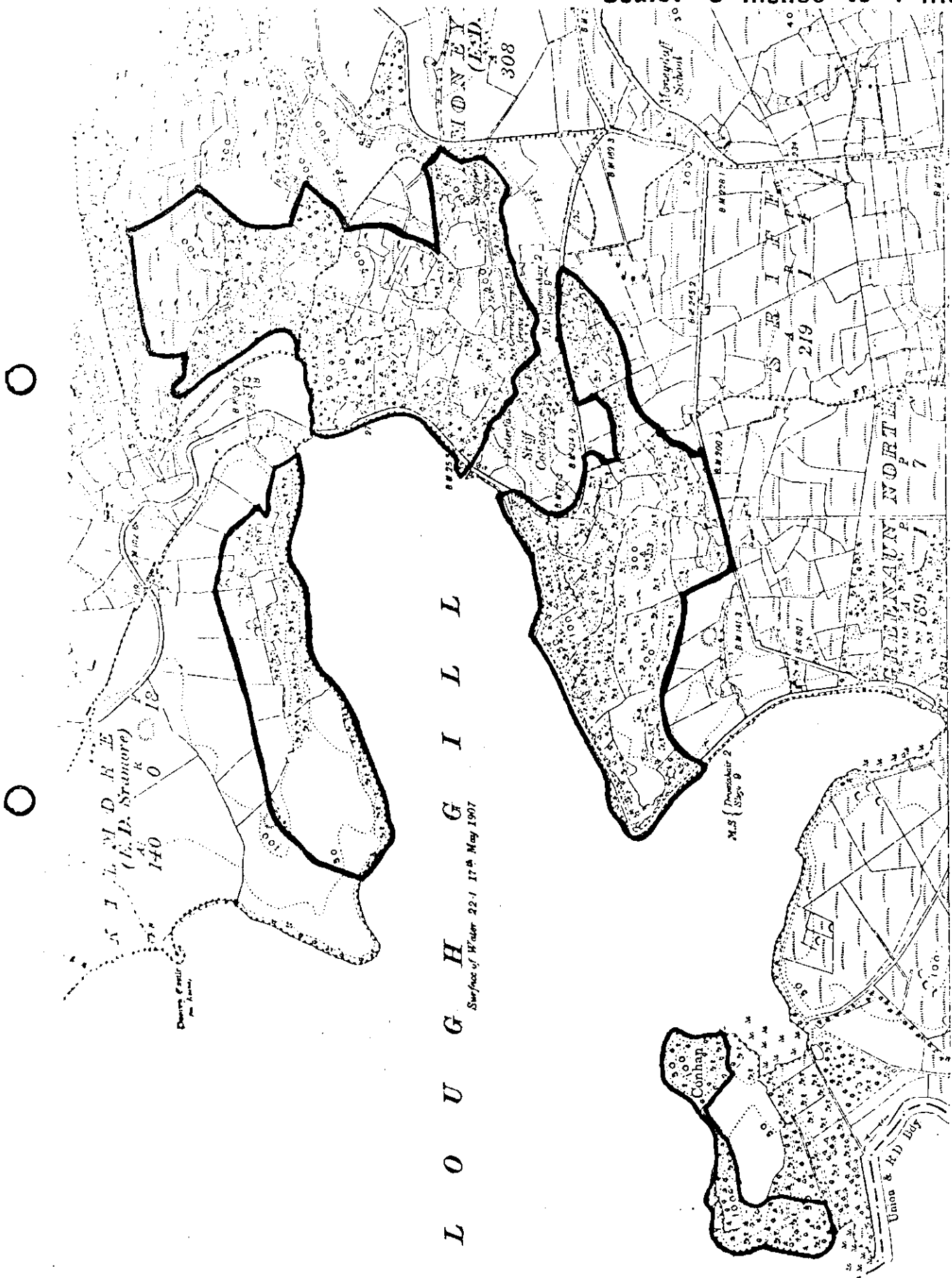
Afforestation with conifers probably poses the most significant threat to the area as it is being increasingly done on limestone areas of Co. Leitrim. An understanding should be reached with the Department of Lands at the planning stage to protect as many of the natural areas as possible. From an amenity point of view the deciduous tree cover is preferable certainly beside the lake and road.

The wooded peninsula north of Sriff Cottage should be covered by a Tree Preservation Order, under Section 45 Local Government (Planning and Development) Act, 1963.

There also seems to be good reason for making much of the Lough Gill shore and adjacent land an Area of Special Amenity. This would allow the most stringent controls on development and in some parts to prohibit it altogether. 23.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



L O U G H G I L L

Surface of Water 22.4 17th May 1907

<u>Name of Area</u>	LOUGH SCANNAL
<u>Acreage</u>	120 acres
<u>Grid Reference</u>	W. 03, 90.
<u>Scientific Interest</u>	Botanical, ecological
<u>Rating</u>	Regional
<u>Priority</u>	B

Description of area

A variety of habitats occur in this area, from wild lakeshore, through reedswamp and deciduous woodland to fields of permanent pasture. Derrygrasten Wood is now a managed ash-hazel wood with a majority of young trees. There is a little oak and slightly more Sorbus aucuparia (rowan) and Ilex aquifolium (holly) while alder (Alnus glutinosa) occurs in wetter situations. The ground flora is rich and typical of a basic site with Anemone nemorosa (wood anemone), Veronica montana (wood speedwell), Allium ursinum (wild garlic), Viola reichenbachiana (wood violet), Arum maculatum (cuckoo-pint), Conopodium majus (pignut), Rhytidiadelphus triquetrus (a moss) etc. Carex sylvatica, C. cf. strigosa (sedges) and Lathraea squamaria (toothwort) also occur.

To the west this wood becomes more open with alder and birch (Betula pubescens) prominent as the shore is approached. A typical Shannon community occurs here with fens of Molinia caerulea (purple moor grass), Myrica gale (bog myrtle), Achillea ptarmica (sneezewort), Angelica sylvestris (angelica) and some Schoenus nigricans (black bog rush). Amongst the waterworn limestone Carex elata (a sedge) occurs abundantly with Littorella uniflora (shoreweed), Cicuta virosa (water hemlock), Ranunculus flammula (lesser spearwort), Baldellia ranunculoides (lesser water plantain), Mentha aquatica (water mint) and Lythrum salicaria (purple loosestrife).

This vegetation continues down to Otter Island and across to Rabbit Island, where a spruce plantation is established on the higher ground. The swampy area is very interesting with willows, including Salix fragilis and S. purpurea and tall reed vegetation of Phragmites australis. Species that grow here include Rumex hydrolapathum (water dock), Potentilla palustris (marsh potentilla), Stellaria palustris (marsh stitchwort), Menyanthes trifoliata (bog bean) and Galium palustre (marsh bedstraw). At the water's edge Veronica scutellata (a speedwell)

Apium inundatum (floating marshwort), Myosotis repens (forget-me-not), and Scorpidium scorpioides (a moss) occur.

The low woodland in this southern part is rich in Euonymus europaeus (spindle tree), Viburnum opulus (guelder rose) and it also contains Rhamnus catharticus (purgina buckthorn). An extensive willow wood occurs on the east side with the trees making a platform of roots in or above the lake.

Animal life is much in evidence and the diversity of habitat from sheltered reedswamps to rocky shores with much woodland makes for a rich invertebrate fauna as well. Wildfowl nest in moderate numbers in the area which also has a colony of black-headed gulls. In winter a local flock of 60 white fronted geese are often found in the delimited fields. A substantial number of other wildfowl also winter, including 50 wild swans at times.

Evaluation

This is undoubtedly the most natural and biologically interesting part of the Shannon in Leitrim with a full representation of its characteristic flora and fauna.

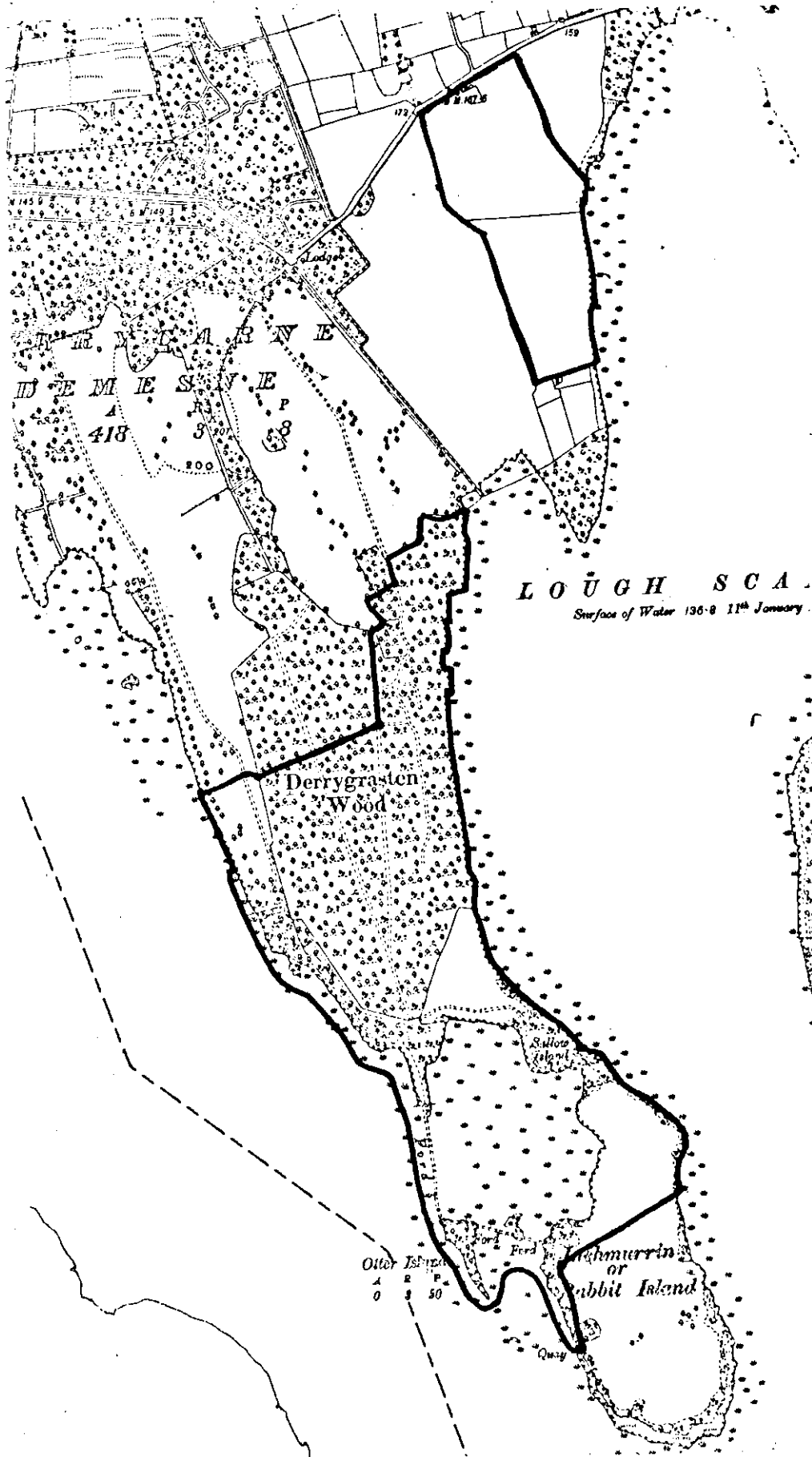
Vulnerability

The flora would be damaged by any lowering of lake levels, by clearance of the woodland for agricultural usage, by an increase in grazing animals or by a spread of afforestation.

Grazing is perhaps the most likely of these threats and it would be of considerable harm since very little occurs today. This adds considerably to the interest of the area. Likewise a replacement of the predominantly deciduous woodland by conifers would be damaging to the woodland and marginal flora. There are grounds for ensuring the protection of the lakeshore communities by a Conservation Order and of the woodland by discussions with the Department of Lands. These should be initiated by the council. The fields outlined have a character attractive to geese because they are partially flooded by rainwater in winter. This should be maintained.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	SHEEMORE WOOD
<u>Acreage</u>	21 Acres
<u>Grid Reference</u>	G. 99, 04.
<u>Scientific Interest</u>	Botanical, ecological.
<u>Rating</u>	Regional
<u>Priority</u>	B

Description of Area

A deciduous wood has developed naturally on the eastern side of this limestone hill. Though about twelve large Fagus (beech) trees and one of two larch have existed on the site for the past 60 years, practically all regeneration has been of ash and hazel, giving a Fraxinus (ash) dominated wood. The limestone which is horizontally bedded, outcrops as small vertical cliffs in places but most of the surface is covered by a rich loamy soil. In this a variety of woodland plant species grow, eg:-

<i>Polystichum setiferum</i>	shield fern	c
<i>Oxalis acetosella</i>	wood sorrel	c
<i>Viola riviniana</i>	wood violet	c
<i>V. reichenbachiana</i>	wood violet	f
<i>Potentilla sterilis</i>	barren strawberry	f
<i>Sanicula europaea</i>	wood sanicle	f
<i>Veronica chamaedrys</i>	germander speedwell	f
<i>Silene dioica</i>	red campion	l.f.
<i>Geum urbanum</i>	wood avens	f
<i>G. rivale</i>	water avens	o
<i>Endymion non-scripta</i>	bluebell	o
<i>Luzula sylvatica</i>	woodrush	o
<i>Veronica montana</i>	wood speedwell	o
<i>Stellaris holostea</i>	greater stitchwort	o
<i>Ranunculus ficaria</i>	lesser celandine	o
<i>R. auricomus</i>	goldilocks	o
<i>Orchis mascula</i>	early purple orchid	r
<i>Lapsana communis</i>	nipplewort	r
<i>Hypericum androsaemum</i>	St. John's wort	r

Other species occur in addition, including the mooses Rhytidiadelphus triquetrus, Thuidium, and Thamnium while associated with the rock outcrops and thin soils are Brochypodium sylvaticum (false brome grass), Melica uniflora, (wood melick grass), Asplenium trichomanes (spleenwort), Agropyron caninum (bearded twitch), Ctenidium molluscum, and Neckera crispa (mosses).

As would be expected in this type of woodland, the associated animal populations are large and diverse. Several interesting bird species nest.

Evaluation

This is one of the purest ashwoods on a dry site in the country and may well be nationally important. Many questions exist about this tree species and this site would well repay some research effort on it.

In addition several of the plant species find their only stations on south Leitrim on this hill and it could prove valuable in education with the proximity of Carrick-on-Shannon.

Vulnerability

Quite valuable timber exists in the wood and it may be exploited in the future. Rationally done, and allowing for adequate regeneration the wood could tolerate this but the felling could easily become indiscriminate.

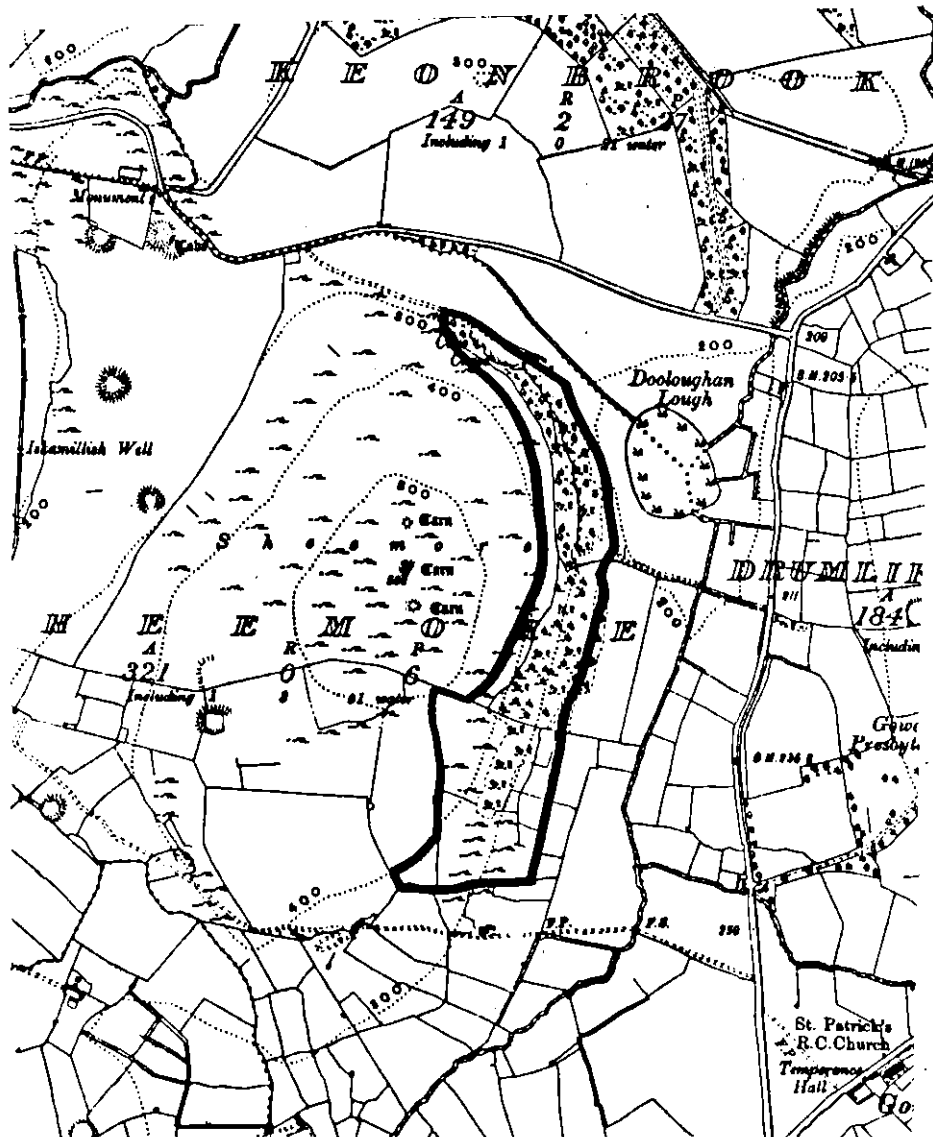
There is a danger of beech seedlings spreading and upsetting the natural community structure of the wood, as they are doing on limestone sites in Co. Kerry.

Recommendations

A Tree Preservation Order, under Section 45, Local Government (Planning and Development) Act, 1963, should be passed on the wood excluding the beech and coniferous trees. These should be the first to be felled.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	GLENCAR WATERFALL & LAKE
<u>Acreage</u>	c. 10 Acres
<u>Grid Reference</u>	G. 75, 43.
<u>Scientific Interest</u>	Botanical, zoological.
<u>Rating</u>	Regional
<u>Priority</u>	C

Description and Evaluation

The wet glen through which this river descends in a series of waterfalls is the site of a rich bryophyte flora and one which has been fairly well examined. It has several rare species and a good range of western calcicole types, as well as enough peat development for several acidic species to occur. The more interesting species include Pedinophyllum interruptum, Dunmortiea sp. Brachythecium pseudoplumulosum, Lejeunea mackaii, Calypogeia arguta and Pellia calycina. The higher plant flora also contains certain species of interest.

The molluscan fauna is that most examined, and it has one important species as well as a good collection of commoner types.

The north shore of Glencar lake is a station for one lichen that has been found nowhere else in Great Britain and Ireland. It is not a conspicuous form and possibly will be found elsewhere. For this reason the site has only been given regional status.

Vulnerability and Recommendations

Land use should remain in its present form in the area especially with regard to the tree cover in the valley.

Lake side developments should avoid exposures of limestone rock.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	O'DONNELL'S ROCK WOODLAND
<u>Acreage</u>	75 Acres
<u>Grid reference</u>	G. 88, 36.
<u>Scientific interest</u>	Ecological.
<u>Rating</u>	Regional
<u>Priority</u>	B

Description of area

This wood has developed on the clayey talus slope at an angle of about 45° below a low limestone cliff. Predominantly it is of hazel with some ash, willow (Salix cinerea) and oak saplings. There are a few standard trees above the overall 15 foot-high canopy, mostly oak (Quercus petraea) with some pine (Pinus sylvestris) and beech, and in one area a group of sycamore. From these remnants it is clear that the area, once felled and planted with estate trees has been recolonized naturally with hazel scrub. The trees now are large and the ground storey is rich in mosses and herbaceous plants.

At the cliff the wood becomes more open as trees are removed by rock falls but throughout most of the area a closed canopy exists with limited regeneration of ash and locally beech. The ground flora is typical of a western base rich wood with some leaching allowing calcifuge species such as Luzula sylvatica (great woodrush) and Blechnum spicant (hard fern) to occur. An unusual feature is the abundance of Allium ursinum (wild garlic). Plant species seen in February include:-

Polystichum setiferum	shield fern	a
Oxalis acetosella	wood sorrel	a
Ranunculus ficaria	lesser celandine	c
Endymion non-scripta	bluebell	c
Rhytidiadelphus loreus	a moss	l.a.
Thuidium tamariscinum	"	l.a.
Thamnium alopecurum	"	f
Calypogeia asplenoides	a liverwort	f
Carex sylvatica	wood sedge	f

Potentilla sterilis	barren strawberry	f
Geum urbanum	wood avens	f
G. rivale	water avens	o
Viola riviniana	violet	f
Sanicula europaea	wood sanicle	f
Dryopteris dilatata	buckler fern	f
D. pseudomas	male fern	o
Veronica chamaedrys	germander speedwell	o
Rubus fruticosus	bramble	l.f.
R. idaeus	raspberry	o
Galium odoratum	woodruff	o
Phyllitis scolopendrium	hart's tongue	l.f.
Lysimachia nemorum	wood pimpernel	o
Ajuga reptans	bugle	o
Euonymus europaeus	spindle tree	r
Viburnum opulus	guelder rose	r

The cliff flora includes Ctenidium molluscum (a moss), Carex flacca, C. nigra (sedges) and Brachypodium sylvaticum (false brome grass).

Mammal numbers appear high in this woodland and the nesting birds include one or two interesting species.

Evaluation

This is one of the few naturally developing woods on the Sligo-Leitrim limestone mountains and its youth gives a good idea of the natural succession patterns that occur on this rock type.

It is also a fine amenity area being beside the main road into Manorhamilton, and would be suitable for educational use.

Vulnerability

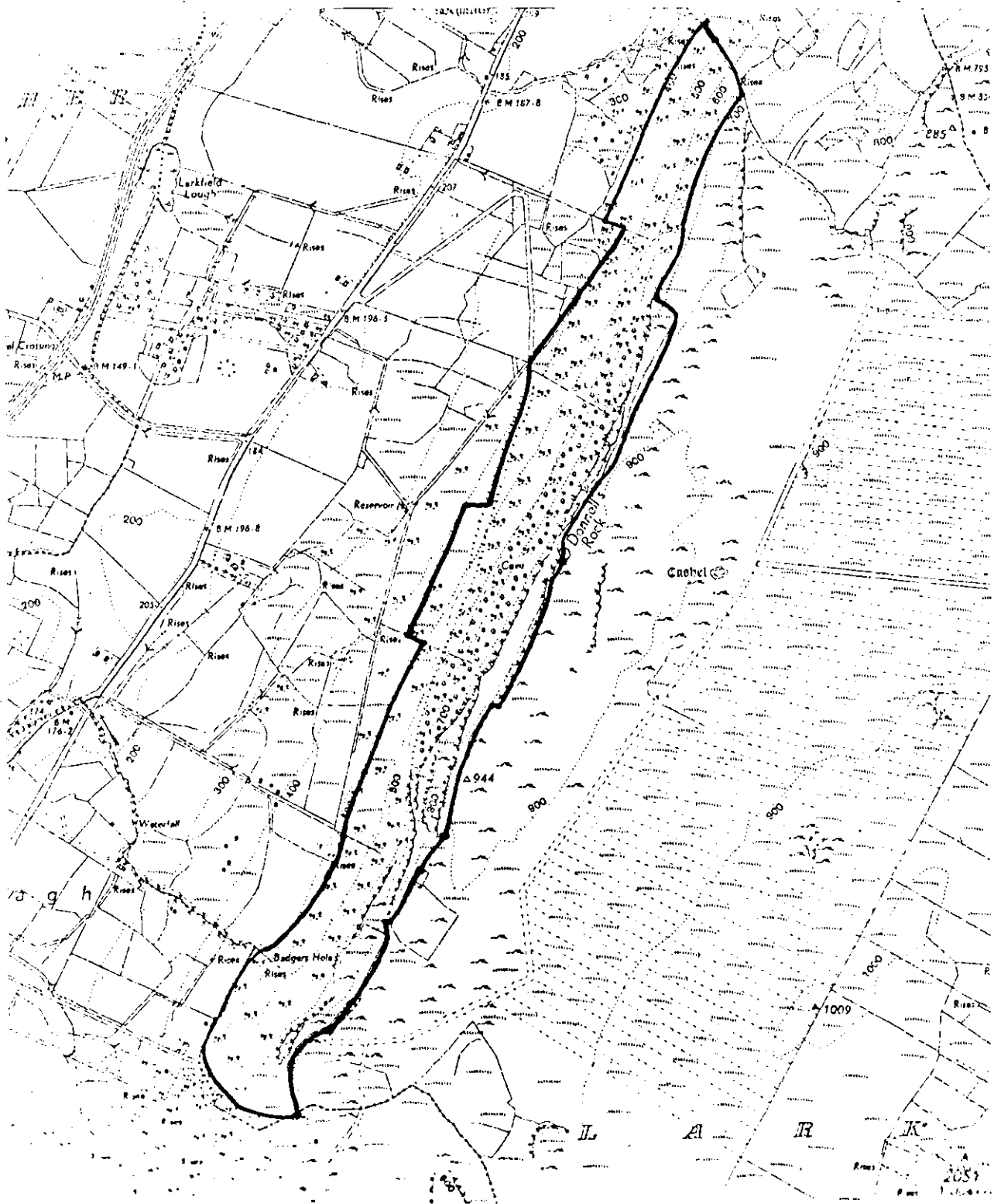
Though on such a steep slope the wood could be cleared for or underplanted with conifers. This would destroy its interest. Beech is a 'weed' species of tree in the area since it can spread spontaneously and come to dominate a formerly natural wood.

Recommendations

The wood should be preserved in its present form with a Tree Preservation Order made under Section 45, Local Government (Planning and Development) Act, 1963. This order should exclude beech.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	CARADICE LOUGH
<u>Acreage</u>	c. 900 Acres
<u>Grid reference</u>	H. 19, 11
<u>Scientific interest</u>	Ecological, botanical
<u>Rating</u>	Regional
<u>Priority</u>	B

Description and Evaluation

This lake lies in a drumlin basin, at a height of 53 metres above sea-level. It has little marginal vegetation except at the extreme western and S.E. ends, where in fact there is quite an interesting marsh. The aquatic fauna used to contain Mysis relicta, a freshwater shrimp of disjunct distribution but the main importance of the lake is that it is in a state of rapid change. This species and others of relatively clear water have disappeared with pollution to be replaced by a different fauna adapted to highly eutrophic conditions. This changeover is the subject of research at the moment. To include this lake is not to say that scientific interest increases with pollution but rather that it is necessary to have an extreme example of eutrophication to follow effectively its effects on other purer waters.

There is however another adjacent site and this is the oakwood on the drumlin north of Cherry Island. The west side of this presents a typical western oakwood though it is somewhat open. It is the only one in the county and has such characteristic species as Dicranum majus, Plagiothecium undulatum (mosses) and Dryopteris aemula, Hymenophyllum wilsonii (ferns). The ground layer is predominantly of Luzula sylvatica (greater woodrush) and Pteridium aquilinum (bracken) with some Calluna vulgaris (heather), Vaccinium myrtillus (bilberry) and Melampyrum pratense (cow-wheat) on the peaty sites. Where the underlying basic soil is exposed, patches of woodland herbs such as Anemone sylvatica (wood anemone), Conopodium majus (pignut), Endymion non-scripta (bluebell), Veronica montana (wood speedwell), Viola reichenbachiana (wood violet) exist among others and they are also found on the old lake bed, exposed through former drainage. The tree species here are Alnus glutinosa (alder, which

elsewhere borders part of the lake), Corylus avellana (hazel), Prunus spinosa (blackthorn) and Ilex aquilifolium (holly). The last four of these are also found higher up among the oak trees where Betula pubescens (birch), Sorbus aucuparia (rowan) occur commonly.

The Quercus trees are spreading and of different ages though none grows much above 30 ft. due to exposure. Little regeneration of this species was seen and the only young trees above the main strip of the woodland had been recently burnt, though not killed.

At the end of the peninsula and on its east side the wood is based on richer more clayey soil, perhaps washed off the drumlin. Fraxinus excelsior (ash) Corylus avellana (hazel) and Betula pubescens (birch) are the commonest species with much holly (ilex) as well. This wood is still backed by oak and it is here that the largest specimens occur. The ground flora differs significantly as would be expected and includes Ajuga reptans (bugle) Arum maculatum (cuckoo-pint), Silene dioica (red campion,) Chrysosplenium oppositifolium (golden saxifrage), Carex sylvatica and C. remota (sedges) amongst its most interesting members. Rosa arvensis (field rose) also occurs.

Vulnerability and Recommendations

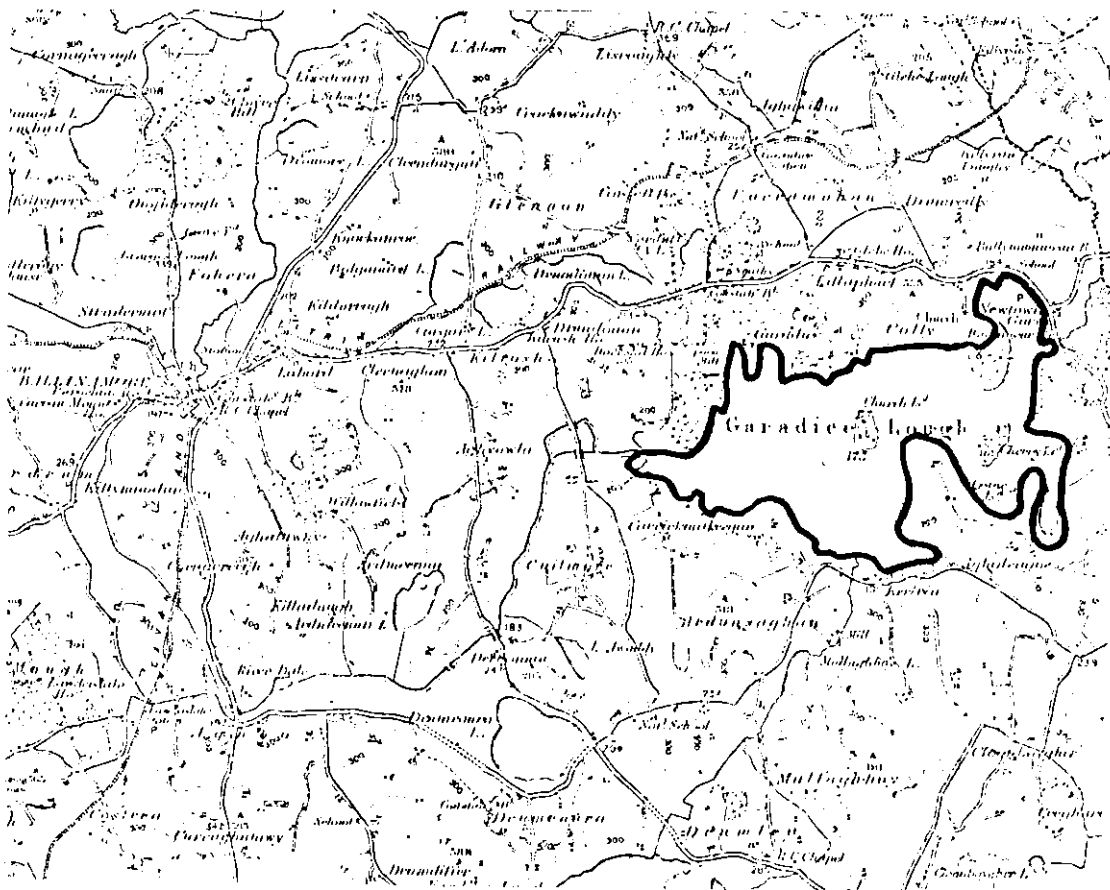
Continued pollution is currently a threat to the fishing interests whose sport has shifted from game fish to coarse fish in recent years. The frequency of algal blooms in the water may reduce the populations of even these fish through oxygen depletion.

Thus it is essential that other methods for the disposal of agricultural slurry be implemented as soon as possible and that if new intensive units are set up in the vicinity of the lake they should not send effluent into it.

The woodland is of regional value and should be protected from felling by a Tree Preservation Order. The oak trees are of relatively large size but are so few in number that they must not be interfered with. This would remove the seed source for regeneration and further spread.

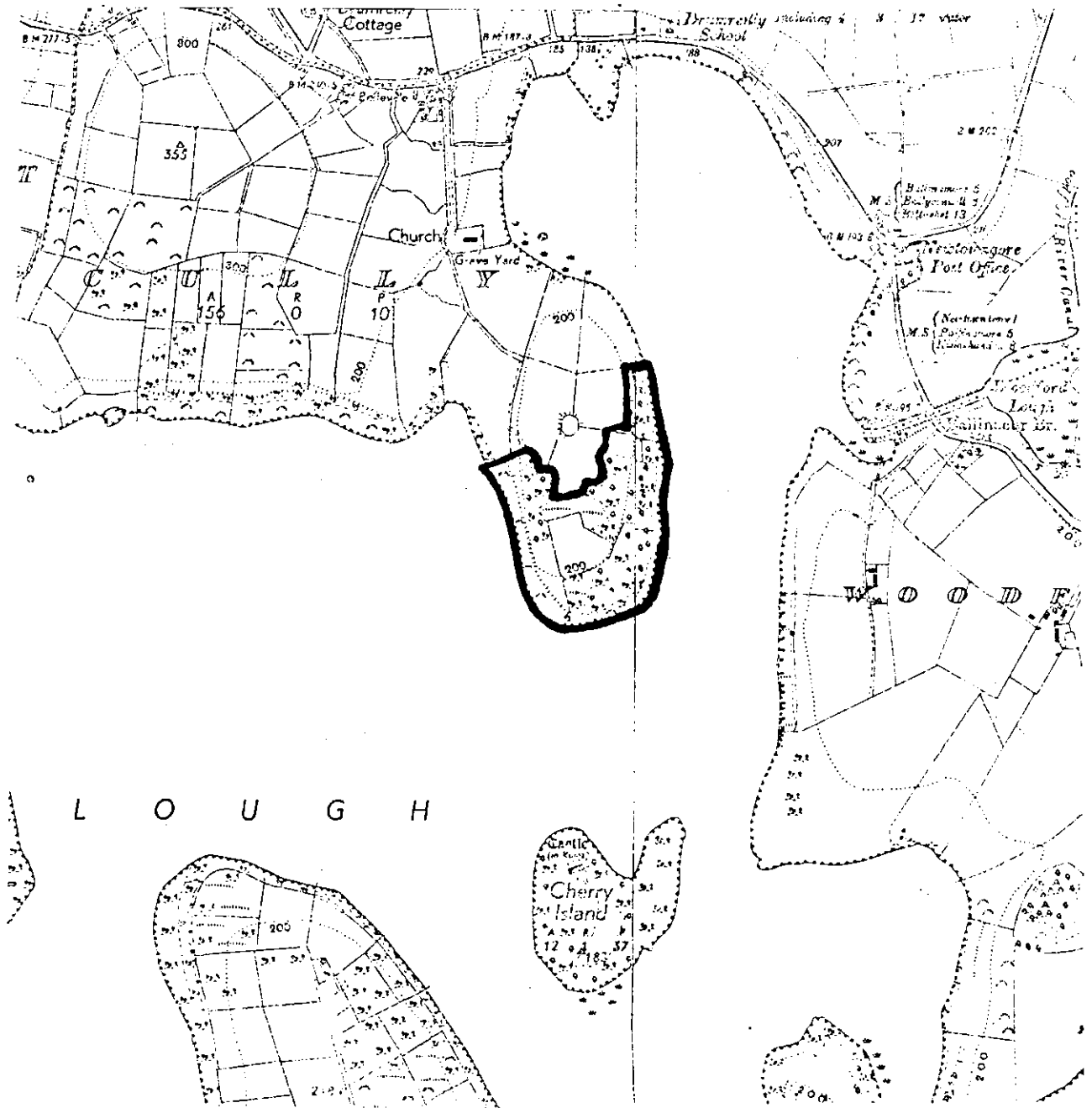
MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 1 Inch to 1 Mile



MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	LOUGH ALLEN (PARTS)
<u>Acreage</u>	17 Acres
<u>Grid Reference</u>	G. 96, 17
<u>Scientific Interest</u>	Ecological, botanical
<u>Rating</u>	Local
<u>Priority</u>	B-C

Description of Area

Lough Allen has mostly a sloping shore line which precludes much development of reedswamp except at its northern end. The shores instead generally consist of a stoney beach below wet clayey grassland with an abundance of rushes (Juncus effusus) and usually scattered alder trees. Along much of the shore in fact, an alder thicket has developed, the younger trees extending out into the lake, the older ones behind mixed with Salix cinerea (willow) Crateagus monogyna (hawthorn) and Fraxinus excelsior (ash). Holly (Ilex aquifolium) sometimes is mixed on the higher shore levels.

The broken bouldery ground is moss-covered with Thuidium tamariscinum, Hypnum cupressiforme, Thamnium alopecurum, Hylocomium brevirostre and Fissidens spp (mosses) common. The higher plants include Brachypodium sylvaticum (false brome grass), Glechoma hederacea (ground ivy) and Digitalis purpurea (foxglove) in the drier sites and elsewhere such characteristic species as:-

Oxalis acetosella	wood sorrel	c
Senecio aquatica	marsh ragwort	c
Primula vulgaris	primrose	f
Geranium robertianum	hard robert	f
Prunella vulgaris	heartsease	f
Ranunculus repens	buttercup	f
Chrysosplenium oppositifolium	golden saxifrage	l.f
Epilobium montanum	willow herb	o
Rubus fruticosus	bramble	l.f.
Carex remota	a sedge	o
C. sylvatica	a sedge	o

<i>Dryopteris filix mas</i>	male fern	o
<i>D. dilatata</i>	buckler fern	o
<i>Sanicula europaea</i>	wood sanicle	o
<i>Conopodium majus</i>	pignut	o
<i>Fragaria vesca</i>	strawberry	o
<i>Filipendula ulmaria</i>	meadowsweet	o
<i>Hypericum pulchrum</i>	St. John's wort	t

The alder wood is a constant feature of those parts of the eastern shore that have been mapped. In one place Populus tremula (aspen) grows at a low level while at another a single tree of Ulmus glabra (wych elm) was found. In the bay south of Gubcormongan the area covered by alder expands so as to produce a swamp forest often flooded in winter. The ground flora is limited and only species such as Ranunculus repens (buttercup) Senecio aquatica (marsh ragwort) Agrostis stolonifera could be seen above the flood waters. The area was rich in wildfowl however, which may use it as a daytime resting area or for feeding. Upwards of one hundred mallard and teal were seen. The alder trees also provide winter food for redpolls, siskins and chaffinches. The southernmost site is on that part of L. Allen which extends onto the limestone rocks near Drumshanbo. It is a limestone outcrop of conglomerate type, deeply eroded and associated also with the sandy till deposits. A very different vegetation is found as shown by the occurrence of such species as:-

<i>Pilosella officinalis</i>	mouse-ear hawkweed
<i>Pseudoscleropodium purum</i>	a moss
<i>Ranunculus bolbosus</i>	bulbous buttercup
<i>Anthriscus sylvestris</i>	cow parsley
<i>Phyllitis scolopendrium</i>	harts tongue
<i>Veronica officinalis</i>	a speedwell
<i>V. serpyllifolia</i>	a speedwell
<i>Geranium lucidum</i>	shining cranesbill
<i>Sesleria caerulea</i>	blue moor grass
<i>Polypodium spp.</i>	polypody

Arum maculatum	cuckoo-pint
Aira praecox	a grass
Ctenidium molluscum	moss
Camptothecium sericeum	moss
Tortella tortuosa	moss

Patches of open grassland on the sand have a calcifuge flora including Digitalis purpurea (foxglove), Rumex acetosella (sheep's sorrel), and Pedicularis sylvestris (louse wort), or Prunus spinosa (blackthorn) scrub. In this a few trees of Fraxinus excelsior occur.

Some of the marginal parts of Lough Allen are used for feeding by wild duck, and swans but they are not identifiable at this stage. Total numbers are quite low and a suitable estimate for the lake would seem to be wild swan 60, wigeon 200, mallard 250, teal 300, tufted duck 150.

Evaluation

The heavy clay soils of this part of Leitrim derived from the coal measures strata have a characteristic flora in which alder seems to be the climax tree. Around Lough Allen these trees are best developed and at one site form a swamp forest of unusual interest. Though poor in species, the community is of considerable ecological interest.

The limestone site has one or two species rare in this area, and is an important contrast with the rest of the shore.

Vulnerability

Most of the areas described above are relatively secure from development, being large. The exception is the southern site near Drumshanbo and this could be obliterated by any sort of building.

Selected felling occurs in much of the older woods and this keeps the stems relatively young. It also probably ensures that some are always left to supply future fencing demands.

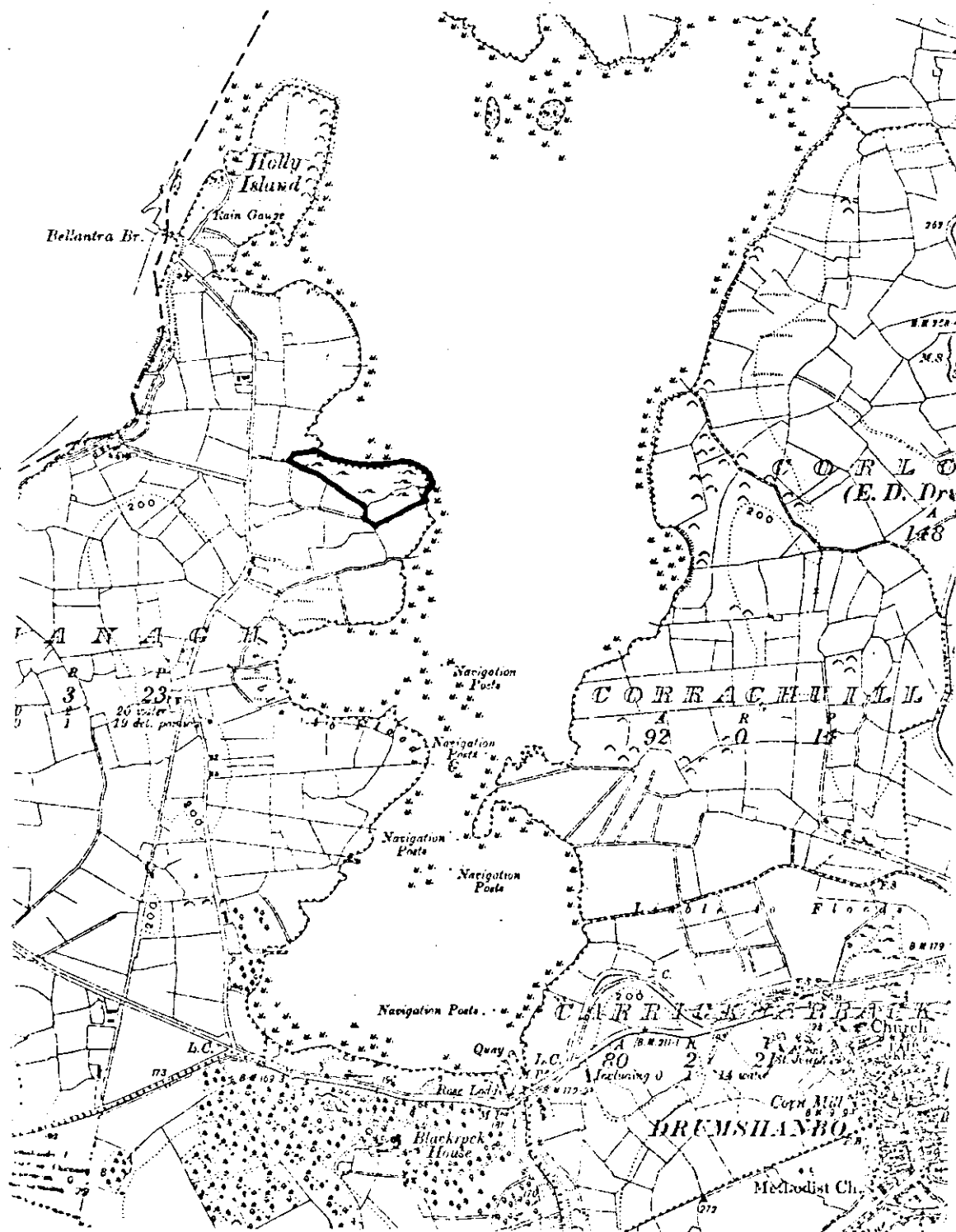
Recommendations

Land use should be kept in its present form and new building development should be zoned outside the areas mapped.

In view of its vulnerability the site in Mahanagh townland should be covered by a Conservation Order, under Section 45 Local Government (Planning and Development) Act, 1963.

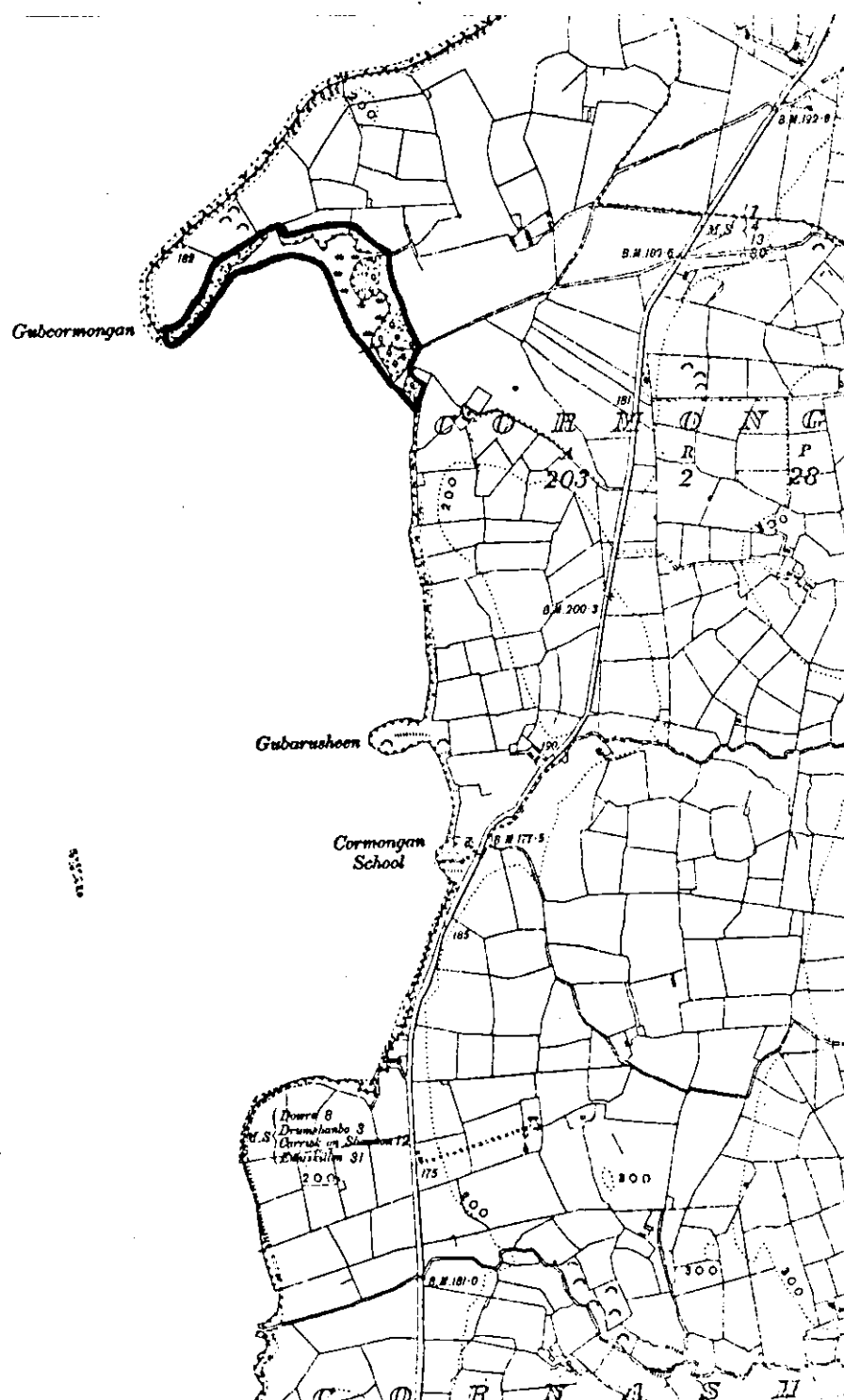
MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



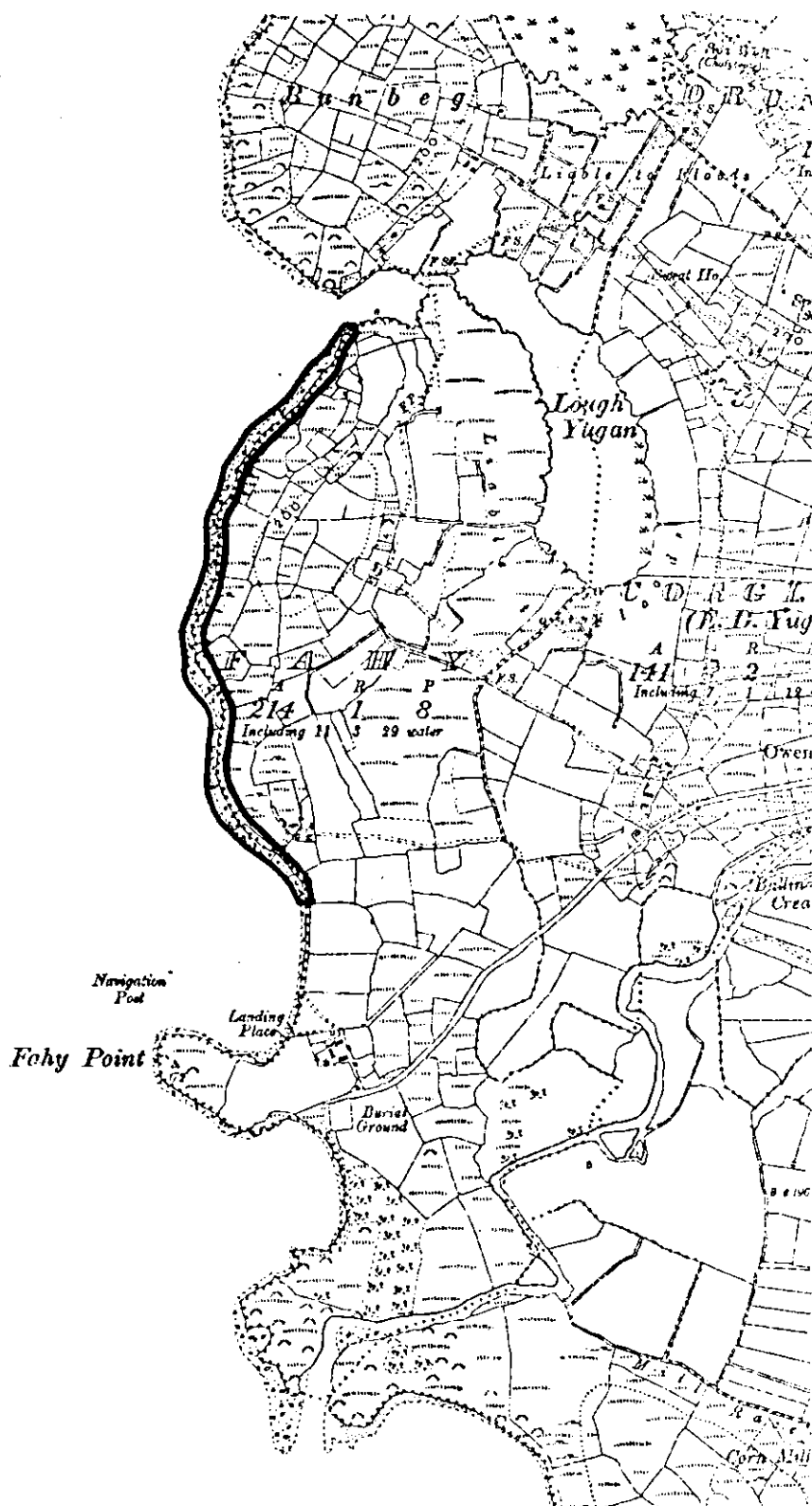
Landing Place

Deadman's Point

Grave Yd.
Church
Quay
Inishmagrath Island

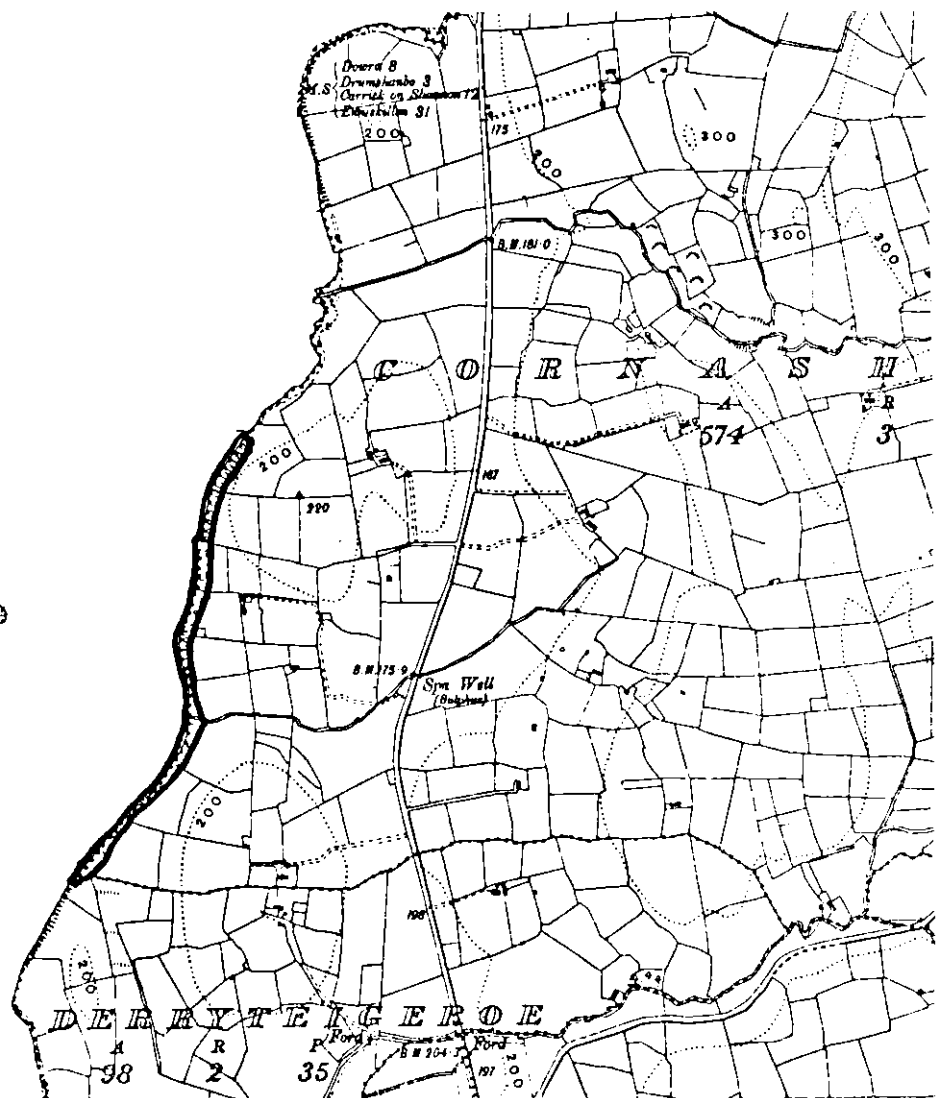
Inishmagrath Island

A	R	P
7	0	37



MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	LOUGH RINN
<u>Acreage</u>	278 Acres
<u>Grid Reference</u>	N. 10, 93
<u>Scientific Interest</u>	Botanical Zoological
<u>Rating</u>	Local
<u>Priority</u>	B

Description of Area

Lough Rinn is an alder-fringed lake on limestone or limestone drift and this proximity to a calcareous source makes it different from many of the Leitrim lakes. In most ways it resembles one of the Shannon lakes to the west. Slightly basic seepage occurs in some places on the west side and amongst seedling alder trees, plant species such as Briza media (quaking grass) Carex flacca (a sedge), Linum catharticum (purging flax), Juncus acutiflorus (a rush) and Pseudoscleropodium purum (a moss) occur. They are intermixed with species of different (calcifuge) type, eg. Nardus stricta (mat grass), Sieglingia decumbens (heath grass), Hylocomium splendens and Dicranum scoparium (mosses).

The aquatic communities contain interesting species and extensive reedbeds occur at the northern end of the lake and also in Lough Errew and L. Sallagh. As well as the commoner species such as Phragmites australis (common reed) Phlaris arundinacea (reed grass), Epilobium hirsutum (great willowherb) the following are recorded:-

<u>Circuta virosa</u>	water hemlock
<u>Carex diandra</u>	a sedge
<u>C. vesicaria</u>	"
<u>C. pseudocyperus</u>	"
<u>Rumex hydrolapathum</u>	great water dock
<u>Hydrocharis morsus-ranae</u>	frogbit
<u>Stellaria palustris</u>	marsh stitchwort
<u>Scutellaria galericulata</u>	skullcap
<u>Lycopus europaeus</u>	gipsy-wort.

Some of the woods that surround the lake have arisen naturally but in many places estate planting behind this fringe has added extensive areas of woodland, including beech, sycamore and oak. The flooded alder wood at the south end has a ground flora of such species as Iris pseudacorus (yellow flag), Mentha aquatica (water mint), Caltha palustris (marsh marigold), Angelica sylvestris, (angelica), Carex remota (a sedge), Deschampsia caespitosa (tufted hair grass) and Climacium dendroides (a moss) and is backed by the remnant of a raised bog, now afforested with conifers.

The aquatic fauna of the lake includes Anodonta (a freshwater mussel) and the normal species of Bithynia, Limnaea, Pisidium. Wintering wildfowl species include tufted duck, teal, mallard, pochard and goldeneye but only in small numbers.

Evaluation

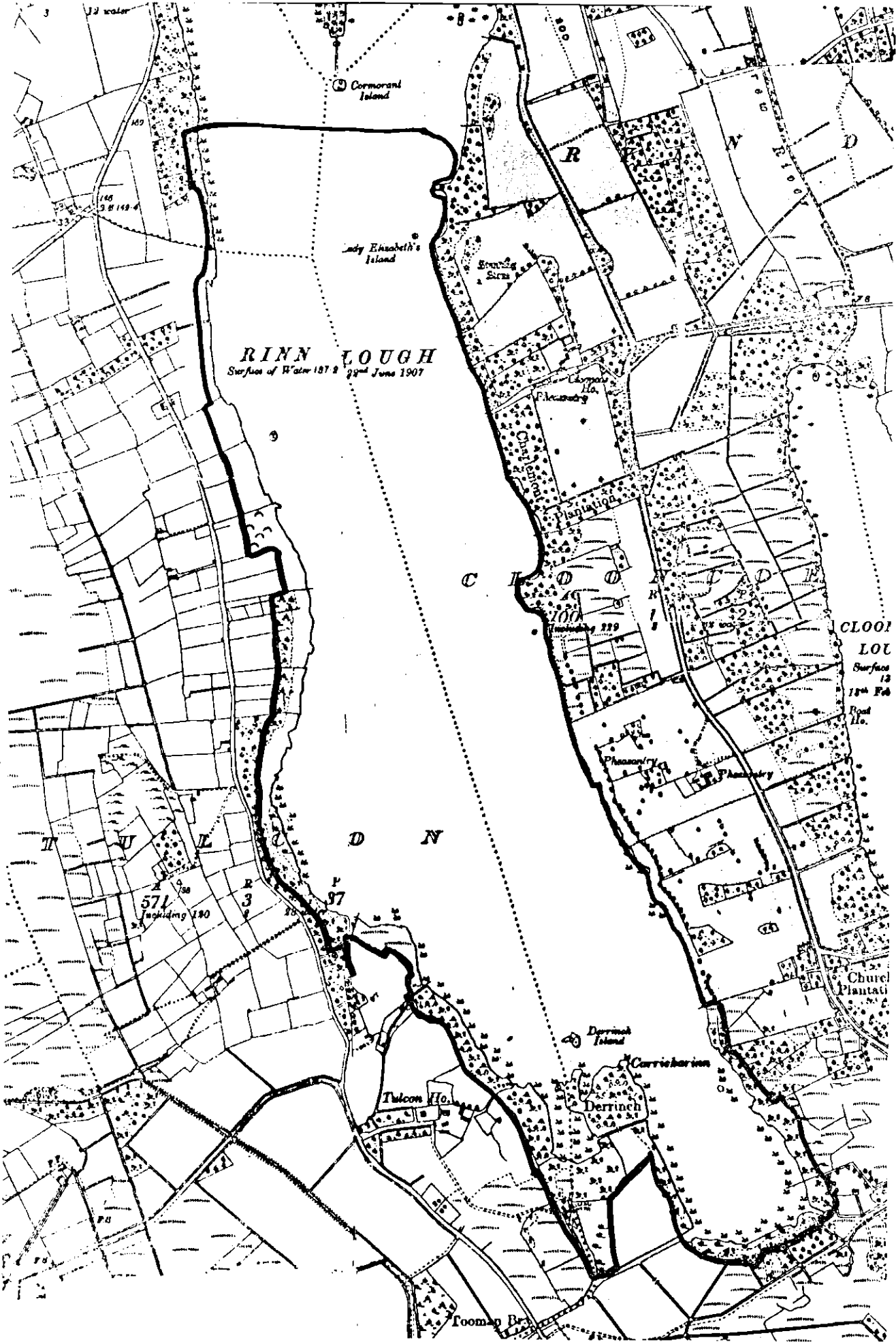
This lake has an interesting marsh flora in a region where the majority of lakes are distinctly dull because of their nutrient regimes.

Vulnerability and Recommendations

Large scale pollution would alter the aquatic flora but it is less likely to affect the marginal vegetation adversely.

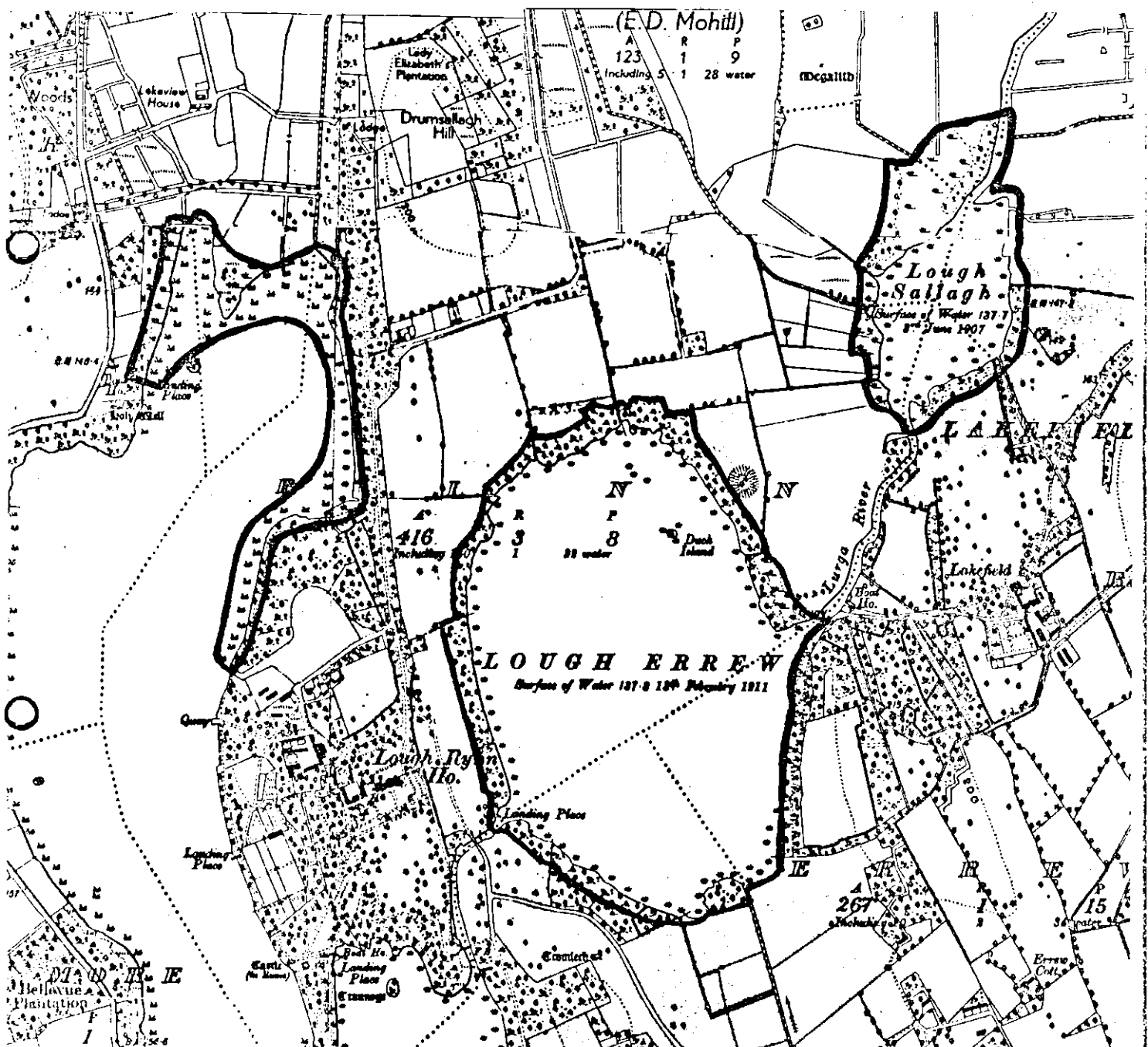
Creation of lake-side facilities should take place with as little damage to the natural vegetation as possible.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —



MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	GORGE OF 'AGHAVOGHIL' RIVER
<u>Acreage</u>	20 Acres
<u>Grid Reference</u>	G. 86, 52
<u>Scientific Interest</u>	Ecological, botanical
<u>Rating</u>	Local
<u>Priority</u>	C

Description of Area

The river has cut a gorge in the edge of the limestone plateau at this point, falling over 400 ft. in half a mile. A series of waterfalls, dripping rock faces, and wet clay banks give a wide variety of habitats, chief among which is the hazel scrub which covers much of the west side. In this, hazel is mixed with some hawthorn (Crataegus monogyna), and birch (Betula pubescens) while ash occurs towards the bottom. The shelter has allowed the trees to reach 40-50 ft. Birch above occurs in the heather at the top of the east side where some conifers are thinly scattered, adjacent to a denser plantation. Salix capraea (great willow) and Ilex aquifolium (holly) are other tree species to be found.

The ground flora is rich and similar to other wet woods on limestone (see p. 33). Its more unusual members would include Galium odoratum (woodruff), Carex nigra, C. pendula (sedges), Stachys sylvatica (hedge woundwort) Festuca gigantea (giant fescue), Ranunculus auricomus (goldilocks), Rhodobryum roseum and Trichocolea tomentella (bryophytes). Leaching is such that calcifuge species such as Luzula sylvatica (woodrush), Vaccinium myrtillus (frochan) and Dryopteris pseudomas (male fern) occur.

Evaluation

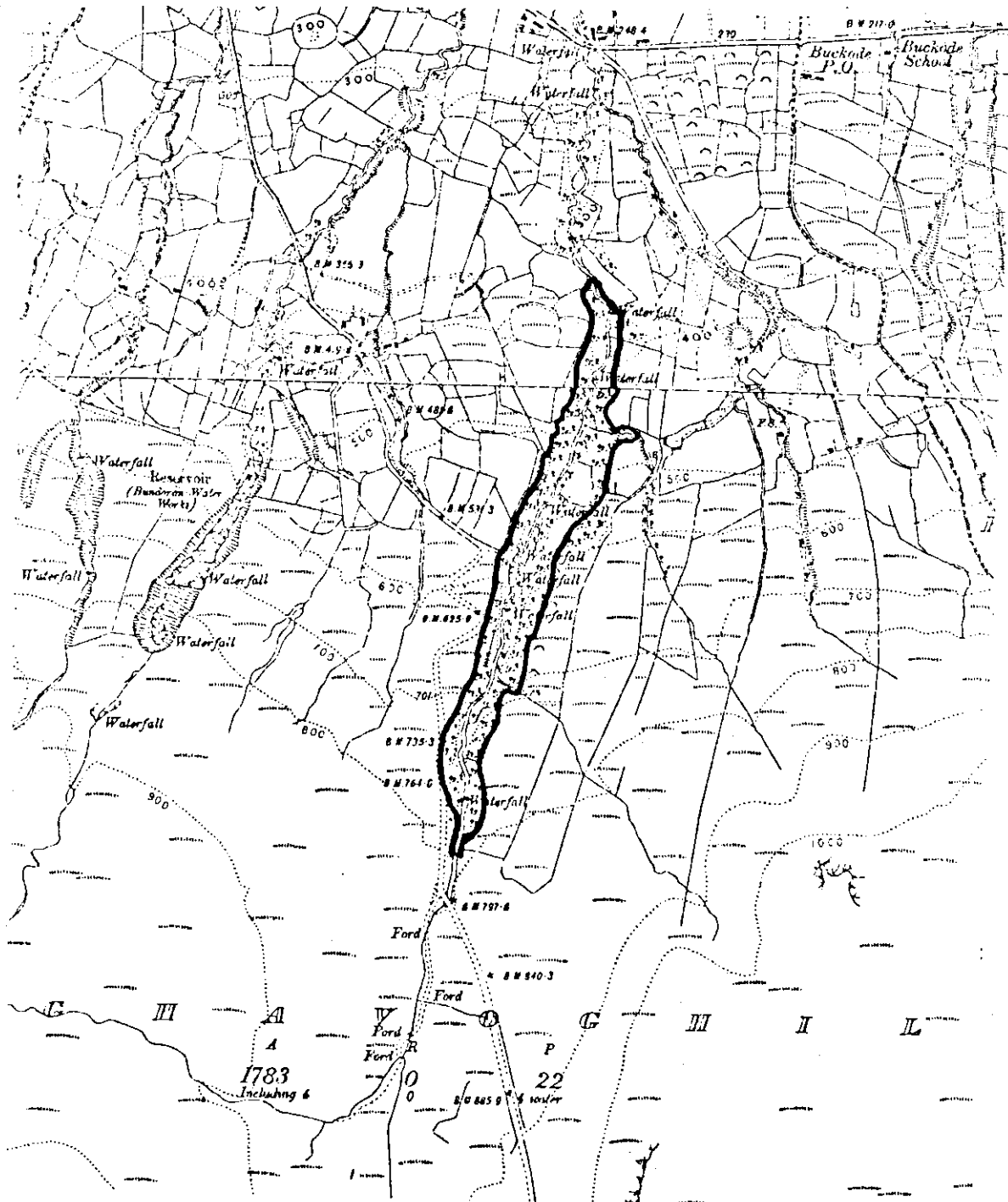
This is a rich woodland site, difficult of access but with many interesting features. Associated animal life is likely to be diverse.

Vulnerability and Recommendations

The gorge is in little danger from any man-made influence but forestry development should encroach no further on the eastern side and preferably be taken back as the trees mature.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	LAKESHORE NEAR DRUMOD
<u>Acreage</u>	35 Acres
<u>Grid Reference</u>	N. o4, 90
<u>Scientific Interest</u>	Ecological, botanical
<u>Rating</u>	Local
<u>Priority</u>	B

Description of Area

The sites dealt with here are two terrestrial ones on the eastern shores of the lakes, the northern one a semi-natural wood, the southern is more obviously planted 40 - 50 years ago. Around these woods the lake shore is of moderate interest and a representative sample has been included.

Much of the eastern shore of L. Scannal is fringed by alder trees with some Fraxinus (ash), Salix cinerea (willow) behind. The community is quite open and a Schoenus nigricans (black bog-rush) - Carex flacca (a sedge) stratum covers the ground. In this Carex demissa (a sedge), Festuca rubra (red fescue), and Centaurea nigra (knapweed) are common, Lychnis flos-cuculi (ragged robin), Juncus effusus (soft rush), Succisa pratensis (devils-bit), Climacium dendroides (a moss), Prunella vulgaris (heartsease) and Parnassia palustris (grass of Parnassus), somewhat rarer. Where streams enter patches of other species occur, e.g. Veronica beccabunga (brooklime). Apium nodiflorum (fool's watercress), Iris pseudacorus (yellow flag) and Ajuga reptans (bugle).

The wood at the south end of this lake has developed a mature structure with an overstorey of ash (Fraxinus excelsior) and old Corylus (hazel) below which some holly is found with Euonymus europaeus (spindle tree). Individual trees of Salix caprea (goat willow) occur at intervals while Crataegus (hawthorn) and Betula pubescens (birch) are confined to the shoreline. The ground layer is quite rich including species such as Arum maculatum (cuckoo pint), Lysi-

machia nemorum (yellow pimpernel), Endymion non-scripta (bluebell), Conopodium majus (pignut), Chrysosplenium oppositifolium (golden saxifrage) and Veronica montana (wood speedwell). Rosa canina (dog rose), and Valeriana officinalis (wild valerian) occur with Schoenus nigricans (black bog-rush) at the lake edge.

A good variety of mammals are associated with the wood while the bird fauna is also interesting.

The woodland on Lough Bofin south of Drumod is slightly different being originally planted up with beech and oak. There is a more complete Ilex (holly) layer beneath the tree canopy and a slightly more acidic type of ground flora, including Luzula sylvatica (woodrush). Species additional to those mentioned above are Geum urbanum (wood avens), G. rivale (water avens), Galium odoratum (woodruff), Oxalis acetosella (wood sorrel) and Orchis mascula (early purple orchid).

The river and lakeshore outside the woodland is also quite interesting with a marshy community including Juncus effusus (soft rush), J. acutiflorus (a rush), Deschampsia caespitosa (tufted hair grass), Cardamine pratensis (lady's smock), Lysimachia nummularia (creeping jenny), Pulicaria dysenterica (flea-bane), Senecio aquatica (marsh ragwort) and Climacium dendroides (a moss).

Evaluation

The woods are of considerable local interest since low-lying woodland is rare in the county. Parts of it have redeveloped naturally after original clearance and have some scientific importance.

Vulnerability and Recommendations

Largescale felling or afforestation with conifers would be damaging and should be prevented.

Lakeside developments should avoid the outlined areas.

<u>Name of area</u>	WOODLAND AT CROMLIN BRIDGE
<u>Acreage</u>	3.5 Acres
<u>Grid reference</u>	H 10, 14
<u>Scientific interest</u>	Botanical, ecological
<u>Rating</u>	Local
<u>Priority</u>	C

Description of area

Above Cromlin Bridge, the Castlerogy stream has cut a deep gorge in calcareous drift deposits so it now cascades on slatey rocks up to 60 ft. below the level of the surrounding land.

On these steep slopes hazel scrub has developed well and some of the trees are of considerable age. A few Ulmus glabra (wych elm) much cut, occur on the edges while Fraxinus excelsior (ash), Salix cinerea (willow) are scattered throughout. Prunus spinosa (blackthorn) is frequent in the understorey while one of two plants of Viburnum opulus (guelder rose) were found.

The ground floor vegetation is rich in this wood, including many characteristic species (about 30 altogether). These include:-

<i>Polystichum setiferum</i>	shield fern	c
<i>Ranunculus ficaria</i>	lesser celandine	c
<i>Veronica chamaedrys</i>	germander speedwell	c
<i>Carex sylvatica</i>	wood sedge	f
<i>Conopodium majus</i>	pignut	f
<i>Anthriscus sylvestris</i>	cow parsely	l.f.
<i>Endymion non-scripta</i>	bluebell	l.f.
<i>Galium odoratum</i>	woodruff	o
<i>Dryopteris borreari</i>	male fern	o
<i>Carex nigra</i>	a sedge	o
<i>Veronica montana</i>	wood speedwell	o
<i>Orchis mascula</i>	early purple orchid	r

Near to the stream the growth of mosses and ferns is very luxuriant and such species as Asplenium trichomanes (wall-rue), Polypodium vulgare agg. (polypody), Rhytidadelphus loreus, Hookeria lucens, Conocephalum conicum and Thamnum alopecurum (mosses and liverworts) attain large size.

At the edges of the area, light demanding species such as Equisetum telmateia (horsetail), and Lapsana communis (nipplewort) occur while Swida sanguinea (dogwood) and Carex pendula (a sedge) have been planted.

Evaluation

A small area close to the junction of the two drift soils of south Co. Leitrim, this is some of the only natural hazel wood outside Glenade and L. Gill. It has a rich and varied flora.

Vulnerability

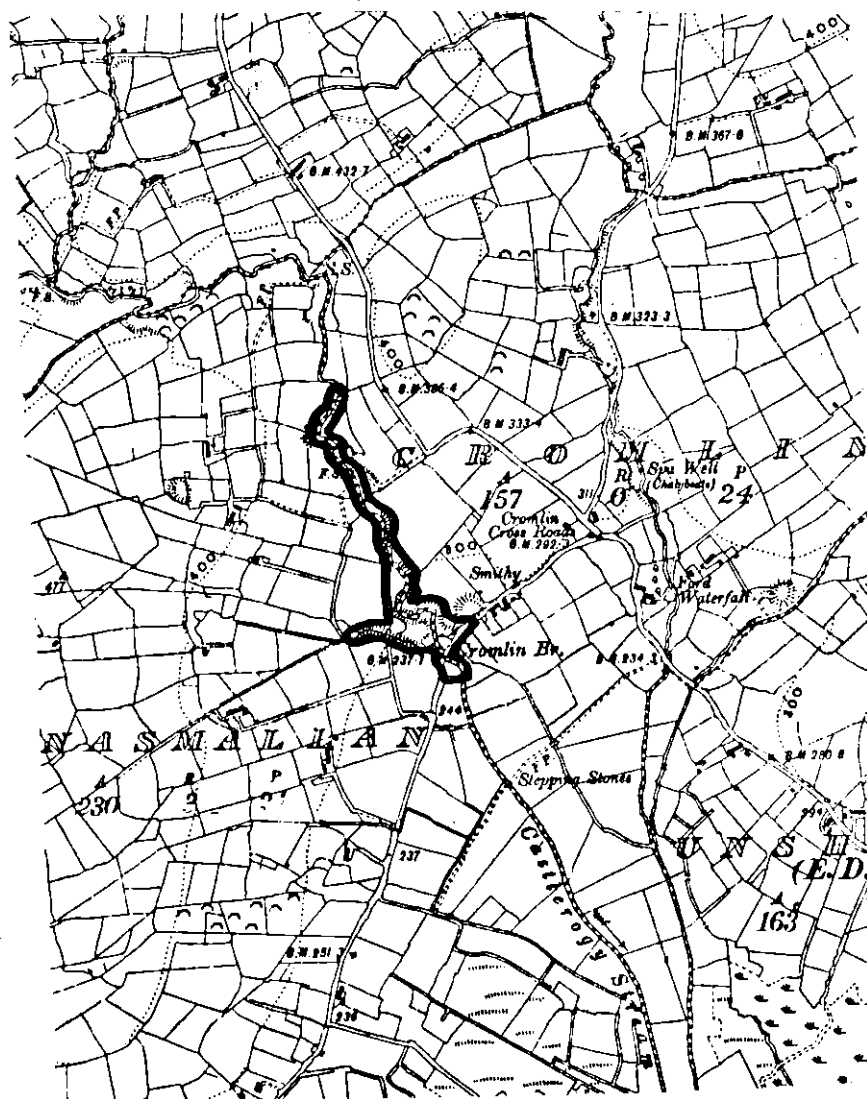
Felling and scrub clearance would adversely affect this area.

Recommendations

A Tree Preservation Order would be an effective way of maintaining this wood. However it is probably secure due to its precipitous nature.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	ANNAGHEARLY LOUGH
<u>Acreage</u>	50 Acres
<u>Grid Reference</u>	H. 00, 03
<u>Scientific Interest</u>	Botanical
<u>Rating</u>	Local
<u>Priority</u>	B

Description of Area

Annaghearly Lough is typical of many lakes in South and Central Leitrim. It has little marginal vegetation, the fields around run down to the lake, gradually increasing in aquatic plants and there is scarcely any development of alder or willow thickets. The exception in this case is on an island in the lake.

Juncus effusus (soft rush) and Phalaris arundinacea (reed grass) form the most noticeable marginal vegetation mixed with lower-growing species such as Carex flacca (a sedge), Myosotis caespitosa (forget-me-not) Triglochin palustre (arrow-grass), Cardamine pratensis (lady's smock) Filipendula ulmaria (meadow sweet) and Acrocladium (a moss). Rorippa (watercress) is submerged for part of the year, Equisetum fluviatile (water horse tail) Carex rostrata (bottle sedge) and Sparganium emersum (bur-reed) for longer periods.

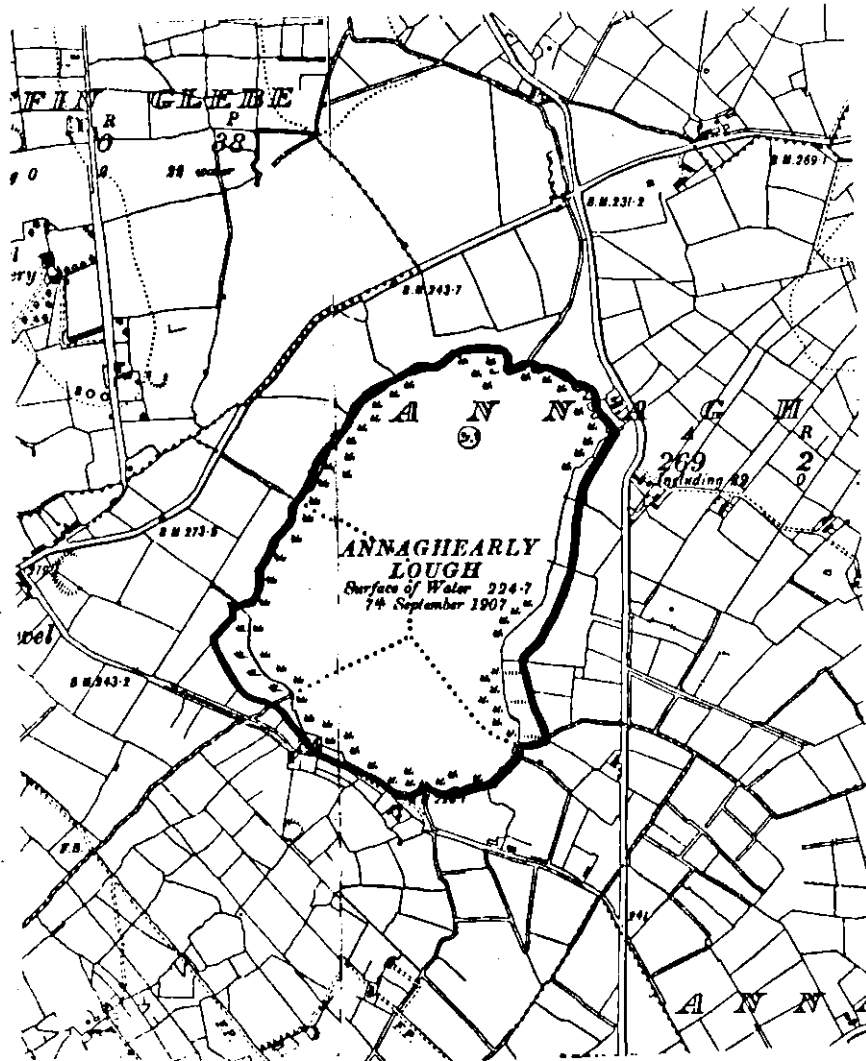
Two fully aquatic species that occur are Lemna trisulca (ivy-leaved duckweed) and Potamogeton filiformis. This lake seems representative of a common type and has the additional claim of two uncommon species.

Vulnerability and Recommendations

The aquatic community would be altered by any increase in the pollution load. This should be discouraged therefore by diversion of wastes from any projected project or by resiting developments.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	KINLOUGH WOOD
<u>Acreage</u>	98 Acres
<u>Grid Reference</u>	G. 82, 54
<u>Scientific Interest</u>	Botanical, ecological
<u>Rating</u>	Local
<u>Priority</u>	B

Description of Area

This is a deciduous wood of planted origin on a very wet site. The trees are poorly grown but quite large; they are mostly ash, birch (Betula pubescens), willow (Salix cinerea) and hazel (Corylus avellana). Some low-growing holly occurs also. There is some regeneration at the edges, especially on the north side where alder is growing vigorously but beneath the main canopy the ground layer is rather open due to cattle-grazing. Mosses form most of the cover, eg. Rhytidiadelphus triquetrus, Thuidium tamariscinum, Fissidens spp. Hookeria lucens, etc., but there is also a selection of herb species including the following:-

Ranunculus ficaria	lesser celandine	c
Oxalis acetosella	wood sorrel	c
Endymion non-scripta	bluebell	lc.
Chrysosplenium oppositifolium	golden saxifrage	f
Carex remota	a sedge	f
C. sylvatica	a sedge	f
Ajuga reptans	bugle	f
Blechnum spicant	hard fern	o
Dryopteris dilatata	buckler-fern	o
Cardamine flexuosa	wood cress	o
Sanicula europaea	wood sanicle	o
Conopodium majus	pignut	o
Viola riviniana	violet	o
Veronica chamedrys	genmander speedwell	o
V. montana	wood speedwell	o
Valeriana officinalis	marsh valerian	r
Carex laevigata	a sedge	r

A few oak trees are found at the eastern edge below which Luzula sylvestris (woodrush) grows.

*Knowles (1929) records certain lichen species from Kinlough Wood including two relatively rare types.

Evaluation

This is a moderately interesting wood but one of considerable educational value in an area where deciduous woodland is quite rare. It would be a suitable place to conduct various controlled experiments (eg. exclosures to prevent grazing) and investigate the insect fauna of this part of Leitrim.

Vulnerability

As is normal for a wood, this one is threatened by felling or afforestation with conifers, but grazing is just as important in the longrun as it removes all later generation of trees.

Recommendations

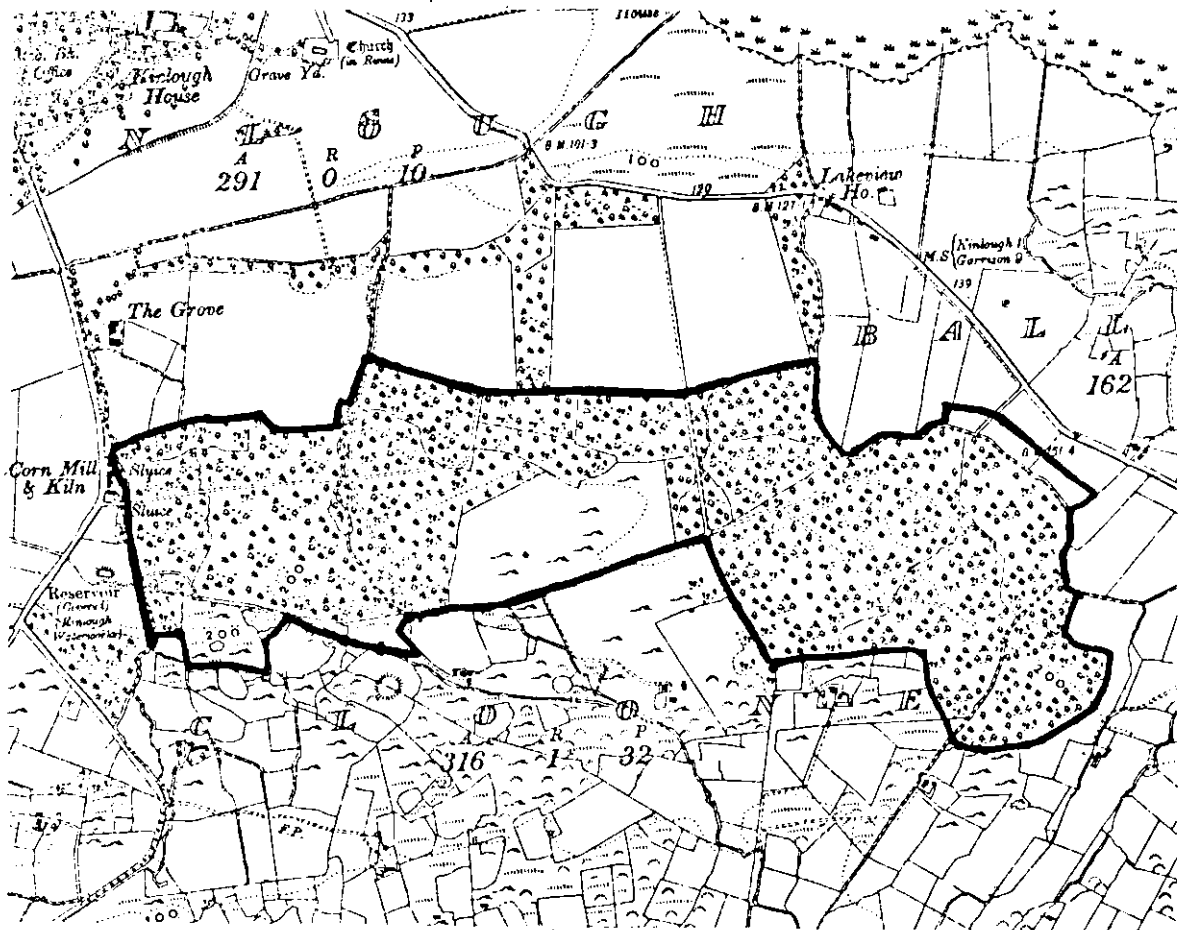
This wood should be preserved as a deciduous stand but it is important to initiate some regeneration at this stage. There should be a relaxation of grazing pressure (by fencing) in small but different parts of the wood on a 10 year cycle so a new crop of trees will be brought in. Only then can selective thinning of the mature trees, which a normal wood can stand, take place.

The area could probably be developed as a small amenity project if the land-owner is agreeable.

*Knowles, M.C. (1929) 'The Lichens of Ireland'. Proc. R.I.A. 38. p.179.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



<u>Name of Area</u>	Uragh Lough
<u>Acreage</u>	6 Acres
<u>Grid Reference</u>	G. 776, 537
<u>Scientific Interest</u>	Ecological
<u>Rating</u>	Local
<u>Priority</u>	B

Description and Evaluation of Area

Uragh Lough is small and surrounded by mostly cut-over blanket bog. It receives some mineral flushing however allowing species such as Cladium mariscus (saw sedge) and Juncus obtusiflorus (a rush) to grow in the more normal acidic flora of Carex rostrata (bottle sedge), Phragmites australis (common reed), Eriophorum angustifolium (bog cotton), Potamogeton polygonifolius (pond weed), Juncus articulatus (jointed rush) and Utricularia sp. (bladderwort). The surrounding bog though dissected by ditches and turf-banks still has Drosera intermedia (sundew) and probably the Rhynchospora fusca (beak sedge) that formerly grew here.

The site is interesting nutritionally as it forms part of the series of western blanket bogs. Although much modified it seems to differ substantially from those of west Galway and Donegal, resembling Co. Clare more closely.

Vulnerability

Any acidic body of water is threatened by eutrophication as the community is normally adapted to very low levels of nutrients. Possible sources of pollution are intensive livestock units or fertilizer run-off from the surrounding fields.

Recommendations

Land use should remain in its present form in the area but any new sources of effluent should be led into the stream below Uragh Lough.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



<u>Name of area</u>	WOODLAND AT OWENGAR BRIDGE
<u>Acreage</u>	6 Acres
<u>Grid reference</u>	G 91 23
<u>Scientific interest</u>	Botanical, ecological
<u>Rating</u>	Local
<u>Priority</u>	B

Description of area

A small wood occurs on the steep northern bank on the Owengar River which has cut into the wet clay soils of this part of Leitrim. The dominant trees are alder and has while there is a little beech and some more willow (Salix cinerea). A moderately thick understorey vegetation includes hazel and hawthorn (Crataegus monogyna) with holly through which paths run, used occasionally by cattle.

Plants characteristic of a slightly acidic substrate occur in the ground vegetation which is by no means complete, patches of clay soil being present as well.

The plant species include:-

Polystichum setiferum	shield fern
Dryopteris filix-mas	male fern
Carex remota	a sedge
Chrysosplenium oppositifolium	golden saxifrage
Ranunculus ficaria	lesser celandine
Veronica chamaedrys	germander speedwell
Oxalis acetosella	wood sorrel
Potentilla sterilis	barren strawberry
Carex sylvatica	wood sedge
Phyllitis scolopendrium	harts tongue
Dryopteris dilatata	buckler fern
Primula vulgaris	primrose
Sanicula europaea	wood sanicle
Deschampsia flexuosa	hair grass
Carex nigra	a sedge
C. laevigata	a sedge

Eurhynchium striatum	mosses and liverworts
Atrichum undulatum	"
Fissidens taxifolius	"
Conocephalum conicum	"
Polytrichum formosum	"
Plagiochila asplenoides	"
Thuidium tamariscinum	"
Mnium undulatum	"
Isoetecium myosuroides	"

This wood is rich in birdlife having varied sizes and species of tree. The bird-life includes pheasant, woodcock and a variety of smaller species.

Evaluation

This area shows the characteristic intermixture of ash and alder that occurs on the wetter clay soils and as a wood is in reasonably good condition. Occurring on the roadside the site is also a valuable amenity feature.

Vulnerability

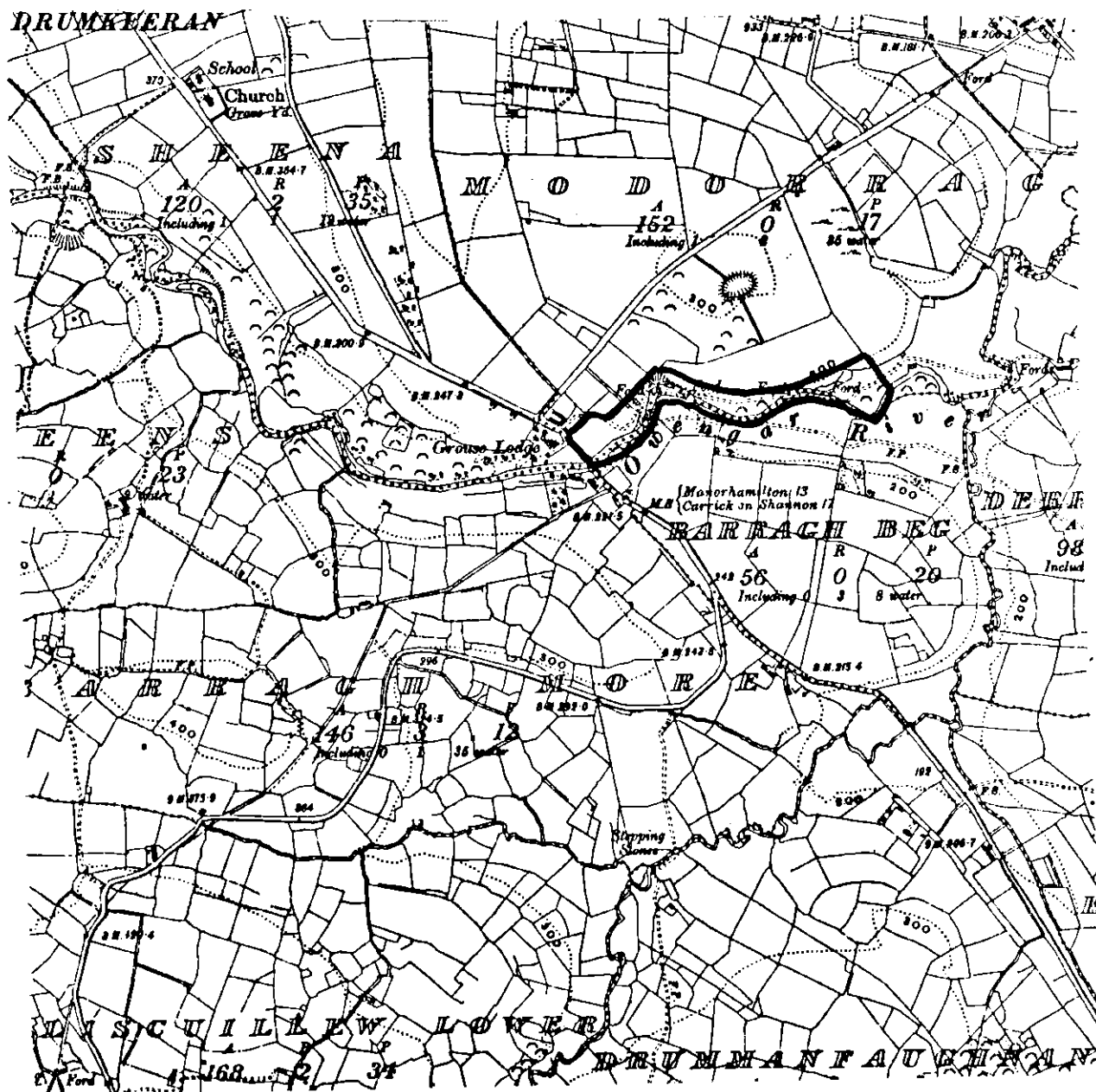
The quality of the wood may be impaired by beech spreading into it but the obviously greater threat is by felling for timber.

Recommendations

Since timber of some value exists in this woodland, it should be covered by a Tree Preservation Order. The order could well exclude beech from protection if this is thought practicable as this species should be removed.

MAP SHOWING AREA OF SCIENTIFIC INTEREST —

Scale: 6 Inches to 1 Mile



SECTION G. RECOMMENDED ACTION FOR EACH OF THE SITES MENTIONED

Name of Area	General Planning Control	Special Amenity Area Order	Conservation Order	Tree Preservation Order
Glenade cliffs and Arroo Mt.			X	
Lough Melvin	X			
Lough Gill woodland		X		X (Part)
Lough Scannal	X		X (part)	
Sheemore wood				X
Glencar waterfall and lake	X			
O'Donnell's Rock				X
Garadice Lough	X			X (part)
Lough Allen: most - Mahanagh townland -	X		X	
Lough Rinn	X			
Gorge of Aghavoghil R.	X			
Lakeshore near Drumod	X			
Woodland at Cromlin Bridge	X			
Annaghearly Lough	X			

Name of Area	General Planning Control	Special Amenity Area Order	Conservation Order	Tree Preservation Order
Kinlough Wood	X (with manage- ment)			
Uragh Lough	X			
Woodland at Owengar Bridge				X