# RAISED BOG RESTORATION PROJECT

## A CONTINUATION OF THE INVESTIGATION INTO THE CONSERVATION AND RESTORATION OF SELECTED RAISED BOG SITES IN IRELAND

## PART 4
## SITE REPORTS
DERRYCANNAN-KILLERAGH

A REPORT TO DÚCHAS, THE HERITAGE SERVICE, DUBLIN.

John Derwin
Fiona Mac Gowan

March 2000

# DERRYCANNAN BOG, CO. ROSCOMMON

## 1. SUMMARY OF SITE DETAILS

| | | | |
|---|---|---|---|
| NHA no.: | 605 | 6" Sheet: | RN36 |
| Grid Ref.: | M905 725 | 1:126,000 Sheet: | 12 |
| G.S.I. Aerial Photo: | 32 (8085) | 1:50,000 Sheet: | 40 |
| Other Photo: | | High bog area (ha): | 174.3ha |
| Date(s) of Visit: | 27/1/2000 | | |

Townlands: Derrycanan, Cloonbony, Tuam, Carroward, Fairymount, Cashelmeehan.

## 2. INTRODUCTION

### 2.1 BACKGROUND

This site was visited as it is a large raised bog site. It is however divided into three sections by roads and drains.

The 1984 survey describes this site as a nice bog with a soft surface and plenty of Sphagnum and tearpools. Good hummocks were noted in unburnt regions.

The 1994 NHA survey describes good, wet pool systems and notes the sites large size and accessability as good conservation reasons.

### 2.2 LOCATION AND ACCESS

A large raised bog divided into three sections by a trackway and a road. The bog is situated 8km north-east of Roscommon town. The site may be accessed from the local roads between Four Mile House and Lackan. These villages are to the north of Roscommon town.

## 3. METEOROLOGY

No meteorological measurements have been made on this bog. Rainfall data from the nearby Roscommon weather station for the years 1960-84, indicates that the area recieves appproximately 1022mm of rainfall annually (R). The nearest synoptic station at Claremorris indicates that the site has up to 177 wet days annually. (Wet day is defined as a day when > 1mm of rainfall recieved).

Evapotranspiration measurements are only available for synoptic stations. With the large exposed areas on high bogs, actual evapotranspiration rates would probably be higher than at the nearest synoptic station. The effective rainfall (ER) rate for a site is the annual rainfall (R), less the actual evapotranspiration (AE). With only the potential evapotranspiration (PE) rate available for Claremorris of 415 the effective rainfall for the site is calculated as less than (R - PE) i.e. ER< 1022 - 415 = 607mm.
( See Fig. 1 )

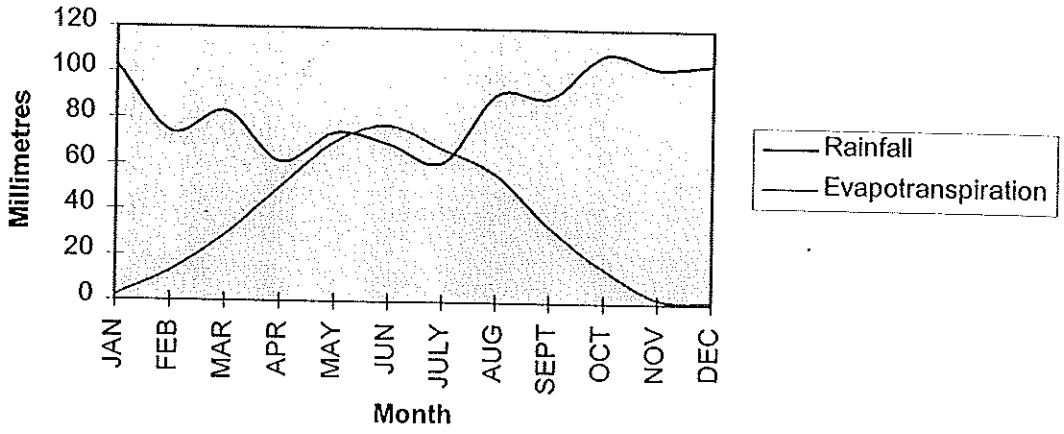



FIG. 1: Meteorology for Derrycanan

## 4. GEOMORPHOLOGY

### 4.1 TOPOGRAPHY OF THE HIGH BOG

This a large relatively flat bog divided into three sections by drains and a road. There are some steep slopes associated with these drains and gradual slopes towards the margins.

#### 4.1.2 Slopes of the High Bog

Slope 1: A series of gradual slopes from the high bog towards the margins (50cm/100m).

Slope 2: A steep slopes associated with the outflow of drain D9 (50cm/25m).

Slope 3: A series of gradual slopes from the high bog towards cutaway (50cm/50m).

Slope 4: A marginal slope towards the cutaway (1m/25m).

Slope 5: A marginal slope at the old cutaway margin (1m/50m).

Slope 6: A series of gradual slopes from the high bog towards the margins (1m/100m).

Slope 7: A series of gradual slopes from the high bog towards the central road (25cm/100m)

Slope 8: A steep slope across the high bog (25cm/25m).

Slope 9: A series of marginal slopes towards cutaway (50cm/100m).

Slope 10: Internal slopes associated with tear pool complexes (50cm/50m).

Slope 11: A series of marginal slopes towards the cutaway (50cm/50m).

## 4.2 TOPOGRAPHY OF THE BOG MARGINS

The central cutaway has very gradual slopes and is suitable for restoration work as it is already flooded in places. The cutaway along the east-west track is also level and suitable for restoration work. The cutaway to the south is level but separated from the bog by a trackway. The cutaway to the west and north has slopes unsuitable for re-flooding with the western cutaway sloping away and the northern cutaway sloping too steeply towards the cut-face. There is some cutaway in the east between the cut-face and d2 which is level and below the neighbouring land. This area would also be suitable for restoration work.

# 5. HYDROLOGICAL SYSTEM

## 5.1 GEOLOGY/HYDROLOGY

### 5.1.1 Bedrock

According to the geological survey maps, the site is underlain by Greenshale and Limestone drift.

### 5.1.2 Subsoils

No data was available for sub-soils for this site.

### 5.1.3 Peats

The peat at this site was classified by Hammond as Man-modified.

## 5.2 HYDROLOGY

### 5.2.1 High Bog Hydrology (see Drains map)

The only active drainage on this bog is associated with the two trackways with water actively flowing off the bog to the north and east. The remaining drainage is old in-filling drains associated with cutaway.

Drain D1: 1m wide drain running parallel to d1 which is wet and in-filling with *Sphagnum capillifolium* and *Narthecium ossifragum*. In places the sides have collapsed in and *Calluna vulgaris* and *Eriophorum vaginatum* grew here. There is some *S. cuspidatum* present. *Typha latifola* is also present, growing near the active peat cutting.

Drain D2: A 1m wide drain, 0.5m deep with water at its base. There is some *S. cuspidatum* present and it is in-filling with *Calluna vulgaris, Narthecium ossifragum* and *Eriophorum angustifolium*. There is a slight flow towards D1.

Drains D3: Some drains extend past the old cutaway at this point. They are 1m wide and 0.5m deep, with *Sphagnum cuspidatum* and *Eriophorum angustifolium* at their bases. Some of these drains are wider and deeper (1.5x2) with water at the bases and lined with tall *Calluna vulgaris*.

Drains D4: A series of in-filled drains running in from old cutaway. These are 0.5m wide and completely filled with *Sphagnum cuspidatum* and *Narthecium ossifragum*, with *Calluna vulgaris* encroaching from the margins.

Drains D5: A series of narrow in-filled drains which run from the active cutaway. These are 20cm wide and in-filled with *Sphagnum cuspidatum* and *Narthecium ossifragum*.

Drains D6: A series of in-filled drains, closed over and lined with *Calluna vulgaris*. A lot of erosion channels present here also.

Drain D7: A continuation of D1 past the end of the central trackway. It is 1m wide and 1m deep with 50cm of water. *Sphagnum cuspidatum* and *Juncus effusus* occur in the water and *Calluna vulgaris, Narthecium ossifragum* and *Eriophorum angustifolium* are growing in from the margins.

Drain D8: A 1.5m wide water-filled drain. At its northern end it is algal with some *Narthecium ossifragum* and *Sphagnum capillifolium* in-filling from the sides, but towards the centre *Eriophorum angustifolium* is in-filling. There are small narrow drains linking D7 and D8. Further south alongside the trackway, this drain has been cleared. It is 1m deep with 10cm of water flowing south. The drain has not been deepened but the banks have been cleared of vegetation and there is evidence that rubbish has been removed from here also.

Drain D9: Drains D7 and D8 join to form this drain. It is 1.5m wide and 1m deep. There is 20cm of water which is flowing northwards off the bog. The drain is in-filling from the margins with *Calluna vulgaris, Sphagnum capillifolium* and *Narthecium ossifragum*. Some *S. cuspidatum* is present also.

Drain D10: An old in-filled drain running from old cutaway. It is 0.5m wide and 0.5m deep with *Sphagnum cuspidatum* present. *S. magellanicum, Eriophorum angustifolium, Calluna vulgaris* and *Narthecium ossifragum* are in-filling from the margins.

Drain D11: An old drain, 2m wide which spreads out at the cut-face. It is less than 0.5m deep with water flowing off the high bog into a *Molinia caerulea* flush. *Calluna vulgaris* banks has collapsed into this drain and it is in-filling with *Calluna vulgaris, Narthecium ossifragum* and *Rhynchospora alba*. There is *Sphagnum cuspidatum, S. magellanicum* and *S. capillifolium* present also.

### 5.2.2 Bog Margin Hydrology

Cutaway

There is very little active drainage to the margins of this bog. A channelled stream flows to the east, but most of the drainage is associated with the tracks across the bog.

Drain d1: A deep drain 0.5m wide running alongside track parallel to D1. It is dry and lined with *Molinia caerulea.*

Drain d2: A very wide, water-filled drain, 5m wide, channelled stream which flows northwards away from the bog.

Drain d3: A series of drains on either side of the track running east-west across the bog. They are 1m wide and 2m deep with water at the base flowing to the east. They are lined with *Betula pubescens* and *Ulex europaeus* scrub.

## 5.3 GEOHYDROLOGICAL OVERVIEW

*Description of the bog in the 19th century*
This large bog was originally bordered by streams to the north, east and south, with mineral outcrops to the west. There was a marshy area by the stream to the east and south. A large mineral island was present in the northern section of the bog indicating that the peat was quite shallow here.

*Description of the present-day bog*
The high bog at present is divided into three sections by tracks and drains. The mineral outcrop, is now in cutaway to the north of the intact high bog. This cutaway slopes towards the high bog and is dominated by *Calluna vulgaris* with some *Molinia caerulea*. There is a thin margin of *Betula pubescens* wood by the mineral slope. The main drainage outflow off the high bog occurs here and blocking this drain may lead to some localised flooding.

To the east there is level cutaway between the high bog and the channelled drain. This area is dominated by *Molinia caerulea* and *Juncus effusus* and would be suitable for restoration work. To the south-east the cutaway has been reclaimed for agriculture.

To the west the old cutaway is dominated by *Molinia caerulea* and slopes away from the high bog. The face-bank is very fragmented here with numerous old turf banks. There is some potential for localised restoration work by damming these.

The southern section of high bog has very limited cutaway between the face-bank and a track, with its eastern cutaway reclaimed for agriculture. It has some wet cutaway with *Typha latifola* by the central trackway. There is also some good regenerating cutaway in the centre of the bog along the trackways. There are wet regenerating areas with *Sphagnum cuspidatum* and *Typha latifola* is also present. This area has the best potential for restoration work.

## 6. VEGETATION

### 6.1 VEGETATION SUMMARY

The vegetation of this bog is in poor condition due to the extensive drainage and fragmented nature of the site. Neither central nor sub-central ecotope vegetation is present. There is a large flush possibly due to secondary re-wetting in the north-east of the site.

### 6.2 DETAILED VEGETATION OF HIGH BOG

#### 6.2.1 Complexes

*Marginal Complexes*

Complex 1

Face-bank *Calluna vulgaris*-dominated vegetation on the high bog at the margins of the old cutaway. These areas are quite distinct on the aerial photograph as dark patches.

Complex 2/3

This vegetation is situated on marginal slopes by the central track with 15-20% bare ground. The vegetation is dominated by *Trichophorum caespitosum* (30%) tussocks and *Carex panicea* (20%) with *Narthecium ossifragum* (15%), *Rhynchospora alba* (15%) and *Eriophorum angustifolium* (10%) in the wet gullies between. *Calluna vulgaris* (10%) and *Erica tetralix* (10%) are also prominent. *Cladonia portentosa* (5%) is notable in patches with *Cladonia uncialis* (+), *Racomitrium lanuginosum* (+) and *Pleurozia purpurea* (+) occurring occasionally. *Sphagnum* (+) is notable on the drain edges but otherwise it occurs in very small patches. *Hypnum jutlandicum* (+), *Campylopus introflexus* (+) and *Cladonia coccifera* (+) are also noted.

Complex 3/7

In these marginal areas the vegetation cover is about 95% with 5% bare ground. *Carex panicea* (50%) co-dominates with *Calluna vulgaris* (30%). *Sphagnum* cover has increased to 10% with *S. capillifolium, S. papillosum, S. magellanicum* and *S. tenellum* noted. *Narthecium ossifragum* (10%) *Trichophorum caespitosum* (10%), *Rhynchospora alba* (10%) and *Eriophorum vaginatum* (10%) are also prominent. Patches of *Cladonia portentosa* (5%) are plentiful. There are scattered algal hollows filled with water particularly on the sloped parts of this complex. Low *Sphagnum* and *Leucobryum glaucum* (+) hummocks are interspersed with *Carex panicea* and *Narthecium ossifragum* hollows. On the level areas the vegetation remains the same but with less standing water in the small tear pools. The ground is wet but hard with no acrotelm apart from the *Sphagnum* patches. In the western margins there are several patches of *Molinia caerulea* dominated vegetation which show up as lighter patches on the aerial photograph.

Complex 2/7 + Cladonia

The vegetation of this complex is co-dominated by *Cladonia portentosa* (40%), *Trichophorum caespitosum* (30%) and dead *Calluna vulgaris* (20%). The ground is hard with no acrotelm and plenty of *Narthecium ossifragum* hollows. *Carex panicea* (15%) is prominent. *Erica tetralix* (5%), *Eriophorum angustifolium* (5%), *Eriophorum vaginatum* (5%) and *Andromeda polifolia* (+) are present but not prominent. *Sphagnum* cover is poor at 10% with *S. capillifolium, S. papillosum*, and *S. tenellum*. Some tear pools contain *S. papillosum, S. cuspidatum* and *Drosera anglica* with algae at their bottoms.

Complex 3/6/7

The vegetation is co-dominated by *Narthecium ossifragum* (30%)/ *Carex panicea* (40%)/ *Calluna vulgaris* (30%). There is no acrotelm but there are scattered algal tear pools. *Eriophorum angustifolium* (15%) is prominent. *Trichophorum caespitosum* (5%), *Eriophorum vaginatum* (5%) and *Rhynchospora alba* (5%) are present. There are small patches of *Cladonia portentosa* (+). *Rhynchospora alba* (15%) and *Trichophorum caespitosum* (15%) increase closer to the bog margins at the expense of *Calluna vulgaris*. *Sphagnum* cover is very poor at less than 5% with *S. capillifolium, S. papillosum*, and *S. tenellum*. Some *Campylopus introflexus* and *Cladonia pyxidata* occur on bare patches. Some tear pools have some *S. cuspidatum* but all are algal.

Complex 3/6/7 + Tear pools

The vegetation of this complex is the same as above but with frequent tear pools filled with *Sphagnum cuspidatum* and *S. auriculatum*. *S. magellanicum* is growing along the pool margins and *S. fuscum* is also present.

Complex 4/7

At the margins of the central cutaway, *Rhynchospora alba* (50%) dominates with *Calluna vulgaris* and *Erica tetralix* at 30%. *Trichophorum caespitosum* (10%) and *Eriophorum vaginatum* (20%) are present. This area borders the dry marginal area with *Calluna vulgaris* peat banks (Complex 7).

Complex 7

Areas dominated by tall *Calluna vulgaris* associated with various peat banks on the bog.

Complex 7/2

A sloped area on the southern section of the bog with vegetation dominated by *Calluna vulgaris* and *Trichophorum caespitosum*.

*Sub-Marginal Complexes*

Complex 3/7/10 + Tear pools

Moving eastwards the micro-topography becomes a little more varied. There are large tear pools as the southern slope towards the cutaway comes into effect. The pools contain *Sphagnum cuspidatum, S. papillosum, Rhynchospora alba* and *Drosera anglica* with algae too. The vegetation in between is co-dominated by *Carex panicea* (40%) and *Calluna vulgaris* (30%). There are quite good hummocks of *Sphagnum* (15-20%). The ground is soft but this appeared to be largely due to dead moss, therefore the acrotelm is poor.

Complex 7/10

This area is co-dominated by *Calluna vulgaris* (40%) and *Sphagnum* (30%). The acrotelm is poor despite the presence of several *Sphagnum* species: *S. capillifolium, S. papillosum, S. magellanicum* and *S. tenellum*. There are also odd occurrences of *Sphagnum imbricatum* in small patches. This area also features occasional *Calluna vulgaris* hummocks with *Eriophorum vaginatum, Hypnum jutlandicum, Cladonia portentosa, Pleurozium schreberi, Leucobryum glaucum and Polytrichum commune. Cladonia floerkeana* is noted on the dry spots. *Narthecium ossifragum* (15%), *Erica tetralix* (10%), *Eriophorum angustifolium* (10%) and *Eriophorum vaginatum* (15%) are prominent. *Cladonia portentosa* (5%) occurs in small patches and there are lichen epiphytes on many of the *Calluna vulgaris* bushes. *Carex panicea* (5%) is present but not so notable. The occasional large *Sphagnum fuscum* hummock is noted. *Andromeda polifolia* (+) occurs occasionally.

Complex 7/9/10 + Cl + TP

The vegetation is co-dominated by *Cladonia portentosa* (60%), *Calluna vulgaris* (30%) and *Eriophorum vaginatum* (30%). *Sphagnum* is prominent at 30% with *S. capillifolium, S. papillosum*. At the sloping margins *Eriophorum angustifolium* (30%) takes over dominance from *Eriophorum vaginatum*, *Trichophorum caespitosum* (15%) and *Carex panicea* (20%) also becomes notable. This vegetation is interspersed with very long, interlocking tear pools. These pools are in-filling with *Sphagnum cuspidatum, S. papillosum, Eriophorum angustifolium, Drosera anglica, Narthecium ossifragum* and *Rhynchospora alba*. There are algae in many of the pools and all of them are drying out. There are carpets of *S. papillosum, S. magellanicum* and some *S. fuscum* along the pool edges. *Vaccinium oxycoccus* and *Andromeda polifolia* are noted on some of the *Sphagnum*. Between the pools the acrotelm is patchy (0-5cm). There are some very old *Calluna vulgaris* hummocks with degenerate *C. vulgaris* and *Leucobryum glaucum* and *Pleurozium schreberi* hummocks. Lichens abound on the heather and on the bare patches of hummocks. The areas around these hummocks are quite flushed with huge *Sphagnum* hummocks.

Complex 10/2

This vegetation occurs in areas with slight slopes where *Trichophorum caespitosum* (30%) becomes dominant in tussocks. *Sphagnum* (50%) is good underneath with *S. capillifolium, S. papillosum,* and *S. tenellum*. *Eriophorum vaginatum* (10%) and *Carex panicea* (5%) are also present. *Cladonia portentosa* (+) and *Cladonia uncialis* (+) are notable. *Calluna vulgaris* (10%) and *Erica tetralix* (5%) are low growing with *Rhynchospora alba* (5%) occurring in the wet hollows. The ground is wet with a good acrotelm of 0-5cm. *Carex panicea* also occurs with *Sphagnum cuspidatum* in the wetter hollows.

Complex 3/7/10

The vegetation in the south-east of the site is co-dominated by *Calluna vulgaris* (40%)/ *Carex panicea* (40%) and a good *Sphagnum* cover. There are several hummocks of *S. fuscum, S. imbricatum* and *Leucobryum glaucum*. The acrotelm is good at 0-5cm although it disappears occasionally and *Carex panicea* dominates these patches. *Cladonia portentosa* occurs with a cover of 10%.

*Sub-Central Complexes*

No sub-central ecotopes were found on this bog.

*Central Complexes*

No central ecotopes were found on this bog.

6.2.2 Flushes and Soaks

Flush 1

This large flush is dominated by *Molinia caerulea*. There are large carpets of *Sphagnum cuspidatum* and *S. papillosum* covering the ground. Most of the *Calluna vulgaris* plants are dead and *Narthecium ossifragum* and *Eriophorum angustifolium* are growing through the *Molinia caerulea*. The ground is very wet and treacherous to walk on, however, it is not quaking and *Polytrichum commune* is notable.

Flush 2

A small flush located in the southern section. This is a long series of swallow-holes surrounded by lush *Calluna vulgaris, Eriophorum vaginatum, Sphagnum capillifolium* and *Cladonia portentosa*. All of the surrounding bog slopes down to the flush.

## 6.3 DETAILED VEGETATION OF THE BOG MARGINS

There is extensive cutaway to the west which is dominated by *Molinia caerulea* and *Betula pubescens* scrub. To the north there is some reclamation to agricultural grassland and old cutaway with *Calluna vulgaris*, *M. caerulea* with *B. pubescens* scrub. This is separated from agricultural land by a small wood of *B. pubescens*. To the east across drain d2, there is agricultural grassland on old cutaway. Between d2 and the cut-face in the north-east, the active cutaway is dominated by *M. caerulea* and *Juncus effusus* with some *Ulex europaeus* along the drains. The face bank here is high at 2-3m. There is extensive reclamation to agricultural grassland in the south-west with only small areas of old cutaway dominated by *U. europaeus* scrub. The southern cutaway is abandoned and dominated by *U. europaeus* scrub.

Along the trackways there is old cutaway which is flooded and actively regenerating in places with some *Typha latifolia* present. The cutaway in the centre of the bog, either side of the central trackway is actively regenerating with *Sphagnum cuspidatum*, *Eriophorum angustifolium*, *Rhynchospora alba* and some *Typha latifolia*. At the southern end of this track where it meets the east-west track there is extensive cutaway. To the west there is good wet, regenerating cutaway with *Calluna vulgaris*, *Typha latifolia* and some *Sphagnum cuspidatum*. To the east there is active peat cutting with a lot of bare peat. *Eriophorum angustifolium* is present and there is *Ulex europaeus* along the track.

# 7. BOG TYPE

This is probably a basin bog.

# 8. HUMAN IMPACT

## 8.1 RECENT HUMAN IMPACT (see Landuse map)

### 8.1.1 Peat Cutting

There is active peat cutting in the east and at the junction of the trackway and the road.

### 8.1.2 Forestry

There is some coniferous forestry to the south-east of the site.

### 8.1.3 Fire History

There is no evidence of burning.

### 8.1.4 Dumping

There is no dumping at this site.

### 8.1.5 Agriculture

There has been extensive reclamation to agricultural grassland in the east

## 8.2 NHA BOUNDARY CHANGES

The NHA boundary needs to be extended to include the cutaway in the south and the north-west.

## 9. INTER-RELATIONSHIPS OF VEGETATION, HYDROLOGY, TOPOGRAPHY AND LOCATION

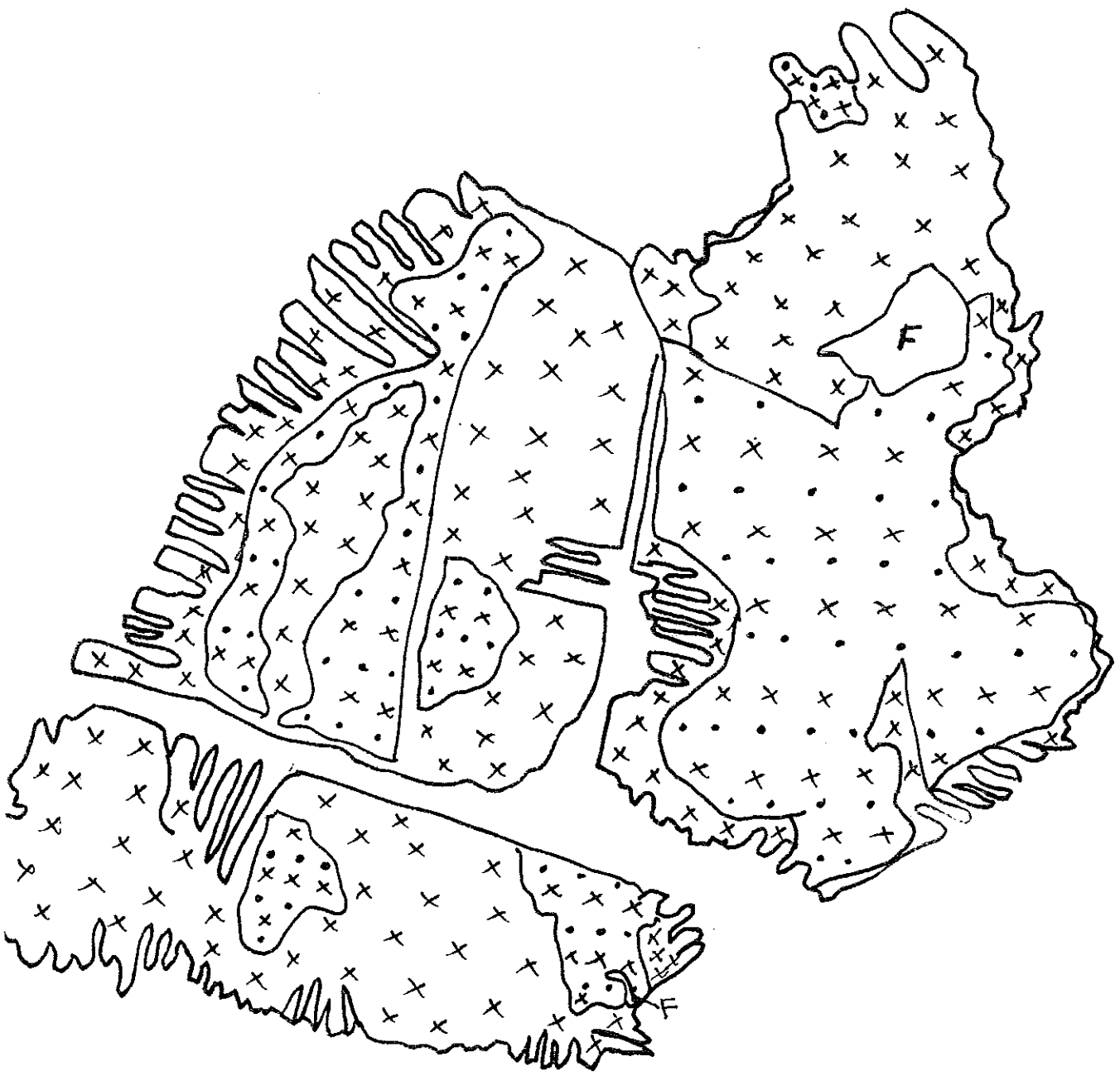
1. This site was visited because it was large and had been previously described as having good pool systems.

2. The visit showed that these pools were tear pools and the fragmented nature of the site had led to a desiccation of the habitat with no sub-central or central ecotopes found.

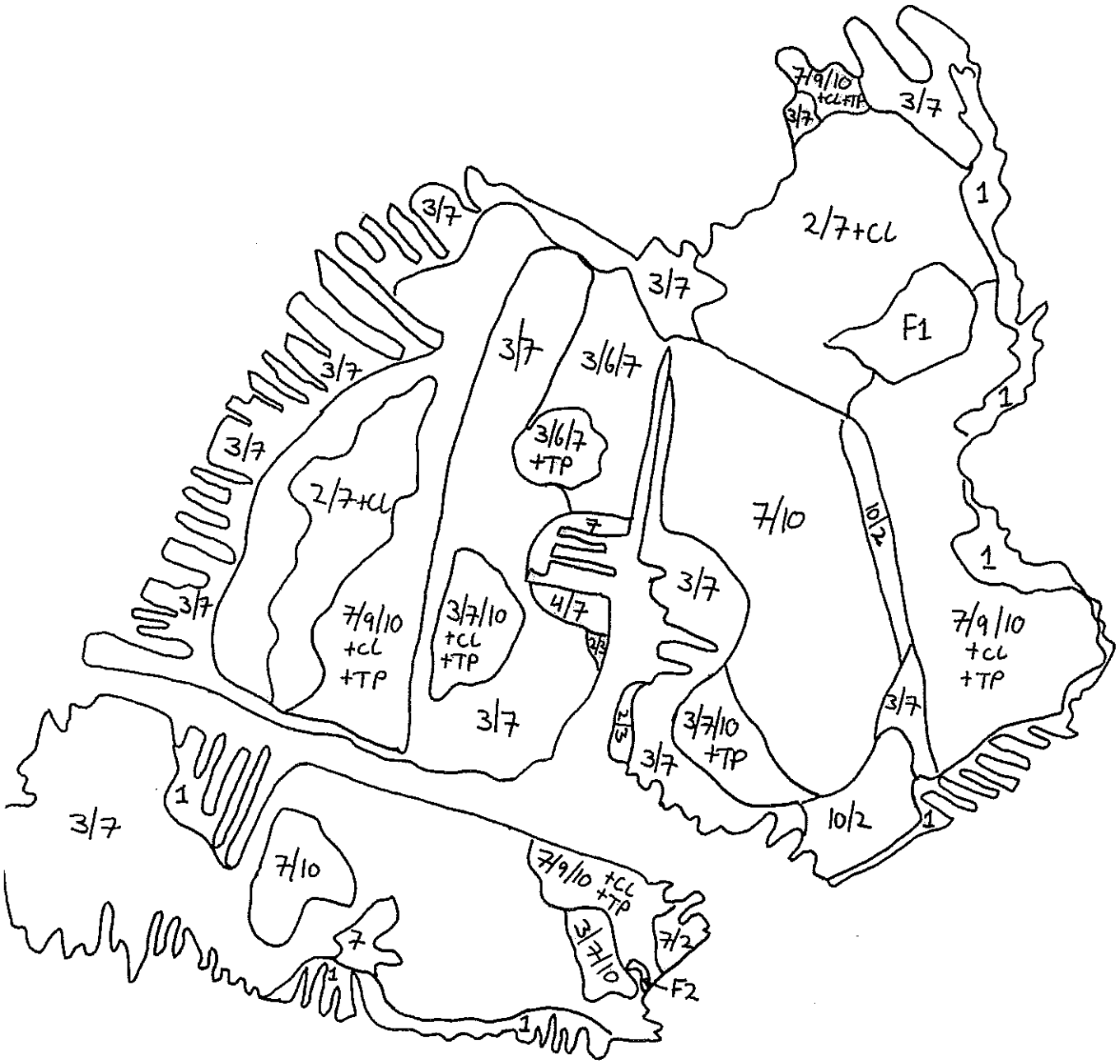
3. This bog is extensively drained by the large drains along the road and the trackway. A significant outflow from the drains was noted in the north of the site.

4. The central cutaway had level slopes and is suitable for restoration work as it is already flooded in places. The cutaway along the east-west track and the cutaway in the east between the cut-face and d2 were level and suitable for restoration work.

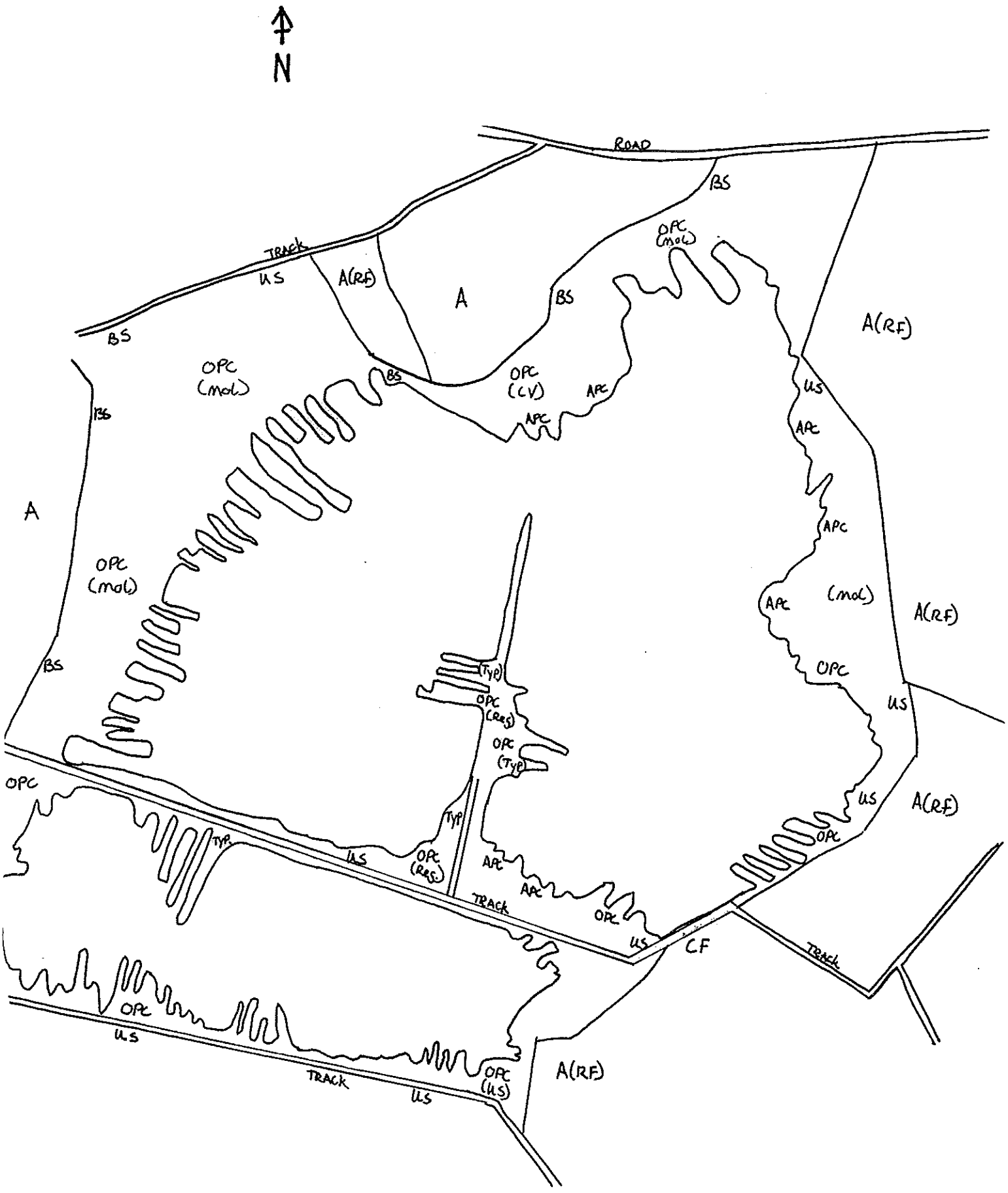
Derrycanan bog (605)
Co. Roscommon
Ecotopes



**Derrycanan bog (605)**
Co. Roscommon
Vegetation complexes

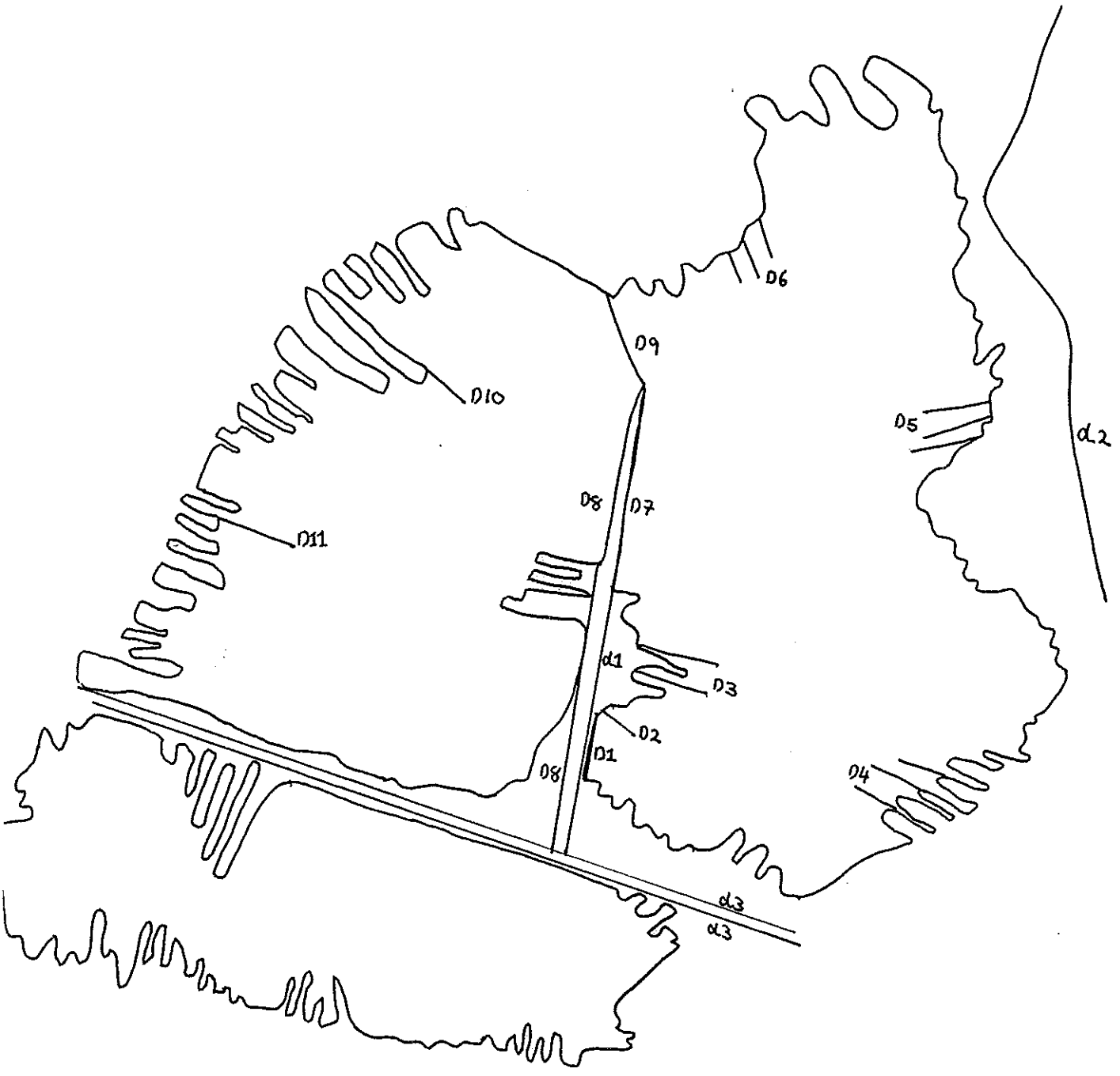


**Derrycanan bog (605)**
Co. Roscommon
Landuse



Derrycanan bog (605)
Co. Roscommon
Drainage

N



**Derrycanan bog (605)**
Co. Roscommon
Slopes

# ESKERBOY BOG, CO. GALWAY

## 1. SUMMARY OF SITE DETAILS

| | | | |
|---|---|---|---|
| NHA no.: | 1264 | 6" Sheet: | GY107 |
| Grid Ref.: | M790 170 | 1:126,000 Sheet: | 15 |
| G.S.I. Aerial Photo: | 40a (2401) | 1:50,000 Sheet: | 53 |
| Other Photo: | M398 | High bog area (ha): | 93.3 |
| Date(s) of Visit: | 24/11/1999 | | |

Townlands: Eskerboy, Gortmore, Lurgan More

## 2. INTRODUCTION

### 2.1 BACKGROUND

This site was visited as there was very little active peat cutting around the bog margins. Also as this bog is situated between two eskers there was the possibility of the presence of a lagg zone.

### 2.2 LOCATION AND ACCESS

A long, narrow raised bog situated 4km north-west of Killimor village and 14km north-west of Portumna. The shape is dictated by the proximity of eskers to either side of the bog. The site can be accessed from a bog track off a local road from Killimor to Aughrim.

## 3. METEOROLOGY

No meteorological measurements have been made on this bog. Rainfall data from the nearby Carna weather station for the years 1967-90, indicates that the area recieves appproximately 1170mm of rainfall annually (R). The nearest synoptic station at Birr indicates that the site has up to 150 wet days annually. (Wet day is defined as a day when > 1mm of rainfall recieved).

Evapotranspiration measurements are only available for synoptic stations. With the large exposed areas on high bogs, actual evapotranspiration rates would probably be higher than at the nearest synoptic station. The effective rainfall (ER) rate for a site is the annual rainfall (R), less the actual evapotranspiration (AE). With only the potential evapotranspiration (PE) rate available for Birr of 454 the effective rainfall for the site is calculated as less than (R - PE) i.e. ER< 1170 - 454 = 716mm.
( See Fig. 1 )

## 4. GEOMORPHOLOGY

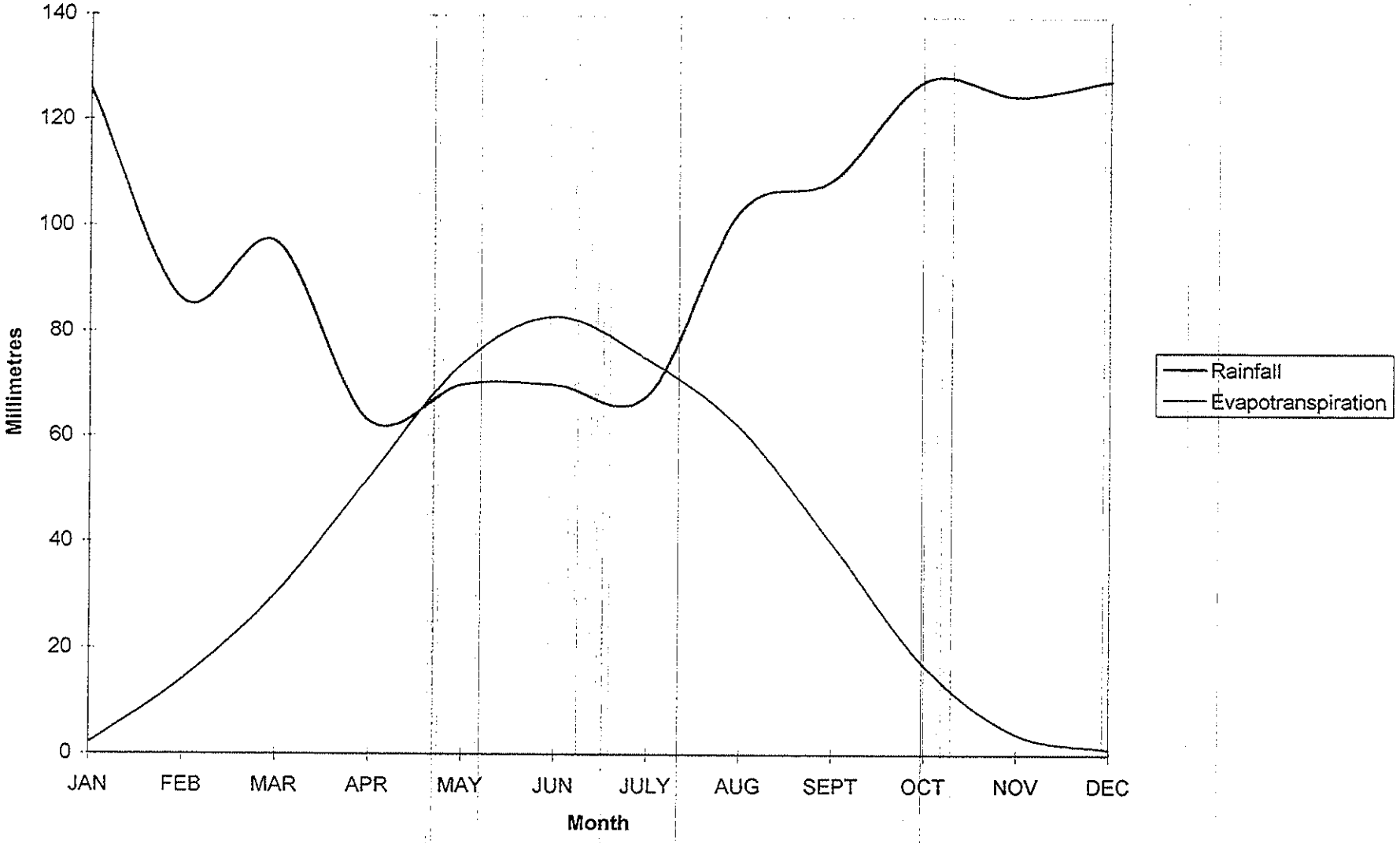
### 4.1 TOPOGRAPHY OF THE HIGH BOG

There is marginal sloping associated with cutaway. There are also internal slopes resulting from drainage of the high bog. There is a small, low domed area in the bog centre that may be a remnant of the original dome prior to damage.

#### 4.1.1 Slopes of the High Bog

There are several slopes in the northern margin associated with old peat cutting. Also there are gradual internal slopes in the western region present due to drainage effects. There is a small, low domed area in the bog centre that may be a remnant of the original dome prior to damage.

## ESKERBOY CLIMATE DATA



Slope 1: This slope runs eastwards towards the cutaway (0.5m/100m).

Slopes 2, 3, 4, 5 & 6: A series of slopes running northwards to cutaway (0.5m/100m).

Slopes 7 & 8: Internal slopes running eastwards, sloping towards Drain D3 (0.25m/100m).

Slopes 9: A small raised area of bog near the centre, very dry as the slopes act to drain water and encourage tall, bushy *Calluna vulgaris* and *Myrica gale* growth.

### 4.2 TOPOGRAPHY OF THE BOG MARGINS

This site is bordered to the north and south by eskers. There is a thin margin between the high bog and the reclaimed fields on the mineral slopes. There is no lagg zone present. To the west there is extensive cutaway, which slopes away from the highbog. To the east there is leval cutaway with restoration potential.

## 5. HYDROLOGICAL SYSTEM

### 5.1 GEOLOGY/HYDROLOGY

#### 5.1.1 Bedrock

This bog is underlain by basinal limestones (labelled CPU on the Chevron series). These are predominately dark laminated, argillaceous calcisilites and calcareous shales.

#### 5.1.2 Subsoils

No data was available for sub-soils for this site.

#### 5.1.3 Peat

The peat at this site was classified by Hammond as True Midland type.

### 5.2 HYDROLOGY

#### 5.2.1 High Bog Hydrology (see Drains map)

There is a series of old drains criss-crossing this bog, some are associated with an old trackway at the eastern end of the bog.

Drains D1: Two *Molinia caerulea* filled drains with *Calluna vulgaris*, *Myrica gale* and small *Betula pubescens* running from D2 to the northern cutaway.

Drain D2: Very old, 0.5m wide drain running from the top of track to D3. Water filled, in-filling with *Sphagnum cuspidatum*, *Eriophorum angustifolium* and *Drosera anglica*. This drain does not appear to be affecting the surrounding vegetation. This drain follows a townland boundary line.

Drains D3: Two very old drains 10m apart, 0.5m wide, completely in-filled with *Sphagnum cuspidatum*, *Calluna vulgaris* and *Eriophorum angustifolium*. These drains are clearly seen on the 6" map and possibly associated with an old trackway.

Drain D4: An old, drain in-filled with *Sphagnum cuspidatum* which separates marginal vegetation in the south from the sub-marginal area.

Drains D5: Two deep drains 0.5m wide running along old trackway. These are filled with *Molinia caerulea*.

Drain D6: An old drain in-filling with *Sphagnum cuspidatum*.

### 5.2.2 Bog Margin Hydrology

A number of small drains associated with cutaway were noted at the margins.

Drain d1: A deep drain with fast-flowing water, flowing eastwards alongside the overgrown trackway. The drain is 1m wide and 3m deep with about 10cm water flowing on a mineral substrate. *Typha latifolia* and *Juncus effusus* are present. The peat layer is less than 1m thick at this point.

Drains d2: Cleared drains 1m wide associated with active peat cutting.

Drains d3: Old in-filling drains in abandoned cutaway, in-filling with *Molinia caerulea* and *Juncus effusus*.

Drains d4: Two old drains associated with cutaway, these are dry and encroaching slightly onto the high bog surface.

## 5.3 GEOHYDROLOGY OVERVIEW

*Description of the bog in the 19th century*
This bog was originally a long narrow bog, between two esker ridges. The higher ridges occurred to the north. The bog was very narrow in the centre with the widest section at its eastern end.

*Description of the present-day bog*
Only this eastern end remains. The western section has been cutaway and is under forestry. There has been very little cutaway along the northern edge with agricultural land sloping down to a thin margin of *Ulex europaeus* scrub. Some of the southern cutaway has been reclaimed for agriculture. There is an area of level cutaway in the east where there is some potential for restoration work, as the active drainage from the high bog flows out here. If this drainage was blocked then this area could be re-flooded. There is also the possibility of the creation of a lagg zone between the bog and the eskers.

Drainage on the high bog is associated with a central trackway. There is a small *Betula pubescens* wood on this track. These drains if blocked could cause some re-wetting on the bog surface.

# 6. VEGETATION

## 6.1 VEGETATION SUMMARY

The vegetation has been affected by burning and drainage. The majority of the bog is sub-marginal with a small sub-central region in the middle. There are three flushes, one of which is associated with the trackway and another with drain D3. The distribution of the community complexes is shown on the vegetation map, these community complexes are also divided into ecotope types (see Ecotope map).

## 6.2 DETAILED VEGETATION OF HIGH BOG

### 6.2.1 Complexes

*Marginal Complexes*

Complex 1
This is face-bank vegetation dominated by tall *Calluna vulgaris*.

Complex Er + 7RB
A burnt area dominated by *Eriophorum angustifolium* which almost completely covers the area as it colonizes the bare peat. *Calluna vulgaris* is regenerating but is still at a young stage. This area occurs between Drain D4 and the southern cutaway.

Complex 2/7/6 Recently Burnt
A high bog area with no acrotelm, however, there are occasional patches of *Sphagnum magellanicum* and *S. capillifolium* (5%). The area is co-dominated by *Trichophorum caespitosum* (30%) and *Calluna vulgaris* (30%). The heather is young and together with bare peat being colonized by *Campylopus introflexus* indicated recent burning. *Narthecium ossifragum* (30%), *Erica tetralix* (10%) and *Eriophorum vaginatum* (10%) are commonly found. *Eriophorum angustifolium* (5%), *Carex panicea* (5%) and *Rhynchospora alba* (+) are also present.

Complex 2/7 Recently Burnt +Myr
Similar vegetation to 2/7 RB described above, except *Myrica gale* is dominant in many areas. *M. gale* is scattered through the vegetation all the way up past Drain D1 and in several areas it forms quite dense patches. This sub-marginal vegetation runs on a slope from the central track to the cutaway margin (Slope 6).

Complex 2+E RB
High bog dominated by *Trichophorum caespitosum* (30%) and *Erica tetralix* (30%). There are also prominent *Narthecium ossifragum* (30%) lawns on bare peat indicating a recent burn. There are occasional patches of standing water but no acrotelm with only *Sphagnum* cover (5%) was some small patches of *Sphagnum papillosum*, *S. capillifolium* and *S. magellanicum*. Plenty of *Campylopus introflexus* (5%) and *Carex panicea* (5%) are present. *Eriophorum angustifolium* (5%) is straggling through the vegetation and *Calluna vulgaris* (15%) is present but all the plants are small and young.

*Sub-Marginal Complexes*

Complex 7/9/10
This level area does not appear to have been burnt. It is very wet underfoot with a variable acrotelm (0-5cm). Several pools are filling in with *Eriophorum angustifolium*. The vegetation is dominated by *Calluna vulgaris* (40%) and *Eriophorum vaginatum* (40%) with good *Sphagnum* cover (20%) composed of *S. magellanicum, S. papillosum, S. capillifolium* and some *S. fuscum*. *Narthecium ossifragum* (15%) and *Erica tetralix* (15%) are common. There are occasional occurrences of *Myrica gale* (5%), *Drosera rotundifolia* (+) and *Carex panicea* (+).There is good *Cladonia portentosa* cover (5%) in contrast to the burnt areas. An algal mat covers bare areas and *Hypnum jutlandicum* occurs around the older *Calluna vulgaris* bushes.

*Sub-Central Complexes*

No sub-central complexes were recorded on this bog

*Central Complexes*

No central complexes were recorded on this bog.

6.2.2 Flushes and Soaks

Flush 1
A flushed area with *Myrica gale* and *Molinia caerulea* centred around a small raised area of bog (Slope 9) The area is very dry as the slopes act to drain water and encourage tall, bushy *Calluna vulgaris* and *Myrica gale* growth. The northern and eastern sides are sloping towards the old track (F22) which cuts into the centre of the bog.

Flush 2
A flushed area at the southern end of Drain D3, dominated by *Molinia caerulea* and *Ulex europaeus* scrub.

Flush 3
This is an old abandoned trackway which is overgrown with *Ulex europaeus* and *Molinia caerulea*. Scattered *Betula pubescens* occur along the track with a grove of trees reaching 10m in height where the track terminates in the centre of the bog.

### 6.3 DETAILED VEGETATION OF THE HIGH BOG MARGINS

This is a long narrow bog between two esker ridges. To the north there is a very small margin of old peat cuttings dominated by *Ulex europaeus* scrub. There is an extensive area of old peat cutting in the west which slopes away from the bog. Another area of abandoned *Molinia caerulea*-dominated cutaway occurs to the south. To the south-east and north-east the cutaway has been reclaimed for agriculture and there is active peat cutting in the east. This site has little potential for any marginal restoration.

## 7. BOG TYPE

This is a probably a ridge basin bog lying between two eskers.

## 8. HUMAN IMPACT

### 8.1 RECENT HUMAN IMPACT (see Landuse map)

#### 8.1.1 Peat Cutting
There is active peat cutting in the east with old peat cutting around the rest of the bog margins.

#### 8.1.2 Forestry
There was no forestry associated with this bog.

#### 8.1.3 Fire History
There has been extensive burning of this bog, with only the sub-central area escaping.

#### 8.1.4 Dumping
There was no evidence of dumping on this bog.

### 8.2 NHA BOUNDARY CHANGES

No changes appears necessary to the NHA boundaries for this site.

## 9. INTER-RELATIONSHIPS OF VEGETATION, HYDROLOGY, TOPOGRAPHY AND LOCATION

1. This site was surveyed because it was thought that there may be an interesting lagg area at the bog-esker interface. Also there was very little peat-cutting activity with the majority of the high bog still intact.

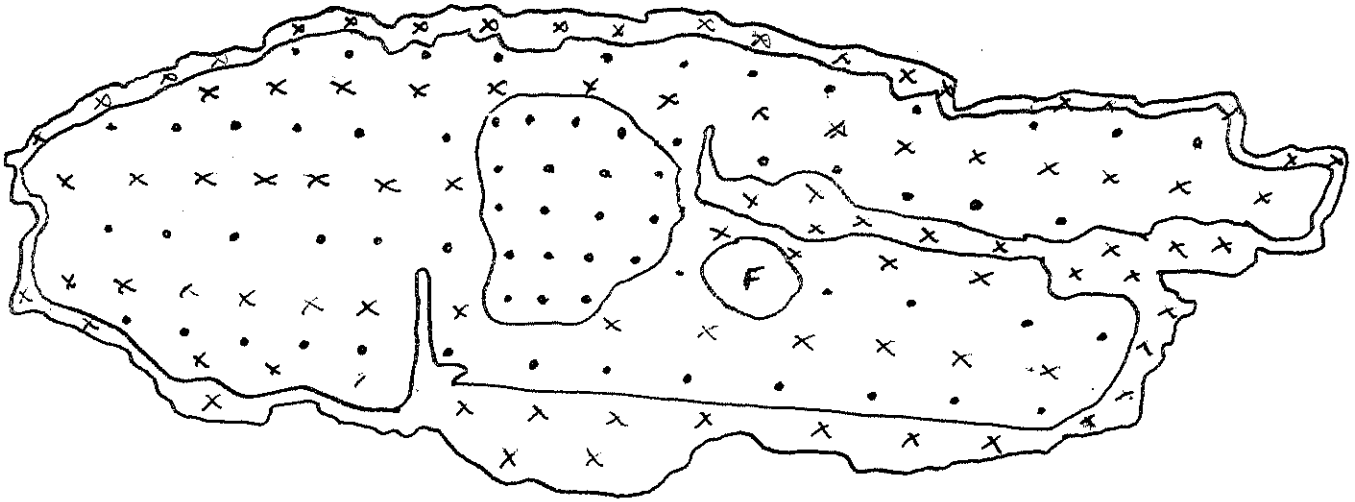
2. Although the visit confirmed that there was little active peat-cutting on this bog, no lagg zone of interest was found between the bog and its surrounding eskers. The bog was found to have been extensively drained and burned with only a small area of sub-central vegetation remaining. There were no permanent pools or well-developed *Sphagnum* areas.

3. Although the drains on this bog are old and in-filling, they are still impacting upon the surrounding vegetation.

4. Due to the natural situation of the bog located between two eskers, there is little potential for extensive re-flooding of this bog.

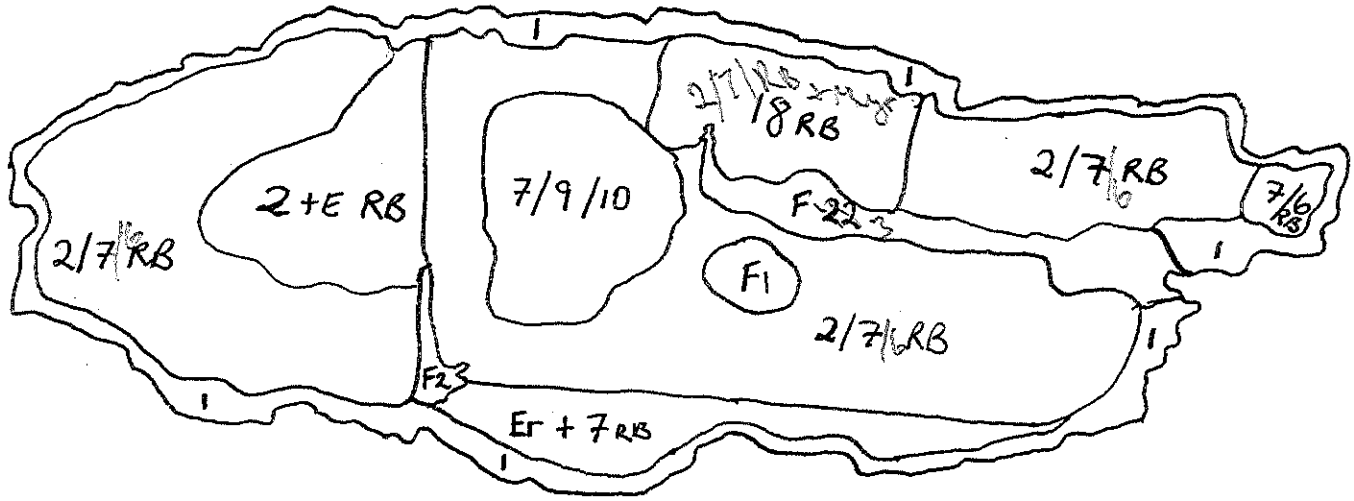
**Eskerboy bog (1264)**
Co. Galway
Ecotopes

N

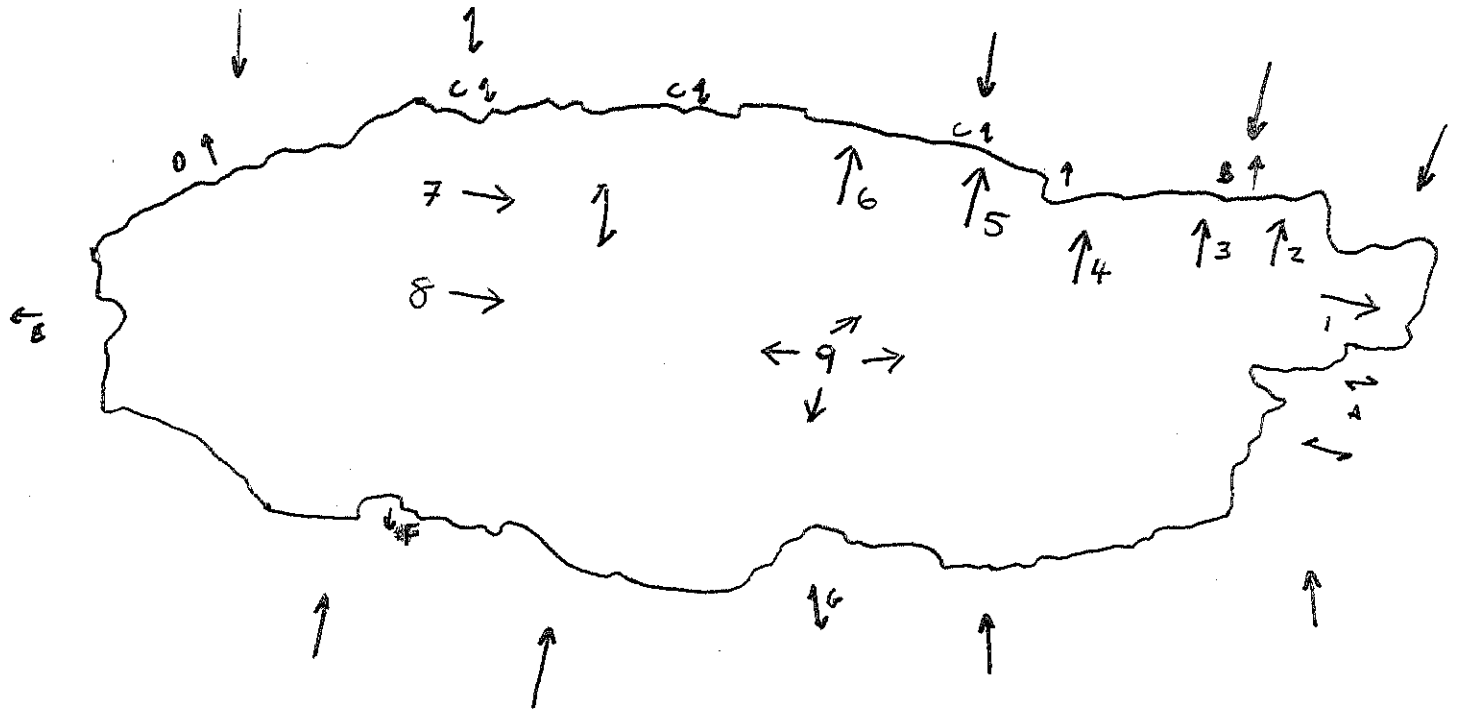


**Eskerboy bog (1264)**
Co. Galway
Vegetation complexes

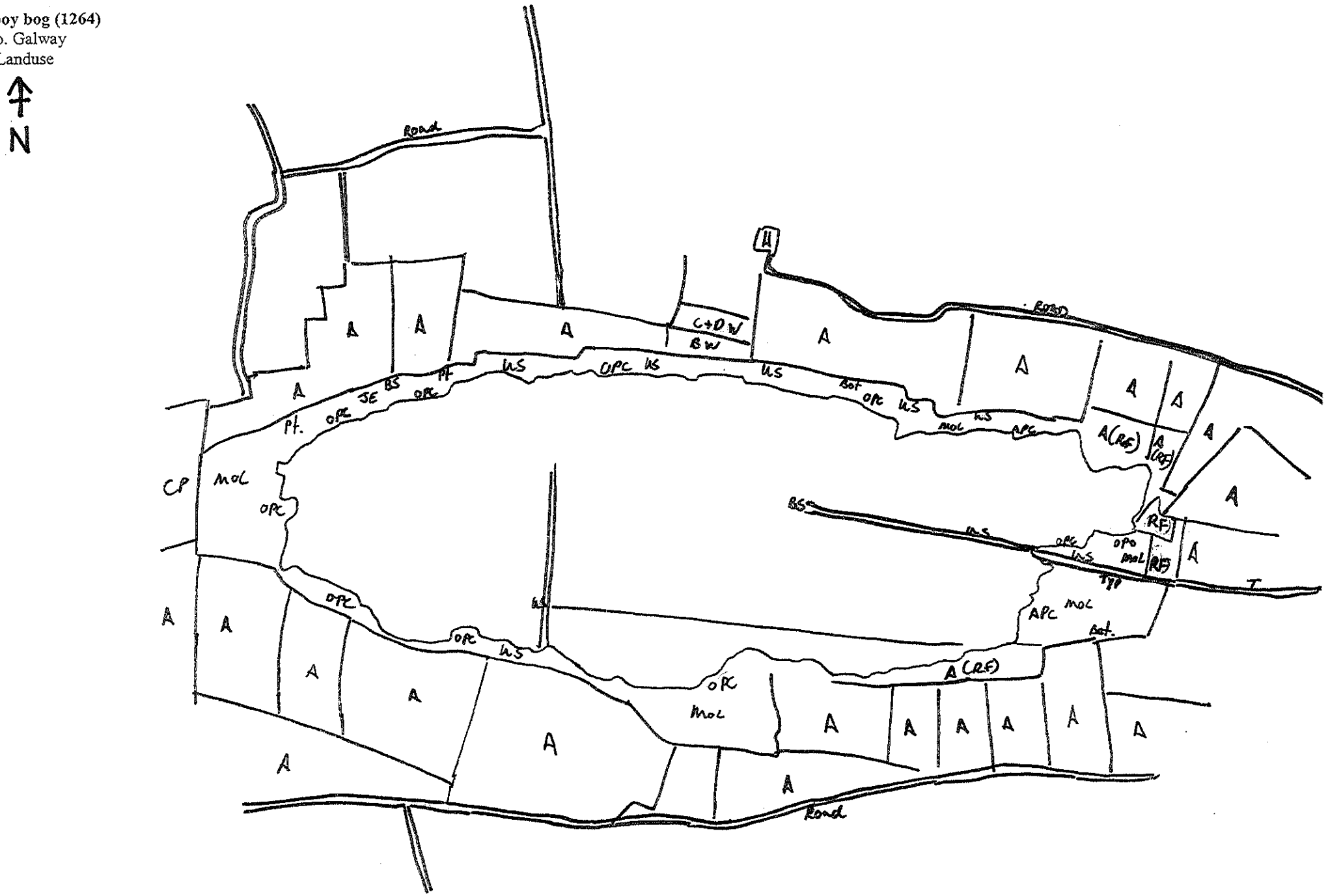
N



**Eskerboy bog (1264)**
Co. Galway
Slopes

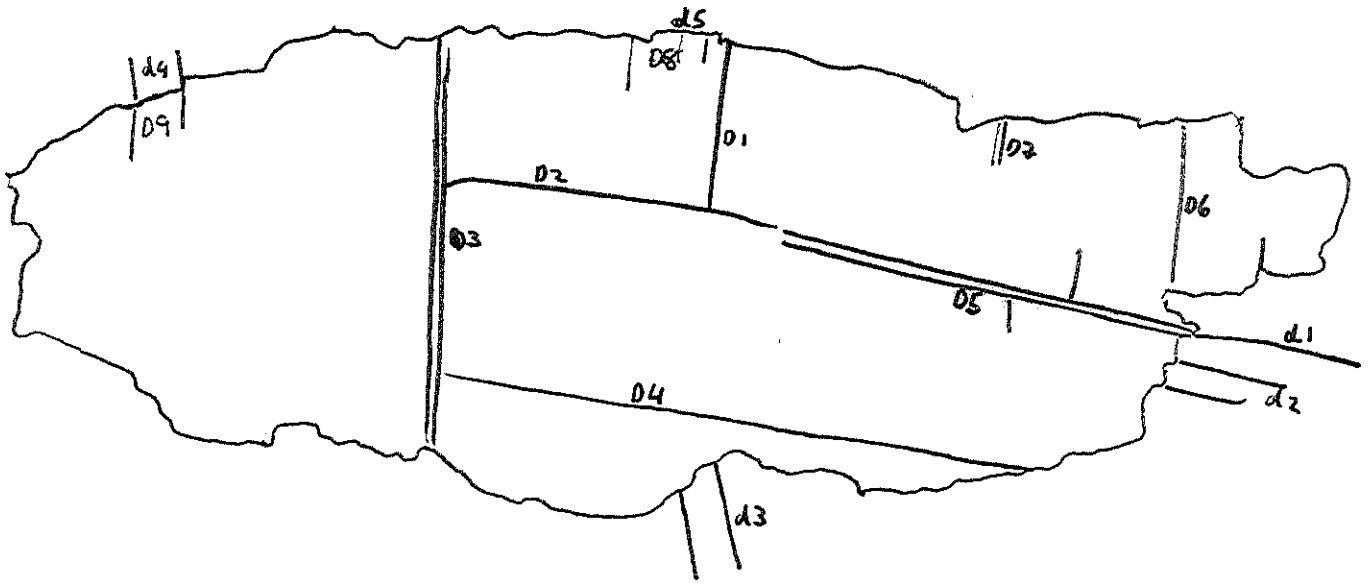



**Eskerboy bog (1264)**
Co. Galway
Landuse



**Eskerboy bog (1264)**
Co. Galway
Drainage

N



# GIRLEY BOG, CO. MEATH

## 1. SUMMARY OF SITE DETAILS

| | | | |
|---|---|---|---|
| NHA no.: | 1580 | 6" Sheet: | MH23 |
| Grid Ref.: | N700 700 | 1:126,000 Sheet: | 13 |
| G.S.I. Aerial Photo: | 32 (8107) | 1:50,000 Sheet: | 42 |
| Other Photo: | N289 | High bog area: | 68.4 ha |
| Date(s) of Visit: | 10/1/2000 | | |

Townlands: Chamberlainstown, Girley, Drewstown Great, Cloncat, Ethelstown.

## 2. INTRODUCTION

### 2.1 BACKGROUND

This site is owned by An Taisce and was selected for this survey because it is one of the most easterly midland raised bogs. It is , however, in poor condition and drying out with numerous drains and forestry plantations. There is also conifer encroachment over most of its surface. Being owned bt An Taisce gives this bog good conservation and restoration possibilities.

### 2.2 LOCATION AND ACCESS

A small, forested bog located 7km southwest of Kells and 2km north-east of the Meath/Westmeath border. It can be accessed by a bog road off a local road heading west from Fordstown.

## 3. METEOROLOGY

No meteorological measurements have been made on this bog. Rainfall data from the nearby Athboy weather station for the years 1969-90, indicated that the area recieves appproximately 831mm of rainfall annually (R). The nearest synoptic station at Mullingar indicates that the site has up to 159 wet days annually. (Wet day is defined as a day when > 1mm of rainfall recieved).

Evapotranspiration measurements are only available for synoptic stations. With the large exposed areas on high bogs, actual evapotranspiration rates would probably be higher than at the nearest synoptic station. The effective rainfall (ER) rate for a site is the annual rainfall (R), less the actual evapotranspiration (AE). With only the potential evapotranspiration (PE) rate available for Mullingar of 455 the effective rainfall for the site is calculated as less than (R - PE) i.e. ER< 831 - 455 = 376mm ( See Fig. 1 )

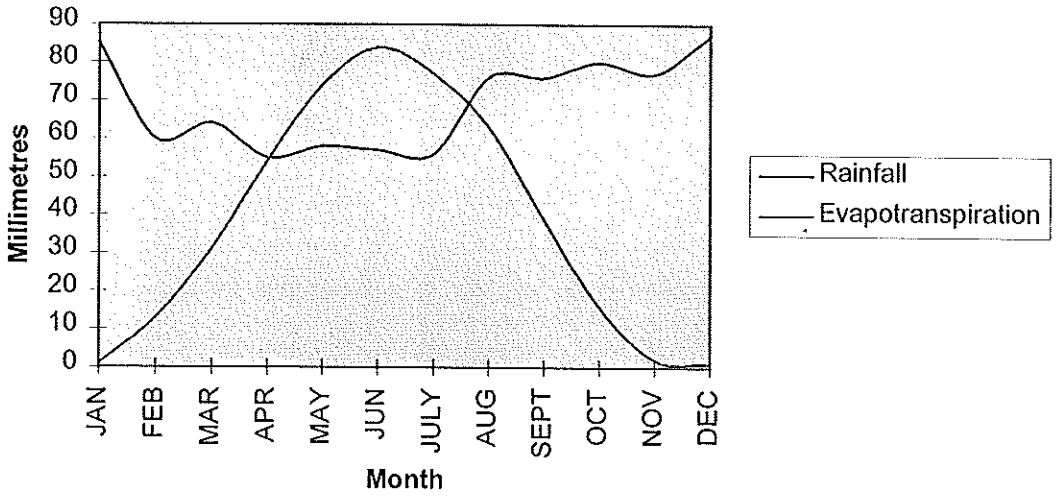



FIG. 1: Meteorology for Girley.

## 4. GEOMORPHOLOGY

### 4.1 TOPOGRAPHY OF THE HIGH BOG

This bog has slopes associated with drainage and forestry. It also has marginal slopes associated with cutaway.

#### 4.1.2 Slopes of the High Bog

Slope 1: A series of marginal slopes associated with the old south-east cutaway (50cm/50m).

Slope 2: A series of internal slopes towards Drain D4 by the old trackway (50cm/100m).

Slope 3: A gradual slope towards the south-eastern active cutaway (50cm/100m).

Slope 4: A series of slight internal slopes down from drain D14 towards the south-west (25cm/100m).

Slope 5: A steep slope down to the southern old cutaway (1m/50m).

Slope 6: A gradual slope across the middle of the bog towards the north-west (25cm/100m).

Slope 7: A series of slopes towards the north-west margin (50cm/50m).

Slope 8: A series of marginal slopes at the bog margin towards the north-west (1m/50m).

Slope 9: A series of internal slopes towards Drain D4 by the old trackway (50cm/50m).

### 4.2 TOPOGRAPHY OF THE BOG MARGINS

The cutaway mostly slopes away from the high bog towards level agricultural land and therefore is not suitable for restoration work.

## 5. HYDROLOGICAL SYSTEM

### 5.1 GEOLOGY/HYDROLOGY

#### 5.1.1 Bedrock

This bog is underlain by basinal limestones (CPU) according to the GSI/Chevron series maps.

#### 5.1.2 Subsoils

No data on subsoils was available for this site.

#### 5.1.3 Peats

The peat at this site was classified by Hammond as a mix of True Midland and Man-Modified types.

### 5.2 HYDROLOGY

#### 5.2.1 High Bog Hydrology (see Drains map)

This bog is extensively drained with drainage associated with trackways, forestry and townland boundaries. Only the north-west quarter is free of drains. The site, however, is still surprisingly wet with plentiful *Sphagnum* and would have good potential for restoration work.

Drains D1& D2: Deep drains alongside eastern trackway. These are 0.5m wide and are lined with tall *Calluna vulgaris, Betula pubescens* and *Ulex europaeus* scrub.

Drains D3&4: Deep drains along the central trackway, running north-west, south-east across the bog. These are 0.5m wide and lined with *Calluna vulgaris* and *Betula pubescens.*

Drain D5: Drain by the northern trackway. It is 1m wide and 1m deep with some water at its base. There is tall *Calluna vulgaris* growing along the margins. There is some *Sphagnum cuspidatum* in the water and *S. capillifolium* is encroaching from the edges.

Drain D6: Drain on opposite side of track from D5. It is 1m wide and 1m deep with 10cm of water. There is a slight flow off the bog in a northerly direction. The drain is being in-filled at the margins of its base by *Sphagnum magellanicum* and *S. capillifolium.* There is tall *Calluna vulgaris* along its banks.

Drain D7: A water-filled drain, 1m wide and in-filling with *Sphagnum cuspidatum* and *Eriophorum angustifolium. Rhynchospora alba, Calluna vulgaris* and *S. capillifolium* are encroaching from the margins.

Drain D8: An old drain, 1m wide and 1m deep, lined with *Calluna vulgaris.*

Drain D9: An old drain 1m wide lined with *Calluna vulgaris.*

Drain D10: A water-filled drain, 1m wide, which is in-filling with *Sphagnum cuspidatum* and *Eriophorum angustifolium* (R3, P7). *Calluna vulgaris* and *Rhynchospora alba* are encroaching from the edges and completely in-filling the drain in places. This meandering drain runs from D9, crosses the central trackway and links up to D1. In this section beside D1, it is 1.5m wide, water-filled, with abundant *S. cuspidatum. C. vulgaris* and *Rhynchospora alba* encroaching from the margins along with *S. magellanicum* and *S. capillifolium.*

Drain D11: An in-filled meandering drain, 0.5m wide, possibly a natural drainage channel or a series of tear pools caused by surrounding drainage. In-filled with *Calluna vulgaris, Rhynchospora alba, Eriophorum angustifolium* and *Sphagnum cuspidatum.*

Drains D12: A series of narrow in-filled drains running from D4, across D10 and linking up with D14. They are <0.5m wide and are in-filled with *Sphagnum cuspidatum*, *S. capillifolium*, *Calluna vulgaris*, *Rhynchospora alba*, *Eriophorum angustifolium* and *Narthecium ossifragum*.

Drains D13: Two narrow in-filled drains linking D10 and D14. These are 20cm wide and in-filled with *Sphagnum cuspidatum*, *S capillifolium* and *Calluna vulgaris*.

Drain D14: A deep, wide drain along townland boundary. It is 1m wide and 1.5m deep with 50cm of water. It is in-filling with *Sphagnum cuspidatum* and there is a slight flow to the west towards cutaway. *Calluna vulgaris, Rhynchospora alba* and *S. capillifolium* are encroaching from the margins.

Drain D15: An old drain, 0.5m wide, completely in-filled with *Calluna vulgaris*, *Eriophorum angustifolium*, *Sphagnum capillifolium* and *Cladonia portentosa*. There are a few pines growing along it also. It corresponds to a townland boundary. This drain runs north-west but disappears completely before it reaches the corner of the forestry plantation where the townland boundaries join up.

Drain D16: An in-filled drain similar to D 15, Not present on 6" map, but associated with old cutaway.

Drains D17: A series of dry, short and narrow drain running from old cutaway towards D16. These are 0.5m wide and lined with *Calluna vulgaris*.

Drain D18: An old in-filled drain by forestry plantation, which corresponds to a townland boundary. It is 0.5m wide and 0.5m deep and is mainly dry with *Hypnum jutlandicum*. There are some wet regions with *S. cuspidatum*. This runs alongside both margins of the forestry on high bog.

Drain D19: At the corner of the plantation it becomes very wet, with abundant *Sphagnum cuspidatum* in 1m wide pools. There is possibly a small drain here in-filled with *S. cuspidatum* and *Rhynchospora alba* running alongside D18.

Drains D20: A series of shallow, narrow drains, 3m apart in forestry plantation. This plantation is on the high bog and *Calluna vulgaris* occurs along these drains. The drains are dry with *Hypnum jutlandicum* and are mostly filled with pine needles.

Drain D21: From the point where the townland boundaries join up, a drain runs north-west as seen on the 6" map. It is 0.5m wide and filled with water. It is in-filled with *Sphagnum cuspidatum,* and *Calluna vulgaris* and *Rhynchospora alba* are encroaching from the margins. This drain is not visible on the aerial photo as it is almost completely in-filled.

Drain D22: A drain corresponding to a townland boundary which runs due north from the forestry past the end of the central trackway, towards the northern cutaway. By the forestry it is 0.5m wide and completely in-filled with *Sphagnum cuspidatum*, with *Calluna vulgaris*, *Rhynchospora alba* and *S. magellanicum* encroaching from the margins. Between the trackway and the cutaway this drain dries out and is lined with tall *C. vulgaris* bushes.

### 5.2.2 Bog Margin Hydrology

There is very little drainage on the cutaway of this bog. There is only limited peat cutting and most of the cutaway has been abandoned.

Drain d1: An old drain in cutaway, running from face-bank to forestry. It is 1m wide and lined with *Ulex europaeus* and *Betula pubescens*.

Drian d2: A drain alongside the trackway which corresponds to D1 on the high-bog. It is 1m wide and water-filled with *Juncus effusus* and *Betula pubescens* along its margins.

Drain d3: A drain on the opposite side of track from d2 which corresponds to D2 on the high-bog. It is 1m wide and 1m deep, with little water present. It is lined by *Betula pubescens* and *Ulex europaeus* scrub.

## 5.3 GEOHYDROLOGICAL OVERVIEW

*Description of the bog in the 19th century*
This bog was always a small basin bog, surrounded on all sides by mineral soil.

*Description of the present-day bog*
There has been extensive cutaway to the north-west and south-west which has been planted with coniferous forestry. Some of this forestry is on the high bog in the south-west section. There is level cutaway in the south-east, backed by sloping land, which is suitable for restoration work. The cutaway in the east and north-east slopes away from the bog and adjoins reclaimed agricultural land. To the north there is steep slopes off the high bog to cutaway. This cutaway slopes away from the high bog to coniferous forestry.

There are extensive drains on the high bog associated with trackways and forestry. However, an area of secondary re-wetting occurs by the forestry, where a number of in-filling drains converge. Blocking these drains could help re-wet the high bog.

# 6. VEGETATION

## 6.1 VEGETATION SUMMARY

This bog has no central vegetation ecotope and only a very small area of sub-central. All of the bog is affected by the extensive drainage and coniferous plantations. There is also a large number of Pines growing on the bog surface and this is already indicated on the 1911 6" map (corresponds to Complex 7/10/9+Pines. The bog is also affected by an old burn in the north-west.

## 6.2 DETAILED VEGETATION OF HIGH BOG

### 6.2.1 Complexes
*Marginal Complexes*

Complex 1
This is *Calluna vulgaris* dominated face-bank vegetation.

Complex 2
The bog's south-east margin, cut off from the main bog by a grassy, tree-lined track and ditch. The vegetation here is typical of margins dominated by *Trichophorum caespitosum* (50%) with prominent *Calluna vulgaris* (30%) and *Erica tetralix* (20%) (R3, P6). There is a lot of bare ground where there had been Difco cutting around 5 years ago - the sausages of peat had been left and were colonized by mosses and lichens. Both *Cladonia portentosa* (5%) and *Campylopus introflexus* (5%) are notable. There is a lot of algal growth over bare peat areas. About 10-15% of the area is bare peat with 5% covered by algae. *Eriophorum angustifolium* (5%) grows on the bare peat and through the vegetation. Small patches of *Sphagnum capillifolium* (+) occur and several areas of standing water contain algae. *Cladonia coccifera* (+) also occurs. There are several dead graminoid leaf bases with some poaching damage at the edge, possibly caused by horses.

Complex 7

This vegetation complex is found in a marginal area between two drains and also on an isolated lobe to the north of the site. *Calluna vulgaris* (40%) dominates with prominent *Erica tetralix* (20%). *Trichophorum caespitosum* (15%), *Rhynchospora alba* (15%) and *Eriophorum angustifolium* (15%) are noteworthy along with *Cladonia portentosa* (10%). Many *Calluna vulgaris* bushes bear lichen epiphytes. It is only near the old in-filled drains that *Sphagnum* becomes prominent. There is good *Sphagnum* (20%) cover in places with *S. magellanicum, S. capillifolium, S. cuspidatum* and *S. papillosum. Narthecium ossifragum* (10%), *Andromeda polifolia* (+) and *Hypnum jutlandicum* (+) are notable. There are several areas of standing water and dead moss which expose the peat underneath.

Complex 7/2

Towards the southern margin the area gets drier and the ground hardens. The vegetation is dominated by *Calluna vulgaris* (40%) with *Erica tetralix* (20%). *Trichophorum caespitosum* (15%), *Narthecium ossifragum* (10%) and *Rhynchospora alba* (15) becomes more prominent. The ground slopes to the edges and there are fewer *Pinus* trees here. *Cladonia portentosa* (10%) is prominent along with *Eriophorum angustifolium* (15%). There is a lot of dead *Sphagnum* and *Andromeda polifolia* (+) was noted present. There are occasional tear pools which are algal filled.

Complex 7/2/6 - burnt

This area grades from Complex 7/10/9 (burnt) as the slope ( slope 7) causes desiccation and tear pool formation. The vegetation is dominated by *Calluna vulgaris* (30%)/ *Erica tetralix* (30%)/ *Trichophorum caespitosum* (30%). With a cover of 20% *Narthecium ossifragum* is very prominent. *Eriophorum angustifolium* (10%), *E. vaginatum* (10%), *Rhynchospora alba* (10%) and *Hypnum jutlandicum* (+) are present. The acrotelm is patchy with several areas of bare ground colonized by lichens such as *Cladonia pyxidata* (+) and *Cladonia coccifera* (+). The tear pools are algal filled. The *Sphagnum* cover is patchy with occasional good carpets of *S. capillifolium* and *S. magellanicum*. Small clumps of *Cladonia portentosa* (+) are also noted.

Complex 7/6 + CL + TP

On the margin out of the burn at the north-west of the site, there is a dry area of lichen-encrusted *Calluna vulgaris* (60%) interspersed with *Narthecium ossifragum* (20%) hollows and the odd *Trichophorum caespitosum* (5%) tussock. There is no acrotelm on this steeply sloping area. There are, however, small occurrences of *Sphagnum papillosum* (+) and *S. capillifolium* (+). *Cladonia portentosa* (15%) is plentiful along with *Erica tetralix* (20%). *Eriophorum vaginatum* (5%) and *E. angustifolium* (5%) are also present. There are occasional *Pinus* sp. and *Betula pubescens* trees on the steep slopes down to the cut-face and old cutaway. There are several tear pools with algae and *Sphagnum cuspidatum.* Many of these tear pools contain *Drosera anglica, Rhynchospora alba* and *Sphagnum magellanicum*. There is plenty of bare ground and dead *Sphagnum* and also the occasional dead graminoid tussock. *Andromeda polifolia* (+) and *Cladonia crispata* (+) are noted present.

*Sub-Marginal Complexes*

Complex 7 + Cl

The ground is softer underfoot here with an acrotelm of 0-5cm. The vegetation is co-dominated by *Calluna vulgaris* (40%), *Erica tetralix* (20%) and *Cladonia portentosa* (20%). *Eriophorum vaginatum* (10%), *E. angustifolium* (10%) and *Rhynchospora alba* (10%) are prominent with *Trichophorum caespitosum* tussocks notable. The area is divided by several in-filled old drains. *Narthecium ossifragum* (5%) is common through the vegetation. *Sphagnum* species such as *S. papillosum*, S. *magellanicum* and *S. capillifolium* have a cover of 10% altogether. They occur under the vegetation but are not that prominent. Both *Hypnum jutlandicum* (+) and *Andromeda polifolia* (+) are present. There are occasional large *Calluna vulgaris* and *Sphagnum* hummocks with dense *Cladonia portentosa, Dicranum scoparium* and *Leucobryum glaucum* associated with them. *Eriophorum vaginatum* is present but there is also a lot of bare patches with dead moss presumably resulting from desiccation due to drainage.

Complex 7/10/9 - burnt

This area is burnt in the past. The vegetation is dominated by *Calluna vulgaris* (60%) and *Eriophorum vaginatum* (40%) with prominent *Erica tetralix* (20%). There is a good acrotelm of 0-5cm and *Sphagnum* cover is high at 60% with the following species noted: *S. capillifolium, S. magellanicum, S. papillosum* and *S. fuscum*. There are a few *Pinus* trees noted here but there are also a lot of burnt stumps. Several of these stumps had very tall (40cm) *Narthecium ossifragum* flowers around them. The only other sign of burning is some burnt *Calluna vulgaris* branches but otherwise the vegetation is very good. *Cladonia portentosa* is returning in small clumps. *Hypnum jutlandicum* (+) and lush liverworts are present. There are some large *Sphagnum* hummocks with *Vaccinium oxycoccus* growing over them. As this area starts to slope towards the margins and Complex 7/2/6 - burnt, *Trichophorum caespitosum* becomes notable.

Complex 7 + Cl + Pines

The vegetation here is very similar to Complex 7 + Cl described above although it is not divided by as many drains. Also there are several *Pinus* species and *Betula pubescens* trees associated with the two main drains (D7 and D22).

Complex 7/10/9 + Pines (R2, P8)

This area is very difficult to walk over as it is very hummocky. The vegetation is co-dominated by *Calluna vulgaris* (60%)/ *Eriophorum vaginatum* (40%) and *Sphagnum* (60%) species. The *Sphagnum* species present are *S. capillifolium, S. magellanicum* and *S. papillosum*. There is prominent *Erica tetralix* (15%) and *Cladonia portentosa* (15%) and occasional *Eriophorum angustifolium* (+) and *Andromeda polifolia* (+). This area is also divided by drains and has frequent young *Pinus contorta* and *P. sylvatica* trees (all are less than 15 years old). Many of the *Calluna vulgaris* bushes featured lichen epiphytes. Despite the high *Sphagnum* cover, this complex is deemed sub-marginal as there are tussocks of dead vegetation, with occasional bare ground colonized by *Cladonia floerkeana* and frequent *Pinus* colonization. The whole area is sloping towards the south-eastern cutaway.

*Sub-Central Complexes*

Complex 10/7/9 + Pools

This is a small, very wet area at the junction of the main drains at the north-east corner of the coniferous plantation. Prior to afforestation this area would have been the centre of the high bog. It is felt that this area has subsided and is being secondarily re-wetted by the drains. There are several small pools, all containing *Sphagnum cuspidatum* and the vegetation is dominated by *Sphagnum* (80%) with *Calluna vulgaris* (40%) and *Eriophorum vaginatum* (40%). The acrotelm is very good (around 10cm) and the *Sphagnum* species present are *S. magellanicum, S. papillosum, S. capillifolium* and *S. fuscum*.

*Central Complexes*

There are no central complexes recorded from the area.

### 6.2.2 Flushes and Soaks

No flushes or soaks were recorded from the bog.

### 6.3 DETAILED VEGETATION OF THE HIGH BOG MARGINS

The western half of the bog margins are dominated by coniferous forestry plantations which extend onto the high bog. To the north-east, there has been some agricultural reclamation of the cutaway. The only area of active peat-cutting is in the south-east with a small area of cutting in the north-west. The remainder of the cutaway is abandoned old peat-cuttings with banks of *Calluna vulgaris* and *Betula pubescens* scrub. All of this old cutaway slopes away form the bog and so would not be suitable for bog restoration work.

## 7. BOG TYPE

This is probably a basin bog.

## 8. HUMAN IMPACT

### 8.1 RECENT HUMAN IMPACT (see Landuse map)

#### 8.1.1 Peat Cutting

There is limited peat-cutting to the south-east of the bog with a very small area of cutting to the north-west, this is mainly Hopper peat cutting.

#### 8.1.2 Forestry

There are extensive coniferous plantations in the west of the bog margin with some of the plantation encroaching onto the high bog.

#### 8.1.3 Fire History

The bog has been burnt in the past with evidence of a recent burn in the north-west as seen on the aerial photograph.

#### 8.1.4 Dumping

There is a small amount of dumping on the old cutaway to the south.

#### 8.1.5 Agriculture

Some of the old cutaway in the north-east has been reclaimed for agricultural grassland.

### 8.2 NHA BOUNDARY CHANGES

No NHA map

## 9. INTER-RELATIONSHIPS OF VEGETATION, HYDROLOGY, TOPOGRAPHY AND LOCATION

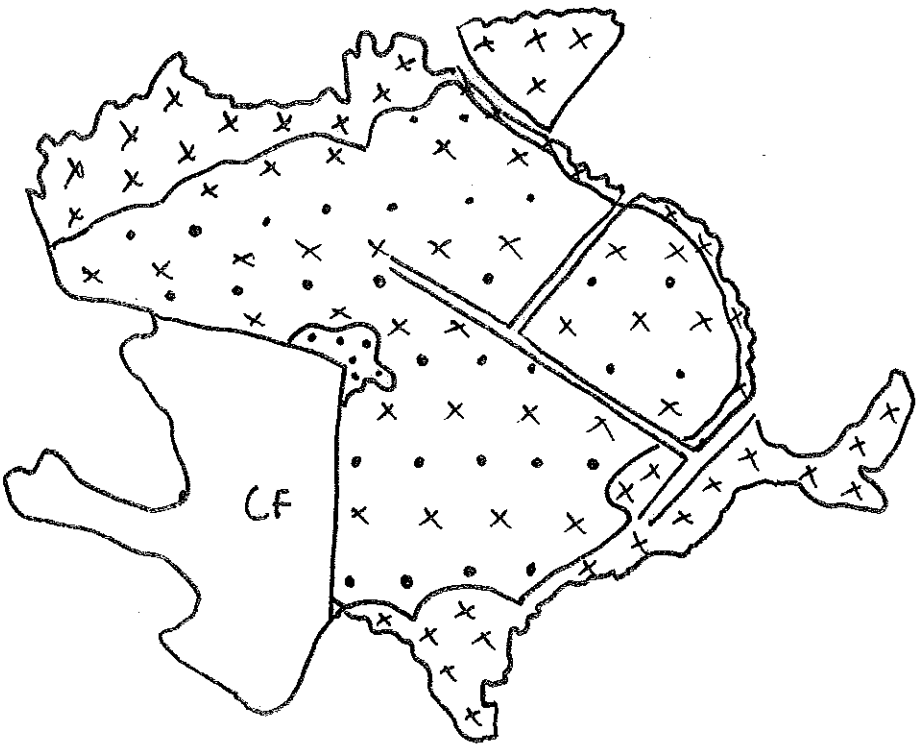
1. This site is owned by An Taisce and it was surveyed as it is one of the most easterly midland raised bogs.

2. The survey found that the bog had been extensively drained and afforested as anticipated from the aerial photograph. There were numerous *Pinus* (*P. contorta* and *P. sylvatica*) growing on the high bog. The 1911 6" map shows the coniferous plantation on the high bog and the spreading individual Pine trees on the bog surface indicating a long history of coniferous colonization of the high bog.

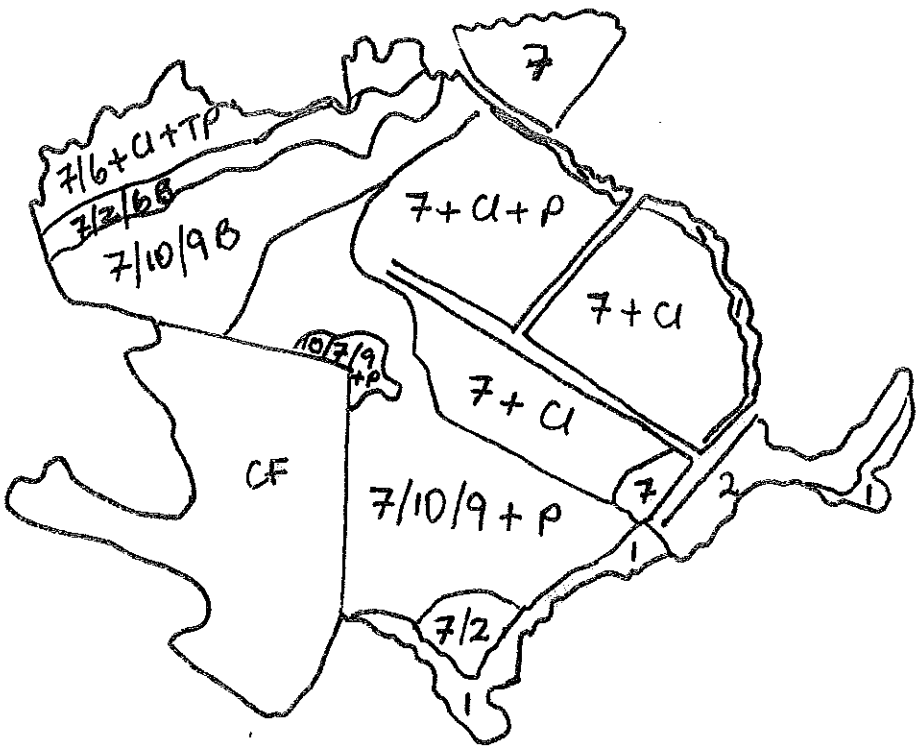
3. This bog has been extensively drained in the past but there is no active drainage at present. Following subsidence, there was re-wetting of the bog surface at the junction of a number of drains in the centre of the bog. This indicates potential for restoration.

4. Due to the cutaway sloping away from the high bog, there is little potential for restoration work on the bog margins. The only area of potential restoration work will be on the high bog once the forestry has been cleared.

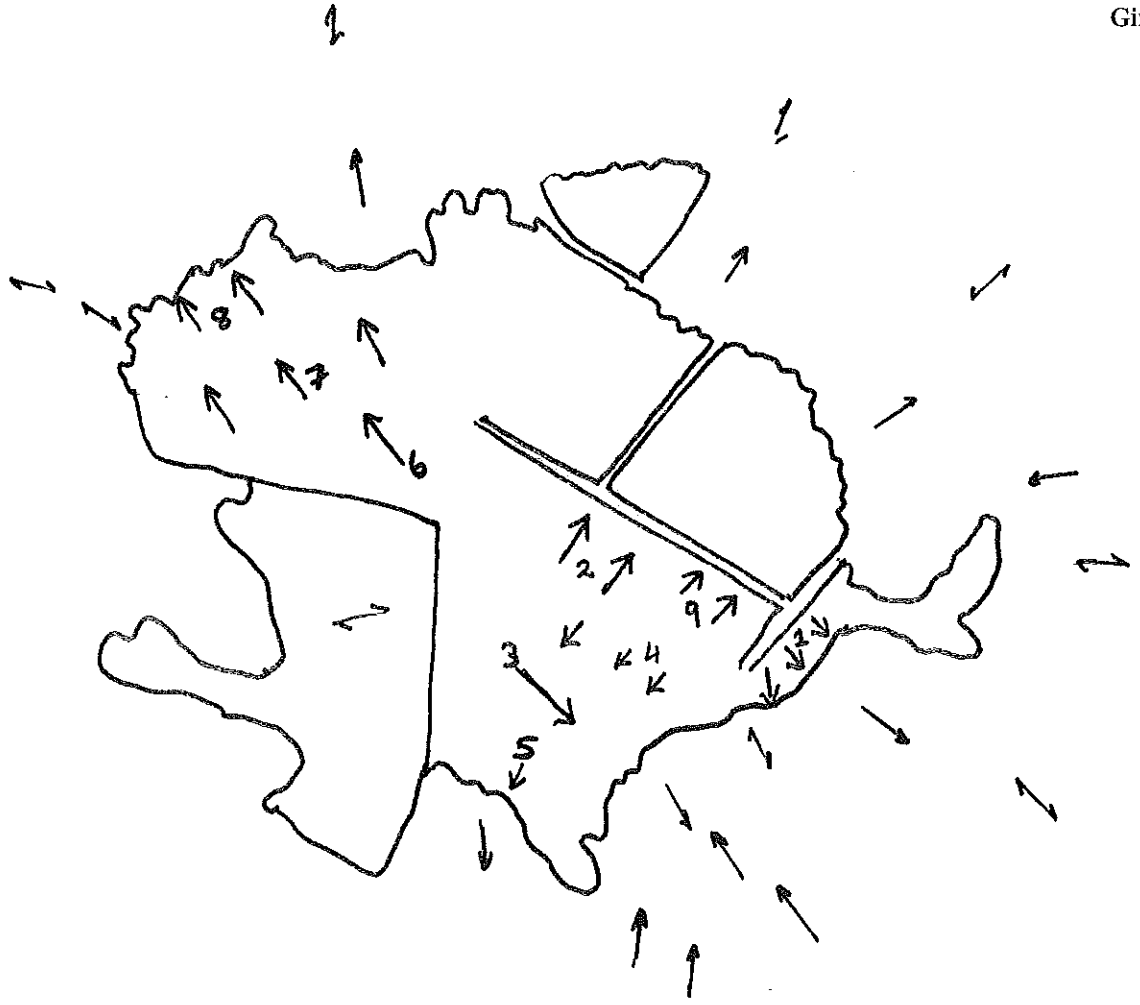
**Girley bog (1580)**
Co. Meath
Ecotopes



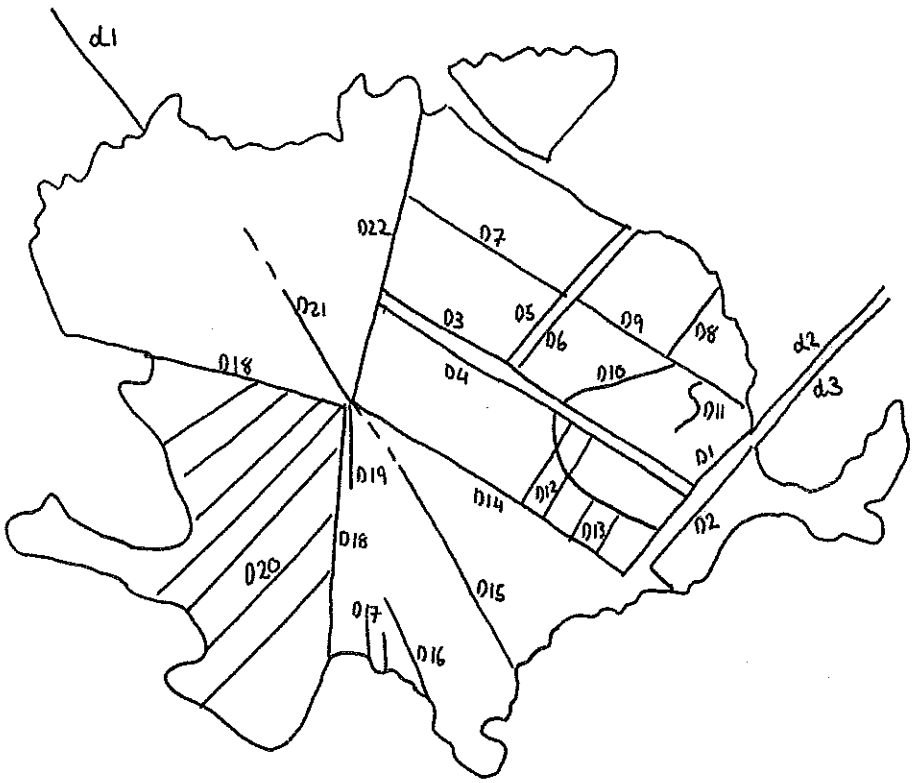
Girley bog (1580)
Co. Meath
Vegetation complexes

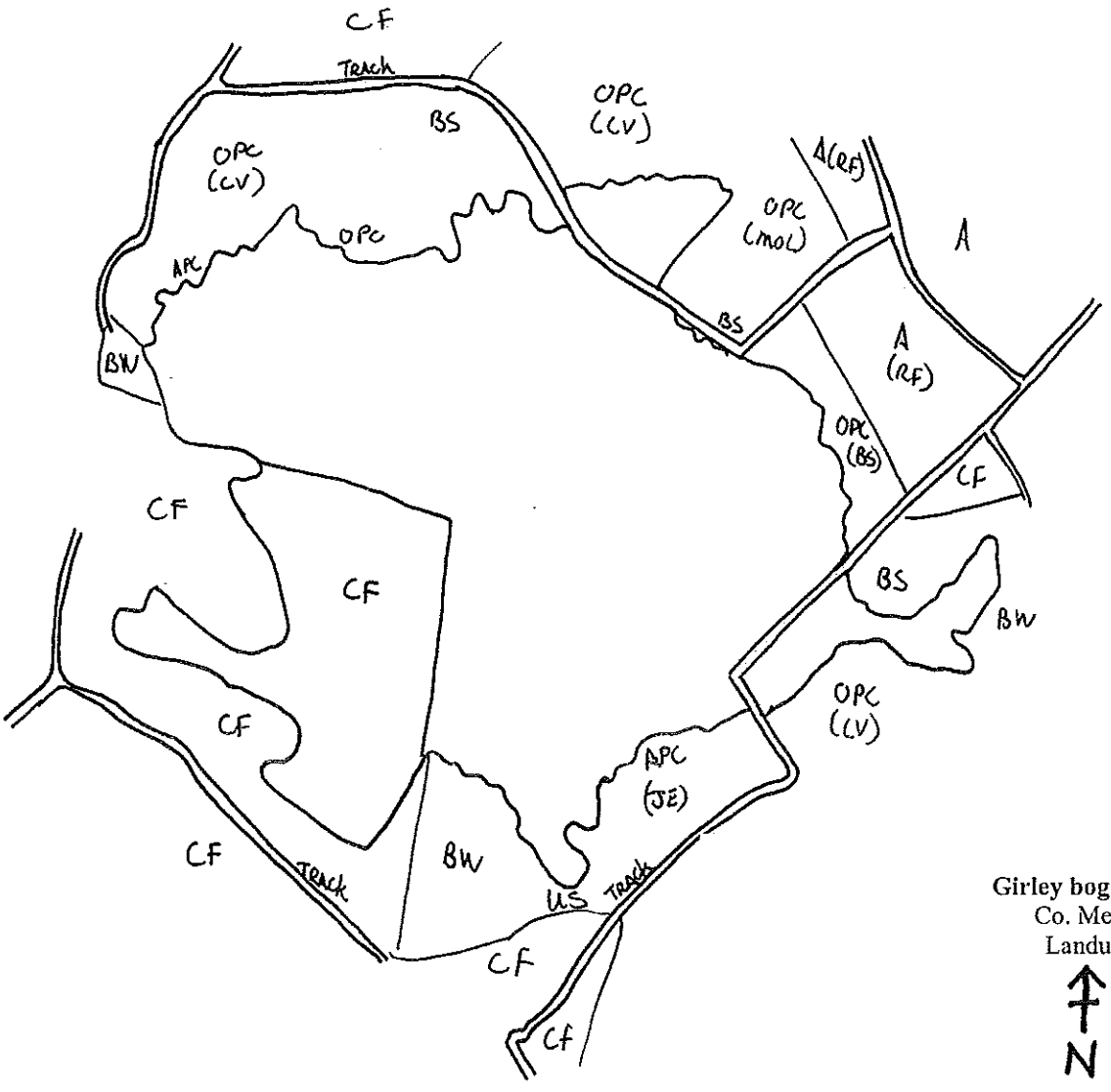



Girley bog (1580)
Co. Meath
Slopes



**Girley bog (1580)**
Co. Meath
Drainage




**Girley bog (1580)**
Co. Meath
Landuse

# GOWLAUN BOG

## 1. SUMMARY OF SITE DETAILS

| | | | |
|---|---|---|---|
| NHA no.: | 502 | 6" Sheet: | MO52, 63 & 64 |
| Grid Ref.: | G563 045 | 1:126,000 Sheet: | 7 |
| G.S.I. Aerial Photo: | 27 (7816) | 1:50,000 Sheet: | 32 |
| Other Photo: | G171 | High bog area (ha): | 193.6 |
| Date(s) of Visit: | 16/11/1999 | | |

Townlands: Gowlaun, Srah upper, Srah lower, Roosky

## 2. INTRODUCTION

### 2.1 BACKGROUND

This site was selected for survey as it is part of a large bog complex, which includes, Derrykinlough, Kilgarriff and the pSAC Derranabroc bog. This complex is at the extreme north-western range for raised bogs.The bogs are separated by streams but there is very little surface drainage or active peat cutting evident from the aerial photographs.

The 1994 NHA survey states that the site has been extensively damaged, but still has good hummock/hollow communities and Sphagnum imbricatum, S. fuscum and S. magellanicum were noted. Kilgarriff was surveyed in 1993 and described as having good diversity and little disturbance.

### 2.2 LOCATION AND ACCESS

A large raised bog located in the extreme north-eastern lobe of County Mayo, sandwiched between Sligo and Roscommon. It is 11km north-west of Ballaghdereen and 9km north-east of Charlestown. It can be accessed via a laneway off a local road off the minor road linking Derrykinlough to Roosky. This latter road is off the Charlestown to Doocastle road.

## 3. METEOROLOGY

No meteorological measurements have been made on this bog complex. Rainfall data from the nearby Balllydereen weather station indicates that the complex recieves approximately 1159mm of rainfall annually (R). The nearest synoptic station at Claremorris indicates that the complex has up to 177 wet days annually.

Evaoptranspiration rates (E) from Claremorriss are 415mm annually. This is a minimum rate for this large expanse of exposed peatland. The effective rainfall for the complex can be calculated to be at least R-E i.e. ER> 1159- 415= 744mm.

## 4. GEOMORPHOLOGY

### 4.1 TOPOGRAPHY OF THE HIGH BOG

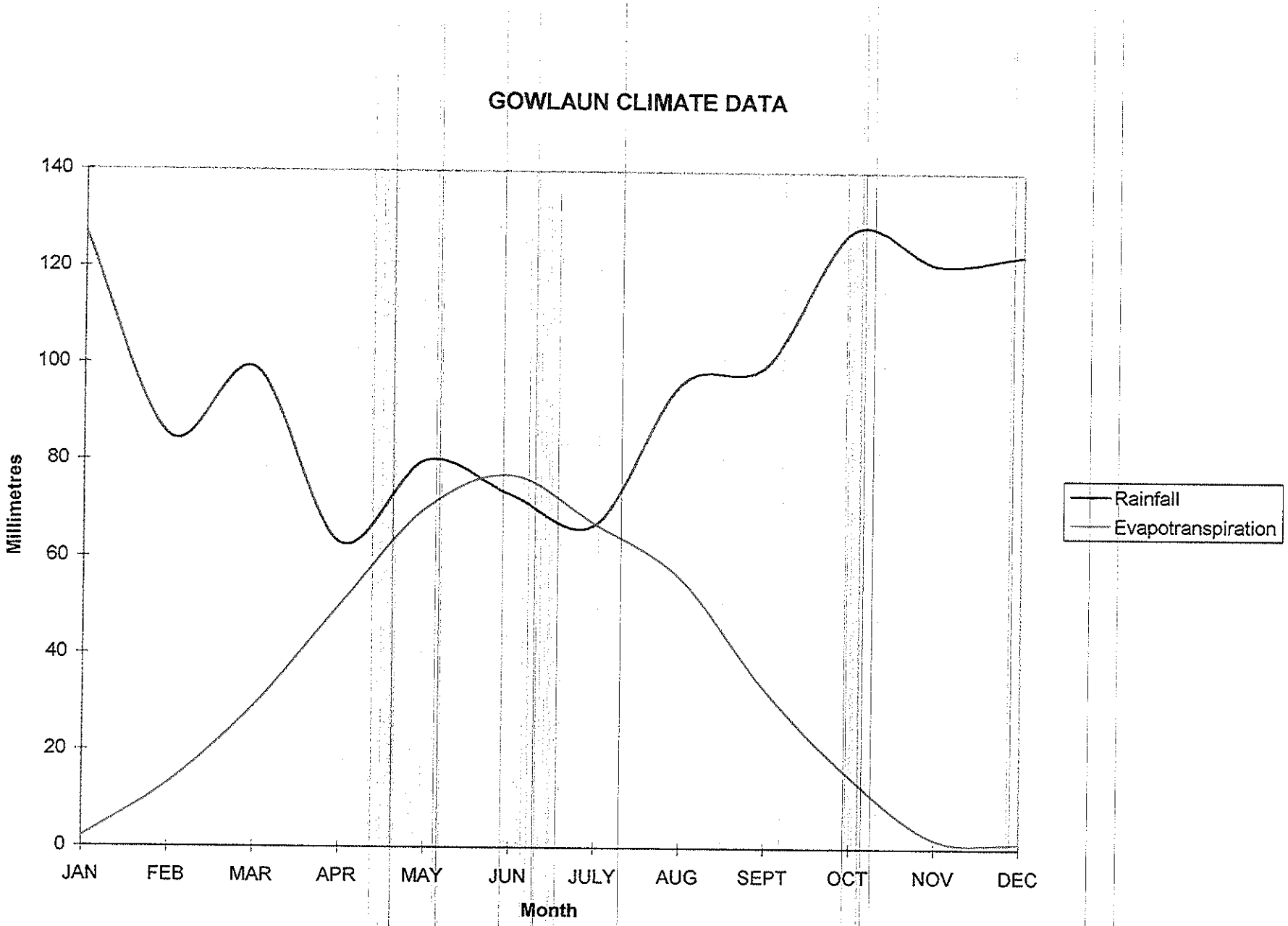
The bog is relatively flat with internal slopes associated with flushes. There are also northern and southern marginal slopes associated with the cutaway.

Slopes 1,2 & 3: Slopes south-east from the bog towards old cutaway (0.25m/100m)

Slopes 4, 5 & 6: Slopes off the high bog, south-west into Flush F1 (1.5m/100m)

Slope 7: A south-westerly slope within Flush F1 (0.25m/100m)

Slope 8: An internal slope of Flush F3 in a south-westerly direction towards the cutaway (1m/100m)


GOWLAUN CLIMATE DATA
140
120
100
80
60
40
20
0
Millimetres
JAN
FEB
MAR
APR
MAY
JUN
JULY
AUG
SEPT
OCT
NOV
DEC
Month
Rainfall
Evapotranspiration

Slope 9: Slope on the eastern bank into the flush F3 (0.25m/100m)

Slope 10: Slope on the western bank into the flush F3 (0.5m/100m)

Slope 11: A steep marginal slope northwards towards the cutaway, running from D4 towards old cutaway (2m/100m).

### 4.2 TOPOGRAPHY OF THE BOG MARGIN

Most of the cutaway is associated with streams and has slopes corresponding to this. The most extensive cutaway is in the north-west and is dominated by *Molinia caerulea* and *Ulex europaeus* scrub. This slopes gradually down to a semi-natural stream channel, which flows along the northern region of the site (Drain d4). With all the slopes in the cutaway associated with drainage, any restoration work would be very limited on this bog complex.

## 5. HYDROLOGICAL SYSTEM

### 5.1 GEOLOGY/HYDROLOGY

#### 5.1.1 Bedrock

This bog is underlain by three different rock types. One is the Lisgorman shale formation (LG on the map) - a thin bedded shale. The second is the Moy Sandstone formation (MO on the map) and the third is the Bricklieve limestone formation (BK on the maps).

#### 5.1.2 Subsoils

No data was available for this site.

#### 5.1.3 Peats

The peat at this site was classified by Hammond as Man-Modified.

### 5.2 HYDROLOGY

#### 5.2.1 High Bog Hydrology (see Drains map)

This bog complex consists of four separate bogs. There is very little drainage evident on any of the high bogs, with only Gowlaun and Derrykinlough Bogs, showing any significant drainage on the high bog. The largest drains are on Gowlaun bog.

Drain D1: A wide deep drain, (0.5m wide/1m deep) running to the bog margin. There is water at the base of this drain, 10cm deep. This drain runs along a townland boundary.

Drain D2: An old drain at cutaway margin, in-filling with *Calluna vulgaris* and *Sphagnum cuspidatum*. Joins with D3.

Drain D3: An old in-filled drain running into cutaway. Very little water present.

Drain D4: A deep water-filled drain, 1m wide. It has been recently excavated as can be seen on the aerial photograph. The drain corresponds to a townland boundary. Where the drain bends there has been deeper excavation. The drain is 2m deep with 10 cm of water flowing northwards out of the bog.

Drains D5: A series of old in-filling drains in the west of the site associated with abandoned cutaway.

Drain D6: Deep drains running along track. The high bog comes up to the track at this point.

Drains D7&D8: Two parallel deep water-filled drains associated with forestry.

### 5.2.2 Bog Margin Hydrology

There is very little active peat cutting on this bog complex and very little active drainage was noted. However natural drainage around the bog margins is evident. Streams flow between the individual bogs as seen on the 6" map, therefore any restoration work will be limited

Drain d1: A fast flowing stream through reclaimed cutaway. There is a small flushed area by the stream dominated by Molinia. This stream separates Gowlaun and Kilgarriff bogs.

Drain d2: The Owenlobnagalur, a fast-flowing stream that flows through old cutaway to the south and south-west of Gowlaun bog and flows between Kilgarriff and the bog to the south-west. It is joined by d1 at the north-west section of Kilgarriff and these effectively isolate Killgarriff from the rest of the bog complex.

Drain d3: A third stream which joins up with d2.

Drain d4: A fourth stream which separates the eastern lobe of Gowlaun from Derrykinlough bog. This runs through the northern cutaway of Gowlaun bog where it appears to have been channelled.

These streams and their associated slopes make restoration work impractical on the whole.

## 5.3 GEOHYDROLOGICAL OVERVIEW

*Description of the bog in the 19th century*
Gowlaun is part of a complex which also contains Derrykinlough and Kilgarriff described later. This extensive bog complex lies on either side of the Owenlobnaglaur River and adjoins the Derrynabrock Bog SAC. The three bogs have always been separated with Gowlaun Bog originally separated from Kilgarriff by the Owenlobnaglaur River and from Derrykinlough by a tributary stream. There was mineral soil on the opposite side of this stream which ran along the northern margin of the bog. Derrykinlough Bog had mineral soil to the north west and east, with the tributary stream to the south. Kilgarriff Bog was separated from Gowlaun and Derrynabrock bogs by separate arms of the Owenlobnaglaur river which flow to the north and south of this bog.

*Description of the present-day bog*
There has been extensive cutaway to the south and west of Gowlaun bog. Some of this has been afforrested and some has been reclaimed for agriculture. It slopes down to the river and would not be suitable for restoration work. There is also extensive cutaway to the north which slopes to the stream. Along the north-eastern margin, there is coniferous forestry and reclaimed fields. The small eastern lobe of Gowlaun bog has coniferous forestry to the west and watercourses to the north and south. At it northern margin there is wet grassland on the stream bank. There is some cutaway to the east but this has been reclaimed for agriculture. There is a small flush on the high bog to the south of this site. It is dominated by *Molinia caerulea* and has *Phragmites australis* on one of its slopes. There is a large drain in the north which flows into a large *M. caerulea* flush.

# 6. VEGETATION

## 6.1 VEGETATION SUMMARY

## 6.2 DETAILED VEGETATION OF HIGH BOG

### 6.2.1 Complexes

*Marginal Complexes*

Complex 2 recently burnt

On sloping margins of the bog by the cutaway, the vegetation is dominated by *Trichophorum caespitosum* tussocks. Certain areas in the east of the bog are poached and grazed by cattle. The bog is wet underfoot with bare ground covered by an algal mat. *Pedicularis sylvatica* is plentiful in these marginal areas.

Complex 7 + Molinia

A slope away from drain D4 towards the northern cutaway is co-dominated by *Molinia caerulea* and *Calluna vulgaris*. There are also some scattered *Myrica gale* bushes and overall the vegetation is robust and tall.

*Sub-Marginal Complexes*

Complex 7/2 recently burnt

Continuing on from the marginal areas, much of the sub-marginal area appears recently burnt and it is also poached and grazed by cattle. The vegetation is dominated by *Calluna vulgaris* (60%) with *Trichophorum caespitosum* (20%). All the *Calluna vulgaris* plants are depauperate with quite a good *Sphagnum* cover although the hummocks are small. Several large hummocks of dead *Sphagnum* and *Racomitrium lanuginosum* are present. The ground is quite wet underfoot with a large algal mat cover. Some *Drosera rotundifolia* plants are present. *Narthecium ossifragum* (15%) is prominent in the hollows. The sedge *Carex panicea* (20%) is quite prominent with occasional occurrences of *Eriophorum angustifolium* and *E. vaginatum*.

*Sub-Central Complexes*

There are no sub-central complexes recorded on the site.

*Central Complexes*

There are no central complexes recorded on the site.

### 6.2.2 Flushes and Soaks

Flush F1:

Here there is 100% cover of *Molinia caerulea* tussocks interspersed with 20% *Eriophorum vaginatum*. There are a few bushes of *Calluna vulgaris* but most seem to be dying. Some *Potentilla erecta* and *Polygala serpyllifolia* plants are growing through the vegetation. One small bush of *Rhododendron ponticum* is present here. There are occasional *Trichophorum caespitosum* tussocks with some *Eriophorum angustifolium*. The ground is very wet underfoot with several *Sphagnum capillifolium* (15%) tussocks. Clumps of *Myrica gale* occur in patches with several *Leucobryum glaucum* and *Hypnum jutlandicum* hummocks.

Flush F2:
To the west of F1, a *Myrica gale* (50%) dominated flush becomes obvious. *Calluna vulgaris* (30%) and *Erica tetralix* (15%) are prominent although they appear to be dying, all have dead brown foliage with the only green being young *E. tetralix* seedlings covering the ground below. *Vaccinium oxycoccus* is abundant straggling underneath the bushes. *Eriophorum vaginatum* (15%) is prominent with occasional occurrences of *Trichophorum caespitosum* (5%). Overall *Sphagnum* cover is about 40% with both *S. capillifolium* (30%) and *S. papillosum* (10%). Some *Cladonia portentosa* (+) is also present.

Flush F3:
A *Molinia caerulea*-dominated narrow flush with water actively flowing through it. The flush resembles a narrow gorge with thick *Molinia caerulea* tussocks on the steep banks and *Phragmites australis* scattered on the adjacent slopes. There are occasional *Betula pubescens* young trees along the flush with one large (5m tall) tree at the head of the flush.

### 6.3 DETAILED VEGETATION OF THE BOG MARGIN

Gowlaun bog margin is mainly old abandoned cutaway with *Molinia caerulea* and *Ulex europaeus* scrub. There are some reclaimed fields in the east and south and a small conifer plantation in the east. There is also a shelter-belt of conifers planted by the reclaimed fields in the east. There is some *Betula pubescens* scrub by the reclaimed fields in the south. There is a small eastern lobe to Gowlaun bog and on the western margin of this, there is a large mature conifer plantation. There is also active peat cutting on the northern margin of this lobe. Along the stream (d4) which divides this lobe and Derrykinlough bog the cutaway has been reclaimed for agriculture and is grazed by cattle.

## 7. BOG TYPE

This complex probably consists of four Basin bogs serarated by streams.

## 8. HUMAN IMPACT

### 8.1 RECENT HUMAN IMPACT (see Landuse map)

#### 8.1.1 Peat Cutting

Overall the cutaway around Gowlaun Bog has been abandoned. There is some peat-cutting between Gowlaun and Derrykinlough bogs. This cutting, however, is very limited and is probably hand-cutting.

#### 8.1.2 Forestry

There is some cutaway reclaimed for agriculture and forestry on the eastern margin of Gowlaun.

#### 8.1.3 Fire History

This bog has been extensively burnt in the past.

#### 8.1.4 Dumping

There were no notable instances of dumping seen.

#### 8.1.5 Agriculture

To the east some cutaway areas have been reclaimed for agriculture and are being used for cattle grazing.

### 8.2 NHA BOUNDARY CHANGES

The boundary needs to be extended to the stream in the north to include high bog and cutaway.

## 9. INTER-RELATIONSHIPS OF VEGETATION, HYDROLOGY, TOPOGRAPHY AND LOCATION

1. This bog together with the neighbouring Derrykinlough and Kilgarriff sites represent an extensive area of raised bog habitat in the extreme north-western end of their range. From the aerial photograph there appeared to be little active drainage and the intervening cutaway appeared suitable for restoration work.

2. The visit revealed that although Derrykinlough and Kilgarriff bogs supported good vegetation, Gowlaun had a poor quality vegetation.

3. Although little drainage occurred on Gowlaun bog itself, the natural drain by streams on the cutaway would restrict restoration work.

4. The cutaway adjoining all three sites proved to have slopes unsuitable for restoration work.

# TAWNAGHBEG BOG, CO. MAYO

## 1. SUMMARY OF SITE DETAILS

| | | | |
|---|---|---|---|
| NHA no.: | 502 | 6" Sheet: | MO52 |
| Grid Ref.: | G563 045 | 1:126,000 Sheet: | 7 |
| G.S.I. Aerial Photo: | 27 (7816) | 1:50,000 Sheet: | 32 |
| Other Photo: | G171 | High bog area (ha): | 71.2 |
| Date(s) of Visit: | 17/11/1999 | | |

Townlands:

### 4.1 TOPOGRAPHY OF THE HIGH BOG

This bog has a flat central area in the south-east from which there are slopes in all directions towards cutaway. In the north-west there are slopes in a westerly direction off the bog towards drainage channel D11.

#### 4.1.1 Slopes of the High Bog

Slopes 1, 2 & 3: A series of slopes in a westerly direction towards drain D11 (0.5m/100m)

Slopes 4 & 5 : A series of slopes off the flat central region north-westwards towards drain D11 (1m/100m)

Slopes 6, 7, 8, 9 & 10: A series of slopes towards the bog margins in a south-west direction (1m/100m)

Slopes 11 & 12: A series of slopes towards the bog margins in a south-east direction (1m/100m)

Slopes 13 & 14: A series of slopes towards the bog margins in a north-east direction (1m/100m)

### 4.2 TOPOGRAPHY OF THE BOG MARGINS

The only slope of note on the bog margin Is on reclaimed fields to the south-west, these sloped quite steeply to the stream d4 (1m/50m).

## 5 HYDROLOGICAL SYSTEM

### 5.1 GEOLOGY/HYDROLOGY

#### 5.1.1 Bedrock

This bog is underlain by the Lisgorman shale formation (LG on the map) - a thin bedded shale.

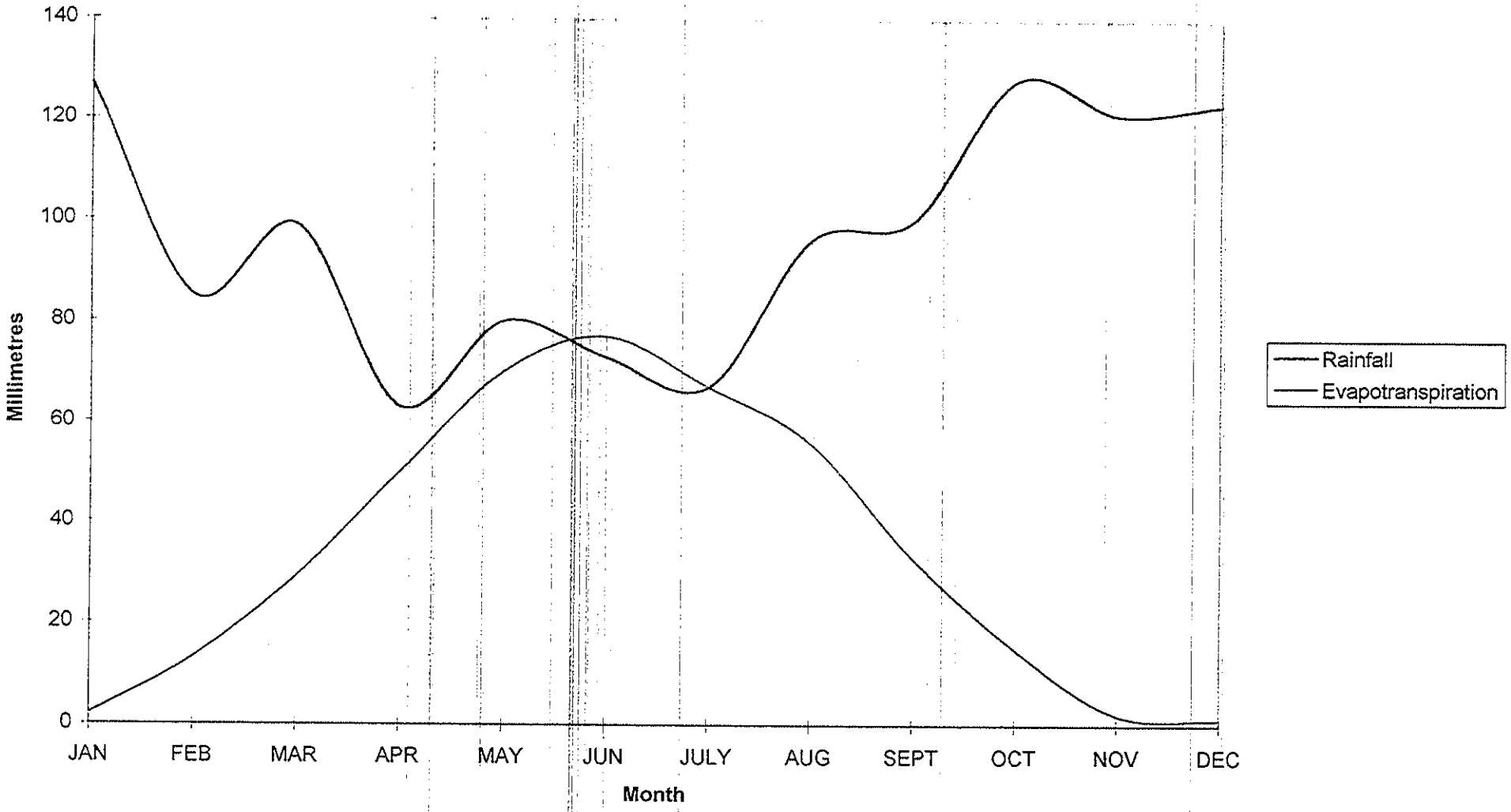
#### 5.1.2 Subsoils

no data was available for this site.

#### 5.1.3 Peats

The peat at this site was classified by Hammond as Man-Modified.

TAWNAGHBEG **CLIMATE DATA**



## 5.2 HYDROLOGY

### 5.2.1 High Bog Hydrology (see Drains Map)

Drainage is restricted to the north-west lobe of this bog.

Drain D10: A fast flowing drain, flowing to the western cutaway. *Juncus effusus* and *Molinia caerulea* grew along the margins of the drain. It is 50cm wide and 50cm deep with 10cm of flowing water.

Drain D11: A fast flowing drain which runs north-south and flows from both directions into D1 which joins it at its centre. It is 50 cm wide and 50 cm deep with 5cm of water.

Drain D12: An old dry drain in-filled with *Calluna vulgaris*, running from the old eastern cutaway.

Drain D13: An old drain filled with *Calluna vulgaris* running to the south-eastern cutaway.

Drain D14: An old drain (50cm wide) by forestry which is in-filling with *Calluna vulgaris* and *Sphagnum cuspidatum*.

### 5.2.2 Bog Margin Hydrology

The only drainage of note on the bog margins is the stream D4 which separates this bog from Gowlaun.

Drain d4: A fourth stream which separates the eastern lobe of Gowlaun from Derrykinlough bog. This runs through the northern cutaway of Gowlaun bog where it appears to have been channelled.

These streams and their associated slopes make restoration work on the whole impractical.

## 5.3 GEOHYDROLOGICAL OVERVIEW

*Description of the bog in the 19th century*
See description for Gowlaun above.

*Description of the present-day bog*
On Tawnaghboy bog there is coniferous forestry on the north and western cutaway and on the high bog. On the southern margin there is reclaimed grassland on the banks of the stream. There is limited cutaway to the east by mineral soil. There is some Phragmites at the bog margin indicating presence of groundwater. In the west of this bog there are some fast-flowing drains which if blocked, could help re-wet the high bog.

## 6.2 DETAILED VEGETATION OF THE HIGH BOG

### 6.2.1 Complexes

*Marginal Complexes*

Complex 1
Face-bank areas dominated by *Calluna vulgaris* on the cutaway slopes.

Complex 7
The western lobe is separated from the main body of the bog by a deep drain (D) and is actively drained by D. The vegetation is drier and dominated by tall *Calluna vulgaris* bushes. There is coniferous forestry on the high bog beside this area leading to the desiccation.

*Sub-marginal Complexes*

Complex 7a
*Calluna vulgaris* co-dominated with *Carex panicea*, *Eriophorum vaginatum* and *E. angustifolium*. There are frequent *Trichophorum caespitosum* tussocks and *Narthecium ossifragum* is common. *Pedicularis sylvatica* is also present. The vegetation is similar to that seen on Gowlaun. The acrotelm is patchy - 5-10cm in some places and absent from others. The area becomes quite dry near the forestry to the north. This vegetation type is surrounded by the sub-central area Complex 15 described below.

*Sub-central Complexes*

Complex 15/7a
An area of scattered pools which contain *Sphagnum capillifolium*, *Menyanthes trifoliata* and *Drosera anglica*. Between the pools the vegetation is similar to Complex 7a described above with hummocks of *S. capillifolium*, *Racomitrium lanuginosum* and *Hypnum jutlandicum*. *Erica tetralix*, *Cladonia portentosa* and *C. uncialis* are common.

Complex 15
The vegetation of Complex 14 described below merges into Complex 15 where the bog slopes away from the central area. These slopes are as a result of peat cutting at the bog margins which are nearby. There is also a slope north-west towards the flush F2. The vegetation is similar to that of Complex 15 described below but the *Sphagnum* cover has diminished and the pools are less frequent. Many of these pools contain *Eriophorum angustifolium* and *Trichophorum caespitosum* (30%) is common through the vegetation.

*Central complexes*

Complex 14
Frequent interlocking pools with *Sphagnum cuspidatum*, *Drosera anglica*, and *Menyanthes trifoliata*. The pools edges are dominated by *S. papillosum* and *S. capillifolium*. *Campylopus atrovirens* is also prominent on some pool edges. The inter-pool vegetation is co-dominated by *Sphagnum* species (30%), *Calluna vulgaris* (30%), *Eriophorum vaginatum* (30%) and *Cladonia portentosa* (30%). *Erica tetralix* and *Rhynchospora alba* are common throughout the vegetation. *Cladonia uncialis* and *Eriophorum angustifolium* are also found. *Pleurozia purpurea* is growing through the *Sphagnum* hummocks. There are occasional *Racomitrium lanuginosum* hummocks. The area is level and quaking and the acrotelm varies between 5 and 10cm.

Flushes and Soaks

Flush F1: *Molinia caerulea* (50%) and *Calluna vulgaris* (50%) dominate this area. The *Molinia* grows through the vegetation, there are no tussocks like those seen on Gowlaun. *Cladonia portentosa* (20%) also has a high cover. The acrotelm underfoot is shallow (0-5cm) and *Sphagnum* cover is poor (*S. capillifolium* - 20%). *Eriophorum angustifolium* (10%), *E. vaginatum* (10%) and *Trichophorum caespitosum* (10%) grow through the vegetation. Undercover vegetation is composed of *Pedicularis sylvatica*, *Erica tetralix* and *Hypnum jutlandicum*. Any bare peat areas are covered by *Zygogonium ericetorum*. Patches of the flush are co-dominated by *Myrica gale* and *Narthecium ossifragum* is also seen. The whole flush slopes gently (0.5m/100m) down to the drains and forestry to the west.

Flush F2: This is an area which slopes from the high bog to the drains in a north-westerly direction. The slope is dominated by *Molinia caerulea*.

## 6.3 DETAILED VEGETATION OF THE BOG MARGINS

Tawnaghbeg Bog has extensive conifer plantations on cutaway in the north and west. Some of the plantations encroach onto the high bog in the north. To the east the cutaway has been reclaimed for agriculture, with limited areas of old cutaway remaining. Where a section of mineral land juts into the bog in the east there is a good wet cutaway margin between the fields and the high bog. *Juncus effusus* and *Phragmites australis* dominate this. There is also a small young conifer plantation in the south-east.

# 8. HUMAN IMPACT

## 8.1 RECENT HUMAN IMPACT (see Landuse Map)

### 8.1.1 Peat Cutting

There is some peat cutting and cattle grazing, between Gowlaun and Derrykinlough.

### 8.1.2 Forestry

There is extensive forestry to the west and north of Derrykinlough. Some of this forestry is on the high bog.

### 8.1.3 Fire History

There was no evidence of burning on this bog.

### 8.1.4 Dumping

There is no evidence of dumping on the bog.

### 8.1.5 Agriculture

There is some agriculture to the west, south-west and east of the bog.

## 8.2 NHA BOUNDARY CHANGES

This bog does not appear to have an NHA boundary.

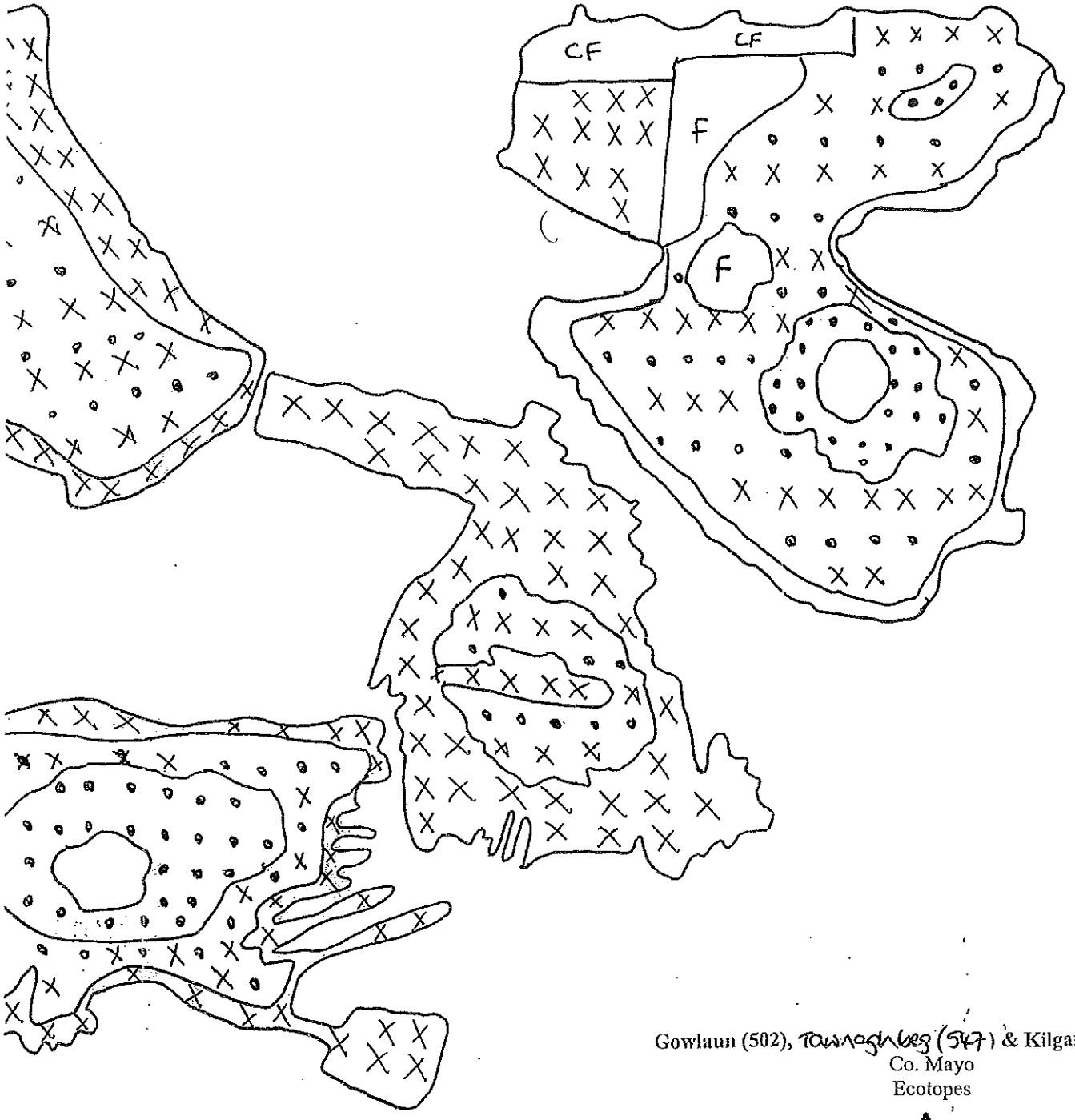
# 9. INTER-RELATIONSHIPS OF VEGETATION, HYDROLOGY, TOPOGRAPHY AND LOCATION

1. See Gowlaun for reasons for site visit.

2. This visit discovered an extensive active pool system despite proximity to bog margins.

3. The only active drainage occurs in the north-west lobe and is associated with forestry.

4. There is little possibility for bog restoration work due to drainage by streams.




Gowlaun (502), Tawnaghbeg (547) & Kilgarriff (510) bogs
Co. Mayo
Ecotopes

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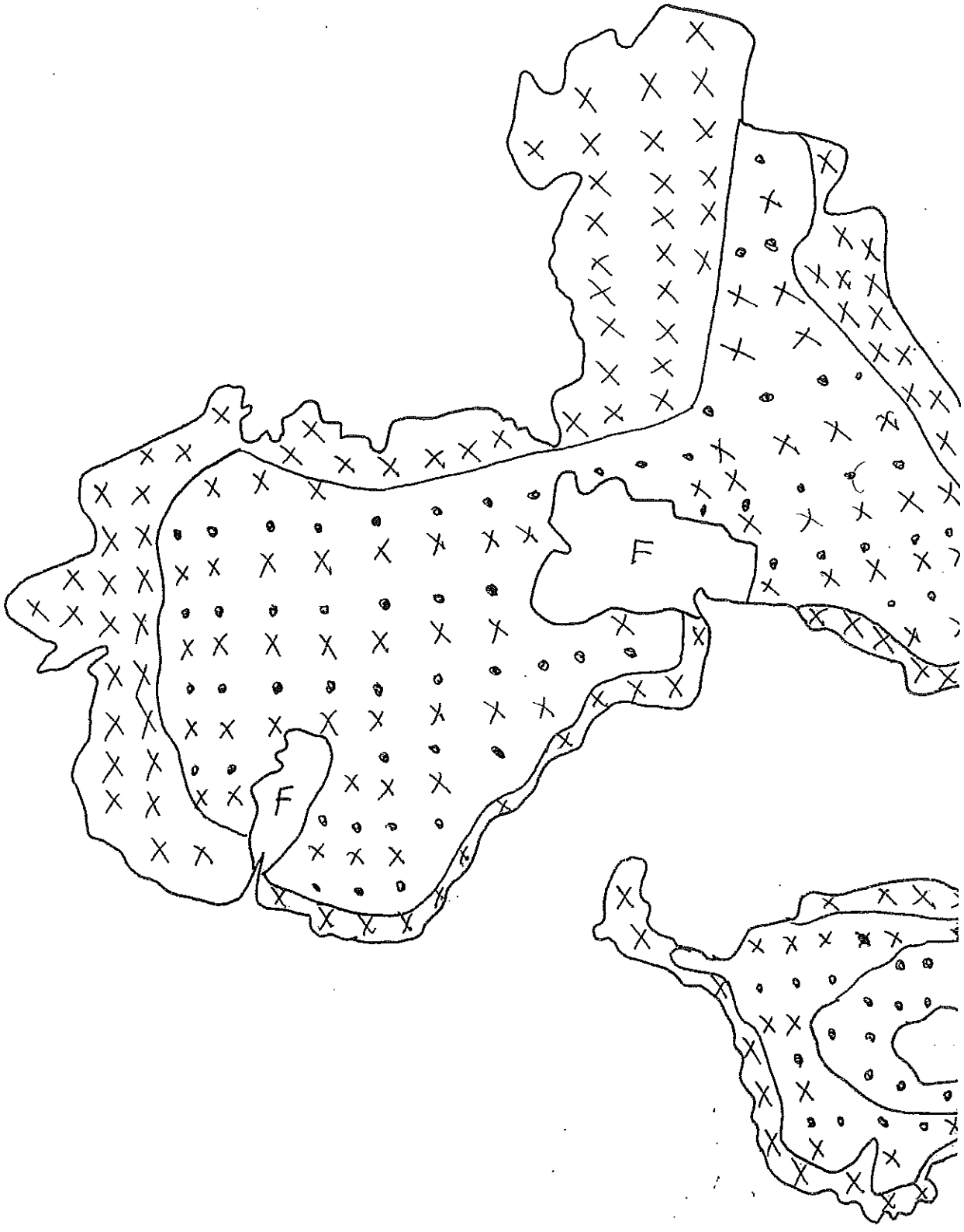
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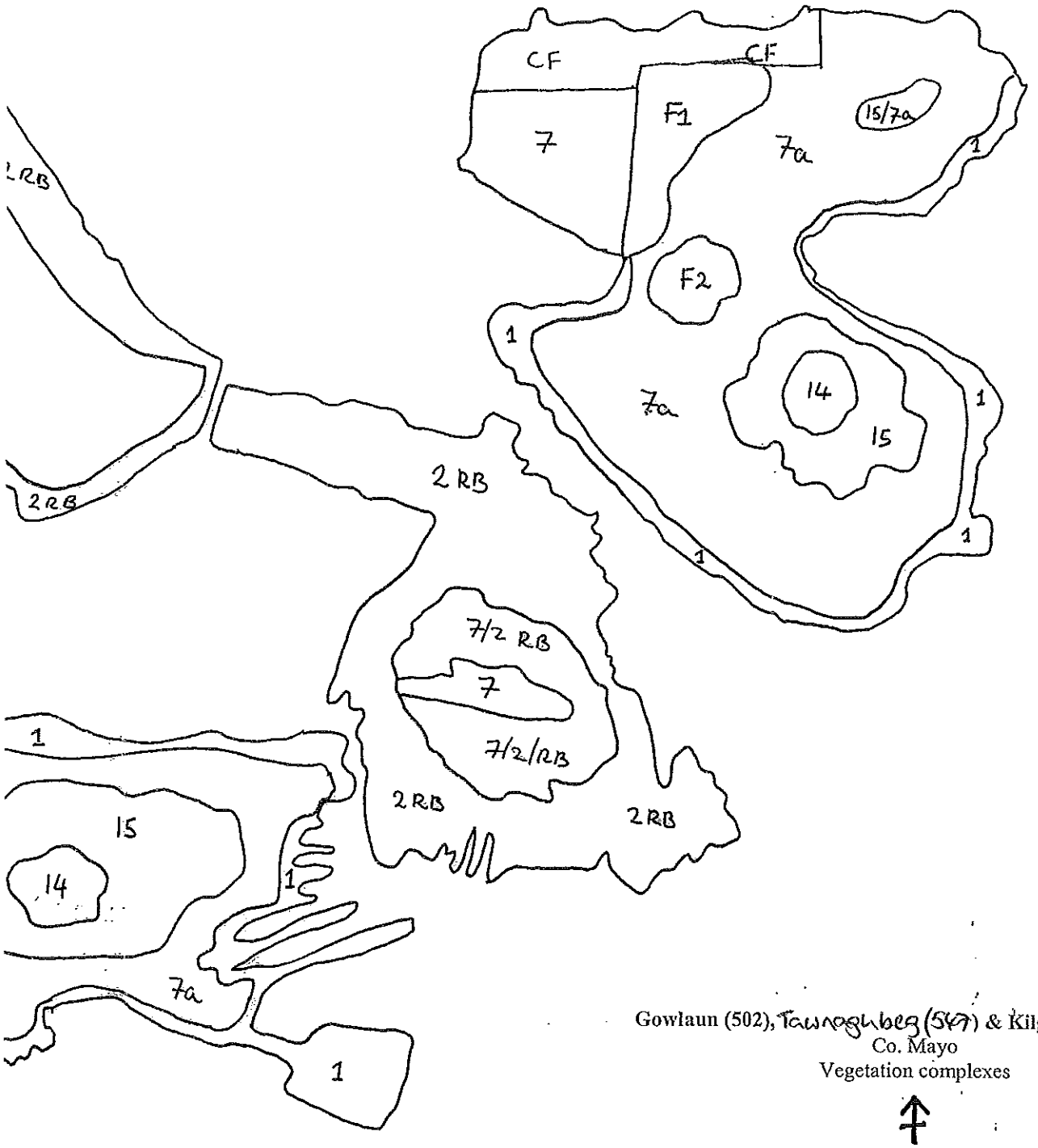
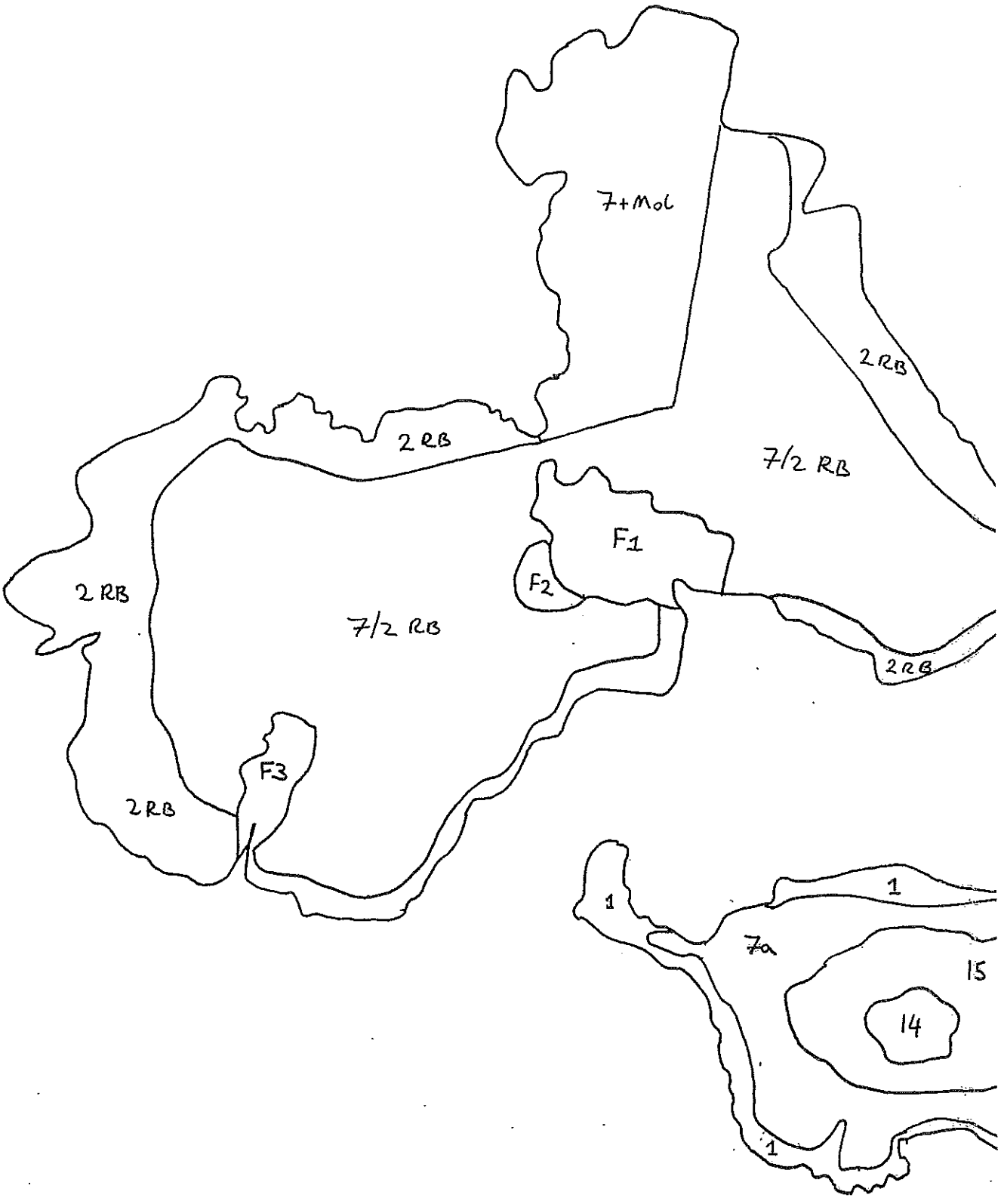



Gowlaun (502), Tawnaghbeg (507) & Kilgarriff (510) bogs
Co. Mayo
Vegetation complexes

N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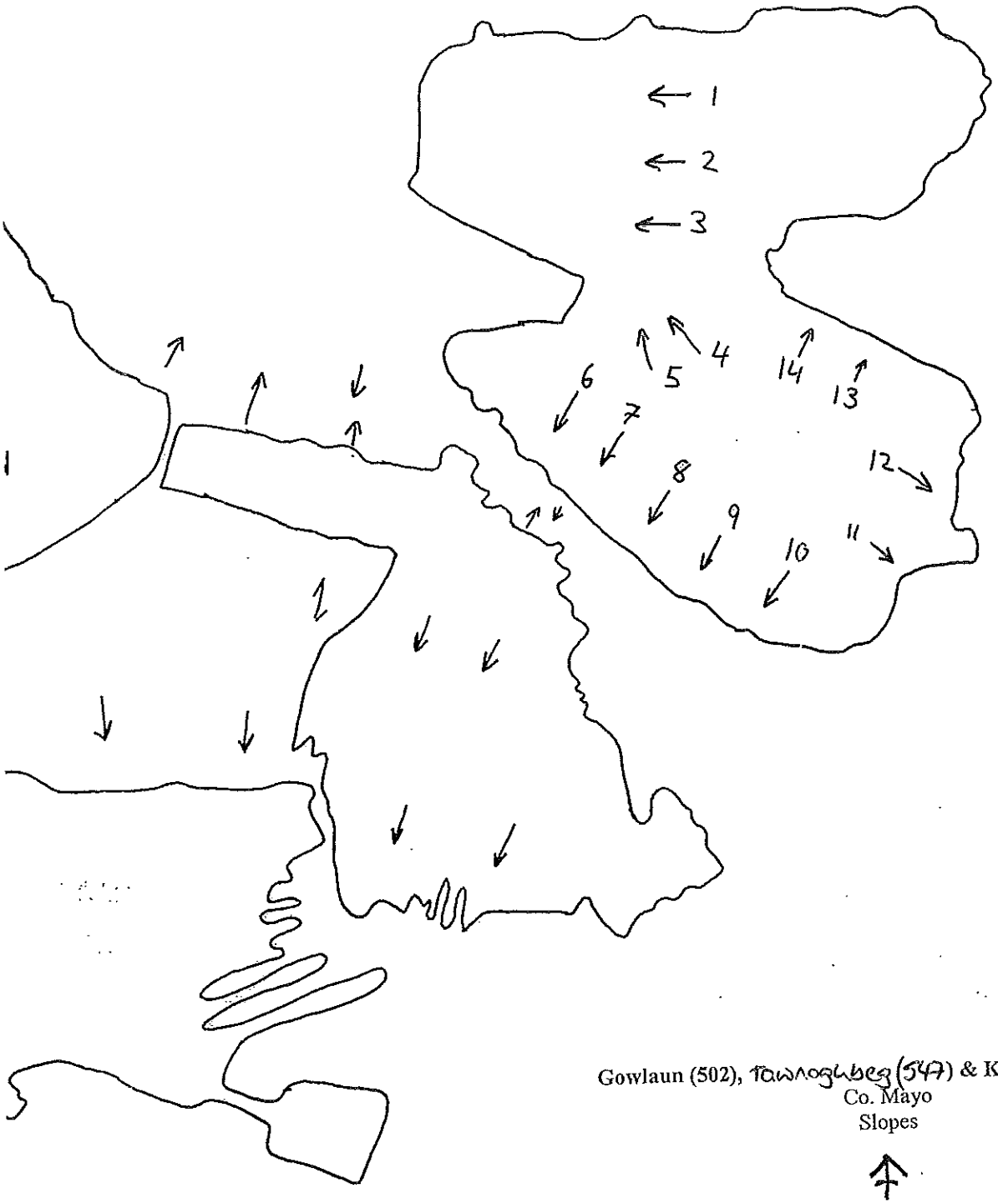


Gowlaun (502), Tawnoglubeg (547) & Kilgarriff (510) bogs
Co. Mayo
Slopes

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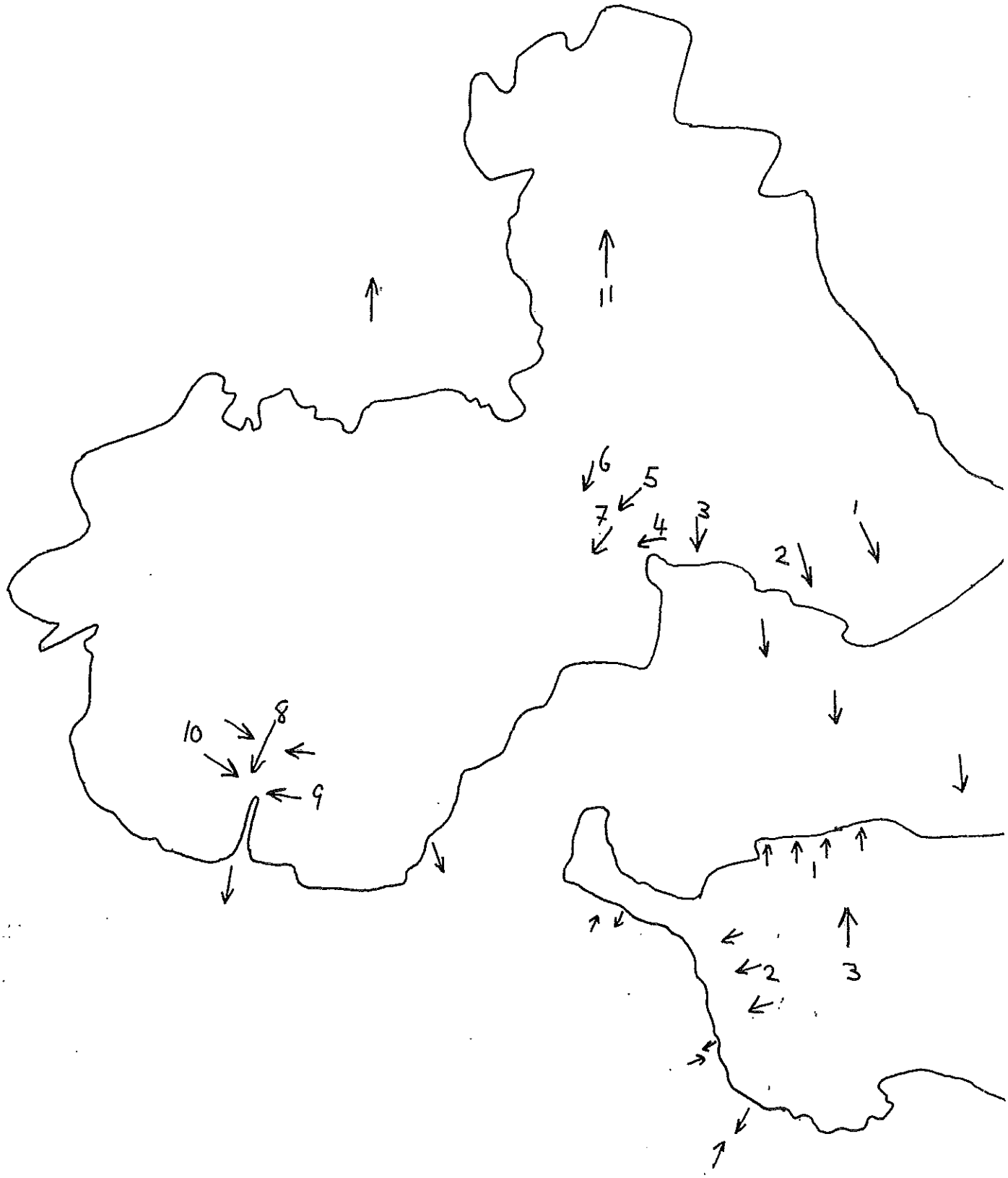
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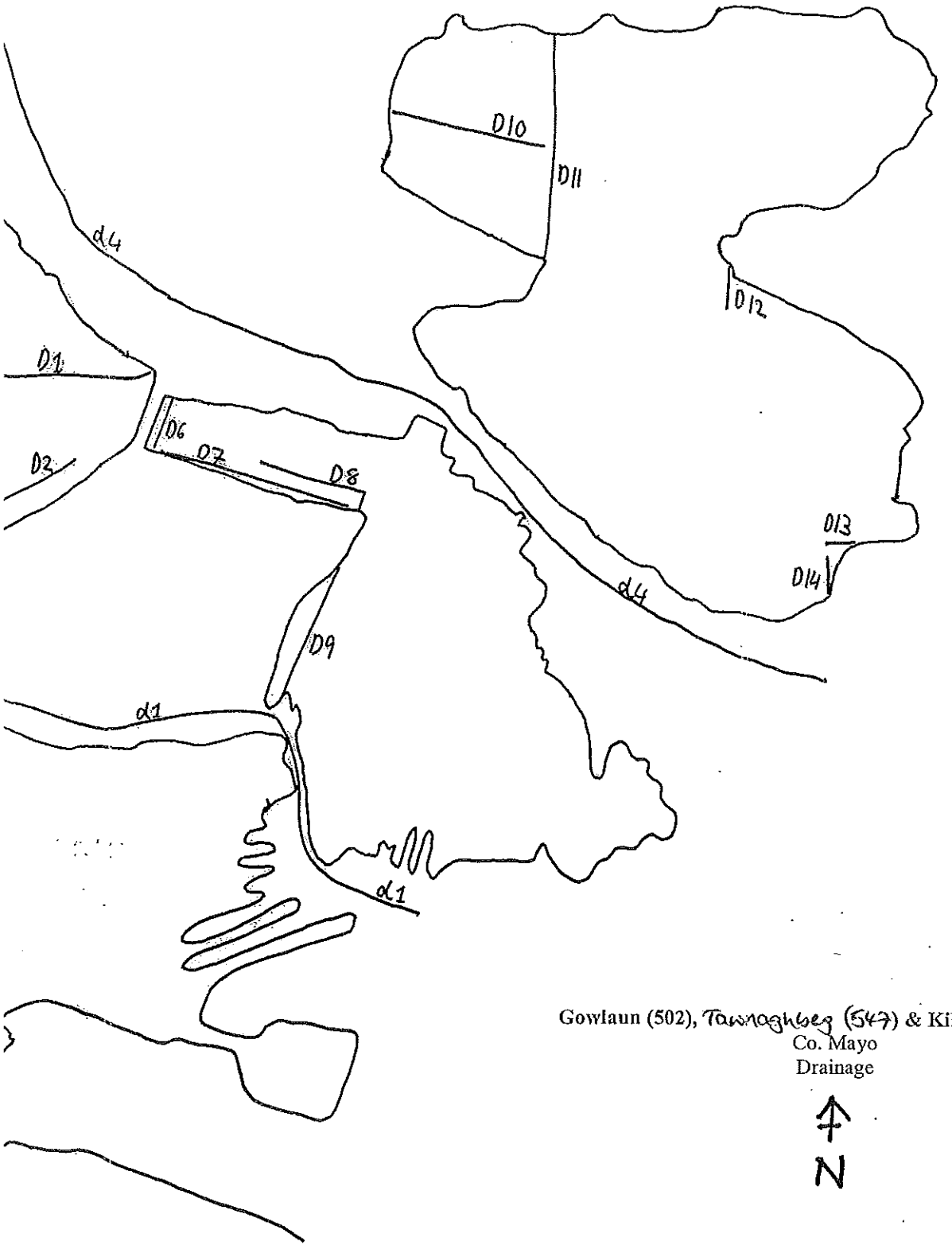


Gowlaun (502), Tawnaghbeg (547) & Kilgarriff (510) bogs
Co. Mayo
Drainage

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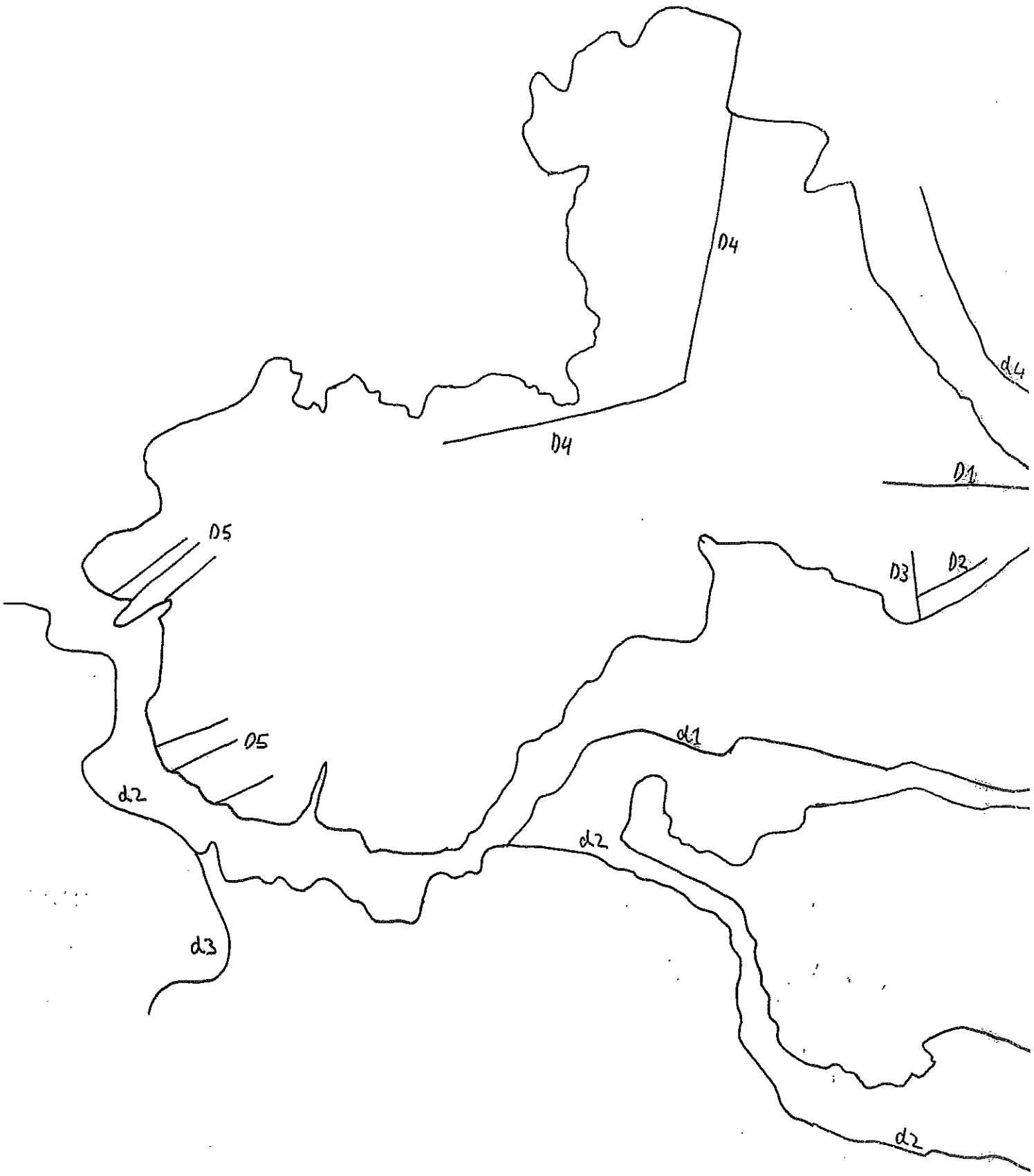
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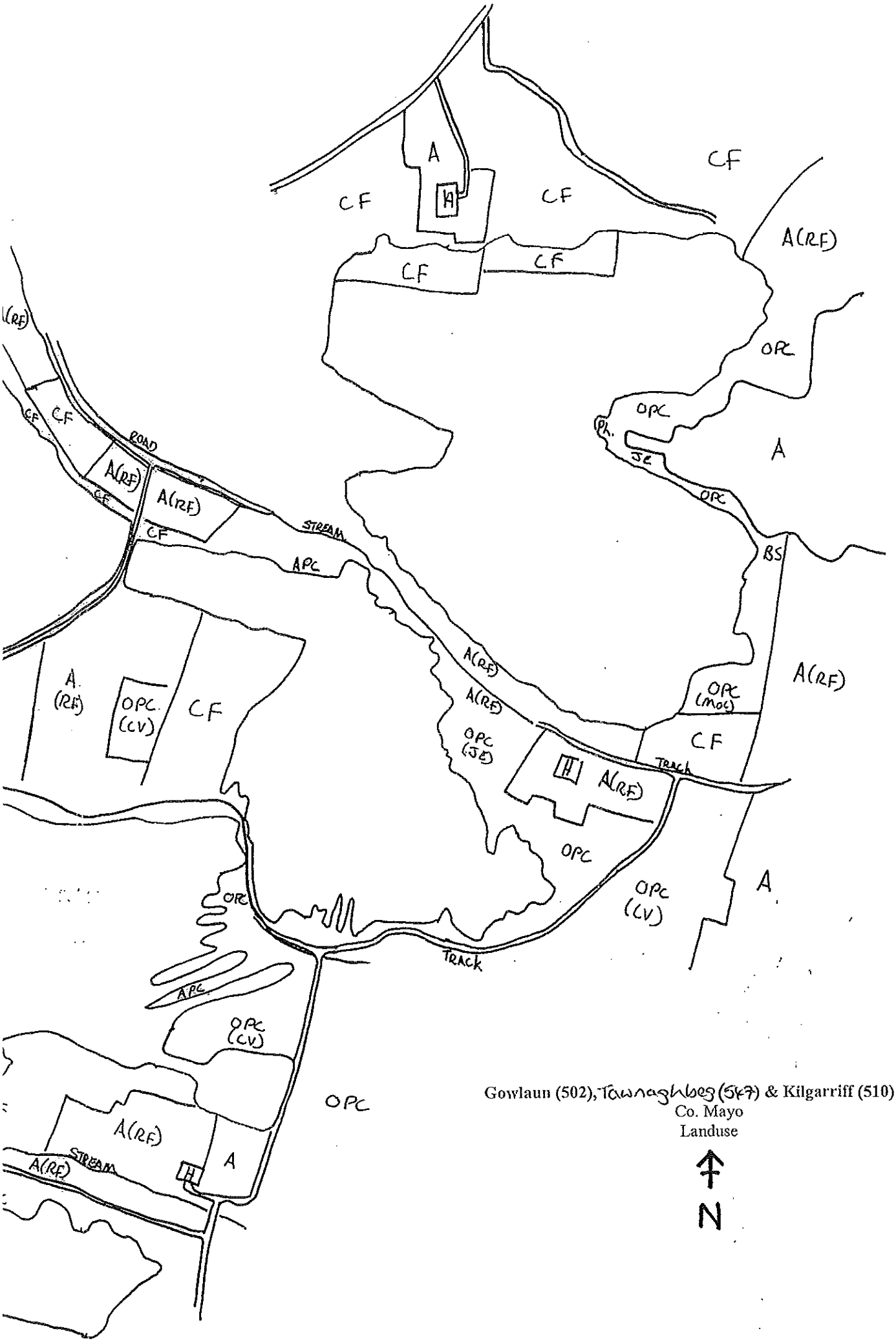
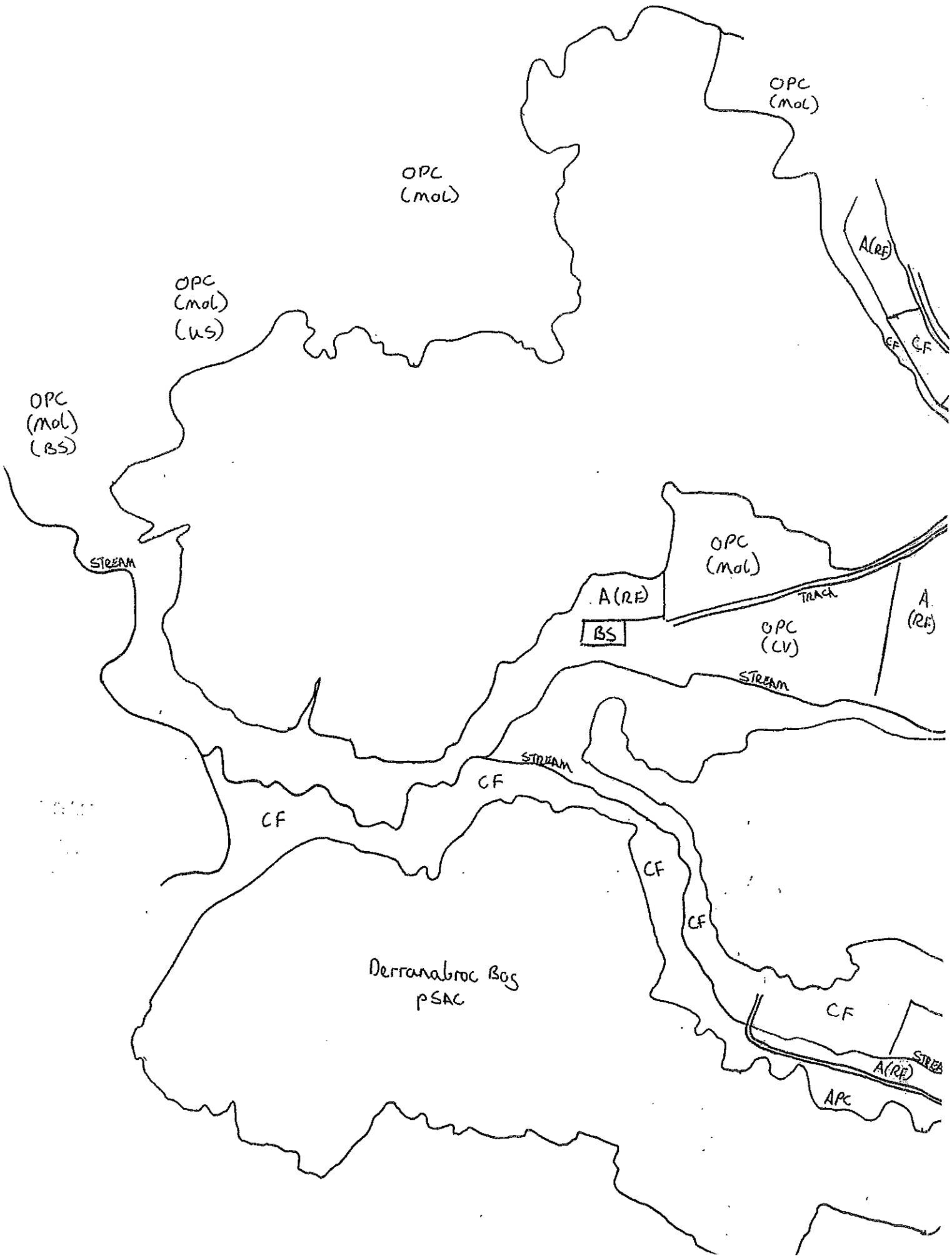



Gowlaun (502), Tawnaghbeg (547) & Kilgarriff (510) bogs
Co. Mayo
Landuse

N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A (RF)
STREA
APC

# KILGARRIFF BOG, CO. MAYO

## 1. SUMMARY OF SITE DETAILS

| | | | |
|---|---|---|---|
| NHA no.: | 502 | 6" Sheet: | MO63 & 64 |
| Grid Ref.: | G563 045 | 1:126,000 Sheet: | 7 |
| G.S.I. Aerial Photo: | 27 (7816) | 1:50,000 Sheet: | 32 |
| Other Photo: | G171 | High bog area (ha): | 50.8 |
| Date(s) of Visit: | 17/11/1999 | | |

Townlands:

### 4.1 TOPOGRAPHY OF THE HIGH BOG

The bog as a whole slopes gradually northwards and there are steeper slopes associated with cutaway margins.

#### 4.1.1 Slopes of the High Bog

Slope 1: A series of natural slopes towards the stream (D1) (2m/100m)

Slope 2: A series of steep slopes towards the drain D2 (2m/100m)

Slope 3: A gradual slope across the bog in a northerly direction (0.5m/100m)

### 4.2 TOPOGRAPHY OF THE MARGINS

## 5 HYDROLOGICAL SYSTEM

### 5.1 GEOLOGY/HYDROLOGY

#### 5.1.1 Bedrock

This bog is underlain by the Lisgorman shale formation (LG on the map) - a thin bedded shale.

#### 5.1.2 Subsoils

No data was available for this site.

#### 5.1.3 Peat

The peat at this site was classified by Hammond as Man-Modified.

### 5.2 HYDROLOGY

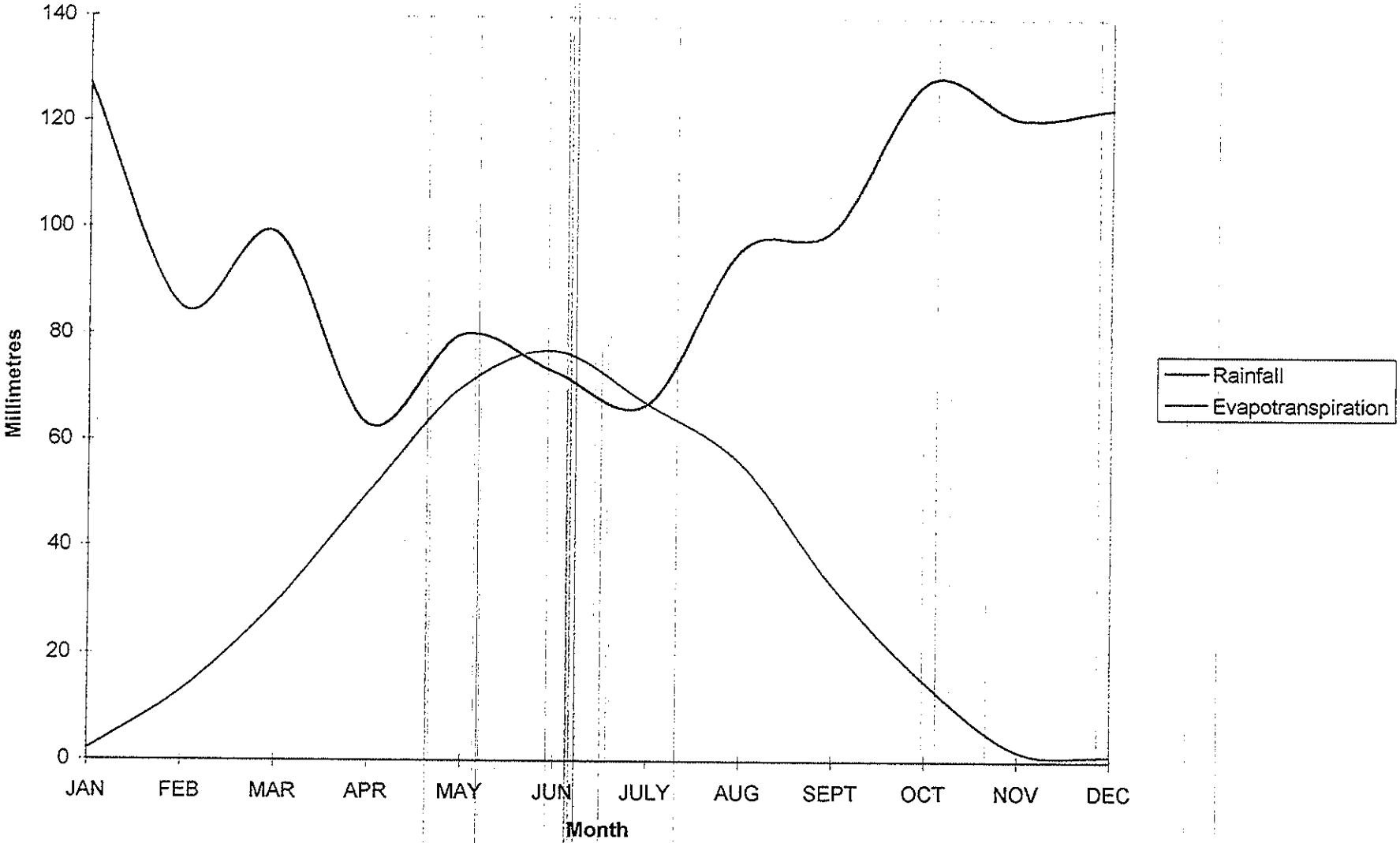
#### 5.2.1 High Bog Hydrology (see Drains map)

There is no active drainage on the high bog.

#### 5.2.2 Bog Margin Hydrology

The streams D1 and D2 effectively isolate this bog from the rest of this complex. The old Cutaway around this bog slopes towards these streams.

## KILGARRIFF CLIMATE DATA



## 5.3 GEOHYDROLOGICAL OVERVIEW

*Description of the bog in the 19th century*
For description see Gowlaun.

*Description of present-day bog*
Kilgarriff bog has a semi-natural slope to the river in the north. The river also runs along the western and southern margins, with coniferous forestry on the cutaway. There is some level cutaway in the east which may be suitable for re-wetting work. There are no drains occurring on the high bog.

# 6. VEGETATION

## 6.1 VEGETATION SUMMARY

## 6.2 DETAILED VEGETASTION OF HIGH BOG

### 6.2.1 Complexes

*Marginal Complexes*

Complex 1
Face-bank vegetation dominated by robust *Calluna vulgaris* and associated with cutaway.

*Sub-marginal Complexes*

Complex 7/21
This is a natural sub-marginal area where the bog drops quite steeply (2m/100m) down to the stream which separates it from Gowlaun Bog (Drain d2). The vegetation here is dominated by *Calluna vulgaris* (80%) with *Molinia caerulea* (40%) and *Myrica gale* (20%) prominent. Some *C. vulgaris* and *Myrica gale* bushes reach 80cm in height. Tall *Erica tetralix* plants are also found with hummocks of *Sphagnum capillifolium, S. subnitens, Pleurozium schreberi* and *Hypnum jutlandicum* also common.

Complex 7a
A large area of the bog is covered by this vegetation type. The vegetation is co-dominated by *Calluna vulgaris* (30%), *Eriophorum angustifolium* (30%) and *Eriophorum vaginatum* (30%). There is a strong presence of *Carex panicea* (15%) and *Trichophorum caespitosum* (15%). Also prominent are *Cladonia portentosa* (10%), *Racomitrium lanuginosum* and *Erica tetralix* (10%). The acrotelm improves towards the sub-central area as *Sphagnum* cover increases. Both *Sphagnum capillifolium* (10%) and *S. papillosum* (10%) are present. *Cladonia uncialis* is present and *Narthecium ossifragum* (5%) and *Hypnum jutlandicum* are common.

*Sub-central Complexes*

Complex 15
An area of scattered pools, many of which were in-filled completely with *Eriophorum angustifolium*. The vegetation is co-dominated by *Calluna vulgaris* (40%), *Trichophorum caespitosum* (30%) and *Narthecium ossifragum* (30%). *Cladonia portentosa* and *Cladonia uncialis* are common and *Calluna vulgaris* is growing in tussocks of 20cm.

*Central Complexes*

Complex 14
An area of frequent pools which contains *Sphagnum cuspidatum, Eriophorum angustifolium* and *Drosera anglica. Campylopus atrovirens* and *Rhynchospora alba* are noted at some of the pool edges. *Sphagnum* cover is plentiful in the area with *S. capillifolium, S. magellanicum, S. papillosum* and *S. fuscum*. The vegetation is co-dominated by *Calluna vulgaris* (30%), *Sphagnum* species (20%), *Eriophorum vaginatum* (30%), *Eriophorum angustifolium* (30%). *Narthecium ossifragum, Trichophorum caespitosum* and *Erica tetralix* are present.

### 6.3 DETAILED VEGETATION OF THE BOG MARGINS

Kilgarriff Bog is effectively isolated from the rest of the bog complex by streams around its margin. To the north there is a quite natural slope from the high bog to the stream dominated by *Calluna vulgaris* and *Molinia caerulea*. The south and west cutaway slopes have been planted with conifers and there is some agricultural reclamation along the track to the south of the bog. Old cutaway to the west is dominated by *C. vulgaris* and *Eriophorum angustifolium*.

## 8. HUMAN IMPACT

### 8.1 RECENT HUMAN IMPACT (see Landuse Map)

#### 8.1.1 Peat cutting

There is also active peat cutting along the track south of Kilgarriff and limited cutting in the east where most of the cutaway has been abandoned.

#### 8.1.2 Forestry

There is extensive forestry along the stream bank to the south of Kilgarriff.

#### 8.1.3 Fire History

There is no evidence of burning on this bog.

#### 8.1.4 Dumping

There was no evidence of dumping on the bog.

#### 8.1.5 Agriculture

There is some reclamation for agriculture to the south of the bog.

### 8.2 NHA BOUNDARY CHANGES

No NHA boundary change is needed for this site.

## 9. INTER-RELATIONSHIPS OF VEGETATION, HYDROLOGY, TOPOGRAPHY AND LOCATION

1. See Gowlaun for reasons for site visit.

2. This visit discovered an active pool system.

3. There is no active drainage on the high bog.

4. There is little possibility for bog restoration work due to drainage by streams.

# KILLERAGH BOG, CO. GALWAY

## 1. SUMMARY OF SITE DETAILS

| | | | |
|---|---|---|---|
| NHA no.: | 284 | 6" Sheet: | GY109 |
| Grid Ref.: | M970 170 | 1:126,000 Sheet | 15 |
| G.S.I. Aerial Photo: | 40a (2396) | 1:50,000 Sheet: | 53 |
| Other Photo: | M392 | High bog area (ha): | 117.95 |
| Date(s) of Visit: | 23/11/1999 | | |

Townlands: Killeragh, Cankilly, Kilnaborris, Kilaltanagh, Ballynakill, Rooaun & Cloonkea.

## 2. INTRODUCTION

### 2.1 BACKGROUND

This site was selected as it has a large area of intact high bog and very little surface drainage was visible on the 1995 aerial photograph. An old bog burst is evident to the south with numerous tear pools.

The 1994 NHA survey describes this site as an active raised bog with a distinctive dome and pools. Encroachment of conifers was also noted. The proximity of this site to the River shannon increases the habitat diversity of the area.

### 2.2 LOCATION AND ACCESS

A large relatively intact raised bog 4km north-west of Banagher on the Galway side of the Shannon. The bog can be accessed from a bog track off the R356 from Banagher to Eyrecourt.

## 3. METEOROLOGY

No meteorological measurements have been made on this bog. Rainfall data from the nearby Eyrecourt weather station for the years 1960-90, indicates that the area recieves appproximately 962mm of rainfall annually (R). The nearest synoptic station at Birr indicates that the site has up to 150 wet days annually. (Wet day is defined as a day when > 1mm of rainfall recieved).

Evapotranspiration measurements are only available for synoptic stations. With the large exposed areas on high bogs, actual evapotranspiration rates would probably be higher than at the nearest synoptic station. The effective rainfall (ER) rate for a site is the annual rainfall (R), less the actual evapotranspiration (AE). With only the potential evapotranspiration (PE) rate available for Birr of 454 the effective rainfall for the site is calculated as less than (R - PE) i.e. ER< 962 - 454 = 508mm.
( See Fig. 1 )

## 4. GEOMORPHOLOGY

### 4.1 TOPOGRAPHY OF THE HIGH BOG

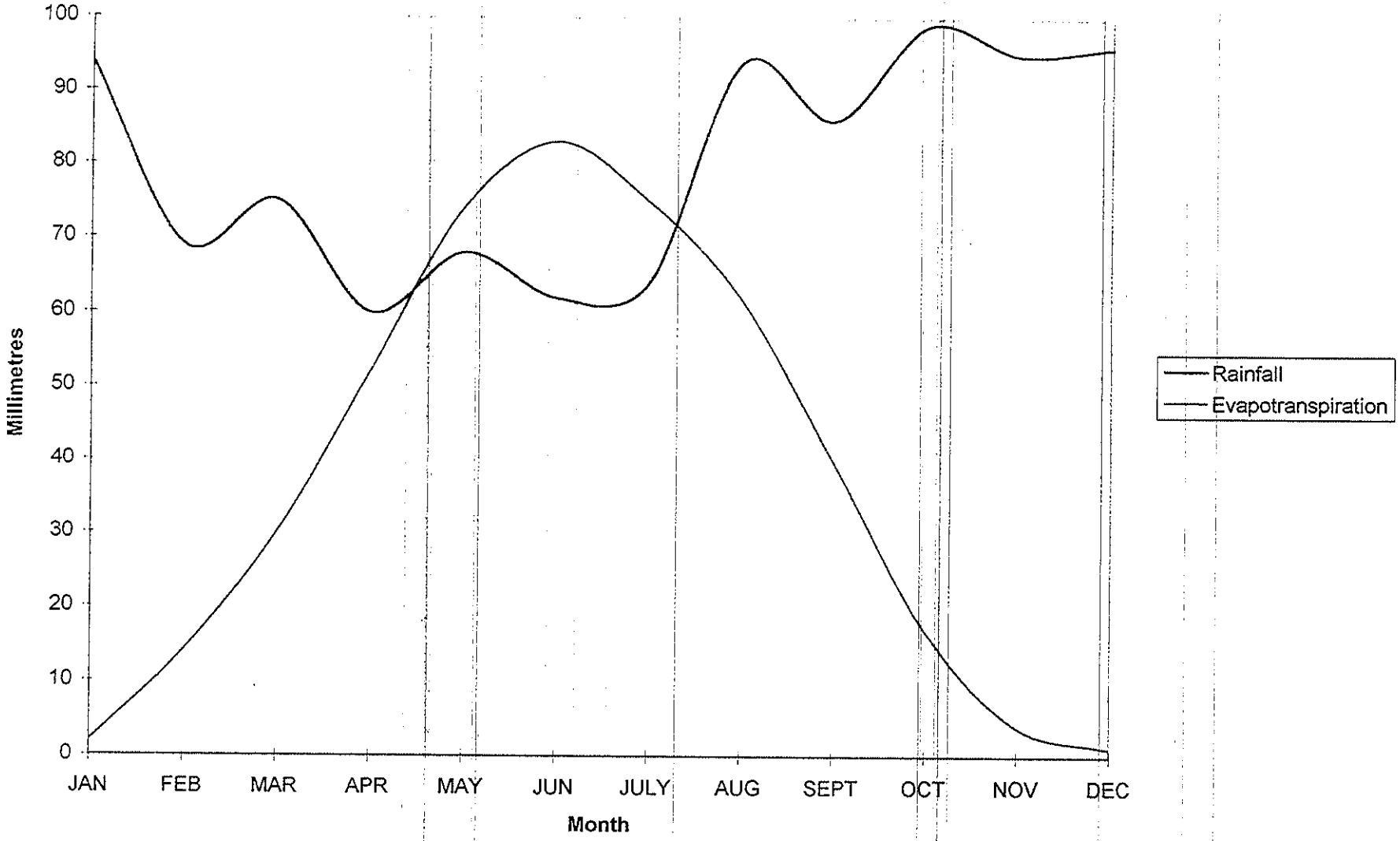
This bog had several steep slopes associated with the cutaway and a bog burst on the southern side of the bog. The dome of the high bog was not very pronounced.

#### 4.1.1 Slopes of the High Bog

Slope 1: Slopes to the north-western margin (0.5m/100m).

Slope 2: Slopes gently northwards from the flush F1 to the margin (0.25m/100m)

## KILLERAGH CLIMATE DATA



Slope 3: The bog-burst area - an extensive sloped area southwards to the margin (0.5m/100m).

Slope 4: A slope down form the sub-central high bog southwards to the bog burst (0.5m/100m).

Slope 5: The steepest sloping section of the bog-burst, sloping southwards to the cutaway (2m/100m).

Slope 6: A marginal slope associated with cutaway to the east of the bog (1m/100m).

## 5. HYDROLOGICAL SYSTEM

### 5.1 GEOLOGY/HYDROLOGY

#### 5.1.1 Bedrock

According to the 1840's Geological survey map this bog is situated on black limestone drift.

#### 5.1.2 Subsoils

No data on subsoils was available for this site.

#### 5.1.3 Peats

The eat at this site was classified by Hammond as True midland type.

### 5.2 HYDROLOGY

#### 5.2.1 High Bog Hydrology (see Drains map)

There are very few drainage systems on this bog, with only two main drains on the northern margin and drains associated with the trackway. They are quite old and they have already had an effect on the surrounding vegetation.

Drains D1: A series of deep water-filled drains, 1.5m wide, with little flow,running alongside old trackway. There is *Ulex europaeus* and tall *Calluna vulgaris* bushes along the margins of these drains.

Drains D2: Two parallel old drains, 0.1m wide, in-filling with *Sphagnum cuspidatum*.

#### 5.2.2 Bog Margin Hydrology

The numerous small drains separating different sections of cutaway which were in-filling. Of these, there were three drain systems of note.

Drains d1: A series of deep, 1m wide drains in active cutaway. There is water at the bases of these drains, with *Juncus effusus*.

Drains d2: A series of deep water-filled drains, 1m wide, in old cutaway at plantation margin. *Glyceria fluitans, Juncus effusus* and *Veronica beccabunga* were present.

Drains d3: A series of drains in old cutaway with *Juncus effusus* and *Ulex europaeus*.

### 5.3 GEOHYDROLOGICAL OVERVIEW

*Description of the bog in the 19th century*

This bog originally was surrounded by mineral soil and although close to the Shannon it was separated from the river by an esker ridge. The larger Kilmacshane bog was located to the north-east, with marshy ground separating it from this bog.

*Description of the present-day bog*

There has been extensive peat cutting in the south-east and the cutaway is now planted with conifers. The face-bank here is high at 2m (R2, P1) and so the peat on the high bog is quite deep. To the north, there has been limited cutting alongside the mineral slopes. This cutaway is level and would be suitable for restoration work, with runoff from the high bog and the mineral slope. There is some level abandoned cutaway in the east, but some of the cutaway has been reclaimed for agriculture in the north-west. In the south there is a slope off the esker ridge to the bog margin. There has been a bog-burst here with steep slopes off the high bog and the area of cutaway in between could be re-wetted.

There are only a few drains on this bog mainly associated with the short track to the south-west of the bog. Drying of this bog is associated with the cutaway.

## 6. VEGETATION

### 6.1 VEGETATION SUMMARY

There are no central complexes on this site. There was a bog burst to the south with steep slopes and associated tear pools and conifers. These conifers also extend onto the centre of the high bog. The vegetation of the bog itself is quite homogenous with *Calluna vulgaris* dominating most areas and *Sphagnum* dominating away from the slopes.

### 6.2 DETAILED VEGETATION OF HIGH BOG

#### 6.2.1 Complexes

*Marginal Complexes*

Complex 1
Marginal vegetation dominated by *Calluna vulgaris* at the cut-face.

*Sub-Marginal Complexes*

Complex 7/6
*Narthecium ossifragum* is dominant with *Calluna vulgaris* (40%). Other bog plants are also present but none are dominant - *Sphagnum capillifolium* (20%), *S. magellanicum* (10%), *Cladonia portentosa* (5%), *Eriophorum angustifolium*, *Erica tetralix* (5%) and some *Carex panicea* (+). At a small section on the northern edge of the bog *Molinia caerulea* (60%) takes over dominance. This section is easily visible on the aerial photograph.

Complex 7/6 + tear pools
This complex describes the area affected by the bog burst. The vegetation is equally dominated by *Calluna vulgaris* and *Narthecium ossifragum*. The western section features scattered tear pools associated with the steep slope in this area. Overall the area is very wet with the odd small pool. *C. vulgaris* (50%) is dominant with pronounced clumps of bushes - some reaching 60cm high. The hollows are dominated by *N. ossifragum* (50%). The acrotelm is patchy with *Sphagnum* (20%) under the *C. vulgaris* (mostly *S. capillifolium* and *S. magellanicum*) with *S. papillosum* occurring near the small pools. Where *N. ossifragum* dominates there is no acrotelm but *Trichophorum caespitosum* (15%) is common along with *Erica tetralix* (10%). *Eriophorum angustifolium* (5%) is a common straggler (no tussocks). *Cladonia portentosa* (10%) is frequently noted. Several *Huperzia selago* plants are found growing through the vegetation. The area also features scattered *Pinus sylvestris* of varying ages, these are easily visible as black dots on the aerial photograph.

The south-eastern part of the bog-burst complex has a steeper slope and there are no pools. It is dominated by clumps of *Calluna vulgaris* (50%) with *Narthecium ossifragum* (50%) hollows in between. There are occasional *Trichophorum caespitosum* (5%) tussocks with *Eriophorum vaginatum* (10%) through the *C. vulgaris*. *Eriophorum angustifolium* (10%) is growing through the *N. ossifragum* hollows. *Erica tetralix* (10%) and *Carex panicea* (5%) rosettes are common.

There is good *Sphagnum* cover (15%) under the *Calluna vulgaris* mainly composed of *S. capillifolium* and *S. magellanicum*. The acrotelm is patchy with the ground much harder here than the wet area to the west. There are numerous *Pinus sylvatica* trees with many young plants (<50cm). There is no sign of *Huperzia selago* here but there is plenty of *Cladonia portentosa* (15%).

Complex 7+TP
To the north of the bog centre, some pools become obvious, these are scattered with *Sphagnum cuspidatum*, *Menyanthes trifoliata* and *Drosera anglica* at the edges. Many appear to have lower than normal water levels with *Eriophorum angustifolium* at their edges. *Sphagnum* cover is not good although some *Sphagnum fuscum* hummocks are present. Otherwise the vegetation is similar to that described as complex 10/7 with degraded pools, with *Calluna vulgaris* dominating and some notable *Narthecium ossifragum* hollows. The presence is a reflection of their distance from the burst on the opposite side of the bog, their apparent desiccation, however, shows that the bog-burst is having some impact on the pools.

*Sub-Central Complexes*

Complex 10/7/9
Off the marginal zone the *Sphagnum* cover (50%) is very noticeable. There is a very good cover of *Sphagnum capillifolium*, *S. papillosum* and *S. magellanicum* and the acrotelm is variable between 0cm and 5cm.. *Calluna vulgaris* (40%) is co-dominant with *Eriophorum vaginatum* (40%) with prominent *Narthecium ossifragum* (15%) hollows. Many *Calluna vulgaris* bushes are covered in epiphytic lichens and both *Cladonia portentosa* (10%) and *C. uncialis* (5%) are doing well. *Eriophorum angustifolium* (5%) and *Rhynchospora alba* (5%) straggle through the vegetation with a few *Carex panicea* (+) rosettes. *Andromeda polifolia* is present and *Erica tetralix* is found growing through the *Calluna vulgaris*.

Complex 10/7 with degraded pools
A degraded central area in the centre of the bog. The vegetation is similar to that described above in Complex 10/7/9. The area has a series of degraded pools which have now filled in with *Eriophorum angustifolium* and *Narthecium ossifragum* with several large hollows of *Sphagnum papillosum*. To the east Pine trees are prominent with some growing to 6m high and they are dotted across the bog surface - showing up as black dots on the aerial photo.

*Central Complexes*

No central complexes were recorded on this bog.

### 6.2.2 Flushes and Soaks

Flush F1: A small clump of tall *Calluna vulgaris* (80cm), *Betula pubescens* and *Juncus effusus* with lots of *Pleurozium schreberi* some *Dicranum scoparium*, *Andromeda poilfolia* and *Vaccinium oxycoccus* - must be some kind of soak/upwelling or swallow-hole. *Eriophorum angustifolium* is also growing through the vegetation.

## 6.3 DETAILED VEGETATION OF HIGH BOG MARGINS

There is some limited reclamation of cutaway for agriculture in the west and north-west of the site. There is forestry in the south and south-east cutaway. Apart from where the cutaway has been reclaimed for agriculture and forestry, the cutaway is dominated by *Molinia caerulea* and scattered *Ulex europaeus* scrub. There is some scattered *Betula pubescens* scrub in places. The old cutaway to the south has *Betula* scrub encroachment.

## 7. BOG TYPE

This is probably a basin bog.

## 8. HUMAN IMPACT

### 8.1 RECENT HUMAN IMPACT (see Landuse map)

#### 8.1.1 Peat Cutting

There is active peat cutting along the western margin of this bog, mainly hopper turf cutting. There is abandoned cutaway to the north and east of the bog.

#### 8.1.2 Forestry

There is coniferous forestry to the south-east and south of this site, at the cutaway margin and there is a mature Betula woodland both to the south and north of the site.

#### 8.1.3 Fire History

There was no evidence of burning on the site.

#### 8.1.4 Dumping

At the end of the trackway to the north of the bog, there is some localised dumping.

### 8.2 NHA BOUNDARY CHANGES

No NHA boundary changes are necessary for this site.

## 9. INTER-RELATIONSHIPS OF VEGETATION, HYDROLOGY, TOPOGRAPHY AND LOCATION

1. This site was surveyed because it looked to have an intact vegetation cover in its aerial photograph even though there was active peat cutting evident.

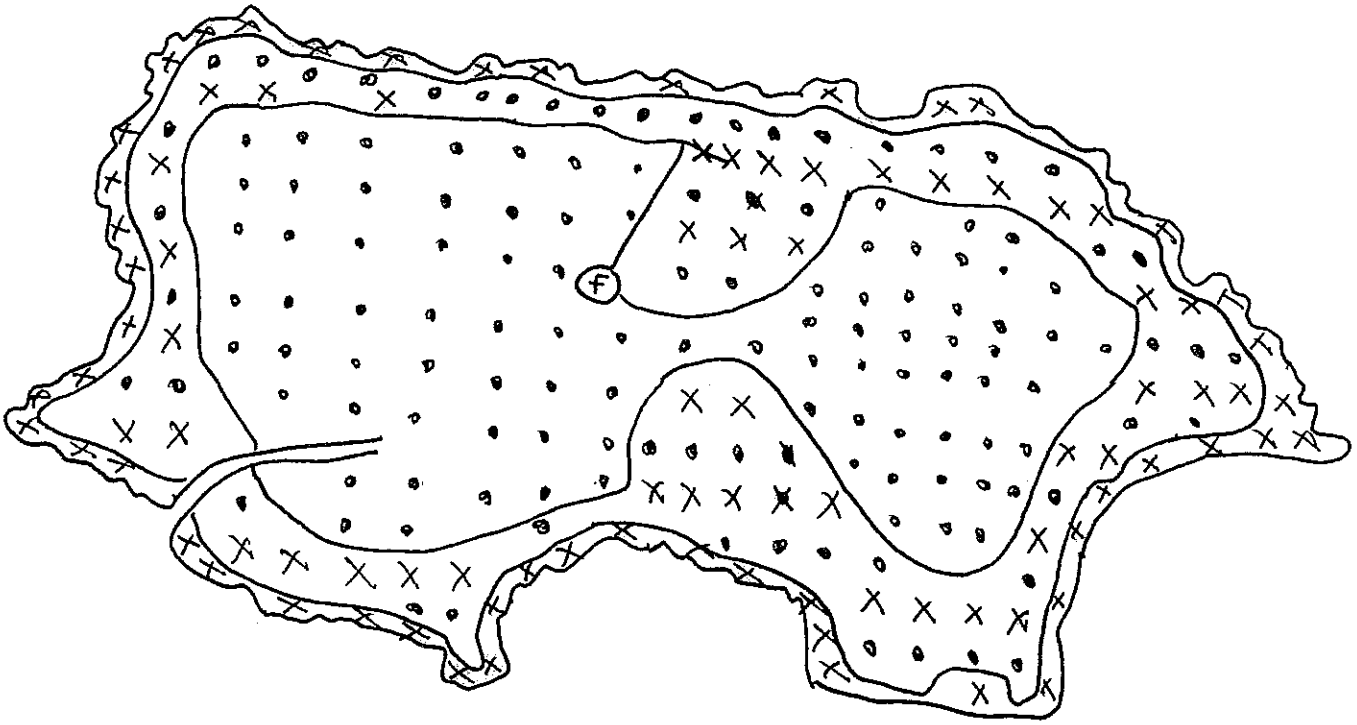
2. The visit found the vegetation to be relatively uniform with a Pine-dominated bog-burst in the south of the site. The *Sphagnum* cover was quite good but no central complexes were found.

3. Although the site is not being actively drained, there is desiccation resulting from the large bog-burst and natural drainage northwards from F1.

4. There is very little potential for restoration of the bog margins of this site. There is a limited area of abandoned cutaway in the east and along with the bog burst area in the south which provides the best region for restoration work. Also the plantation areas have some potential along with western margin provided that active peat cutting has ceased and the forestry felled.

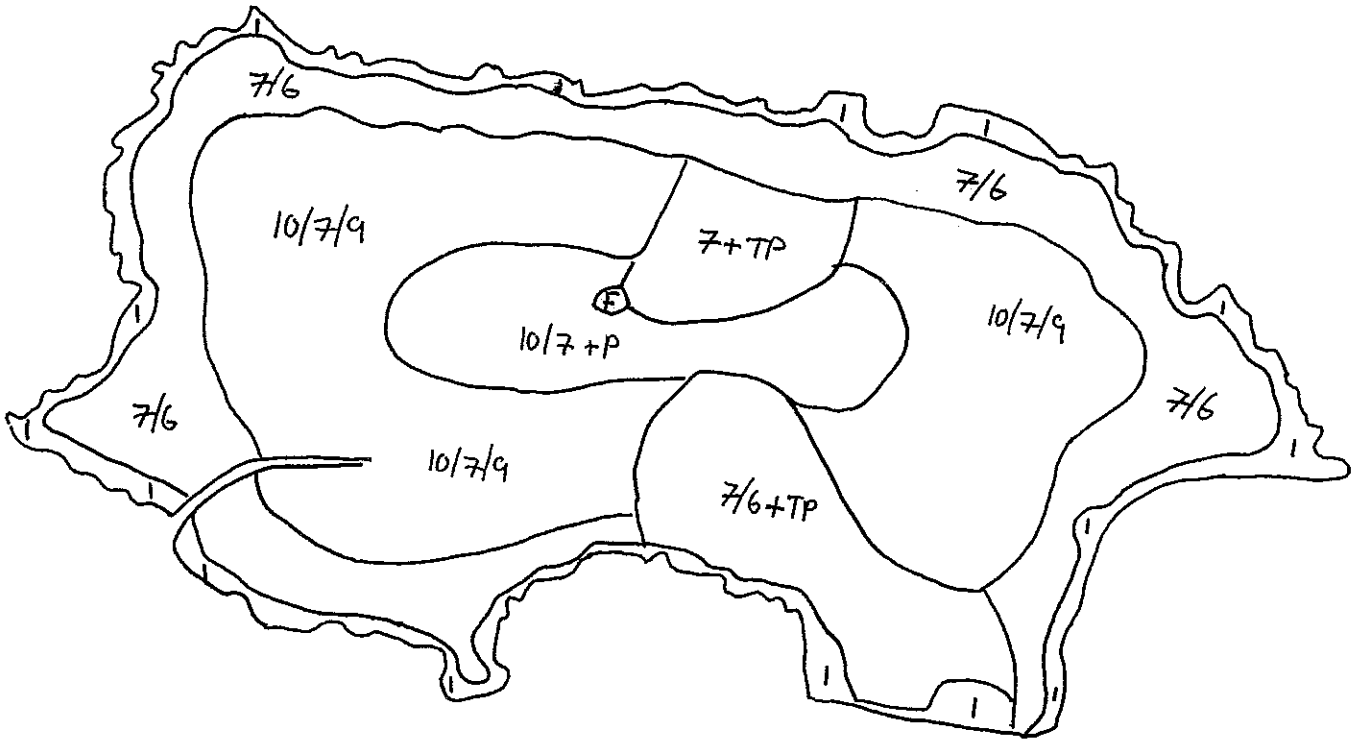
Killeragh bog (284)
Co. Galway
Ecotopes

N

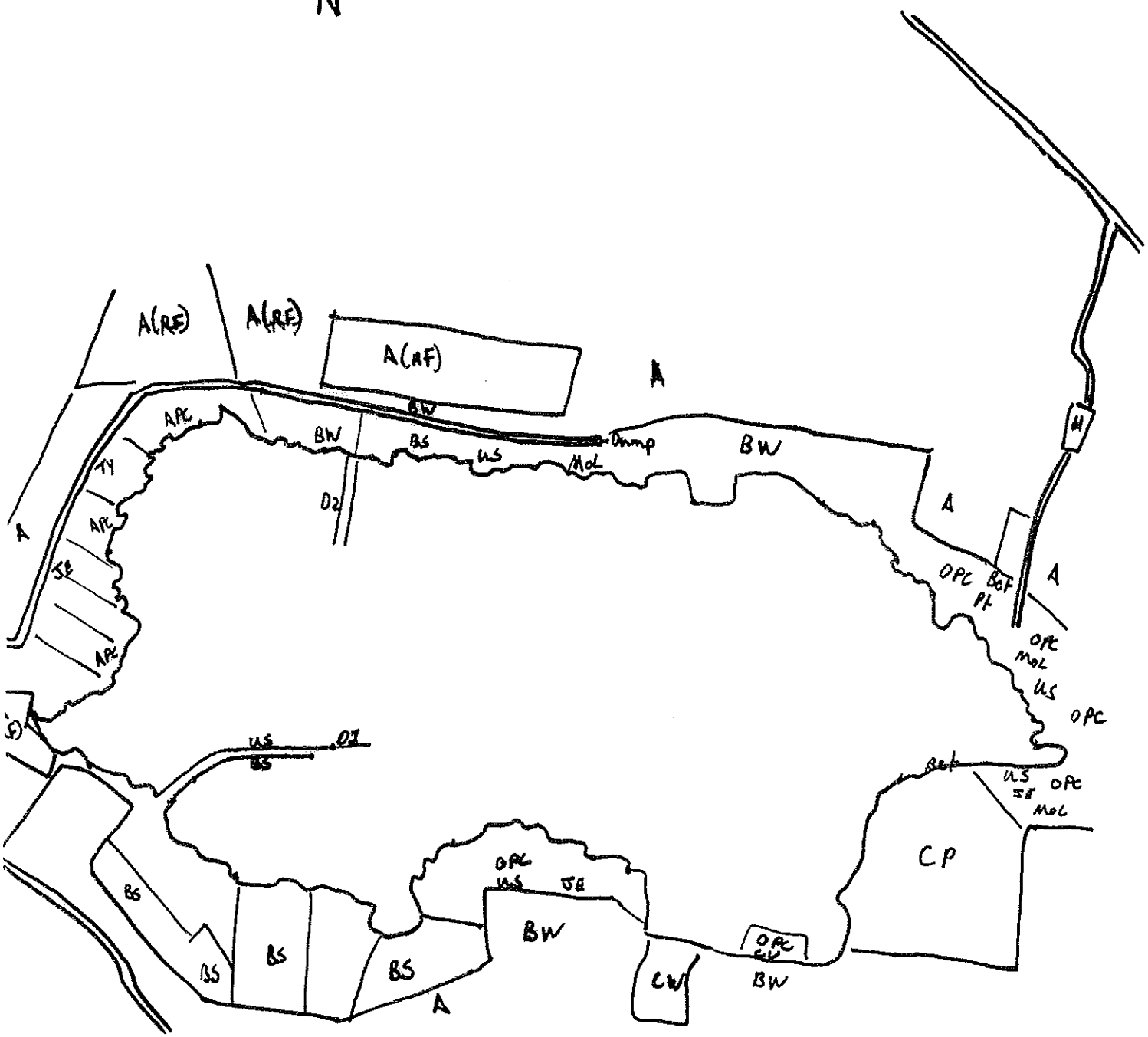


**Killeragh bog (284)**
Co. Galway
Vegetation complexes

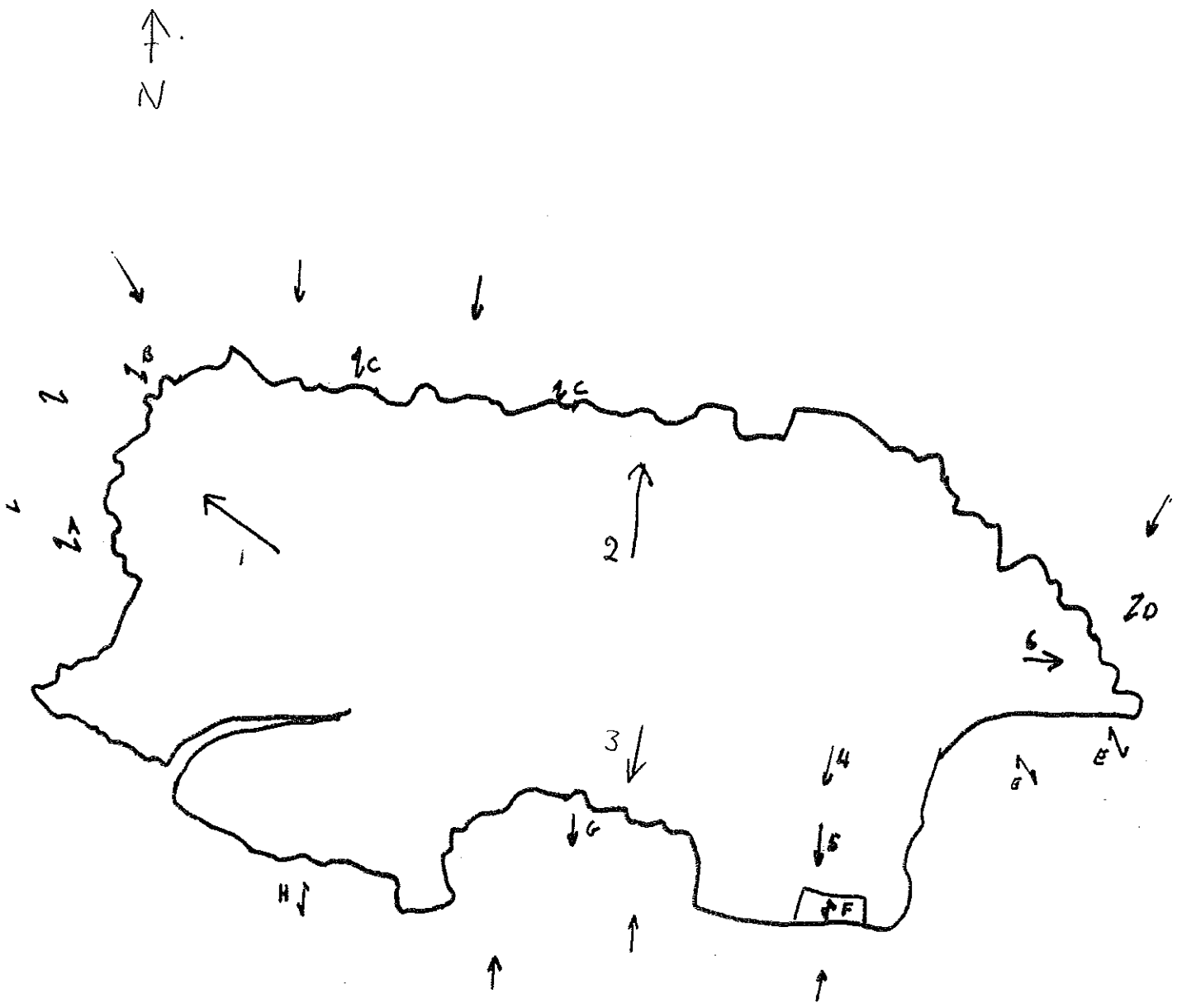
N



Killeragh bog (284)
Co. Galway
Landuse



Killeragh bog (284)
Co. Galway
Slopes



Killeragh bog (284)
Co. Galway
Drainage

N